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Private Equity in China: An Institutional Comparative Study

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ABSTRACT

Investments by funds in the equity of non listed companies represent a crucial activity of capitalism of the 21st Century. This thesis provides a thorough study on the development and the characteristics of private equity funds operating in China. It applies the framework of institutional analysis and follows the logic of the varieties of capitalism while using a multi-disciplinary approach. We develop a comparative study on Chinese, French and British private equity funds based on the institutional differences among the economic models of the three countries. Our analysis suggests that the specificity of the economic development of China is mainly related to the role of the Chinese state, the importance of *guanxi* in the sphere of business and the great market complexity created by the “path of dependence”. Accordingly, for private equity in China we observe a stronger influence of the Chinese state, an extensive impact of *guanxi*, a more diverse use of information sources, a more limited choice of financial tools, and the preference of Chinese entrepreneurs to keep control of their firms. Our econometric study indicates that the rigidity of labor market, economic openness and taxation on company profits have the greatest impact on the activity of the funds and that in comparison with France, the UK and the US, China has stronger coefficients for the factors of GDP growth, household consumption growth, political stability and infrastructure.

KEYWORDS

Private equity, Venture capital, Institutional complementarity, Economic transformation, Hybrid capitalism, Role of the state, *Guanxi*, Innovation, Corporate governance

TITRE EN FRANÇAIS

Fonds d'investissement en Chine – une étude institutionnelle et comparative

RESUME

Les investissements par des fonds dans les capitaux propres des entreprises non cotées sont devenus une institution majeure du capitalisme du XXI^{ème} siècle. Cette thèse constitue une étude approfondie sur les développements et les caractéristiques des fonds d'investissement opérant en Chine. Elle s'applique dans le cadre d'analyse institutionnelle et suit la logique de la variété des capitalismes tout en utilisant une méthode pluridisciplinaire. Nous développons une étude comparative entre les fonds chinois, français et anglais s'appuyant sur les différences institutionnelles parmi les modèles économiques des trois pays. Notre analyse relève que la spécificité du développement économique de la Chine est surtout liée au rôle de l'État chinois, à l'importance du *guanxi* dans la sphère des affaires et à une grande complexité du marché créée par le “chemin de dépendance”. En conséquence, pour les fonds d'investissement en Chine on remarque une plus forte influence de l'État chinois, l'impact extensif du *guanxi*, l'utilisation plus diversifiée des sources d'information, le choix plus limité des outils financiers, et la préférence des entrepreneurs chinois à garder le contrôle de leur entreprise. Notre analyse économétrique indique que la rigidité du marché de travail, l'ouverture économique et la taxation sur les bénéfices ont le plus grand impact sur l'activité des fonds et qu'en comparaison avec la France, l'Angleterre et les Etats-Unis, la Chine a des coefficients plus importants concernant la croissance de PIB, la croissance de consommation par foyer, la stabilité politique et l'infrastructure.

MOTS-CLES

Capital-investissement, Capital risque, Complémentarité institutionnelle, Transformation économique, Capitalisme hybride, Rôle de l'État, *Guanxi*, Innovation, Gouvernance d'entreprise

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General introduction

Private equity became widely known because of its fast growth during the past three decades and because there have been from time to time sensational transactions accomplished by some large funds, such as KKR, Carlyle and TPG. Venture capital, being a special form of private equity, is inextricably linked with Silicon Valley, the birth place of new technology stars and successful entrepreneurs of unpredictable fortune. A private equity firm functions as an investment intermediary linking investors to companies, as a better informed agent making decisions on behalf of investors, and as an active shareholder helping companies to improve their performance (Jensen, 1989). Beyond the provision of capital, private equity involvement provides invested companies with strategic advice, management assistance, business connections, monitoring and corporate control (Black and Gilson, 1998; Sapienza, 1992). Multiple macro and micro factors are identified to influence the activity volume and the performance of private equity funds, such as GDP growth rate, innovation density, interest rate, inflation rate, age of fund and manager experience (Aigner et al., 2008; Félix et al., 2007; Romain and De La Potterie, 2004; Gompers and Lerner, 1998).

However, another part of its reputation came with the subprime crisis and the widespread worries about the potential risks brought by the shadow banking system which includes the private equity sector. In fact, today the total investment volume of private equity firms still represents a very small fraction of the global economy. But its fast growth, particular investment mechanisms and specific value contributions, as well as its potential risks, all deserve better understanding and more conscious applications.

Understanding private equity's roles as a particular financial institution

Private equity is a type of non-tradable equity financing. Its main values are to bridge the gap of investment for innovation needs and to offer an alternative financing to industrial development. Different from banks, private equity firms do not just provide credits to companies but are involved in more complicated management issues and strategic decisions of invested companies' business development. Private equity funds are constructed under particular governance structures and they operate according to certain mechanisms. As a market, it has different participants with interacting roles and it receives regulation supervision from financial authorities; as a financial institution, it has sophisticated

informational and decisional hierarchies and it works under complementary relations with other economic and social institutions. An intensive literature on the performance of private equity and venture capital firms in the US and Europe indicates that their activities correlate with the institutional environment, particularly government promotion, legal environment, financial market status, the tax system, labor market regulations, and public spending on research and development (Lerner and Tåg, 2013; Woeller, 2012; Cummings et al., 2010; Gompers et al., 2008; Kaplan and Strömberg, 2008; Hellmann, 2007; Da Rin et al., 2006; Lerner and Schoar, 2005; White, Gao and Zhang, 2005; La Porta et al., 2002; Henrekson and Rosenberg, 2001; Jeng and Wells, 2000; Gompers and Lerner, 1999; Aoki, 1999; Jensen, 1989; Poterba, 1989).

Private equity has its proper legal structure, investment mechanisms and fund-specific strategies. The particular role of private equity is represented by a double-agency relationship between limited partner and general partner at one end, and, between general partner and portfolio companies at the other end. Private equity funds choose their business focus and investment strategies according to investment criteria agreed upon previously with their limited partners. The investment mechanisms of private equity combine the LP-GP relation, sophisticated contracting, monetary and non-monetary incentives, financial instruments, protection clauses and appropriate exits. The investment strategies are generally defined during the fund raising, specifying investment phase, industry focus, company type, minority or majority approach, etc. Investment strategies vary from fund to fund, depending on the risk appetite and investment objectives of their limited partners. According to the industry standard, there are four principal investment phases: deal sourcing, screening and execution, monitoring, and exit. To move forward in the process, decision points should be passed step by step and related documents should be signed at their due time. The crucial roles of private equity include: (1) financial investor for mid-term financing; (2) promoters for technology innovation and improving industrial performance; (3) reinforcement of corporate governance, especially in the case of LBO; (4) providing strategic advice and management expertise. However, given its sophisticated structure built by binding contracts, there are also potential risks and negative impacts related to private equity investment, such as short-term speculation, overuse of debt leverage, conflicts of interest among shareholders and management, or more macro influence on the market competition.

Observation of private equity's fast growth in the world and its recent acceleration in China

Emerging shortly after the Second World War, private equity was initially an institutional creation by the US government to promote technology development and create job opportunities for war-returned soldiers. A fast global development of private equity began in the 1980s. Europe, led by the liberal market economy of the UK, enthusiastically embraced the idea of a new financial tool to help stimulate private sectors and entrepreneurship, and provide solutions for the transformation of some old declining industries. On the other side of the globe, the nascent Asian growth miracle in Japan, South Korea, Singapore and Taiwan also offered great attraction to large internationally based private equity firms to seize good investment opportunities in new monopoly markets. As a result, the global private equity industry underwent an extraordinary growth in the last 20 years, with its total capital size increasing from \$30 billion in 1994 to \$340 billion in 2013 (Bain & Company, 2013; Zephyr Annual M&A Report, 2013).

China, however, was objectively unable to provide compatible institutions for private equity at earlier time. Even though attempts to build its own venture capital industry were initiated in the mid 1980s under the support of central government, it was not until a decade later that the first observable growth of private equity investment took place in several major Chinese cities. From then on the private equity industry in China has experienced ups and downs similar to those happened in the US and Europe. Yet, since the mid 2000s, it has become the leading private equity market in Asia and one of the regions in the world that attract the highest amount of new funding each year. In 2009, North America and Europe accounted for 36% and 37% of global private equity investments respectfully, both affected by the delayed effect of financial crisis; on the contrary, there has been a remarkable rise in the global share of Asia-Pacific and emerging markets, particularly China, Singapore, South Korea and India (The City UK, 2011). What happened in China during the last three decades which helped to adapt its institutional conditions to allow this spectacular development of private equity? And from another angle, has private equity kept the same form and structure and played the same roles as it has in the developed capitalist countries, or has it adopted local adjustments to fit with the particularities of the Chinese economy?

China from past failures to new miracle: is there a unique China model?

Drawing lessons from the historical “Great Divergence” during which China missed its chance to develop into an advanced capitalist country, and much determined to make up for the damages during the “lost century” and during the early big mistakes of the Great Leap and the Cultural Revolution, the Communist Party ruled China has finally found its own policy of development in the late 1970s. While keeping consistency with its ideological core, the Party has well understood the necessity and the urgency to improve the living standard of common Chinese people and to legitimate their “righteousness” compared to the former “lawless” emperors and “corrupt” governors. Compared to a more radical model of transition adopted by many developing economies in East Europe and Latin America, China has followed a quite different path of gradual reform and incremental economic development without total political democratization or market liberalization, and the privatization process came at a much later period of reforms. The results are fascinating: China has become the world’s fastest growing economy with sustained high growth rate since the late 1970s and has achieved a substantial reduction in poverty and a much higher standard of living, which together are widely referred to as the “China miracle” (Lau, Qian and Roland, 2000; Stiglitz, 1998; Lin, Cai and Li, 1996; Naughton, 1995).

Williamson (1996) argued that creating effective institutions and rules that govern economic transactions lies at the heart of a successful transition. Yet, the remarkable growth performance in China was accompanied by a relatively under-developed legal and financial system. Despite its official definition as a “socialist market economy”, most scholars see China’s economic system as a form of state capitalism, but with an unstable nature. Even though Schmidt (2003) mentioned about the “developmental states” in Asia and Amable (2003) formally integrated Asian capitalism as a distinct type in his five-model theory, their analyses and conclusions were limited to countries and regions with fast development during the 1980s and 1990s, namely Japan, South Korea and Taiwan; China was not mentioned in their study. Yet, we could find similar characteristics in the two models for better describing the hybrid model of capitalist economy developed in China. This hybrid form is the consequence of development with path-dependency and the inertial impacts from institutional complementarity on the evolution process. Important structural transformations of the world economy have deeply altered the mechanisms linking growth, institutions and economic policy and have contributed to a strongly regional character of the global economic growth.

But efficiency could take several forms and institutional complementarity could appear in different patterns, which, as in the case of China, is justified by various studies in the field of the varieties of capitalism (Boyer, 2012; Aoki, 2007; Amable, 2003; Chavance, 2000; Boyer, 1999; Qian, 1999; Coriat and Dosi, 1998).

To provide a statistic examination, we will also conduct a Principal Component Analysis (PCA) to verify if the economic model of China is close to any of the existing models of the varieties of capitalism. In their founding theory on the varieties of capitalism, Hall and Soskice (2001) contrasted liberal market economy (LME) with coordinated market economy (CME). Witt (2010) used this framework to examine the case of China and found that although China is in many ways different from both models its actual status is much closer to an LME than a CME. Based on Hall and Soskice's theoretical foundation, Amable (2003) proposed a more elaborated five-model system, in which he also incorporated Asian capitalism and referred it primarily to Japan and South Korea. Our study will use the five-model structure proposed by Amable (2003) and we will select representative economies of each model for our comparison. As the economies studied in his five capitalisms are all developed economies, we consider it valuable to complete their comparison with China by bringing in the other three members of the BRIC. We are interested in comparing them both on a static basis of their current institutional status and from a dynamic perspective evaluating if they have been converging or diverging during the last decade of development. The results will allow us to better classify the economic model of China and understand its characteristics.

How do institutional characteristics of China's economic model shape private equity industry in China?

Many studies about the reasons of China's success underlined the devolution of financial autonomy of local government and the crucial development of TVEs (Huang, 2008; Breslin, 2004; Lin and Liu, 2000; Oi, 1999; Xu and Zhuang, 1998). Others emphasized the active and regulatory role of the Chinese state in its attempt to institutionalize a market economy of "orderly competition", which is centered on large state-owned enterprises under strong political supervision while allowing private actors to challenge and improve market efficiency (Li and Shaw, 2013; Yeo, 2012; Lin, 2010; Breslin, 2004; Qian, 2002). One common point among these studies is the essential role of the state in the reform and the transformation of modern China, at both the central and the local levels. Reforms in the

financial market, especially the equity market, are symbolic of this transformation. Private equity in China, developed together with the stock markets in the past two decades, must have also been greatly influenced by the role of state in the reforms. White, Gao and Zhang (2005) affirmed that the current structure and dynamics of China's venture capital system is the outcome of specific antecedent conditions, including government policy guidance, strong central planning on reforms, active local governance and financial autonomy. They admitted the role of state has been crucial to the early development of venture capital in China but also advocated for less direct government involvement and better legal environment in the future.

Guanxi summarizes the interconnections and exchange relationships between different players, and is widely recognized as playing a crucial role in business in China (Standifird and Marshall, 2000). According to the general theory of the financial market, informal institutions and arrangement (such as local customs, community rules and other social conventions) are needed when the market is not well developed or it costs too much to allow liberal exchanges and public transactions. Dickson (2003) indicated that there exist in China strong connections between new entrepreneurial elites and political elites, through those who have left formal political office to become entrepreneurs and those who are children of state officials. Those connections have been occurring alongside the process of privatization since 1988. Private entrepreneurs often need to build a good relationship with local officials in order to obtain access to important information and business resources (Ding, 2000). *Guanxi* should also be important for the activity of private equity in China in various senses. It means that having a good relation with the local government can help secure investment opportunities via official support. It also means that having connections with key individuals both inside and outside the company can greatly help private equity investors to "seal" the investment and to facilitate the monitoring after investment (Ahlstrom and Bruton, 2003). Batjargal and Liu (2002) found that social capital is supplementary to other determining factors on investment decisions but it alone is insufficient for raising venture capital successfully.

As an institution, private equity works inside one country's unique economic and social environment, complies with its particular institutional framework, and constantly interacts with other institutions. A healthy private equity market can spur economic growth through helping innovative entrepreneurial firms with funding and strategic development. But from the very beginning, private equity firms need to build an efficient working structure and acquire competent managers to generate deal information and execute investment decisions.

The relation between private equity and other institutions is complementary. And this complementarity reflects exactly the institutional characteristics of each system and the institutional differences between countries, resulting from their own path dependence. The specific political, legal, economic, cultural and social environment in China must in some way impact the behaviors of private equity fund investors, fund managers and entrepreneurs; and it is at the same time influenced by the investment activity of private equity funds and the dynamics of new ventures. White, Gao and Zhang (2005) showed that a particular combination of political, economic and social institutions impels China's venture capital system to adopt four distinct governance forms, each with different antecedents, objectives and operating characteristics.

Private equity in China, from an institutional comparative analysis perspective

This thesis tries to make a thorough analysis of the current situation of private equity industry in China, not from a common business development or financial returns point of view, but aiming to draw a more structural picture of how private equity, as a particular form of capitalist finance, fits into the specific growth model of China. In another word, it is an examination of the concept of hybridization of capitalism with the specific country of China and the symbolic industry of private equity. We hope to seek a deeper understanding of how the institutional characteristics of China's hybrid capitalism highlighting the role of state and the importance of its informal institutions have transformed the way private equity works in China, and how private equity, being a particular sector of the capitalistic system, has succeeded in integrating with China's complex and fast-evolving social-economic regime.

Private equity is a particular form of financial institution, which sets up rules and incentives for economic actors interacting in the market. It is an institution embedded with contractual, informational and governance hierarchies. And it itself is interacting with other legal, financial, fiscal, social, educational and cultural institutions that exist in its given environment, under the complex relationship of institutional complementarity. Therefore, to study private equity in China in a systematic way and with a comprehensive view, we cannot study it separately from other factors and its environment, but should put it in the context of institutional analysis, examining its nature, its characteristics and functions, and how it works complementarily with other institutions. And we consider that the best way to study an economic phenomenon is to both look internally at the institutional and environmental factors

that provide conditions for its being and development and compare externally its status with similar phenomena in other nations or economies.

Therefore, to better analyze private equity in China, we should not only look at what are the historical and social factors that influence its growth, but also at what are the institutional particularities of the contemporary Chinese economic model. Because being a hybrid form of capitalist economy, it must embody some important institutional characteristics different from other major capitalist economies, which would produce significant impact on the working of private equity in China. Based on our previous analyses of China's economic model and how its institutional characteristics seem to impact private equity industry, we need further empirical results to support our hypotheses. We will use two complementary studies to examine the characteristics of private equity in China and gain new insights.

A comparative study based on survey at micro level

In this thesis, in order to verify possible influence on private equity from the institutional particularities of China's hybrid economy, we will compare private equity in China with private equity in France and the UK. The choice of France is linked to the strong role of the state that France used to embody and its remaining control on some strategic sectors, and also because France has a strongly coordinated market economy according to the typology of Hall and Soskice (2001). So it will be valuable to verify if private equity funds work in a similar way in France and in China. The UK, being a model of liberal market under an "at arm's length" government, is the counter example to state capitalism. The interest of bringing it into the comparison is to provide a mirror of the institutional differences between the liberal market and state regulated market and a more comprehensive understanding of private equity's working as financial institution in different institutional environments.

Aware of the difficulties to get sufficient and meaningful data on private equity funds in China as little information is publicly available and an overwhelming part of them were founded after 2006 and haven't finished the divestment, we will use the method of survey with detailed questions, including both qualitative and quantitative ones. Generally we categorize private equity funds in China by size (large, medium or small), by country origin (domestic or foreign) and by nature (independent, captive or government supported). And sometimes it is also valuable to separate them by geographic location and founding time. To

mitigate the small number of interviewees, we managed to interview at least one fund from each category. Since private equity markets in France and the UK are in more stable status, we just focus on funds that have good market reputation and solid history and try to include larger variety of founding period in order to widen the scope of our analysis.

Taking into consideration the social institutional structure proposed by Amable (2003) and previous studies on private equity in China, we designed the survey with five sections: (1) fund organization and management background; (2) generation, screening, valuation and structure; (3) monitoring and value-adding activities; (4) informal institutions *guanxi*; (5) challenges, trends and social values. Each section contains a group of questions, both qualitative and quantitative, that are essential to make a good understanding of how private equity funds operate and what are the factors that influence their decisions. There are 59 questions in total. Many questions are open for complete answer and complimentary information. Some questions are set to evaluate different factors' importance from 5 (most important) to 1 (least important); some require providing a concrete number from the fund's own statistics. Most of the surveys were conducted during face-to-face interviews or by telephone interviews. After excluding several surveys with incomplete answers, we finally came up with a sample of 10 Chinese funds, 8 French funds and 2 British funds.

An econometric study with panel data at macro level

To complete our empirical analysis, we will also conduct a cross-country panel study to examine the main factors impacting private equity investment activity in China, France, the UK and the US. Using the total annual investment amount of venture capital and private equity respectively as a percentage of the annual GDP as our 2 dependent variables, we include 3 groups of factors as our independent variables, representing respectively the macroeconomic, entrepreneurial and institutional environment. We construct multiple models to test the significance and impact of each variable. Furthermore, based on the results of our earlier PCA and survey studies, we use country-specific variables to compare the differences between the four countries. This study is complementary to our former analyses, and will deepen our understanding of the institutional characteristics of private equity and their specificities in our sample countries. The introduction of some new entrepreneurial and institutional variables as well as the factor of political stability in the study also provides

valuable insight on the institutional complementarities between private equity and its environment.

Our panel data set contains 4 countries, China, France, the UK and the US, and covers the time period of 2000 to 2013. The 4 countries under study all have dynamic venture capital and private equity market. We choose them for this analysis because they represent three different types of economic models of capitalism, and because we want to compare China's venture capital and private equity industry with other countries from an institutional perspective. Compared to the existent literature, our study uses much recent data and more comprehensive variables. We will also run estimations with a crisis factor capturing the effect of the last financial crisis. The models with country-specific coefficients allow us to examine institutional differences of private equity investment in our sample countries.

Organization of the thesis

Both private equity and the hybridization of capitalism in China are profound subjects that merit thorough analysis. This thesis is written with abundant literature review and various sources from historical, social, political-economic, financial and institutional fields of study. It is developed through two parts, with the first part mainly providing conceptual and theoretical basis and the second part mainly formed by statistic and empirical studies. Each part includes 2 chapters. Except for the second chapter that has 3 sections, the other three chapters all have 2 sections.

PART I, as the theoretical part, will present the fundamental aspects of private equity and the theoretical bases for this study. It begins with Chapter 1 presenting the fundamental concepts and working aspects of private equity, as we consider it a preliminary step to explain in the first place the nature, the origin, the role, the mechanisms, the functions and the global development of private equity before we could concentrate on its development and working method in China. And this is done with an extensive literature review on the most important studies and analyses about private equity over the past decades: what is private equity, what are the specifications of its investment targets and strategies, how is the private equity market organized, what kind of mechanism and process it functions through, why it is a crucial sector in today's capitalistic economy, and what are the factors that impact its activity and performance. This chapter will provide us a good understanding and thorough knowledge

about private equity and its major roles in a capitalist economy and in this way build a solid background for the comparative analysis of private equity funds in different economic models in the second part.

Chapter 2 will set up the theoretical bases of our study. In this chapter, we will first introduce the institutional theory and its principal arguments about the importance of institution as game rules and codes of coordination. The fundamental features of institutional hierarchy and institutional complementarity will help us explain social and economic evolutions in a more comprehensive way. Therefore, a new light will be shed when we examine private equity's mechanisms, functions and contributions from an institutional analysis perspective. First, we will analyze the hierarchical structures of private equity at the microeconomic level and the institutional complementarity between private equity and related institutions at the macroeconomic level. Second, we need to analyze the particular economic growth regime formed in China, which has defined the institutional environment for private equity in China. Studies by Hall and Soskice (2001) and Amable (2003) on the varieties of capitalism provide us some examples of interpreting the institutional differences existing among major capitalist economies. And instead of hurrying into any conclusion about China's economy model, we decide to take a step back and examine with great attention and special interest how historically, politically and structurally China was led to its own path of development. At last, we apply the tool of Principal Component Analysis to compare China's economic model with the capitalist models defined by Amable (2003), to examine whether it belongs to a certain identified model or it stands out as a different form of capitalism.

PART II, as the empirical part, will follow the conceptual and theoretical structure set by the first part and focus on the empirical analysis of institutional characteristics of private equity industry in China. Chapter 3 will first present us factual data about private equity's periodical development in China from mid 1980s till now through four phases, and underline what are the main decisive forces that have pushed forward its growth in each phase and what remains to be improved in order to allow further development. Next, following the main themes drawn out during the analysis of the hybridization of capitalism in China, we propose to focus on three main institutional characteristics of this model and their influences on the working of private equity in China: (1) the crucial role of the state and the formal institutions under its control; (2) the important role of *guanxi* as informal institutions in China; (3) accentuated market complexity related to antecedents and institutional complementarity. After

a thorough analysis of each aspect, we will make three suggestions about how private equity in China is influenced by the role of the state, the role of *guanxi* and the strong complexity of China's economic market as going through a transition period. And our general hypothesis is that according to the institutional analysis, private equity funds in China need to adapt the working method being used in more developed liberal market economies to suit the particular institutional environment of the hybrid capitalist economy in China.

Two empirical studies are presented in Chapter 4. The first study is based on survey with representative private equity funds. The questions, covering the main structural and operational characteristics of private equity activity, are meant to examine the three suggestions made in Chapter 3. Detailed analyses of the results of survey with 10 Chinese funds, 8 French funds and 2 British funds are grouped according to their link to the three suggestions. Supplementary information is also provided. We will mainly use graphs and tables to present obtained statistics and put comments under them to provide further explanations. From the survey results, we can summarize the institutional differences among private equity funds in China, France and the UK on a micro level. The second econometric study using a panel data covering 4 countries and 14 years is complementary to the first study. Using the total annual investment amount of venture capital and private equity respectively as a percentage of the annual GDP as our 2 dependent variables, we include 3 groups of factors as our independent variables, representing respectively the macroeconomic, entrepreneurial and institutional environment. Furthermore, we use country-specific variables to compare the differences between China, France, the UK and the US. This study will deepen our understanding of the institutional characteristics of private equity and their specificities in our sample countries. The introduction of some new entrepreneurial and institutional variables as well as the factor of political stability in the study also provides valuable insights on the institutional complementarities between private equity and its environment.

Our final conclusion will be based on both theoretical and empirical analyses of the features of private equity and the characteristics of private equity industry's development in China. We will compare our research results with existing literature and highlight some values it might contribute by combining several technique tools and different analytical perspectives. We will also underline the limits of our study and the data bias that might partially impact the results of our analyses. Furthermore, we will raise some concerns about what are the institutional adjustments that need to be brought to the economic model in China

in order to assure the future growth of private equity in a more balanced way. At last, we recall that the ambition of this thesis is to apply institutional comparative analysis methodology to the current situation of the private equity industry in China by acquiring a more profound understanding of the historical, political, social, economic and cultural factors that have formed the particular hybrid form of capitalist economy in China. Private equity represents one of the most fascinating inventions of the modern capitalism and symbolizes the functioning of the overall economic system of one given country. The study of private equity in China unavoidably leads us to the study of the economic model in China. While it might have enlarged the common fields that a thesis on economics normally involves, it could be a meaningful attempt to integrate such multidisciplinary approach on the profound subjects that we are examining here.

PART I

Fundamental Aspects of Private Equity and Theoretic Bases of the study

CHAPTER 1

Fundamental aspects of private equity

Introduction

The private equity industry started after the Second World War. As an alternative way of financing, private equity investment was first developed in the US for the purpose of assisting the growth of young innovative high-tech companies (Hellmann and Puri, 2002; Kortum and Lerner, 2000). It was later introduced into Europe and to emerging economies (Bruton, Manigrat, Fried and Sapienza, 2002). Its development has often been encouraged by the government's policy to promote technology innovation and to support small and medium size enterprises (Fenn, Liang and Prowse, 1995). A private equity firm functions as an investment intermediary linking investors to companies, as a better informed agent making decisions on behalf of investors, and as an active shareholder helping companies to improve their performance (Jensen, 1989). Beyond the provision of capital, private equity involvement provides invested companies with strategic advice, management assistance, business connections, monitoring and corporate control (Black and Gilson, 1998; Sapienza, 1992). Private equity activity has evolved alongside technical, economic and social changes, and various aspects of the on-going globalization (Kaplan and Strömberg, 2008). It also has an important impact on corporate governance (Cumming, Siegel and Wright, 2007; Sahlman, 1990). Multiple macro and micro factors influence the performance of private equity funds, such as GDP growth rate, innovation density, interest rate, inflation rate, age of fund and manager experience (Aigner et al., 2008; Félix et al., 2007; Romain and De La Potterie, 2004; Gompers and Lerner, 1998).

The first chapter will set up a comprehensive conceptual background of private equity for our later analysis. In the first section, we will present the fundamental concepts of private equity, including its nature and origin, the participants and the organization of private equity market, the mechanisms, strategies, criteria and procedures of investment. In the second section, we will overview the global development of private equity and look at the determinant factors that impact the intensity and the performance of private equity investments. We will also analyze the different kinds of value contributions of private equity, which provides explanations for its fast growth and its important role in corporate financing.

An extensive literature review on the most important studies about private equity over the past decades will help us better understand what is private equity, what are its investment strategies, how is private equity market organized, what are its central mechanisms and investment process, what are its special value contributions, and what are the factors that impact its activity.

Section 1.1 Private equity: concept, market structure, investment mechanisms and process

Private equity is a type of corporate financing. It is developed to bridge the lack of innovation investment and to offer an alternative financing to industrial development. Unlike banks, private equity firms do not just provide credit to companies but are involved in more complicated management issues and strategic decisions about invested companies' business development. As activist shareholders, private equity funds are constructed under particular structure and operate according to certain mechanisms. There exists a whole set of market structure inside which private equity firms work in interaction with other actors and institutions. With its global development, the private equity industry has formalized standards and norms concerning the investment process, formal contracts and investment instruments. To give a general introduction about private equity, we begin with its definition and basic concepts, and then we explain how the private equity market is composed and operated. Finally we will look at private equity funds' investment strategies, mechanisms and tools, as well as the main process of investment.

1.1.1 Definition and typology

Private equity is a type of financing provided in return for an equity stake in potentially high growth companies (British Private Equity & Venture Capital Association, BVCA). Instead of bank financing or raising capital from the stock market, private equity firms raise funds from sources such as pension funds, endowments and high net worth individuals, and they use these funds, sometimes along with borrowed money, to invest in companies that have the potential to outperform (BVCA). Private equity also refers to the provision of capital at different stages of the company development, after a process of negotiation between the investment fund and entrepreneur, with the aim of developing the business and creating value (European Private Equity & Venture Capital Association, EVCA). The direct objective of

private equity financing could be various: to reimburse company debt, to provide working capital, to carry out new projects, to buy out the stake of a departing investor, to buy out the stake of a departing investor or manager, to finance future acquisitions, etc.¹ (Association Française des Investisseurs pour la Croissance, AFIC). Private equity represents a class of investors, their capital, and investments done through a particular financing process; they financially influence the company directly but only on a periodic level. From an organizational point of view, private equity funds are usually set up by a managing fund in the form of limited partnership, with fund managers operating as general partners (GPs) and institutional investors and wealthy individuals providing capital as limited partners (LPs) (Jensen, 2009). LPs have limited liability to the extent of their registered capital and they have no management authority; GPs are contracted by LPs to manage their capital and are fully responsible in cases of economic losses. We can also consider private equity firms as a new financial intermediation between investors and invested companies. From the management point of view, to create maximum values by their investments, private equity funds should advise company management on all crucial decisions, provide professional connections for project development and check on the key issues of corporate governance. With their industrial experience, business sense and networks, fund managers will be able to help the company acquire the latest industry information, adopt proper reactions to technology innovation and market change, establish new business relationships and foresee future acquisition or trade-sale opportunities. In a word, private equity provides additional equity to the company and accelerates its growth by combining capital and expertise. It is at the same time a financial and a human capital investment.

In the US, private equity and venture capital are treated as separate types of investment². It is normal to separate “venture capital” which has dominated the US private equity industry until the early 1980s from “non venture capital private equity” of large size investment (Fenn, Liang and Prowse, 1995). In Europe, private equity includes venture capital and management buy-outs and buy-ins (BVCA). “Venture capital” is considered in Europe to be a subset of private equity which specially refers to equity investments made for the launch, early

¹ In a more general way, a private equity fund can also invest in public equity, known as PIPE (private investment in public equity), real estate development and infrastructure projects. Our study here only concerns private equity funds focusing on equity investments in unlisted companies.

² In the US version, while private equity may represent the general concept of equity investment in private companies, it is more common to oppose venture capital (includes risk capital and development capital) to buyout (all types of transition capital). (AFIC, 2007)

development, or expansion of a business and particularly emphasizes the entrepreneurial aspect (EVCA). We could also classify “private equity” into five different strategic types: venture capital, growth capital, leveraged buyouts, mezzanine capital and distressed investments. In France, investment capital is composed of three types of funds: venture capital, development capital and transmission capital (AFIC)³. Latin America countries have adopted the same typology as the US, though they have much less venture capital investments than late stage investments and buyouts. Asian countries usually use “private equity” as the general term but have a more specific terminology for subgroups: “venture capital”, “growth expansion”, “mezzanine”, “buyouts” and “infrastructure” (Asian Private Equity Research, APER). China has similar system as the US, where “private equity” is often opposed to “venture capital”. But due to less developed high-tech sectors and more important traditional industries, “venture capital” and “private equity” in China don’t have much investment target distinctions in practice.

In our study, we generally address our interest and analysis to all private equity and venture capital activities because they work under similar theories and structures and because we try to obtain a global picture of their operation in different institutional environments. Nevertheless, there are certainly differences between private equity and venture capital, which are not our focus here. We are interested in how they interact with other surrounding institutions and whether these interactions show particular institutional characteristics which are specific to one given country.

1.1.2 Participants and organization of private equity market

When we look at the functioning of private equity as a whole, we remark the existence of an organized market with investment activity participants, rules guiding their activities and supervisory authorities who set the rules and verify their implementation (Fenn, Liang and Prowse, 1995). Before analyzing how the private equity market operates, we should first look at the main actors and their different roles. The main actors in the private equity market are investors, private equity firms/funds, invested companies, intermediaries and regulators.

³ In French, investment capital is “capital d’investissement”; venture capital is “capital risque” which is also aiming at financing the creation and development of high risk and high growth enterprises; development capital is “capital développement” which targets companies with stable growth; transmission capital is “capital transmission” dedicated to companies in difficulty. (AFIC, 2007)

Investors:

An investor in the private equity market ought to be an “accredited investor”. The word “accredited” has two implications: the investor should have a sufficient amount of capital at his disposal, under his trusted management, in net worth or in terms of income, and should be qualified in understanding the risk and the complexity of the investment business. The main investors of private equity funds include institutional investors (pension funds, sovereign wealth funds, funds of funds, hedge funds, mutual funds, endowments, public foundations, banks, insurance companies and investment banks), family houses, big corporations and industrial groups, as well as high net worth individuals.

Private equity firms/funds:

A private equity firm is a qualified managing company who makes investments on behalf of its investors and is compensated according to the returns it generates for them. Investors are limited partners (LPs) and partners of the private equity firm are general partners (GPs). A private equity fund is a special investment vehicle (SPV)⁴ which operates as an intermediary between the investors (LPs) and the investee companies. Each private equity firm will raise capital from its investors for a specific private equity fund and the capital of the fund will be invested by the firm partners in accordance with specific investment strategies decided for the fund. Figure 1-1 shows the relationship between private equity firm and private equity fund. Depending on the nature of its investors, we can classify four types of funds: independent funds, whose capital is from several investors and no investor holds a majority stake; captive funds, in which one shareholder contributes most of the capital, such as subsidiaries of a bank; semi-captive funds, which are owned by a main shareholder and with significant share of capital raised from third parties; and public sector funds, whose capital is totally or partially, directly or indirectly collected from public entities.

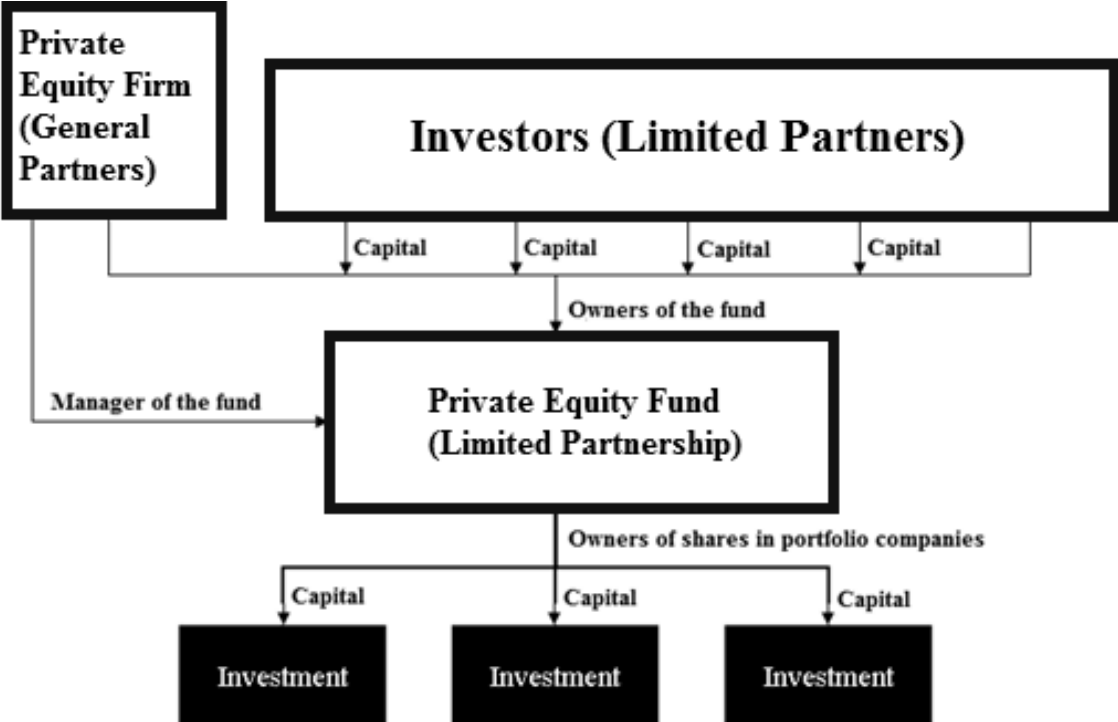
Target companies:

The companies that are invested in by private equity funds are most of all private companies, or public companies which hope to be taken private. Companies could seek

⁴ Special Purpose Vehicle (SPV), also referred to as Special Purpose Entity (SPE), is a bankruptcy-remote entity often in the legal form of a limited company or limited partnership, whose operations are usually limited to the acquisition and financing of specific assets. SPVs are often established as subsidiary companies with an asset/liability structure and legal status that makes their obligations secure even if the parent company goes bankrupt. For this reason, they are commonly used to obscure debt, ownership and other relationships between different entities. SPVs are also commonly used in complex financings to separate different layers of equity infusion.

private equity investment for different reasons: financial needs for business development, management expertise, large industry network, familiarity with financial operations (public offering, private sale, mergers and acquisitions), organizational restructuring, etc. Private equity funds can intervene in different stages in a company’s life cycle: seed, startup, expansion, buyout, and turnaround. Each fund may specialize in one domain of its expertise or operate in multiple sectors to diversify risks.

Figure 1-1: Relations between private equity firm and private equity fund



Source: author

Intermediaries:

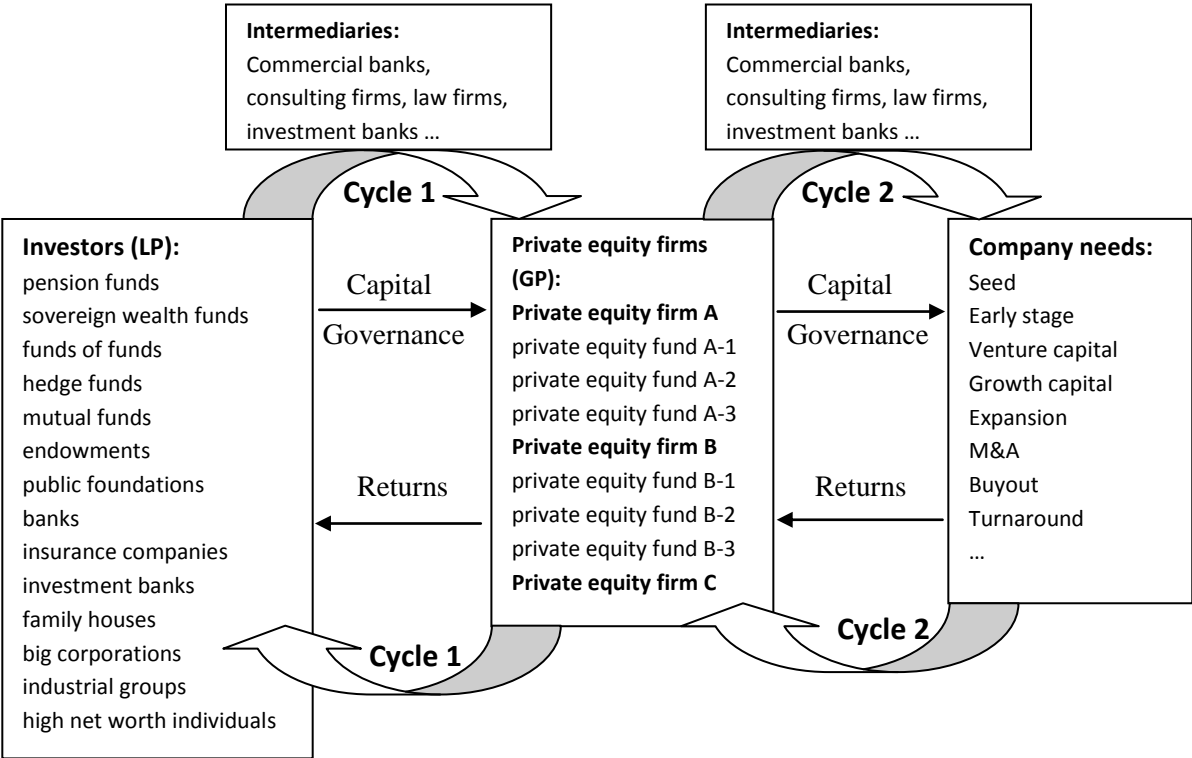
Intermediaries who participate in private equity activities are business partners of private equity firms. They usually include consulting firms that may bridge investment fund and investee companies, law firms specialized in merger and acquisition transactions, commercial banks which provide debt syndication to company, investment banks that help a company to realize public offerings, etc. It is important for private equity firms to have assistance from intermediaries to find investment opportunities and help invested companies to achieve better growth.

Regulators:

Through investment activities, private equity firms interact with company management, banks, domestic and foreign investors, and stock exchange markets. Related authorities and regulators must provide guidelines to their behaviors and influences, and constantly adapt the regulations to the market situation. A thorough structure of private equity activity regulations and relevant legislations in corporate governance and financial markets should be established in order to avoid speculative behaviors and assure the good-functioning of the private equity market and related institutions.

We represent the temporary links between investors and investees through the private equity market in the form of two investment cycles (Figure 1-2). During the first investment cycle, the private equity firm seeks capital commitment from potential investors, especially from institutional investors, to attain sufficient funding. There are intermediaries specialized in facilitating fund raising and fund structuring, such as banks, consulting firms and law firms. Investors should make a decision about how much capital to invest in which industries and in which private equity fund to invest. A typical private equity fund has a 10 year investment life and could extend to a longer period upon agreement with its investors. A successful private equity firm could raise a new private equity fund each 3 to 5 years and manage several private equity funds at the same time. After studying candidate funds' track record and investment strategies, investors make capital commitment to selected private equity funds which will manage the capital on their behalf and best maximize their capital returns. They can also invest in a fund of funds, hence delivering both the fund selection and capital management responsibilities. Generally only private equity firms with established reputations and solid track records can obtain institutional investors' capital commitment; young and less successful firms usually raise money from family houses, industrial groups and high net worth individuals. The official document of the agent relationship between investors and private equity funds is the LPA (Limited Partnership Agreement), which explain all the legal and contractual terms concerning partnership structure, investment timeline, responsibility of each party, and their remunerations, as well as investment criteria.

Figure 1-2: Two investment cycles of private equity market



Source: author

In the second cycle, the private equity fund invests in selected companies, monitors their development and manages to exit successfully. According to their different resources and expertise, a private equity fund may choose to focus on industries of high risk and high potential returns such as internet, innovative medicine and new energy, or on traditional sectors such as agriculture, retail, manufacturing and services. The second cycle includes four phases: sourcing, screening & execution, monitoring, and exit. Sourcing is the first deal generation phase, wherein the objective is to obtain the most valuable investment opportunities. The private equity market makes it possible that an ordinary investment opportunity could keep passing among different funds until it meets the suitable one, while a very promising deal may arouse fierce competition among funds and push the valuation to go high (Gompers and Lerner, 2000). Screening & execution is the most crucial phase wherein all important aspects of the business plan, financial soundness, regulation compliance, management capacity, mutual confidence, and potential exit are thoroughly checked (Ueda and Masako, 2004). Once the investment decision is made, a shareholding purchase transaction will be executed between the fund and the company according to previously agreed conditions. A much longer monitoring phase begins from this time and often lasts for

several years, during which the fund assists the company in carrying out its business plan and in making the best management decisions. The monitoring phase is the most important investment phase in terms of intrinsic value creation, and existing research generally gives proof of the necessity of a minimum holding period in order to create value. Exit is the last phase in which a private equity firm divests gradually from its portfolio companies; but it is also a crucial phase which could totally modify the results of previous efforts through direct impact on the capital returns. There are typically five types of exit: IPO (Initial Public Offer), trade sale (acquisition by a strategy investor or industrial investor), secondary sale (purchase by another private equity fund), redemption (repurchase by company owner) and liquidation or write-off (when the investment fails).

Figure 1-2 shows us the roles and interactions of the main participants in the private equity market. Cycle 2 happens inside Cycle 1: an investment by a private equity fund in a company lasts generally three to five years; an investment by an investor in a private equity fund lasts generally 10 to 13 years. The supply of capital is bound to the demand of governance control, and the delivery of capital and governance is made in exchange for the future returns. We may observe here the agent role and the intermediary function of private equity firms to bridge investment capacities and investment needs. The private equity firm's degree of specialization, operating experience and rational management behaviors are its industry-specific human capital which allows its managers to seize investment opportunities and to guide entrepreneurs and company management (Gompers, Kovner, Lerner and Scharfstein, 2006). By using sophisticated contracting, pre-investment screening and due-diligence, post-investment monitoring and advising, private equity firms help companies to better overcome principal-agent problems often seen in big corporations (Kaplan and Strömberg, 2001). Meanwhile, the operations of two investment cycles share some common features and the relationships between LPs and GPs and between GPs and entrepreneurs are of similar characteristics. Each relationship has limited commitment time. The same compensation schemes motivate the value creation both by GPs and by entrepreneurs. There are similar mechanisms to limit investors' and funds' potential losses. And there is pressure both on the GPs to make good returns for LPs and on the entrepreneurs to accomplish their business plan.

1.1.3 Private equity investment mechanisms

A private equity fund is a “closed end” vehicle enabling pooled investment by a number of investors in the equity and equity-related securities of the investee companies, which are generally private companies whose shares are not quoted on any stock market. Private equity has its proper legal structure, investment mechanisms and fund-specific strategies. A private equity fund is usually established in the form of limited partnership where the general partners, representing the private equity firm, receive capital from limited partners (pension funds, banks, insurance companies, foundations, etc.) and manage the capital by investing in high potential companies (investee companies) to produce maximum gains. We mentioned in the last section that the particular role of private equity is represented by a double-agency relationship between limited partner and general partner at one end, and, between general partner and portfolio companies at the other end. Private equity funds choose their business focus and investment strategies according to investment criteria agreed previously with limited investors. Investment mechanisms of private equity combine the LP-GP relation, sophisticated contracting, monetary and non-monetary incentives, financial instruments, protection clauses and appropriate exits. Investment strategies are generally defined during the fundraising, specifying investment phase focus, industry focus, company type, minority or majority approach, etc. Investment strategies vary from fund to fund, depending on the risk appetite and investment objectives of their limited partners. In the following section, we will take a closer look at the legal structure, investment mechanisms and strategies of private equity funds, as they largely influence the working method of a fund and the behaviors of fund managers.

1.1.3-1 “Ex-ante” investment mechanisms

Most past studies concerning private equity funds’ investment mechanisms are focused on the limited partnership structure and the compensation arrangement between the limited partners and the general partners (Gorman and Sahlman, 1989; Sahlman and Stevenson, 1988, 1989; Morris, 1988; Bartlett, 1988; Wilson, 1985), and the interest alignment between private equity funds and portfolio companies’ management teams (Cumming and Walz, 2004; Jensen, 1993; Sahlman, 1990; Barry and al., 1990; Smith, 1990; Kaplan, 1989). We may consider part of the investment mechanisms as “ex-ante”, formed between limited partners and private equity firms during the investment Cycle 1, which are defined by the Limited Partnership

Agreement (LPA)⁵ at the time when the private equity firm completes its capital pool and receives the delegation of its management, and before any concrete investment is within the prospect of the fund. The legal structure of limited partnership and the contractual relationship under LPA are designed to best protect LPs from the possibility that the GPs will make decisions against their interest. The majority of global private equity funds are set up in the legal structure of limited partnership because of its management advantage and tax transparency.

Limited partnership in private equity investment is usually a fixed-life investment vehicle of typically 10 year duration with the possibility of a few more years' extension. The investors (LPs), solicited by a private equity firm (GPs), commit their capital to a new private equity fund, set up and to be managed by the GPs, and by this way delegate to the GPs the responsibility of capital management. On the other side, the GPs raise capital from the LPs for the fund, form a devoted investment team to select the most opportune deals, spend time to monitor invested portfolio companies, and do their best to assure the successful exits of investments. The LPs could be either a legal entity such as a company, a trust fund or a public foundation, or an individual person who has enough net worth and has met several income qualifications, and who must be considered sufficiently sophisticated to make investment decisions on complex businesses. The private equity firm may be formed as another partnership among the GPs or a limited liability company; the latter allows the taxation of income and losses to go directly to the owners of capital, the LPs. Under the limited partnership structure, the fund is not subjected to tax, and the LPs are taxed when receiving any income and profits from the partnership as if they were paid to them directly by investee companies. Partnerships also allow the distribution of securities without triggering immediate recognition of taxable income and the gain or loss on the underlying asset is not recognized until a sale transaction. Although GPs have unlimited liability, the risk is minor given that private equity funds do not borrow nor are they exposed to the risk of having heavier liabilities than registered assets.

⁵ Limited Partnership Agreement (LPA) is a special type of partnership agreement that is legally required at the establishment of a firm or a legal entity, which identifies and distinguishes the Limited Partners (LPs) and General Partners (GPs) of the firm or the legal entity and defines their level of managerial control, investment and liabilities. LPA specifies the amount of capital invested and stipulates that the LPs are not involved in the daily management and are not liable for more than the amount of capital they have contributed. The GPs, on the other hand, have unlimited liability for debts and obligations.

As we have already mentioned, to clearly define the partnership relation, an LPA must be signed between LPs and GPs, explaining all the legal and contractual terms concerning the partnership structure, the investment timeline, the responsibility of each party and the remuneration formula to the GPs and the management team. To better guide the operations of the fund manager, even though the latter has significant discretion to make his own decisions on business development and investments of the fund, the LPA usually sets certain restrictions and covenants to pre-define the type, size, geographic allocation and industry focus of future investments, and how much capital can be invested in one company, types of securities to invest in, etc. (Kaplan and Strömberg, 2008; Gompers and Lerner, 1996). Furthermore, LPs are generally permitted to vote on key issues such as amendment of the LPA, dissolution of the partnership before the termination date, extension of the fund's life, removal of any GP and valuation of the portfolio, and a two-thirds majority of limited-partnership votes is required for approval (Sahlman, 1990). An LPA should precise the original amount and the drawing terms of the capital. The capital commitment from LP is the maximum amount of capital that an individual LP agrees to invest in a fund including management fees and other fund expenses. GPs are often required by the LPs to contribute 1% of the total capital commitment, which is historically due to tax reduction reason and now has developed into an industry standard (Sahlman, 1990). But the capital commitment is not equal to cash available for investment. LPs typically invest a certain amount at the start and pay off the remainder of their investment over time, and most fund agreements call for a cash commitment of between 25% and 33% at the closing with additional capital to be invested at future dates (Sahlman, 1990). If an LP doesn't fully respect his capital commitment, severe penalties could be imposed on the return share of his earlier investments and his ability to withdraw from already invested funds.

In practice, when an investment decision is made, the fund should "call" its LPs for advancement of cash. A single payment by an LP of a portion of the total commitment of capital for the purpose of an anticipated investment is called "capital call". "Capital call" generally works according to the "just-in-time" rule, because cash waiting to be invested will earn only minimal interest, which decreases the fund's overall returns. To restrict the long term engagement of LPs, the LPA usually limits the ability of the fund to make "capital call" to its LPs to six years, beyond which the rest of capital is not any more available. Under extreme circumstances such as the withdrawal or the death of key members of the GPs, LPs can also terminate their commitment to a fund. In the LPA, such clauses usually exist to allow

the LPs, acting with a majority vote, to terminate the fund if they have lost confidence in the GPs. There could also be excuse clauses for LPs to leave their engagement when regulatory changes prevent them from continued participation in fund investment. On the other side, when an LP cannot fulfill its capital commitment or wishes to exit for some special reason, the GPs will try to sell the part held by the LP in a secondary market, usually at a discount. If the sale cannot be arranged, the GPs could impose severe default penalties against the LP.

The compensation system in the limited partnership plays a critical role in aligning the interests of the LPs and the GPs. It is set up in such a way to give the GPs incentives to actively seek high potential companies and devote their time, their personal resources and continuous effort to accompany those companies to market and financial success. The remuneration is designed into two steps in order to provide motivation for out-performance. The typical remuneration is built in a so-called “2%-8%-20%” incentive structure. In the first place, the GPs of the private equity fund are remunerated by an annual management fee equal to 2%⁶ of the investors’ total capital commitments to the fund. Management fees are provided to the GPs during the investment period, usually 5 years, to assure their business operation and needed expenses. These fees will gradually decrease in the following period as the fund, exiting from early investments, starts to pay back its investors and the capital employed continues to reduce. In addition, the GPs could share the profits of investments from the so-called “carried interest”. After returning all of the fund’s capital to its LP, a “carried interest” of 20% of the profits will be entitled to the managers on condition that a “hurdle rate” of 8% (which could actually vary from 5% to 10%) of return on the initial capital is achieved. Some funds require the repayment of management fees from investment proceeds before the GPs can receive any “carried interest”. Sometimes the LPA allows the GPs to earn a “carried interest” on a deal-by-deal basis. An LPA should anticipate how profits will be distributed at the end of the fund life, as divestments are realized through public offering, private sale or mergers. A “claw back” clause may be included which gives LPs the right to reclaim a portion of carried interest distributed to GPs for early profitable investments if there are significant losses from later investments.

⁶ The initial management fees percentage could actually vary from 1% to 2.5% depending on the fund size: the bigger the fund size, the smaller the percentage number. After the end of the commitment period, the basis for calculating the fees will change to the cost basis of the fund, often reducing to 0.5% of fund size, less any write-offs.

The GPs have the option to make distributions to LPs in the form of securities, cash, or both. When a portfolio company succeeds in IPO, shares of the company held by the private equity funds usually cannot be liquidated at once but can be distributed to the LPs in proportion to their ownership of the fund. If the fund decides to hold the shares, it will distribute them at a certain future date or convert them into cash through a secondary transaction. Generally, the fund should provide LPs with periodic reports on the status of their portfolio companies and organize annual meetings with the LPs and selected company managers. Advisory boards, which could also contain members from LPs, are often designed to provide deal flows, investment guidance, technical expertise and determination of portfolio valuation (Sahlman, 1990).

1.1.3-2 “Post-ante” investment mechanisms

On the other side, “post-ante” mechanisms are formed in investment Cycle 2 between private equity funds and invested companies during the operation of private equity fund, concerning various aspects of before-investment decision and post-investment management. These mechanisms aim at selecting, monitoring and motivating portfolio company managers in order to secure a higher potential return to the invested capital. Private equity firms use sophisticated contracts to define their rights and responsibilities and to restrain the behaviors of company founders and managers. Commonly used documents to arrange investment relations and procedures include Letters of Intent, Terms Sheets, Shareholder Agreements (SHA), Share Purchase Agreements (SPA, also as Subscription Agreement), Memorandum of Associations (M&A) and Loan Agreements. Letter of Intent is a short summary of interest between the private equity firm and the company, indicating the potential form of the transaction. Term Sheet is a document which outlines the key financials and other terms of a potential investment and includes all the terms to be negotiated and put into SHA, SPA, M&A and Loan Agreement: it is the basis for drafting these formal legal documents. The SPA, as one of the most crucial investment agreements, mainly contains the details of investment rounds, the number and class of shares subscribed for, payment terms, and representations and warranties of the company. The SHA, equally important as SPA, defines the relations between different owners of the company and usually contains investor protections, consent rights, rights to board representation and non-compete restrictions. The M&A sets out company status, business objectives, statement of limited liability and the structure of share capital. Loan Agreement is used in a buyout deal to precise the amount, the cost and the

reimbursement conditions of a short term debt, with distinctions between Term Loans, which are bank loans, and Senior Debt, which are usually high yield bonds from other financial institutions.

Term sheet and Letter of Intent are important but they are not legally binding. SHA / SPA / M&A are the three most crucial legal documents, especially in a minority interest deal, because being a minority owner the private equity firm needs to negotiate for better terms to protect its rights. The SPA and the Loan Agreement are the most important in a buyout deal, because being the majority owner the private equity firm can define the SHA and M&A on their own. In total, these documents offer private equity firms the legal support to protect their interests and rights while reducing possible consequences of investment risks to a minimum. Under this sophisticated contracting mechanism, a private equity firm also provides financial and legal incentives to its counterparty, the company owners and managers, to rationally manage the company and to achieve good performance. We will look at the main terms of these documents in order to understand how private equity firms structure their investment and set up the investment relations and controls. The main terms concerned by the principal legal documents can be classified into six groups: (1) subscription conditions, (2) financing terms, (3) attached rights, (4) protection provisions, (5) incentive provisions and (6) binding provisions. The following table will show the main terms and clauses regularly involved in private equity investment contracting⁷.

Table 1-1: Principal terms used in private equity investment legal documents

Groups	Terms	Contents
1. Subscription conditions	<i>shareholding amount</i>	the target shareholding percentage
	<i>security type</i>	common share / preferred share / convertible bonds / warrants
	<i>valuation</i>	pre-money valuation for calculating price per share
	<i>capitalization</i>	post-money valuation
2. Financing terms	<i>milestones</i>	technical or commercial targets for investment in tranches
	<i>ratchet</i>	adjust the fund’s shareholding depending on the company performance or the level or returns from exit
	<i>transaction and monitoring fees</i>	paid by the company to cover internal and external costs related to the investment process
	<i>earnouts</i>	in buyout the founder and managers could be required to defer a part of the purchase payment over a period based upon specified performance targets, such as profitability level or earnings multiple
	<i>loan components</i>	for buyout deals explanations must be given about loan amount, interest rate, repayment, collateral, covenants and related rights
3.	<i>dividend rights</i>	usually as preferred cumulative dividend

⁷ For more thorough and detailed study about private equity legal documents, see Douglas Cumming and Sofia Johan (2009), “Venture Capital and Private Equity Contracting”, published by Elsevier

Attached rights	<i>conversion rights</i>	convert preferred shares to ordinary shares with capital adjustments
	<i>automatic conversion</i>	prior to a company listing all preferred shares will be converted into ordinary shares automatically if the pre-defined criteria are satisfied
	<i>right of first refusal</i>	the priority of purchase when one shareholder wishes to sell his shares to a third party
	<i>voting rights</i>	preferred shares may have equivalent voting rights to ordinary shares, or more than one vote per share under certain conditions
	<i>consent rights</i>	certain actions bringing changes to share rights or capital structure or crucial business aspects cannot take place without the consent of the majority of a class of shares
	<i>board of director / board observer</i>	investors have the right to appoint one or more of the non-executive directors of board, or a board observer, to participate in the board meeting and to supervise the company management
	<i>information rights</i>	the company should provide investors with regularly updates on its financial condition and rights to examine its books and records
4. Protection provisions	<i>liquidation preference</i>	in the event of liquidation or a deemed liquidation, merger and acquisition, consolidation or sale of most assets, the preferred shareholders will receive a certain amount of the proceeds before any other shareholder
	<i>redemption</i>	the company will buy back investor's shares at a fixed price under certain conditions or allow investor to gain improved rights if it fails to do so
	<i>anti-dilution</i>	the distribution of new shares to the existing investor to offset the dilutive effect of the issue of cheaper shares
	<i>co-sale / tag along</i>	the right to require the purchaser of one shareholder's shares to purchase an equivalent percentage of their shares at the same price and under the same conditions
	<i>drag long</i>	all shareholders must sell their shares to a potential purchaser if a certain percentage among them vote to do so as in the case of merger and acquisition
5. Incentive provisions	<i>founder shares</i>	founders and key managers may be granted additional shares during a short period to keep them engaged or offered a reasonable price to sell their shares if they leave
	<i>employee share option plan</i>	allocating a percentage of company shares to current and future employees, allowing them to share the financial results of company success
6. Binding provisions	<i>representations and warranties</i>	founders and key managers should provide investors with adequate information about the conditions of the company to allow them to better evaluate the investment and a contractual obligation to reimburse them if the information has not been fully disclosed
	<i>confidentiality</i>	all information exchanges between potential investors and the company should be keep confidential
	<i>exclusivity</i>	prohibiting the company to seek investment from another investor during the due diligence period
	<i>conditions precedent</i>	conditions to be satisfied before investment, such as negotiation of definitive legal documents, completion of due diligence, approval by investment committee
	<i>intellectual property assignment</i>	an agreement between the company and the investor to assign and transfer all of their right, title and interest in intellectual property, which can include a trademark, patent or copyright
	<i>management non-compete agreements</i>	the founder and key managers of the company should not open and manage any other business in the same sector, becoming direct competitors of the present company

Source: author

Through the six groups of terms included in legal documents of private equity investment, we may see how an investment is arranged between an investor and an investee, how each party's interests and rights are assured, all the conditions required to realize the

transaction, and precautionous clauses designed by the investor to protect him from worst case scenarios. These legal documents form a sophisticated investment mechanism with the objectives of: (1) assuring that a company could obtain capital investment only with good business conditions, motivated founder and managers, and a promising and realizable business plan, because its owners will be obliged to share its crucial information and business prospect with the private equity investor, and because they will be compensated according to the performance of the company and the realization of the business plan; (2) allowing the private equity investor to better understand the real situation of the company and to examine the confidence of its owner and management to make a successful development before an investment decision, and to be granted participation rights, supervision rights, direct controls, indirect influences, as well as worst-case scenario protections and the possibility to exit by redemption after the investment transaction based on pre-negotiated investment terms.

1.1.4 Private equity investment strategies

The investment strategies of each fund are generally defined during the fundraising period, when the private equity firm and its LPs agree to focus on a specific investment phase and selected industries, targeting certain company types with a minority or majority approach, having a particular geographic focus, and seeking a more profitable exit through IPO, trade sale or secondary sale. Different private equity funds must adopt different investment strategies depending on their comparative advantages: resources from LPs, business partners, intermediaries, the management team expertise and professional networks. Good investment strategies should allow a fund to integrate useful resources at its disposal, to create significant added value through its active management and to build reputation and investment philosophy for the private equity firm in order to better compete with other firms.

The core of a fund's strategy is the choice of its focus on business phases. We generally distinguish venture capital funds, expansion or growth capital funds, buyout funds, and turnaround funds, as related to the development phase of the target companies. Venture capital funds focus on innovative technologies and support entrepreneurs to develop their business model in order to create high growth and outstanding value. Most of these companies are from sectors of information technologies, biotechnologies, clean technologies, electronics and new materials, where small innovation could significantly change one product's effectiveness and efficiency and create a huge market need. However, technology

innovation is very risky because it is highly sophisticated in terms of technology itself, the engineering process, industrial compatibility as well as getting authority certification and intellectual propriety protection. And not all technologically successful innovations can be commercially successful, because various factors could influence the application and market expansion of such an innovation, and its temporary success will attract many competitors to create similar technologies to compete against it. Venture capital funds should help new technological companies to deal with all these aspects besides providing capital to them, which requires a lot of time and effort. Since the enterprise is nascent and its management team is young, venture capital investors not only need to evaluate the business's technical feasibility and commercial viability, but also have to check the background, the motivation and the competences of the entrepreneur and their core team. Venture capital funds must deal with the profound information-asymmetry problem between investors and venture companies by using complex financial and managerial instruments as well as very sophisticated contracting. Venture capital investment strategy usually allows funds to participate in potential high growth through diversified investment portfolios and by selecting farsighted entrepreneurs and good management teams.

Expansion / growth capital is dedicated to finance the further development of existing and often already profitable businesses. Most of these businesses are in sectors of industrial production and services, agriculture, consumer goods and retail, and other traditional sectors which grow with a rate which is relatively stable and sustained by general demographic and economic growth. Young companies that succeed in surviving fierce competition after their creation need to find new markets, finance new projects, restructure their business and make acquisitions to support their development. Expansion / growth capital funds can play a crucial role to accelerate their portfolio company's organic growth and facilitate their transformation. Private equity firms may help growing companies to open new distribution channels, building business partnerships and alliances, improving corporate control and management efficiency, seeking acquisition opportunities and upstream / downstream industrial integration. For companies aiming at listing on stock exchange markets, a private equity fund may help them to prepare qualified accounting and internal control systems, and find matching investment banks to bring them to IPO. Benefiting from its business connections, private equity funds may also arrange mutually profitable trade sale between their portfolio company and an industrial / strategic buyer. Expansion / growth capital investments are often minority investments which allow managers to retain control of their companies and concentrate on the

realization of their projects. This investment strategy allows funds to add value to the organic and external growth of their invested companies and gain good returns from the stock exchange markets or from strategic buyers.

The buyout⁸ strategy can be used for different investment needs: a family-owned company decides to sell its business to an outsider; the spin-off or acquisition of a subsidiary of a group; the privatization of a publicly listed company; the reorganization of companies' shareholding structure. Buyout investments generally concern mature companies with a moderate growth rate and are usually aiming at a majority holding in order to acquire the management control of the company. The role of the board is crucial in private equity especially when the company needs restructuring (Cornelli and Karakas, 2008). As the transaction size is usually big, buyout requires bank loans and sometimes mezzanine debts as leverage. These debts will be paid back by profits generated by the new company. In the buyout investment strategy, the company management is under more stress to work harder to generate cash, restrict their use of perquisites and make optimal investment decisions in order to reduce the probability of bankruptcy. This will limit the waste of free cash flows and potential non-value maximizing behaviors and hence increase performance efficiency (Berg and Gottschalg, 2004; Jensen, 1989). Concretely, efficiency is improved as cost reduction programs are often initiated after a buyout, such as reducing the size of corporate stuff, creating better mechanisms of communication, and enabling better decision making (Harris, Siegel and Wright, 2005; Amess, 2002; Easterwood et al., 1998; Lichtenberg and Siegel, 1990; Muscarella and Vetsuypens, 1990). Buyouts can also facilitate innovation in the presence of entrepreneurial managers (Wright and al., 2001). With management buyout, company secrets are better protected and hostile takeover can be better avoided and the company can enjoy interest tax shields and other tax savings. But there could also be difficulty in attracting managers due to illiquid equity and potential disagreement among stockholders (DeAngelo and DeAngelo, 1987).

⁸ A buyout is an investment transaction by which the ownership of a company or a majority shareholding of the company is acquired. There are several types of buyout: management buyout (MBO), where the company's exiting managers acquire the company from the private owners; management buy-in (MBI), where a company is acquired by an outside manager or management team; employee buyout (EBO), often through the employee stock ownership plan (ESOP), which provides the company employees the possibility to take over the control of the company in case of management change or financial distress; leverage buyout (LBO), when the purchase payment is a combination of equity and loan which is structured in such a way that the acquired company's cash flows are used as the collateral and will repay the loan.

Turnaround funds are specialized in investing in companies in distress which need financing to restructure their business and regain their activity. Turnaround investments bring not only financial support to the company in difficulty but more importantly market expertise to the company to help review strategy, restructure the organization, rationalize the financial structure and develop better commercial force and customer service. This type of investment could be done with a minority approach wherein the company only needs short-term support to turn around, or with a significant holding approach when the company needs strong long-term growth support and management advice. To better carry out this strategy, the turnaround fund's specialization and investment size request should suit the needs of the company. And it is generally preferable for the company to accept the investment of a fund with a strong track record. Sometimes due to time pressure, a company might prefer financing from high net worth individuals because of its speed and flexibility, instead of capital from institutional investors since the latter requires more time-consuming screening and due diligence procedures. And there is in fact little sector specialization among different turnaround funds. Turnaround fund managers usually come from two backgrounds: banking or the financial services industry, and big accounting firms. Their experiences provide them with strong expertise in corporate management, cash flow issues, budget control, financial instruments, and on how to deal with distress and insolvency situations.

As for other investment strategies, private equity funds can also define a particular geographic focus for their investments. The choice of geographic focus depends on several key factors: target GDP growth rate, the stability of the macroeconomic environment, opportunities provided by the industrial structure, entrepreneurship dynamism, and complexity of local administrative procedures on fund activities, human resources and qualified managers. Private equity firms should fully analyze in which geographic zone they have comparative advantages and reach an agreement with their LPs, because investment strategies should be outlined in the LPA. Funds targeting companies in the innovative sectors should focus on regions and countries that are outperforming others in innovations; funds targeting companies in more traditional sectors should focus on emerging markets where the general consumption level is growing steadily; turnaround funds will find more opportunities in a mature market and in a post-crisis period than in a new emerging market. It is also important for a private equity fund to take advantage of its international vision and connections to help a company develop its business from one market into other potential markets in order to enjoy more benefits from a bigger economic scale. Funds with pan-Europe

or pan-Asia Pacific geographic focus could more easily create synergy by matching sources and needs from different countries and markets.

To guaranty the capital returns of private equity funds, private equity managers also need to seek profitable exit strategies. Only a profitable exit could justify the whole investment process in the eyes of its LPs. The most advantageous exits include IPO, trade sale and secondary sale. The nature of the company asset, the condition of capital markets and current trends in bank lending, influence the type of exit a private equity firm might pursue. For IPO exit, good timing is essential, but it is hard to predict when the stock market is ready to answer to a certain type of offering. Especially after the last crisis, global economic downturn greatly aggravates the lack of confidence in the future returns and augments risk aversion on the investors' side. Meanwhile in some emerging markets, due to more positive macroeconomic prospects and eager investment desires, exit in IPO could still be very profitable. Trade sale exit is the acquisition of an investment by an industrial investor or a strategic investor which has more than just financial interest in the portfolio company. Industrial or strategic investors usually have a better understanding of the company's present and potential value (technology, patent, market share, distribution channels, and brand) and are supposed to offer the fund a more attractive valuation. A well-structured exit process where several potential buyers are involved and a certain degree of competitive tension is created usually generates greater returns for the investor. Secondary sale exit is more often seen in a well developed private equity market. Profits in secondary sale are often engendered by two types of limit: a large amount of capital waiting to be invested by some private equity funds within the limit of investment period, and some other private equity funds seeking to divest a number of portfolio companies within the limit of a fund's life. A private equity firm might be tempted to exit the investments of one fund quickly via a secondary sale in order to provide good yields to their LPs and to attract more LPs for additional fund raising. For the buyer, the interest of a secondary sale also lies in the company's experience with private equity management. Hence a private equity firm needs to maintain the management value and key personnel in the case of a secondary sale.

1.1.5 Private equity investment criteria and process

We have looked at the investment mechanisms and strategies that private equity firms commonly use to deal with information asymmetry and market uncertainty, increasing

management incentives and maximizing the return on their investments. In practice, what guides private equity investors behavior are their investment criteria and a more or less standardized investment process. Understanding the investment criteria and process will help us evaluate whether the private equity market allocates resources properly and explain how private equity funds make investment decisions.

Private equity investment criteria have already been widely studied. Private equity investors typically consider the top management team's competences and experience to hold more weight than any other factor, and that top managers should combine leadership characteristics such as perseverance, commitment, attention to details and high risk tolerance (Kumar, 2003; Kaplan and Stromberg, 2000; Knight, 1994; Robinson, 1987). Besides management, there are other factors that greatly influence conclusion of the investigation and the determination of the deal value. Market size and growth rate are the primary factors which decide whether the investor will be interested or not to commit his capital (Sheperd et al., 2000; Muzyka et al., 1996; Tyebjee and Bruno, 1984). The evaluation of risk will help a private equity fund to identify and consider how to tackle different types of risk, including competitive exposure, cash out risk, investment risk, management risk and implementation risk (MacMillan et al., 1987, 1985). A good understanding of the position and the quality of the company's products / services allows private equity fund to analyze the company's strengths and weaknesses, and to find the edge that it might bring in this investment (Zacharakis and Meyer, 1998; Fried and Hisrich, 1994). By benchmarking⁹, private equity investor will examine the company in terms of products, services, market share and future projects (Strömberg, 2008). The likelihood and timing of anticipated exit alternatives are also decisive for private equity investment decision (Kaplan and Strömberg, 2000; MacMillan et al., 1987, 1985). Tyebjee and Bruno (1984) listed the most important investment criteria as: (1) market attractiveness (market size, growth rate, and access to customers); (2) product differentiation (uniqueness, technical edge, profit margin); (3) managerial capabilities (marketing, management, finance, references); (4) environmental threat resistance (technology life cycle, entry barriers, down-side risk protection); (5) cash-out potential (chances of IPO or M&A and potential gains). Investment criteria are to be examined and re-

⁹ Benchmarking is the process of comparing one company's business processes and performance to industry bests or best practices from other industries. Different aspects which are typically compared are quality, time and cost. In this way, the company will understand the differences between itself and those successful companies, and take measure to improve its own business performance in one or several aspects by learning and adapting specific best practices.

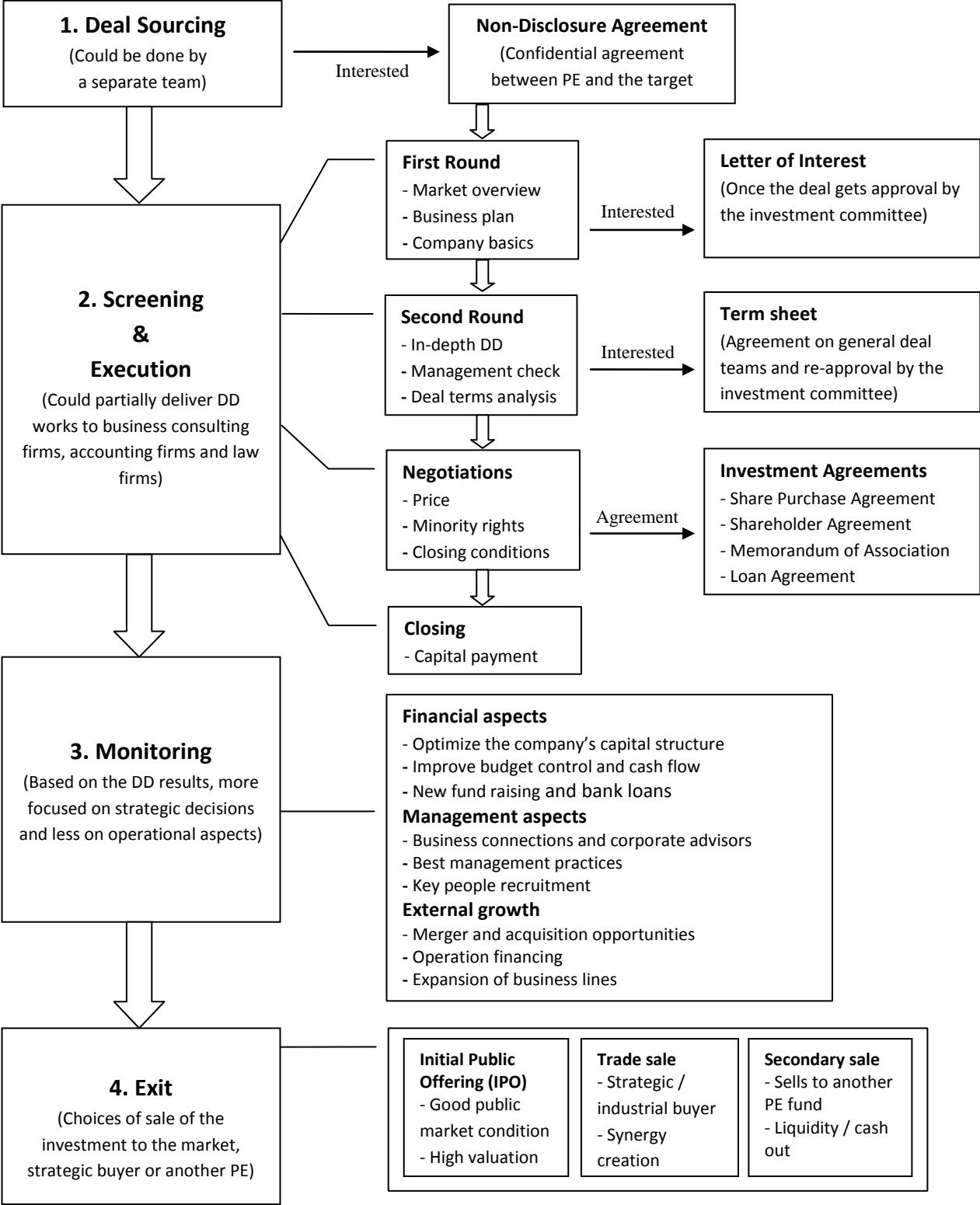
examined during the whole investment process. At each stage, the operation focus is different and the investigation focus should also be adjusted accordingly.

The existing empirical literature on the private equity investment process tends to emphasize the contractual relations between private equity funds and their portfolio companies (Kaplan and Strömberg, 2003; Hellmann and Puri, 2002; Gompers, 1995; Lerner, 1994; Sahlman, 1990). But it is also important to look into the operational aspects of the investment process through its different phases. Tyebjee and Bruno (1984) suggested to divide the venture capital decision process into five sequential phases: origination (how deals are identified as investment prospects), screening (selection of few deals for in-depth evaluation), evaluation (assessment of potential risk and return before the decision to invest), structuring (negotiations on equity price and covenants) and post-investment activities (assistance to company management's crucial decisions, expansion plan and deal exit). Fried and Hisrich (1994) proposed a five-phase investment process: origination, firm-specific screening (investment size, industries, geographic location and stage), generic screening (business plan, proposal terms), first-phase evaluation (potential customer, market studies, evaluation meetings, and financial projections), second-phase evaluation (negotiation of final deal terms) and closing (finalizing deal structure and legal documents). They underlined that the distinctions between first and second phase evaluations and between second-phase evaluation and closing are indeed subtle and could vary according to deal specificity.

During the first phase of investment, private equity fund managers follow investment criteria, apply different methods to identify target companies, and get into contact with these company's owners and managers. Once they succeed in entering an investment deal, they spend a considerable amount of time examining and selecting qualified companies by investigation the company's business potential, its management competence and the soundness of its corporate organization. If a company's management team and its business soundness have convinced the investment manager and the fund's investment advisors, the next step will be to deepen their investigation and to negotiate the valuation of the company under different exit scenarios. Formal documents including the share purchase agreement will be signed if the private equity fund and the company reach an agreement. The investment really closes when all investment conditions are satisfied and the capital transaction, or the first tranche of capital, is successfully executed. Then begins the monitoring phase during which the fund advises and assists the company management to realize its business plan and

to comply with the capital market accounting standard and reporting requirements. Near the end of the investment period, a private equity fund needs to identify and suggest profitable exit options to the company in order to divest and conclude this investment.

Figure 1-3: Private equity investment process and main decisional points



Source: author

Taking into consideration both the existing literature and information provided to us by private equity professionals about what really happens in the real operation, we propose a slightly different investment process: (1) deal sourcing, (2) screening and execution, (3) monitoring, and (4) exit. The sequential progress through different investment phases is achieved by the investment deal satisfying the critical decision points of each phase and by the drafting, negotiating and signing of related legal documents. We produce the framework presented by Figure 1-3 to better demonstrate this process. Further details and explanations are given in the following paragraphs concerning each investment phase.

Deal sourcing:

Deal sourcing is the first phase of private equity investment during which fund managers try to identify financing opportunities that correspond to the fund's investment criteria. Deal sourcing is very important because it determines the quality of investment thus the potential returns of capital. Personal and business networks are the most common sources of deals. Funds usually pay attention to information from business news or publications and directly call companies to introduce their investment interest. Some large funds also build their management pool, centralizing and sharing useful sources of partners and managers. As competition among funds becomes fiercer, some deals are subject to an auction process with the vendor marketing the deal around; hence many large funds are now relying on their intermediaries and financial advisors for deal sourcing (KPMG, 2005)¹⁰. Intermediaries generally comprise accountants, lawyers, advisors, and investment bankers. Investment banks are the principal deal source for large funds, while for the mid-market funds, boutiques¹¹, accountants and corporate finance are more important intermediaries (KPMG, 2005). In order to generate good deals flows, private equity funds should build and maintain contact with intermediaries, attend networking events, and develop industry-level relationships. A number of private equity funds also have built their own full-time business development team in order to have a better focus on deal generation. A short summary of the company is first sent to one private equity fund; if the company profile interests the fund, the fund will sign an Non-Disclosure Agreement (NDA), whether directly with the target company or with the

¹⁰ Private Equity Insight into Deal Origination, KPMG special advisory report, 2005

¹¹ A boutique is a small financial firm that provides specialized services for a particular segment of the market. Boutiques are most common in the investment management or investment banking industries. They usually specialize themselves from larger firms by industry, client asset size, transaction type or other factors, to address particular issues.

intermediary vendor, to receive some more confidential information regarding the company. Investment manager needs then to get the investment committee's approval for the first round bid before carrying on further investigation with the company management.

Most fund managers believe that personal links with target companies are desirable when it comes to sourcing deals. A private equity survey published by Preqin¹² suggests that personal relationships are of the utmost importance to the efficiency and the quality of sourcing deals. A significant number of the survey participants indicated that they rely on personal and business networks when looking for deals, and almost two-thirds consider links with target companies invaluable. 77% of participants said to have successfully won deals based upon personal relationships on a regular basis, proving such connections are essentially important when it comes to winning deals. Relationship can be valuable in many different ways, especially in enabling a private equity fund to get inside a deal bidding process at an early stage and therefore have time and information leverages to consider the deal's real value and a reasonable and competitive price to offer. However, many cases also show that what really matter in deal sourcing are the price and the fund organization. Some academic studies have questioned the impact of relationship on investment decisions. Bottazzi, Da Rin and Hellmann (2011) showed that the level of generalized trust among European nations seems to explain venture capital deal formation and investment decisions even after controlling for investors and company fixed effects, geographic distance, information and transaction costs. They also find that the relationship between trust and sophisticated contracts are complementary. Shane and Stuart (2002) found that "social capital", namely having direct or indirect ties with venture capitalists, increases the likelihood of obtaining fund financing. At the same time, past research seems to suggest that the role of personal relationships is more important in comparatively more traditional cultured regions, such as China, and that the social capital is of more value in rendering private equity investors accessible to entrepreneurs in these regions than in others (Batjargal and Liu, 2002; Liu, 1999).

¹² The survey is "CRM Systems and Deal Sourcing" which is a special report produced by Preqin and LexisNexis Enterprise Solutions and published in September 2011. Preqin is a leading supplier of data and intelligence in the alternative assets industry.

Apart from newly launched companies and existing companies seeking transformation, another important deal source is the “spin-off”¹³. Founders of new spin-off enterprises are often former employees of a private or public company who have replicated or modified an idea encountered in previous work experience (Gompers et al., 2005; Bhidé, 1994). Successful technological companies are more likely to make spin-offs and these spin-offs often benefit from their parent companies’ technical and market-related knowledge (Klepper and Sleeper, 2005). Especially in states or regions where the enforcement of “non-compete” clauses is weak, it is more common to see employees leaving old employers in times of change to start their own company (Stuart and Sorenson, 2003). A dynamic IPO market and active acquisition demands also increase the rate of startups from spin-offs. Besides spin-offs, the phenomenon of serial entrepreneurs, who have consecutively started different ventures, is also contributing to the deal sourcing. With previous entrepreneurial experience, industrial knowledge, established business connections, and good market timing, serial entrepreneurs could have a bigger chance to obtain private equity financing and lead their companies to good performance (Gompers et al., 2010; Hsu, 2007).

Screening and execution:

Screening covers the whole selection procedure through which a private equity fund will fully investigate all the key aspects of one investment before taking further steps. Private equity professionals usually divide it into two rounds. In the first round, the target company will provide its basic information to 5-10 potential investors, including company summary, capital raising objective, business plan, management background, financial status and main competitors. With this information and a preliminary market research, potential investors will get a general idea of the deal and know if it is coherent to their own investment criteria. For funds who confirm their interest to pursue the deal, they should reply to the target company with non-bidding Letter of Interest, containing propositions on purchase price range, capital structure post-acquisition, key assumptions, due diligence¹⁴ areas, approximate time to form a binding offer, and the fund’s expertise edge. The target company will choose two to three potential investors from all the funds willing to pursue for the second round. During the

¹³ Spin-off is the creation of a new independent company from an existing firm. A spin-off could be the result of a group’s strategy to dispose of non-core assets or activities. It can also be a decision to further develop a business division by giving it a more independent management structure and attracting outside investment.

¹⁴ Due diligence (DD) is an investigation or audit of a potential investment in the purpose to confirm all material facts in regards to a transaction. Investment decision and valuation both depend on the results of due diligence analysis. The sale side could also perform a due diligence analysis on the buyer concerning the buyer's intention and ability to purchase.

second round, investors will carry out more in-depth investigations. They can require complementary data and operational details from the company management. With more information, investors will better analyze the investment and adjust their evaluation and deal terms. The final binding is the draft of investment memorandum, including executive summary, company overview, market and industry overview, financial overview, risks, key areas of due diligence, valuation overview, exit, recommendations, and project plan. The company will consider the offers, choose a final investor and negotiate the investment details. If the final investor and the company reach an agreement at the end, they will sign the Share Purchase Agreement (SPA), indicating the transaction price, equity type, related rights, and closing conditions that both parties need to satisfy. Other binding legal documents are to be signed next between the two parties and other shareholders of the target company.

The core activity of screening is the due diligence, which is supposed to provide the acquirer confidence that he understands the true value and risks associated with the target company and its business plan (De Cleyn and Braet, 2007; Angwin, 2001). A comprehensive due diligence covers following aspects: technology, market, material agreements, operations, finance, accounting, corporate records, stock records, employee relations, governmental issues, environmental issues, liability issues, litigations (De Cleyn and Braet, 2007). Due diligence can be conducted by the fund itself, or by a third party specialist¹⁵, or by both. In order to attract investors, the company management must also reduce the barriers for private equity investors to have access to important internal information. The investment team will send specific requests to the company including site visit requests, calls with specific sales people, or calls with customers and suppliers. Investment managers should check the key men of the target company from various resources, such as family, friends, colleagues and business networks, and estimate the realization probability of the business plan. Generally, more experienced the fund manager is, less time he / she will take to select promising deals. Meanwhile, venture deals usually require much less time of screening than buyout deals because of shorter company history and less available data.

¹⁵ Private equity funds externalize the DD tasks to different third parties according to the focus. Management consultants (McKinsey, Bain, BCG, etc.) are typically hired to perform commercial due diligence on the market potential and customer relationships. Accounting firms (KPMG, PricewaterhouseCoopers, Ernst & Young, Deloitte, etc.) are hired to perform confirmatory financial due diligence to ensure that all the financial information provided is accurate and complete. M&A law firms (Wachtell Lipton Rosen & Katz, Skadden, Sullivan & Cromwell, Simpson Thacher, etc.) will be asked to perform legal due diligence and to handle the initial drafting of acquisition documents.

After the signing of investment agreements, the private equity firm and the target company will work together to close the transaction. This period is called deal execution, which actually begins long before the deal signing. Execution includes investment structuring, the negotiations of loan price with banks, the design of management incentive package, and the satisfaction of all closing conditions outlined in the SPA. A successful execution depends greatly on the transaction structuring. Private equity fund should determine with the help of its legal advisors what type of equity/security to invest, is there a need to subscribe a loan, the reasonable valuation of the company share, what are the attached rights, who to be appointed to the board seat, and other closing conditions. Common shares and convertible preferred stock are typical forms of financing. The share price is largely evaluated by comparable investments recently made and by the quality of the present deal. In buyout, the entrepreneur's equity is sometimes determined by earn-out conditions. In order to ensure that the management's interest is aligned with its own, the fund can negotiate with the entrepreneur and the key managers an incentive option pool. In many cases, the key managers are paid with a compensation package which involves fixed salary, outperformance bonus and stock-options that make them sensitive to any potential loss or profit of the company (Jensen and Meckling, 1976). As common shares and stock options cannot be sold on the market unless the company goes public, key managers will work hard to bring the company to successful IPO. However, entrepreneurs could receive sanctions if they over risk without an adequate return increase and see their shareholdings reduce under anti-dilution protection. In the case of a leveraged buyout, debt is crucial to the execution and the closing; once the deal is signed, all parties involved will negotiate the debt financing under good terms with third party financial institutions as quickly as possible. Other closing conditions are outlined in the SPA, specifying the remaining requirements which the company and the investors must satisfy respectfully in order to trigger the other party's obligation to purchase or to sell the shares. When these pre-determined conditions are all satisfied, the deal is finally closed, with the fund ending up paying the company the negotiated amount for equity investment.

Monitoring:

Once an investment deal is closed, an appropriate partner of the private equity fund will be given the task of monitoring the invested company. He keeps regular contact with the company management and other persons relatively important to the investment, and monitors its operational and financial development. As the invested company is in the fund's portfolio, monitoring is also called portfolio management. A partner can manage several portfolio

companies at the same time; there can also be a dedicated team to focus on monitoring. In general, private equity firms assume two kinds of relations with its portfolio companies: value-adding services, and control actions. During the monitoring phase, private equity firms provide their portfolio companies with management expertise and professional connections, sit on the board of directors, help raise additional funds, recruit key managers, and provide strategic advice to management (Lerner, 1995; Sahlman, 1990). A majority of private equity firms create a close working relationship with the management teams of their portfolio companies. For the most part, they do not involve themselves in the day-to-day operations of their portfolio companies. Instead, they typically seek to create value by collaborating with management in identifying and executing financial, operational, and strategic priorities, and providing expertise in these tasks that the management team may not have. In addition, a private equity firm typically will have one or more seats on the company's Board of Directors or Advisory Board. Through these seats, the private equity firm can actively and directly influence the operational and strategic decision making of the company.

In order to participate in the company's management decisions, private equity firms collect information from external and non executive parties such as boards of directors, auditors, large shareholders, large creditors, investment banks and rating agencies (Jensen, 1989). Their participations in the governance of their portfolio companies are of important help to the company growth (Barry et al., 1990). They also serve an instrumental role on the board of directors and provide valuable control to limit the opportunistic behavior of managers (Baker and Gompers, 2003; Admati and Pfleiderner, 1994). In the US, private equity funds on average provide the CEOs of their invested companies almost two times the equity percentage compared to publicly listed companies, with a 9.6% lower fixed salary and a 12.7% higher variable pay share (Oyer and Leslie, 2009). Fund investors sit on boards of directors, help recruit and compensate key employees, help establish tactics and strategies, play an important role in raising new capital, and help structure transactions such as public listing or mergers and acquisitions. They assume more direct control and assist day-to-day operations when there is need to change the management (Sahlman, 1990). From the organizational point of view, private equity is associated with a pattern of professionalization: using more professional hiring practices, paying more attention to marketing and distribution channel, more often adopting stock option, and more likely to replace a founder by a professional CEO if the company performance is dissatisfying (Hellmann and Puri, 2002).

A main research subject concerning monitoring and the value-adding feature of private equity investment is investor activism. Different types of private equity funds with different investment criteria and varied partner profiles certainly show different degrees of investor activism. Bottazzi et al. (2008) indicated four measurements of investor activism: the venture capital firm is involved with recruiting the management team; it helps assembling the company's board of directors; it provides assistance with obtaining additional financing; it interacts with the portfolio company. Their study further analyzed the three human capital effects of fund partners: job-specific knowledge in terms of years of investment experience, company management knowledge in terms of prior business experience, and formal knowledge in terms of scientific education. Their findings suggest that venture capital partners with important prior business experience are significantly more active in their portfolio companies, while their job-specific knowledge and scientific education don't seem to have much influence. They also suggest that independent funds who manage LPs' capital with autonomy are more active in monitoring and more involved in their portfolio companies than captive funds who are affiliated with large corporations or financial institutions.

Exit:

Exit is the last phase of investment for a private equity fund to divest from an invested company. The principal objective of all private equity investors is to gain good returns on their invested capital after typically three to seven years of investment and holding period; hence exit is a crucial phase to all funds. The percentage of successful exits has a decisive influence on private equity firms' ability to raise new funds. Sometimes even since the early sourcing stage, private equity firms have to picture the potential exit scenarios and constantly adjust their exit expectations according to the changing situations during the investment process. Moreover, some LPs require a minimum IRR (internal rate of return), such as in the case of buyout an IRR rate of 20% to 25% is often integrated in the deal valuation, which certainly impacts the early investment decision. The main types of exits include: trade sale, initial public offering (IPO), secondary sale, repurchase and liquidation (write-off). Different types of private equity funds usually have different exit strategies. Larger funds may have a comparative advantage in seizing favorable exit opportunities because they usually have stronger relationships with big investment banks, IPO underwriters, leading industrial groups and other private equity funds. First-time funds have stronger incentives to exit by IPO at a fast speed in order to reassure its LPs (Gompers, 1996). When deciding which exit strategy to pursue, the private equity firm must consider the macroeconomics (stock markets, bank

lending, interest rates, and capital market liquidity), and legal, tax, and regulatory environment (Lerner, 1994).

Trade sale corresponds to selling the company equity to a strategic buyer, which is usually an industrial firm working in businesses closely related to the portfolio company. Strategic buyers intend to hold the acquisition over long period to strengthen their strategic position, such as larger market share, alternative technology, trade secrets, synergies, or moving into upper or lower business segments. Trade sale is considered as a desirable exit by private equity firms because strategic buyers understand better the potential value of the business and are often willing to pay higher purchase price. It also allows private equity firms to cash out right away, while in the case of IPO they need much longer time to complete the listing, and quite often there is a “lock-up” period¹⁶ after IPO preventing immediate sale of the company equity. But there are also possible risks in trade sale: the change of control often results in the replacement of the company’s management which may cause resistance; confidential business information of the portfolio company might be obtained and used by potential buyers to compete against it.

IPO (Initial Public Offering) means that the company’s shares are listed on the stock market for the first time. Through exit by IPO, private equity investors can sell their shares to public buyers. IPO exit is a popular type of exit because it can produce high capital returns, if the stock markets are in favorable conditions and the company has an attractive profile. A successful IPO exit also contributes to a higher brand recognition and market reputation for the company itself. However there are also disadvantages. The overall economic climate and capital market conditions are difficult to anticipate for a successful IPO. A company must first grow to a significant business size in order to be qualified for the public listing. An IPO operation is subject to strict regulations and complicated procedures, which involve advisors, auditors, investment banks and financial market authorities, and is typically lengthy and expensive. After the IPO, the company should continue to fulfill requirements of information publishing and divulging and hold regular shareholder meetings, which will engender heavy work and considerable fees. As we have mentioned, the “lock-up” period of IPO may prohibit

¹⁶ An IPO lock-up period is a contractual restriction that prevents shareholders and insiders of a company, before it goes public, from selling their stock for a period usually lasting 90 to 180 days after the company goes public. The lock-up agreement usually concerns company founders, major shareholders, key managers, employees and private equity investors. Its purpose is to prevent the market from fluctuations, due to large quantity of sales during a short time, and to avoid depressing the company’s stock price.

a quick exit of the private equity investor; and even without prohibition, it is not advisable to make a full exit shortly after IPO, because potential public investors could take it as a sign of lack of confidence in the company's business.

In a secondary sale, a private equity firm sells its equity of one company directly to another private equity firm. A secondary sale often happens when a private equity firm is under pressure to exit, or when it lacks the interest or the capacity to continue to finance the company but the company is not appropriate for a trade sale or an IPO. It could also be due to the wish of the company management to replace the former private equity firm with another one which has more confidence in its future or could bring more value to help it develop. A secondary sale offers the seller the advantage of an immediate exit. The seller could also keep partial ownership of the company if it considers it profitable to invest in the company's long-term growth. It could be also more efficient for a private equity fund to purchase a portfolio company rather than investing in a new company, because the former fund has already put into place a governance structure and a reporting system required by all private equity investors. The potential risks of secondary sale are mainly from financial aspects. The seller will insist on a high purchase price in order to secure its investment returns, while the buyer will try to purchase the equity at a minimal valuation.

Apart from the three comparatively more desirable aforementioned exit strategies, the company's founder or management team can repurchase the shares owned by the private equity fund. Companies that choose to carry out a repurchase transaction must generate regular cash flows and have the capacity to make loans to answer to its financing needs; its founder and management must have strong confidence in its growth. Under pressure to divest and when other exit strategies are not applicable, private equity investors could also negotiate with the company for a repurchase exit. If a portfolio company meets with significant financial difficulty and its business cannot be revived by managers or investors, the company will be forced to liquidate and its assets will be seized to pay its debts. As with the other shareholders, private equity firms will not be compensated for their equity in the company until all the creditors are reimbursed. In the case where no more capital is left from the sales of company assets after debt repayments, private equity investor will receive zero value for their equity and the portfolio investment will become a write-off.

In the first section we have reviewed the most fundamental concepts about private equity, including the nature of private equity, its main participants, organization of the private equity market and the investment mechanisms, strategies, criteria and processes widely used by private equity firms. We can see that a private equity firm plays both a role of investment agent managing capital for its investors and a role of business advisor for its portfolio companies. In the next section, we will have a look at the history of private equity's global development and some of the major markets. We will further analyze what are the principal value contributions of private equity activities in order to better understand why and how the private equity industry has been developed over more than half a century.

Section 1.2 Global evolution and value contributions of private equity

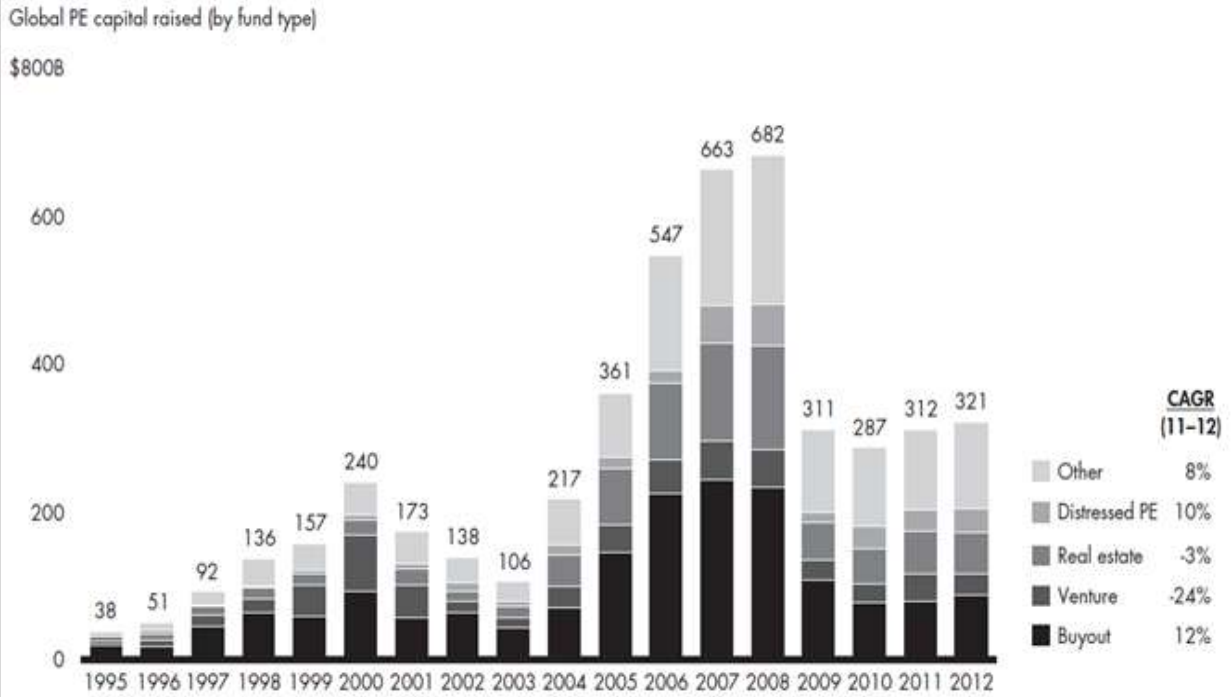
The first modern private equity firm American Research and Development Corporation was set up in the US in 1946 with capital raised from institutional investors to support businesses run by soldiers returned from WWII. However, the real growth of private equity industry did not begin until the 1980s, when the liberalization trend had persuaded the governments of the leading developed countries to adopt a series of regulations and policies to encourage more dynamic economic development and financial innovation. Since then, private equity has quickly become an international practice, offering an alternative way of asset management to capital owners and a complementary channel of financing to companies. The evolution of the private equity industry has been influenced by a group of factors. A look at related studies of these factors and their impact will help us to better understand the dynamics of the private equity industry. They are the reasons for which private equity has become one important component of the globalized modern economy. In the second section of Chapter 1, we will first look at the development of private equity, at both the global and the regional levels. Then, we will summarize the different factors influencing private equity activity and performance through the review of related literature. At last, we will discuss the main value contributions of private equity investment.

1.2.1 Global growth of private equity

The global private equity industry has known a fast development since the 1980s. The industry has undergone an extraordinary growth in the last 30 years, with its total capital size

increasing from \$30 billion in 1994 to \$340 billion in 2013 (Bain & Company, 2013). Its fast development has benefited from the governments’ incentive measures to promote technology innovation, support industry expansion and provide alternative financing to small and medium-sized companies. Its growth was also driven by the increasing amount of capital allocation from institutional investors, from 3% on average in 1997 to 12% in 2007 for large foundations and endowments (Metrick and Yasuda, 2011). In fact, private equity activity is cyclical and much influenced by macroeconomic factors: the extremely low interest rate period of 2006-2008 has caused an explosion of new funds and large size investments, while the shortly followed crisis has resulted in a sharp reduction of the amount of capital raised and invested, bringing the activity almost back to the level of 2004-2005. A considerable number of studies have shown that both capital calls and distributions have a systematic component that is pro-cyclical on average (Robinson and Sensoy, 2013; Phalippou and Gottschalg, 2009; Axelson et al., 2009; Gompers et al., 2008; Kaplan and Schoar, 2005; Berk, Green and Naik, 2004; Ljungqvist and Richardson, 2003). Furthermore, cash flows and performance of venture capital funds are more cyclical than buyout funds, and the links between cyclical cash flows and performance are likewise stronger for venture capital funds (Robinson and Sensoy, 2013; Berk, Green and Naik, 2004). Figure 1-4 clearly shows the cyclic growth of private equity activity throughout the last decades and its manifestations in all types of funds.

Figure 1-4: Evolution of global PE raised capital by fund type (1995-2012)



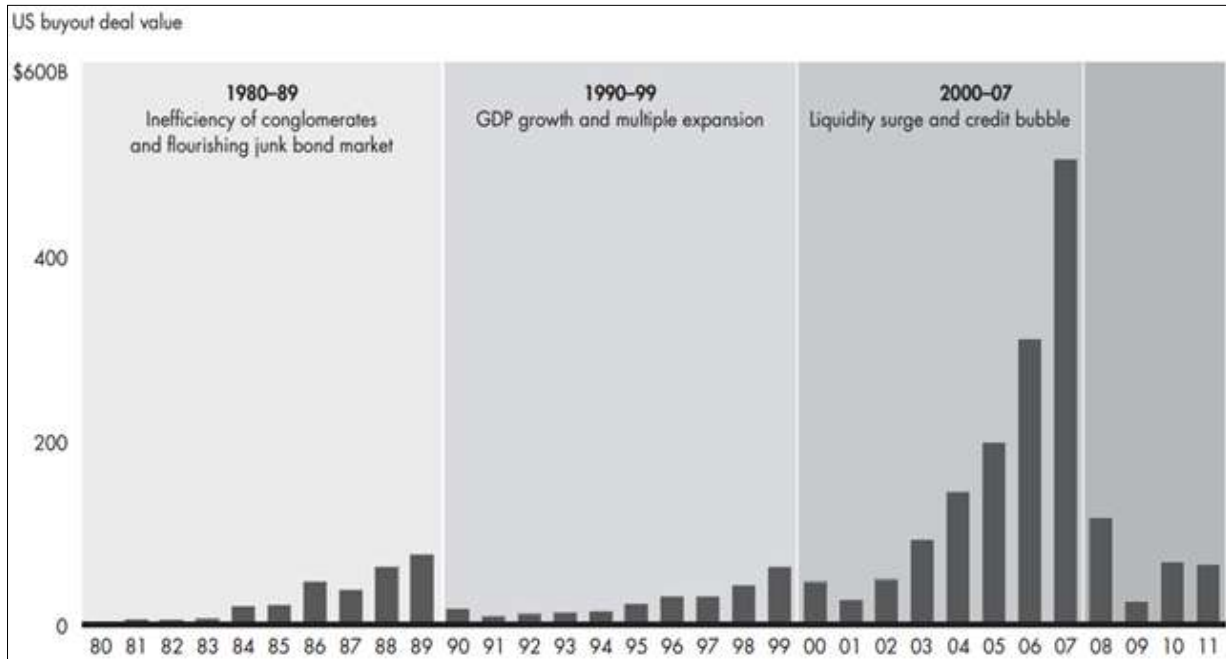
Source: Preqin

1.2.1-1 US private equity market

The US private equity industry, as the pioneer and the most important part in the global market, has gone through five different stages from 1946 to 2007: the initial development supported by the Small Business Investment Act (1946-1959), the rise of Silicon Valley and the venture capital vogue (1960-1976), the birth of big buyout and mergers and acquisitions (M&A) funds under new tax encouragements (1977-1992), fast growth of both buyout and venture capital funds sustained by the bullish stock markets until the internet bubble (1993-2002), and recovery of large buyouts and the of trend of private equity funds going-listed (2003-2007). The 2007 subprime crisis has greatly reduced the amount of capital raised and invested in the following years, bringing the investment level almost back to those of 2004-2005. But the private equity industry in the US is still sustained by its industries and dynamic innovations, and its aggregated activity recovery rate during 2009-2012 was the strongest at 50%, compared to Europe at 25% and Asia-Pacific at 24% (Bain & Company, 2013).

The US buyout players occupy the dominating place in the global private equity market. Like the global private equity market, the US buyout market has gone through several cycles (Figure 1-5). It started in the 1970's and mushroomed quickly. The LBO boom of the late 1980's gave way to the buyout bust of the early 1990's. Beginning in 1991, buyouts began to recover and reached a significant height in 1996-1997 before a sharp drop after the high yield market shutdown in the late 1998. After three years of slow recovery, under the combination of decreasing interest rates, loosening lending standards and regulatory changes, from 2003 to 2007 the US buyout sector went into a five-year resurgence that resulted in the completion of most of the largest leveraged buyout transactions in history as well as unprecedented expansion and maturation of the industry. The credit crunch beginning in summer 2007 greatly affected the US buyout and high yield debt markets, cutting the transaction level back to lower than in 2003. Until recently, the investment level still lingered far from its peak in 2008, but the activity recovery has been steady and investors stay optimistic about the US private equity market. The crisis has made many buyout firms aware that they need a shift to more entrepreneurial businesses, more operational expertise to bring added values and a geographic expansion to seize opportunities in emerging markets for their future prosperity.

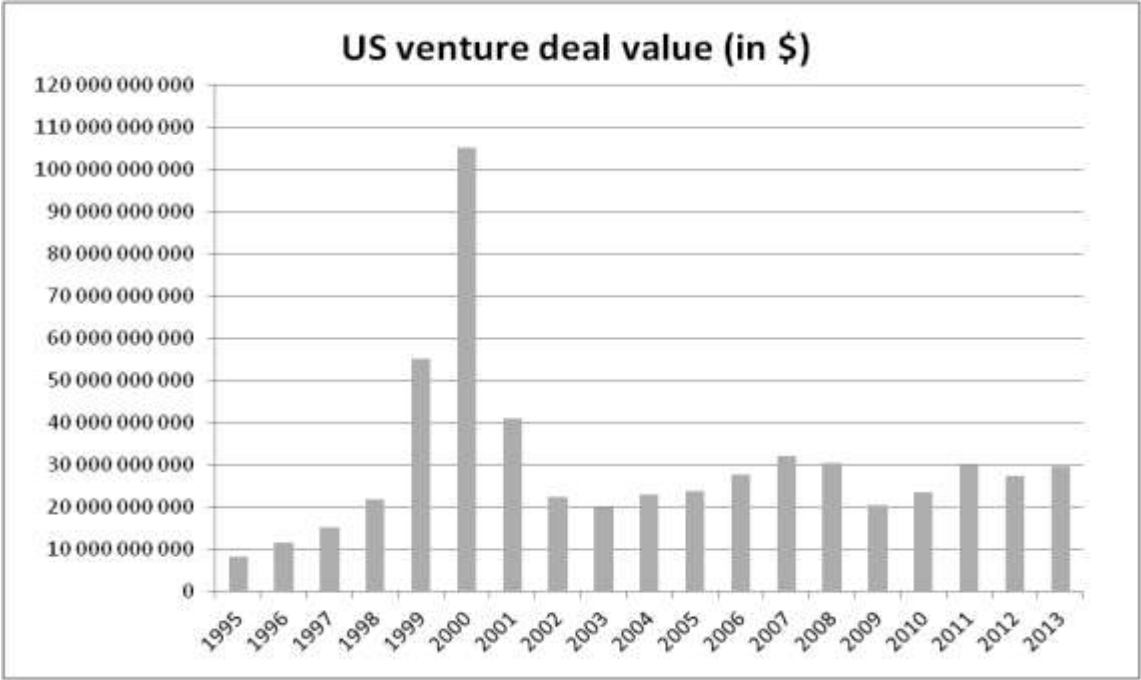
Figure 1-5: Evolution of US buyout investment (1980-2011)



Source: Bain US LBO deal database

On the other side, the US venture capital market, symbolized by the Silicon Valley, has set the global standards for venture investment. During the 1960s and 1970s, US venture capital firms were primarily focused on investing in startup and early stage technology companies, with many among them working to exploit breakthroughs in electronic, medical, or data-processing technologies. In the 1980s and 1990s, the rapid development of communication technologies and internet applications has fueled the ICT (Information and Communication Technologies) industry with new vigor and ambition, which resulted in more venture capital funds raised and more capital invested. The following internet crash and technology slump during 2000-2002 shook the entire venture capital industry and valuations for technology startups collapsed. After 2003, the US venture capital market gradually recovered, with new sectors such as clean energy and innovative medicines attracting more investors and venture capital funds building more diversified portfolios to reduce risks. While on average only 1/6th of 1% of new businesses in the US obtain venture capital funding, over 60% of IPOs were made by companies backed by venture capital from 1999 to 2009 (Kaplan and Lerner, 2010; Puri and Zarutskie, 2009). Many of the most successful startups for the last 30 years have been funded by US venture capital, including Microsoft, Google, Apple, Cisco, eBay, Amazon, Yahoo, Starbucks and Symantec.

Figure 1-6: Evolution of US venture capital investment (1995-2013)



Source: PwC/NVCA MoneyTree™ Report, Data: Thomson Reuters

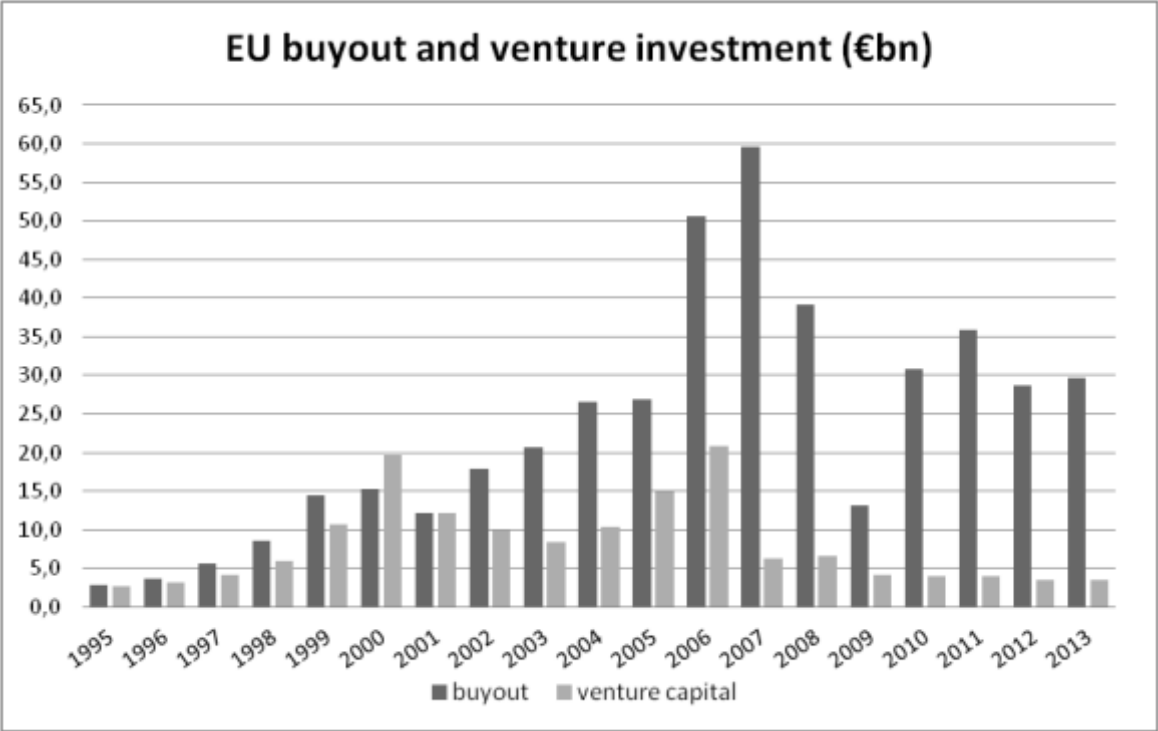
One important feature of the US venture capital industry is the frequent use of syndication (Bruton et al., 2002; Sahlman, 1990; Reiner, 1989). In order to gather enough capital and to at the same time diversify investment risks and maximize returns, in the past small US venture capital firms often worked under strong interconnections and formed investment syndications to invest in target companies. With industry expansion and growth of general fund size, US venture funds are now less obliged to syndicate their investments, but often there are still small syndications of two or three funds in an investment. The interconnections and relationships among US venture capitalists are kept, so that when they might be in need of advice and expertise a venture capitalist can consult other venture capitalists or seek their assistance in monitoring investments (Fried, Bruton and Hisrich, 1998; Fried and Hisrich, 1994).

1.2.1-2 European private equity market

The first private equity investment in Europe took place in the UK before the 1980s, but due to various reasons, the industry was slow in its growth. As European governments took progressive steps to promote private equity activities and lifted heavy restraints which had, since the mid-1980s, impeded their operations, the European private equity industry has

developed very quickly (Figure 1-7). It has a particularly important share of global LBO and M&A activities. With the second private equity boom in the mid-1990s and the liberalization of regulations for institutional investors in Europe, a mature European private equity market emerged. Now, Europe boasts the world’s second largest private equity market after North America, and the UK is the second most important country for the private equity industry after the US. However, the distribution of private equity investments among European countries is far from even, and some countries such as the UK have achieved levels of investment as related to GDP of a similar magnitude to those observed in the US. The UK is the leader in European private equity market in terms of capital invested by funds (44.7% of all Europe in 2010), with France (13.7% of all Europe in 2010) and Germany (11% of all Europe in 2010) following behind at some distance. Meanwhile, in terms of capital received, the territories of France and Benelux have attracted the most buyout and growth investments in recent years. Therefore, the distribution of the European private equity industry, by either measure, is relatively concentrated. The allocation of investments is also geographically binding. The majority of investments are made by private equity funds to companies located in the same country, or to companies in neighboring countries. Some large cross-border funds and pan-Europe UK funds could be exceptions in this aspect.

Figure 1-7: Evolution of Europe private equity investment (1995-2013)



Source: EVCA

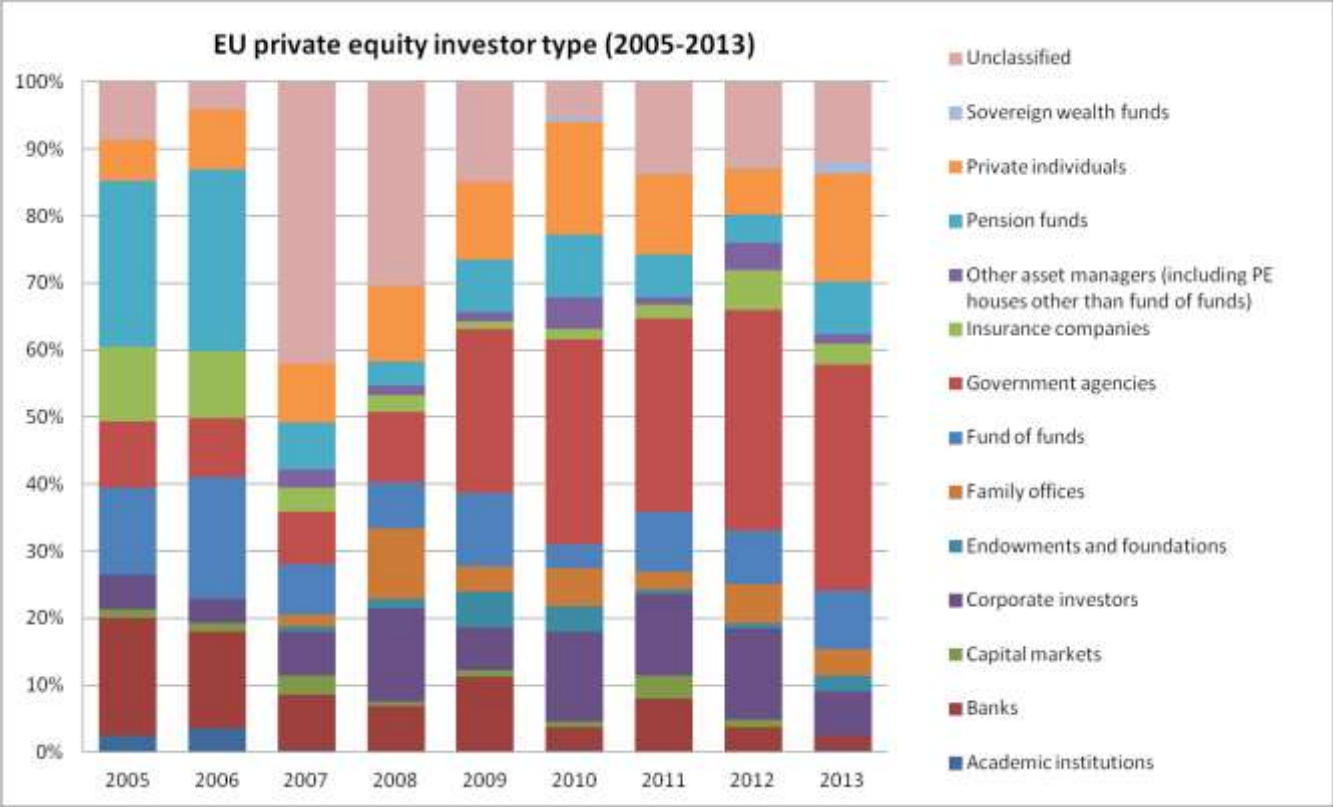
Concerning the specificity of the private equity industry in Europe, we can see from Figure 1-7 that the amount of buyout investment largely surpasses that of venture capital since the early 2000s, and this difference is even more accentuated after the subprime crisis. There are several historical and economic reasons for buyout's absolute domination in European private equity investment: the transmission of many family-owned companies, the numerous spin-offs of big groups, the privatization trend since the Thatcher reform, and the restructuring of companies under financial difficulties facing crisis. A very small proportion of private equity investment is allocated to early stage ventures and high-tech start-ups. This unbalance has been accentuated in recent years: even though the total investment amount has been growing over this period, much of the growth of private equity capital has been directed to buyout deals due to increasing valuations and higher returns. Meanwhile, it is important to mention that buyout investments are generally made with significant debt financing from banks or other financial institutions. In normal periods, buyout capital can be composed of half equity and half debt; in periods of low interest rates, the proportion between equity and debt can reach 1 to 5. If on average two-thirds of total private equity capital is devoted to buyouts with significant debt leverage, Jenkinson (2006) estimated that the total value of investments made by the European private equity industry over the period of 1995-2005 was probably nearly €500 billion, with about €430 billion being invested in buyouts.

In terms of investors, banks are the most important capital source for European private equity funds and contribute on average about one-third of new funds raised within Europe (Jenkinson, 2006). According to Barros (2005), from 1995 to 1999 around one-half of all US venture capital was derived from pension funds. In contrast to the US, European pension funds have historically allocated a relatively small proportion of their assets to private equity firms. But during 2005 to 2006, the proportion of funds committed by pension funds grew dramatically and became the first source of investment capital¹⁷. The last financial crisis sharply cut private equity investments in Europe during 2008 to 2009, and capital committed by banks was largely reduced to 3%~7% of total capital source. Interestingly, since 2009 the most important investor type has been government agencies, including country, regional, governmental and European institutions for innovation and development, such as European Bank for Reconstruction and Development and European Investment Fund, which contribute

¹⁷ The percentage of capital raised from pension funds was 24.8% in 2005 and 27.1% in 2006, according to EVCA yearbook 2006.

each year from a quarter to one-third of total capital allocated to European private equity funds (Figure 1-8).

Figure 1-8: European PE capital source distribution by investor type



Note: European countries included in the EVCA statistics are: UK, France, Sweden, Germany, Italy, Spain, Netherlands, Belgium, Switzerland, Norway, Denmark, Poland, Finland, Portugal, Austria, Ireland, Romania, Hungary, Greece and Czech Republic

Source: EVCA year book 2006, 2014

1.2.1-3 Emerging private equity markets

After North America and Europe, the practice of private equity investment was diffused to other countries, and in particular, the fast developing emerging countries. Over the last decade, fundraising for emerging markets private equity funds has grown exponentially from \$3.2 billion in 2002 to a record high of \$66.5 billion in 2008, while the invested capital also rose from \$2 billion to \$47.8 billion, with a record high of \$53.1 billion in 2007¹⁸. In 2009,

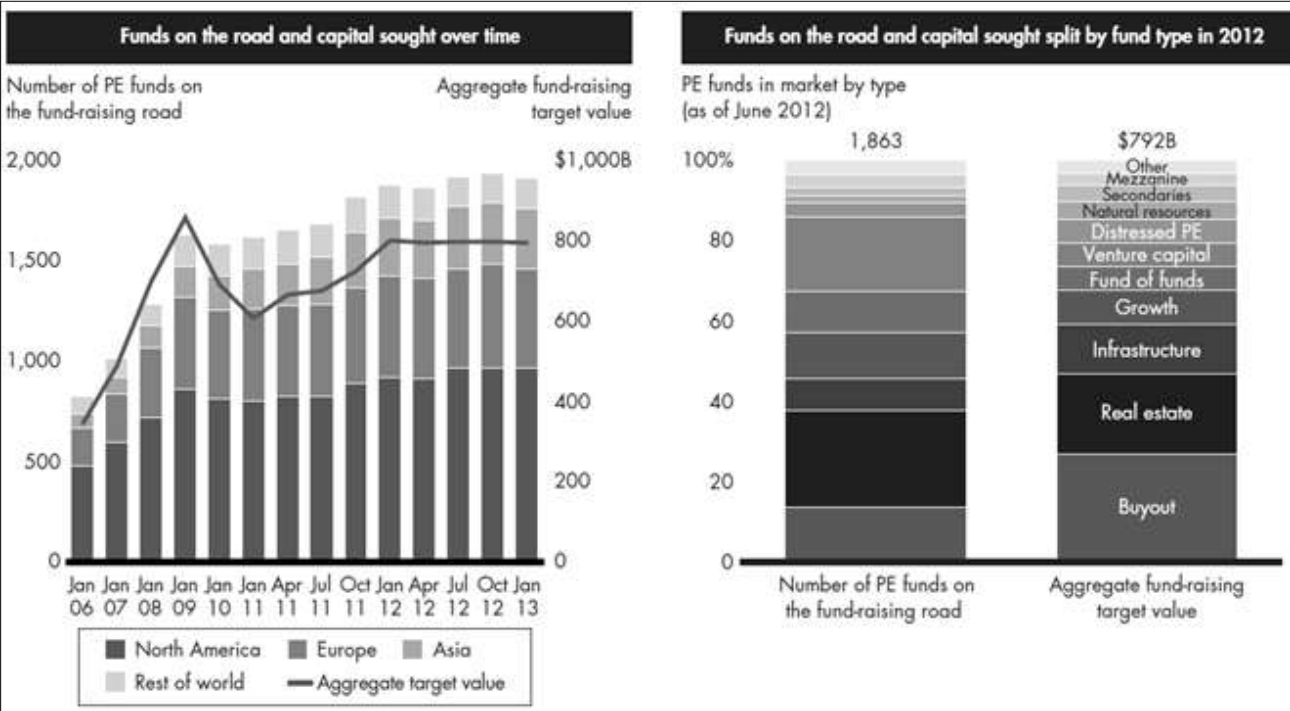
¹⁸ According to “Full Year 2011 Industry Statistics”, published in 2012 by Emerging Markets Private Equity Association (EMPEA)

North America and Europe accounted for 36% and 37% of global private equity investments respectively, both were affected by the lagged effect of financial crisis (Figure 1-9). On the contrary, there has been a remarkable rise in the global share of Asia-Pacific and emerging markets, particularly China, Singapore, South Korea and India¹⁹. In 2013, annual investments increased by 16% in India to reach the amount of \$11.8 billion through 696 deals, even though its historic peak was \$17.1 billion in 2007 (Bain & Company, 2014). Brazil, Mexico and Russia are also experiencing rapid private equity development. Brazil is the largest private equity market in Latin America, with total investments of \$8.3 billion for 2012, representing 72% of the whole Latin America private equity industry (Pwc, 2013). These regions have shown comparatively robust economic growth in face of global downturn and investor's belief that their capital will get better returns in these regions.

In fact, private equity investments in emerging markets are quite different from those in developed and much more mature markets. The investment model in Europe and the US is more of the leveraged buyout model, which is very exposed to macro shocks, as shown during the financial crisis. On the contrary, the private equity industry in emerging markets has, at the same time, more unexplored opportunities and more execution risks, because it is growth equity investing in growing economies. This makes private equity investments in emerging markets more delicate in operation and more unpredictable in their results. According to global private equity data provider Preqin, institutional investors such as pension funds, banks and insurance companies, invested \$61 billion in private equity funds of emerging markets in 2013, with a marked reduction compared to the \$87 billion recorded in 2012. This is likely due to lowered growth expectations in emerging economies, which are to certain degree produced by the global downturn after the crisis. In addition, significant sell-offs in these countries' public markets during the last several years also could have had negative impact on investor confidence.

¹⁹ According to "Private Equity 2010", published by The City UK in 2011

Figure 9: Number and target value of global PE funds by region and type (2006-2013Jan)



Source: Preqin

1.2.2 Factors influencing private equity activity and performance

We have seen the fast growth of the private equity activity on a global scale and in different regions, including both developed and emerging economies. Besides the cyclical nature of private equity investments caused by normal economic periods, we also observe irregular changes in the growth rates on a year to year basis. Although private equity investment is now widely recognized as an important source for financing entrepreneurial activities, there are evident differences across countries in the level of investment. For instance, venture capital intensity is relatively high in the US while it is very low in Japan. In order to better understand and describe this evolution and its specificities in different countries, we will look at past research concerning the factors influencing the private equity activity. We will also discuss different measures proposed by prior research to evaluate the performance of private equity firms, and present the main factors that are generally considered to contribute to better financial results of private equity firms.

1.2.2-1 Determinants of private equity intensity

The private equity activity has been subject to boom and bust cycles over time, but the economic weight of private equity as relative to the total value of one country's stock market has been more or less consistent in the mature markets for the past three decades (Kaplan and Lerner, 2010). In the US, the percentage has always varied between 0.1% and 0.2%. Yet, when we want to learn more about what factors determine private equity intensity and how precisely they impact the demand and supply of private equity, we find that there are diverging opinions resulting from past research by different scholars. Black and Gilson (1998) were among the first questioning these determinants. They suggested that there is a relationship between one country's financial system and venture capital market intensity. They argued that the main reason for the US competitive advantage in the venture capital industry is the existence of a strong IPO market and a more liquid stock market to support investment exits. Gompers and Lerner (1999) studied the same question by focusing on the US economy over the period of 1969-1994 and came out with quite different opinions. They found significant impacts of GDP on US venture capital investing, but no impact of IPO. They also indicated that lower tax rates on capital gains have strong positive effect on the amount of supply of venture capital.

Jeng and Wells (2000) analyzed the determinants of venture capital in 21 countries. Among the factors investigated, they found that IPOs are the strongest driver of venture capital investing, but have no effect on early stage investments. Private pension fund levels might be a significant determinant over time but not for all the countries under examination. Government policies can produce a strong impact both by providing regulatory norms and spurring investment when facing economic downturn. GDP and market capitalization growth turn out to have no significant effect on venture capital investing. They also found that government funded venture capital and non-government funded venture capital have different sensitivities to the determinants. Schertler (2003) analyzed the driving forces of the venture capital activity with data from 14 Western European countries during the time period of 1988-2000. His findings indicate that stock markets liquidity, human capital endowment and labor market rigidities do not affect venture capital in the expansion stage but do affect venture capital in the early stages. In contrast to Jeng and Wells (2000), Schertler (2003) found that liquidity of stock markets has a significant positive impact on early stage investments.

Romain and De la Potterie (2004) tried to identify the main factors that affect supply and demand in regards venture capital in 16 major OECD countries with an eye to three aspects: macroeconomic conditions, R&D and technological opportunity, and the entrepreneurial environment. Their model shows that venture capital intensity is highly pro-cyclical, reacting positively and significantly to GDP growth; short-term interest rates have a positive and significant impact on venture capital demand side; corporate income tax rate has a negative impact on the supply side. Indicators of technological opportunity, such as the growth rate of R&D investment, the stock of knowledge and the number of patents, have a significantly positive relation with the volume of venture investment. Meanwhile, labor market rigidities will reduce the impact of the GDP growth rate and of the stock of knowledge on venture capital. They also considered that factors related to the entrepreneurial environment can partially explain the substantial cross-country variations in venture capital intensity. They thus suggested that policymakers and industry deciders should simulate the venture capital activity by providing more knowledge-sharing and improving the entrepreneurial environment.

Besides macroeconomic factors, technological opportunities and the entrepreneurial environment, Bonini and Senem (2011) also added political risk variables to their analysis by using risk ratings from the International Country Risk Guide (ICRG). These political risk variables include investment profile, socioeconomic conditions and corruption. Their findings show that corporate income tax rates, total entrepreneurial activity, inflation rate, labor market rigidities, GDP growth and some of the political risk variables, affect both early and expansion stage investments when referring to the broader definition of venture capital. They also found IPOs to be significant only for early stage venture capital.

Applying the panel data technique of estimation, Cherif and Gazdar (2011) carried out a quite thorough exam of the determinants of venture capital investments across 21 European countries over the period of 1996-2006. Their empirical model introduces for the first time variables indicating the institutional environment. They used the index of economic freedom provided by the heritage foundation as an indicator of institutional quality, which takes into account the following 10 items: business freedom, trade freedom, monetary freedom, government expenditures, fiscal freedom, property rights, investment freedom, financial freedom, labor freedom and freedom from corruption. Their research results show that GDP growth, market capitalization, research and development expenditures, and unemployment are

the most important macroeconomic determinants of European venture capital investments. No significant effect of divestment forms (IPO, trade sale and write-off) on early stage investments or funds raised is found. They suggested that early stage investments and funds raised are differently affected by institutional quality: while economic freedom has a significant and a positive effect on funds raised, it does not exert significant influence on early stage investments. Only freedom from corruption affects significantly and positively both. Among the institutional aspects, property rights freedom, financial freedom and trade freedom appear to play a major role in determining funds raised.

1.2.2-2 Determinants of private equity performance

To further understand the growth of the private equity activity, we also need to evaluate the performance of private equity funds. The good working of private equity investment depends on complex conditions including government involvement, legal systems, financial markets, corporate governance, education and research, entrepreneurship environment, etc. However, only some factors have direct and significant impacts on private equity funds performances. To evaluate their performance, we should understand to which benchmarks we compare private equity returns, what are the factors that have significant influence on private equity performance, and how these factors impact the performance. Private equity investments are difficult to price because they are not tradable on the market and because they are managed by intermediaries, the GPs, through limited partnerships which collect capital from investors, the LPs. There is no market liquidity and no direct control for LPs. To evaluate the profitability of a private equity investment fund, the first problem is the appropriate benchmark to use. Since stock markets provide IPO opportunities and interact with a private equity investment, the common method is to compare total capital returns of a private equity fund with the average capital gain from the main stock markets during the same period. For the proxy of average capital gain, researchers often use stock market index of NYSE S&P 500, NYSE Euronext FTSE 100, NASDAQ Index and London Stock Exchange Russell 1000 & 2000. As different types of private equity funds have their own investment strategies and distinct focus on investment phase and target companies, they need to set appropriate benchmarks for each specific investment. Venture capital returns are closely linked to the over-the-counter stock market; hence it is natural to select the NASDAQ over-the-counter stock index as an appropriate benchmark. Leveraged buyouts usually concern mature companies that are going through difficulties and need improvement in its

management or strategy adaptation; therefore, stock market indexes with larger capitalized stocks, such as S&P 500 and Russell 1000, might be a more appropriate benchmark for LBOs (Anson, 2007).

How to evaluate the operating efficiency of private equity funds is an important question that has led to a lot of research but has produced varied results. Many studies show that pure financial results, namely the capital returns, of private equity funds are in general not significantly better than the public investment. Some among them argue that the differences are mainly due to the compensations given to the investment managers (especially the carried interest) which would dramatically reduce the IRR (internal rate of return). But the real net IRR to the initial capital is hard to calculate as those different forms of compensations and other transaction expenses happened across long time and mixed up with different deals. Kaplan and Schoar (2005) analyzed the performance of US private equity funds by comparing their returns with S&P 500 returns for the same period of 1980-2001. Their findings show that on average an LBO fund's returns were slightly less than the returns of the S&P 500. Meanwhile, venture capital fund net-of-fees²⁰ returns were lower than the S&P 500 on an equal-weighted basis but higher than the S&P 500 on a capital weighted basis. Both types of private equity gross-of-fees²¹ returns exceeded those of the S&P 500. The research also underlined substantial persistence in LBO and venture capital fund performance: outperformance of the previous fund tends to continue with the consecutive fund managed by the same general partners. GPs' skill and experience impact the performance of funds, and funds with higher quality managers can usually negotiate better deal terms with startups.

The study by Anson (2007) showed different results which indicate that early stage venture capital is less influenced by the overall returns to the stock market and by manager skill. Instead, they suggested that lagged returns from public stock market is a more relevant and significant factor to evaluate the returns from venture capital as well as from LBOs. Moreover, they indicated that the so-called manager skill simply results from lagged pricing

²⁰ Net-of-fees: according to the Global Investment Performance Standards (GIPS, see more on www.gipsstandards.org), investment management fees in private equity include a commitment-based asset management fee paid on an ongoing basis and a performance-based fee known as carried interest which is typically accrued and paid as previously agreed in the limited partnership agreement. These management fees should be deducted when calculating net-of-fees returns.

²¹ Gross-of-fees: according to the Global Investment Performance Standards (GIPS), to calculate gross-of-fees returns, investment management fees should be recognized as positive cash flows dated at the actual date when such investment management fees are paid.

effects from prior public stock market returns. These findings suggest that private equity portfolios reflect changes in the prices of marketable securities over a period of time up to one year. Furthermore, Anson (2007) pointed out that private equity fund managers tend to apply the rule of conservatism when adjusting portfolio values, which seems to go against their own interest. The reasons behind this behavior could be the effective monitoring by private equity investors or managers' considerations to maintain their reputation. Gottschalg and Phallipou (2009) also disagreed with Kaplan and Schoar (2005) on the positive relationships between performance and size, and between performance and management experience. But they found the same result of evident performance persistence as previously indicated by Kaplan and Schoar (2005). By using the benchmark of S&P 500, their study shows that the average net-of-fees performance of their private equity sample funds during the period of 1998-2003 was lower than that of the S&P 500 by 3% per year; but the gross-of-fees performance was above that of the S&P 500 by 3% per year. Given the high leverage used by buyout funds and the high risk nature of venture capital, they added adjustments for risk in the analysis which decreased the performance by about 3% per year.

Although stock markets provide the most appropriate benchmarks to evaluate the performance of private equity funds, they cannot explain for all the influencing factors and the consequential results. In fact, there are various macro and micro factors that impact differently the way how private equity firms work. According to the research of Aigner et al. (2008), the following four factors have significant and positive impact on private equity fund performance: buyout ratio of a fund's portfolio, experience of GPs, the average regional GDP growth, and the average return of stock markets index. They precised that for funds with positive returns, higher the buyout ratio, better the performance. For funds with negative returns, higher buyout ratio only increases the loss. The years of experience of a GP and number of funds that the GP has already managed generally have positive impact on fund performance. Yet, GPs with longer experience tend to have more portfolio companies with negative returns, while inexperienced GPs may achieve higher returns during strong markets. However, they indicated that vintage year GDP and stock market index growth negatively influence fund performance, since private equity firms are forced to pay high prices for their investments under good economic conditions. Similarly, capital commitments in vintage year are also negatively related to portfolio companies returns, since with more money flowing into the industry, the deal prices increase and returns reduce, given the limited number of favorable investment opportunities. Aigner et al. (2008) and Lossen (2006) suggested a

negative relationship between fund size and returns; Phalippou and Zollo (2005) found it to be the contrary. There is no significant impact of diversification between regions and industries on performance (Brigl et al. 2008; Aigner et al., 2008; Lossen, 2006; Ljungqvist and Richardson, 2003). But the diversification over financing stage does show significantly positive influence on returns (Aigner et al., 2008). Interest rate is generally shown to have significant and negative impact on private equity fund performance.

1.2.3 Value contributions of private equity

A private equity fund is comparable to a contractual structure or a special investment vehicle which integrates various rules of compensation incentives, reputation pressure, market competition screening, monitoring, covenants control and exit strategies. Private equity firms' capacities to manage complex relations with limited investors and portfolio companies and to leverage valuable resources to help business development, contribute to their value and reputation. Past research on private equity firms' relations with their portfolio companies and in regards to different economic factors has shed light on how private equity investment contributes to value creation in the real economy, through which methods, and by using which tools. The existence of private equity and its historical development can also be explained by its continued contribution to economic value, even though its activity is less resistant to economic cycles than many have thought (Kaplan, 2003). Along with the evolution of economic situations, private equity's fundraising, capital management and investment features have varied over time, which have in return affected the capital structure, management incentive design and corporate governance of their portfolio companies. Private equity activity certainly creates economic value; at the same time, private equity investors also try their best to take advantage of market timing to get higher returns (Kaplan and Per Strömberg, 2008; Lerner, 1994). Value creation is an important part of the mechanisms to secure better capital returns. In this last subsection of Chapter 1, we will analyze the most essential value contributions of private equity to economic growth. The first and most basic aspect is its role of financial intermediary and mid-term financial investor. The second contribution is its function to promote technology innovation and industrial performance. The third aspect is private equity's positive impact on corporate governance structure and standard. At last, private equity funds increase company value by providing strategic advice and management expertise for business development.

1.2.3-1 Financial intermediary and mid-term financial investor

The first and the most evident value of private equity firms is their role as financial intermediary. The common financial intermediaries include banks, insurance companies, pension funds, leasing companies, private equity funds and microcredit providers. Financial intermediaries generally appear when the market is not perfect and public information is not complete. As the market is not perfect, there could be significant transaction costs for both lending and borrowing parties; financial intermediaries, by specializing in the activity of capital reallocation, can better match the specific need of each party, reduce the costs of capital transactions, and increase returns to investors (Gorton and Winton, 2003). Due to their frequent interventions in the capital market, financial intermediaries also have information advantages compared to the final investors (Diamond, 1984). Therefore, they may transfer and share risks among different parties and across a larger time scheme (Merton, 1987). With the development of modern financial engineering, financial intermediaries could now use more specific and sophisticated financial products and services to satisfy varied needs, such as higher liquidity, fixed interest rate, minimum returns, more flexibility, etc. Financial intermediaries can offer better protection and more choices to investors and borrowers.

In Figure 1-2 we presented how private equity market is organized in two investment cycles through private equity firms and private equity funds which link the investors (LPs) and the investees (portfolio companies). This market organization underlines several differences between banks and private equity firms. Banks give out credits to parties with capital demand, and private equity firms finance companies by equity investment; accordingly, private equity firms bear higher risks than banks. Banks receive deposits or issue bonds on public market to collect capital, and private equity firms raise capital directly from particular investors for a specific fund and for a limited period of time. Banks are compensated by charging interest rates on credits, while private equity funds are compensated by both dividends and market premium of company stock. Banks examine the debt reimbursing capacity of the candidate company, while private equity firms analyze its business prospects, growth potential and management quality. Being shareholders, private equity firms assume a more active part in company decisions and governance. Admati and Pfleiderer (1994) and Chan (1982) underlined that it is usually due to their informational advantages that private equity funds are employed to manage capital for its investors. Kaplan and Strömberg (2004)

also affirmed that substantial transactions costs and high information asymmetries of equity investments give rise to specialized private equity funds.

Being an intermediary between middle to long term investors and companies who need development capital, private equity firms direct capital investment through step-by-step operations of selecting, investing, monitoring and exiting. Pension funds and government agencies often use private equity to stimulate local economies (Lerner et al., 2007). Earlier we have seen that in Europe since 2009, government agencies, including local, national and regional institutions for innovation and development, have been contributing to about 30% of total capital allocated to private equity firms each year. The European Investment Fund (EIF)²² has invested in over 200 private equity funds with the objective to “promote the implementation of European Union policies, notably in the field of entrepreneurship, technology, innovation, growth, employment and regional development; to generate an appropriate return for our shareholders, through a commercial pricing policy and a balance of fee and risk based income”. There are also financial agents and intermediaries that work together with private equity funds by providing debt, services or information. Banks are strategic partners of private equity firms, because they can both provide deal sourcing and company information to private equity firms and take advantage of their participation to sell financial products to invested companies, such as lending, underwriting securities, mergers and acquisitions, and consulting services (Hellmann et al., 2005). Other parties such as law firms, consulting firms and credit institutes can also help private equity firms with deal sourcing, business consulting, information checking, due-diligence, and after investment financial management.

Do private equity firms present a stabilizing force for long-term economic growth in their role of financial intermediaries? Scholars in favor of the development of the private equity industry argued that private equity funds are typically non short-termists: private equity funds have a median holding period of 6 years (Strömberg, 2008) and they encourage quality improvement through mid to long-term investments of their invested companies (Lerner,

²² Owned by the European Investment Bank (EIB) as a specialist provider of small and medium-sized enterprises (SME) risk finance across Europe, European Investment Fund (EIF) is built in an unique structure as a public-private partnership, which does not provide finance to SMEs directly but through a wide range of financial institutions, banks and venture capital funds involved in SMEs funding. EIF also benefits from the Multilateral Development Bank status, which enables financial institutions to apply a 0% risk-weighting to assets they guarantee. Typically, they guarantee certain tranches of notes (senior and/or mezzanine tranches) issued through a SME securitization transaction. Official site: <http://www.eif.org>

Sorensen and Strömberg, 2009). Others showed that private equity funds are generally creating employment: employment in LBOs invested companies in the UK grow faster except in the case of management buy-in deals (Amess and Wright, 2006). A positive result is also found for the creation of employment by private equity funds in France (Boucly, Sraer and Thesamr, 2004), though some evidence indicated that productive employment is maintained in private equity held companies while indirect productive employment is decreasing (Lichtenberg et Siegel, 1990). In the report of “Private equity and French capitalism” (Conseil d’Analyse Economique, 2008) addressed to the French government, French economist Patrick Artus claimed that private equity funds have the capacity to make the management of a company better than that could be obtained by the shareholders of a publicly listed company. However, the intention to promote the private equity industry is often challenged by research results showing that private equity’s net-of-fees returns to the investors are less than the average returns from the stock markets (Phalippou and Zollo, 2005; Kaplan and Schoar, 2005). Jenkinson (2007), inventor of “private equity 2.0” in reference to the “web 2.0” economy in which the web works by adapting itself to the requests of its users, indicated that investment funds also have to adapt themselves to the ever changing economic environment in which they operate.

Some economists consider that private equity operations have brought instability to the financial system and to companies. Private equity funds may weaken the financial security of the invested company due to its high leverage (Axelson et al., 2009). Private equity could be a reason for financial crisis as they are pro-cyclical and produce the “money chasing deals” phenomenon (Kaplan and Schoar, 2005; Gompers and Lerner, 2000). There might be transparency problems and an over-willingness to take risks. Increases in the number of highly leveraged private equity portfolio companies often occurs during a period of economic growth and stability when the interest rates is kept at a low level and abundant credit sustains the risky activities engaged by banks and other financial institutions. But as the economic cycle changes trend after too much liquidity, significant rises in interest rates would threaten high leveraged companies. On the European capital market, banks play a central role in the LBO market through various business lines, cheap financing, or providing debt syndication, which has evidently boosted the private market. In April 2007, European Central Bank has conducted a study concerning private equity-related bank risks and impact on financial stability. After an overview of the European LBO market and examining banks’ exposures to LBO activities as well as related risk management, the study concludes that, though there are

potential risks linked to banks' involvement in the private equity market, few of them are likely to cause severe problems or pose a broader threat to financial stability, given the tiny proportion that those investments take in banks' total assets management.

The US Private Equity Growth Capital Council conducted a study in 2008 about the role of private equity in the US capital market²³, and their findings show that there is no link between private equity investments and systemic risk or global financial stability. By distinguishing private equity funds from other over-leveraged financial institutions or short-term speculators, they affirmed that as capital at private equity funds' disposal is long-term capital commitment from their limited partners, its illiquid nature will prevent private equity funds from "run on the bank" behaviors and from capital redemption pressure, as those faced by hedge funds when the market is declining, this thus protects invested companies from suffering systemic risks. Another argument is that private equity funds invest across multiple industries and normally won't have concentrated exposure to a single sector. As showed by their collected data for the US from 2000 to 2007, on an average scale, consumer-related companies accounted for 14.7% of total private equity investments, industrial companies, including energy and semiconductor companies, accounted for 21.2% of investments, computer science companies about 9.6% and health care about 9.5%. According to this study, the US private equity industry operate on a mid-term oriented basis and allocate their capital investments across different sectors to better reduce systematic risks and promote aggregated economic growth.

1.2.3-2 Technology innovation and industrial performance

Lau (2002) indicated that the accumulation of tangible capital and its effective allocation and utilization are the most important sources of growth in the early stage of economic development. Intangible capital accumulation becomes important only after a certain level of tangible capital per worker is achieved. The most important source of economic growth for industrialized countries is technical progress, which is the result of intangible capital – R&D, knowledge capital, goodwill, etc., accounting for more than half of the growth of output of developed economies. Therefore, tangible capital and technical progress (intangible capital) are complementary at the microeconomic level, which is

²³ Shapiro, Robert and Pham, Nam (2008), "The Role of Private Equity in U.S. Capital Markets", a PEGCC (Private Equity Growth Capital Council) supported study, October 2008

manifested in the form of capital-skill complementarity (Boskin and Lau, 1990). Investment in intangible capital can enhance the productivity of tangible capital because of its complementarity with tangible capital and slow the decline in the marginal productivity of tangible capital.

Private equity firms through their financial support and participation in their portfolio companies' strategic decisions contribute to technology innovation and industrial transformation. Particularly, venture capitalists have a unique role in the capital market, where they act as financial intermediaries between fund providers and young high growth firms in need of capital (Chan et al., 1990). A large part of private equity professionals come from non-financial fields: many join the investment industry after successful careers as scientists, engineers or doctors. Driven by a desire to find new and better solutions to existing problems in their specialty, they take advantages of their industry expertise and experiences to identify the most promising innovations in their fields and provide guidance to young entrepreneurs to improve their management skills. Since most private equity partners have significant industrial background and management experience, they are aware of the value of R&D investment and the coming market trend for new technologies and applications. They also have a better vision of the whole industrial structure, the need to upgrade, and how to bridge technology gaps with leading competitors, domestic or abroad.

Venture capital contributes to economic growth by financing innovation and the development of absorptive capability. Innovation refers to the introduction of new products, processes or services on the market to improve economic performances. Kortum and Lerner (2000) found that venture capital funding is mostly associated with sectors that have higher patent density. Engel and Keilbach (2007) suggested that companies possessing more patent applications have higher chances to obtain venture capital investment. Hsu and Ziedonis (2013, 2011) showed that venture capital backed companies with more patents usually enjoy higher valuations, especially during early investment rounds. By using growth in total factor productivity (TFP)²⁴ as a measure of innovation, Chemmanur et al. (2011) and Hirukawa and

²⁴ Total factor productivity (TFP), also called multi factor productivity (MFP), is a residual which accounts for all effects in total output not caused by traditional inputs of labor and capital. TFP can be taken as a measure of an economy's long-term technological dynamism, as technology growth and efficiency are considered the two biggest elements of TFP. An example is the Cobb-Douglas productivity equation " $Y = A \times K^\alpha \times L^\beta$ ", in which total output (Y) is a function of total factor productivity (A), capital input (K) and labor input (L), and the two traditional inputs' respective shares of output are α and β . An increase in either A, K or L will lead to an increase

Ueda (2008) found a positive relationship between venture capital and TFP growth. Romain and De la Potterie (2003) underlined that the accumulation of venture capital significantly contributes to multi-factor productivity growth, and that the social return to venture capital is twice as high as that to business or public R&D. Antonelli and Teubal (2007) argued that venture capital is a major institutional structure promoting technology innovation and application, whose operation is based on the identification of promising technological knowledge and the combination of equity investment, screening processes, managerial competence, and reputation; its mechanisms of production, dissemination and integration of knowledge contributes as a main driver for the new knowledge-based economic growth.

According to a report by NVCA²⁵, venture-backed companies outperform the overall economy in terms of job creation and revenue growth, and the continued development of regional venture capital hubs help to create entrepreneurial ecosystems for long-term economic benefits. In Europe, venture-backed companies also contribute significantly to the economy through creation of jobs, exceptional growth rate, important investments in high-tech sectors and further international expansion (EVCA, 1996, 2001). With their business experience, information source and analyzing skills, private equity firms are able to time the market and take advantages of favorable IPO conditions (Lerner, 1994). Hellmann and Puri (2000) found that innovative companies are generally faster to enter the stock market than imitative companies, and companies backed by venture capital firms are usually even faster to succeed in listing. Gompers (1996) contributed this to the “grandstanding” character of private equity. Private equity firms need to make positive signals to investors that they have good investment and management abilities in choosing promising companies and bringing them to success.

Many researchers contribute the ability of venture capitalists to better deal with the information asymmetry problem between investors and high-risk venture companies to the using of complex financial and managerial instruments. Admati and Pfleiderer (1991) examined the dual role of the venture capitalist as financing provider and guarantor of project quality, and found that a constant holding of fractional equity of portfolio companies sends a

in output. While capital and labor input are tangible, total-factor productivity appears to be more intangible as it can range from technology knowledge to know-how of workers.

²⁵ The 5th Edition of *Venture Impact: The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy*, publication by NVCA (National Venture Capital Association), conducted by HIS Global Insight, 2009.

positive signal to the market regarding project quality. Venture capital helps companies to overcome principal-agent problems through sophisticated contracting, pre-investment screening, and post-investment monitoring (Hellmann, 2006; Kaplan and Strömberg, 2003, 2001). Time and energy spent during the negotiation process prior to the signature of investment contracts also allow both parties to build better mutual understanding, to enhance common interests, and to reduce information asymmetry (Landström et al., 1998; Sapienza and Korsgaard, 1996). Venture capitalists working in the same country and under similar market pressure usually set up an industry standard through association and government fiat, guiding their operational behaviors and contracting process (Isaksson et al., 2004). In return, the established industry norms and the standardization of investment process, legal documents and contractual covenants also facilitate fund organization and management, and encourage more funds to be raised and more competition to keep the market active.

Through its innovation focus, management competences, incentive mechanisms and investment norms, private equity contributes to the overall industrial performance and economic growth. Jensen (1989) argued that LBO funds not only have an impact on the firms in which they have invested but also increase pressure on the competitor companies to improve their own operations, thus they are likely to contribute more generally to a higher industrial performance. Usually private equity backed firms will experience a substantial productivity growth in the following two years after the investment transaction (Davis et al., 2009). Bernstein et al. (2010) studied the relationship between the presence of private equity investments and the growth rates of productivity, employment and capital formation in invested companies. Their findings show that private equity investments are associated with faster growth; industries where private equity funds have invested in the past five years have grown more quickly in terms of productivity and employment. Although the internet crisis in the 2000-2001 was obviously driven by short-term profit oriented speculations and accelerated by irrational venture capital investment evaluations, there is little evidence that private equity causes economic cyclicalities or risks for investors and stakeholders. Yet, private equity funds could make mistakes in operations and evaluations, and fail to keep a cool head when facing risky opportunities.

1.2.3-3 Corporate governance

Berle and Means (1932) were among the first to address corporate conflicts originating from the separation of ownership and management in companies. They argue that this separation, in the absence of other supplementary governance mechanisms, provides managers with high abilities to act in their own self-interest rather than in the interests of shareholders when making decisions and running business. Gillan and Starks (2002) defined corporate governance as the system of laws, rules and factors that control operations at a company. They underline that a firm's governance comprises a whole set of structures conducting its operations, including the participations of employees, managers, shareholders and creditors in corporate activities and the constraints under which they operate. Shleifer and Vishny (1997) defined corporate governance from the perspective of economic interests of the participants as dealing with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. Zingales (1998) saw corporate governance as a complex set of constraints that shape the bargaining over the quasi-rents generated by the firm. Jensen and Meckling (1976) suggested that conflicts between shareholders and managers probably occur when managers don't have the full rights over the company residual and thus don't benefit wholly from the profit resulting from their efforts to make the company's business successful. In this case, managers could abuse their power and their access to the company resources for their personal interests.

With technological, economic and social evolutions and the deepening globalization of economy and finance, conflicts between owners and managers tend to grow larger. The dysfunctions of corporate governance include information asymmetry between shareholders and managers, lack of transparency in managerial decisions, interest conflicts between shareholders and creditors, blurry links between business performance and management compensation, accounting manipulations to violate financial covenants or to avoid takeovers, etc. The management may destroy shareholder values by taking actions to secure their own positions, such as to invest in a declining industry, to make risky decisions or investments, to manipulate financial data to mask the deteriorating performance of the firm, or using public lobbying or complex internal holding structures to gain control over shareholders' activism (Tirole, 2006). Managers could also use self-dealing to gain personal benefices, such as luxurious consumptions, kinship business, insider trading, or other illegal transactions (Jensen and Meckling, 1976). The governance objective of a firm is to product capital returns for

shareholders. Individual shareholders have little power to influence firm management. Distant shareholders and external administrators are incapable of evaluating the process of value-creation in the company, as it depends more and more on intangible assets and complex complementarities.

The advantage of private equity governance is that it closely links ownership to management and that it reduces value-evaluation difficulties (Jensen, 1989). Private equity firms are involved in two main areas of activity, the provision of early stage capital for ventures and the provision of equity capital for buyouts (Wright et al., 2009). In both activities, corporate governance mechanisms should be carefully designed to tackle the problem of interest alignment with the objective to create incentives and control devices, ensuring that managers will pursue strategies to maximize the company's long-term value and allocate available resources in the interests of company owners and investors (Wright et al., 2009). According to the agency theory, a number of governance mechanisms can limit conflicts of interest between managers and company owners, including the board of directors, control from market competition, labor market pressure, concentrated ownership, managerial equity stake, and other incentive devices such as stock options (Phan and Hill, 1995; Jensen, 1988; Fama, 1980; Demsetz, 1983). These mechanisms are frequently used by private equity.

Addressing agency problems through private equity investment has two principal implications. The first one concerns managerial behaviors regarding free cash flows. In an LBO investment, the leverage of bank debt is usually used to accomplish the takeover transaction and it will be paid back gradually by the free cash flows generated by the company itself. The debt leverage will decrease the management's room to manoeuvre and limit waste of free cash flows or potential non-value maximizing behaviors. The management has incentives to work harder to generate cash, restrict their consumption of perquisites, and make optimal investment decisions in order to reduce the probability of bankruptcy (Berg and Gottschalg, 2004). Therefore, instead of distributing dividends or buying back shares, where decisions are in the hands of managers themselves, using debt financing will put the management under more pressure to produce better performance as the creditors could have a legal pursuit against the firm (Jensen, 1989). The combination of high leverage, concentration of management equity stakes and active monitoring from private equity investors forms a unique corporate governance structure for LBO companies. The second concerns over-diversification. A company is considered over-diversified when its assets are not

complementary and its business lines are not integrated. Over-diversification usually results in underperformance because the company's corporate governance is weakened and its control dispersed (Wright et al., 2009; Palich, Cardinal and Miller, 2000). Buyout investments often help companies with separable assets and business lines to refocus on core business and reinforce corporate governance. By providing them with guidance and advice on downsizing in low profit sectors, optimizing corporate governance and improving managerial rationale, private equity firms will help companies improve their overall performance.

Past research has identified gearing, debt coverage, participating institutions and management equity as main variables for measuring the effects of governance mechanisms in private equity investment (Nikoskelainen and Wright, 2007; Wright et al., 1995; Thompson and Wright, 1991; Kaplan, 1989). Gearing is the proportion of debt compared to equity, which shows the capital structure of the transaction and the relationship between management, private equity investor and the creditor. Debt coverage is the amount of debt in the initial capital structure of the buyout divided by operating profit prior to buyout, which is a proxy for controlling the debt pressure as how many years of current operating profit are needed to pay back all outstanding debt. The number of participating institutions represents the size of the equity syndicate (Wright et al., 1995), which can serve as a proxy for the size and attractiveness of the investment (Nikoskelainen and Wright, 2007). Management equity corresponds to shares held by the management, which improves to be an effective incentive for higher performance (Phan and Hill, 1995; Wright et al., 1995; Thompson and Wright, 1991; Malone, 1989; Kaplan, 1989). Some studies show that managerial equity is strongly and positively associated with enterprise value based return measurement (Nikoskelainen and Wright, 2007). The size of investment is also positively related to value increase and LBO returns. Larger buyout companies have better performance and higher returns probably because they usually have several business lines and are financially less vulnerable to industry cycles and short-term economic downturns. Furthermore, in a large buyout there are usually several syndicated private equity firms which could provide guidance to the company for the common interest and make additional equity injections to sustain the company in difficult times and avoid liquidation risks (Nikoskelainen and Wright, 2007).

However, the LBO corporate governance mechanisms are not compatible with all types of companies. Jensen (1989) specified that this debt financing is more suitable for firms with stable and sufficient cash flows but low profitability, and especially those situating in a

declining industry. There are also strong concerns that LBO transactions increase lay-offs and put too much attention on financial results. The management is constantly facing debt reimbursement pressure. In periods of economic downturn, these companies may run into the danger of insolvency and bankruptcy. Significant quantity of research indicates that higher leverage is related to greater likelihood of failure in buyouts; and especially for LBO transactions completed during the boom years, the percentage of failure increased sharply (Wright et al., 2000; Wright et al., 1996). Meanwhile, private equity firms can also take advantage of difficult market time to acquire distressed companies with advantageous prices. From this point of view, it is of essential importance that private equity firms be capable of fully understanding the opportunities as well as potential risks of their investments and be able to secure the viability of their portfolio companies via improved corporate governance and effective business restructuring.

Laws, contracts and their enforcement by regulators and courts are essential elements of corporate governance and finance (La Porta et al., 1998, 1997). Rules protecting investors come from different sources, including company laws, security laws, bankruptcy laws, takeover laws and competition laws, as well as stock exchange market regulations and accounting standards (La Porta et al., 2000). Enforcement of laws is as crucial as their contents. In most countries, laws and regulations are enforced in part by market regulators, in part by courts, and in part by market participants themselves. Corporate governance offers investors managing control based on legal frameworks: contract laws deal with privately negotiated arrangements, such as shareholder agreements, whereas company laws, bankruptcy laws and securities laws specify the different rights and responsibilities of managers and investors (La Porta et al., 2000). Investors or creditors will provide money to companies only when their rights are well enforced by regulators or courts. If a private equity fund invests as a minority shareholder and doesn't have the actual control on the company, the strength of legal enforcement will greatly influence their relation with the company managers. If the legal system is not strong enough to protect investors and creditors and reinforce their contracts with companies, it will render external finance more difficult to find in the long run and consequently limit the financing capacity and growth potential of companies even with good performance. Legal system and its enforcement, company corporate governance, and private equity investment are deeply inter-related.

1.2.3-4 Strategic advice and management expertise

Private equity firms are active investors that bring not only financial means but also more rational management behaviors and greater knowledge absorption ability to the invested companies (Bottazzi et al., 2008; Lerner, 1995; Barry, 1994). The management participation and advisory role of private equity firms are achieved during the monitoring phase and mainly through the board (Cornelli and Karakas, 2008). In a recent McKinsey & Company study (2008), among the added values that private equity firms bring to invested companies, developing a competitive company strategy was rated the highest (81%), followed by improvement of operations (72%) and execution of a successful exit strategy (71%). While strategic advice ranked as one of the most important value contributions by private equity firms, there is no one universal strategy for all companies. For each invested company, a private equity firm should develop a creative and tailored approach to match the individual situation and specific needs of the company in order to generate the highest value for the company and for its own investors.

A study by the management consultancy firm AT Kearney (2007) summarized that there are mainly three types of strategies that private equity investors usually combine and implement with the companies they invest in. The first type of strategy aims at improving the company's overall business performance. To achieve this goal, private equity fund assists the company in optimizing the financing structure, restructuring the company assets and working capital, improving operational efficiency, rationalizing general and administration costs, better management of supply and inventory, better organization of production, etc. The second type of strategy aims at refocusing on a company's core business and reducing the complexity of its existing business lines. These strategies include the outsourcing of processes with low value contribution, the divestment or separation of low profit activities, and the integration or cooperation with other companies to create higher synergy. They are frequently used in buyout investments in order to simplify dysfunctional business sections and concentrate on value driving competencies. The third type of strategy is to bring in add-ons to the existing business and pursue external growth. Typical executions of this type of strategy usually target at mergers and acquisitions, strategic alliances, partnerships, R&D collaborations, business diversifications, as well as cross-selling opportunities.

Private equity backed companies often implement a strategic redirection of the organization, such as decisions of out-sourcing, streamlining of operations requiring complexity management, concentration of customer target and standardization of products. In the short term, the strategic reorientations and reorganizations can drive substantial internal growth by breaking up bottlenecks or by systematically assessing and improving sales and marketing performance. In the medium term, companies grow by strengthening their market share, by focusing on improving their organizational structures, and by devoting more strategic importance and financial sources to the R&D. The add-ons strategy could be especially important and efficient in terms of external growth, geographic expansion and creation of new products. It enhances company's profit margins by improving their competitive position and harnessing the scale effects in internal operations. It usually creates more job opportunities compared to the two other strategies. Normally, the best value generation strategic plans are those that combine more than one strategy. Private equity investor helps the company to identify the appropriate strategies and the right mix of value leverage to be applied, depending on the specific situation of each firm and its market environment. Meanwhile, once defined, the implementation of these different types of strategies demands for execution consistency, measured pressure, and mid to long-term timeline, in order to yield any positive results.

When a private equity fund invests in a company, the fund is not only providing financing resource to the company but is also backing the quality of the management team and their business plan for future growth. Correct judgments about the quality and ability of management to execute initially designed business plan are part of the most important decisions that private equity investors make. If the company needs necessary changes to be more effective, private equity investors will firmly modify the composition of the management team and put more competent people in charge. As shown by the study by AT Kearney (2007), for close to 75% of the deal samples in both the US and Europe, significant changes were made in the top management after the introduction of private equity investors. Meanwhile, private equity partners and investment managers generally have strong operational, management or corporate finance background, and dispose valuable professional and personal networks from their past working experience. They can hence introduce valuable business resources and connections to the invested company management. Many private equity firms when choosing investment deals also try to look for synergy among their portfolio companies. Sometimes they will invest in companies at complementary positions in

the same production chain, or companies that can combine their resources or services to improve business performance. These characteristics and capacities allow private equity firms to better judge the company management team and their business plan, introduce valuable professional network and industry expertise, find the best candidates to replace some key positions, and reinforce the competences and efficiency of the company management team.

Conclusion of Chapter 1

In this first chapter, we have overviewed the most fundamental concepts and aspects of private equity, its market organization and main participants, its investment criteria and process. Private equity funds are constructed under particular limited partnership structure and operated according to certain mechanisms. With its global development, private equity industry has formalized standards and norms concerning investment process, formal contracts and investment instruments. Private equity funds choose their business focus and investment strategies according to investment criteria agreed with their limited investors. During the fund raising period, the private equity firm and its LPs should agree to focus on some specific investment phases (venture capital, expansion/growth capital, buyout, or turnaround) and a few industries, target certain company types with a minority or majority approach, have a particular geographic focus, and seek more profitable exit through IPO, trade sale or secondary sale. Other investment mechanisms are formed between private equity funds and invested companies, which aim at better selecting, screening, monitoring and motivating the company managers in order to secure higher returns to the invested capital. Private equity firms use sophisticated contracts to define its rights and responsibilities and to restrain the opportunist behaviors of company founders and managers. The investment process is composed of four sequential phases, including deal sourcing, screening/execution, monitoring and exit, each with its own check points to verify before pass on to the next.

Through these concepts, sophisticated structures and process, we can see that private equity firms play the role of capital manager for its investors and the role of business advisor for its portfolio companies at the same time. We have looked at the various added values that private equity can bring to company's business development, technology innovation, and corporate governance, besides its basic financing function. Analysis on these value contributions helps us better understand why private equity sector has made such fast

development during the past few decades, as seen from the growth trajectory of private equity activities at both global and regional levels. However, we can also notice that its activity evidently bears a cyclical nature. We studied this aspect by looking at the main factors impacting private equity's investment volume and its financial performance, which include both microeconomic and macroeconomic elements. Strong stock markets and a growing economy during the fund's life time significantly and positively influence fund returns. Later we will carry out an empiric study verifying the determinants of private equity activity intensity with more extensive factors.

The functioning of private equity is built upon an organized market with investment activity participants, under specific norms and rules guiding investment behaviors, and with supervising authorities setting the rules and verifying their implements. From a macro perspective, inside a whole set of market structure and rules, private equity firms work in interaction with other actors and institutions. From a micro perspective, different private equity funds must adopt different investment strategies depending on their comparative advantages: resources from LPs, business partners, intermediaries, management team expertise and professional networks. As we consider private equity as a particular form of capitalist institution, we decide to apply institutional theory in this study. We will look at the aspects of institutional hierarchy and complementarity in the case of private equity in order to understand the specificities of private equity being a modern capitalist institution. Before studying how private equity works and develops in China and making comparisons of its operation with other countries, we also need to study the special characteristics of the capitalist system in China. In the following chapter, we will focus on the relation between private equity and institution, and we will study the historic, political and social background of the capitalist economy in China under the perspective of varieties of capitalism.

CHAPTER 2

Institutions and Varieties of Capitalism

Introduction

In Chapter 1, we have looked at the fundamental concepts and aspects about private equity system, and discussed under which criteria and mechanisms private equity firms operate and make decisions. We also presented the principal value contributions of private equity activities and the development of the global private equity market over the past few decades. In order to provide a more rigorous theoretical foundation for our study, we will apply institutional theory and the analytical method of varieties of capitalism. In Chapter 2, we will examine the institutional characteristics of private equity and the particularities of the capitalist system that has been developed in China under its state communist regime. In the first section, we will explain why private equity is a particular form of modern institution and we will pay attention to the complementary relationship between private equity and other institutions instead of studying private equity in an isolated manner. Private equity came into being under certain institutional conditions, and investment activities take place through constant interactions with other institutions and actors. To build a more solid structure to compare private equity in China and in other countries, in the second section, we will analyze the historical and institutional background of the development of capitalistic economy in the communist-socialist China, focusing on the great transformation of the Chinese economy. Following this analysis, the last section of this chapter will be dedicated to an empirical study using Principal Component Analysis under the framework of varieties of capitalism to verify if the Chinese economy belongs to any established capitalist economy model.

Section 2.1 Institutional theory and private equity

Evolving from Smith's "rational individuals" to behavioral theorists' individuals caught in the dilemma of "moral hazard" and "adverse selection", economists have come to deem that the essence of an efficient economic system does not reside in a laissez-faire liberal attitude but in better managing the relations between individuals, as economic agents, and by this means to achieve a higher integration of production and distribution systems, which will in turn reduce the transaction costs and increase the performance. While firmly rejecting the

hypothesis of a totalistic regime as represented by socialism, many economists seemed to agree on the necessity of achieving a better understanding of individuals' "collective behaviors" as symbolized by the accomplishment of national, regional and international institutions. In 1918, the movement of "institutional economics" was launched which marked the establishment of the school of institutionalist economists and their active role in macroeconomic policy making. In his "*Institutional Economics*", Commons (1934) first tried to provide a systematic theoretical foundation for institutionalism. Veblen and Commons are the two early founders and among the most influent institutional economists. More contemporary representative researchers include John Kenneth Galbraith, Peter A. Hall, David Soskice, Aoki and North. Institutionalists are mainly focusing on the primacy of organization and control in the economic system. They see market itself as a huge institution of production and progress, built in complex structure and with hierarchical powers, inside which players should follow overt and inner rules.

The institutional approach has become popular with the post WWII economic development. Its popularization was much related to its multidisciplinary analytical tools, with materials of sociology, politics, anthropology, history, and others. The school of New Institutional Economics (NIE), represented by works of Ronald Coase (1937) and Douglass North (1990), was founded as an alternative to mainstream neoclassical economic theory. The NIE aims to explain the determinants of institutions and their evolution over times as well as to evaluate their impact on economic performance, efficiency and distribution. According to the NIE, institutions are created to cope with "market failure"; while staying with the neoclassical orthodoxy assumption that self-seeking individuals attempt to maximize profit under scarcity and constraints, the NIE modifies the basis of full rationality, zero transaction costs and perfect information; thus institutional arrangements which can reduce transaction costs and information asymmetry are considered as the key to economic performance (Boliari and Topyan, 2007). The role of institutions for economic and social development has received great attention from scholars and policy makers ever since. Yet, it remains difficult to form an explicit and universally accepted definition of "institution", as to understand what is institution is also to understand the various characteristics and influences of institutions. In this section, we will first review the definition and influences of institutions. Then we will apply institutional theory to analyze the institutional characteristics of private equity and the complementary interactions between private equity and other institutions.

2.1.1 Definitions of institutions

“Institution” is often opposed to “individual” as a social concept. Society is organized around institutions and institutions are based on their subordinated individuals. Individuals’ activities are regulated by institutions such as companies, churches, schools, political parties, law courts, the medical profession, sports clubs, associations, families, as well as many other informal groups. Institutions are made up of individuals but they are more than a group of individuals because they dispose concentrated power, assets and knowledge and have significant influence on collective decisions. Veblenian institutionalists argue that complex systems characterized by variety and inheritance are subject to general processes of Darwinian selection, and that man being an agent at the center of a series of activities around him is seeking constantly the higher accomplishment (Veblen, 1899). Thus not only individuals are subject to the regulations of institutions but institutions are also constantly influenced and reformed by the evolving individuals who bring changes to social systems. The best examples are entrepreneurs to whom scholars often attribute the responsibility for renewed or changed institutions (Hardy and Maguire, 2007).

Commons recognized that individual purposes and preferences are to some degree socially formed and he saw institutions functioning as “shaping each individual” (Hodgson, 2003). He stated that the individual with whom we are dealing is the “Institutionalized Mind” (Commons, 1934). Different to Veblenian institutionalists, Commons generally saw beliefs, other than habits or instincts, as the ultimate drivers of human activity (Commons, 1931). He also paid great attention to the role that customs play in molding individual behavior. While Commons accepted the importance of customs and informal rules, he generally referred “institutions” to formal structures, in particular private property and laws, as the formal expression of self-consciousness and the origin of social organizations (Chamberlain, 1963). North (1990) defined institutions as “the rules of the games of a society” and “the humanly devised constraints that structure human interaction and incentives in human exchange, whether political, social, or economic”. According to North (1990), there are principally two categories of institutions: formal institutions, such as constitutions, laws, government contracts, regulations and property rights, which are written rules created and applied by governments, firms, organizations and other establishments; and informal institutions, such as sanctions, taboos, customs, religion practices and traditions, which are unwritten rules generated from socially transmitted information and imposed by people upon themselves in

order to structure their relationships with each other. Both formal and informal institutions help to give pattern to human behavior by enabling and constraining their activities.

Institutions were formed because social interactions between individuals became more and more complicated and laws and conventions were strongly needed to establish and maintain social orders and to reduce the uncertainty of individual behaviors. North (1990) explained that: “Institutions affect the performance of the economy by their effect on the costs of exchange and production. Together with the technology employed, they determine transaction and transformation (production) costs that make up total costs... The costliness of information is the key to the costs of transacting, which consists of the costs of measuring the valuable attributes of what is being exchanged and the costs of protecting rights and policing and enforcing agreements. These measurement and enforcement costs are the sources of social, political and economic institutions.” (North, 1990, pp.27) North later adjusted his point which professed efficiency as the fundamental of institutions and instead insisted on the role of power involved in its formation: “Institutions are not necessarily or not often created to be socially efficient; they are rather created, or at least the formal rules, to serve the interests of those who have the bargaining power to create new rules.” (North, 1994, pp. 360-361)

Different from the two categories of formal and informal institutions proposed by North, Scott (1995:33) distinguished three types of institutions: regulative institutions, which “focus on the ability of institutions to constrain and regularize behavior”; normative institutions which “emphasize on the normative rules that prescribe rights and privileges as well as responsibilities and duties”; and cultural-cognitive institutions that “stress the shared conceptions that constitute the nature of social reality and the frames through which meaning is made”. In total, Scott (1995:33) considered institutions to be “multifaceted, durable social structures, made up of symbolic elements, social activities, and material resources”.

Amable (2003) considered institutions as endogenously determined game rules which emerge as a consequence of agents’ strategic behaviors in a context of power asymmetries. Some agents make their decisions according to a given strategy not because they are perfectly satisfied with it but because it represents the best solution given the circumstances. Institutions define incentives and constraints that will lead agents to invest in certain assets, acquire certain skills, cooperate or be opportunistic. Furthermore, he argued that institutions are the expression of a political compromise. When conflicts can’t be solved within the

existing rules of game, there may come a change whether in the form of rule-circumventing strategies or of an open political bargaining for the currently desired institutional structure. Individual behaviors will affect macroeconomic growth performance but the interrelations between individuals and institutions that they belong to lead to a complex of influences and not independent decisions.

Institutions change with the evolution of individuals and their environment; and these changes usually differ from one country to another and from one period to another. Eichengreen (2008) did a profound study on the European institutions. His main argument is that the institutions of the European economy after the WWII have been designed and implemented to suit economic growth based primarily on capital accumulation and technological catch-up, but they were not appropriate for the transition to growth based on technological innovation. His thesis borrowed a lot from the analysis of other historic and economic researchers on the role of institutions in the economic development, which have highlighted the evidence of crucial institutional differences, including work market, education and research, and the banking and financial markets, between one growth regime based on technology catch-up and the other based primarily on innovation, as well as the political difficulty of passing from one to the other. His main idea is that the most appropriate institutions are not the same depending on the type of growth experienced by a given economy at a given time. In other words, there is no universal rule for building institutions.

The definitions of institution proposed by Veblenian institutionalists, Commons, North, Scott, Amable and Eichengreen suggest that the institutional rules play an essential role of coordination in the complex economic and social systems founded on the division of work and knowledge which results in both the inter-dependency and the relative autonomy of individual and organizational players. Meanwhile, the distinction between institutions and organizations is subtle but crucial for the understanding of the role of institutions. Even though there are economists who don't agree with any explicit separation of organization and institution (for example Commons who considers organizations the same as institutions), the majority of them still accept a conceptual distinction between "institution" and "organization" and some of them try to explain the mechanism of their interactions.

North (1990) declared that if institutions are the rules of the game, organizations are the players who play the game according to the rules. Organizations include political bodies

(political parties, the Senate, a city council, a regulatory agency), economic bodies (firms, trade unions, family farms, cooperatives), social bodies (churches, clubs, athletic associations), educational bodies (schools, universities, vocational training centers) and other groups with common interests (North, 1990). The major role of institutions is to reduce uncertainty by establishing a stable (but not necessarily efficient) structure to human interactions; since both formal and informal institutions are constantly evolving and changing, thereby they continually alter the available choices of institutional arrangements and organizational frameworks (North, 1990). Changes in institutions may occur very quickly in formal rules as a result of political or judicial decisions, or gradually take place as a consequence of the embeddedness of informal constraints which are more impervious to deliberate policies. On the other side, organizations are modeled through governance structures, required skills, the procedure of decision, the way of learning, etc. The way organizations come into existence and the way they evolve are fundamentally influenced by the institutional framework of a society (Boliari and Topyan, 2007). The effect of institutional pressures (coercive, mimetic and normative) is to increase the homogeneity of organizational structures in an integrated institutional environment. Hence, organizational changes often occur as a result of the processes that make organizations more similar without necessarily making them more efficient through a process called “Isomorphism” (DiMaggio and Powell, 1991).

North (1990) further underlined the interaction between institutions and organizations by drawing attention to the role of organizations (and their entrepreneurs) as agents of institutional change. Like institutions, organizations provide a structure to human interaction, which reflects the fact that “the objective of the team within a set of rules is to win the game – by a combination of skills, strategy and coordination, by fair means and sometimes by foul means” (North, 1990). Organizations are not institutions: they operate under the institutional framework of a society; but they have specific forms and impact on informal institutions and enforcement mechanisms; the evolution of organizations in return affects institutions and their rules. North (1991) indicated that the institutional matrix consists of an interdependent network of institutions and of political and economical organizations which are the results of the former. It is the interaction between institutions and organizations that shapes the institutional evolution of an economy (North, 1994). Institutional effects can be observed not only within organizations but also in their environments. The institutionalization of organizations leads to the adoption of common practices such as purposes, positions, policies, and procedural rules that characterize formal organizations (Meyer and Rowan, 1977). The

institutional environment's impact on organizations operates largely through the gradual legitimating of a new procedure, position or structure element, and the requirements established by a hierarchically superior element of the institutional environment.

Scott (1987) proposed a more deterministic typology which distinguishes seven factors that contribute to the "institution-organization" relationship as: force (exercise of coercive power), constraint (less variant authoritarian but could force organizational choices), persuasion (through a system of incentives), membership (organizational choice), persistence (original features at the organization founding), appointment (organizational agents bringing in institutionalized elements in connection with the environment) and bypass (a shared vision in the organization based on some beliefs of the environment). According to him, seeing institutions as "multifaceted and durable social structures, made up of symbolic elements, social activities and material resources", the formation and the evolution of any organization under the institutional scheme are the results of interactions and counteractions between these seven factors, which contribute to the modification of more general "institution-organization" relationships. Oliver (1991) suggested another typology of strategic organizations in response to institutional process. Five strategic organizations are proposed as: acquiescence (adaptation of organizational structures already present), compromise (equilibrium between the different pressures from the environment), avoidance (formal adoption of the expectations of society without changing the actual behavior), defiance (opposition to environmental pressures) and manipulation (using symbolic political communication). His typology outlines the differences between institutions and organizations by summarizing the behaviors of organizations in different institutional contexts and by describing the conditions under which organizations will resist institutionalization. He also suggested that organizations' responses to the institutional environment will influence organizational performance and the measures and standards used by institutional constituents to evaluate performance.

Human assets as "programs that once were incorporated into the machines but still essentially retained in the minds of men" (Simon, 1982) are crucial to the functioning of organizations. Arrow (1974) considered an individual to be a set of skills and accumulated information at any given time, which can make judgments according to his abilities and knowledge if it is easier to apply certain informational channels rather than some others. Information processing can be very different from one organization to another, because it depends not only on technical characteristics and working environment but also the nature of

human assets available in the organization. In this sense, we could define organizational architecture as “the division of cognitive labor” which takes charge of the distribution of activities of information processing between the subunits of the organization. This distinction separates organizations as “cognitive divisions” from institutions as “structural divisions”.

Table 2-1: Definitions of institution and organization

Author	Reference year	Definition
Veblen	1899	Institutions are complex systems characterized by variety and inheritance and subject to general processes of Darwinian selection.
Commons	1931, 1934	Institutions are formal structures that are the origin of social organizations, in particular private property and laws. Beliefs and customs also mold individual behavior.
North	1990	Institutions are the rules of the games of a society and the humanly devised constraints that structure human interaction and incentives in human exchange, whether political, social, or economic. Institutions affect the performance of the economy by their effect on the costs of exchange and production. There are two categories of institutions: formal institutions and informal institutions. Organizations, including political bodies, economic bodies, social bodies and other groups with common interests, are the players who play the game according the rules. Organizations are modeled through governance structures, required skills, the procedure of decision and the way of learning.
Scott	1987, 1995	Institutions are multifaceted, durable social structures, made up of symbolic elements, social activities, and material resources. There are three types of institutions: regulative institutions, normative institutions and cognitive institutions. The formation and the evolution of any organization under the institutional scheme are the results of interactions and counteractions between seven “institution-organization” factors: force, constraint, persuasion, membership, persistence, appointment, and bypass.
Oliver	1991	Five strategic organizations in response to institutional process are: acquiescence, compromise, avoidance, defiance and manipulation.
Amable	2003	Institutions are endogenously determined game rules which emerge as a consequence of agents’ strategic behaviors in a context of power asymmetries. Institutions are the expression of a political compromise.
Eichengreen	2008	The institutions of the European economy after the WWII have been designed and implemented to suit economic growth based primarily on capital accumulation and technological catch-up. The most appropriate institutions are not the same depending on the type of growth experienced by a given economy at a given time.

2.1.2 Characteristics of institutions: hierarchy and complementarity

Institutions are rules of games that provide general guidance for players participating and interacting with each other. To better understand the mechanism and rationale of institutions, we will analyze the fundamental characteristics of institutions, including hierarchy and complementarity. An institution possesses a hierarchic structure which defines the circulation of information and the procedural rules. From a dynamic perspective, the hierarchical characteristic of institutions is involved in the process of institutional changes. Some research on the interactions between formal and informal institutions suggests that the established hierarchy of formal institutions could be influenced or even modified by changes taking place in the informal institutions. Meanwhile, the formation of new institutions happens rather through a game equilibrium based on complementary relationships, leading to a complex structure of institutional arrangements (Aoki, 2005). Therefore, institutions arising in different domains may not be aligned, in which social norms precede a political institution while decisions made by a political institution determine the institutions in economic and organizational domains; they rather evolve in an interactive way, combining coordination, reverse effects and frustrating conflicts. In such so-called linked games, in which one or more players coordinate their own choices of strategies in more than one domain so as to gain higher pay-offs, a single coordinated institution equilibrium is generated across players and across domains. Institutions in each of these domains are interdependent and mutually reinforcing. This is called institutional complementarity.

2.1.2-1 Hierarchy of institutions

Hierarchy is formed by nature or by force, based on the difference in the power of actors inside the same system, and usually consists of a singular person or a group at its top and subsequent levels of power beneath them. This is the dominant mode of organization among large groups. Most corporations, governments and organized religions are hierarchical organizations with different levels of management, power or authority. Hierarchical structures could be of various natures: regulative hierarchy is formed by different extents and strengths of rules; organizational hierarchy is meant for the accomplishment of a common objective; informative hierarchy is built to maintain a certain mode of information circulation, decision making and management. Meanwhile, the hierarchical nature of institutions must be viewed under the perspective of institutional changes that are constantly occurring alongside social

development. There are two types of institutional changes: the stationary process, in which the whole social organization keeps a stable top-to-bottom relationship; and the evolutionary process, in which different parties of the whole social organization have circulating interactions. The continuous interactions of the two different processes exert influence on the actual institutional hierarchy and its transformation.

Generally, we can distinguish two types of institutional hierarchies: internal hierarchy of an institution and external hierarchy among different institutions. Vanberg (1997, 1992) saw organization as a constitutional paradigm and considers that the essential definitional attribute of an organization is that a group of people, regardless of interests or objectives, with part of their resources, submit to certain institutional constraints and a set of common rules. The constitutional paradigm emphasizes the first type of hierarchy and its internal rules. The conflicting interests or objectives of the members should not obscure some objectives that dominate at the entire organization and contribute effectively to its definition. Chavance (2001) also considered that the hierarchical relationship inside institutions has a rather general validity, especially in the economic sphere (management and control), and the legal sphere (different levels of constitution, law and regulation). The game of coherence and tension inside the configuration is the source of institutional evolution in a given system and the origin of crises (Chavance, 2001). Hayek (1973) implied that there is another fundamental hierarchy among the abstract rules of the spontaneous order and the concrete rules of the organizations. Schumpeterian economists considered that institutions are situated at a meso-economic level²⁶, ensuring the passage of micro to macro and vice versa; thus origination, adoption, diffusion and retention of an institution take place in a meso-sized group with a meso-sized population for the actualization of a “generic” rule (Dopfer, Foster and Potts, 2004). This external hierarchy among different institutions represents an overall configuration which corresponds to the systems of rules for Hayek (1973) and the constellations of rules for North (1990).

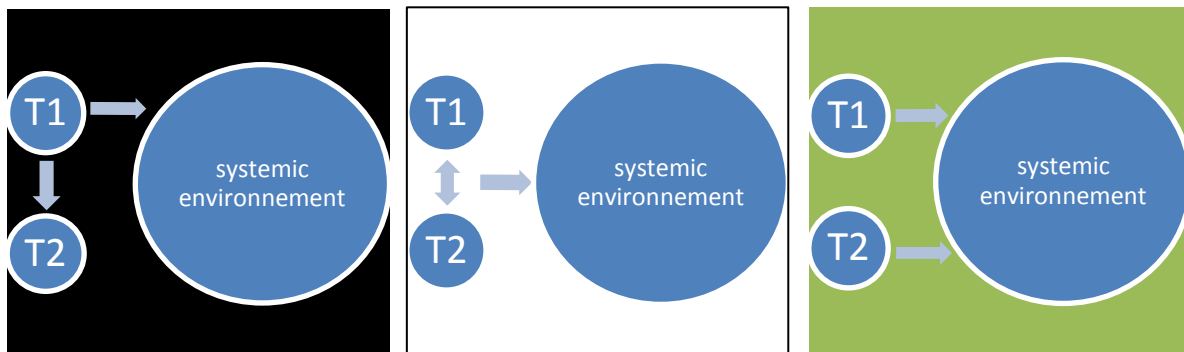
²⁶ The concept of “meso” relies essentially on the heterogeneity of agents, which leads to the distinction between an elementary unit (as structure component) and many physical actualizations of it (as process component). Schumpeter, by focusing on the dynamics of capitalist market forms, such as monopoly, oligopoly and competition, emphasized that the phenomenon of economic development is based on the process of “creative destruction” through micro-meso-macro levels. He proposed that entrepreneurs carry out novelty at micro level, luring swarms of followers to imitate them at meso level, as a consequence, leading to “creative destruction” which produces economic development at macro level. As process component, “meso” deals essentially with the individual agent and a population of adopters of which he is a member.

Due to their hierarchical characteristic, institutions are particularly apt to summarize relevant information beyond the price system (Aoki, 2002), to channel expectations about the behavior of others (North 1990) and to impose penalties for those agents who deviate from the implicit or explicit rules (Commons, 1990). A very important aspect of institutions is how they handle the circulation of information. McCluskey (2006) assumed that institutions can be characterized in terms of their attitude to the flow of information. At one extreme are institutions that have a totally hierarchically organized information system. This mode has the advantage that all energies within the institution tend to move in the same direction and the process from decision making to execution is comparatively easy and fast due to lack of different perspectives. But it also has the disadvantage of giving no overview for employees of the institution's activities thus leaving them no legitimate diverging perspectives and consequently impeding the possibility of innovation and inner change. The other extreme would be institutions that thrive on openness and the free flow of information. Participants are encouraged to exchange ideas and to make suggestions, which make collaboration an integral part of their work. In a knowledge economy, encouraging informal exchange between collaborators is increasingly seen as the key to individual and institutional learning. Yet institutions usually have much difficulty managing a multi-perspective organization and information systems, because not only does the increased quantity of information acquire much more time and work, the decision making and execution will also meet more obstacles if everyone's opinion is taken into consideration.

The complex development of organizational architecture which forms the system of information is the result of interactions of multiple factors, such as informative technology, available human capital, codifying methods, and structures of circulation. Aoki (2006) proposed three modes of information circulation in an institution (Figure 2-1): (1) hierarchical decomposition, where the setting of the environment is observed by one work unit; (2) assimilation of information, where both units get their information encoded on the same network open to the environment or they gather uncoded information and build together a joint estimation; (3) encapsulation of information, where the two work units observe their segment of the system and the environment independently and hold different cognitive representations of the environment. The structure of the system of information determines how an institution reacts to changes, how the collective decision will be made and in which way the decision will be executed. While one of the three modes of information circulation must be the principal structure for a given institution, the three of them usually co-exist,

interact and contribute to an integrated and complex system of management and decision. There is always a certain degree of hierarchical structure in an institution, as the information circulation, the decision-making and the execution cannot be things of automation.

Figure 2-1: three modes of information circulation, by Aoki (2006)

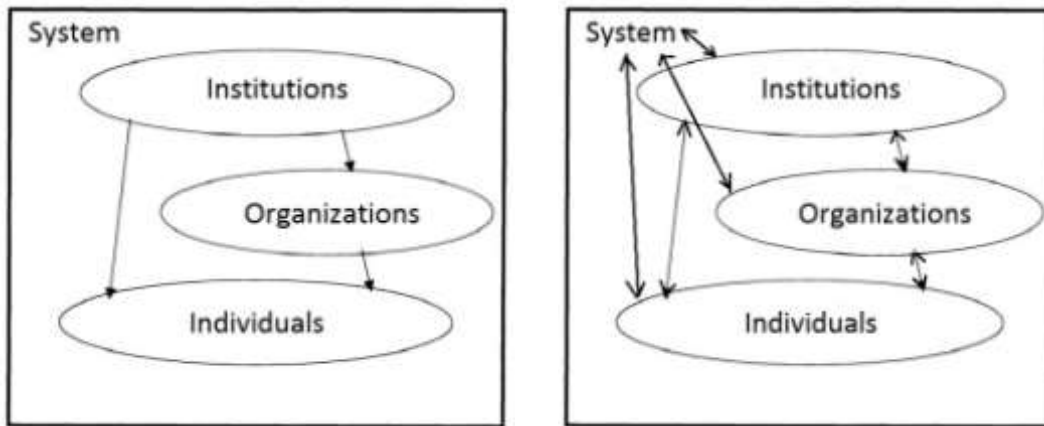


1. Hierarchic decomposition. 2. Assimilation of information. 3. Encapsulation of information.
(The arrow indicates the information flow and processing order)

The hierarchical characteristic of institutions is manifested in the process of institutional interactions. Institutions involve many forms of constraints that individuals have to accept and which as a result shape individuals' behaviors and interactions. Institutional rules provide condition to organizational rules. According to Chavance (2001), an economic system is an articulated set of institutions, which is not finalized and is populated by individuals and organizations. Formal institutions are general rules marked by relative stability and guaranteed directly or indirectly by the state; organizations are hierarchical and collective sets of finalized rules; individual and collective behaviors are interactions occurring within or outside organizations. Chavance (2001) used two different schemes, stationary process and the evolutionary process, to interpret the hierarchical relations between institutional rules and organizational rules (Figure 2-2). The stationary process is based on a static and hierarchical sphere in four levels: individual behaviors are determined by both organizational and institutional frameworks; organizations are formed and gradually changing in the institutional framework; institutions are stabilized within the system under certain configuration of general rules. The evolutionary process, on the contrary, is based on interaction between different levels of rules and actors. Instead of the linear hierarchy represented in the stationary process, the evolutionary process is more like a line of reverse causality which manifests the impact of change and innovation: changes in individual and collective behaviors lead to organizational or institutional change; transformative actions operated by organizations change the

institutional framework; institutional changes generate more general changes or systematic transformations. Despite the apparent polarization of the two hierarchical frameworks of institutional changes, there could be countless possible interactions between the two modes that in fact constitute the real institutional evolution.

Figure 2-2: Stationary process and evolutionary process, by Chavance (2001)



Under the hierarchical structure, one institutional configuration usually evolves in different ways: the common rules change more rapidly than the constitutive rules. Institutional rules constrain as well as facilitate individual and collective human activities in a complex context of inter-dependence and uncertainty. The relative emphasis on constraint or liberalization varies according to the type of institutional rules and according to the context. As a result, the game relationship between different levels of rules provides conditions for the gradual evolution or discontinued radical change of a given configuration. Moreover, the evolution of the configuration of rules represents certain characteristics similar to those revealed by the analysis of technical change, including the path-dependency and the frequency of lock-in (Boyer, Chavance and Godard, 1991). The diversity of national economic systems and the multiplicity of institutional forms observed in the history and in different countries can be explained both by the considerable variety of institutional and organizational configurations related to each country's specific historical trajectory and by the phenomena of imitation and competition between national systems. This evolutionary diversity, contrary to certain visions based on the simple selection of most suitable and efficient institutional structure by each country, is irreducible (Amable, 2000; Coriat and Dosi, 1998; Boyer, 1997a). It is founded in the history of capitalist and socialist economies and is

newly visible during the transformative process of post-socialist economies, as in the case of the development of modern economy in China (Chavance, 2000).

Some researchers interested by the interactions between formal and informal institutions also suggest that the established hierarchy of formal institutions could be influenced or even modified by changes taking place in the informal institutions. Traditionally, organizational theorists and economic sociologists tend to stress the central role of informal mechanisms in governing exchanges both internal and external to the firm which itself is an institution (Zenger, Lazzarini and Poppo, 2000). Williamson (1991) considered the presence of social networks as a “shift parameter” which, by reducing the incidence of opportunistic behaviors, favors other non-hierarchical forms of governance. They further indicated that the hierarchical characteristics of institutions require more dynamic rather than static approach of analysis, because institutions are situated in a constantly evolving environment and both formal and informal institutions, through interactions with individuals, organizations and other institutions in the same system, are constantly going through gradual or radical transformations, which renew and modify the precise configuration and representation of the hierarchy of institutions.

2.1.2-2 Complementarity of institutions

Institutions have their material bases and cultural characteristics. The interests, identities, values and assumptions of individuals and organizations playing game according to the rules of institutions are embedded within prevailing institutional logics. All individual and collective actions are taking place in an integrated social system where the complementarity of institutions greatly influences the setting of rules and the results of actions. There are universal institutions, such as families and social groups which can be seen as basic units for the organization of human society. There are also particular institutions which can only exist in certain systems because the complementarity of institutions makes it necessary or easier for them to be installed in such systems. For example, the constitution can only be “de facto” power under a democratic system; even if it is adopted by force under a dictatorial system, it won't have actual power guaranteeing its application. Meanwhile, the evolution of individuals and organizations could transform some institutions which in turn provide motivation or obligation of changes to other institutions. Acemoglu, Johnson and Robinson (2005) showed that the rise of mass democracy in Europe is one example where economic and social changes,

connected with the process of industrialization and urbanization, increased the de facto power of the disenfranchised classes; in response they demanded changes in the political institutions which would allocate future political power to them. These changes in political institutions in turn caused changes in economic institutions, in particular in labor market, government policy and educational system, with major distributional implications including the fall in inequality. This is a demonstration of the dynamic working of the complementarity of institutions.

Generally speaking, two institutions can be called complementary when the presence of one increases the efficiency or pay-offs of the other mutually. Flexible labor market may be more efficient when financial markets allow for a rapid mobilization of resources and creation of new businesses that can in return sustain labor demand. Or stable labor market may be more efficient when a specific form of monitoring or supervision is implemented and a close relationship is built between firms and banks. Institutional complementarity obviously has consequences for the comparative analysis of capitalism. The efficiency of institutions in a specific domain can't be appreciated independently without considering their effects in other domains (Amable, 2003). Important structural transformations of the world economy have deeply altered the mechanisms linking growth, institutions and economic policy; a set of international institutions have contributed to a strongly national or regional character of the world economy growth (Aoki, 2006; Amable, 2003). However as pointed out by Amable (2003), the simple argument of a globalized capitalist economy seems to indicate that efficiency is associated with a single and universal institutional architecture, while in fact, efficiency could take several forms and institutional complementarity could appear in different patterns, which in consequence justifies the assumption of the diversity of capitalism.

We just mentioned that two institutions are generally considered complementary when the presence of one mutually increases the efficiency and pay-offs of the other. However, from an institutionalist economist's point of view, institutional design reflects power asymmetries and conflicts of interest, meaning that institutions are not primarily designed to solve coordination problems between equal agents with similar interests and to achieve high performance or efficiency, but to solve conflict among unequal actors with divergent interests (Amable, 2003; Knight, 1992). Hence the institutional complementarity here is not leading to systematic efficiency but is reflected by the dynamic stability between two institutional forms. The existence of one reinforces directly or indirectly the existence of the other, which is resulted from the strategic choices of agents working with interdependent institutions

(Amable, Ernst and Palombarini, 2002). According to Amable (2003), as institutional design both reflects and influences the structure of interests for individual and collective agents, one can find some correlations between the institutional structures, the political system structure and political choices of one country. For example, a larger representation of centre-right parties in the institutions should favor the adoption of market-based capitalism whereas the social-democratic model should be associated with a greater importance of left-wing parties in main institutions.

The complementarity of institutions can help to explain why institutional changes are difficult since institutions are each other interrelated that a partial institutional change may gradually turn into major institutional change and a transition between economic models (Amable, 2003). This institutional inertia is also interpreted in terms of “path dependence”, which is thought to be produced as the consequence of increasing returns to adoption and network effects. In the presence of institutional complementarity, some institutions are more efficient because of their interaction with other institutions and organizational coherence with the established system. And an institutional change can finally realize only when their complementary institutions are also changed. This can be compared to a network effect as the “diffusion” of one institution in a given area depends on the “diffusion” of other institutions in different areas (Arthur, 1994). There could be thus periods of institutional inertia followed by periods of relatively important institutional change affecting several areas of the economy (Amable, 2003). During the past decades, with repeated economic crises and global stagflation, there are more researchers asking how the capitalist institutions remain or change facing these tensions and there are more studies about institutional complementarities in the macroeconomy. A series of work on “varieties of capitalism” was initiated by Hall and Soskice about the institutional complementarities found in the developed political economies suggesting that nations could be identified into different groups and models based on the extent to which firms rely on market or strategic coordination and that important complementarities exist between institutions of different spheres of the political economy.

Amable (2000, 2003) further demonstrated how different social systems of innovation and production will lead to specific patterns of scientific, technological and industrial specialization. Because specialization and competitiveness in specific activities entail sufficient and long-term investment in particular assets and these investments may be facilitated or hindered by institutional arrangements, so that a country’s specific institutional

structure will contribute to the emergence of comparative advantage in certain activities since the accumulation of factors of these activities is made easier by the dominating institutions. In return, the competitiveness of these activities will influence agents' situations and decisions. Agents specialized in risk-taking activities will certainly favor an institutional structure that allows for higher risk diversification while agents having interests in the state-coordinated industries will be willing to support strategies based on state intervention. Institutional differences of each capitalism model in product-market competition, labor-market flexibility or social protection will in consequence define specific incentives impacting its competitive advantage. Market-based economies usually specialize in activities that demand close university-industry link and fast adaptation such as biotechnologies, computer science and high-end electronics. Social-democratic economies have a comparative advantage in healthcare activities and social services as well as industries linked to their natural resources such as oil and woods. Mediterranean model countries tend to be more concentrated in light industries and low-tech activities given their relatively abundant natural resources and pleasant climate. Asian capitalism countries have strong industrial competitiveness in the production of computers, electronics and machines, often with less technical sophistication, mainly sustained by state-owned or state-controlled corporations. Only the Continental European model seems to not show any strong pattern of specialization. In consequence, market-based economies are particularly favorable to new technologies and start-ups culture and show strong competitiveness in the production and diffusion of ICT and biotechnologies. On the other hand, Mediterranean economies with low technology intensity and heavy product-market regulation appear to be relatively unfriendly to entrepreneurship and lagging in technology innovations. Social-democratic economies have strong focus on education sector and healthcare industry and communications of high efficiency is built between the population and local administrations.

Simultaneously, the Regulation Theory²⁷ has also developed the hypothesis of complementarity between various institutional forms, which is an important step for

²⁷ The Regulation School (fr: l'école de la regulation) was originated in France in the early 1970s during the period of instability and stagflation, with Michel Aglietta, Robert Boyer and Alain Lipietz as most important figures, and having school members in American, German, British, Dutch and other universities or institutes. The Regulation Theory is rooted in Marxian economic analysis and greatly influenced by the Annales School and institutionalism, which aims to explain how new economic and social forms emerge from tensions existing within old arrangements and how specific system of capital accumulation is "regularized". Robert Boyer describes it as "the study of the transformation of social relations, which creates new forms, both economic and non-economic, organized in structures and reproducing a determinate structure, which is the mode of

understanding the coexistence of different modes of regulation as well as the strong dependence on past national regulations. When looking at specific complementary relationships between technology, financial system, labor market and human capital, Boyer (2003) pointed out that, between the two world wars, there has been a move towards an alliance between financial and industrial capital at the national level, even though the control mode remains competitive without real transformation. Lipietz (1991) interpreted the period of 1945-1979 as the result of an alliance between a fraction of industrial capital and wage labor. It was in this context that the employment relationship became the dominant hierarchical form. However, the trend towards extroversion economies soon introduced a destabilizing force: the years of 1990s showed the omnipotence of the financial logic which tended to reshape most institutional forms (Bowles and Boyer, 1990).

Internationalization, financialization and the tilting of technological paradigm has certainly eroded the inherited diversity and complementarity of institutional configurations, but simultaneously through a trial and error process, the diverse strategies which aim to implement organizations and institutions compatible with the new global context are also facing new obstacles and new opportunities related to the evolving local social and economic environment, and there thus begins a process of creative hybridization of new regulations which results in renewed diversity and complementarity (Boyer, 2003; Boyer, Charron, Jürgens and Tolliday, 1998). Boyer (1999) suggested that there may exist a homology between the working process for productive patterns and the sequences that lead to the establishment of new forms of regulation. With progression in regulationist research, now we must recognize that all macroeconomic regularities are indexed in reference to the institutional context which involves a series of complementarities and a hierarchy of institutional forms. And just as the various cases of path dependence, the variety of modes of regulation is the rule, not the exception (Boyer, 2003).

This contrasts against the New Institutional Economics, which has too few exceptions (North, 1990) and chooses the criteria of efficiency a selection principle of institutions and organizational forms hence implies a convergence when firms and nations face the same price system, constraints and technological opportunities. On the one hand NIEs is overestimating the power of the globalization process which is far from making converged the systems of

reproduction". Regulation Theory looks at capitalist economies as a function of social and institutional systems, and a self-regulating process in face of structural evolutions and potential crisis.

local prices (Boyer, 2000); and on the other hand it is underestimating the role of social and political mediation in the emergence of complementary institutional forms (Palombarini and Théret, 2001; Palombarini, 1999).

2.1.2-3 Institution and its characteristics according to Aoki

Aoki and North, as well as other neo-institutionalists, considered that institutions include formal rules such as constitutions, statutory laws, and contracts, and informal rules such as social norms. They suggested that those rules may be represented in a game-form, with specific parameters of the consequence function and permissible constraints on the sets of agents' action choices. This theory suggests a hierarchical ordering in which the political structure and the social structure formulate rules for the economic domain (Williamson, 2000). But this theory is not sufficient to explain how institutions are formed in the first place. Thus they continued to suggest that an institution should be considered as an endogenous equilibrium outcome of the game (Aoki, 2006, 2007). They argued that only when agents' action plans and beliefs become mutually consistent and repeatedly implementable, may those plan be regarded as a sustainable and enforceable rule of the game, and thus as an institution. Yet, it is hardly believable that each agent will be informed of each evolving state and the knowledge of other agents of the same fact, and more important that each will react in the same way facing changing situations, given their limited rationality. The institutional changes are introduced by gradual movements of the parameters of a game form, or by a qualitative jump of equilibrium as proposed by Schumpeter? Aoki finally proposed the following concept of institution in a game form: "An institution is self-sustaining, salient patterns of social interactions, as represented by meaningful rules that every agent knows and incorporated as agents' shared beliefs about the ways how the game is to be played." (Aoki, 2007, pp. 6)

According to Aoki, an institution is technically considered to consist of common knowledge among the players regarding a particular equilibrium path of the game from the many possible. Institutions are humanly-devised constructs and not a mechanical transformation of natural factors determined prior to the game, and they could be constructed in diverse forms and structures. And in order to have a common knowledge of diverse institutions, it is sufficient and necessary that every agent knows that such a proposition or rule is true and that everybody else knows that it is true. This "collective linguistic and symbolic acceptance" (Seale, 2005) may be the essential element of institutions which need

also to be reconfirmed by repeated equilibrium plays of game. And it becomes evident that once the common knowledge is collectively accepted, it will be difficult to change related institutions just by enacting a law or issuing a fiat, because a type of “mental models” (Denazau and North, 1994) was previously built to interpret facts and form expectation about the consequences, constituting internal representations of institutions. As a result, there will be an objective (external) – subjective (internal) duality of institutions (Aoki, 2007). This objective – subjective duality is accompanied by a second enabling – constraining duality, as institutions provide information and coordination to individual actions while constraining their choices through rules and beliefs, and a third exogenous – endogenous duality, as rules and associated beliefs need to be continually reconfirmed and reproduced through strategic game plays in order to form sustained and viable institutions. The three dualities can be seen as essential characteristics of an institution (Aoki, 2007).

In order to explain how institutions are fundamentally formed through a dynamic and interactive process, Aoki (2007) identified four prototypes of domains: the economic exchange domain, the organizational exchange domain, the political exchange domain and the social exchange domain. The economic exchange domain concerns transactions of goods, services, capital, and resources between agents in the form of contract, and a third party to enforce the contract. The organizational exchange domain concerns organizations, which are at the same time players of the game in an economic exchange domain and institutions in a work collaboration domain, providing information, assumptions, goals and expectations to members of the group. The political exchange domain is composed of governments and private agents, where governments have overwhelming power and private agents may respond by supporting/resisting/submitting to governments’ choice with or without mutual coordination among themselves. The social exchange domain concerns how the delivery or exchange of social symbols, such as languages, rituals, gestures and gifts, affecting the payoffs of players under implicit reciprocity.

Aoki (2007) pointed out that a game equilibrium, and consequently the formation of an institution, may not either arise or be sustained or evolve in a single domain independently of other domains, but rather through complementary relationships, leading to a complex structure of institutional arrangements. Also, institutions arising in different domains may not be hierarchically aligned in which social norms precede a political institution while decisions made by a political institution determine the institutions in economic and organizational

domains, but rather co-evolving in an interactive way, combining coordination, reverse effects and frustrating conflicts. In such so-called linked games, in which one or more players coordinate their own choices of strategies across more than one of the four domains so as to gain more pay-offs, they are in fact generating a single coordinated institution equilibrium cross domains. Even if agents might not be conscious of this coordination, they consider an institution in another domain as a parameter and choose relevant strategies in their own domains. Consequently, institutions in each of these domains become interdependent and mutually reinforcing. This is what is called institutional complementarity.

Concerning institutional changes taking places alongside the complementarities, Aoki (2007) affirmed that the transitional process could succeed only when (1) with the help of a belief system that forms agents' common knowledge, a new pattern of game playing emerges and becomes collectively recognized as the way how the game is being played now and (2) agents' new action choices based on changed expectations could generate satisfactory pay-offs to them without any social shock. Aoki (2004a) distinguished three major modes of linked games and corresponding institutional changes as: bundling activities, social embeddedness and dynamic institutional complementarities. To demonstrate the mode of bundling in the sense of Schumpeterian innovation, Aoki (2004b) used the example of the clustering of small entrepreneurial start-up firms in Silicon Valley, which have emerged as a result of the integration of business activities within the organization of big firms where comprehensiveness and specialization are both accentuated due to their market dominance, and which at the same time are engaged in tournament-like competition to be acquired by the leading firms to sustain their market dominance. Concerning the social embeddedness, Aoki (2007, 2004a) explained that the choice possibilities for agents can change relatively slowly in the social exchange domain compared to the organizational exchange domain because the organizational architecture is susceptible to create competition among entrepreneurs under the constraints of complementary institutions (such as labor and capital markets), hence it is possible for the same pattern of choice profiles and consequently the same type of social norm to embed different types of domains over time in an overlapping manner. Dynamic institutional complementarities refer to the fact that the presence of complementary institutions in other domains may amplify the impact of a policy applied to induce an institution in a given domain even if the initial possibility is low and support the institution to evolve into stability (Aoki, 2007). In other words, even if an institutional change may not immediately occur in one domain, if parametric changes are sustained in some other domains,

their cumulative influence on endogenous strategic choices in respective domains together with mutually reinforcing impacts of evolving strategic choices across domains can eventually lead to the evolution of new institutional equilibrium. To summarize, the process of institutional change may be highly complex under the scheme of dynamic institutional complementarities, involving both Schumpeterian innovation and social embeddedness mechanisms. It depends on how actions of learning, emulation, adaptation, reinforcement, resistance and inertia interact across different domains of economic, political, organizational and social activities.

2.1.3 Economic influences of institutions

There are many factors that contribute to economic growth. By economic growth, we refer to growth from all economic activities and transactions that are calculable, sustainable, environmental considering, and creations of economic and social values. We can divide these factors into three main groups: natural factors (new resources, new applications, more efficient method of utilization), human factors (higher education level, improved working efficiency, new technology innovation, development of entrepreneurship culture) and organization factors (improved firm organizations, more inter-firm communication and cooperation, favorable political and social environment, more efficient information systems, more efficient financial systems). Each of these factors could contribute to certain aspects of economic growth but their contribution is never independent of other factors. Instead, the effectiveness of each factor requires supportive coordination in relevant domains, and any sustainable contribution needs complementary organizations and structures to produce continuous operations and stable effects.

Based on historical facts study, Acemoglu, Johnson and Robinson (2005) argued that economic institutions matter for economic growth because they shape the incentives of key economic actors in society, and in particular, they influence investments in physical and human capital, in technology and the organization of production. Although cultural and geographical factors may also matter for economic performance, differences in economic institutions are the major source of cross-country differences in economic growth and prosperity. Economic institutions not only determine the aggregate economic growth of the economy, but also the specific economic outcomes, including the distribution of resources (wealth, of physical capital or human capital) in the future. They also used the example of the

emergence of constitutional rule in some societies of early modern Europe to demonstrate how economic institutions, which shape economic outcomes, are determined by political power, which is in turn determined by political institutions and the distribution of resources in society. They argued that Netherlands and England prospered in this period because they had good economic institutions, particularly secure property rights and well developed financial markets. They had these economic institutions because their governments were controlled by groups with a strong vested interest in such economic institutions. Political institutions and the distribution of economic resources are themselves endogenous, determined by political power and economic institutions. North and Thomas (1972) asserted that “efficient economic organization is the key to growth” and efficient economic organization entails “the establishment of institutional arrangements and property rights that create an incentive to channel individual economic effort into activities that bring the private rate of return close to the social rate of return.” (North and Thomas, 1972, pp.179) Therefore it was new institutional arrangements such as written contracts enforced by courts that were largely responsible for successful European economic development because they enabled units to realize economies of scale, to encourage innovation, to improve the efficiency of factor markets or to reduce market imperfections (Ménard and Shirley, 2014).

Based on North’s theory, Yeager (1998:36) tried to illustrate how institutions affect economic performance by using two models: the “static” model without taking into consideration the technology change and the “dynamic” model in which technology evolution contributes to the growth of economic wealth. In the static model, the influence of institutions is passed through the circle of “institutions → transaction costs → creation of markets → specialization and division of labor → productivity → economic performance”. As the impersonal exchange with third party enforcement is the most essential type of market for the development and the performance of modern capitalist economies (North, 1990; Yeager, 1998), the reduction of transaction costs is crucial to the well-functioning of market economy as it facilitates the market transactions and promotes its volume increase. All of the above achievements in turn require suitable institutional framework, with formal rules clearly defining the property rights related to exchanged goods or services, and informal rules promoting a sense of mutual trust and respect of rules.

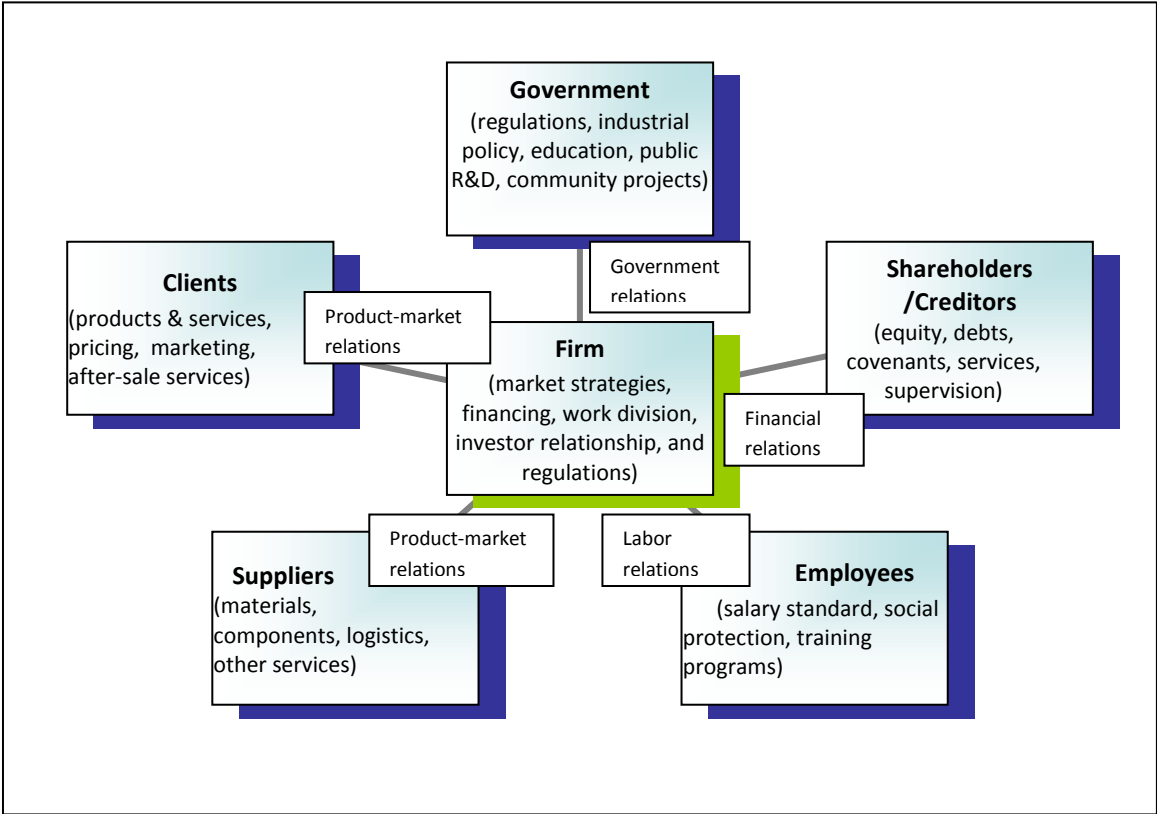
In the dynamic model, with technology constantly advancing, Yeager (1998:50) described the influence of institutions through another circle of “institutions → behavior of

organizations → process of creative destruction → technological progress → economic wealth”. And there are three crucial elements linking the dynamic cycle, namely “promoting the growth of human creativity by building a society open to change and willing to deal with the disruption brought by new technology”, “the presence of a well-functioning capital markets which require low transaction costs” and “a competitive environment forcing firms to continually improve their product”, which together set one country’s particular institutional framework, and “the process of creative destruction does not occur in every economy” (Yeager, 1998, pp.47-51). Due to the technological changes and related changes in informal constraints of the society, institutions must constantly evolve in response to the changing economic and social environment in order to continue to foster creativity, lower transaction costs and encourage the process of creative destruction.

From the above arguments, we could conclude that institutional complementarities do have fundamental influence on economic growth. To further illustrate this relation, we can find institutional complementarities playing an essential role in how firms choose their market strategies, make their investment decisions, carry out executions and seek beneficial partnerships. Studies on firm theory and behaviors show that the five most important stakeholders²⁸ for a firm are clients, suppliers, employees, shareholders or creditors, and government. Their interactions with firms represent four relation domains, including product-market relations, labor relations, financial relations and government relations (Figure 2-3). The complementarities and coordination between these spheres are greatly influencing firms’ decision and actions. Hall and Soskice (2001) argued that high levels of product-market regulation may be complementary to systems of corporate governance that encourage network, monitoring, wage coordination and inter-firm collaboration in research and development because they limit the intensity of competition in product markets. Labor relations are at the same time results of social arrangements and parameters of the human capital available for the firm production and creation potentials. Product-market relations, which in a large sense include both relations between firm and suppliers and between firm and clients, operate jointly with market regulations, financial risks and requirements and human capital of the firm.

²⁸ The term “stakeholder” was conceptualized in order to be distinguished from the more traditional term “shareholder”. According to the Stakeholder Theory, stakeholders of a firm are the individuals and organizations that contribute, either voluntarily or involuntarily, to the firm’s activities, productivity and value creations, while being also its risk bearers and potential beneficiaries (Freeman, 1984). During the past decades, the theory has gained wide acceptance in business practice and in researches related to strategic management, corporate governance, decision-making process, business purpose and corporate social responsibility.

Figure 2-3: Five most important stakeholders of a firm and four firm-relation domains

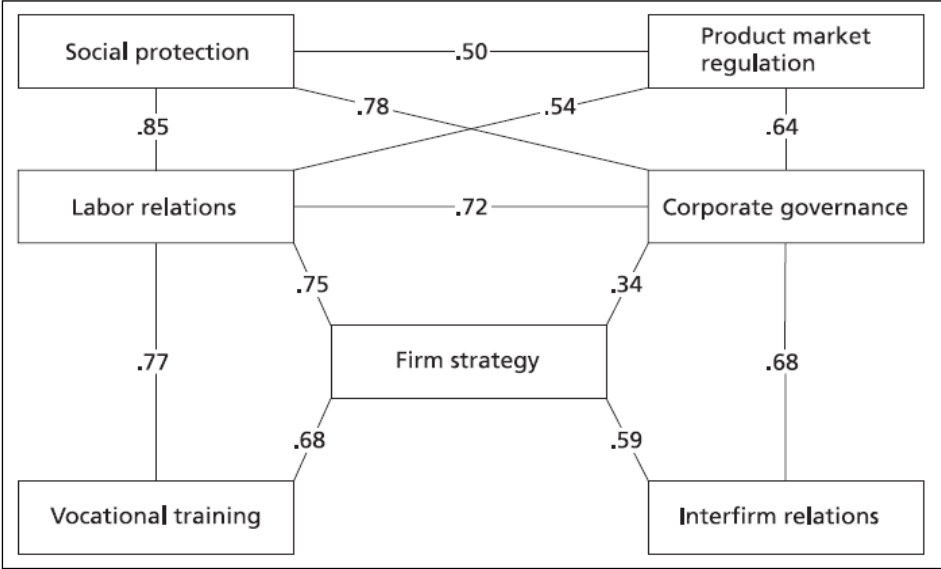


Source: author

All these relations will jointly influence firm’s decision and operations, and usually firms can make more commitments to long-term investments, key of sustainable economic growth, if there are more alliances and fewer pressures from its stakeholders. However, just as there are varieties of capitalism, economic growth doesn’t have unified forms or rules, and instead of long-term investments, firms could also find other more efficient way to grow. For example, with liquid capital markets, it will be more efficient for firms to gain access to new technology by acquiring other enterprises or competences and to invest in under-evaluated assets that can be transferred to others firms given good market opportunities, rather than to engage in long-term investments or uncertain collaboration with other firms (Hall and Soskice, 2001; Casper 1999). If there are strong trade unions or regulatory regimes restrain layoffs and facilitate the formation of credible commitments among firms or between a firm and its employees, it is often more efficient for firms to develop corporate strategies that lead to close cooperation with other firms and strengthened employer-employee relations. On the contrary, with fluid labor markets, which are often accompanied by dispersed financial markets, layoffs are less regulated and less costly, thus it is less advantageous for firms to be committed to

cooperative arrangements. In short, firms’ decisions and actions vary systematically across nations with the type of institutional support that their political economies provide for different types of coordination (Hall and Soskice, 2001). The existence of institutional complementarity in different economic models has decisive influence on firms.

Figure 2-4: Complementarities across sub-spheres of the political economy



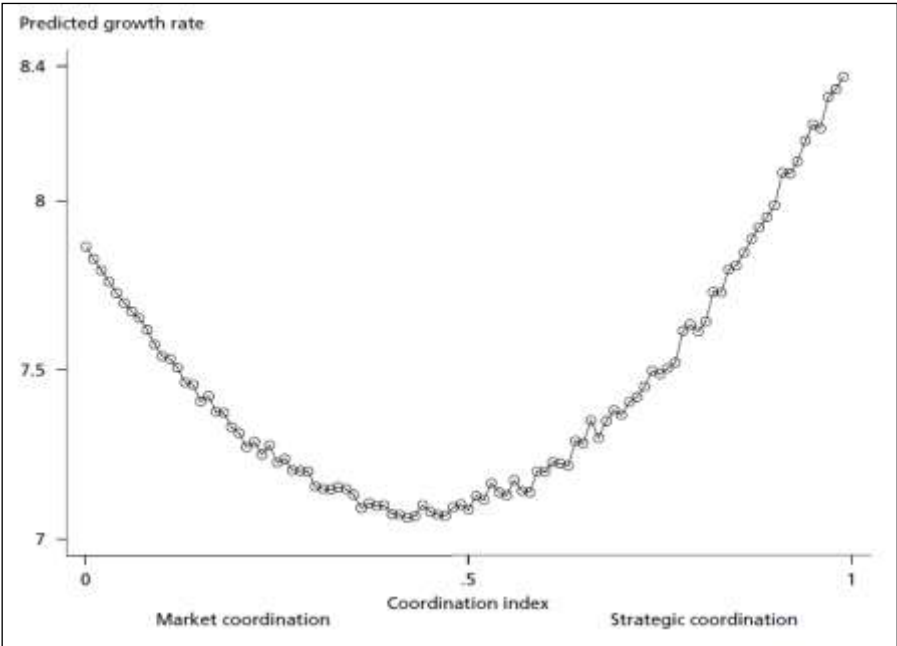
Source: Hall and Gingerich (2005)

Hall and Gingerich (2005) defined the four institutional spheres that interact with “firm strategy” as labor relations, corporate governance, vocational training and inter-firm relations (Figure 2-4). The two spheres at the top indicate policy regimes relevant to this coordination. The lines between all the spheres correspond to the hypothesized complementarities generated by the varieties of capitalism, and the calculated numbers indicate the significance of correlations (>.5 means significant). The impressive results confirm that institutional differences corresponding to market coordination or strategic coordination, as expected by the varieties of capitalism perspective, do exist among the developed economies and their effect is systematically shown across spheres of the political economy. The results suggest that corporate strategy varies systematically with the institutional support available for different types of coordination in the political economy, as varieties of capitalism theory predicts. However, the above analysis doesn’t explain why such institutional complementarities exist or to which degree they influence the economic growth.

In another study, Hall and Soskice (2001) developed a theoretical rationale for why such complementarities should exist and in what sorts of institutional practices they consist,

based on the importance of coordination to the success of firms. They argued that institutional practices in the sphere of corporate governance that encourage cross-shareholding and concentrated control in the hands of management will limit the potential for hostile takeovers and provide firms with access to more monitoring-oriented than current profitability-oriented finance. This in turn will enhance the efficiency of institutional practices in the sphere of labor relations that provide high levels of employment security and long job tenures as well as wage-settings and promote strategic interactions between employers, employees and trade unions. And this institutional complementarity should produce a positive impact on aggregated economic performance. The varieties of capitalism approach affirms that, the aggregated economic performance over long term should be higher in nations where market or strategic coordination is prevalently adopted in multiple spheres of the political economy and whose institutional practices correspond more closely to the pure types of liberal market economies (LMEs) or coordinated market economies (CMEs), compared to those where coordination is mixed or less developed. Their study results (Figure 2-5) suggest that institutional complementarities appear to improve general efficiencies and economic growth: when complementary institutions are prevalent across spheres of the political economy and economies trend towards pure LMEs or CMEs, rates of economic growth are higher than in mixed coordination; and curiously, strategic coordination at a very high level may contribute to higher growth rates than high market coordination.

Figure 2-5: the estimated relationship between coordination and economic growth



Source: Hall and Soskice (2001)

Another more macro perspective of relation between institutional complementarity and growth and accumulation regime as well as its evolution process is asserted by regulationist economists, in particular Boyer (2003). In his researches on Regulation Theory underlining the relationship between the micro level and the regularities, Boyer (2003) recognized that the institutional forms have a mediating role between the global constraints expressed by the accumulation regime and agents' decisions with none of them fully aware of these constraints facing them in a local environment in which only a limited number of economic variables interact. The market is only one of many institutional arrangements that ensure the coordination of economic agents, with other contributors including firms, professional associations, professional networks, communities, states (Hollingsworth and Boyer, 1997). With this enrichment of basic components of market economies, they recognize the role of representations, references or beliefs, as shown recursively through the functioning of financial markets (Orleans, 2000; Aglietta and Orleans, 2002) or the formation of economic policy (Lordon, 1997). When the system of accumulation is in crisis, almost all the firms' strategies are destabilized and firms themselves go into crisis. It is in this sense that regulationist economists suggest these macro-social and institutional foundations to a micro-economy which seeks to identify the strategies that firms actually follow, in an environment that is far from perfect information and individual rationality and of achieving balance by continuous market prices adjustment. According to them, the relay of collective action, political deliberation and law, appear to be not necessary but crucial in the complex and rarely anticipated process of emergence of new regulations. But these processes will also introduce many constraints, incentives, and therefore possible regularities in individual behavior and consequently in macroeconomic regularities. From this regulationist perspective, institutional complementarity provides crucial coordination for economic agents in a complex process of constantly emerging new regulations and evolving accumulation regime, which will guide firms' business strategies and promote economic growth in aspects that are coherent to political and social priorities.

2.1.4 Three hierarchical structures of private equity

As we have reviewed in Chapter 1, private equity firms do not just provide credit to companies but are involved in more complicated management issues and strategic decisions of invested companies' business development. Often defined as activist shareholders, private

equity funds are constructed under particular structure and operate according to certain mechanisms. There exist a whole set of market structure inside which private equity firms work in interaction with other actors and institutions. With its global development, private equity industry has formalized standards and norms concerning investment process, formal contracts and investment instruments. We have seen previously that institutions are “the rules of the games of a society” (North, 1990) and “regulative, normative and cognitive structures and activities that provide stability and meaning to social behavior” (Scott, 1995), whose decisive role is based on their affecting the performance of the economy by affecting the costs of exchange and production and their determining transaction and transformation costs which make up total costs under certain technological condition (North, 1990), and who do not only influence the costs but also define incentives and constraints that lead economic agents to invest in certain assets, acquire certain skills, cooperate or be opportunistic (Amable, 2003). Hence, private equity could be considered as a special form of capitalist institution because it sets the rules of a new type of company financing, reduces the costs of capital transactions and risk management, and provides incentives and constraints to fund managers and company management teams, as well as scientific researchers. Private equity market is an institutional structure whose main functions are: achieve efficient capital allocation between LPs, GPs and companies; accelerate innovation, company growth and industrial restructure; and ameliorate corporate governance and entrepreneur culture. Particularly in the case of venture capital, promising innovations with high risks (especially technological risk, market risk and management risk) could be systematically financed and company management teams will receive professional advice and control thanks to institutional arrangements of venture capital. Therefore, private equity should also manifest the characteristics of an institution, which we will discuss in the following two subsections.

Institutions have a hierarchical nature and are based on a power structure, which determines its characteristics and fundamental goals (Aoki, 1999; Vanberg, 1997; North, 1990; Williamson, 1985; Coase, 1937). As an institution, private equity features three essential hierarchic structures. The first one is the contractual hierarchy, based on different legal agreements (LPA, SHA, SPA and M&A) that we have reviewed in Chapter 1. This contractual hierarchy outlines the resources, the rights, the liabilities and the compensations of each party in the contract and forms a capital-responsibility power delivery scheme among LPs, GPs, investment managers, company’s present shareholders and company’s management team. The second one is the informational hierarchy. Private equity funds are financial

investors. But their decisions of capital flows are closely related to business and market information. Their particular position between industries, financing sources and intermediaries gives them access to first-hand information about technology innovations, market trend and company status. Therefore, they are able to circulate crucial information between the R&D specialists, business sensitive entrepreneurs and constantly changing markets in the purpose of seizing best opportunities and maximizing capital returns. The third hierarchy throughout private equity involves the dimension of governance. The state's attention for small and mediate company financing and the overall financial stability, LPs' concerns with investment criteria and capital returns, and portfolio companies' needs for business development and management efficiency, require private equity funds to assume governance responsibilities at these three different levels.

2.1.4-1 Contractual hierarchy

The contractual hierarchy is built through LP-GP and GP-company relations, and is based on four most important contractual agreements: LPA, SHA, SPA, and M&A. These contractual agreements outline the resources, the rights, the liabilities and the compensations of each party and form a capital-investment-management power chain among LPs, GPs, investment managers, company's present shareholders and company managers. The vast majority of global private equity funds are set up in the legal structure of limited partnership, because of its management advantage and tax transparency, and especially because it is designed to best protects LPs from the possibility that GPs will make decisions against their interest. At the foundation of the limited partnership, an LPA is signed between the LPs and the GPs, explicating all the legal and contractual terms concerning the partnership structure, the investment timeline, the responsibility of each party and the remuneration formula to the GPs and the management team. The LPA usually sets certain restrictions and covenants to pre-define the type, size, geographic allocation and industry focus of future investments, and how much capital can be invested in one company, types of securities to invest in (Kaplan and Strömberg, 2008; Gompers and Lerner, 1996). Therefore, the LPA well represents the hierarchical relationship between LPs and GPs, even though GPs also have certain degree of independency and flexibility in the day-to-day management of the fund capital and the step-to-step operations with investment deals. Furthermore, LPs are generally granted the right to vote on key issues such as amendment of the LPA, dissolution of the partnership before the

termination date, extension of the fund's life, removal of any GP and valuation of the portfolio, under the condition of a two-thirds majority approval by all LPs (Sahlman, 1990).

Besides the power structure naturally embedded with capital provision, the hierarchical relationship between LPs and GPs is also manifested by the compensation system which plays a critical role in aligning the interests of LPs and GPs. Different types of incentives, monetary or non-monetary, are all combined to motivate the management team to actively seek high potential companies and to devote their time and personal resources to accompany those companies to market success, which in return will generate high financial benefits to the private equity fund itself. Therefore, on top of the management fees and normal salaries that are provided during the investment period, GPs are often allowed to share the profits of out-performance of companies in the form of "carried interest", usually on a deal-by-deal basis. In this case, after returning the fund's final capital to its LP, a "carried interest" of 20% of the profits will be entitled to the managers on condition that a "hurdle rate" of 8% of return to the initial capital is achieved. This profit-generating and profit-sharing structure between LPs and GPs is obviously hierarchical. Even more, a "claw back" clause might be included in the LPA which gives LPs the right to reclaim a portion of carried interest distributed to a GP for early profitable investments if there are significant losses from later investments. Except financial obligation, the fund should usually provide LPs with periodic reports on the status of their portfolio companies and organize annual meetings with the LPs and company managers. Advisory boards, which could also contain members from LPs, are often designed to provide deal flows, investment guidance, technical expertise and determination of portfolio valuation (Sahlman, 1990).

The other part of the contractual hierarchy is formed between the GP-managed private equity fund and invested companies during the active life of private equity fund. As we have formerly discussed in the first chapter, sophisticated contracts and agreements are generally applied to better select, monitor and motivate portfolio company managers in order to secure a higher potential return to the invested capital. These contracts normally include Terms Sheet, Letter of Intent, Shareholder Agreement (SHA), Share Purchase Agreement (SPA), Memorandum of Association (M&A) and Loan Agreement. The most important contractual agreements among them are SHA, SPA, M&A, and Loan Agreement, if debt leverage is used. The SPA contains the details of investment round, the number and class of shares subscribed for, payment terms, and representations and warranties of the company. The SHA defines the

relations between different owners of the company, which usually contains investor protections, consent rights, rights to board representation and non-compete restrictions. The M&A sets out company status, business objectives, statement of limited liability and the structure of share capital. The Loan Agreement specifies the amount, the cost and the reimbursement conditions of a short term debt.

SHA / SPA / M&A are the three most crucial legal documents in a minority investment deal, because being a minority owner the private equity firm needs to negotiate better terms to protect its interest and rights while reducing to the minimum any possible consequences of investment risks. The main terms concerned by these contracts include subscription conditions, financing terms, attached rights, protection provisions, incentive provisions and binding provisions. The two main objectives of these contracts agreements are to assure that a company could obtain capital investment only with good business conditions, motivated founder and managers, and a promising and realizable business plan, and to allow the private equity firm to better understand the real situation of the company and its owner and management and to be granted participation rights, supervision rights, direct controls, indirect influences, as well as bad scenario protections. Although by using these contracts private equity firm also provides financial and legal incentives to the company owners and managers to achieve good business performance, we could still conclude that the primary function of this contractual hierarchy is to provide private equity firm with necessary structured legal protection under the unfavorable situation of information asymmetry vis-à-vis invested company owners and managers. It does not, however, provides a real control over all variable factors of the investment and the company.

2.1.4-2 Informational hierarchy

According to Aoki (1999), the hierarchy of institutions is manifested by the circulation of information. Therefore, Aoki (1999) affirmed that venture capitalists play an important institutional role through their information mediating and governance functions in forming and governing competition among entrepreneurs. Venture capital works as a catalyst of technological innovation and business realization because it creates management incentives and it could govern invested ventures by tournament. Their particular position between industries, financing sources and intermediaries gives them access to first-hand information about technology innovations, market trend and company status. Therefore, they are able to

circulate crucial information between the R&D specialists, business sensitive entrepreneurs and constantly changing markets in the purpose of seizing best opportunities and maximizing capital returns. We can enlarge Aoki's idea to include the whole private equity activity. And we will show that the informational hierarchy inside private equity is clearly demonstrated by the investment process and by how the decisions of capital flows are made.

We have discussed about the two investment cycles in the first section of Chapter 1. As shown by Figure 1-2 (page 26), the two investment cycles are built by private equity playing the role of financial intermediary between investors and investees, with present capital commitment and future financial returns as two counterparties of the arrangement. For the first investment cycle, the private equity firm seeks capital commitment from investors and returns the capital with interests at the end of the cycle, with possible dividend distributions during the life time. The average life time of the first investment cycle is ten years, which is a long term investment compared to investments in stock market. And it is worth noting that information is essential to obtain these long term capital commitments from LPs. Information includes primarily private equity firm's track record, selected investment strategies, GPs' curriculums and experience, geographic and industry focus. If the information succeeds to convince LPs of good investment opportunities and solid competence of the private equity team, there will a capital commitment under the LPA. For the second investment cycle, the private equity firm invests in selected companies and exits with the aim to gain capital surplus. The average investment period for one company is three to five years. Besides financial resources, private equity firm also provides management expertise, market knowledge and industrial networks to the invested company. The provision of capital and other resources is given in exchange for a share of potential business growth and related financial benefits. And this exchange is based on sufficient information to make the private equity firm understand and support the company' business plan and to make the company trust and cooperate with the private equity firm. The second investment cycle goes through five phases, including sourcing, screening, execution, monitoring, and exit, permitting the private equity firm to choose the most valuable opportunities, to assist the company development and to seek most profitable exit.

The information circulation between the two investment cycles happens in a hierarchical way: regarding the frequency of circulation, investments by a private equity fund in companies last for five years while investments by LPs in a private equity fund last for ten

years, thus there are more frequent information circulation on the fund-company level than the fund-LP level; regarding the content of information, the first cycle concerns more general information of fund background and investment strategies, while the second cycle is more about detailed information on deal-to-deal company business prospect and management aspects. The two information circulation cycles interact with each other to certain extent beyond the limit of one fund life, as the results of the second also impact the first in the future fund-raising. But the first cycle is hierarchically defining the second cycle in a direct way: the selection of a specific private equity firm leads to the possession of certain competence and specialization and the preference of certain management style, and the choice of a combination of investment strategies leads to the formation of certain investment criteria which guides the deal-to-deal investment operations.

Besides the two interacting investment cycles, the informational hierarchy inside private equity is also shown by how investment decisions are made through different investment phases. As formerly presented in Figure 1-3 (page 42), there is a standard investment process for a private equity fund to participate in a company's equity. This process moves on from one phase to the next once the decisional points are checked and the conditions satisfied. In the first deal sourcing phase, the private equity fund should manage to receive or make a deal proposal to a company which satisfies their investment criteria. If the company's management team and its business soundness have convinced the investment manager and the fund's investment committee, which is formed by the LPs, the second phase of screening will be to deepen their investigation and to negotiate the valuation of the company under different scenarios of exit. A comprehensive due diligence on the following aspects allows investors to obtain adequate information to better access investment opportunity and risk: technology, market, material agreements, operations, finance, accounting, corporate records, stock records, employee relations, governmental issues, environmental issues, liability issues, and litigations (De Cleyn and Braet, 2007). The company usually cooperates with the fund to provide important internal information in order to attract capital for business development. If all information, both provided by the company itself and gained by the multi-channel investigations carried out by the private equity fund, confirms the quality of the deal, and the fund and the company reach an accord over the evaluation and combined investment terms, legal documents will be signed and the transaction will be executed. The decision-making of deal sourcing phase depends on the quality of information channels, which might be public

(business news, platform) or private (network, friends), and might be systematic (fund management pool, intermediaries) or individual (deal-to-deal check-out).

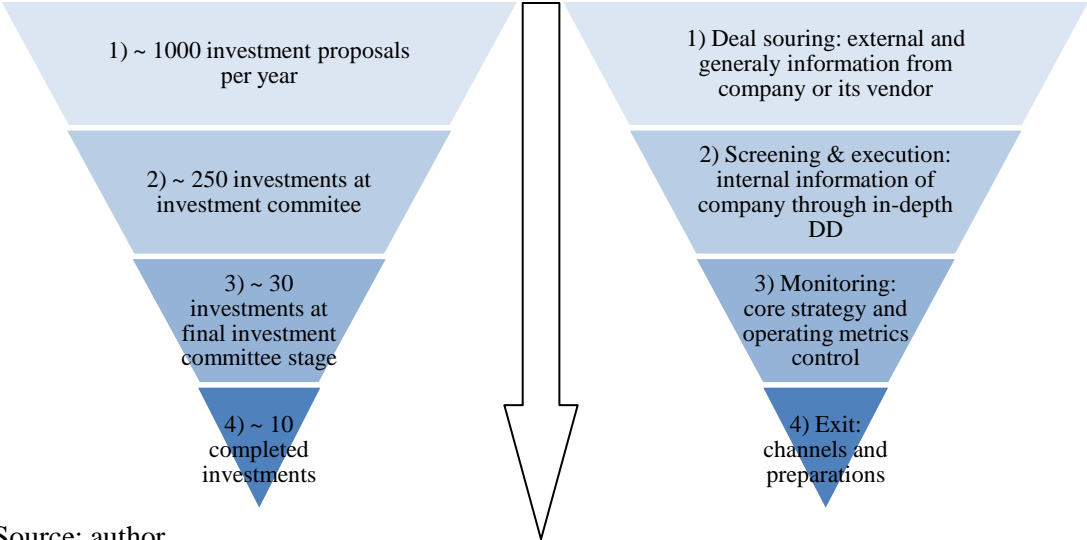
During the third phase of monitoring, the fund mainly assumes two relations with its portfolio companies: value-adding assistance and control on operating metrics. Private equity firms usually provide their portfolio companies with management expertise and professional connections, sit on the board of directors, help additional fund raising and key manager recruiting, and provide strategic advice to management (Lerner, 1995; Sahlman, 1990). To be able to bring added values to the investment, fund managers collect information from external and non executive parties such as boards of directors, auditors, large shareholders, large creditors, investment banks and rating agencies (Jensen, 1989). A majority of private equity firms create a close relationship with the management teams of their portfolio companies without involving directly in the day-to-day operations. By sitting on the company's Board of Directors or Advisory Board, private equity firm can have direct access to core information and influence the strategic decisions of the company. Bottazzi et al. (2008) also suggested that independent funds and GPs with important prior business experience are significantly more active in monitoring their portfolio companies.

Exit is the last phase through which the fund accomplishes divestment and receives capital returns. The main channels of exits include trade sale, IPO, secondary sale, repurchase and liquidation, with the first two exits as the most strategically and financially desirable. Even though often since the first deal sourcing phase certain exit scenarios are already envisaged, constant adjustments are needed according to changing internal and external situations. When preparing for exit, a private equity fund must take into comprehensive consideration all the information concerning the market dynamics, interest rates, capital liquidity, and the legal, tax, and regulatory environment. And the fund manager should provide guidance to the portfolio company on the regulations and procedures, with the help of bank, lawyer and financial adviser, in order to make sure that the exit conforms to market rules and doesn't damage the company value.

Informational hierarchy is the crucial structure of private equity activity. As pointed out by Anson (2007), the single most important competitive advantage in the private equity market is the acquisition of information. We can summarize the informational hierarchy in private equity investment process and decision-making in Figure 2-6. The triangle on the left

shows the evolution of the number of investment deals throughout the investment process. If on average a private equity fund receives about 1000 deal proposals per year, only about 25% of them pass the first round selection and are presented at the investment committee. Among the 25% selected deals, only about 12% pass the second round selection and arrive at final investment committee stage. After negotiation on terms of investment, beside continuing information checking, only about 10 investments are realized at the end. The triangle on the right shows the main steps of investment process, going from deal sourcing to screening, from investment execution to monitoring, and exit as the last step. This process also represents the relation between the fund and a company going deeper through each stage after repeated exams, evaluations and negotiations. However, this doesn't mean there is no risk of conflicts between them, as more information-sharing is needed and new links are created. The working-out of private equity mechanism must combine hierarchical structures with collaborative communications. As the selective investment process moves on from top to bottom, the needs of information grow while they become concentrated on much less companies, and the informational hierarchy also deepens and involves more essential aspects of the company business and exit target.

Figure 2-6: Informational hierarchy in PE investment process and decision-making



Source: author

2.1.4-3 Governance hierarchy

The third hierarchical aspect of private equity activity concerns the dimension of corporate governance. We have already presented in the former chapter the important role of

private equity in reinforcing the governance of their portfolio companies. Parallel to their intermediary role in the capital and information circulations linking LPs and invested companies, private equity firms also assume the role of governance and control on the business operations and financial results of invested companies, on behalf of their LPs. Efficient governance creates incentive alignment between owners, investors and managers by reunifying ownership and control, and improves managerial performance by replacing the diffuse ownership structure of the public corporation which tend to encourage moral hazard behaviors (Wright et al., 2009; Thompson and Wright, 1995; Hart, 1995; Fama and Jensen, 1983; Jensen and Meckling, 1976). And we will argue here how private equity firms can achieve efficient governance through a hierarchical structure.

At the top of the governance hierarchy are the LPs of private equity funds, which include institutional investors, family houses, big corporations and industrial groups, as well as high net worth individuals. The theory of shareholder activism developed around the 1990s argues that institutional investors who typically own larger blocks than individual investors, have better access to company information and hold concentrated voting power, hence they have stronger incentive to play a far more active role in corporate governance, to acquire expertise for monitoring company's activities and to make necessary strategy or management changes if needed (Gillan and Starks, 2002; Bianchi and Enriques, 2001; Black, 1990, 1998; Shleifer and Vishny, 1997). In some countries, institutional investors' activism was bounded by the government regulations at earlier periods. In the case of the US, insurance companies and mutual funds were initially limited by laws to stay as financial intermediaries and were prevented from playing an active role in corporate governance (Roe, 1993) and banks were also prohibited from owning equities directly, in the fear of insider trading or information manipulations. The position of the US government has changed since the adoption of ERISA²⁹ and the repeal of the Glass-Steagall Act³⁰ (Gillan and Starks, 2002) which drove pension funds and mutual funds to take more active role in the corporate governance of invested firms. Meanwhile, wide differences are observed across largest US pension funds, investment managers and charity foundations regarding to opinions and activities on shareholder activism: public pension funds are generally more active, private pension

²⁹ ERISA stands for the "Employee Retirement Income Security Act", which was adopted in 1974 to encouraged pension funds to actively monitor and communicated with corporate management to improve business performance and increase the value of their investments.

³⁰ The Glass-Steagall Act was adopted in 1999 to end restrictions on direct ownership of US equities by banks.

funds and foundations less active, and investment managers in the middle (Useem et al., 1993).

And there are also country differences concerning the degree of engagement of institutional investors in corporate activism. For example, the voting rate of institutional investors in the UK is much lower than that in the US even though their aggregate rate of shareholding in corporate equities is higher than in that in the US, which may be partially due in to differences in the institutional and regulatory environments between the two countries. Hence, another influence on the role of institutional activism is the legal systems (company laws, capital market laws, tax laws, shareholder protection, etc.) of the concerned country, as the ability to monitor by means of voting may be limited by legal and regulatory rules (Gillan and Starks, 2002). For example, in many European countries, investors are required to hold their shares on the day of annual meeting in order to vote their proxy, while in the US a record date is set and holders as of the date are permitted to vote at the annual meeting. Furthermore, laws aiming to protect shareholders, especially minority shareholders, affect firms' ability to raise capital and to diversify financing resources and liabilities (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1997).

Private equity firms are at the intermediary level in the governance hierarchy, linking LPs and invested companies. According to US institutional investors, the critical features of an ideal governance system are by order: independent board, confidential voting, increased disclosure, no anti-takeover provisions, unrestricted communication, and link between compensation and performance (Useem et al., 1993). The monitoring behaviors of private equity managers are partially defined by the LPA and the investment criteria formerly set together by LPs and GPs, and partially impacted by the constantly evolving market environment in which they operate. As different LPs have different constraints, goals and investment preferences, private equity firms could show differences when facing pressure, interest conflicts and disagreements with the company management (Brickley, Lease and Smith, 1988). Corporate governance offers investors managing and control effects based on legal frameworks: contract law deals with privately negotiated arrangements, such as shareholder pacts, whereas company, bankruptcy and securities laws specify some of the rights of corporate insiders and outside investors (La Porta et al., 2000). LPs and GPs will finance companies only if their rights such as the voting rights for shareholders and the liquidation rights of the creditors are extensive and well enforced by regulators or courts.

Especially in the case where a private equity fund is not having the majority shareholding and the actual control on the company, the strength of legal enforcement will greatly influence their relation with the company managers and whether their investment is receiving secured rights. If the legal system is not strong enough to enforce agreements made between investors or creditors and the company's executives, corporate governance cannot work well, and it will only render external finance more and more difficult to find for the long run and consequently limit the company's financing capacity and growth potential.

At the end of this governance hierarchy are the invested companies, who are directly monitored by private equity firms. There are various mechanisms for private equity fund to exercise governance on company management: boards of directors, the control from market competition, the labor market pressure, concentrated ownership, managerial equity stake, and other incentive alignment devices such as stock options (Phan and Hill, 1995; Jensen, 1989; Demsetz, 1983). The combination of high leverage, concentration of management equity stake and active monitoring from private equity investors forms a unique corporate governance structure for LBO companies. The high leverage will decrease the management discretion, limit waste of free cash flows and impel management to make optimal investment decisions in order to reduce the probability of bankruptcy (Berg and Gottschalg, 2004). By helping the company reduce over-diversification and low profit products, concentrate on its core business, reinforce its corporate governance and improve managerial rationale, the private equity firm will conduct better company performance and higher capital returns (Wright et al., 2009; Palich, Cardinal and Miller, 2000).

Four elements are identified as main variables for measuring the governance efficiency of private equity investment (Nikoskelainen and Wright, 2007; Wright et al., 1995; Thompson and Wright, 1991; Kaplan, 1989): the proportion of debt invested compared to equity, which shows the capital structure of the transaction and the relation between management, private equity investor and the lenders; the amount of debt in the initial capital structure of the buyout divided by operating profit prior to buyout, which is a proxy for controlling the debt pressure; the number of participating institutions as the size of equity syndicate, which serves as a proxy for the size and attractiveness of the investment; management equity, which is the variable for management ownership and the source of incentives for higher performance. Evidences in UK and US suggest that the most important governance characteristic is the management equity stake (Phan and Hill, 1995; Thompson et al., 1992; Malone, 1989).

However, the efficiency of governance along the hierarchy might be impacted by interest conflicts between institutional and individual investors of the same private equity firm, and between different stake holders of the same company. The investor activism might also undermine the role of the board of directors as a central decision-making body, thereby making corporate governance less effective. Overall, the governance hierarchy is formed by the double investor-investee relationships between LP-GP and GP-company and is based on the two other contractual and informational hierarchies. The contractual hierarchy provides the legal basis and the incentives. The informational hierarchy outlines the structure and the process. The governance hierarchy concretizes investment mechanisms. The three hierarchies are fundamental to the operations of private equity funds and its value creations.

2.1.5 Complementarity of private equity and other institutions

As an institution, private equity has its hierarchical structures and operates according to certain codes and mechanisms. As an institution, private equity also works inside one country's unique economic and social environment, comply with its particular institutional framework, and constantly interact with other institutions. A healthy private equity market can spur economic growth through helping innovative entrepreneurial firms with funding and strategic development. But from the very beginning, private equity firms need to build efficient working structure and acquire competent managers to generate deal information and to execute investment decisions. The relation between private equity and other institutions is complementary. And this complementarity reflects exactly the institutional characteristics of each system and the institutional differences between countries, as resulted from their own path dependence. In a general way, the importance of institutions on venture capital investments can be related to the fact that in developed institutional environment, the enforcement of contracts and the verifiability of elements of venture capital contracts is clearly facilitated, thereby making it easier to implement corporate governance mechanism in venture capital financing (Cumming et al. 2010). Imperfect contract enforcements might increase uncertainty regarding future returns and thus have a negative impact on the level of investment. The level and the performance of private equity are both affected by other institutions and its activity is at the same time making influence on the evolutionary process of each institution and hence reversely affecting these institutions. Just as a country with more active financial markets and IPO markets tends to produce more successful innovative

companies that will invest more into next generation ventures hence strengthen the attractiveness of its markets. The complementarity between private equity and other institutions can explain for a large part why private equity develops fast in some countries and slowly in some others.

Firstly, the working out of private equity mechanisms are closely conditioned by the overall institutional arrangement that one country has opted for. In a liberal market-oriented economy, which is coupled with strong property protection and legal reinforcement, private equity investors can depend on the institutional setting to take care of the implementation of their rights and control once the terms are signed by concerned parties in the contract. In a managed policy-oriented economy, which is usually accompanied by strong political coordination and inter-personal relationship, private equity investors must seek local government support on development projects and make effort to build mutual trust with key men of the company. And the overall institutional arrangement is formed by multiple factors that include: government involvement, such as providing support in forms of industrial policy and investment guidance, allowing more available capital, fiscal advantages, favorable operating conditions; legal systems, such as company laws, employment and social protection laws, fiscal laws, regulations of financial markets, laws of investor protection; financial markets, especially stock and exchange markets, banking system, interest rate, liquidity, credit availability; corporate governance, concerning both public institutions and private companies; education, research and training system, such as quality of education and research, investment on research and training, human capital mobility, communication with foreign countries; entrepreneurship culture, promotion of entrepreneurship, facilitating the commercialization of R&D fruits, entrepreneur clubs and events. It is impossible to contain all factors in this list, but we will have a closer look here at some of the most important ones.

Since the 1980s, an extensive literature in economics and finance is contributed to the study of the relation between private equity, especially venture capital, and institutions. Many of these papers come out with the conclusion that the performance of private equity activities correlates with institutional environment, particularly the government promotion, legal environment, financial market status, the tax system, labor market regulations, and public spending on research and development (Lerner and Tåg, 2013; Woeller, 2012; Cummings et al., 2010; Gompers et al., 2008; Kaplan and Strömberg, 2008; Hellmann, 2007; Da Rin et al., 2006; Lerner and Schoar, 2005; White, Gao and Zhang, 2005; La Porta et al., 2002;

Henrekson and Rosenberg, 2001; Jeng and Wells, 2000; Gompers and Lerner, 1999; Aoki, 1999; Jensen, 1989; Poterba, 1989). The majority of these papers are focused on the US private equity and venture capital market, and Europe is also much studied from this prospective. Most recently we can find similar research on emerging markets, such as the BRICs.

The history of how private equity was created in the US (Hellmann and Puri, 2002) and the policies that have effectively impelled their growth (Fenn, Liang and Prowse, 1995) show that government has an important role to play in the starting period of private equity industry. The late development of private equity in the Sweden compared to the US is remedied by a more prominent role taken by the Swedish government during the last two decades to reduce investment barriers, which leads the country to rise to the top ten most active private equity markets in terms of total investment amount relative to GDP (Lerner and Tåg, 2013). White, Gao and Zhang (2005) argued that Chinese central and local governments played a central role in defining the institutional antecedents of China's venture capital system through its control over related institutional systems. In fact, the government did not recognize venture financing as a legitimate organizational type until the founding of local government-financed venture capital firms (GVCFs). Venture capital industry was developed in China fundamentally due to its function to link scientific research to national economic development and this was only made possible by the support of first-level political decision makers. Woeller (2012) investigated into the factors that have contributed to the recent soar of private equity in the BRICs and found that governments of these countries have applied important measures to ameliorate the local legal and economic framework, which provides more attractive opportunities for private equity investors. Government can actively promote private equity by opening market for competition, strengthening the corporate governance of companies, reducing the corruption and rent-seeking behaviors, reinforcing legal framework, and best keep the coherence between policy guidance and practical implement.

The legal environment in a country significantly impacts private equity activities, because it affects the extent to which efficient contracts between private equity investors and entrepreneurs can be written and enforced, and because it constrains the relationship between investors and entrepreneurs over issues of screening, negotiating, monitoring, exit and compensation. Lerner and Schoar (2005) found that when the legal environment is weak and contracts are hard to enforce, private equity firms tend to choose direct ownership in firms

rather than using more complex contracts such as convertible preferred shares, and investments also tend to have lower valuations and returns. A better legal environment leads to faster investment process and better board representation as there are less bureaucratic time-consumption, better contract enforcement and more available information regarding company activities for monitoring (Cumming et al. 2010). Bottazzi et al. (2009) argued that if the legal protection of their rights is strong, venture capitalists will have stronger incentives to provide entrepreneurs value-adding help and advice beyond the contract extent and to invest in developing capabilities for providing this support, because a good legal environment ensures that these activities will pay off for the venture capitalists at the end. Meanwhile, Kaplan et al. (2007) pointed out that possible learning process involved in the use of complex contracts might erase the contractual differences caused by local legal environment, as venture capital firms of the same country tend to use similar contract terms but more experienced venture capitalists usually follow the US contract model disregarding their local legal environment. Other more fundamental theoretical research (La Porta et al., 2008, 2000, 1997; Botero et al., 2004) further places legal system at the center of the institutional diversity, as they affirm that legal system defines the status of property in the market economy and provides explanation for the country differences of labor market regulations, and that legal origin has profound influence over the whole economic sphere.

Financial market development matters to private equity activities because a well developed stock market provides good exit opportunities for private equity firms and creates value to invested companies. A liberal market with few restrictions on the investment activities of public pension funds can boost the private equity activities through infusions of capital. Exit is decisive for private equity funds and their choice to invest depend a lot on their estimates of the likelihood and timing of anticipated exit alternatives (Kaplan and Strömberg, 2000; MacMillan et al., 1985:1987). The principal objective of all private equity firms is to gain good returns on invested capital, for the percentage of successful exits has a strong influence on their ability to raise new funds. Hence the potential exit opportunities from an investment play a highly important role in an investor's decision about whether or not to invest in a company. A successful IPO exit also contributes to a higher brand recognition and market reputation of the company itself. In this sense, financial market assumes the function of investment orientation, since a successful IPO will attract more venture entrepreneurs to work in the same sector and more private equity firms to invest in them. The financial resource and management advice provided by private equity firms have great impact

on the surviving and development of an innovative company in its early stages (Black and Gilson, 1998). As a company grows mature, it will be able to attract more financing from banks or public investors. The presence of an active and well-developed stock market will accelerate the process of private equity investment and the circulation of capital and make funding capital and management advice available for more innovative companies (Lerner and Tåg, 2013; Michelacci and Suarez, 2004). Jeng and Wells (2000) showed by their empirical research that venture investing is more active and intense in countries that have more IPOs.

The tax system of a country affects venture capital activities through different ways: incitation for limited partners to provide funding capital, the entry into entrepreneurship, the facility to demand for venture capital investments, the contracting between venture capitalists and entrepreneurs, the design of management package, etc. Generally, in the countries with common law system, investment vehicles, including private equity funds, are more transparent and fiscally more interesting; and the tax system in common law countries is particularly favorable to limited partners who will benefit from fiscal incitation to invest in private equity funds (Bédu and Montalban, 2014; Amable, 2003). Concerning the entrepreneurship, Djankov et al. (2010) found that excessive corporate taxes have negative impact on investments both in mature firms and in newly started business. Gentry and Hubbard (2000) affirmed that progressive income taxation significantly reduces entrepreneurial entry, as successful ventures are taxed at higher rates. Taxation on capital returns affects both the activities of private equity firms and the way entrepreneurs are compensated (Cummings, 2005; Gompers and Lerner, 1999; Poterba, 1989a, 1989b). Comparatively, taxations on capital returns and over stock options owned by managers are more advantageous in countries of common law (Bédu and Montalban, 2014). Henrekson and Rosenberg (2001) discussed the case of Sweden between the 1960s and the tax reform in 1991. During this period, the Swedish economic regime and its tax system were set to favor capital-intense large publicly traded firms. Venture financing through new share issuing were much disadvantageous compared to debt, and individuals were taxed at much higher rates than large tax-exempt institutions. This situation provided very limited incentives to the growth of new ventures. Hence it is not surprising that the financing model of private equity did not really develop in Sweden until the 1990s. The early government efforts to establish venture capital industry also failed to work out as most investments went finally to larger firms and later-stage investments because of the taxation disfavor (Lerner and Tåg, 2013).

Strong labor market regulations generally increase the costs of starting and running a private business and thereby discourage the entry to entrepreneurship and reduce the aggregated financing needs of new ventures. Past research identifies a negative correlation between labor market regulations and venture capital activities (Jeng and Wells, 2000) and a strong negative relationship between unemployment rate and venture capital investments (Félix et al., 2007; Hellmann, 1998). Romain and De la Potterie (2004) suggested that labor market rigidities will reduce the positive impact of the GDP growth rate and of the stock of knowledge on venture capital. Labor market regulations come in various forms, but the two most principal divisions are employment protection regulations (EPR) and labor market expenditures (LME). A widely used indicator for the first one is the OECD employment protection index, which is measured with various legislation factors concerning the individual and collective dismissals of both temporary and regular workers, including the difficulty of worker dismissals, the required procedural steps, and mandated severance pay and notice periods. Labor market expenditures are mainly the unemployment insurance benefits, and active labor market programs, including labor market training, school-to-work transition assistance for youth, and programs to help the unemployed obtain jobs.

Employment protection regulations have significant negative impact on entrepreneurship and private equity activity (Lerner and Tåg, 2013; Bozkaya and Kerr, 2013). First, with time-consuming legal procedures, minimum wage and collective wage setting, it makes it difficult and costly for firms to lay off workers, therefore they are reluctant to expand business and hire workers in the first place. Second, countries with social insurance systems impose additional wage costs, as employers are obliged to pay a considerable amount of social security taxes and provide social security benefits to their employees. Third, strong employment protection laws mean that employees will have to give up a high level of income security and seniority benefits at their current workplace if they want to start their own business, which renders the decision of becoming an entrepreneur even harder to make, especially if they have a family to be taken care of. Bozkaya and Kerr (2013) showed empirically that strong employment protection regulation has inhibited venture capital market growth between 1990 and 2008 in Europe and, in particular, in sectors with higher labor volatility. They pointed out that venture capital investments are closely linked to the high-volatility industries which are often associated with important innovation and technical change. Flexibility is central to the venture capital business model, and the common practice of staged investment allows venture capital firms to reallocate resources from failing ventures

to well-performing ones. Labor market rigidities and adjustment costs will weaken the specific business model of venture investors. Strict employment regulations are likely to hinder the activity of buyout too. Even though buyout investors usually don't target ventures in high-tech sectors or at early investment stage, their investments quite often require labor restructurings. Therefore, the difference between current valuation and potential worth must take into account the costs of takeover and restructuring (Bozkaya and Kerr, 2009). Comparatively, work security policy favoring labor expenditures over employment protection is more adapted for private equity investment and entrepreneurship entry.

The fundamental feature of entrepreneur is the capacity to innovate (Schumpeter, 1939). The knowledge institution, in terms of public spending on research and development, the intellectual property rights (IPR) regime, the laws governing technology transfer, and the systems facilitating the commercialization of research fruits, is crucial to the creation of new ventures and the development of local private equity activities. Romain and De la Potterie (2004) found that indicators of technological opportunity, such as the growth rate of R&D investment, the stock of knowledge and the number of patents, have a significantly positive relation with the volume of venture investment. There is a correlation between public R&D spending and venture capital activities in the aggregate level (Da Rin et al., 2006; Gompers and Lerner, 1999). But we cannot take for granted the efficiency of public R&D spending if there is no necessary IPR protection and a good system of technology transfer to link laboratories and factories. Ueda (2004) argued that when intellectual property rights protection is weak, entrepreneurs prefer using bank financing rather than venture capital to avoid the obligation to provide critical information to venture capitalists, which might make them lose control of their business and technical secrets. Good IPR protection assures entrepreneurs that venture capitalists and other stakeholders cannot steal or directly copy their ideas, and allows more efficient work and higher value creation: researchers can focus on their research field and delegate the commercialization part to the technology transfer office or other partners (Hellmann, 2007). Moreover, as many research results already indicate, there is a positive correlation between patenting activities and venture-backed firm performance (Hsu and Ziedonis, 2013, 2011; Mann and Sager, 2007; Hellmann and Puri, 2000; Kortum and Lerner, 2000). Private equity firms are part of the knowledge institution which contributes to the realization of innovative products and services by providing suitable frameworks and environment. Private equity's participation in the process of innovation,

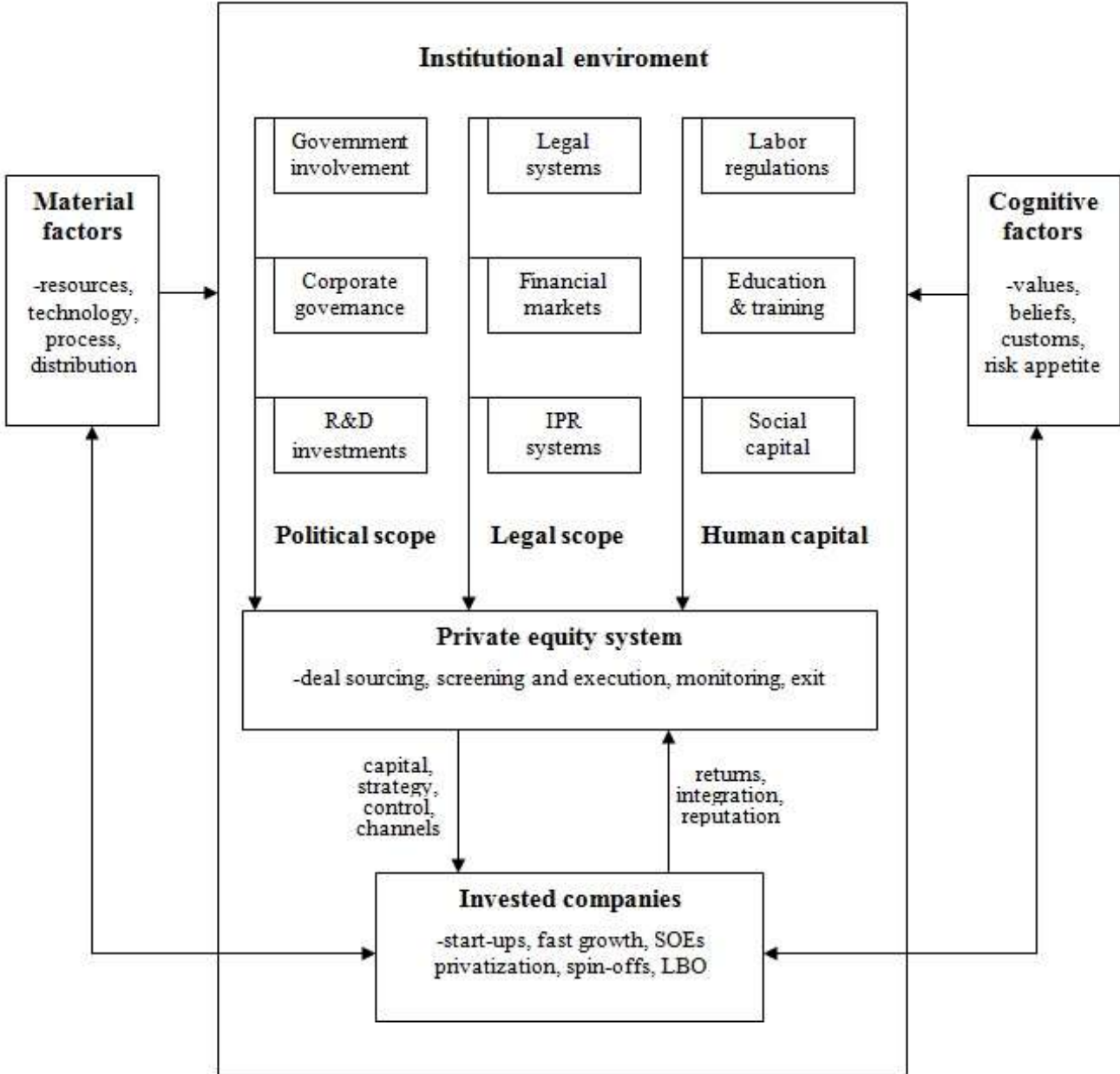
technology transfer and commercialization has positive impact on firm growth and reinforces the knowledge institution.

Bonini and Senem (2011) suggested that political risk variables, including investment profile, socioeconomic conditions and corruption, have important impact on entrepreneurial environment and on private equity system. One of the most complete studies about the complementarity between private equity and other institutions is the paper of Cherif and Gazdar (2011) analyzing factors driving venture capital investments in Europe, in which they applied the index of economic freedom provided by the heritage foundation as an indicator of institutional quality. Their study suggests that fund raising and early stage investments are differently affected by institutional quality: while the index of economic freedom has a significant and a positive effect on fund raising, it does not exert significant influence on early stage investments. Only freedom from corruption affects significantly and positively the early stage investments. Among the institutional aspects, property rights freedom, financial freedom and trade freedom appear to play a major role in determining fund raising.

Bottazzi, Da Rin and Hellmann (2011) showed that the level of generalized trust among European nations seems to explain venture capital deal formation and investment decisions. They found that the relationship between trust and sophisticated contracts are complementary. Shane and Stuart (2002) found that entrepreneurs' social capital, specifically the direct or indirect ties with venture capitalists, increases their likelihood of obtaining fund financing. Past research also suggests that the role of personal relationships is more important in comparatively more traditional cultured regions and that the social capital is of more value in rendering private equity investors accessible to entrepreneurs in these regions than in others (Batjargal and Liu, 2002; Liu, 1999). Cognitive institutions, such as culture and religion, usually shape individuals' risk appetite and attitude towards entrepreneurship, and affect the desire of entrepreneurs towards growing larger business and seeking the help of outside investors. Educational institutions are also very important, since they are crucial structures for forming human capital and knowledge stock, and for orienting young people in their future career choice. By communicating successful stories through mass media, entrepreneurship culture could get more attention and create more incitation for ventures. Public programs of competition among start-up entrepreneurs to win venture financing also directly provide education and case study for potential participants.

Private equity activity is affected by these various types of institutions and its activity is at the same time making influence on the evolutionary process and reversely affecting these institutions. We draw the following framework summarizing the complementary dynamics between private equity and institutional environment by adapting the structure proposed by White, Gao and Zhang (2005).

Figure 2-7: Complementary dynamics between private equity and other institutions



Source: author

Section 2.2 Varieties of capitalism and China's hybrid capitalism

“What is capitalism?” the American economist and historian of economic thought Heilbroner Robert L. raised this question in the first chapter of his book *“The Nature and Logic of Capitalism”*. He asked: “Do we mean by capitalism a single long evolutionary Western epoch that begins with the rise of mercantile power in the seventeenth century and continues to this day; or does capitalism have its own discontinuities, completing a mercantile phase without any inherent impetus into the next, then appearing in new guise as industrial capitalism, and now in our times assuming still new forms as “postindustrial” society, perhaps even as what we call democratic capitalism?” (Heilbroner, 1986:14) Heilbroner questioned about the existence of a single evolutionary history of capitalism, and if there are countries that have adopted the capitalistic system without going through the regular path of development that has taken by most Western countries. This question introduces the second section of this chapter, in which we will first summarize the most influential theories on the nature and the logic of capitalism and the recent reflections on the globalized and financialized new capitalism. After these reviews, we will present the framework of our institutional study with the theory of varieties of capitalism and the different capitalistic models already identified. Then we will analyze the precise path of development that capitalism has taken in China, as the country has a unique modern history and has adopted a particular political-economic regime. We will emphasize the role of government during Chinese economic transition and the decisive step of its opening-up reform in the late 1970s. A comprehensive study of capitalism and its concretization and hybridization in the Chinese social and cultural context will allow us to better understand the institutional environment of private equity industry in China and how it differs from other countries.

2.2.1 The nature and logic of capitalism

Karl Marx was the first to give a profound and predictive analysis of capitalism. He considered that the fundamental character distinguishing humans from animals is the capacity of production, which is the central issue of capitalist world (Marx, 1859). Human society comes from the relations built among each other through organizing productions and exchanges. These relations are determined by the specific mode of production³¹ which

³¹ <http://www.marxists.org/glossary/terms/m/o.htm#mode-production>

combines two elements: productive forces, which include human labor and technological knowledge given the means of production, and social and technical relations of production, which include property, power, control and governance, people's relations and their objects of work, and the relations between social classes. The economy development is a process of continuous conflicts and changes. Conflicts will grow with the development and finally technological changes will force the relations of production to change, thus leading to a crisis. And the mode of production will be modified as well as the social relations. Marx considered the capitalist system to be inherently unstable which is always moving between phases of growth and depression, and its unregulated nature of no coordination between demand and production will produce over-production or under-consumption alternatively, which will lead to commodities surplus, wasted values, bankruptcies and crises³². Even though Marx's political view on the social conflicts and the evolutionary supremacy of communism over capitalism did not appeal to many policy makers, his idea of the inherent instability of capitalism has made resonance among contemporary economists, with the aggressive financial globalization and the frequent reproductions of economic crises.

The "Golden Age of Capitalism" after the Great Depression and the WWII backed John Maynard Keynes' theory of demand and the mixed economic model that he advocated to combine a predominant private sector with a strong role of government intervention during recessions in order to better manage a capitalist system and create both values for the nation and employment for the laborers (Keynes, 1936)³³. Widely considered to be one of the founders of modern macroeconomics, his theory of the government better managing the capitalist system by applying fiscal and monetary measures to mitigate the adverse effects of economic recessions and depressions had worldwide success and was adopted by many capitalist states even in the liberal US economy. Even though the oil shock of the 1970's led to a revival of interest in Marxist economics, Keynes's theoretical and practical influences

³² According to Marx, due to various processes overseen by capitalism such as urbanization, the working class and the proletariat should grow fast in numbers and develop class consciousness and if they were to seize the means of production, they would encourage social relations that would benefit everyone equally, abolishing exploiting class, and introduce a system of production less vulnerable to cyclical crises, which he names the communism. - Marx, K. and Engels, F (1848), "*The Communist Manifesto*"; Craig J. Calhoun (2002), "*Classical Sociological Theory*", Wiley-Blackwell. pp. 20–23; Barry Stewart Clark (1998), "*Political Economy: A Comparative Approach*", ABC-CLIO. pp. 57–59.

³³ See Keynes J.M (1936), "*General Theory of Employment, Interest and Money*". In this revolutionary thesis Keynes argues that demand, not supply, is the key variable governing the overall level of economic activity. The demand mentioned here is the aggregate demand, which equals total un-hoarded income in a society and is defined by the sum of consumption and investment. He points out that in a state of unemployment and unused production capacity, one can only enhance employment and total income by increasing expenditures for consumption or investment in the first place.

have lasted and made their way back to the public attention in the 2007-2008 financial crisis which was caused by the financial deregulation, the hidden risks of off-balance sheet assets and the difficulty to manage a more and more globalized capitalism. The post-Keynesians³⁴ consider economy itself as a historical process. They have enlarged the role of government intervention and point out that all institutions, not only central governments, play an important role in an uncertain world full of risks, especially in the globalized capitalist economy. Keynes' influence is profound, as put forward by Minsky: "Although today's mainstream economists differ in the mix of policy instruments they recommend and use different definitions of full employment, there is a common fundamental assertion with respect to economic policy: it is maintained that a proper blend of a limited set of policy instruments assures that full employment, or a close approximation to it, will be achieved." (Minsky, 1975, pp.10)

Paralleling to the material and institutional researches of the meaning of capitalism, Max Weber in *The Protestant Ethic and the Spirit of Capitalism* (1905) wrote that capitalism was originated when the Protestantism and particularly the Calvinism, different from the earlier religions, encouraged people to develop their own enterprises and engage in trade and the accumulation of wealth for investment. The devotion to the craft, which in modern terms is similar to the technical knowledge or professional know-how, is viewed as a spiritual merit in itself. Weber defined the spirit of capitalism as the values and beliefs that favor the rational pursuit of economic gain through hard work and self-denial, and when this way of life is adopted by the whole groups of man of a society, capitalism will naturally reign. Weber's thesis was not aimed to substitute the Marxist dogmatism, by using religion to explain economy instead of using economy to explain religion, but to complement the analyses on the complexity of social phenomena, as affirmed by Raymond Aron (1967). His theory and argument should be seen more as an attempt to explain the cultural origins of capitalism.

Entering into the era of modern capitalism which is closely related to technology innovation, information revolution and organizational improvements, Schumpeter was one of the best economists to address its new characteristics. In his most famous writing *Capitalism, Socialism and Democracy* (1942), Schumpeter considered that capitalism should be

³⁴ Represented by American economists Joan Robinson, Paul Davidson and Hyman Minsky

understood as an evolutionary process of continuous innovation³⁵. And he used the term “creative destruction” to describe this process in which the old ways of doing things are endogenously destroyed and replaced by new ways, a term mainly derived from Marx’s theory of the creative-destructive forces of capitalism that would eventually lead to its demise as a system. But instead of going into Marxian aspects of social conflicts and inherent crisis, Schumpeter stressed on the value creation and social benefits from capitalistic innovation and entrepreneurship, and treated the destructiveness as mostly a matter of the normal costs of doing business (Harvey, 2010). And this seems quite true as the internet has opened an era of “unprecedented innovation and technology progress, significant wealth creation and significant wealth destruction, although the wealth creation is far greater than the wealth destruction on a net basis”³⁶. Neoliberal and free-market economists often use this term to describe the processes that a company applies to decrease charges and increase dynamism such as downsizing. However, Schumpeter thought that capitalism will collapse from within when democratic majorities of highly educated intellectuals vote for restrictions upon entrepreneurship and destroy the capitalist structure and by gradual social process in which “liberal capitalism” will evolve into “democratic socialism” because of the growing self-management of workers, industrial democracy and regulatory institutions (Medearis, 1997).

Raymond Aron, French sociologist and expert of theories of Marx, Weber and Tocqueville, was against the Marxian idea that socialism is a more advanced stage of social structure evolution. In his well-known publication of teaching materials *Eighteen lessons on the industrial society* (1962), he argued that “Le schéma marxiste suggérait que le socialisme était pour ainsi dire l’héritier du capitalisme. Or, l’expérience du XXe siècle prouve que les régimes qui se baptisent eux-mêmes socialistes ne succèdent pas nécessairement aux régimes capitalistes, mais que dans une large mesure, ils remplissent la fonction que Marx lui-même attribuait au capitalisme, à savoir le développement des forces productives [...] Dès lors si les

³⁵ In *Capitalism, Socialism and Democracy*, Schumpeter wrote “Capitalism [...] is by nature a form or method of economic change and not only is but never can be stationary. [...] The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers’ goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates. [...] The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation [...] that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in.” See Schumpeter J. A. (1994), London: Routledge, pp. 82-83

³⁶ According to the American born internet shock analyst Mary Meeker in an article about her “*Mary Meeker ’81 shares winning strategies for new businesses*”, see <http://www.depauw.edu/news-media/latest-news/details/11688/>

régimes soi-disant socialistes sont un substitut du capitalisme ou remplissent la fonction que le marxisme attribuait lui-même au capitalisme, il est normal que nous posions le problème en termes plus généraux, que nous nous demandions quels sont les traits communs à toutes les versions de la société industrielle” (Raymond Aron, 1962, pp.362-363). According to him, the characteristics of capitalist and industrial societies are mainly: (1) the radical separation of the enterprise and the family; (2) the original mode of division of work; (3) massive accumulation of capital; (4) introduction of rational calculation; (5) concentration of employees at the work place. Additionally there are two indispensable relations, the industrial application of scientific discoveries and the attitude of economic subjects, which could only perform given certain material, institutional, spiritual and distributional conditions, and which in turn determine the development of a civilized capitalist industrial society.

The regulation school in France proposes to study capitalism by concentrating on the post-Fordist regime of accumulation which is “l'ensemble des régularités assurant une progression générale et relativement cohérente de l'accumulation du capital, c'est-à-dire permettant de résorber ou d'étaler dans le temps les distorsions et déséquilibres qui naissent en permanence du processus lui-même” (Boyer, 2004, pp. 54). Regulationists study the transformation of social relations, which creates both economic and non-economic new forms, of social structures and of mode of reproduction. Differently from mainstream neoliberal economists, they emphasize government’s role in the regulation of the economy, and their approach also consists to see capitalist economy as a function of social and institutional systems. Boyer summarized it as: “Par opposition à nombre de théories contemporaines qui s’intéressent aux micro-fondements des institutions et des organisations, la TR s’attache à expliquer la forme des rapports sociaux fondamentaux – à savoir le rapport salarial et les formes de la concurrence – qui permettent l’émergence puis la viabilité d’un régime d’accumulation, au sein duquel les déséquilibres et les contradictions propres à ce mode de production sont provisoirement contenus avant de déboucher sur une crise structurelle dont la forme précises diffère de période en période, car les régimes d’accumulation se suivent mais ne se ressemblent pas.” (Boyer, 2003b, pp. 3)

Regulation theory considers that the macro-institutional foundations of market economy in the production model under capitalism concern mainly the organization of capital-work relation and the competition. Different from a major part of contemporary institutional research focused on short-term equilibrium, regulation theory endeavors to explain on a long-

term basis how the factors that have once contributed to the success of one accumulation regime are also at the origin of its destabilization and its running into structural crisis, when the accumulation regime stops to secure the dynamic stabilization of institutional forms resulted from the past (Boyer, 2003b). Regulation theory has identified five fundamental institutional forms: (1) monetary regime, as the social relation of business and exchange; (2) labor relation, as the configuration of capital-work relation; (3) form of competition, situating in between the poles of market competition and monopoly; (4) international regime, as all relations between one country and the rest of the world; (5) state form, rules and regularities of public revenues and expenditures (Boyer, 2004). At the most abstract level, regulation theory analyses modes of production and their connections. Different from Marxist production relations where exchange value must surpass use value and accumulation is an imperative at the center of the capitalist system, regulation theory does not argue for a simple and invariable relation between the capitalist mode of production and forms of accumulation. At the second level, regulation theory describes the social and economic patterns that enable accumulation to occur in the long term between two structural crises. These regular patterns as a whole are defined as an accumulation regime, which includes the periods of evolution and the periods of crisis. And different from neoclassical and post-Keynesian theory, regulation theory recognizes a variety of accumulation regimes, according to the nature and intensity of technical change, the volume and composition of demand and workers' life style. In this way, an accumulation regime will transform itself to another regime to suit the changing capitalist relations over the long term. A third level of analysis concerns the specific configuration of social relations for any given era or geographical location. Institutional forms define the origin of observed social and economic patterns. Regulation theory describes these institutional forms, their arrangement and their permanent transformations, and constructs a hierarchical structure of these institutional forms according to the mode of regulation in effect at the time and in the country in question.

As one of the most studied economists after the subprime crisis, Minsky affirmed that “capitalism is essentially a financial system, and the peculiar behavioral attributes of a capitalist economy center around the impact of finance upon system behavior” (Minsky, 1967, p.33). Considering finance, instead of the wage-labor relationship, as the core of capitalistic system, Minsky explained the fundamental instability of this system and the inevitable crises by concentrating on the behaviors with cash flows. He argued that under the logic of finance, the most basic element of the economy is cash flow and the most basic constraint on the

behavior of economic agents is the request that cash outflow should not exceed cash inflow (Minsky, 1992). As the central institution of the capitalist system, finance created markets and rules to help resolve the fundamental risk of future uncertainty. But with a deregulated and globalized market, the different structures of finance have become more and more interlinked overlapping and complex, and cash commitments more risky to fulfill at time due. His hypothesis summarizes the operating of capitalist system in two interacting cycles: the internal dynamics of capitalist economies (capital and profits), and the system of interventions that keep the economy functioning within reasonable bounds (regulations and adjustments). Minsky suggested that institutional evolution is the most fundamental reason that the balance between cash flows and cash commitments keeps shifting over time. He further argued that uncertainty could engender both innovating activity to seize future opportunities and speculative behavior to take advantage of incoherent situations. Its two-edged quality, according to Minsky, is crucial to the capitalist mechanism; and the balance between the two aspects of uncertainty profoundly impacts the balance between cash commitments and cash flows (Minsky, 1967, 1974, 1986). He has deeply understood the inherent contradiction and instability of capitalist system:

“Innovative activity is always speculative in the sense of Keynes, for a major motivating force is the capital gain that follows from carrying it off [...] Mechanisms for public offerings and for selling off enterprises must therefore be part of the institutional arrangements in finance if innovation is to be fostered [...] A financial market that transforms the market power resulting from successful innovation into capital gains for the innovator and for the financier of innovations is a necessary ingredient for a successfully innovating capitalism. But the very institutions necessary for this realization of the capital value of market power also serve as vehicles for raising the debt level of mature firms whose expected cash flows benefit from the observed ability of big government and the interventionist central bank to contain the downside movement of aggregate profits [...] The cumulative effect of the changing debt equity ratio in financing means that a small decline in the aggregate of available cash flows can lead to a large percentage decline in the ability of firms to finance investment internally.” (Minsky, 1986, pp.349-352)

Heilbroner (1985) suggested that capital can exert its organizing and disciplining influence only when social conditions make the withholding of capital an act of critical social consequence. Wealth is inseparable from power, which generally refers to the ability to

command or control others. In the sense, capitalism is a regime that is comparable to regimes of military force, religious conviction, or imperial beliefs. Heilbroner (1985) defined the nature of capitalism as referring to its behavior-shaping institutions and relationships and the logic of capitalism as the pattern of configuration change generated and guided by the inner core. Geographic and climatic givens are often important determinants to encourage a social formation compatible with the environment or to modify some organizational characteristics which are not compatible with the local. He also underlined the behavior-shaping function of institutions, organizations and belief systems, putting them into two categories: the inherited technical capability of the community, and the system that mold individual behavior and belief through indoctrination and experiences. The disciplinary force of competition that guides many aspects of the logic of capitalism is rooted in its nature of wealth transformed to ready-to-use capital and into the circle of money-commodity-money accumulation. He affirmed then production as the center of the capitalist logic, which links the investment and the consummation. To produce, three principal elements are needed: the capital, the technology and the labor. This contractual wage-labor right forms a counter-power of the power of capitalists and constitutes the essential political foundation of capitalism, in fact protecting both employees and employers from the coercive use of their own property. Technologically derived profits also owe their existence to the system of property rights on which capitalism is erected.

Although Heilbroner considered profit to be the most essential to capitalism³⁷, his conclusion was that taking profit as the central logic of capitalism is not enough to comprehensively describe capitalism because of its multiple perspectives: as a social formation, capitalism is essentially composed of relations of production and distribution; as a social regime, it is a counter-power to the political power; as a mind-set, it advocates rational behavior and pursuit of profit; as a civilization, it is dominated by its technical apparatus and hierarchic organizations; and many others. Capitalism cannot be reduced to a single determinist model and its characteristics vary with time, environmental conditions, technical

³⁷ Heilbroner (1985), *"The Nature and Logic of Capitalism"*, pp.76: "Profit is the life blood of capitalism, not merely because it is the means by which individual capitals obtain their wherewithal for expansion but because it is the manner in which the relation of domination is evidenced. The continuous generation of profits generates its euphoric atmosphere because it gives evidence that the regime is fulfilling its political mission—namely, organizing society according to the principles and ends for which it exists. [...] They are the concrete representation of the intangible structure of power, hierarchy, privilege, and belief that arise from the system's nature and that give rise to its logic."

givens, and market relations. In the following part, we will analyze different forms of capitalism under the framework of the varieties of capitalism.

2.2.2 Varieties of capitalism

We have seen in the last section, there are many different definitions and interpretations of the nature and logic of capitalism, depending on the social focus of the economist and the historical context of the theory's formation. Wallerstein (1974,1980) argued that the modern world system is distinguished from old empires by its reliance on economic control of the world order by a dominating capitalist logic of production, with systemic division in economic and political relation between the core (developed countries with power and wealth), semi peripheral, and peripheral (dependent developing countries) over the global area. On a factual basis, capitalism has become the world's most widely accepted political regime and economic system since the WWII. Because whether it is a comparatively more efficient social organization in the sense of North (1990), or it is the result of dynamic institutional equilibrium in the sense of Amable (2000), Boyer (2004) and Aoki (2007). While capitalism has prevailed in its general form, it cannot be reduced to a single determinist model for all countries. The rule of path-dependency affirms that each country has a unique model of development because the conditions, environmental, technical, social, political and cultural, always vary from one country to another. And just as the various cases of path dependence, the variety of modes of regulation is also a universal rule (Boyer, 2003). As a natural result, the capitalist regime must adopt a certain specific concrete form when it is applied in a particular country based on its particular institutional characteristics. This is how the varieties of capitalism are formed. There are several generally recognized typologies of varieties of capitalism, which are mostly developed since the turn of this century when the unequal performance among countries with capitalist regime urges more and more economists to reconsider the existence of a universal optimal capitalist model. Of course, these typologies cannot exhaust all the specific forms of capitalism, as Minsky pointed out "there are as many varieties of capitalism as Heinz has of pickles" (Minsky, 1993:3). He also predicted that "if capitalisms are to be successful in the 21st century, they are likely to be quite different from the models we are familiar with" (Minsky, 1993:7). In the following part, we will look at two typologies of varieties of capitalism, which show us different characteristics of each form of capitalism and help us to better examine the capitalist economy in China.

2.2.2-1 LMEs and CMEs

While capitalism seems to have become the world's widely accepted standard regime and system since the post-war period, economists are divided over whether developed economies are converging to the single neo-liberal capitalism (Wallerstein, 1974:1980; Ohmae, 1990) or they fall into two main varieties. Those who suggest a two-category typology indicate a general distinction between liberal market economies and coordinated market economies (Hall and Soskice, 2001; Soskice, 1999; Lazonick and O'Sullivan, 1997; Albert, 1991). In *Varieties of Capitalism*, Hall and Soskice (2001) assumed that firms are the central actors in the economy whose behavior aggregates into national economic performance. They adopted the definitions of North (1990) about institutions as a set of formal or informal rules that actors generally follow, whether for normative, cognitive, or material reasons, and organizations as durable entities each with their members working for a common objective, whose rules also contribute to the institutions of the political economy. They argued that during its operating life, firms must engage with others institutions and organizations in multiple spheres of the political economy: to raise capital on financial markets, to regulate wages and working conditions within the industry criteria, to ensure workers have the requisite skills through education and training, to secure access to inputs and technology via inter-firm relations, to compete with other firms for customers in product markets, and to secure the cooperation of their workforce through firm–employee relations. Based on a relational view of the firm, they thus suggested that the key to success to a firm is efficient coordination with other actors and the central problems facing firms are therefore coordination problems involving other actors in the economy.

Hall and Soskice (2001) explained that there are two general ways of coordination among the economic actors, whether through the market relations or by information-sharing and collaboration. Markets are formal institutions that support exchange relationships of diverse types, marked by arm's-length relations and high levels of competition. Their operations require a well-reinforced legal system that supports formal contracting and encourages relatively complete contracts. Beside markets, there are also institutions that reduce the future uncertainty and allow actors to make commitments to each other, which typically include business associations, trade unions, cross-shareholding structures, various networks, and regulatory systems designed to facilitate information-sharing and collaboration. These institutions provide capacities for the exchange of information among the actors

(network), the monitoring of behavior (governance) and the sanctioning of defection from cooperative actions (regulations) (Ostrom, 1990). Hence firms can seek coordination on strategies and decisions through interactions with these institutions instead of relying on market relations alone. An example is how the monitoring capacities present in a given economy impact the financing terms of firms operating inside it. Investors can obtain information about the assets and the profitability of a firm from its balance sheets, usually publicly accessible. If investors are linked to the firm through networks, they can receive valuable reputation judgment on the firm and have access to more important information about the internal operations. As a result, they will be more willing to finance a firm with networks links, even with less advantageous conditions or incomplete contracts. The presence of institutions providing network reputational monitoring can have substantial effects on the capacity of firms to raise fund and on the terms of financing.

Depending on whether firms coordinate with other actors primarily through competitive markets, characterized by arms-length relations and formal contracting, or through processes of strategic interaction and collaboration, in which equilibrium depends on the institutional support available for the formation of credible commitments, Hall and Soskice (2001) distinguished two types of coordination across political economies: liberal market economies (LMEs) where relations between firms and other actors are coordinated primarily by competitive markets, and coordinated market economies (CMEs) where firms typically engage in more strategic interactions with trade unions, suppliers of capital finance, industrial associations, research centers, and other economic actors. LMEs also have low unionization rate, short term of employment, high inequality, more radical innovation and higher deregulation, compared to CMEs. Examples of LMEs are the US and the UK, while CMEs are represented by Germany, Japan, and most Scandinavian countries. Meanwhile, their objective is not to put all present political economies into the two simple categories. Their fundamental idea was that the given institutions of a particular political economy provide firms with certain historical heritage and advantageous conditions to be more efficient than firms in other economies in some specific sectors, and these institutions are not evenly distributed across nations. They stated that “We do not see these two institutional forms as the only ones firms can employ to resolve the challenges they confront. In coordinated market economies in particular, many firms develop relationships with other firms, outside actors, and their employees that are not well described as either market-based or hierarchical relations but better seen as efforts to secure cooperative outcomes among the actors using a

range of institutional devices that underpin credible commitments [...] In sum, although the contrast between coordinated and liberal market economies is important, we are not suggesting that all economies conform to these two types. Our object is to advance comparative analysis of the political economy more generally by drawing attention to the ways in which firms coordinate their endeavors, elucidating the connections between firm strategies and the institutional support available for them, and linking these factors to patterns of policy and performance.” (Hall and Soskice, 2001, pp.14:36)

2.2.2-2 Five varieties of global capitalism

On the same institutional comparative basis and taking into consideration more major economies, Bruno Amable (2003) proposed a five-model theory of varieties of capitalism. He affirmed that depending on the form of diversity of the economy the labor market may be more or less regulated, wage bargaining more or less centralized, and the financial systems more or less reliant on banks or financial markets. And the special institutional organization of each market is likely to exert an influence on the performance of it. As a result, a sectoral comparison among nations would produce conclusions concerning which set of institutional forms would lead to low unemployment, high investment, high working skills and ultimately a high rate of growth. It is necessary to consider different institutions jointly in order to understand their influences on the decisions of agents and on economic performance. He then suggested take into account five fundamental institutional areas: (1) product-market competition; (2) wage-labor nexus and labor-market institutions; (3) financial intermediation sector and corporate governance; (4) social protection and the Welfare state; (5) education sector. Therefore, he distinguished the following five types of capitalism, each one characterized by specific institutional forms and particular institutional complementarities:

- The **market-based model**, represented by the Anglo-Saxon Model in the USA, the UK, Canada and Australia, is akin to the LME model of Hall and Soskice
- The **social-democratic model**, represented by Finland, Sweden, Denmark and some other Scandinavian economies, is typically characterized by the welfare state and has strong social protection
- The **Continental European model**, represented by Germany, Belgium, France, Austria and slightly different Ireland and Norway, which is geographically defined and involves strong corporatism and social coordination

- The **Mediterranean model** or South European capitalism, represented by Italy, Spain, Portugal and Greece, has high employment protection, relatively high involvement of State and more rigid markets
- The **Asian model**, represented by Japan and South Korea, typically has a strong role of State and large corporations

Amable (2003) summarized the relation between five institutional elements and five models in Table 2-2. Product-market competition is an important element for the market-based model and economies that are based on the dynamism of economic actors and their reaction to market shocks and price adjustments. And the competitiveness of firms is based on labor-market flexibility. Financial markets provide instruments of adjustment to firms to adapt themselves to constantly changing competitive environments. They provide at the same time a large range of risk-diversification instruments to individuals in absence of a well-developed welfare state. In social-democratic model, the pressure from external competition on individuals is moderated by protection of specific investments of employees together with high level of social protection and emphasis on education and training programs to maintain active labor-market policies. Thus the social-democratic model is symbolized by a well coordinated wage-bargaining system supporting solidaristic wage-setting and favoring high productivity and active innovation. The continental European model shares some similarities with the social-democratic model in aspects of high degree of employment protection and coordinated wage-bargaining system, but they are less developed Welfare state and their wage policy is less solidaristic than social-democratic economies. There are also less workforce retraining efforts to sustain a positive flexibility in labor-market and a more centralized financial system facilitating long-term strategies for crucial sectors and corporations. The Mediterranean model is based on more employment protection and less social protection, probably due to a relatively low level of product-market competition and the absence of short-term profit constraints as a result of the centralized financial system. Inadequate investments in education and workforce retraining also limit the possibility of a high-wage high-skill industrial strategy as in the social-democratic model. The Asian model is symbolized by the central role of state and the whole economy is highly dependent on the activities of state-owned or state-controlled enterprises and a centralized financial system which greatly supports the development of long-term strategies of essential industries and corporations. State-owned or state-controlled enterprises have an important role in the de facto protection of

employment and in providing career-building training inside its organization. This dependency on large corporation is reinforced by the lack of social protection and sophisticated financial market, and insufficient investment tools to diversify individual risks.

Table 2-2: Five varieties of capitalism, by Bruno Amable (2003)

Institutional area	Market-based economics	Social-democratic economics	Asian capitalism	Continental European capitalism	South European capitalism
Product-market competition	<ul style="list-style-type: none"> - high importance of price competition - arms-length of the State in product markets - coordination through market (price) signals - openness to foreign competition and investment 	<ul style="list-style-type: none"> - high important of quality competition - high involvement of the State in product markets - high degree of coordination through channels other than market signals - openness to foreign competition and investment 	<ul style="list-style-type: none"> - importance of both price and quality competition - high involvement of the State - high degree of non-price coordination - high protection against foreign firms and investment - importance of large corporation 	<ul style="list-style-type: none"> - moderate importance of price competition - relatively high importance of quality competition - involvement of public authorities - relatively high non-price coordination - low protection against foreign firms and investment 	<ul style="list-style-type: none"> - price rather than quality based competition - involvement of the State - little non-price coordination - moderate protection against foreign trade of investment - importance of small firms
Wage-labor nexus	<ul style="list-style-type: none"> - low employment protection - external flexibility: easy recourse to temporary work and easy hire and fire - no active employment policy - defensive union strategies - decentralization of wage bargaining 	<ul style="list-style-type: none"> - moderate employment protection - coordinated or centralized wage bargaining - active employment policy - strong unions - cooperative industrial relations 	<ul style="list-style-type: none"> - employment protection within the large corporation - limited external flexibility and labor-market dualism - seniority-based wage policy - cooperative industrial relations - no active employment policy - strong firms' unions - decentralization of wage bargaining 	<ul style="list-style-type: none"> - high employment protection - limited external flexibility and job stability - conflicting industrial relations - active employment policy - moderately strong unions - coordination of wage bargaining 	<ul style="list-style-type: none"> - high employment protection (large firms) - dualism: a flexible fringe of employment in temporary and part-time work - possible conflicts in industrial relations - no active employment policy - centralization of wage bargaining
Financial sector	<ul style="list-style-type: none"> - high protection of minority shareholders - low ownership concentration - high importance of institutional investors - active market for corporate control 	<ul style="list-style-type: none"> - high ownership concentration - high share of institutional investors - no market for corporate control (takeovers, M&As) - no sophistication of financial markets 	<ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - involvement of banks in corporate governance - no active market for corporate control (takeovers, M&As) 	<ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - no active market for corporate control (takeovers, M&As) - low sophistication of 	<ul style="list-style-type: none"> - low protection of external shareholders - high ownership concentration - bank-based corporate governance - no active market for corporate control (takeovers,

	(takeovers, M&As) - high sophistication of financial markets - development of venture capital	- high degree of banking concentration	- no sophistication of financial markets - limits development of venture capital - high degree of bank concentration	financial markets - moderate development of venture capital - high banking concentration - importance of banks in firms' investment funding	M&As) - low sophistication of financial markets - limited development of venture capital - high banking concentration
Social protection	- weak social protection - low involvement of the State - emphasis on poverty alleviation (social safety net) - means-tested benefits - private funded pension system - low welfare expenditures imply low taxes	- high level of social protection - high involvement of the State - high importance of the welfare state in public policy and society - low levels of social protection make wage-earners more dependent on the corporation	- low levels of social protection - expenditures directed towards poverty alleviation - low share of public expenditures in welfare - low share of welfare expenditures in GDP - lack of public social protection implies the development of private welfare funds which provide a large volume of resources available for the supply of "patient" capital	- high degree of social protection - employment-based social protection - involvement of the State - high importance of social protection in society - contribution-financed social insurance - pay-as-you-go pension system	- moderate level of social protection - expenditures structure oriented towards poverty alleviation and pensions - high involvement of the State - lack of protection deters from investing in too specific skills
Education system	- labor force with specialized skills allows stable industrial strategies to be followed	- demand for specific-investments protection		- high demand for specific-skills protection	

In order to identify clusters of economies with common characteristics, Amable (2003) carried out an empirical analysis of 21 OECD countries based on indicators concerning the five institutional areas. The results more or less confirm former studies and the significant differences among the five models. Indicators related to competition regulation devised by the OECD are used to measure the product-market competition. LMEs countries such as the UK and the US are characterized by a very low level of product-market regulation; some Mediterranean countries such as Greece, Spain and Italy as well as some Asian countries such as South Korea are the most regulated economies; while some traditional CMEs countries such as Germany stand in the middle position. Thus this dimension does not reflect exactly the usual distinction between LMEs and CMEs.

For the labor-market dimension, Anglo-Saxon countries are characterized by low levels of labor-market regulation; many Mediterranean countries have more regulated labor-market; and some traditional CMEs such as Denmark, Switzerland and Belgium also practise labor-market deregulation. When we look at wage-bargaining aspect, three modes formerly proposed by Crouch (1993) are confirmed by Amable, including contestation (France, Belgium, Spain and Italy), pluralist bargaining (Australia, Canada, the US, the UK, the Netherlands and Switzerland) and neo-corporatism (Germany, Austria and Ireland as simple neo-corporatism model, and Finland, Sweden, Norway, Denmark and Japan as extensive neo-corporatism model with strong and centralized unions). On the aspect of employment policies, the US, the UK, Canada, Australia, Norway, Greece, Switzerland, South Korea, Austria and Spain have quite limited employment policies; Italy, Portugal and France have stronger youth programs; Germany, Finland, Ireland, Belgium and Denmark have hiring programs; Sweden and the Netherlands have stronger handicapped persons programs.

Regarding financial sector, Amable suggested two distinctions between a bank-based system and a financial-market-based system and between an “outsider” system with potential agency problem managers and dispersed ownership and an “insider” system with potential interest conflicts between controlling shareholders and weak minority shareholders. The US, Canada, the Netherlands, the UK and Australia have financial systems mainly dominated by institutional investors and particularly pension funds, with dispersed firm ownership, well-developed stock markets and venture capital markets, and highly active mergers-and-acquisitions operations. On the contrary, Belgium, Denmark and Sweden have bank-based system and concentrated firm control with important role of family. Foreign banks show their importance in small countries such as Finland, Norway and Ireland. Germany, Japan, Austria, France, Italy, Portugal and Spain are close to ideal bank-based and “insider” system, with relatively important role of State in the control of large corporations, less developed direct financing and corporate control, weaker accounting standards and less significant venture capital sector.

On social protection, Amable generally confirmed the three types of welfare state by Esping-Andersen (1990). The liberal regime, exemplified by Ireland and the UK, is characterized by low social assistance, limited social-insurance plans and flat-rate benefits which results in incentives to seek higher income from work and investment. The social-

democratic regime, represented by Sweden, Denmark, Norway and Finland, on the contrary provides universal protection and aid based on citizenship, promotes social equality and detachment from family; individuals can maintain a relatively high standard of living without family dependency or market participation. The conservative-corporatist regime, represented by Belgium, Germany, Austria, Greece, Italy and Spain, is committed to preserving status and providing solidarity within rather than among social groups and does not redistribute as much as the social-democratic regime; welfare benefits are linked to activity and employment while moderate de commodification and familiarization are encouraged. However, Amable's conclusion slightly differentiates from Esping-Andersen's in that he groups Japan, Canada and the US in private social-protection system, and defines France, Germany, Austria and Belgium as a distinct Continental European social-protection system.

Regarding education systems, Amable's findings show that Germany, France, the Netherlands and Ireland are characterized by a high degree of homogeneity in primary and secondary curricula and certification procedures. Italy, Spain, Portugal and Greece provide limited initiative for continuing training from either employer or employee side. The US, Canada, Japan and the UK stay as a group where differentiation of individual paths is moderate or low, as opposed to Germany. Scandinavian countries, even though show total homogeneity, nevertheless exhibit some common features such as relatively high level of public educational expenditure and high average quality of primary and secondary education.

Amable (2003) concluded that simple typologies of variety of capitalism are far from evident in the institutional area and one could usually find different classifications of countries in different literatures. When one specific institutional area (labor market, financial markets, welfare state, etc.) is under study, even with other areas taking into account, the typologies derived are necessarily partial. The different varieties of capitalism are defined as specific architectures of complementary institutions. One must thus take into account all the possible complementarities between the five institutional areas in order to come closer to a complete understanding of the empirical classification of capitalism.

Even though Amable (2003) has formally integrated the Asian capitalism as a distinct type in his five-model theory, his analyses and conclusions were limited to countries and regions with fast development during the 1980s and 1990s, namely Japan, South Korea, Taiwan; China was not mentioned in his study. Yet since the end of last century, marked by

the significant growth in China's FDI and export and the role China has assumed during the 1997 Asian financial crisis by maintaining the peg of the currency, China's mixed political economy model has become an important subject of institutional study (Boyer, 2012; Kornai, 2009; Naughton, 2007; Lin, 2004; Chavance, 2000; Nee, 1992). Boyer (2012) explained the success of China's development strategy and its growing influence in the world economy by the specific socio-political compromise adopted in China. He argued that the local-state corporatism and its progressive transformation into a society-wide compromise are both based on the supreme principle of accepting the political monopoly of the Communist party in exchange for fast economic growth and higher living standards. But how did this socio-political compromise come into being in the first place? What were the deeper historical and social causes beneath China's institutional transformation during the past three decades? And most of all how was it possible to combine a monopoly communist political regime with a market-oriented capitalist economic system? We will focus on the Chinese economic model in the rest part of this chapter.

2.2.3 Great Divergence and economic transformation in China

With the aim to answer the above questions and to review the evolutionary path that China has taken under its particular historical and social circumstances, we need to go backward to the last century. Though its historical height came early in the Tang Dynasty (618-907), China was still widely considered the leading economy during the Qing Dynasty (1644-1912). Some economic historians affirm that before the seventeenth century there was no comparison of agricultural productivity, industrial skill, commercial complexity, urban wealth, standard of living, bureaucratic sophistication and cultural achievement that would place Europe on a par with the Chinese empire (Fairbank and Goldman, 2006; Needham, 2004; Albert Feuerwerker, 1990). In order to understand why capitalism as a more advanced economic model compared to the feudal or the imperial model was born in Europe instead of China and how it was finally implemented in the contemporary China under the Communist Party's consent, it is crucial for us to examine thoroughly the historical facts, cultural heritage and environmental elements. They will help explain the formation of certain particular local institutional characteristics and the profound motives that have pushed China to come out from its past failure and transform into an influential economy.

2.2.3-1 “The Great Divergence”³⁸

The famous “Needham Question” of why China had been overtaken by the West in science and technology despite its earlier success was namely after the British scientist, historian and sinologist, Joseph Needham. His works attributed significant weight to the impact of Confucianism and Taoism on the pace of Chinese scientific discovery, emphasizing what he described as the “diffusionist” approach of Chinese science as opposed to a perceived independent inventiveness in the western world: “A continuing general and scientific progress manifested itself in traditional Chinese society but this was violently overtaken by the exponential growth of modern science after the Renaissance in Europe. China was homeostatic, cybernetic if you like, but never stagnant.” (Needham, 2004, pp.20) British “distributist” economist Barbara Ward (1962) also argued that, despite the ancient China’s great knowledge and its four great inventions (paper, printing, gunpowder and compass), the break-through and modern take-off as a result of the application of science to economic processes never came naturally in China, because “Confucian gentleman who dominated the official thinking of Chinese society thought science an occupation for charlatans and fools and, therefore, not really respectable [...] They turned their backs on experiment and, in doing so, on science as well. So in China, for ancient glory of its culture, for all the force and vitality of its intellectual tradition, the scientific break-through could not occur” (Wade, 1962, pp.48-49).

The difference was that in the 18th century, the Qing Empire, unlike the rising Britain, didn’t focus on trade. Qianlong, one of the great Qing Emperors, told King George III in a 1793 letter that “We possess all things. I set no value on objects strange or ingenious, and I

³⁸ “The Great Divergence”, is a term coined by Samuel Huntington (1996), also known as the “European miracle” by Eric Jones (1981), referring to the process by which the Western world, especially Western Europe, overcame pre-modern growth constraints and emerged during the 19th Century as the most powerful and wealthy civilization of the time, eclipsing older civilizations such as Qing China, Mughal India, Tokugawa Japan, and the Ottoman Empire. Scholars have proposed a wide variety of theories to explain why the Great Divergence happened, including lack of government intervention, geography, colonialism, and customary traditions. The process was accompanied and reinforced by the Age of Discovery and the subsequent rise of the colonial empires, the Age of Enlightenment, the Commercial Revolution, the Scientific Revolution and finally the Industrial Revolution. Shifts in government policy from mercantilism to laissez-faire liberalism also aided Western development. Technological advances, such as railroads, steamboats, mining, and agriculture were embraced to a higher degree in the West than the East which led to increased industrialization and economic complexity in the areas of agriculture, trade, fuel and resources, further separating the East and the West. With colonies in the America, the West also had the advantage of larger quantities of raw materials and a substantial trading market.

have no use for your country's manufactures."³⁹ In fact, European empires at that time had divided regimes but nurtured mutual business relations. The mercantilist traditions inevitably led to common emphasis on the fairness of legal system between the regimes, over the differences of political and cultural levels. On the contrary, the old Empire of China, due to its grand territory and population diversity, was obliged to strengthen its ruling through the centralization of power: political force must overwhelm the fairness of trade and the equality of laws. And the widely known practice of tributary trade during the epoch of Chinese Empires between China and its neighbor regimes was in fact a non-equal relationship showing China's political force other than indicating economic realities (Hevia, 1995).

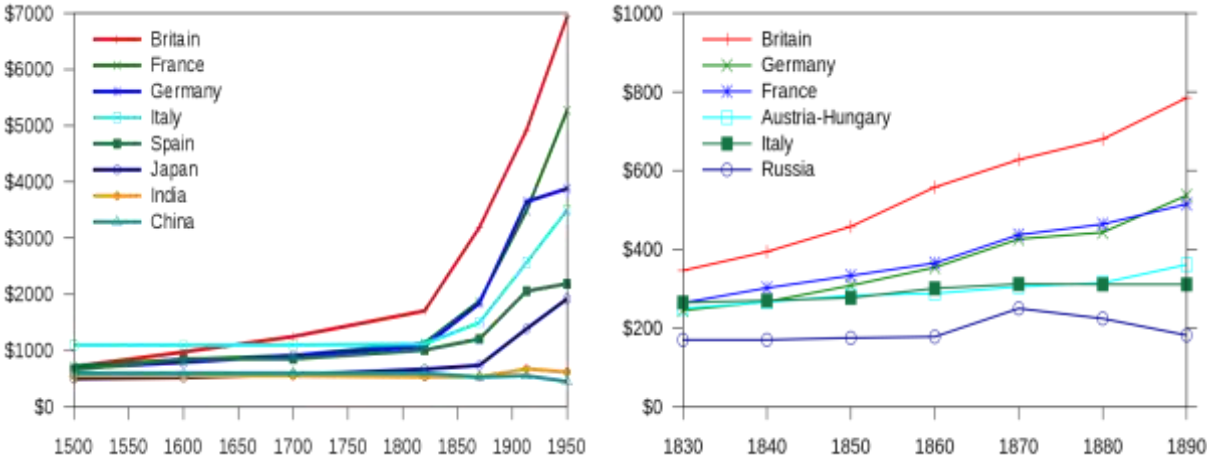
Some historians and economists have tried to explain the Western European countries' overtaking China in modern time economic and industrial development by combining the followings factors: massive entries of silver and natural resources from the South America colonization, construction of efficient financial markets, the emergence and coming-into-power of the class of merchants through capitalist revolution, incitation to innovate and enterprise by installing private property rights, and cultural differences (Zhang and Gao, 2005; Pomeranz, 2000; Landes, 1998; Frank, 1998; Wong, 1998; Braudel, 1979, 1985). Fernand Braudel, French historian and founder of the Annales School, claimed that particular cities and states followed each other sequentially becoming centers of long-term capitalist cycle: Venice and Genoa (1380–1550), Antwerp (1500–1590), Amsterdam (1590–1733), London (1733–1896), and New York (since 1929). He also mentioned that the active economy in cities of Ming China (1368-1644) was on the same level as European cities bearing the sprout of capitalism, with strong local commercial networks and efficient systematic organizations. Yet there was also high-interest lending as the same in Europe, mainly due to lack of state credit and organized capital market. He coined the term “structures” to denote a variety of organized behaviors, attitudes, infrastructures and conventions, and argued that structures built up in Europe during the Middle Ages have contributed to the successes of European civilizations over more ancient civilizations such as China, India and Islam. Most importantly, Braudel considered that Western capitalists have typically been monopolists and the state has served as a guarantor of monopoly rather than the protector of free market competition. Oppositely, empires in China and Islam region kept reinforcing its political power to maintain

³⁹ <http://www.bloomberg.com/news/2013-02-09/china-passes-u-s-to-become-the-world-s-biggest-trading-nation.html>

control of its territories and properties, which has impeded the power growth and wealth accumulation of the bourgeois class.

Landes (1998) interpreted the rise of the West as a result of its own culture: European states were constantly competing with each other, so Europeans developed a uniquely dynamic culture in which rulers made decisions that benefited subjects. Wong (1998), after comparing the political and economic developments of China and Europe over the last 1000 years, concluded that the crucial factor of Western Europe’s rise was their access to large supplies of coal which enabled them to escape from the constraints of an economy based on organic materials and transform into a mineral-based industrial economy in the late 18th Century. And he also affirmed that competing European states developed political economic policies and institutions that favored industrial development and overseas expansion, while China’s agrarian and unified empire as well as its elites had few institutionalized claims but only concerns to maintain the existing social order. Pomeranz (2000) by comparing the development of similar regions in China and in Europe underlined the likeness of their economic features. Like Wong (1998), he also considered their divergence to be the large coal deposits in Britain and that European states were more aggressive in promoting trade to gain control of the Americas and Asia. Statistics in Figure 2-8 show us the evolution of world’s main economies during 1500 to 1950 (except the later founded US), indicating the “great divergence” since around the year 1830.

Figure 2-8: Maddison GDP per capita (1500-1950) and Paul Bairoch GDP per capita (1830-1890)



Notes: Maddison's estimates of GDP per capita at purchasing power parity in 1990 international dollars for selected European and Asian nations between 1500 and 1950 show the explosive growth of some European nations after 1800. Paul Bairoch has estimated the GDP per capita of several major countries in 1960 US dollars after the Industrial Revolution in the early 19th century, which shows that the GDP per capita of Western European countries rose rapidly after industrialization.

Zhang and Gao (2005) focused on the increasing political influence of merchant class in Europe as their wealth has grown side by side with the colonial expansion of states. As a result, they claimed for reinforcement of property rights and further capitalist revolution. The new bourgeois aristocracy represented greater productivity, higher commercial credibility, better organized financial system and a democratizing state that was mainly responsible for keeping sovereign stability and protecting the monopolist rights of its property-owning classes. Marx in the 1850s invented the notion of “Asiatic mode of production” to describe the Asian type of despotic ruling clique residing in central cities and directly expropriating surplus from largely autarkic and generally undifferentiated village communities, which would have stayed the same if not for the invasion of Western modern civilizations. Rostow (1960) meanwhile pointed out that during the industrial revolution, first should come the change of the political structure, followed by the commercial revolution, and finally come the science revolution, invention and innovation. The critical failure of Chinese empires was due to the lack of mutually beneficial relations between inventors, scientists and entrepreneurs to utilize many invention experiments, because the traditional social structure did not encourage it. Needham (1970) also believed that China has never established a set of laws and institutions to effectively protect scientific and technological achievements, which is the root cause leading to the stagnation of technological innovation in China. Weber (1915) argued that while several factors of Chinese culture and religions, especially the Confucianism and Taoism, were good for development of a capitalist economy (long periods of peace, improved control of resources, stable population growth, freedom of choosing the occupation), they were outweighed by others negative factors. Technical inventions were opposed by religion; the sale of land was prohibited or made very difficult by the tradition of keeping family root and the extended kinship groups; kinship also prevented the development of urban class and hindered institutional developments, such as legislations, codification of laws, cultivation of conventions and professionalism. Weber’s arguments were in accordance with both Fairbank (1986) who considered Chinese traditional culture hostile to changes and revolutions and Qian (2001) who pointed out that Chinese merchants originally had only limited desire for profits and were content to stay at a reasonable level of economic dynamism.

Research aimed to explain the eclipse of China Empire and the rise of Europe and North America tends to converge towards three main themes: (1) the endowment of resources necessary for industrialization; (2) the influence of original cultures and religions; (3) the role

of state and particularly the struggle between ruling class with political power and new bourgeois class with economic power. In other words, they include natural conditions, social and cultural conditions, and the power structure of the regime. Their conclusions generally indicated that China, even though having an early start in social civilization and technology development, didn't seize the chance of economic take-off in modern times due to lack of favorable natural, cultural and institutional conditions. Considering itself as the "Empire du Milieu"⁴⁰, China was gradually closed in its own world, taking for granted being ahead of other civilizations and was satisfied to go on at its own rhythm, without paying attention to what great changes the Western world was going through. The Opium Wars⁴¹ and the following "Century of humiliation" have violently attacked Chinese governors' arrogance and complacency. The second Sino-Japanese war and the following Chinese civil war have also brought disastrous material and social damages to the Chinese society. After its coming into power, the Communist Party of China (CPC) put strong accent to arouse the determination not only in Chinese elites but also in common people in China to "avenge the national insult" and "wipe out the disgrace" by making fast progress to catch up with the Western countries. "Staying backward will be bullied" and "developing is the only unyielding principle" became China's unanimously agreed national guidance for the development of all fields of activities: political as well as economic, military as well as industrial, scientific as well as cultural. However, before the ruling CPC accepted the market economy under its socialism political regime and allowed the capitalist concept of competition in the new China, the endeavors to catch up with the developed countries, represented by the UK and the US, in all aspects and in

⁴⁰ "Empire du Milieu", is the literal translation of the name of China in Chinese (Zhongguo, 中国). 中国 refers to China as the country at the center and the axle of the world. The name and concept were invented in the Zhou Dynasty (c. 1046-256 BC) during which the origins of native Chinese philosophy were developed by the greatest ancient Chinese philosophers, such as Confucius, Laozi, Mozi, Mencius and Xunzi.

⁴¹ The Opium Wars, also known as the Anglo-Chinese Wars, included the First Opium War from 1839 to 1842 and the Second Opium War from 1856 to 1860, which were results of disputes over trade and diplomatic relations between the Qing Empire China and the British Empire. The practice of mixing opium with tobacco for smoking was introduced into China by the Europeans in the 17th century. In 1858, the annual import reached 4480 tons, approximately equivalent to the global production of opium for 1990-2000. The first Chinese anti-opium edict was issued in 1729, with similar laws of reinforcement to be set in 1796 and 1800, enacting severe penalties on the sale of opium and the opening of opium-smoking divans. But opium importation continued to increase. British merchants brought opium from the British East India Company's factories in India to the coast of China. With the drain of silver and the growing number of the people becoming victims of the drug, in 1838 the Daoguang Emperor sent Lin Zexu to Guangzhou, where he stopped the trade and forced the merchants to surrender their opium to be destroyed. In response, the British government sent expeditionary forces from India which ravaged the Chinese coast and dictated the terms of settlement. The Treaty of Nanking not only opened the way for further opium trade but also ceded territory including Hong Kong, unilaterally fixed Chinese tariffs at a low rate, granted extraterritorial rights to foreigners in China and diplomatic representation. Soon the refusal of the court to accept foreign ambassadors and obstructed the trade clauses of the treaties led to the Second Opium War and the Treaty of Tianjin. These treaties, followed by similar arrangements with the United States and France, later became known as the Unequal Treaties, and the Opium Wars represented the start of China's "Century of humiliation". See http://en.wikipedia.org/wiki/Opium_Wars

few decades, were more of an ideological slogan than a feasible objective. The catastrophic famine caused by the “Great Leap Forward” during 1958 to 1961 was the best example.

2.2.3-2 Reforms and great transformation

The fast economic, industrial, technological and social development which has greatly transformed and modernized China actually began in the 1970s. The key factor underlying this fast growth, as recently pointed out by Felipe et al. (2010), is its ability to master and accumulate new and more complex production capabilities, reflected by the increasing sophistication and diversification of China’s export goods. And this accumulation was policy-induced other than market-urged. They also mentioned that the high average GDP growth rate in China for 1980-2007, 9.93% in general term and 8.74% in per capita term, was due to China’s high growth rates of capital accumulation driven by high investment-output ratio, a marked outward orientation through export-led growth policies, and the pursuit of industrialization, in particular the production and export of manufactures. Yet, all of Chinese reforms and changes only started on a major scale after the coming-into-power of the Communist Party and their radical measures to “get rid of the bonds of feudalism” and to “catch up with the UK and overtake the US” in different aspects varying from industry upgrading, economy development, scientific research, technology innovation, privatization, education reform to social protection and family relations. And these ambitious reforms and changes are fundamentally based on the socio-political compromise adopted by the CPC to trade off high economic growth and better living standards against the monopoly of their political power (Boyer, 2012).

The CPC has given an official name to its special political-social regime, “the road of socialism with Chinese characteristics”, which was for the first time raised up at the 12th National Congress of the Communist Party of China by the chief architect of China’s reform and opening-up, Deng Xiaoping (Vogel, 2011), and whose usage has been kept and updated according to the country’s changing situation⁴². According to Deng, socialism with Chinese

⁴² On 1st September 1982, at the 12th National Congress of the Communist Party of China, Deng Xiaoping first proposed that Chinese people should “go our own way and build socialism with Chinese characteristics”, and this term was reasserted in the title of each of the following five National Congresses’ official reports. It is since then kept in frequent use in many political discussions and is popularized by books and school-teaching of Chinese political theories. The 15th National Congress of the CPC named the theory of building socialism with Chinese characteristics as Deng Xiaoping Theory. Later, Selected Words of Deng Xiaoping became a recommended standard reading of Chinese Communist Party education.

characteristics means that, “under the leadership of the CPC and based on the basic national conditions, all Chinese people should take economic construction as the central task, adhere to the Four Cardinal Principles (upholding the socialist path, upholding the people's democratic dictatorship, upholding the leadership of the CPC and upholding Mao Zedong thought), persist in reform and opening up as well as the liberation and development of the social productive forces, consolidate and improve the socialist system, and build a socialist market economy, a socialist democracy, an advanced socialist culture and a prosperous, strong, democratic, civilized and harmonious modern socialist country”⁴³.

In recent years, given the breath-taking development of Chinese economy and the capitalist system that has been put into practice in many of its production and social aspects, the road of “socialism with Chinese characteristics” is instead referred to by some China development researchers as “capitalism with Chinese characteristics” (Huang, 2008). Although differences between an initially-established political regime of democratic socialism and a gradually-developed “de facto” economic regime of distributional capitalism have sometimes caused confusions and challenges for Chinese governors, Deng Xiaoping, determined to build every efficient mechanism to achieve China’s modernization and ready to take risks to redefine the ideology of Chinese socialism, had firmly set the pragmatic tone of “developing is our unyielding principle” and “it does not matter if the cat is black or white so long as it can catch mice”⁴⁴ through his official speeches and the Party guidelines. Even today, the Chinese government still maintains that it has not abandoned Marxism but has simply developed many of the terms and concepts of Marxist theory to accommodate its new capitalist economy system. And the CPC argues that socialism is compatible with these economic policies because the latter favors value creation, social progress and final achievement of whole population’s welfare. In current Chinese Communist thinking, China is still at the primary stage of socialism and this allows the Chinese government to undertake more flexible economic policies to develop China into an industrialized, modernized and harmonious nation.

⁴³ Guidelines of “socialism with Chinese characteristics”,
http://en.wikipedia.org/wiki/Socialism_with_Chinese_characteristics

⁴⁴ Deng Xiaoping was well-known and much popularized for his simplism style of explaining government policies and decisions, as well as frequent usage of concise and plain slogans such as “developing is our unyielding principle”, “let some people become prosperous first” and “it does not matter if the cat is black or white so long as it can catch mice”.

Besides ideological interest, many researchers have marked the crucial relation between the China state and China's fast development of capitalist economy system. Huang (2008) saw China's economy development as the fruit of the combined actions of entrepreneurs and the state, both at central and local levels. In his book "Capitalism with Chinese Characteristics", Huang showed how China's rural economy has in fact taken off in the 1980s, led by "township and village enterprises" (TVEs) that were essentially private but benefiting from local collective efforts and government support, only to be ignored in the 1990s by central state-led development that focused on urban regions such as Shanghai. Yet the "Shanghai miracle", which he argued, was not the simple triumph of capitalism but the result of a stronger and more effective state. In fact, starting from the late 1970s, Chinese central government gradually put into place multiple opening-up measures and catch-up policies. In 1979, Deng Xiaoping visited Guangdong Province and Fujian Province in the prospect of granting them the official permission to introduce foreign capital investment. Later four Special Economic Zones (SEZs), including the cities of Shenzhen, Zhuhai and Shantou in Guangdong Province and Xiamen in Fujian Province, were set up as a key strategy to push forward the coastal regions' economic activities and institutional progress through learning processes from foreign firms and through participation in multinationals' global production networks. The initial four SEZs soon expanded to 14 Export Processing Zones (EPZs). By the end of 1992, China had set up 60 SEZs and EPZs⁴⁵ (Fu and Gao, 2007).

Another historic milestone at the same period in China's economic reform was the approval of Joint Venture Law in 1979, which marked the opening-up of China to foreign capital investment and investment-related technology and managerial skills transfer, as well as to strategic alliance and business partnership. This was a strong signal for the coming age of rapid Foreign Direct Investment (FDI) growth in China, at rates much higher than any other country or region in the world. China's favorable FDI policy was further strengthened in 1986 as various benefits relating to taxes, credit, input charges, labor management, export rights, and foreign exchange requirements were offered to attract FDIs. There has been a well-maintained growth of FDI inflows to China since the 1980s especially during the 1990s and

⁴⁵ United Nations Industrial Development Organization in 1980 defined an EPZ as "a relatively small, geographically separated area within a country, the purpose of which is to attract export-oriented industries, by offering them especially favorable investment and trade conditions as compared with the remainder of the host country. In particular, the EPZs provide for the importation of goods to be used in the production of exports on a bonded duty free basis". International Labor Organization divides manufacture related EPZs into three categories: Special Economic Zones, Industrial Free Zone and Enterprise Zones. In China, Special Economic Zones stay apart from Development Zones which group Industrial Free Zones and Enterprise Zones.

2000s. China has become the world's second country that attracts the most important global FDI flows, \$106 billion in 2010, just after the US, \$228 billion in 2010 (UNCTAD, 2011).

China pursued its catching-up by active participation of indigenous firms in the global value chain (Felipe et al., 2010) and through government-initiated mechanisms such as “original equipment manufacturer”⁴⁶, “original design manufacturer” and “original brand manufacturer”, and the so-called “three-plus-one” trading-mix. “Three-plus-one” trading-mix was put into place in 1979 which referred to the production model of processing, sample processing, contract assembly (as three trade forms) and compensation (as one government subsidy). The main structure of “three-plus-one” business is: the foreign investor finances factory and equipment as well as provides raw materials and samples, and is also responsible for the sales of all products exported; the Chinese enterprise provides land, building and labor. In this way, the Chinese enterprise and the foreign investor satisfy the conditions for the formation of a new “three-plus-one” corporate but they stay independent on accounting terms even though they share joint responsibility for the corporate.

Under such favorable policy guidance, Chinese firms showed unparalleled expansion and, having become the world's factory after its entry into the WTO in 2001, China's trade amount kept steady growth and in the official statistics of 2012 China has overtaken the USA as the world's biggest trading nation as measured by the sum of exports and imports of goods⁴⁷. But as the reform and opening up went further, “three-plus-one” trade-mix policy became lagging to support the technological and structural changes of industries in China. “Three-plus-one” enterprises often relied on government subsidies but neglect operating profits from export and leave huge sales profits to foreign investors and sellers. Lacking motivations to build their own brands or to localize whole production and sale activities, some Chinese enterprises gradually gave up their managerial control to foreign investors. Chinese enterprises, pushed by the desire to cut costs, often overlooked security measures and social protections of their employees, as well as environmental issues related to the production procedure. Their behavior of selling products at very low prices has also led to anti-dumping accusations and

⁴⁶ An original equipment manufacturer, in abbreviation as OEM, manufactures products or components that are purchased by another company and retailed under that purchasing company's brand name. OEMs rely on their ability to drive down the cost of production through economies of scale. Using an OEM allows the purchasing company to obtain needed components or products without owning and operating a factory.

⁴⁷ U.S. exports and imports of goods in the year 2012 totaled \$3.82 trillion according to the U.S. Commerce Department, while China's customs administration reported that the country's trade in goods in 2012 amounted to \$3.87 trillion. Source: <http://www.bloomberg.com/news/2013-02-09/china-passes-u-s-to-become-the-world-s-biggest-trading-nation.html>

has cost heavy taxation penalties and economic losses. All these facts proved that China urgently needs upgrading and structural reforms in its industrial and economic fields, which must be done with more intelligent policy guidance, capital investments, technology innovations, advocacy of entrepreneurship culture, through cooperation between research centers, enterprises and public sectors, with construction of business partnerships with other advanced economies.

2.2.4 China miracle and China's hybrid capitalism

With dramatic reforms and development policies under a strong and supporting state, China has become the world's fastest growing economy since the late 1970s (Lin, Cai and Li, 1996). China's central government has adopted a pragmatic, gradual and dual-track approach, providing necessary protections to young industries and firms of strategic importance while liberalizing the entry of private enterprises, joint ventures and FDIs (Lin, 2010). And after only three decades of gradual opening-up, China's sustained high economic growth and its achievement of a higher standard of living have won it the widely recognized reputation of "China miracle" (Lau, Qian and Roland, 2000; Stiglitz, 1998; Naughton, 1995). Lin, Cai and Li (1996) stated that the China miracle is the result of China's having chosen the right development strategy by pursuing its comparative advantages with cheaper labor and export-oriented manufacture, and abandoning the wrong heavy-industry-oriented development strategy before the reform.

Fukuyama once affirmed "what we may be witnessing is not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such: that is, the end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government" (Fukuyama, 1989, p. 4). Is the so-called "China miracle" the result of a transitory period that China has been going through towards a liberal market economy advocated by the Western democratic nations? Or is it the result of a particular capitalist economy with Chinese characteristics (Huang, 2008) guided by the social-communist regime, which then defeats Fukuyama's vision of the universalization of Western liberal democracy as form of government? To better understand the most significant changes that have happened to the Chinese economy, we propose to focus on four symbolic phenomena: the transitory TVEs, the struggling SOEs (state-owned enterprises) and the

evolving ownership composition, the much debated dual-track reforms, and the pro-business *guanxi*⁴⁸. Finally, we will make our conclusions on the particular economic system of China.

2.2.4-1 The transitory TVEs

Township and village enterprises (TVEs) are widely seen as the engine of China's economic growth in the 1980s and the early 1990s. TVEs are rural industrialized enterprises, which include not only enterprises sponsored by township and villages, but also alliance enterprises formed by peasant and individual enterprises. Huang (2008), by going through historical statistics, has found that in 1985 there were 12 million TVEs in China, among which 10 million were completely private, and most of the TVEs were located in the poorest provinces of China. Throughout the 1980s and the 1990s, the Chinese government took a series of steps to encourage the development of TVEs as an instrument to reduce the general poverty, to achieve agricultural modernization, and to create new industrial activities to absorb labor surplus. The fiscal decentralization of the early 1980s delivered considerable decision-making power to local governments and linked local economic performance and fiscal revenue to the political career of local officials, creating strong incentives for them to promote TVEs growth (Kung and Lin, 2007). The central government also implemented two important financial reforms in the 1980s concerning the rural areas: one was encouraging the banking system to offer substantial loans to TVEs, and the other is the permission to allow private providers of capital to enter into the financial service sector in the form of "Rural Credit Cooperatives" (RCCs). RCCs have been identified as a key vehicle for the delivery of financial services to the small-scale entrepreneurs and consumers⁴⁹. The important role of rural regions in China is further shown by other numbers and facts: China had 721 million rural residents in 2008 which increase to 230 million rural migrants in 2009 (National Bureau of Statistics, 2009); today there are many "rural cities" in China which keep the identity of "rural area" but embrace the size of a big Western city and have great market potentials; rural

⁴⁸ *Guanxi* is a particular concept in China which is often studied as the Chinese version of relationship. It refers to a social connection close to the more commonly known notion of "social capital".

⁴⁹ RCCs were established during the rural cooperative movement in the 1950s. RCCs were under the overall administrative umbrella from late 1970s to the mid-1990s and were under People's Bank of China from the mid-1990s to the early 2000s. In 2003 the State Council issued a policy to restructure RCCs, transferring the administrative responsibilities to provincial governments. As for 2005, there were 32,397 RCCs in China, accounting for 11.5% of deposits (CNY 2,233 billion), 10% of loans outstanding (CNY 1,618 billion) of the banking sector, 85% of agriculture loans, employing 628,000 people. Yet under government influence, RCCs suffered from problems such as unclear ownership structure, poor corporate governance, inadequate business scope and internal control, heavy historical burden and dismal financial performance, etc. See "*Rural Credit Cooperatives in China*", Planet Finance, June 2005.

China is more entrepreneurial due to lack of social protection and less political control; many households equal business units in rural China and are unambiguously private. Private ownerships and rural entrepreneurships in various forms of small business, TVEs and other cooperation, are the keys to China's rural development, the reduction of severe poverty and the motor of China's enduring economic growth.

However, since the late 1990s, TVEs began to decline due to a number of reasons. First, the ill-defined property rights of TVEs impelled a higher productivity and its endurable growth. There are unsolved debates about whether TVEs are owned by the local government or local community (Che and Qian, 1998), or they are vaguely defined cooperative with weak property rights (Weitzman and Xu, 1994), or they are basically quasi or disguised private enterprises (Nee, 1996). Second, since the greater opening up in the 1990s and the new policy of building a market economy in China, with the political attention oriented to SOE reforms, bank credit increasingly hard to obtain due to banking reforms, and intensified competition from the fast emerging private firms, TVEs were facing much more difficult economic environment. Third, as most TVEs were in the labor-intensive consumer and light industry and were highly export-oriented, China's entry into WTO pushed the government to open many sectors and lower tariffs to foreign firms which brought greater competition to TVEs. TVEs played a key role in fostering entrepreneurship and served as a major stepping-stone for China's important institutional changes when legal protections of private property rights were not yet installed and the SOEs were still managed through central planning and insufficient to satisfy the changing market demand (Xu and Zhang, 2009). As private ownership was later recognized legally, TVEs lost their edge in competing with more efficient and market-oriented private firms. Gradually, large numbers of TVEs have been privatized or turned into shareholding firms running by private owners with small public stake (Lin and Zhu, 2001).

2.2.4-2 The struggling SOEs and the evolving ownership composition

SOEs used to be the only actors assuming the construction of Chinese economy after the foundation of the PRC. Under state ownership, they generally benefited soft budget constraints, direct government subsidies, easy access to state-owned bank loans, and monopoly market position, which offered them low incentive to minimize costs or to improve productivity. In fact, their primary role used to be maintaining employment and social

security. The job in an SOE became an “iron rice bowl” which provided guaranteed job security as well as steady income and benefits without obligation and objectives. By the mid 1990s, in aggregation, China’s industrial SOEs not only failed to provide net revenues for the government but also absorbed fiscal and quasi-fiscal resources that were estimated to be as large as 5% of the GDP (Fan and Hope, 2013), and resulted in a huge ratio of non-performing loans in the state-owned banks. In the 1980s, two major measures were adopted aiming at motivating SOEs’ productivity. First, the Chinese government has introduced a profit-sharing scheme, under which SOEs were allowed to keep a certain percentage of their total profit as well as part of the profit increase (Naughton, 2007). Second, a “dual track” pricing system was put in place, which allowed SOEs to sell output in excess of planned quotas. While the quantity within the quota would be sold to the state at a lower and planned price, the surplus could be sold on the market for a negotiable and higher price. The principle of the dual price system was to bring in the force of market competition to stimulate enterprises without sudden disruption to the former planning mechanism.

Yet, soon the inevitable reforms to reduce SOEs’ dependence on government subsidies and state bank loans and to make place for fast growing private enterprises resulted in many small or inefficient SOEs having to close down, merger or be sold to private owners. In order to accelerate the SOE transformation and change government’s role into regulator while avoiding strong conflicts of interest, the state-owned Assets Supervision and Administration Commission (SASAC) and Central Huijin Ltd. were created in 2003, the former to manage the ownership of SOEs and the latter the ownership of state-owned financial institutions. Since then, many SOEs have been privatized through IPO, by listing its most valuable assets and most profitable businesses through a specially created company and selling part of the company shares to the public. In some cases, the state continues to hold the majority part of the listed company. According to SASAC, by the end of 2012, there were 953 SOEs listed on the Shanghai and Shenzhen stock markets, accounting for 38.5% of companies listed in China’s “A” share market and 51.4% of total market capitalization⁵⁰. Successful cases include Haier Group, TCL Group, Midea Group, Gree Group, Wuhan Iron and Steel Group, China South Locomotive and Rolling Stock Industry Corporation and China Communication Construction.

⁵⁰ <http://www.sasac.gov.cn/n1180/n1566/n259760/n264785/15106589.html>

Now, after three decades of reform and market liberalization, SOEs no longer play dominant roles in many labor-intensive and contestable industries such as retail, food processing, textile, medicines, and general machinery. The remaining SOEs are mostly large ones in key and strategic sectors, such as energy telecom, and public utilities, which have been transformed from inefficient production units operating under the state's economic plan into limited liability companies or shareholding companies with modernized management and appropriate corporate governance structures (Fan and Hope, 2013). Under a pilot program, 42 central SOEs had established standard boards of directors at the beginning of 2012, with external directors occupying more than half of all seats (Fan and Hope, 2013). The SASAC has also created managerial incentives in the SOEs by introducing monitoring systems and contracts that link compensation of senior management to the company performance. In the hope of further bridging the gap of productivity between SOEs and private firms, the government decided to allow remaining SOEs more flexibility and autonomy in the management of labor. An effort to "break" the "iron rice bowl" in the SOEs through a new plan of grassroots recruitment, employment by contract and pay based on performance is now included in the 12th Five-Year Plans. An official commitment was also made to raise the dividend payout ratio of SOEs and increase the number of SOEs that distribute part of their profits as dividends.

Official statistics about the evolution of enterprises in China show us: the number of SOEs had a substantial reduction of almost $\frac{3}{4}$ during the period of 1998-2012, from initially 64737 to 17851; while private enterprises grew dramatically from initially 10667 to 189289, increasing by nearly 18 times; the number of foreign enterprises also more than doubled during this period, from 26442 to 56908 (Figure 2-9). These changes are the combined result of more opened economic system, the privatization of SOEs, the legal reinforcement of private property protections and market dynamics driven by the sustained high economic growth. Another indicator of SOEs declining importance in the Chinese economy is the evolution of number of total employees. While the number of total employees of SOEs in Chinese cities dropped from about 95 million in 1998 to about 68 million in 2012 (even though with a slight return from its lowest level of about 64 million in 2006), employment of private enterprises in the cities increased significantly from about 20 million in 1998 to about 128 million in 2012; foreign enterprises also more than tripled their employment from about 6 million in 1998 to about 22 million in 2012 (China Statistical Yearbook 2013).

Figure 2-9: Evolution of the number of enterprises by type

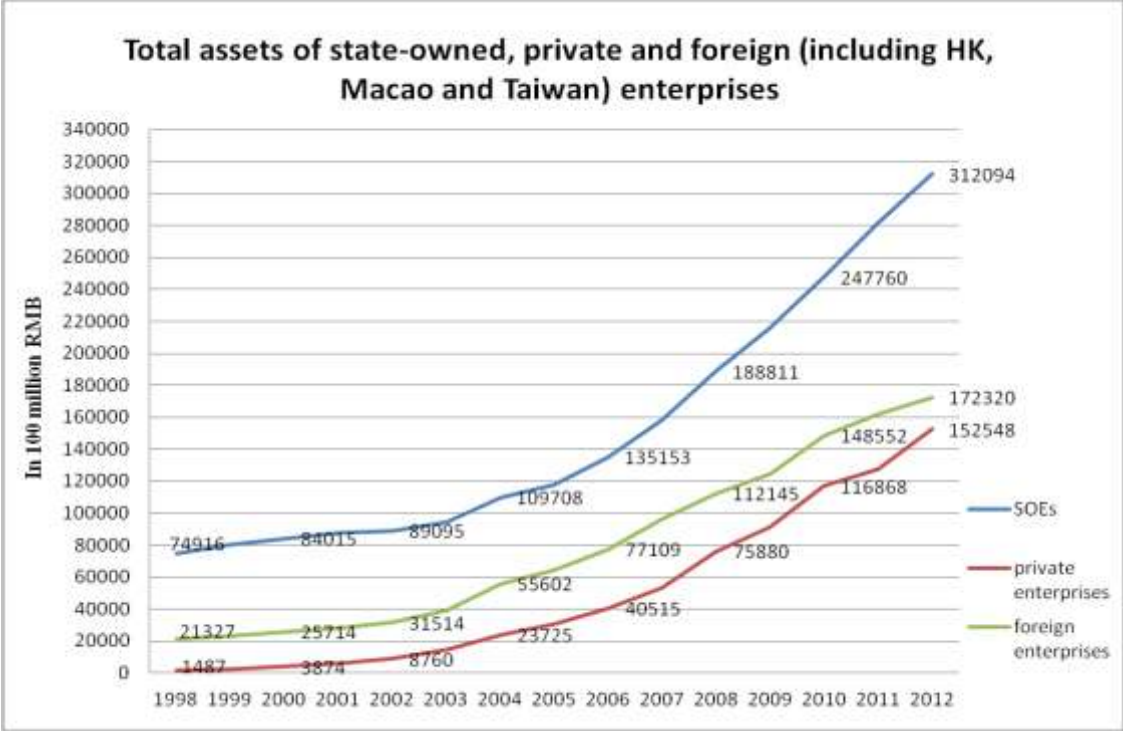


Source: author, China Statistical Yearbook 2013

Meanwhile, we observe a strong concentration of assets in the hands of SOEs, whose assets almost equaled the total assets of private and foreign enterprises together at the end of 2012, even when their number keeps declining. And this concentration has been constant during the period of 1998-2012, without evident sign of change in the near future (Figure 2-10). One reason is the SOE reforms’ guideline of “grasping the big, letting go of the small”, which often led several small SOEs to merger into a bigger SOE. Another reason is that most remaining SOEs are operating in capital-intensive sectors while a large part of private enterprises are working in the labor-intensive service sectors. Yet another interpretation is that the government’s strict control on the assets of SOEs, considered “public properties”, makes any related transaction difficult to realize. As company assets represent capital invested in the past, we could affirm that SOEs have been benefiting from financial advantages and easy access to capital that neither private nor foreign enterprises were able to obtain. Compared to the 49% of total bank loans that SOEs took in 2000, the percentage changed little with 44% in 2009, evidently influenced by the fiscal stimulation package, and 39% in 2010 (Fan and Hope, 2013). SOEs still receive a share in bank loans that is now disproportionate to their diminishing share in the economy. This favorable treatment to SOEs also explains why under the same condition of global economic downturn, the number of private enterprises, after

almost doubling during 2006 and 2010 and reaching its historical high in 2010, made a sharp drop back to the level in 2007, while the number of SOEs continued its smooth declining line and decreased by little.

Figure 2-10: Evolution of the total assets by enterprise type (100 million RMB)

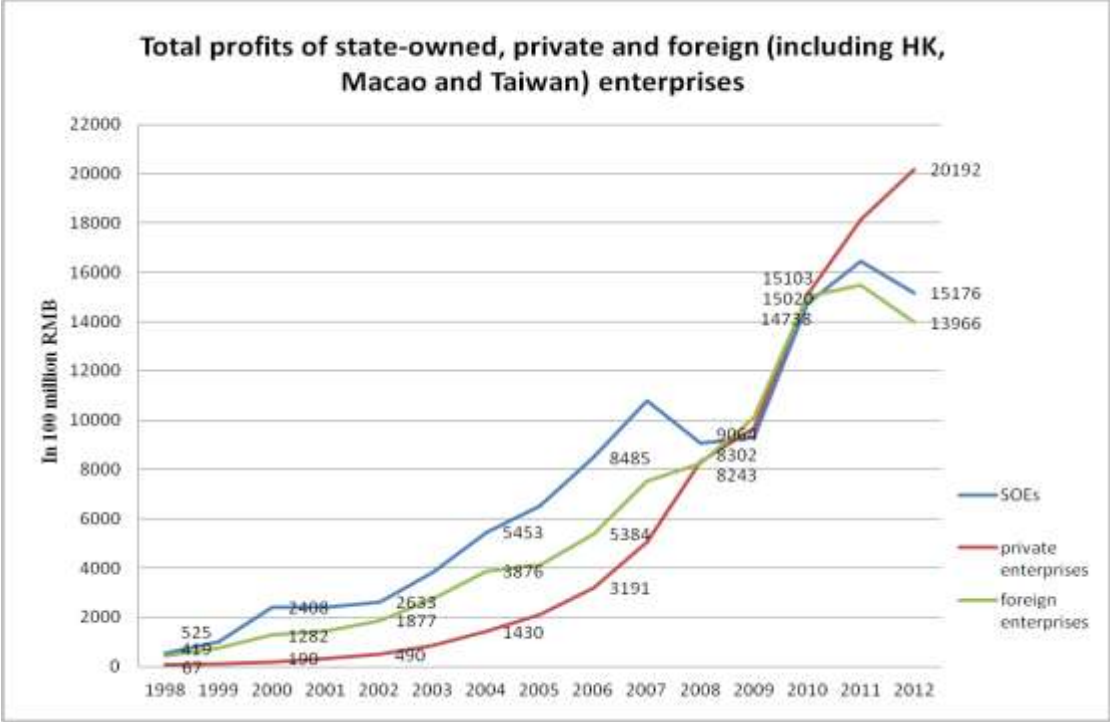


Source: author, China Statistical Yearbook 2013

The catch-up of private enterprises began since 2000 and accelerated just before the subprime crisis, and surpassed SOEs and foreign enterprises in 2008. In 2012, total revenue of private enterprises reached 285.6 trillion RMB, almost 155 times of its level in 1998, which is an extraordinary progress compared to the 7 times increase for SOEs revenue and 14 times for foreign enterprises. The fast growth of private enterprises, contrasting the declining SOEs and the moderate development of foreign enterprises, is shown by the evolution of profits in Figure 2-11. Total annual profits realized by private enterprises grew from 6 billion RMB in 1998 to 2 trillion RMB in 2012 (300 times), while profits increased from 52 billion RMB to 1.5 trillion RMB (29 times) for SOEs and from 42 billion RMB to 1.4 trillion RMB (33 times) for foreign enterprises; SOEs and foreign enterprises even experienced a considerable reduction in profits in 2012. Figure 2-12 shows a general increase in the ratio of profits over average assets for the three main types of enterprises. Yet, if we compare their evolution since 2005, when their ratios were more or less close, until the end of 2012, average operating

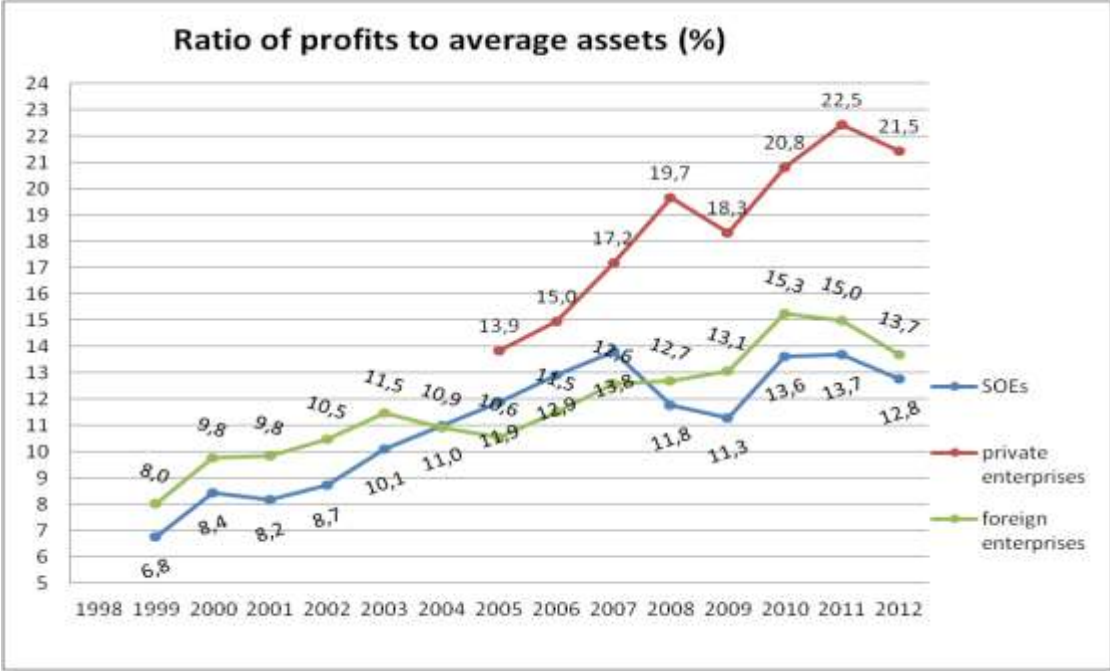
efficiency in private enterprises increased almost 8% from 13.9% to 21.5%, while the results are much less impressive for SOEs, progressing from 10.6% to 12.8%, and for foreign enterprises, from 11.9% to 13.7%.

Figure 2-11: Evolution of total profits by type (100 million RMB)



Source: author, China Statistical Yearbook 2013

Figure 2-12: Ratio of profits to average assets by type (%)



Source: author, China Statistical Yearbook 2013

2.2.4-3 The much debated “dual-track” reforms

Fully warned by the failure of the “shock therapy” in Russia during the early 1990s, the CPC has decided that more prudent and gradualist reforms, taking into account local historical and environmental specificities, should fit more to the situation of China. After several top-level meetings, “dual-track” price system became the standard transitory policy for building the passage from a central planned economy to a market economy. “Dual-track” price regime was first designed for the gradual liberalization of the price of factors of production and of finished goods. Positive impacts of this special regime were to help Chinese economy make a smooth transition from planned system to market system by gradually introducing a liberal exchange structure, motivating the production activities and more efficient use of limited resources, and promoted the development of enterprises especially the TVEs in rural regions. However, the double system of a fixed price market and a liberal exchange market also brought corruption and rent-seeking behaviors. And it has distorted the competition among companies of different natures since they had to pay different prices to obtain the same production factors. “Dual-track” price regime was also used later for the adjustments of exchange rate of RMB to foreign currencies, and now for the gradual integration of capital markets between the tradable shares in the stock markets and the non-tradable shares in the over-the-counter transactions. Even though initially there have been official debates on the price reform during 1985-1986, today the dual pricing system as well as its specific method of transition are accepted by most economists and have also become representative of “stylized facts” of China’s successful economic transformation (Zhu, 2010). Yet any comments on China's dual pricing system might actually lack the basis of sufficient experience. We can only affirm that the mixed system of planning and market can be indeed observed everywhere at present in the Chinese economy, which is the result of China’s economic transformation under the gradualism approach and may not have a strong sense of long-term strategy or foresighted mechanism design (Zhu, 2010).

2.2.4-4 The pro-business *guanxi*

Guanxi is an interpersonal characteristic of the Chinese society that has been examined for decades. *Guanxi* is often known and studied as the Chinese version of relationship. It summarizes the interconnections and exchange relationships between different players, and is usually recognized as a central role in business in China (Standifird and Marshall, 2000).

Guanxi usually refers to connections within family members and friends, but can also mean connections to government resource or political power. *Guanxi* is the instrumental ties built on interpersonal trust, which forms the informal foundation of exchange relations in Chinese society and serves as a means of marketization itself (Chan, 2009; Wank, 1996; Walder, 1985). Once well established, *guanxi* can be used in exchange for political, financial, business and sentimental benefits. Since *guanxi* has the instrumental function and is convertible into other forms of capital, Chinese entrepreneurs are sometimes inclined to apply informal contractual obligations under the principle of *guanxi*, built through long term and complex social networking. Instead of straightly following regulations which could vary from one governor to another, they tend to seek a more effective protection from *guanxi*. Without a good understanding of *guanxi*, it would be difficult to achieve profitable collaborations with Chinese businessmen and Chinese companies. Hamilton (1989) coined the term of “*guanxi* capitalism” as a distinct form of business practice in China, referring to the fact that historically and psychologically rooted insecurity has rendered Chinese prefer dealing to the greatest extent possible only with familiar people that one can trust.

Guanxi is also seen as a product of under-developed legal system and regulatory structure in China (Guthrie, 2002). Even today, institutional trust is still comparatively weak in China. According to the 2006 Civicus Civil Society Survey, trust level in Chinese society scored 1 out of 3. Since the score included the positive effects of *guanxi*, the actual level of institutional trust was likely to be even lower. Similarly, results from the 2009 World Values Survey show that 89% of Chinese do not trust strangers, which is a rather high score compared to 31% for Sweden, 49% for Canada, and 60% for the US. Facing such low institutional trust and general mistrust among people, any kind of business exchange or cooperation would need the building of interpersonal trust as the first step. While the main institutional trust in the West is based on a strong rule of law, its application in China remains uncompleted, despite recent institutional improvements. This results from several factors, including lack of government transparency, absence of legal accountability of the CPC and its main organs, low protection of individual rights by the present constitution, and lack of professionalization of legal officers. Besides under-developed formal institutions, there is also a social and cultural inertia that delays the replacement of interpersonal *guanxi* by the institutional trust.

2.2.4-5 The hybrid capitalism in China

Studies about the historical experience of East Asia's new capitalist countries such as Japan and South Korea indicates that their economic and social developments all entail a shift from dependence on agricultural activities into reliance on modern industrial and service sectors (Felipe et al., 2013). This shift is generally referred to as a structural transformation which moves the main economy from low-productivity low-wage sectors to high-productivity high-wage sectors and leads to fast and sustained growth. Huang (2008) affirmed that the Chinese success is very much a "convention success" achieved through private entrepreneurship and private ownership, with early implementation of financial reforms, and guided by the productive role of the state. While we could argue that many growth phenomena in China had or have a transitory feature, such as the TVEs, the SOE dominance, the dual pricing systems, the monopoly in banking sector, and the politically guided SOE IPOs, and we can observe the establishment of a major and dynamic private economy based on market system principles in China, we cannot ignore the remaining control of the central and local state and we cannot easily conclude if the future reforms will bring the Chinese economy to totally liberalize. According to some, the transitory contributions of SOEs, TVEs, dual systems or political IPOs in China demonstrate that there is no standard formula of economic transition from plan to market, nor does there exist a universal model for economic development (Zhu, 2010; Lin, 2009; Naughton, 2007; Qian, 2002; Lin and Zhu, 2001; Lau, Qian and Roland, 2000; Che and Qian, 1998). Is China's growth model similar to other East Asia countries, or is it a unique system of development? Even though Schmidt (2003) mentioned about the "developmental states" in Asian countries and Amable's (2003) five-model theory formally integrated Asian capitalism as a distinct type, their analysis was limited to countries and regions with fast development during the 1980s and 1990s, namely Japan, South Korea, Taiwan. In fact, few scholars working within the varieties of capitalism paradigm have sufficient understanding of Chinese political economy for rigorous academic debate and China specialists tend to instead treat China as a case sui generis (Witt, 2010).

Huang (2011b) described China's economic model as a state capitalism under Beijing Consensus⁵¹, which was developed through three stages: the bottom-up entrepreneurial

⁵¹ The "Beijing Consensus" stands for an alternative economic policy regarding the doctrine of the "Washington Consensus". The term "Washington Consensus", coined by John Williamson in 1989, describes a set of specific economic policies promoted by Washington, D.C. based institutions, such as the IMF and World Bank, which

growth and the rural miracle in the 1980s; the rapid urbanization under state-led economic policy with modest income effects in the 1990s; the social adjustments and economic rebalancing emphasizing more equal income gains since the 2000s. China today is more capitalistic than it was in the 1980s, but the kind of capitalism that China had in the 1980s was more politically independent and welfare-oriented, compared to the state-connected and politically connected capitalism of today (Huang, 2008). Breslin (2004) considered that China has moved from a state planned and state owned economy towards a hybrid economic system under strong state regulation with the existence of a private economic sphere that remains close to the state system that spawned it. China's economic development and social stability are pillars to the communist party legitimacy that were primarily sought by Deng Xiaoping-led CPC. The adoption of modified capitalist methods and insertion into the global economy was seen as part of the achievement of economic performance. Moreover, the government began restructuring in 1998 to move from direct government control over the national economy to government supervision and regulation through legal and economic means, and the Party has become more flexible and open to listening to intellectuals, social groups and business associations. A kind of new local-state corporatism under socio-political compromise has emerged between the party and people whereby the people do not compete with the party for political power as long as the party looks after their economic fortunes and social welfare (Boyer, 2012; Breslin, 2004). Du and Xu (2005) also considered the contemporary economic system of China a state capitalist system, even though unstable, rather than a market socialist system. The most important coordination mechanisms for a market socialist economy are the administrative mechanism, or "bureaucratic coordination" (Kornai, 2001), and the market mechanism. Financial markets and laws which are absent in the market socialism as mechanisms of solving incentive problems do exist in the Chinese economic system and business profits are retained by enterprises rather than being equitably distributed among the population as in the socialist system.

While China hasn't fully installed market-based legal and financial institutions, it has a unique access to global market and financial resources via its special territory Hong Kong, which is equipped with mature Western legal institutions and advantageous tax regimes attracting global investors and entrepreneurs (Huang, 2008). Since Hong Kong's returning

espouses private property rights, economic opening, financial reforms, macroeconomic stability and political liberalization, and represents the general orientation towards a strongly market-based economic regime. The "Beijing consensus" emphasizes the productive role of the state in managing transition, ownership and finance, and it sees development in private sector as the result of economic growth rather than a condition for growth.

under CPC's central governance in 1997, China has achieved remarkable results by combining central state capitalism with local market capitalism to best serve the national priority of economic development. And Hong Kong is not the only example of liberalized local market capitalism parallel to the central state capitalism. In Zhejiang Province there is the famous "Wenzhou economy" which is a profit-oriented grassroots capitalist system based on global market needs and informal local institutions. "Wenzhou" people made good fortune in the 1980s and 1990s by specializing in globally appealing manufacture niches, often starting with low-technology textile or accessory sector and gradually upgrading. Being geographically close, enterprises usually cooperate with each other to be most efficient and flexible, and their primary financial sources were not the restrictive state-owned bank loans but informal finance and inter-personal debts with considerable interest charge and via trustful acquaintance. Zhejiang now ranks the fourth richest region in China, after Shanghai, Beijing and Tianjin which benefit from special regime and treatment; and the economic gains in Zhejiang mostly go to enterprises and residents rather than to the government (Huang, 2008). Another example is the Province of Guangdong. With a historically inherited entrepreneurial culture, benefiting from its close connection to Hong Kong via Shenzhen, the region has abundant manufacture factories, commerce companies and financial institutions, and holds the headquarters of many multinationals.

The various reforms that have brought gradual or radical changes to the Chinese economy and its supporting legal, financial and social institutions are results of the state-led development plan of the Communist Party of China. We have seen examples of the transitory phenomena of the economy of TVEs and SOEs, the evolving ownership composition and the dual-track reforms. Meanwhile, the leading economic activity in the coastal regions and the fast financialization of the major cities of these regions seem to suggest a full embrace of the modern capitalism. The increasing sophistication and diversification of China's export goods also represent a growing integration of its economic institutions into the global standards. However, while adapting its principal institutions to the norms of more developed capitalist economies, China has not, and probably will not either, become a capitalist country. By combining more policy-oriented central state capitalism with more market-based local market capitalism, China has achieved considerable liberalization in many important fields including industries, technology innovation, financial sectors, state-owned economy, education and cultural aspects. But the capitalist market system in China is a hybrid form of capitalism, which besides market competition comprises a Party of monopole power, the still privileged

SOEs, mixed ownership, politically controlled financial markets, and the pro-business *guanxi* networks. It is the “Capitalism with Chinese characteristics” (Huang, 2008). This hybrid capitalism of China is apparently the choice of its governing Party. But more fundamentally, it is the result of the path-dependency of the evolutionary history of the modern China.

Section 2.3 China and the varieties of capitalism: an empirical study with Principal Component Analysis

In this section, we will conduct a statistic analysis to verify if the economic model of China is close to any of the existing models of the varieties of capitalism. In their seminal theory on the varieties of capitalism, Hall and Soskice (2001) contrasted liberal market economy (LME) with coordinated market economy (CME). Witt (2010) used this framework to examine the case of China and finds that, although China is in many ways different from both models, its actual status is much closer to an LME than a CME. Based on Hall and Soskice’s theoretical foundation, Amable (2003) proposed a more elaborated five-model system, in which he also incorporates Asian capitalism and refers it primarily to Japan and South Korea. Our study will use the five-model structure proposed by Amable (2003) and we will select representative economies of each model for our comparison. As the economies studied in his five capitalisms are all developed economies, we consider it valuable to complete their comparison with China by bringing in the other three members of the BRIC⁵². Therefore, we set up the following six groups for our analysis (Table 2-3). We are interested in comparing them both on a static basis of their current institutional status and from a dynamic perspective evaluating if they have been converging or diverging during the last decade of development.

⁵² The term “BRIC” was coined in 2001 by Goldman Sachs economist Jim O’Neill in his publication *Building Better Global Economic BRICs*. It was originally referring to four major emerging economies: Brazil, Russia, China and India. South Africa joined the group in 2010 and the term became then “BRICS”. Here we only focus on the four initial members.

Table 2-3: Six study groups (by author)

Market-based model	Social-democratic model	Continental Europe model	Mediterranean model	Asian model	the BRIC
United Kingdom (GBR), United States (USA), Canada (CAN)	Finland (FIN), Sweden (SWE), Denmark (DNK)	Germany (DEU), Belgium (BEL), France (FRA)	Italy (ITA), Spain (ESP), Greece (GRC)	Japan (JPN), South Korea (KOR), Hong Kong (HKG), Taiwan (TWN)	Brazil (BRA), Russia (RUS), India (IND), China (CHN)

2.3.1 Choice of analytical tool and data descriptions

Principal Component Analysis (PCA) is a simple and standard method of modern data analysis frequently used in diverse fields from economy, neuroscience to computer graphics. It is one of several statistical tools available for reducing the dimensionality of a data set and for studying the similarities among the random data. It was invented in 1901 by Karl Pearson as an analogue of the principal axes theorem in mechanics. PCA can mathematically transform the data to a new coordinate system, composed by a set of new components, in which the first component captures the greatest variance, the second component the second greatest variance, and so on. The first few components, as principal components, will be able to capture 80% to 90% of the total variance. Therefore, by using the PCA method, the dimensionality of a data set is significantly reduced and the multi-dimensional variance among the data can be proximately explained by few principal components, which is informatively more interesting for the analysis. This operation can be seen as revealing the internal structure of the data in a way that best explains the variance in the data. Besides, it is a practical technique that allows us to verify if positive or negative, strong or weak correlations exist between variables and statistic groups and thus helps us to classify or propose a typology of the different observations of the studied sample. The statistical features of PCA correspond well to the needs of our study, as we will analyze indicators covering different dimensions of an institutional environment concerning each economy and our objective is to examine if the Chinese economy is similar to any other economy or any identified model of capitalism.

In his analysis of *Five Capitalisms* (2003), Amable used indicators provided by the OECD, World Bank and former researchers for each of the five institutional fields: market

competition and regulation, labor market, financial sector, social protection and education system. In this study, we use indicators supplied by the Global Competitiveness Reports published by the World Economic Forum. The Global Competitiveness Report was launched in 1979 by Klaus Schwab, founder and executive chairman of the World Economic Forum, and initially covering 16 countries. Since then, the methodology has undergone several improvements in order to reflect the newest thinking in matters of development and measurement of economic growth, and the number of economies under study has grown to 144 in the last report. With the latest major changes in 2005, only data from the 2006-2007 report is available for comparison. Through collaboration with over 160 reputed partner institutes worldwide, the Global Competitiveness Report offers a detailed profile for each economy under study as well as their global rankings produced by over 100 indicators. The indicators of competitiveness involve both static and dynamic factors, which are structured by the report into 12 pillars under 3 main themes as shown in Table 2-4, 2-5 and 2-6.

The report uses publicly available data from major international organizations such as World Bank, WHO, IMF, OECD and UNESCO. Moreover, it has a unique source of qualitative information and a key ingredient of its benchmarking activities: the World Economic Forum's annual Executive Opinion survey. The survey has been produced annually since 1979 and it captures the opinions of business leaders from different economies on a broad range of topics for which data sources are scarce or often nonexistent on a global scale. It is a highly valuable complement to the data provided by international organizations and national statistical offices. Partner institutes which carry out the interview process in their own country are asked to follow detailed sampling guidelines to ensure that the sample of respondents is the most representative possible and is comparable across the globe in a specific timeframe. The latest 2014 edition of the survey captured the opinions of over 14,000 business leaders in 144 economies between February and June 2014, covering 98.7% of the world GDP. 39.1% of surveys are done online while the rest are made by mailed paper forms, telephone or face-to-face interviews. The average number of valid survey by economy is 92.8 and the 3rd quartile number is 100; the US, China and Mexico offer the largest samples of 369, 362 and 340 respectively; the smallest samples are from Swaziland and Israel of 32. Therefore, the results of the survey are quite representative and useful for our comparison.

Table 2-4: Variables representing basic requirements (by author)

	Variables	Main indicators
I. Basic requirements	1. Institutions (Instit)	1.1 Property rights: property right, legal protection 1.2 Ethics and corruption: diversion of public funds, public trust in politicians, bribes 1.3 Undue influence: judicial independence, favoritism 1.4 Government efficiency: government spending, regulation burden, legal efficiency and policymaking transparency 1.5 Security: terrorism, crime, violence, reliability of police services 1.6 Corporate ethics 1.7 Accountability: auditing, reporting, corporate boards, minority shareholder interest protection, investor protection
	2. Infrastructure (Infra)	2.1 Transport infrastructure: quality of overall infrastructure, roads, railroads, ports, air transport 2.2 Electricity and telephone infrastructure: quality of electricity supply, mobile subscriptions and fixed telephone lines weighted by population
	3. Macroeconomic environment (Macroeco)	3.1 government budget balance weighted by GDP 3.2 Gross national savings weighted by GDP 3.3 Inflation, annual % change 3.4 General government debt weighted by GDP 3.5 Country credit rating
	4. Health and primary education (Healthedu)	4.1 Health: occurrence rate and business impact of malaria, tuberculosis and HIV, infant mortality, life expectancy 4.2 Primary education: quality and enrollment rate

In the first main theme “Basic requirements”, four pillars are identified including institutions, infrastructure, macroeconomic environment, health and primary education. (1) Institutional environment is determined by the legal and administrative framework within which individuals, firms and governments interact to generate wealth. It involves both the public sectors and the private sectors, and depends on the efficiency and accountability of both. (2) Infrastructure is critical for the effective functioning of the economy and it is an important factor for making decisions on business development, investment allocation and local recruitment. Well-developed transport and communications infrastructure is prerequisite for market-based exchanges and a better connection of local economy to the globalized world. (3) The macroeconomic environment is important to economic actors as related issues, such as inflation, public finance balance and credit rating, often have significant impact on the economic and social stability of a country. A stable and pro-business macroeconomic environment usually attracts investors, entrepreneurs and better human capital. (4) Health and primary education provide basic conditions for an economy’s workforce to function to their potential and be productive. Poor health leads to costs to business operations while workers

who have received insufficient education will constrain business development as they are not capable to adapt themselves to more advanced techniques.

Table 2-5: Variables representing efficiency enhancers (by author)

	Variables	Main indicators
II. Efficiency enhancers	5. Higher education and training (Edutrain)	5.1 Depth of education: enrollment for secondary education and tertiary education 5.2 Quality of education: education system, math and science education, management schools, internet access 5.3 On-the-job training: availability of research and training services, extent of staff training
	6. Goods market efficiency (Gdseffi)	6.1 Domestic competition: intensity of local competition, market dominance, anti-monopoly policy, taxation on investment, total tax rate, complexity of starting business, agricultural policy costs 6.2 Foreign competition: trade barriers and tariffs, foreign ownership, FDI rules, customs procedures, imports over GDP 6.3 Quality of demand: customer orientation, buyer sophistication
	7. Labor market efficiency (Laboreffi)	7.1 Flexibility: labor-employer cooperation, wage determination, hiring and firing, redundancy costs 7.2 Efficiency use of talent: pay and productivity, reliance on professional management, country capacity of retain and attract talent, women in labor force
	8. Financial market development (Finamkt)	8.1 Efficiency: availability and affordability of financial services, local equity market financing, access to loans, venture capital availability 8.2 Trustworthiness and confidence: banking system soundness, regulation of securities exchanges, legal rights index
	9. Technological readiness (Tech)	9.1 Technological adoption: availability of latest technologies, firm-level technology absorption, FDI and technology transfer 9.2 ICT use: individual internet use, internet subscriptions weighted by population, bandwidth, mobile broadband use
	10. Market size (Mktsize)	10.1 Domestic market size: GDP, exports weight in GDP, domestic market size index 10.2 Foreign market size: foreign market size index

In the second main theme “efficiency enhancers”, six pillars are identified as higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness and market size. (5) Higher education and training is crucial for an economy to transform from labor-intensive and low value-added sectors to capital-intensive and high value-added sectors and to move up the value chain. The practice of on-the-job training is important to upgrade a firm’s human capital to its development needs. (6) Goods market efficiency is largely determined by the government regulation and the extent of competition and is also influenced by the customer demand. A balanced mixture of government intervention and fair competition among firms of different natures is needed. Discriminative taxes, distortionary barriers or other administrative burdens will reduce market efficiency. (7) Good labor market arrangements should offer the efficiency and flexibility for

workers to be allocated to the most effective use at low cost and low social disruption. They should provide strong incentives to promote the best effort in work and advocate gender equity among the employees. (8) Financial markets play a central role in modern economies. An efficient financial sector will channel resources to economic activities with the highest risk-adjusted return ratio. To be efficient, financial markets should be able to provide sophisticated products and services, combining loans from a sound banking sector, capital from well-regulated securities markets, equity investment from venture capital, etc. (9) Technology readiness measures if an economy has successfully adopted existing technologies to enhance its industrial productivity, especially its use of information and communication technologies. It also takes into account the access to advanced technologies and production process through FDI and technology transfer. (10) Market size is important to economic activities since large markets allow firms to exploit economies of scale. With globalization and the development of regional common markets, foreign markets have become a substitute for domestic markets and exports can further drive economic growth.

Table 2-6: Variables representing innovation and sophistication factors (by author)

	Variables	Main indicators
III. Innovation and sophistication factors	11. Business sophistication (Busophi)	11.1 Local supplier: local supplier quantity and quality 11.2 State of cluster development 11.3 Value creation: value chain breadth, nature of competitive advantage 11.4 Sales and distribution: extent of marketing, control of international distribution 11.5 Willingness to delegate authority 11.6 Production process sophistication
	12. Innovation (Innov)	12.1 Innovation capacity: quality of research institutions, company spending on R&D, university-industry collaboration, government procurement of advanced tech products 12.2 PCT patents applications 12.3 Availability of scientists and engineers

The third main theme “innovation and sophistication factors” includes two pillars. (11) Business sophistication concerns both the quality of an economy’s overall networks, such as suppliers and clusters, and the quality of each firm’s specific strategies and operations, such as branding, marketing, distribution and production process. Higher business sophistication is generally linked to higher efficiency in the production of goods and services. (12) As organizational and procedural innovations are already included in former pillars, here innovation focuses on technological innovation. In modern economy, technology is increasingly crucial for all business aspects from products and services upgrading, production

process design, marketing and distributions, management, to partnership building. Innovation needs efforts from both public and private sectors to provide a favorable environment that promotes R&D and its industrialization, enforces intellectual property protection, and attracts talented researchers and engineers.

Besides the 12 pillars, for the interest of our study, we add the variable (13) with the index of venture capital availability (**VC**), which is used in the report as one of the indicators for measuring financial market development. This index is obtained from the Executive Opinion Survey by asking interviewees “in your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? (1 = extremely difficult; 7 = extremely easy)” (GCI Report 2014-2015, pp.500). In the theoretical part we have presented the mechanisms and functions of private equity and venture capital, and how these funds operate on a complementary basis with other economic and institutional factors. The test can show us if there is a strong correlation or link between venture capital availability and the rest of the factors that determine economic growth. To avoid information distortion with this purposely added index, we have conducted twice the PCA tests with and without the variable of **VC**, and the results assured us that the inclusion of **VC** doesn't have any significant impact on the relations of other variables or on the factorial projections of the observations. As we can observe from the description, most indicators have strong influence on several other indicators. These 13 indexes are generally interrelated and tend to enforce each other. Therefore we expect to find strong correlations among the variables for economies under study. We will first use the data set from the 2014-2015 report to obtain a static view of the relations of the six economy groups. Later we will use the 2006-2007 report to make some comparisons in order to obtain a dynamic view on how the relations between these groups and economies have evolved throughout nearly a decade.

2.3.2 Results of PCA and interpretations

The principal component analysis with the 13 variables and observations of 20 economies from 2014-2015 was made with XLSTAT. The results are generated by the program by using the correlation matrix calculated with the initial data set. Then the correlation matrix allows us to project the variables onto the axes of principal components in the way that the total variance is better preserved and little information is lost during the projection. In accordance with the order of results produced by the program, we will first

present the correlation matrix of the variables and the tests of robustness, and then analyze the projection of variables and observations on the plan of factorial axes. The projection results provide us a statistical vision of the six economy groups. By interpreting these results, we will also comment on how this study relates to the theoretical framework and existing literatures. Finally, we will examine a few economies sharing similar competitive features with the Chinese economy and draw a conclusion about the classification of China in the varieties of capitalism.

2.3.2-1 Correlation matrix

Table 2-7: Correlation matrix of Pearson (by author)

Variables	Instit	Infra	Macroeco	Healthedu	Edutrain	Gdseffi	Laboreffi	Finamkt	Tech	Mktsize	Busophi	Innov	VC
Instit	1												
Infra	0,605	1											
Macroeco	0,259	0,140	1										
Healthedu	0,665	0,758	0,140	1									
Edutrain	0,707	0,721	0,187	0,789	1								
Gdseffi	0,879	0,774	0,309	0,679	0,728	1							
Laboreffi	0,785	0,549	0,353	0,329	0,557	0,794	1						
Finamkt	0,873	0,472	0,294	0,363	0,566	0,796	0,829	1					
Tech	0,706	0,868	0,112	0,773	0,888	0,755	0,568	0,537	1				
Mktsize	-0,306	-0,185	-0,148	-0,434	-0,428	-0,208	0,005	-0,037	-0,440	1			
Busophi	0,809	0,688	0,109	0,654	0,734	0,832	0,589	0,727	0,762	-0,050	1		
Innov	0,815	0,636	0,264	0,680	0,788	0,809	0,599	0,719	0,728	-0,097	0,927	1	
VC	0,699	0,258	0,294	0,186	0,345	0,640	0,729	0,866	0,236	0,192	0,528	0,584	1

Values in bold are different from 0 with a significance level $\alpha=0,05$

The first result of PCA shows us the correlation matrix in Table 2-7, calculated from our initial matrix of 13 variables and 20 observations. To evaluate the robustness of PCA, two tests of effectiveness and adequacy are conducted. Bartlett's sphericity test⁵³ shows a p-value <0.0001, lower than the significance level $\alpha=0.05$. Therefore the hypothesis H0 of no significant correlation is rejected at a risk lower than 0.01%. The test confirms that at least one of the correlations between the variables is significantly different from 0. Moreover, each value in bold in the table represents a significant correlation between the two corresponding variables. The KMO index⁵⁴ shows a value of 0.663, which represents an ordinary level of

⁵³ Bartlett's test aims to detect how far the correlation matrix $R = (r_{ij})$ ($p \times p$) differs from the initial matrix of observations. If $|R|$ is close to 1, PCA is not useful because the variables are almost orthogonal by pair; if there is strong redundancy and co-linearity among the variables, $|R|$ will be close to 0 and PCA is effective.

⁵⁴ The KMO index (Kaiser-Mayer-Olkin) measures the adequacy of the factorization of initial observations by comparing the gross correlation with the partial correlation. If the second has much smaller absolute value, there exists significant redundancy and the information reduction by PCA is effective. The KMO index varies between 0 and 1; the closer it is to 1, the better the summary of information by the principal components we can get. Generally, we consider a value <0.5 to be unacceptable, mediocre for [0.5, 0.6), ordinary for [0.6, 0.7), good for [0.7, 0.8), very good for [0.8, 0.9], and excellent >0.9.

sampling adequacy and is close to the good level between 0.7 and 0.8. Therefore we consider PCA an acceptable and effective method to analyze our initial data set.

For what we can observe from the correlation matrix, our hypothesis of strong correlations among the variables is confirmed. The index of institutions (Instit) is positively and significantly correlated with all other indexes, except a weak correlation with macroeconomic environment (Macroeco) and a negative correlation with market size (Mktsize). The general strong correlations between institutions and other variables are easy to understand. As we can see from Table 2-3, the main indicators of the component institutions involve fundamental institutional factors, such as property right, legal protection, corruption and public trust, role and efficiency of government, business ethics and corporate governance. Earlier literature review shows us that institutions are the rules of the games of a society and that institutions affect the performance of the economy by affecting the costs of exchange and production (North, 1990). Institutions matter for economic growth because they shape the incentives of key economic actors in a society, and in particular, they influence investments in physical assets, human capital and technology, and they impact the organization of production and the distribution of economic resources (Acemoglu, Johnson and Robinson, 2005). Institutions interact with other factors in both static and dynamic ways. In the static model, the influence of institution passes through the circle of “institutions → transaction costs → creation of markets → specialization and division of labor → productivity → economic performance”, and in the dynamic model, the circle becomes “institutions → behavior of organizations → process of creative destruction → technological progress → economic wealth” (Yeager, 1998). New technology innovation, well-functioning capital markets and competitive environment are three crucial elements linking the dynamic cycle (Yeager, 1998). Results of the PCA confirm this: institutions are most strongly and positively correlated with goods market efficiency (Gdseffi), financial market development (Finamkt) and technology innovation (Innov). Better institutions tend to be accompanied by better quality of infrastructure, health, education, job training, and technological conditions, and higher labor market efficiency, business sophistication and venture capital availability.

Meanwhile, we find a weak correlation between institutions (Instit) and macroeconomic environment (Macroeco), which can be explained by the fact that the correlations between macroeconomic environment and other variables are all very weak according to the PCA results. Even the strongest correlation between macroeconomic environment and labor market

efficiency is statistically insignificant. The indicators used to measure macroeconomic environment and economic stability are government budget, national saving rate, inflation rate, and country credit rating. We know that government budget balance and saving rate don't necessarily have a strong and positive tie with economic growth, and over-strict budget control or high private saving rate could even impede the economic progress (Laski, 2007; Guger and al., 2004; Vickrey, 1996; Carroll and Weil, 1994; Steindl, 1990; Keynes, 1936). The inflation rate is often the objective of strict control and government intervention. A country's credit rating corresponds to sovereign bonds and is often politically oriented. Therefore, the current measurement of macroeconomic environment has insignificant relations with other factors of economic growth, such as institutional environment, infrastructure, health, education, technology and market efficiency.

A negative and insignificant correlation between institutions (Instit) and market size (Mktsize) seems strange at first glance, which might be due to the heterogeneity of our samples particularly concerning their level of financial and institutional development. Moreover, from Table 2-6 we can see that market size is negatively correlated with all other indicators of competitiveness except labor market and venture capital availability; and these correlations are all statistically insignificant. Traditional theory indicates a positive relation between market size and economic growth based on the concept of economies of scale, which is however much contradicted by recent studies. Backus, Kehoe and Kehoe (1992) showed empirically that scale, defined as the size of total GDP, and aggregated growth were largely unrelated. Rose (2006) found no relationship between population size and growth. Furceri and Karras (2007) documented an inverse relationship between country size and volatility for OECD economies. Alouini and Hubert (2014) found a negative correlation between scale, measured by population, GDP and arable land, and economic performance. They also noticed that this negative relationship is more marked for small countries, OECD economies and the BRICS, and less for euro zone countries. Many studies proved that small countries have a higher degree of openness and market efficiency (Rose, 2006; Spolaore and Wacziarg, 2005; Rodrik, 1998). As the world economy becomes more integrated, the benefit of market size for large and developed countries vanishes and the trade-off between size and heterogeneity shifts in favor of smaller and more homogeneous countries (Alesina, Spolaore and Wacziarg, 2005).

It is interesting to notice that besides institutions, financial market development (Finamkt) is most significantly and positively correlated with venture capital availability (VC)

and labor market efficiency (Laboreffi). Although there is a certain degree of bias in this evaluation, a close and positive relationship between financial markets and the activity of private equity investments has been suggested by various studies. Black and Gilson (1998) were among the first to suggest a positive link between one country's financial system and venture capital market intensity. Later research shows that the presence of a well-developed stock market with good liquidity and active IPOs will accelerate the process of venture capital investment and boost market activities (Lerner and Tåg, 2013; Bonini and Senem, 2011; Michelacci and Suarez, 2004; Schertler, 2003; Jeng and Wells, 2000). Stock markets indexes also have strong and positive impact on the performance of private equity funds (Aigner et al. 2008). Meanwhile, further development of financial markets requires labor markets to be flexible and quick to respond to changing business conditions, so that entry into new opportunities and exit from stagnating or declining industries won't be impeded by laborious administrative procedures and heavy social charges. Labor market regulations and the resulting rigidities are generally identified as a big obstacle for the development of the private equity and venture capital industry and have significantly negative impact on entrepreneurship and private businesses (Bozkaya and Kerr, 2013; Lerner and Tåg, 2013; Bonini and Senem, 2011; Romain and De la Potterie, 2004; Schertler, 2003, Jeng and Wells, 2000). This is because strong labor market regulations generally increase the costs of starting and running a private business, and thereby discourage the entry to entrepreneurship, hence reduce the aggregate financing needs of new ventures.

Strong and positive correlations between every two variables among goods market efficiency (Gdseffi), business sophistication (Busophi) and innovation (Innov) indicate their important inter-influence. Goods market efficiency measures the environment of business, whether it is favorable to fair competition, starting a venture, free trade and foreign investment; it also takes into consideration information on consumer demands. On one side, goods market efficiency evidently has strong interactions with business sophistication through the quality of market organization and the function of business networks. Goods market efficiency also impacts innovation systems of an economy and how the resources are allocated to technology innovation and its industrialization. A more efficient goods market sets better conditions for developing business and strategies, allows competition to drive improvements in organization and resource allocation, and attracts more long-term investments and human capital. On the other side, higher business sophistication means better quality for the overall economic networks and higher firm productivity, which should in

return reinforce goods market efficiency and boost innovation. Stronger and more advanced technology innovation provides more efficient tools for every procedure and every function of production and sales, from purchasing, fabrication, processing and distribution to management, communication and recruitment, which results in improved management agility and market efficiency, as well as deepened business sophistication.

Technology readiness (Tech) has strong and positive correlations with infrastructure (Infra) and higher education and training (Edutrain). Infrastructure provides the basic and physical conditions for the operation of technological devices. Higher education and training programs form the human capital that is capable of making use of new technology and modern communication means. At the same time, adaptation of new technological and better use of communication technology can significantly improve infrastructure building and maintenance, and provide more efficient means and more adapted tools for speciality, education and vocational training.

Venture capital availability (VC) is most significantly correlated with financial market development (Finamkt), labor market efficiency (Laboreffi) and institutions (Instit). We have already provided explanations for venture capital activity's close connections to financial market development and labor market efficiency. By setting game rules and influencing investment decisions, institutions are fundamentally impacting the mechanisms of venture capital funds. Good institutional conditions stand for strong legal protection, high public trust, business ethics, supportive government and healthy corporate governance, which are crucial for the risk-taking venture capital activity. Comparatively, it is less strongly correlated with goods markets efficiency (Gdseffi), innovation (Innov) and business sophistication (Busophi). Competitive environment, business networks, innovation systems, R&D expenses, firm strategies and productivity do matter to ventures and their investors, but they are less influential than institutional conditions and financial market.

2.3.2-2 Factorial projections

Based on the correlation matrix, the PCA transforms the initial data to a new coordinate system composed by a set of new components, also called factorial axes. This process is a projection of the initial data set onto the new factorial axes: each axis represents a portion of the total variability of the variables, and captures part of the whole information. Table 2-8

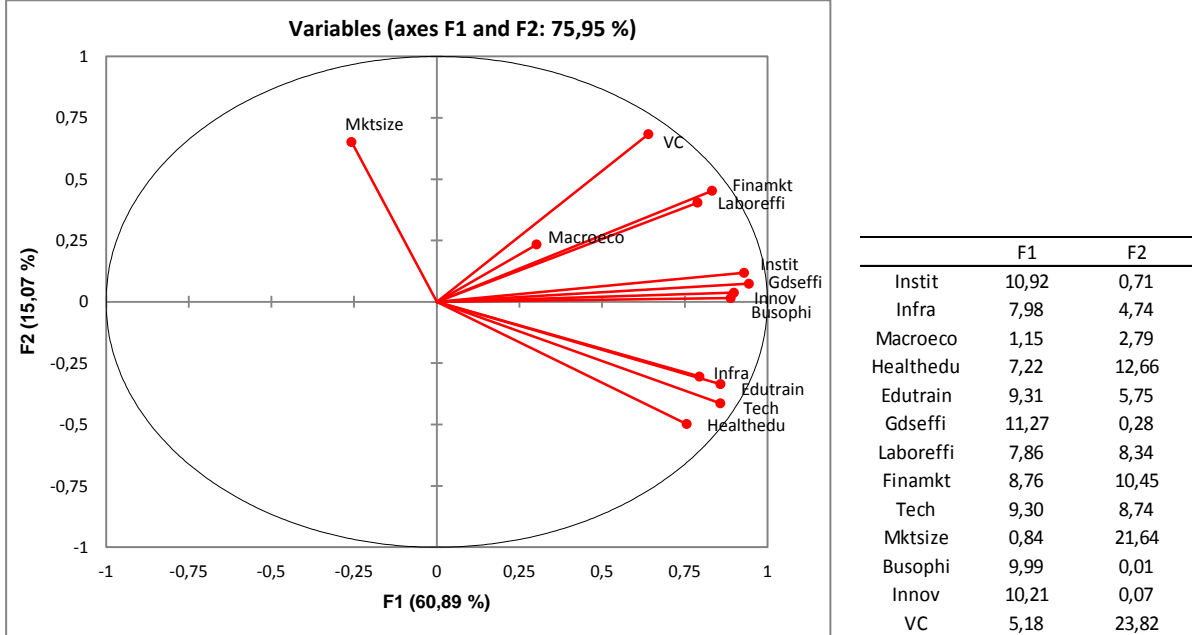
shows us the representative quality of each axis. We can see that there is a strong concentration of variability in axis F1, which alone represents almost 61% of all information. With the two first axes, the cumulative variability reaches 76%, which is high enough to be a good representation. Moreover, the rest of the axes all have poor quality of projection. Therefore, we will take the two first axes as our principal components for the study.

Table 2-8: Value, single variability and cumulative variability of factorial axes (by author)

	F1	F2	F3	F4	F5
Eigenvalue	7,915	1,959	1,072	0,672	0,500
Variability (%)	60,888	15,066	8,248	5,173	3,850
Cumulative (%)	60,888	75,953	84,202	89,374	93,224

The factorial projection on the first two axes transforms the correlation matrix into a two-dimension plan as shown by Figure 2-13. The correlation cycle allows us to better understand what each axis represents. When a variable situates close to the cycle line, its correlation with other variables is strong. The positions of Macroeco and Mktsize apparently confirm their weak correlations with other variables. On the right of the figure is the contribution of variables to each factorial axis in percentage.

Figure 2-13: Correlation cycle (by author)



For the horizontal axis F1, we can observe a high concentration of variables, among which goods market efficiency (Gdseffi), institutions (Instit), innovation (Innov) and business sophistication (Busophi) are most significantly present; less strong but still significantly

present are the variables of financial market development (Finamkt), labor market efficiency (Laboreffi), education and training (Edutrain), infrastructure (Infra), technology readiness (Tech), and health and primary education (Healthedu). Therefore, axis F1 represents the level of institutional development and efficiency of different markets (goods, finance, labor, technology). We could predict that economies better represented by axis F1 are those with developed institutions and infrastructure, efficient markets and dynamic technology innovation. For the vertical axis F2, only two variables are better represented, which are market size (Mktsize) and venture capital availability (VC). For the rest, financial market development (Finamkt) and labor market efficiency (Laboreffi) are less strongly presented, while health and primary education (Healthedu) and technology readiness (Tech) are negatively related. Therefore, axis F2 represents mostly the size effect of economy and is negatively related to the level of technology, health and education. We could then predict that economies with a significant market size, good financial and labor resources, and lower level of technology and education will be better represented by axis F2.

Now that we have a better understanding of the signification of each axis, we can set out to analyze the projection of our six groups of observations in the factorial plan. This is the central part of our analysis, which allows us to visualize the institutional differences of the 20 economies, seek possible explanations according to an abundant literature and facts, and verify if the Chinese economy belongs to any established model of capitalism.

Figure 2-14: Projection of observations in the factorial plan (by author)

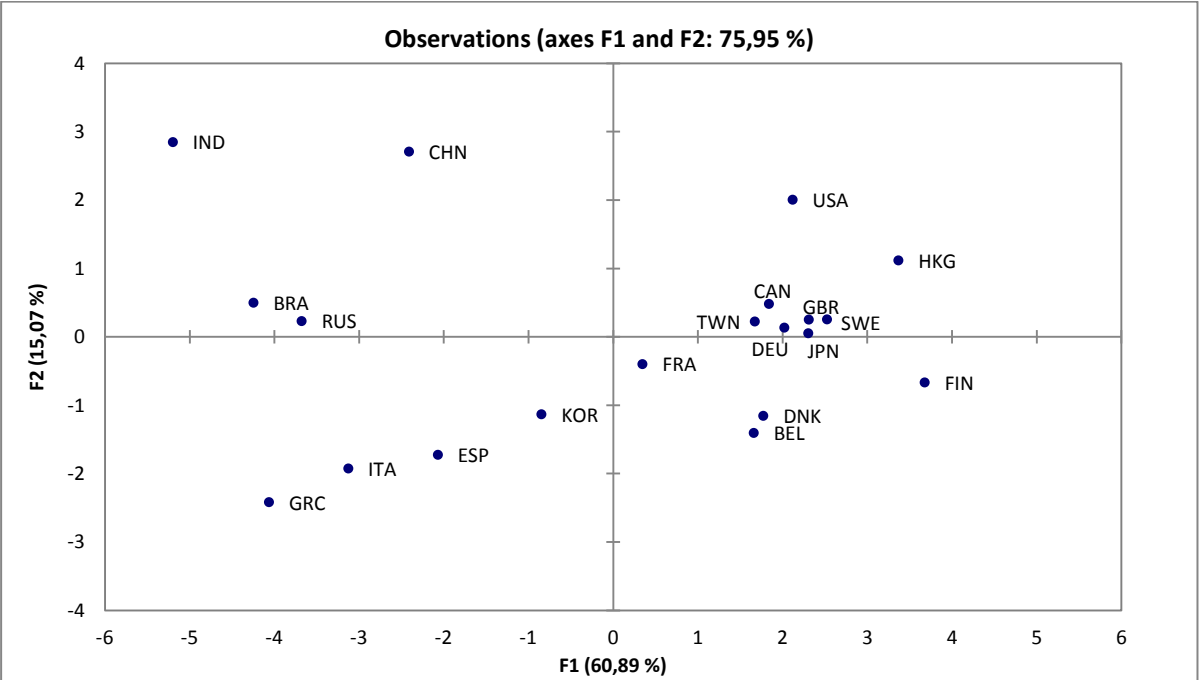


Figure 2-14 shows the projection of our observations on two factorial axes. Economies situate on the right of the plan, in which zone they have a positive value on axis F1, are all advanced and high-income economies. They also rank at the top of the list of the Human Development Index (HDI)⁵⁵. The results confirm the general theory that better institutions and well-developed markets lead to higher economic income and better human capital development (Chang, 2006; Acemoglu, Johnson and Robinson, 2005; Edison, 2003). Among the developed economies, Finland and Hong Kong have the most advantageous institutional structures and efficient market organizations. Meanwhile, we notice that Finland, Denmark and Belgium situate in the negative zone of axis F2, because they have comparatively small economy size, less developed venture capital sector and high level of technology, health and education. The French economy is similar to their situation but on a smaller scale. We also observe that Japan, Germany, Taiwan, the UK, Sweden and Canada, though sitting in the positive zone of axis F2, are very close to the 0 line, which signifies that their economies have little size effect. The US and Hong Kong are the only two developed economies that have a significant size effect. The economy of the US benefits from vast national and international markets and its venture capital sector is the most important and active one in the world. Hong Kong, with its well-developed western institutions, efficient financial markets attracting global investors and strong business ties to China mainland, is similar to the US but has smaller size effect.

On the left side of the plan are economies that have insufficient institutions and sub-efficient market organizations. Among these economies, we distinguish the group of BRIC in the positive zone of axis F2 and the group of Mediterranean model in the negative zone. Comparatively, India has the strongest market size effect, the weakest institutions and the lowest market efficiency among all the observations. China has strong market size effect too, but its institutional conditions and market efficiency, even though much better than India, are still in need of improvement. Brazil and Russia are close in their position of medium market size and quite insufficient institutional structures. Spain is slightly better off among the three Mediterranean economies; however being that they are all situated in the negative zone for both axes, they suffer from the double handicaps of small market size and under-developed institutions and market organizations.

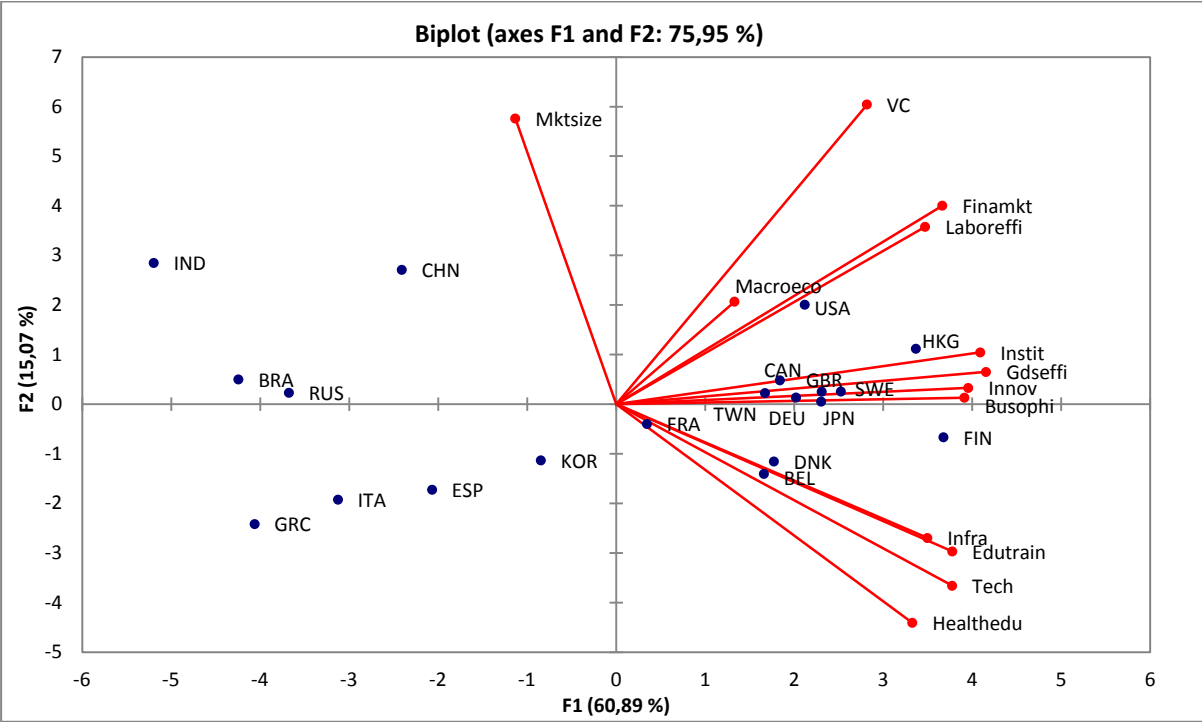
⁵⁵ The HDI is a statistical indicator of a country's level of human development. Even though strongly correlated to per-capita income or productivity, its purpose is to measure how income is turned into education and health opportunities and therefore into higher levels of human development.

2.3.2-3 Analysis in six economy groups

Even though an abundant literature predicts the convergence and homogenization of economies through competitive deregulation (Regini, 2000; Iversen, 1999; Wallerstein et al., 1997; Berger and Dore, 1996; Zysman, 1996; Hyman, 1994), it applies better to Anglo-Saxon economies, especially the US and Britain, where the decline of unions and of collective bargaining is unabated, and less to developments elsewhere. Since the 1980s, modest efforts were made to liberalize labor and capital markets in coordinated economies and to improve their flexibility, but the change was slow and institutional practices of LME and CME did not converge dramatically (Hall and Gingerich, 2009). The remaining institutional divergence and the creation of comparative advantages in the global economy are the result of the path-dependency and different political and social choices of each country. Companies in a given economy choose their product market strategies by taking into account the social protection and the skill formation system provided by the complementary institutions. An economy featuring a large pool of workers with advanced and highly portable skills under low social protection provides considerable flexibility to its actors, and tends to produce new opportunity oriented companies focusing on innovation strategies and quick financial returns. On the contrary, an economy with a labor force equipped with more firm and industry specific skills under a regime of welfare imposes more difficulty on hiring and firing, and thus is advantageous to companies who seek to develop specializations with established technologies and emphasize long-term cooperation (Estevez-Abe, Iversen, and Soskice, 2001).

In figure 2-15 here below, our 13 variables and 20 observations are projected in the same factorial plan. We can see that the 13 variables offer the best descriptions of the economic characteristics of high performance economies, which are on the right part of the plan and situated close to the orientation lines of the variables; economies on the left of the plan have generally poor results concerning the variables, which means that they lack some of the most fundamental conditions for staying competitive and maintaining durable economic growth. In the following analysis of the projection results in six economy groups established earlier, we could observe both convergences and divergences. By referring to the major literature in the study of varieties of capitalism and different economic models, we attempt to further comment and develop a better understanding of these results.

Figure 2-15: Projection of variables and observations in the factorial plan (by author)



(1) For the group of market-based economies, the projection results are close to the theoretical expectations. Market competition, labor market flexibility and well-developed financial markets are the corner stone of market-based economies, which is confirmed by the positions of the US, the UK and Canada in the plan with similarly good level of institutional soundness and market efficiency. As a much studied example of liberal market economy among European capitalist countries, the British economy is characterized by deregulated markets, low levels of business coordination and much limited state intervention. Under the price-oriented shareholder model of governance, markets play a much more significant role not only in influencing firm decision-making and inter-firm relationships but also in regulating the interactions between all the economic actors. British firms generally struggle with a low-skill low-wage equilibrium which is the result of an industrial system that emphasizes short-term profits and discourages expenses on vocational training and long-term investments in employees (Rubery, 1994; Finegold and Soskice, 1988). Meanwhile, well-developed financial and innovation systems have allowed some British firms to outperform in high-tech and research-based sectors. With a low level of labor market regulation, there is very limited employee representation in large British firms, very low employee participation in the decision-making process of these firms, and most work councils have little influence on company practice. Firm strategies are primarily made by the CEO and dominant investors who are normally aligned towards moving out of stagnating or declining industries and moving

quickly into new product markets and developing new products, which is supported by the flexible labor market and internal practices of promotion and remuneration (Vitols, 2001).

(2) Regarding the social-democratic economies of Finland, Sweden and Denmark, small divergences are shown by the projection. Later in the factorial projection of the 2006-2007 observations we can see that the three economies were much more overlapped at that time. Symbolized by well-coordinated labor market, high productivity and strong innovation, social-democratic economies generally have small economy size, good level of institutions and infrastructure, well-developed financial and education systems, high social protection and low labor market flexibility. This explains the positions of Finland and Denmark in the projection with a positive value on axis F1 and a negative value on axis F2. While, with an efficient vocational training system through dedicated vocational colleges which provides firms with competitive strength in the global product markets, Sweden enjoys a slightly positive market size effect. Their current model was formed during the 1980s, when instead of joining the deregulation competition taken by the Anglo-Saxon countries these economies have retained highly coordinated systems and more flexible multi-industrial bargaining, along with increased reliance on mediation to achieve compromise (Thelen, 2001). Companies became dependent on skilled workers and were highly sensitive to industrial conflict, partly due to their high-quality, high-skill, and high value-added production strategies. On the other side, social protection is closely linked to skill formation. In order to be competitive in product markets firms must employ workers with specific skills, but investment in specific skills increases workers' dependence on a particular group of employers and thus their exposure to risks. Therefore, collective wage-bargaining systems, business organizations, employee representation, and well-developed financial systems facilitate the commitment of actors to long-term strategies and secure investment that are necessary to sustain the provision of specific skills.

(3) The continental European economies, represented by Germany, Belgium and France, also show small divergences. The continental European model shares some similar features with the social-democratic model especially in aspects of high employment protection and coordinated wage-bargaining. While Germany and Belgium are close to Sweden and Denmark respectively, France holds a distant position with less favorable institutional and market conditions. Germany's economy is distinguished by extensive coordination among firms facilitated by industry associations and relatively inflexible labor markets ensuring

investment in apprenticeship training, which together led to a high-skill, high-wage equilibrium (Hall and Gingerich, 2009; Soskice, 1994). As an example of the stakeholder model, Germany is characterized by concentrated ownership and by actors pursuing a mix of financial and strategic goals. Employees in large German companies have board representation and can exert their influence through corporatist bargaining and co-determination. Important legal reforms in company law and financial regulation took place in Germany in the 1990s, which aimed at introducing Anglo-American institutions into its financial markets, promoting more capital market related business, liberalizing restrictions on mutual funds and venture capital, and easing listing requirements for companies to list on the German stock exchange. Although these reforms have led to a more liquid and transparent stock exchange for the large German companies, the vast majority remain dependant on bank loan financing and the publicly owned banks continue to account for more than half of all bank assets (Vitols, 2001). Overall, there are weak incentives in Germany to enter new markets or exit stagnating or declining industries, because companies invest for strategic reasons and are more concerned with market share or technological development; banks prefer conservative policies to preserve the value of their loans; the state is concerned with employment and stability; employee representation further enforces job preservation and the continuity of firm-specific skills formation.

Being primarily a coordinated economy, the French economy is however quite different from the German one and rather mid-way between the Anglo-Saxon market model and the German associational model. Unlike German firms, large French firms do not face a regulatory situation or strong unions that compel them to pursue a strategy of incremental innovation (Regini, 1997). Instead they use the education system to provide general skills and train only firm-specific skills at the firm level (Boyer, 1995). Prior to the production regime transition that took place in France during 1980 and 1995, the French corporate governance system was a mixture of direct state control via ownership and indirect state control through the state-centered credit system and the planning apparatus (Hancké, 2001). With the deregulation of financial markets and labor markets since the late 1980s, many state-owned companies were privatized and the system for industrial credit was reorganized around the stock market. A series of transactions of takeover, merger and acquisition transformed the French corporate governance model into a more open structure, with high participation of international institutional investors: in 2000, 35% of the CAC40 (the 40 largest listed French firms) shares were owned by foreign investors against 11% in Japan, 10% in Germany and 9%

in the UK (Jeffers and Plihon, 2000). The state today plays a considerably smaller role in the French economy than before, but it still holds minority blocks in part of the privatized companies. The increase in industrial concentration during the 1980s has been a major factor in improving the competitiveness of French industry (Amar and Crepon, 1990). The most important institutional characteristic of the French economy is the long-term collaboration through a complex network of large firms, small-size suppliers, banks, patient capital from family business owners and institutional investors, and political *dirigeants*, top managers and engineers formed by the same elite education system of *grandes écoles* (Hancké, 2001).

(4) The projection results of the Mediterranean group of Italy, Spain and Greece are in line with the theoretical expectations. Their model is generally characterized by a relatively low level of product market competition, centralized financial system, and inadequate social protection and education investments, which is confirmed by the three economies' being situated in the left part of the plan. At the same time, their economies also have insufficient size effect, as they are below the horizontal axis. From the perspective of economic competitiveness, the Mediterranean economies are the least advantageous among the 20 observations. Their actual coordination model is the result of a recentralization through renegotiation of the relationship between national-sectoral and plant-level bargaining (Thelen, 2001). A new national tripartism was renewed in Italy in the 1990s involving the government, unions and employers, which abolished the automatic salary rise indexed on inflation, instituted a loose incomes policy and overhauled collective bargaining institutions, in the purpose of controlling inflation and reducing labor conflict (Regalia and Regini, 1995). Before the 2008 crisis and the following political and social adjustments imposed by the European Union, social protection in Italy used to combine a high employment protection ensured by legal regulations and a limited unemployment protection provided by large companies, associations of small firms and regional governments (Estevez-Abe, Iversen, and Soskice, 2001). Compared to other advanced OECD countries, few Mediterranean firms are engaged in radical innovation strategies or they largely specialize in standardized production. This results in a low level of market competition. Moreover, they rely heavily on the creation of firm-specific skills which is more costly. Therefore, instead of hiring from a large pool of general skill workers for the low-productivity services as the Anglo-Saxon firms, they are inhibited by smaller qualified labor stock, higher formation costs and lower flexibility in hiring and firing due to strong employment protection.

(5) Economies from the Asian model show the biggest divergences in the projection. Amable (2003) identifies the Asian model by the central role of the state and simultaneously under-developed financial markets, the dominance of state-owned or state-controlled enterprises which leads to weak social protection, and a centralized financial system which supports the long-term development of essential industries and corporations. However, Japan and South Korea stand at very different positions in the factorial plan, in which Japan is closer to the continental European model or the social-democratic model and South Korea is closer to the Mediterranean model. Japan is often compared to Germany as both economies rely strongly on “non-market” institutions, which not only allow for inter-firm coordination but also regulate the interactions between owners, managers and employees, and both have a banking system which plays the role of long-term stakeholder instead of short-term financier. Sometimes compared to Italy⁵⁶ in its geographic situation, though with more innovation investment and higher export weight, South Korea actually shows some similar institutional features to the Mediterranean economies: involvement of the state, employment protection provided by large corporations, labor market dualism, low protection of external shareholders, high banking concentration, low sophistication of financial markets, limited development of venture capital, and moderate level of social protection (Amable, 2003). However, the Korean economy is mainly composed of powerful *Chaebols*, conglomerates which monopolize key sectors, and relatively weak small firms, hampered by the inflexible labor market, while Mediterranean economies have less conglomerates and more significant small firms. Hong Kong and Taiwan are somewhat difficult to compare with other country economies, especially as they are politically and economically related to China and are strongly dependant on the mainland China market. Hong Kong has adopted institutional structures similar to the UK under its former governance and enjoys trade and financial openness enhanced by an advantageous tax system, which puts Hong Kong in a leading position in the competitiveness projection plan. Taiwan is closer to Japan, which can be explained by the tight industrial and political relations between the two economies.

(6) In the group of the BRIC, important differences are shown by China and India while Brazil and Russia appear quite close to each other. As we can see in the projection, economies of the BRIC countries benefit mostly from their significant market size while remain limited by the insufficient institutional conditions and market efficiency. BRIC economies figure as the lowest scores in institutions, infrastructure, higher education and training, goods market

⁵⁶ mckinsey.com/insights/winning_in_emerging_markets/south_korea_finding_its_place_on_the_world_stage

efficiency, technology readiness, business sophistication and innovation. China and India both enjoy significantly positive size effect in their economic model, which can be best explained by a strong specialization in the manufacture with middle or low technology and moderate innovation, and an important part of international trade and foreign investment in their GDP growth. In India, after the reforms of the 1990s, driven by privatization, foreign investment and global outsourcing trends, businesses in construction, telecommunications and services largely increased (Kochar et al., 2006). Meanwhile, the Indian productivity growth is mainly driven by the expansion in the services sector (De Vries et al., 2012). Compared to India, China has higher level of institutions and better market structures, and out-performs India for all the 13 indicators except financial market development. China has more sophisticated export package, with nearly half of it composed of electronic apparatus and machine parts, and a quarter of light manufacture products⁵⁷. Manufacturing employment is much higher in China compared to Brazil, Russia, or India, while evolution of business in services industries is much slower and concentrated in below-average productive sectors such as retail and personal services. Brazil and Russia show better institution and market conditions than India too, but their market size appears to have limited impact on their economic competitiveness. This can be explained by their comparatively under-developed manufacture and technology industries, and more important trade volume of natural resources, in the case of Russia, and agriculture products for Brazil. Russia is the only BRIC country where the employment share in manufacturing declined after 1995, as workers moved from agriculture and manufacturing towards mining and services (De Vries et al., 2012). Brazil has been developing more complex industrial products such as cars and aircrafts in recent years. The government of Brazil has adopted policies to encourage entrepreneurship and the formalization of informal business. Still, its industry restructuring and technology catch-up need time, investment and human capital.

Many recent studies about emerging economies try to look beyond the effect of size. Mathew (2011) argued that emerging economies have inherent market failures especially regarding labor mobility, few tax breaks for innovation, poor enforcement of property rights, limited land availability and lack of infrastructure. McMillan and Rodrik (2011) found that structural change was contributing to productivity growth in Asia whereas it was absent or even reducing growth in Africa and Latin America. In Brazil, services industries have seen

⁵⁷ For comparisons of country export composition, see <http://atlas.cid.harvard.edu/>

high increases of employment which contrasted the common growth path of developed countries in which agricultural workers first moved into manufacturing sector and later into service sector. Therefore, growth-enhancing structural change in Brazil is not accompanied by dynamic productivity growth in industry. Furthermore, the informal sector⁵⁸ is an important aspect to consider of the relationship between institutions and competitiveness of the BRIC economies. For many emerging economies, the informal sector represents the majority of employment and a substantial share of GDP (Schneider and Enste, 2000). In India, the informal sector expanded after the reforms, accounting for up to 80% employment and 30% of value added in manufacturing, indicating large differences in productivity between formal and informal activities. The expansion of low-productive informal activities in India was partly produced by labor market rigidities which drove firms in formal sector to outsource labor-intensive activities to small informal firms (Pieters et al. 2011). It was accompanied by high productivity of formal activities in the manufacturing and business services sector, creating a growth dualism.

2.3.2-4 China

Compared to other economies in the study, China is among the best placed on the indicators of market size (2nd) and macroeconomic environment (2nd), and is in the worst placed with technology readiness (19th), education & training (19th) and infrastructure (18th). **Judged from its unique position in Figure 3, China does not seem to be close to any existing model of capitalistic economy;** it is as well quite different from the representative economies of Asian model; and even though in some aspects it looks similar to other BRIC economies, they appear to pursue rather divergent forms of growth as a whole. To better visualize the position of China in relation to other economies under study, we consider it interesting to see the two economies which are the closest to China for each indicator. The following two tables show us the two economies closest to China in the ranking for each of the 13 indicators and the total times of their appearance in the comparisons.

⁵⁸ A worker is defined as informal if he does not have a legally recognized labor contract. Self-employed workers, undeclared workers and employers of unregistered firms are all part of the informal sector.

Table 2-9: China and peer economies in the GCI rankings

	Instit		Infra		Macroeco	
<u>IND</u>	3,84	<u>BRA</u>	3,98	<u>HKG</u>	6,17	
<u>CHN</u>	4,22	<u>CHN</u>	4,66	<u>CHN</u>	6,41	
<u>FRA</u>	4,68	<u>RUS</u>	4,82	<u>KOR</u>	6,44	
	Healthedu		Edutrain		Gdseffi	
<u>USA</u>	6,06	<u>IND</u>	3,86	<u>ITA</u>	4,30	
<u>CHN</u>	6,08	<u>CHN</u>	4,42	<u>CHN</u>	4,42	
<u>GRC</u>	6,15	<u>ITA</u>	4,78	<u>FRA</u>	4,57	
	Laboreffi		Finamkt		Tech	
<u>RUS</u>	4,42	<u>KOR</u>	3,81	<u>IND</u>	2,75	
<u>CHN</u>	4,55	<u>CHN</u>	4,30	<u>CHN</u>	3,53	
<u>DEU</u>	4,57	<u>BRA</u>	4,30	<u>RUS</u>	4,19	
	Mktsize		Busophi		Innov	VC
<u>IND</u>	6,26	<u>BRA</u>	4,32	<u>ITA</u>	3,73	<u>TWN</u> 3,88
<u>CHN</u>	6,86	<u>CHN</u>	4,38	<u>CHN</u>	3,91	<u>CHN</u> 3,92
<u>USA</u>	6,94	<u>ESP</u>	4,42	<u>HKG</u>	4,38	<u>SWE</u> 4,16

4	IND
3	ITA
3	RUS
3	BRA
2	KOR
2	FRA
2	USA
2	HKG
1	GRC
1	ESP
1	TWN
1	DEU
1	SWE

As the summary from table 2-9 shows, the economies that share most similar competitive conditions with China are India, Italy, Russia and Brazil; South Korea, France, the US and Hong Kong also have small resemblance with China. In the above analysis of the factorial projection of our 20 observed economies, we have found important divergences in the majority of groups concerning their market organization, industrial strategies, financial markets, labor protection and skill formation. As another interpretation of this divergence, China’s peer economies, in the sense of closest scores for each economic competitiveness indicator, also include economies from all the 6 economy groups: market-based (US, 2 times), social-democratic (Sweden, 1 time), Mediterranean (Italy, 3 times; Greece, 1 time; Spain, 1 time), Continental Europe (France, 2 times; Germany, 1 time), Asian model (South Korea, 2 times; Hong Kong, 2 times; Taiwan, 1 time), and the BRIC (India, 4 times; Russia, 3 times; Brazil, 3 times). **If we keep our comparison in the framework of Amable’s five capitalisms, then China is closer to Asian model (5/26) and Mediterranean model (4/26), and is most different from social-democratic model (1/26).** Market-based economies (2/26) and continental Europe economies (3/26) only share a few similar conditions with the Chinese economy.

China, Asian model and Mediterranean model have similar institutional features regarding product market efficiency, labor market organization, skill formation and financial market development. They distinguish themselves from the Anglo-Saxon market

economies by stronger involvement of the state and higher employment protection provided by large corporations. This is best manifested by the favorable macroeconomic environment in South Korea, China and Hong Kong, situated at the top of the ranking. Rather than offering high coordination and high social protection as commonly provided by social-democratic economies, they embody the attributes of labor market dualism and moderate level of social protection. Compared to the associational coordination model of Germany, they generally have low protection of external shareholders, except in the case of Japan. China has close rankings with Italy in the aspects of education and training, goods market efficiency, and innovation. Similar to Italian firms, Chinese firms are not strongly engaged in radical innovation strategies. Their education systems are both constructed to emphasize general education over vocational training, which in fact hinders the formation of industrial-level skills and causes more costs for firms to train specific skills.

Meanwhile, Asian, Mediterranean and German models feature high banking concentration, low sophistication of financial markets and limited development of venture capital. In China, recent financial reforms have been improving the efficiency of its banking system and providing more sophisticated financial products for investors; its venture capital industry is much more developed than in Asian economies, Mediterranean economies and Germany. This is achieved through gradual learning of the Anglo-Saxon market mechanisms and with the contribution of many back-home American Chinese who have brought with them industrial knowledge, financial techniques, management skills and global networks. The economic exchanges and industrial relations between China mainland and the institutionally more developed Hong Kong and Taiwan also provide plentiful learning opportunities to Chinese companies and encourage the Chinese government to undertake further reforms. Compared to the slow institutional change that has been seen in the coordinated economies as efforts to liberalize markets and to improve their flexibility have been taken since the 1980s (Hall and Gingerich, 2009), in China, reforms of liberalization especially in the formal institutions have been more effective. We suggest that the learning curve of institutionalization in China has been accelerated because its economy has been largely opened up and deeply globalized, and that both the external and internal forces are driving its firms, markets and government to integrate standard practices.

2.3.3 Comparison with 2006-2007 projection

In order to examine, if during the past decade, economic reforms and social transformation have been leading China and its peer economies to evolve in a certain direction, we have decided to redo the same PCA with the GCI data set of the year 2006-2007. The tests of representativeness and adequacy confirm the robustness of our new exam. Other parts show results more or less similar to our first exam. Therefore, here we only look at the following two figures which provide interesting information about the economic and social evolutions that have taken place in our observed economies during the period of 2006-2014.

Figure 2-16: Correlation cycle (2006/2007, by author)

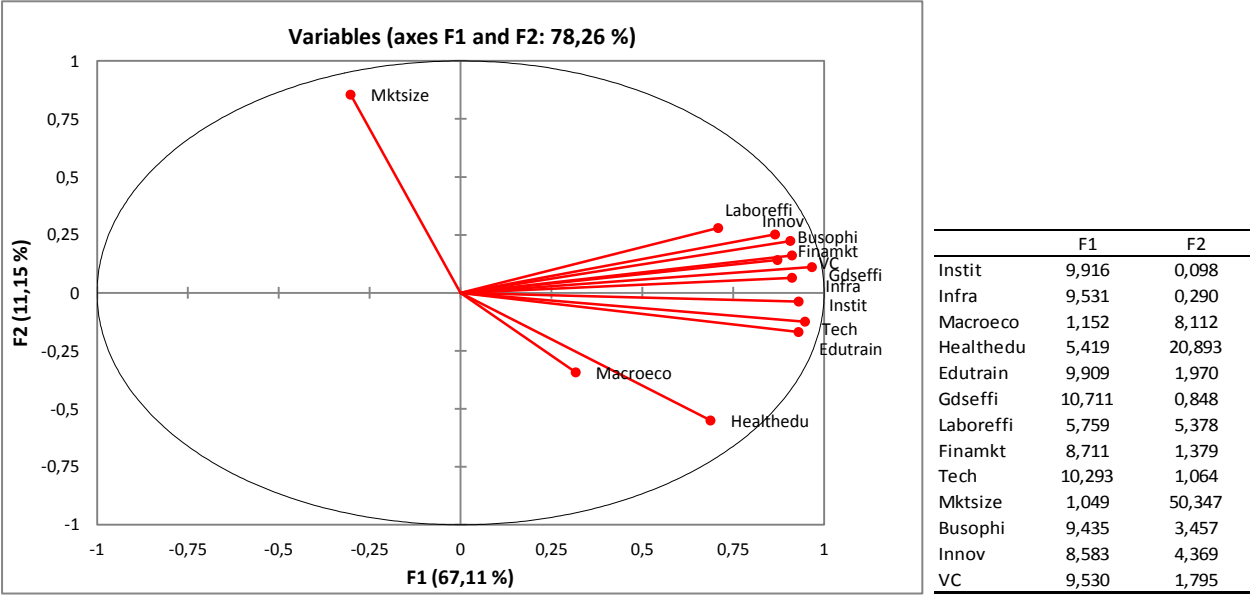
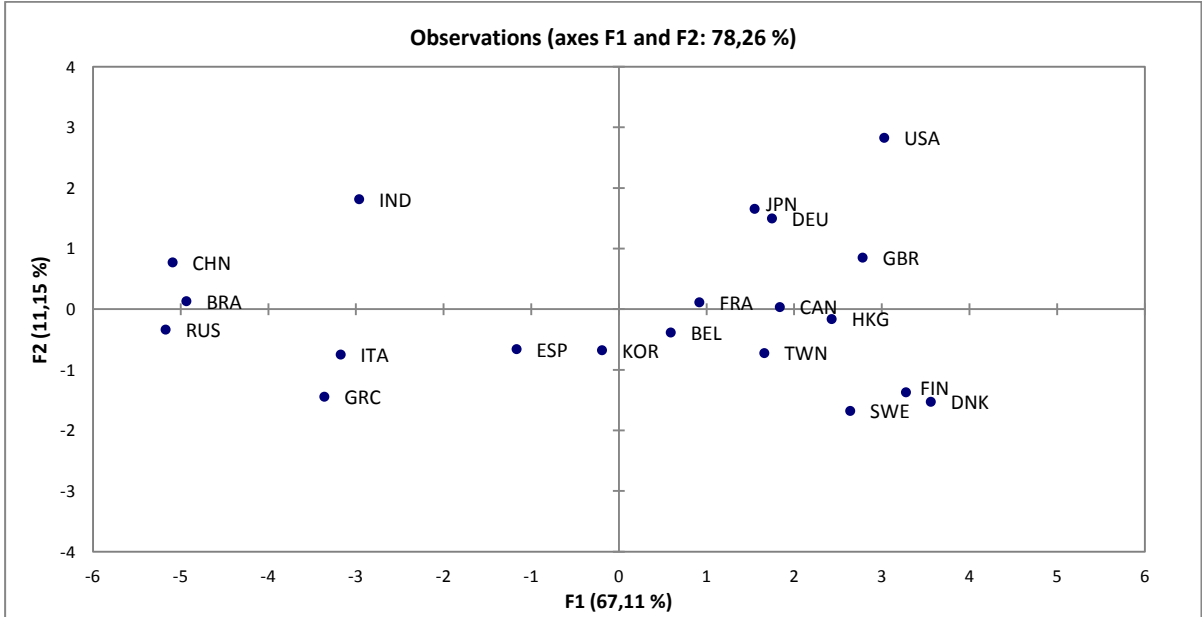


Figure 2-17: projection of observations in the factorial plan (2006/2007, by author)



Compared to the correlation cycle of 2014-2015 year data, we find stronger correlations among the 13 indicators in year 2006-2007 according to Figure 4. Most of the indicators are situated close to axis F1, except for market size (Mktsize), macroeconomic environment (Macroeco) and health and education (Healthedu); most of them are very significantly and positively correlated with each other, except for macroeconomic environment (Macroeco). Therefore the new set of data is well presented by the axis F1. As in the previous analysis, axis F1 captures the principal factors that characterize an economy's fundamental conditions and market structures, and distinguishes the institutional maturity of different economies. Axis F2 represents primarily market size and is also significantly and negatively impacted by the level of health and education. Similar to the previous analysis, axis F2 captures the size effects in an economy, and its positive zone features a fast developing economy with a large population, important export-oriented industries and low levels of health, education and innovation. Meanwhile, the contributions of venture capital availability (VC) and financial market development (Finamkt) to axis 2 are much reduced. Figure 5 presents the factorial projection of the 2006-2007 observations. We can see that the positions of the 20 economies are closer and slightly more concentrated around horizontal axis compared to their positions in the 2014-2015 factorial projection.

By comparing the correlation cycle and factorial projection of the two periods, we underline the two most important economic and institutional evolutions during the last decade based on our observed economies. The first evolution is **visible divergences of economic indicators and of economic models during the period of 2006-2014**. The much stronger correlation relations among the competitiveness indicators and their evident convergence towards axis F1 in the 2006-2007 projection suggest a historically higher homogeneity among these indicators. One possible explanation for their higher homogeneity is that during this period, with newly invented technological tools and consequently extended information exchange capacity, institutional characteristics and market structures of many economies were under reform and development. Therefore their interdependence was more significant and their specific characteristics were less obvious. Meanwhile, we can see that economic models also slightly diverge across the period of 2006-2014: Sweden, Finland and Denmark grew more apart; Asian economies developed more variant institutional features; distinction between the US and other market-based economies has increased; China and India have also enlarged their distance with Brazil and Russia. This divergence might come from more

diversified economic development policies and social engagements among different economies especially after the subprime crisis, when the universal merits of the liberal market model and the profound impact of globalized deregulations were widely questioned.

The second evolution suggests that **with continued global economy integration, market size shows less visible impact on economic growth and other factors of competitiveness.** In the 2006-2007 projection, axis F2 represents primarily the indicator of market size which greatly diverges from other indicators and impacts the economic growth in an independent way. In comparison, there is less concentration of indicators on axis F1 in the 2014-2015 projection and more variance is projected on axis F2. Venture capital availability (VC), financial market development (Finamkt) and labor market efficiency (Laboreffi) also significantly contribute to the formation of axis F2. The correlations between market size and other indicators, even though generally insignificant in the two projections, are still weaker in the 2014-2015 projection. We interpret this evolution as a reduced impact of market size and a stronger role of institutions and market mechanisms in determining the competitiveness of an economy. This confirms the argument of Alesina, Spolaore and Wacziarg (2005) that as the world economy becomes more integrated, the benefit of market size for large and developed economies vanishes, and the trade-off between size and heterogeneity shifts in favor of smaller and more homogeneous countries.

Conclusion of Chapter 2

Efficient economic organization entails the establishment of institutional arrangements and property rights that create an incentive to channel individual economic effort into activities that bring the private rate of return close to the social rate of return (North and Thomas, 1972). Due to the technological changes and related changes in informal constraints of the society, institutions must constantly evolve in response to the changing economic and social environment in order to continue to foster creativity, lower transaction costs and encourage the process of creative destruction (Yeager, 1998). The process of institutional change may be highly complex under the scheme of dynamic institutional complementarities, involving both Schumpeterian innovation and social embeddedness mechanisms, which depend on how learning, emulation, adaptation, reinforcement, resistance, and inertia interact across economic, political, organizational and social exchange domains.

As one important character of institution, the operations of private equity involve three primary hierarchical aspects: (1) contractual hierarchy, through different management contracts and incentives structures; (2) informational hierarchy, through investment cycles and decision-making process; (3) corporate governance hierarchy, involving LP activism, private equity intermediation and portfolio company management. Institutional complementarities have fundamental influence on economic growth and on the operations of private equity. The working out of private equity mechanisms are closely conditioned by the overall institutional arrangement that one country has opted for. An extensive literature is contributed to the study of the relation between private equity, especially venture capital, and other main institutions. This complementarity reflects exactly the institutional characteristics of each system and the institutional differences between countries.

Our further focus on the institutional arrangement in China brought us to investigate on the nature and logic of capitalism and the varieties of capitalism. We demonstrated that the remaining divergence and the creation of comparative advantages in the global economy are the result of the path-dependency and different political and social choices of each country. Companies in a given economy choose their product market strategies by taking account of the social protection and the skill formation system provided by the complementary institutions. The Chinese economic system works because it serves the interests of key elites, both economically and politically. It doesn't mean that Chinese system is "efficient" in terms of the allocation of resources, nor does it mean that it is socially "fair" (Huang, 2008; Breslin, 2004; Lin, 2003).

The various reforms that have brought gradual or radical changes to the Chinese economy and its supporting legal, financial and social institutions are results of the state-led development plan of the Communist Party of China. By combining more policy-oriented central state capitalism with more market-based local market capitalism, China has achieved considerable liberalization in many important fields. But the capitalist market system in China is a hybrid form of capitalism, which besides market competition comprises a Party of monopole power, the still privileged SOEs, mixed ownership, politically controlled financial markets, and the pro-business *guanxi* networks. It is the "capitalism with Chinese characteristics" (Huang, 2008). China's hybrid form of capitalism is resulted from its particular historical, political, social and cultural conditions, and is the consequence of a path-

dependency symbolically represented by Deng Xiaoping's famous saying "cross the river by groping for stones". The government will continue, therefore, to have an important role to play in resolving these transition problems in China's development. The economic reform in China might not yet have generated democratization but it has generated massive political change.

Our PCA study based on the five capitalisms of Amable (2003) compared China with Group 1 market-based economies possessing strong market competition, flexible labor market and well-developed financial markets, Group 2 social-democratic economies symbolized by well-coordinated labor market, high productivity and strong innovation, Group 3 continental European economies with high employment protection, strong coordination and collaboration among firms, Group 4 the Mediterranean economies with lower market competition, centralized financial system and inadequate social protection and education, Group 5 Asian economies representing the central role of the state, under-developed financial markets and weak social protection, and Group 6 including other BRIC economies. China appears to belong to none of the six groups, indicating that its economic model is relatively unique. This confirms our previous analysis of the hybrid capitalist system inside China. Meanwhile, it shares some similar characteristics with Asian model and Mediterranean model, regarding product market, labor market, skill formation and financial market development. China has strong market size effect, but its institutional conditions and market efficiency still need improvement. At the same time, as we have pointed out in various places in this study, the presence of vested interests and cultural predispositions are likely to hinder rapid institutional changes in China.

PART II

Private Equity in China: Institutional Characteristics and Two Empirical Studies

CHAPTER 3

Private equity development in China and its institutional characteristics

Introduction

The second part of the thesis provides empirical analyses of the institutional characteristics of private equity in China based on the conceptual and theoretical framework presented in the first part. Chapter 3 will focus on the development of private equity in China and some of its most crucial institutional characteristics determined by the particular political, economic and social conditions in China. In the first section, we will look at factual data about private equity's progressive development in China from mid 1980s till now through four phases. We will underline what were the main decisive forces that had pushed forward its growth in each phase and what remained to be improved in order to allow further development. In Chapter 2, we analyzed the economic system in China and draw conclusions of the existence of a hybrid form of capitalism in China characterized by a governing Party with monopoly power, privileged SOEs under evolving ownership composition, and the pro-business *guanxi* culture. Based on these conclusions, in the second section of Chapter 2 we propose to focus on three main institutional characteristics of this hybrid capitalism and its impact on the working of private equity in China: (1) the crucial role of the state and the formal institutions under its control; (2) the important role of *guanxi* as informal institutions in China; (3) the accentuated market complexity related to antecedents and institutional complementarity. Our general hypothesis is that private equity funds in China need to adapt the working method used in more developed market economies to suit the particular institutional environment of the hybrid capitalist economy in China.

Section 3.1 Progressive development of private equity in China

In the first section we will present the development status of private equity in China. The history of private equity in China can be divided into four phases, covering a period of almost three decades since its first introduction into China in the mid-1980s. The distinction of four phases is the combined result of modifications in the Chinese government's economic and social development policy guidance and changes in the global economic and financial

situation. Generally, the evolution of private equity industry in China has accompanied China's economic transition from centralized system to liberalized market, often with different development speeds between state-owned companies and private-owned corporations. In the past decade, we have witnessed that a great number of local funds as latecomers have surpassed the established funds, largely foreign ones, in funding size and in obtaining the best investment opportunities. With the market development, there is increasingly strong competition between foreign funds and Chinese funds. Meanwhile, private equity in China has grown into an industry of great complexity, high diversification, and comparatively low sector specification. For the first section, we will examine the factual data representing its development and the main factors contributing to its evolution.

3.1.1 First phase: from mid 1980s to mid 1990s

The initiation phase began when the Chinese government and specifically the Ministry of Industry and Science decided to use venture capital mechanism to promote the technology catch-up of China. In fact, before the opening-up reform of the 1980s, under the central planning system, China's technological innovation and economic growth used to be highly commanding and incentive lacking, with no operational efficiency. From the early 1980s on, the government began to gradually shift its responsibility from resources allocation function to market economic organizations. Venture capital was introduced in China under the context of "learning advanced technologies and methods from the West". In 1985, the white paper of "The Chinese Central Government's Decisions on the Reform of the Science and Technology System" formally raised the subject of setting up venture capital to support the fast-innovating and high-risk technology development, which marked the official initiative of installing venture capital industry in China. In the same year, the State Science and Technology Commission and the Ministry of Finance established China New Technology Venture Investment Corp., the first limited corporation in China focused on financing new venture companies.

It is important to mention that venture capital in China has been mostly advocated by the government not as a means to generate financial returns, but as a mechanism to stimulate scientific and technological innovations and to promote their economic applications by building up linkages across research centers, investment institutions and manufacturing sectors, and by coordinating different motives of the local government, the industry and the

financial market (White, Gao and Zhang, 2005). During the first phase, R&D institutes and universities played a crucial role by providing both new technology and seed capital for ventures. The banking industry in China was also assuming their role in supporting new ventures. But most of the time, they would only offer expansion and late stage financing and they greatly relied on central government's policy guidance and local government's guaranty to make their investment decisions.

Another key structure put into place by the government in this period was the technology zones, which were developed in the late 1980s and officially sanctioned in 1991 as an institutional interface between new venture enterprises and the inadequate surrounding socio-economic system (Gu, 1999). They provided new ventures with favorable conditions of seed capital and infrastructure, licensed the technological qualification and helped companies to access various funding resources from banks and venture capital funds. In return, the growing enterprises would contribute to the local economic development, tax revenue and create job opportunities. Since then, technology venture development corporations were gradually established by local governments in many industrially important regions. At the same time, more and more foreign venture capital funds such as American International Digital Group (IDG), Walden International, H&Q Asia Pacific, WI Harper Group also established their activity in China. However, at this stage, many experienced foreign venture capital and private equity funds were still reluctant to come to China due to unclear industry regulations. Other institutional limitations such as an immature corporate legal system, inadequate legislation enforcement and heavy bureaucratic procedures all needed improvement to match the standard and requirement of the private equity industry as an advanced form of modern capitalism.

3.1.2 Second phase: from mid 1990s to early 2000s

The second phase represents the first important development of private equity in China. In order to liberalize the mechanism and the force of venture capital investment, since the mid-1990s Chinese governors began to modify venture capital's former government-led nature to a more commercialized one. China's top-level policy deciders, including the State Council, the State Planning Mission and the Ministry of Science and Technology, all strongly agreed to promote venture capital. They considered the "Silicon Valley" model a key factor contributing to the leading place of the US high-tech industry in the world. As their supports

have decisive and efficient influence on bureaucratic actors, especially local governments, a series of central government policies and regulation makings have paved the road for the Chinese private equity industry's rapid development in the following decade.

On 11th August 1995, the State Council approved the "Procedures for the Management of China's Industrial Investment Funds Abroad" as the first regulation on China's private equity industry, allowing financial or non financial institutes except banks inside Chinese territory and institutes outside Chinese territory but controlled by Chinese shareholders to fund or co-fund with an institute investment fund registered abroad with the purpose of investing in industrial development projects in China. In 1996, the National People's Congress passed "Law Promoting the Industrialization of China's Technological Achievements", the first legal statement allowing venture capital as a commercial activity and funds to be raised from national or local governments, businesses, other organizations, or individuals, to support technology ventures.

An interesting remark is that many regulations at a national level were often preceded by initiatives and pioneer experimentations at regional or municipal level. For example in 1994, long before the national laws setting a formal legislation of limited liability, the government of Shenzhen, as the experimental field of China's economic reforms, passed "Regulations on Limited Liability Corporation in Shenzhen Special Economic Zone". In 2000, Shenzhen again enacted the first local regulatory statute for venture capital activity in "Temporary Regulations for Venture Capital Investing in High-Tech Industry in Shenzhen". In 2001, the Beijing government also enacted its venture capital regulations by releasing "Byelaw of Zhongguancun Science Park"⁵⁹ and "Management of Limited Liability Corporations" to promote the development of venture capital firms established in Zhongguancun and to provide guidance to their operation, organizational structure, registered funds and means of return. Those local initiatives to promote venture investment and high

⁵⁹ Zhongguancun, known as the Silicon Valley of China, is a product of the development of China's market economy. In June 1999, under the guidance of the government's strategy of "Developing the Nation through Science and Education", Zhongguancun Scientific and Technological Garden was established in Beijing's Haidian District as the first state-level hi-tech industrial development zone founded in China. Containing in its area China's two most prestigious universities, Peking University and Tsinghua University, along with the Chinese Academy of Sciences, Zhongguancun is the ideal incubator of innovative projects and ambitious entrepreneurs. According to the 2004 Beijing Statistical Yearbook, there are over 12,000 high-tech enterprises in Zhongguancun's seven parks, with 489,000 technicians with high education. Many world renowned technology companies built their Chinese headquarters and research centers here, including Microsoft, Google, Intel, AMD, Oracle Corporation, Motorola, Sony, and Ericsson.

technology development helped accelerate the building of a more active private equity industry in China.

The period of mid-1990s to early 2000s was also a transitory phase of China’s private equity development, as government-led funds gradually gave place to private and foreign funds. Investment focus was changing: at the beginning, a lot of venture investments were channeled by central or local government to finance Chinese SOEs as a way to promote the property reform and to help the privatization of large Chinese SOEs. With an increasing number of corporate funds and foreign funds entering and investing in China, the investment focus was largely shifted to private companies of small and medium size operating in innovative industrial sector (see Table 3-1). However, the second phase of development came to an end when the internet bubble burst in 2000, which brought the downturn of global private equity industry as well as the abrupt slowing down of the newly-started private equity activity in China.

Table 3-1: Distribution of venture-backed Chinese SOEs, TVEs, and private firms

Period	Nature of invested company						Total Freq
	SOE		TVE		Private		
	Freq	%	Freq	%	Freq	%	
1991-1993	21	91.30%	0	0%	2	8.70%	23
1994-1997	56	62.92%	2	2.25%	31	34.83%	89
1998-2001	16	10.39%	0	0%	138	89.61%	154

Source: Feng (2004)

3.1.3 Third phase: fast growth from 2002 to 2009

China’s entering into the WTO in 2001 reinforced Chinese companies’ presence in the global market and attracted more foreign direct investments and technology transfers to China. During the years following the internet bubble, a series of rules were put into place by Chinese governors with the intention of promoting the reuse of Special Purpose Vehicle⁶⁰ by foreign funds to invest in Chinese companies and of accelerating the resumption of the listing of venture-backed Chinese companies on overseas stock exchanges. Before 2006, the major

⁶⁰ A special purpose vehicle (SPV), also named as special purpose entity (SPE), is a legal entity with limited responsibility created to fulfill specific or temporary objectives. An SPV can be a corporation, trust, partnership or limited liability company, usually being the last. SPVs are typically used by companies to isolate the whole firm from potential risks, especially financial ones, which are related to a new project or a new venture.

leading private equity funds were foreign ones, including Sequoia Capital, IDG Capital, Softbank Asia and KPCB China. Meanwhile, some successful local funds, such as Shenzhen Venture Capital, Shenzhen Fortune Venture Capital and Legend Capital, also appeared under the favorable policy environment and grew very fast. At this period, as private equity was still unknown to many entrepreneurs, many projects were undervalued and thus provided good opportunity for funds that were capable of anticipating the coming industry trend.

The publication of the “Interim Measures on the Management of Venture Capital” in 2006 and the issuance of “Guiding Opinions on Regular Establishment and Operation of Venture Capital Guidance Fund” in 2008 officially formed the preliminary management code for the private equity industry in China. In 2007, the implementation of the revised “Partnership Law” provided the legal scheme for structuring investment funds in the limited partnership. The pilot program of direct investment by the securities companies was also launched in the same year and a few strictly selected securities companies obtained the qualification for direct participation for the first time. In 2008, the Social Security Fund was approved by the central government to invest in the equities of unlisted companies, further enriching the capital resource of institutional investors. In 2009, the long awaited launch of ChiNext and the resumption of IPOs brought more vigor to the whole private equity industry.

While the investment environment for domestic funds was gradually improved, some legal restrictions and imposed procedures began to put foreign funds in a less favorable situation in competing with domestic funds. The issuance of the “Provisions on Foreign Investors’ Acquisition of Domestic Enterprises” in 2006 set up restrictions on the utilization of Special Purpose Vehicle for the overseas listing of Chinese companies, which by consequence discouraged many foreign funds. The Chinese government also declared in 2006 that overseas investors needed the Ministry of Commerce’s permission to buy controlling stakes in key industries, well-known trademarks or “old Chinese brands”. Moreover, the Ministry of Commerce has the power to veto or scale back deals considered to affect the security and stability of the Chinese economy.

Another important component of China’s private equity industry was also developed during this period, which characterizes the central-led institutional feature of most reforms in China. Local initiatives were carried out for attempting a form of cooperation between big Chinese financial institutions and local direct individual investors through co-investment in

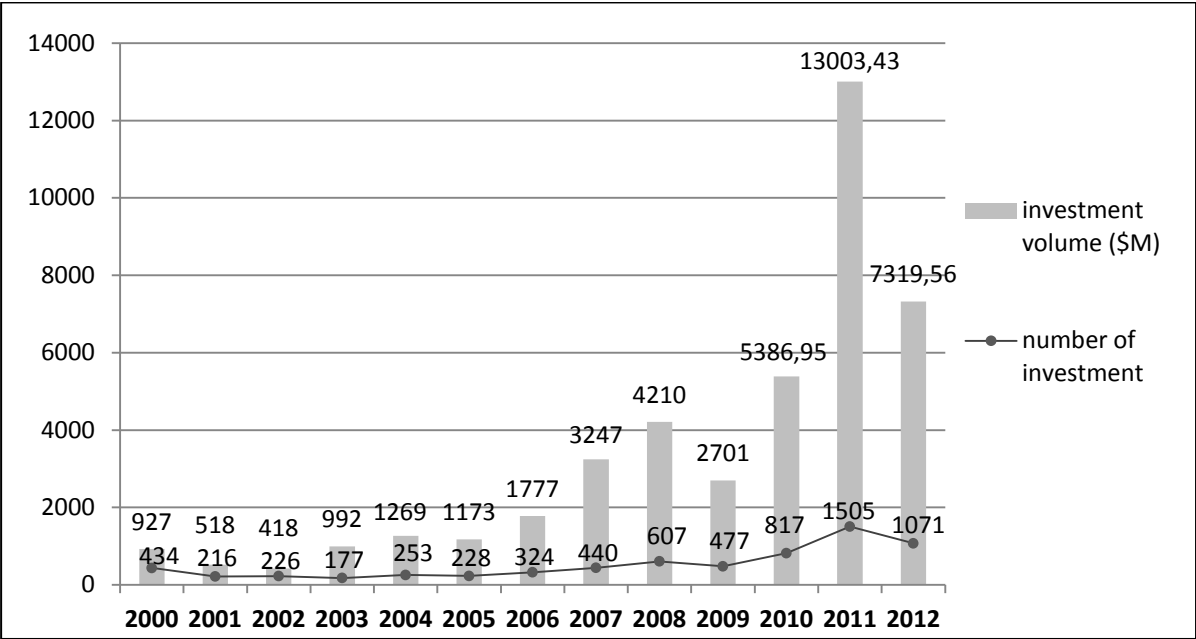
industrial investment funds. Bohai Industry Investment Fund, China's first industry investment fund, was founded in Tianjin in 2006 with its first phase capital jointly funded by six domestic financial institutions and companies. Overseen by Bohai Industry Investment Fund Management Company, the fund provides funding for small businesses and firms in the modern, manufacturing and high-technology fields and finances transportation and energy projects in the Binhai New Area of Tianjin⁶¹ and other areas around the Bohai Bay, including Beijing, Tianjin, Shandong and Liaoning provinces. Bohai fund was the first example of industrial investment funds in China as a new channel of direct fund raising. The proportion of direct financing of less than 10% was collected through channels including the stock market, issuance of corporate bonds and short-term fund-raising bonds. Many other industrial funds, in particular technology and energy industry investment funds, were founded later under National Development and Reform Commission's (NDRC) permission. Industry investment funds would benefit from the huge amount of 1.4 trillion RMB Chinese national bank savings and diversify investment channels for Chinese investors who until then could only invest in the stock market and buy treasury bonds.

The global financial crisis in 2008 sent the whole capital market on a huge downturn again, strongly reducing all the fundraising, investments and exits of foreign financial institutions and funds. Amid this global downturn, domestic funds on the contrary gained steady growth under the comparatively prosperous national economic context at that moment. Private equity market in China showed unparalleled dynamism once past the turning point of year 2009. With the launching of ChiNext, more and more Chinese RMB funds were established and grew very fast. They benefited from the advantages of investing in local money and were able to respond quickly to companies' particular needs. In 2008, private equity industry in China reached its fund-raising peak with 51 newly established funds and US\$61 billion capital collected, 71.9% higher than 2007. Among the new funds, 30 were dollar funds and 21 were RMB funds. By the end of 2010, the number of investment funds in China reached over 2500. According to the data of the National Bureau of Statistics and Zero2IPO Research Center, China's private equity sector has also taken up an increasing proportion of the GDP, once peaking at 0.096% in 2008. Facing the global investment downturn, this figure was 0.196% for the US and 0.108% for Europe in 2008, as shown by the

⁶¹ The Binhai New Area is a national pilot reform base listed in the country's development plan for 2006 and 2010. The Chinese government is endeavoring to turn the area into its third national economic base after Shenzhen and Shanghai's Pudong District.

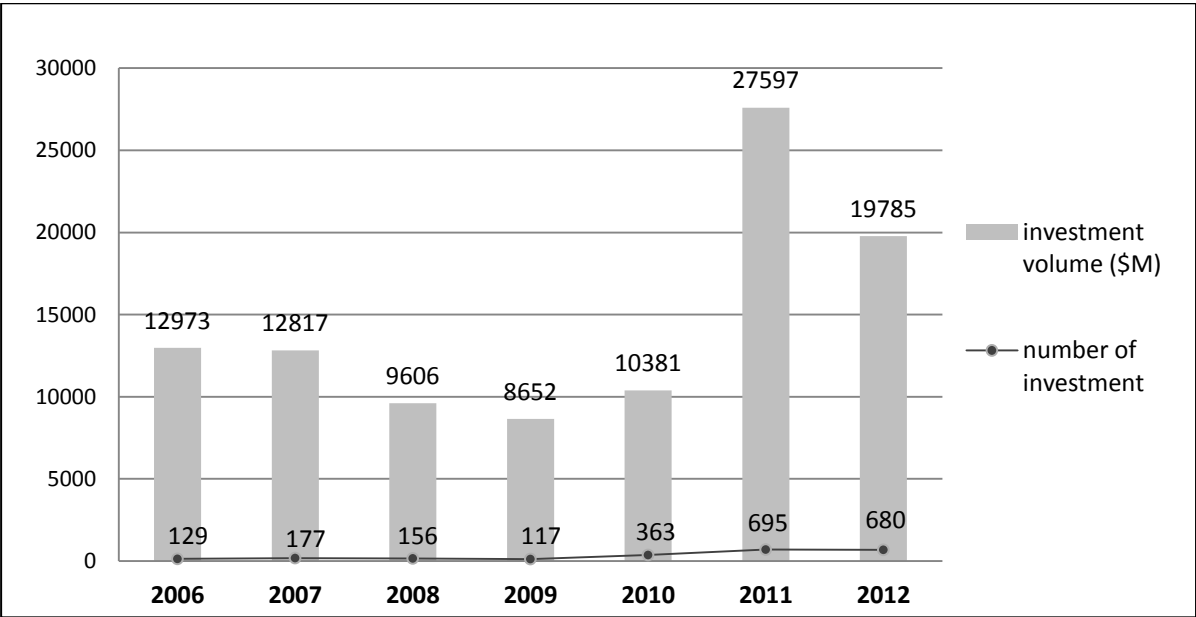
data of AVCJ and EVCA. Figure 3-1 and Figure 3-2 below show that activities of venture capital and private equity in China have fast developed through the last decade. On the contrary, Figure 3-3 indicates that the growth of IPO had not been smooth, due to restrictive controls from the market authorities and heavy regulatory procedures.

Figure 3-1: Evolution of venture capital investment in China (2000-2012)



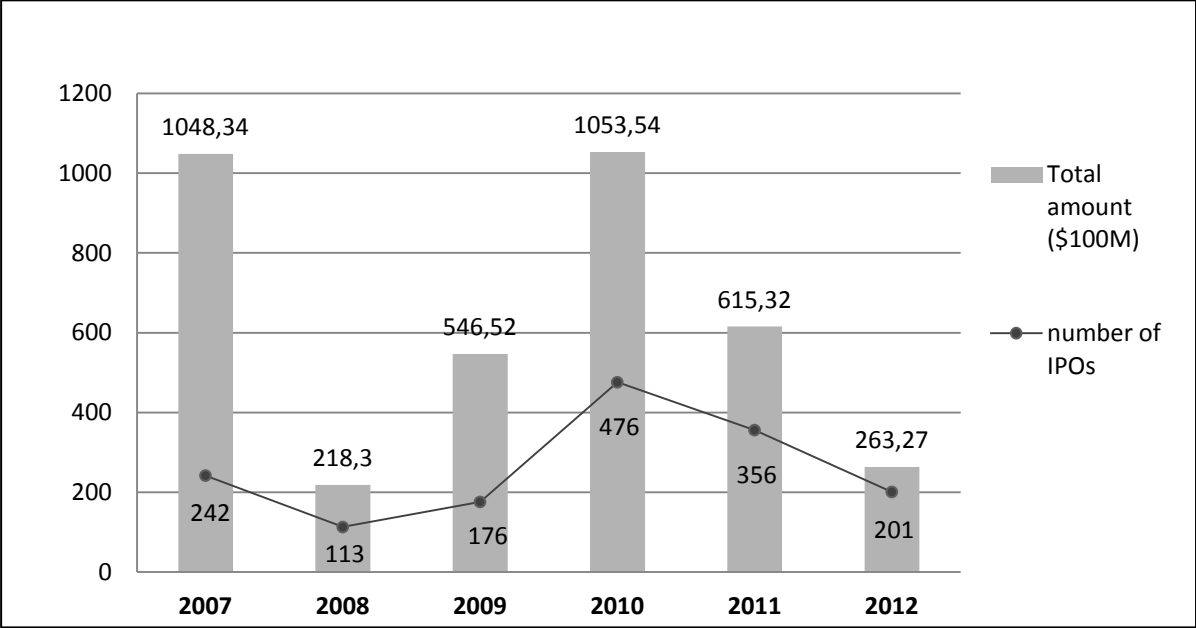
Source: author, Zero2IPO annual reports

Figure 3-2: Evolution of private equity investment in China (2006-2012)



Source: author, Zero2IPO annual reports

Figure 3-3: Evolution of IPO in China (2007-2012)



Source: author, Zero2IPO annual reports

3.1.4 Fourth phase (present): adjustments and integration

The fourth phase, which the private equity industry in China is going through now, is a period of adjustments and the beginning of its industry integration. Market data shows significant degradation in private equity and venture capital activity in 2009 then a soft return in 2010 and a strong rebound in 2011, followed by a less enthusiastic performance in 2012 due to more prudent investment strategies. In order to help investment activities and enterprise businesses to recover from the shock of global crisis, Chinese central and local governments have elaborated new laws and directions, providing taxation incentives and policy guidance to accelerate the development of strategic industries, such as healthcare, new energies and financial services.

In October 2010, Chinese insurance companies were for the first time permitted to make direct investments in equity. Up to July 2011, 33 securities companies were approved by the State Administration of Foreign Exchange to invest in private equity funds in China. As another significant milestone in 2010, the Qualified Foreign Limited Partner (QFLP) Pilot Program was carried out in Beijing, Shanghai, Tianjin and Chongqing which allowed a certain number of foreign private equity funds to make equity investments in Chinese RMB

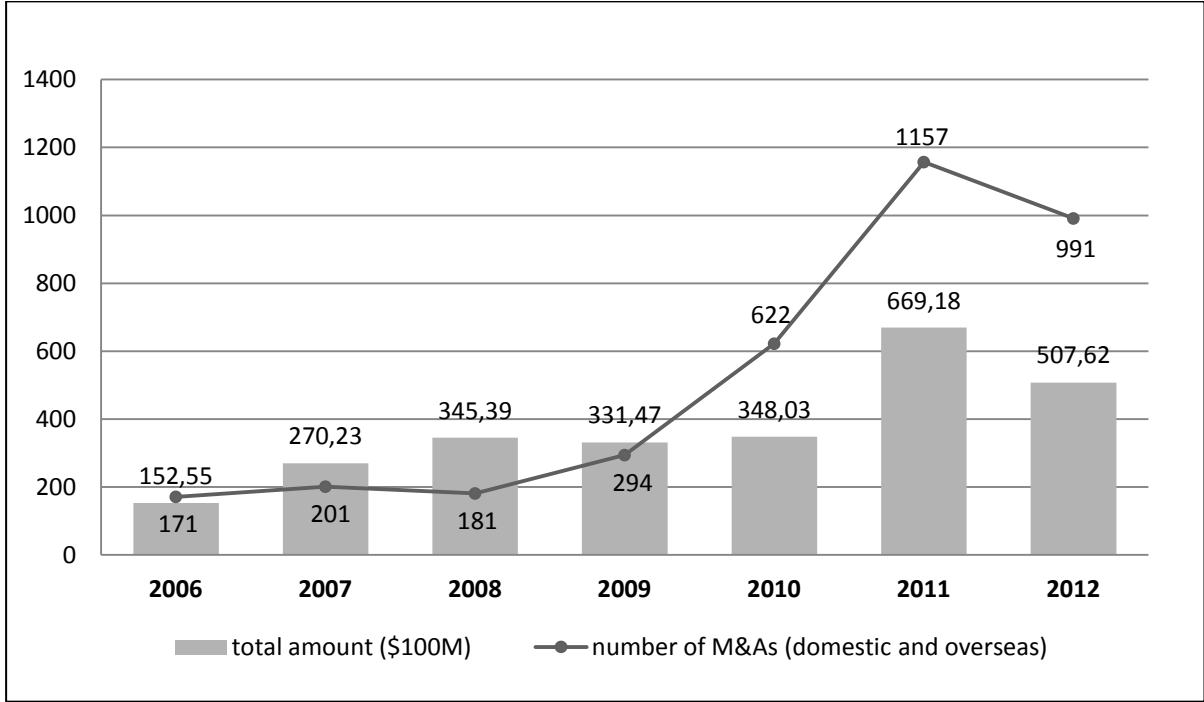
after exchange settlement. Some globally famous funds such as Blackstone, Carlyle Group and Goldman Sachs Group have even raised RMB funds to better compete with local funds. The fact is, with more money entering into the market and qualified companies harder to find, the competition between foreign funds and domestic funds was further accentuated and investments have also become much more costly. Investments by domestic funds rose to \$7.8 billion at the end of 2011, exceeding for the first time the \$7.4 billion capital pool of US and other foreign funds. RMB funds have raised \$41 billion for the year of 2011 and 2012 together, more than doubling the total US dollar amount in China (AVCJ, 2012). Foreign currency funds focusing on China also slumped to \$10.2 billion in 2011 from \$39.2 billion in 2007 (AVCJ, 2012).

The important change in China's private equity market landscape and the new dominance of domestic funds are mainly due to Chinese government's policy of treating local companies that have received investments in foreign currencies as foreign-invested enterprises. Therefore, these companies require additional approvals from regulators for many common operational aspects, even for actions such as opening a retail store. Moreover, these companies cannot exchange foreign currencies for RMB all at once and need separate approvals to convert portions of those funds to pay employees or buy equipment. As a result, Chinese companies, realizing that taking money from a foreign currency fund will lead to more restrictive scrutiny and take much more time in every step of its future operations, often prefer investment from domestic funds. While the QFLP Pilot Program suggests that funds governed by foreign managers with only local investors would be subject to national treatment, whether their investments would be treated according to domestic or foreign investment rules is uncertain depending on how the local government interprets it. In April 2012, the National Development and Reform Commission stated that unless all of the capital in an RMB fund comes from China-based investors, that fund will be classified as foreign and is subject to Ministry of Commerce's rules and regulations. In this case, the foreign GP's contribution of 1% of total funding, in accordance with the business norm, would make the fund "foreign" and prevent foreign funds from leveling their investing condition with Chinese funds.

In the same period, the growth of private equity market has led to increased transactions in the field of mergers and acquisitions (M&A). Even though Chinese companies were not familiar with M&A several years ago, the fierce market competition and international

business development trend have urged Chinese company decision makers to use M&A as important means of external growth. Especially in the case of overseas development, many companies now will consider M&A as a fast move into foreign markets. As a result, in the past few years there has been a continued growth of outbound investments both by Chinese SOEs and private enterprises. These operations were also strongly supported by the Chinese government as a way to help Chinese companies go international. Seeing this new trend, some Chinese private equity firms began to raise US dollar sub-funds, targeting Chinese companies seeking to expand into overseas markets. About \$3.4 billion was raised by domestic private equity funds in 2011, seven times more than 2009 (AVCJ, 2012). Private equity firms help Chinese companies achieve cross-border mergers and acquisitions by using their financial expertise and overseas connections. One example is an SOE in construction sector Zoomlion’s acquiring 60% of Italian diesel engine inventor CIFA, with the Chinese-foreign co-investment of Hony, Goldman Sachs and Mandelin in 2011.

Figure 3-4: Evolution of M&A in China (2006-2012)



Source: author, Zero2IPO annual reports

Section 3.2 Institutional characteristics of private equity in China

After a comparative study of the economic model of China and a brief overview of the different phases of private equity's development in China, we will now deepen our analysis of private equity in China by examining in a more structured way the primary institutional characteristics of the Chinese economy and their direct influence on the practice of private equity. The hybrid form of capitalist economic system in China is not only the choice of the governing Communist Party but also the result of the path-dependency of the evolutionary history of the modern China. Due to China's particular one-party political regime and growth-oriented social compromise discussed earlier, the state and local governments are at the center of China's formal institution structure. This structure comprises laws, market regulations, and public administration. Moreover, *guanxi*, often referred to as the more commonly known "social capital", is the core of the informal institution that has been in China for centuries which has a lasting impact on business relations. At last, the development of private equity in China has been concurrent with the economic transformation which generated both valuable opportunities and difficulties. These crucial features will be thoroughly analyzed in the following three sections: (1) formal institutions - the important role of the central state and local governments in economic growth and investment activities; (2) informal institutions - the influence of different kinds of *guanxi* on private equity mechanisms; (3) institutional complementarity - private equity's development under the complexity of a transforming economy. Meanwhile, we should also pay attention to the fact that the activities of private equity funds also have impact on the deepening reforms and the changing institutional characteristics of the Chinese economy.

3.2.1 Formal institutions: the state and local governments

The Chinese state played a central role in the foundation of China's private equity industry through its control over related institutional systems (White, Gao and Zhang, 2005). At the starting point, the Chinese government was responsible for the supply of initial stage seed capital, the funding of research institutes and universities, the financing and operating decisions of banks and the organization of industrial parks. The Chinese banks then lacking critical information to assess risk at the start-up stage only supported projects selected by

Torch Program⁶². An important number of hi-tech industrial parks were developed by local governments as a key institutional interface of support for ventures. They provided incubator functions including physical space and infrastructure, and linkages to external financing sources including banks and venture capital firms (Gu, 1999). In fact, the Chinese government did not recognize venture financing as a legitimate organizational type until the founding of local government-financed venture capital firms (GVCFs). Venture capital industry was developed in China fundamentally due to its function to link scientific research to national economic development. This was made possible by the Minister of Science and Technology obtaining the support from the central government bodies including State Council, State Planning Commission and the Chinese Communist Party leadership. Woeller (2012) investigated the factors that have contributed to the recent soar of private equity in the BRICs and found that governments of these countries have applied important measures to ameliorate their local legal and economic framework to provide more attractive opportunities for private equity investors. Government can actively promote private equity activities by opening market for competition, strengthening the corporate governance of companies, reducing corruption and rent-seeking behaviors, reinforcing the legal framework, and keeping the coherence between policy guidance and practical implementation.

3.2.1-1 Role of the state: activism, industry policies and transformation

Directly and indirectly, the state has been playing a significant role in China's reforms and opening-up. This has led to the affirmation of state activism and at the same time worries of the independence of economic agents, especially regarding the issue of corruption and political rents. Aoki et al. (1997) indicated that government and markets are not mutually exclusive substitutes because the government can improve the workings of markets by becoming directly involved in coordinating the decisions of independent agents. He suggested that developing countries, suffering from the market failure due to backward economic system, should apply the state-led development strategy as an alternative to give impetus to its catch-up reforms. Stiglitz (1998) argued that states should redefine their role in a globalized world because government has powers that the private sector does not have so that it is important to design an efficient system to apply their powers to create public utilities and to

⁶² The Torch Program was established in 1988 by the MOST (Minister of Science and Technology) to promote spin-off ventures from research institutes and universities by providing direct financial support in the form of grants. A venture project is considered as technically solid once designated as recipient of Torch Program.

maximize social welfare. To resolve the failures of both market and government, he advocated for an interactive “partnership” between the state and society by assigning separate and complementary tasks to the public and private sectors. Regarding the role of states in Asian economies, Stiglitz underlined “the similarities between the strategies pursued by East Asia and the United States, including the role that the government undertook in promoting universal education, in advancing technology, and in creating and regulating financial markets” (Stiglitz, 1998, pp. 26).

The relation between industrial policy and the development of a country has been much studied before and has become more important recently given the economic rise of many emerging economies. Industrial policy includes a whole set of instruments, incentives, regulations and forms of direct participation in economic activity, through which the state promotes the development of specific economic activities or economic agents based on national development priorities (Peres and Primi, 2009). Development economists generally argue that structural and institutional changes, such as the transformation of productive and organizational structures, imply significant costs and barriers that must be overcome through ad-hoc state intervention. This involves the creation of asymmetries to favor technology and knowledge intensive activities that are strategically crucial for long-term growth. As Reinert (1994) put it, the world of high-performing, sustained growth economies is not a world of equilibrium and static comparative advantage but one of increasing returns, fast learning, synergies, innovation and rapid diversification, all of which leads to “productivity explosions”. The high performing economies are those that have found a way to deliberately move their productive structure in the hierarchy from low quality activities (diminishing returns, low productivity, low wages) to high quality activities (economies of scale, steep learning curves, rapid technological progress, high productivity growth, high wages).

Industrial policies widely affect infant industries, trade policies, science and technology policies, public procurement, FDI policies, intellectual property rights and the allocation of financial resources. In a broad sense, they are processes of “institutional engineering” that shape the nature of economic actors, the mechanisms of market and the rules of transactions. From this perspective, the state can be a promoter of development by directly involving in the economic and social aspects, financing productive and innovation activities through credits and subsidies. At the same time, it can be the articulator of policy measures tailored to promote exchange and cooperation between economic agents. While much learning can be

obtained through trade and investment and by emulating the importation of international best practice in technology and productive organization, sustainable growth requires the government policy to support the development of local capabilities, including the dynamism of local enterprises, the formation of the labor force, schools and professional educations, universities and R&D systems (Reinert, 1994). As Chang (2002) revealed:

“The UK and the USA may be the more dramatic examples, but almost all the rest of the developed world today used tariffs, subsidies and other means to promote their industries in the earlier stages of their development. Cases like Germany, Japan, and Korea are well known in this respect. But even Sweden, which later came to represent the “small open economy” to many economists had also strategically used tariffs, subsidies, cartels, and state support for R&D to develop key industries, especially textile, steel, and engineering. [...] The story is similar in relation to institutional development. In the earlier stages of their development, today’s developed countries did not even have such “basic” institutions as professional civil service, central bank, and patent law. [...] One important conclusion that emerges from the history of institutional development is that it took the developed countries a long time to develop institutions in their earlier days of development. Institutions typically took decades, and sometimes generations, to develop.”⁶³

Besides the aforementioned efforts to attract FDIs and to promote production and trade through special economic zones and “three-plus-one” tax regimes⁶⁴, the Chinese government has initiated extensive innovation structures and scientific activities through research institutes, state-owned enterprises and state-run universities to boost national technology upgrading and related industrial development. For example, favorable policies and industrial guidance were provided to drive the development of a wide range of electronics products. As a result, China’s electronic industry has grown three times faster than the GDP growth for the last decade. The Chinese government has also steered resources toward nurturing entrepreneurial activity through the construction of technology incubators to encourage private start-ups. Now nearly each of the major cities has its own “science park” or “high-tech zone”. China’s market size itself provides extraordinary leverage for attracting FDIs and technology transfer. China became the world’s largest market for automobile in 2010, for personal computer in 2011, for luxury goods and smartphone in 2012, and for solar PV in

⁶³ Ha-Joon Chang, “Kicking Away the Ladder”, post-autistic economics review, issue no. 15, September 4, 2002, article 3. http://www.btinternet.com/~pae_news/review/issue15.htm

⁶⁴ See Chapter 2 page 157

2013. The National Development and Reform Commission (NDRC), directed by the Chinese State Council, represents the central role of Chinese government guidance and supervisions in China's transformation. NDRC's functions are to "study and formulate policies for economic and social development, maintain the balance of economic development, and to guide restructuring of China's economic system"⁶⁵. In one word, the indispensable role of the Chinese state is frequently manifested through direct involvement, industrial policies and strategic guidance in the reforms and the sustained economic growth in China. Dahlman (2009) outlined the main fields in which the Chinese state has introduced industrial policies and applied strategic guidance to protect its young industries and to promote their development.

Table 3-2: China's industrial policies, by Dahlman (2009)

State ownership	State ownership used to be extremely high as a result of the Communist takeover, but thousands of state enterprises have been privatized or shut down as the economy underwent massive market restructuring.
Subsidized credit	There still exists significant subsidized credit today through state-owned or controlled banks, oriented to state enterprises.
Tax incentives	Government policies, both in central and local levels, have shown a strong bias towards foreign investment and high technology in 1980-2010, but since 2011 the tax advantages for foreign investment have been reducing.
Tariff and nontariff protection	Protection levels have come down significantly with WTO entry in 2001, but nontariff barriers still remain strong.
FDI targeting	Initially there was very strong control on FDI and later policy changed strategically to open up and favor cutting-edge investment in key economic areas. Foreign firms see China both as a low-cost manufacturing hub and an export market with huge potential, given its large population and under-developed consumer sophistication. The Chinese government has been effective at creating strong competition among foreign firms and inducing them to bring the best technologies.
Local content requirements	Some important mechanisms to build linkages between China's backward regions and developed economies succeed because of the capabilities of domestic firms.
Intellectual property rights	Attention given to protection of intellectual property rights remained weak until WTO entry. Yet the enforcement is inadequate and has become a very controversial issue in business relations with developed countries.
Government procurement	Important mechanisms are put in place to develop national firms in many areas. Government has effectively applied national standards to support competitiveness of indigenous firms and strategic industrial corporations.
Promoting large domestic firms	Multiple instruments and subsidies are used to create world-class national firms, public and private, to compete with multinational corporations (MNCs) both domestically and abroad.

⁶⁵ NDRC official website <http://en.ndrc.gov.cn/>; the definition of its functions <http://en.ndrc.gov.cn/mfndrc/default.htm>

Industrial policies require compatible macro policies and institutional conditions, including exchange rates, taxation, fiscal policies, public investment, governance of the labor market, and income distribution. Polanyi (1944) named the institution-building guided by industrial policies as the “*great transformation*”, evolving from traditional and rural economies to economies driven by industrial activities and advanced services, enabling systematic learning to generate new products and new ways of production. Such great transformations entail a major process of accumulation of knowledge and capabilities, at both individual level and organizational level. This requires coordinating efforts in the education system and organizations such as labor relations, technologies, marketing and dynamic learning. Some international organizations suggest that technological learning, especially in the early phase, involves a lot of imitation, reverse engineering, marginal modifications, and straightforward copying (Cimoli et al., 2008). However, the successful technological catch-up depends also on the country’s “absorptive capabilities”, which in turn are determined by both the “present knowledge accumulation” and the “appropriability” of the technologies (Dosi, Marengo and Pasquali, 2006; Cohen and Levinthal, 1989). The “present knowledge accumulation” impacts future learning on a path-dependency basis and the “appropriability” of the technologies are affected by the institutions ensuring the protection of intellectual property rights. Therefore, to exploit the potential provided by new technologies and to reduce the transaction costs, it is necessary to improve an economy’s hard infrastructure, such as power provision and transport facilities, as well as its soft infrastructure, such as the legal framework, financial institutions, the education system and intellectual property rights system (Lin, 2010; North, 1981). To achieve the above goals and to accomplish successful structural transformations, the state must provide policy support and coherent implements that favor institutional reforms and sustained economic growth.

3.2.1-2 Different roles of central and local governments

To better interpret the role of the Chinese state and its impact on the private equity industry, it is important to understand the relationship between central and local authorities and to distinguish their different roles. Generally, central power is above local power, but they are also complementary in many ways. The roles of central government are to provide policy guidance and the regulatory framework; the roles of local government are to offer incentives to development projects coherent with central policy and to ensure the implementation of regulatory laws. However, with the economic reforms of gradual market liberalization, central

control becomes relatively limited regarding the increasing local government autonomy. Strong arguments in past research support the statement that the devolution of financial autonomy since the 1980s proved to be highly successful in generating economic growth in China (Lin and Liu, 2000; Oi, 1999; Xu and Zhuang, 1998; Montinola, Qian and Weingast, 1996). The local authorities collect and impose fees as well as exert influence on local banks, which contributes to the characterization of old feudal economies (Shen and Tai, 1990). But this has also resulted in some negative and problematic outcomes, such as lack of macro-control, inefficient use of scarce investment capital and natural resources, environmentally unfriendly activities, repetitive projects and regional trade barriers. Regional protectionism, in particular political decisions to protect local actors, block the optimized allocation of resources and hinder the formation of large-scale economies, has weakened the international competitiveness of Chinese enterprises (Hou, 2004).

Even though the rise of the regulatory state in China since the 1990s has marked important efforts to introduce market-oriented institutions and norms, the Communist Party of China (CPC) has simultaneously strengthened the state's authority for economic governance (Yeo, 2012). At the central level, the National Development and Reform Commission (NDRC), the State-owned Asset Supervision and Administration Commission (SASAC) and the Communist Party constitute the supra-regulators of China's institutional organizations. The NDRC, evolved from the former planning agency, is responsible for guiding macro-level development directions. It formulates policies for economic and social development, and offers indicative planning, such as the five-year plan, setting developmental goals. With the responsibility for maintaining macroeconomic stability, it endorses large-scale investment projects, oversees prices in infrastructure sectors, and creates industrial policy. The main task of the SASAC is to oversee the SOEs financial performance, including profit redistributing and asset value enhancing. In the wake of the 2008 financial crisis, the profits of central state firms have risen from 240 billion RMB in 2003 to 996 billion RMB in 2007 (Yeo, 2012). In December 2010, the SASAC issued a revised scheme that requires the largest central state firms to pay larger dividends than before. The first-tier of SOEs, which earned huge profits in recent years, are required to pay 15% of their post-tax profits to the government, up from the current 10%. As a distinct feature of China's regulatory regime, the Communist Party's supervisory control over its personnel constitutes the foundation of its institutional capacity to reinforce policy compliance and overhaul state companies (Yeo, 2012). After the subprime crisis, while governments in liberal market economies had difficulty in persuading the banks

to restart lending, the same problem didn't happen in China because the senior managers of the state banks have a political obligation to comply with party decisions. Despite efforts to institutionalize the appointment procedures, the key posts in both government and state firms are still centrally assigned.

Meanwhile, the financial autonomy of local government and the direct link between local economic performance and the governor's political career have offered much impetus to local government to promote industrial development, encourage private entrepreneurship and improve financial markets efficiency (Kung and Lin, 2007). During the 1980s and early 1990s, the development of TVEs⁶⁶ (township and village enterprises) has powered China's economic growth and paved the way for its later success (Huang, 2008). The TVEs have played an instrumental role in reducing the general poverty in China by creating economic activities and job opportunities in the remote regions of the vast mainland China. Important financial reforms in the rural areas in the 1980s to encourage the banking system to offer substantial loans to TVEs and to allow private providers of capital to enter into the financial service have been crucial for the allocation of financial resources to the local entrepreneurs and consumers. In this period, private ownerships and rural entrepreneurships in forms of small business, TVEs and other cooperatives were the key of China's rural development and the motor of China's enduring economic growth. However, since the late 1990s, TVEs began to decline due to a number of reasons. The ill-defined property rights of TVEs impeded higher productivity and its endurable growth. Bank credit became much harder to obtain due to regulation reforms. TVEs also faced intensified competition from the fast emerging private firms and from the increasing number of foreign firms after China's entry into the WTO. TVEs lost their edge in competing with more efficient and market-oriented private firms and have been gradually privatized (Lin and Zhu, 2001).

Almost at the same time, a new impetus of economic growth through technological innovation and structured industrial development was adopted by the Chinese state and local governments. The core of this innovative institution was the creation of the industrial park. First, the Chinese government and the Minister of Science and Technology have established several programs at national level, such as the "973" Program, the "863" Program, the Key Technologies Program, the Spark Program and the Torch Program, to politically and

⁶⁶ See Chapter 2 page 159

financially support the most promising technological innovation and innovative companies. Second, along with these programs were created multiple structures of accommodation and financial support both at national and local levels, which include Science and Technology Industrial Parks (STIPs), Technology Business Incubators (TBIs), as well as startup funds and subsidies. Since the first STIP “Zhongguancun” was established in Beijing as the Chinese version of “Silicon Valley”, up to now China has about 54 industrial parks containing 60000 companies with 8 million employees, which account in total for 7% of the Chinese GDP and almost half of the R&D expenses for the entire nation. In addition, each park at local level develops its specialty on an industry or technology: Wuhan Donghu specializes in optoelectronics; Shanghai Zhangjiang focuses on integrated circuits and pharmaceuticals; Tianjin pursues advances in biotechnology and new energy; Shenzhen leads in telecommunications; Guangdong Zhongshan is leading in medical and electronic devices. The TBIs are incubators for technology startups physically reside within the STIPs. They provide office space for free or low-cost rent, basic infrastructures, access to the technology transfer from universities, and opportunity to exchange with business advisers and potential partners. In 2011 there were in total 1034 TBIs across China, including 336 national incubators and 698 local ones.

The geographical distribution of private equity investments in China is closely linked to the regional economy. According to the data from Zero2IPO, the top six regions of private equity investment in China have almost constantly been Beijing, Shanghai, Guangdong, Jiangsu, Zhejiang and Shandong from 2000 to 2013. With deepening economic reforms in the western regions, such as Inner Mongolia, Chongqing, Sichuan, Shaanxi and Yunnan, we have observed a dynamic development of private equity investment in these areas in the past few years. Furthermore, statistical data indicates that a major part of private equity investments were attracted to regions where the tertiary industry was under rapid development and was overtaking the primary industry and the secondary industry as the main economic drive. Data from Zero2IPO shows that, from 2000 to 2013, venture capital investments were mainly channeled into the tertiary industry, including internet, IT, value-adding services, biotech, healthcare and clean-tech, which received nearly 80% of the total investment. Becoming the world’s second largest economy, China has set new priorities in its 12th Five-Year Plan in 2011 to focus on rebalancing economic growth by increasing domestic consumption and on the building of a society of “xiaokang” (general well-off). This policy orientation favors

particularly the development and investment in sectors related to health, environment, renewable energy and services.

The fast development of private equity in China is the result of both the invisible hand of market demand and the visible hand of central and local governments. In Annex 2, we have summarized the most important central policies and regulation changes that have influenced and accompanied the evolution of private equity industry in China across the last three decades. In response to the central policy guidance, local governments target private equity activity as an important boost for local economic development and have successively adopted favorable measures to encourage private equity funds to operate locally. These measures include the provision of tax reductions, advantageous rents, administrative support, information exchange and training programs. The main purpose of local government is to build a cluster of private equity funds, which will in return accelerate local industrial development and economic transformation and contribute to the overall local fiscal revenue. In many regions, local government also offers private equity funds a full package of local fiscal reductions in the form of reimbursement, which covers business tax, company incomes tax, personal income taxes of GPs and LPs during the first five operating years. Sometimes the promised reimbursement amount can be as high as 80% or 90% of regional taxes⁶⁷. However, in practice the reimbursement procedure requires good coordination among different administrations, including the local finance bureau, the administration of industry and commerce, the taxation bureau and the financial department. In consequence, the reimbursement of funds is often delayed or only partially done because of the complicated administrative procedure or tight local fiscal budget. Many local governments have also set up local government guide funds with the aim of providing supplementary public capital to private equity funds that invest in local companies.

At the same time, with intensifying competition among different regions to attract private equity funds, some speculative funds try to take advantage of government offers. They exploit the opportunity to raise more money from local investors, and then instead of investing into local ventures, they simply transfer some inessential business departments of their portfolio companies from other regions. To solve the dilemma of growth and speculation,

⁶⁷ Among the total tax payment of companies, 60% goes to the central government, 32% goes to the regional government and 8% goes to the municipal government. Information from “21 Century Economic Report”, <http://jigou.21cbh.com/2014/7-9/5MMDA0OTdfMTIyNTA5Mg.html>

it is necessary to provide a uniform standard to end the senseless deregulation competition among local governments. Lack of coordination among local governments, lagging central legislation and its insufficient reinforcement also bring conflicts and uncertainty to the private equity industry and to companies seeking investment. Legislations on important issues of investor protection, governance, intermediary standardization and information sharing still need improvement.

3.2.1-3 State intervention through public startup funds and government guiding funds

Besides being market regulatory body, policy guidance provider and local development promoter, another important role of the Chinese state regarding the private equity industry is the direct intervention of the state through public startup funds and government guidance funds. Government funding for innovation and R&D is not unusual in many countries. The major rationale is that in free market private firms may under-invest in R&D activities due to spillover effect, high technical uncertainty and related commercial risk. Yet, direct government intervention without optimal structure and technical support may distort the incentives of private investment in R&D activities and result in inefficient usage of public financial resources. Given the strong link between innovation and economic growth, OECD governments have implemented programs of public and private partnerships to mobilize venture capital to support high-tech startups. However, studies on government-sponsored venture capital investment show diverging results across countries: while it seems to be beneficial to economies of Israel, Australia and the US (Cumming, 2007; Gilson, 2003; Lerner, 2002), it turns out to have a negative impact in the UK and Canada (Cumming and MacIntosh, 2006). A high level of government involvement is often considered to reduce the success of high-tech startups (Brander et al., 2010). For an emerging market like China, government funding still has an important role to play in assisting the further development of private equity and venture capital markets. We will now analyze the strong engagement of the Chinese government and its influences.

Public startup funds were created in China with the support of national scientific technology programs, which offer young innovative technology companies access to appropriation, subsidies and equity investment. Their ultimate goal is to develop startups with strong technology and a first market validation so that other funding sources could take the relay. Certain conditions are required for obtaining these benefits. To gain support from

Innofund, the largest Chinese public startup fund and equivalent of the US SBIR (Small Business Innovation Research), the applicants must be in the sectors of high technology and invest annually no less than 3% of its total sales in the R&D, with less than 500 personnel (and at least 30% of these must be technicians) and its majority shareholder must be Chinese. From its establishment in 1999 to the end of 2011, Innofund has provided over 19 billion RMB to 30537 projects. Among them, 27498 were backed through appropriation, 2880 received loan interest subsidies and 1159 were sponsored by equity investment, bank loan insurance or other subsidies (Guo et al., 2014). In order to improve the management efficiency of Innofund, fundamental reforms have taken place in 2005. The local governments were required to set up local funds, conduct full assessment for each project and take responsibility for initial selection through co-investment of at least 50% (25% for the western provinces) of the proposed project (Guo et al., 2014). The decentralized project evaluation and co-investment mechanism increased the capacity and incentive of selecting the best projects, and better aligned the interests of the local and central governments. A monitoring system was also created to allow the public to observe the decision-making and comment on official websites. This measure increased transparency and reduced potential agency problems.

With a decentralized screening process and better coordination between the central and local departments, the amount invested by Innofund has been growing fast. By the end of 2013, Innofund has provided in total over 26 billion RMB to 46282 projects. For the year 2013 alone, 5332 projects were backed by about 3.6 billion RMB appropriation, 835 projects were supported by 0.5 billion RMB loan interest subsidies, and 279 projects received in total 1 billion RMB of guiding equity investment⁶⁸. Structural reforms have also led Innofund to provide more indirect support through equity investment and reduce the amount of direct subsidies. Western regions have received stronger support to back its catch-up. Moreover, Innofund has induced external finance from local governments, banks and venture capitalists, and stock markets at a later stage. By the end of 2008, 82 out of 273 publicly listed companies on China's Small and Medium Enterprises Stock Exchange were supported by Innofund (Guo et al., 2014). Innofund-backed firms often generate significantly more innovation outputs through new patents and new products, compared with non Innofund-backed firms (Guo et al., 2014). However, due to unpredictable changes in market prospects, overly ambitious financial

⁶⁸ Information from 2013 Innofund Annual Report, see www.innofund.gov.cn

forecasts, insufficient sales force, or other crucial business problems, some projects encountered difficulties in actual implementation and failed.

Facing the limits of public startups funds, the Chinese government realized that it would be more beneficial to find a way to leverage private finance in innovation rather than rely only on public funds. However, in China, venture capitalists are reluctant to take risks and the more typical investment criterion of venture capital fund is a high growth SME with IPO potential. Only when an innovative company grows to a certain size with good operational results will venture capital funds be ready to provide extra capital to its future development. Therefore, in order to overcome market failures of capital allocation, to guide private funds in investment in high-tech SMEs and to promote the growth of innovation, the Chinese central and local governments have created the structure of guiding funds. A government guiding fund is a special non-profit fund financed by a local government in the aim of attracting much larger capital from local financial institutions and social capital resources to invest in or with local venture capital funds, in the form of equity or debt, to support the development of new ventures. By guiding investment behavior and providing risk reducing aid, government guidance funds encourage venture capital funds to invest in early stage high-tech startups and promote entrepreneurship and technology innovation in SMEs. At the same time, local governments observe the principles to let the market lead the fund operation and decision-making and to be cautious with risk prevention.

The first government guiding fund was set up by the Zhongguancun Administrative Committee in 2002. In 2005, the central ministries stated that central and local governments could set up guiding funds to attract capital into the venture capital industry, but the legislative recognition and norms were lacking. In 2007, the Chinese Ministry of Finance (MOF) and Ministry of Science and Technology (MOST) jointly issued the interim measures for venture capital guiding fund. In October 2008, “Measures for the Administration of Venture Capital Guiding Funds” was officially adopted by the State Council. Four schemes and functions were developed for venture capital guiding funds: (1) fund-of-fund (FOF)⁶⁹ that contributes under a ceiling of 25% to the capital of local venture capital funds in order to amplify the investment capacity; (2) public and private co-investment to reduce investment

⁶⁹ FOF (fund of funds) is a concept that originated in the United States in the 1970s. An FOF is a special kind of fund that invests solely in other equity funds. Presently, in developed countries in Europe and America, equity funds have replaced secondary markets to become one of the three financial pillars, along with banking and insurance. In those countries, FOFs are the source of about 20% of equity capital.

risks for local funds; (3) subsidies for venture capital investment in risky projects and compensations for investment losses; (4) investment guarantees to further reduce risks for early stage investment, especially for high-tech companies or SMEs from local incubators. Since then, the majority of Chinese local governments have successively established their own local guiding funds to promote the private equity and venture capital industry. By the end of the first half of 2014, there were almost 200 government guiding funds spread all over China, with a total investment capacity of about 100 billion RMB. Among them, funds in Beijing and Shanghai are growing fastest while Jiangsu and Zhejiang Provinces have the highest fund concentration.

Through various types of government guiding funds, the Chinese state endeavors to use public finance to leverage more private investment in crucial infant industries and to accelerate the process of innovation in the widest scope. In October 2009, the National Development and Reform Commission, Ministry of Finance and the local governments of Beijing, Shanghai, Shenzhen, Chongqing, Jilin Province, Anhui Province and Hunan Province together set up 20 venture capital guiding funds in the aim of orienting local investments to the sectors of ICT, bio-tech, new energy, energy saving and environmental protection. Total capital of these funds consisted of 1 billion RMB from the central government, 1.2 billion RMB from local governments and about 7 billion RMB leveraged from private participations. Most recently in January 2015, China's State Council announced the creation of a national venture capital guiding fund with 40 billion RMB to lead social capital toward new industries⁷⁰. Apart from the initial capital input from central government, the fund will mainly incorporate capital from big companies, large financial institutions and other private sources. In order to resolve past efficiency problems resulting from weak management, administrative intervention and lack of assessment and supervision, the new fund will be managed by professional fund management companies selected through an open bidding process. The distribution of investment returns will adopt the mechanism of "repayment first, dividend-sharing second" while privileging the reinvestment of accumulated capital. Key industries targeted by the new fund include environmental protection, information technology, biotechnology and new medicine, new energy, new materials, aerospace, marine, advanced equipment manufacturing, new energy vehicles, and high-tech services. To support further

⁷⁰ http://news.xinhuanet.com/english/china/2015-01/15/c_133921797.htm

progress of the private equity market, the Chinese central government also promises to reduce market access barriers, ease industrial regulations and optimize the exit mechanisms.

While providing new impetus to entrepreneurship and innovation, government guiding funds still bear a strong political feature and could distort the information flow and decision-making of operating fund managers. Meanwhile, there are constraints attached to the offer of public capital. One constraint requires the cooperating private equity firm to form a locally dedicated management company, independent from its overall structure, and to only invest in local companies. This condition, however, greatly limits the private equity firm's operative efficiency and choices of investment target. Hence, some of the most performing and qualified private equity firms are hesitant to work with public guiding funds, for fear of being obliged to invest in subpar local projects. Yet, the actual investment operation depends largely on the capacity and expertise of the fund management company. This asymmetric and unstable agency relationship between local governments and fund management companies could lead to undesirable results and, to a certain extent, harm the long-term economic interest. With intensifying competition among local governments and local guiding funds, speculative behaviors of some private equity firms might bring resource waste and market distortion. A well-designed reporting mechanism is still lacking to better monitor the performance of invested companies and to provide specific management advice.

3.2.1-4 State-owned or state-controlled economy and private equity

To complete our analysis of the role of state and government and its impact on the development of private equity in China, we should also look at state-owned or state-controlled enterprises. Although China has changed from a state planned and state owned economy to a hybrid capitalist system under state regulation, its private economic sphere remains very close to the state system that spawned it (Breslin, 2004). The state, with its ownership in the Chinese companies much reduced, still has non-negligible control over many key resources and sometimes the market entry. In this gradual transformation of state economy to private economy, private equity firms have an important part to play. Operations of ownership change and management restructure during the privatization of SOEs are typical competences of private equity firms. But due to the special status and historical problems of SOEs, radical changes are sometimes inevitable.

The Chinese state has decided that China's successful transition to the market economy requires not only the invisible hand of market liberalization but also the visible hand of the state in order to maintain macroeconomic stability (Yeo, 2012). Instead of full-scale liberalization, the Chinese state has adopted the policy of "grasping the large, letting go the small" as the central guidance for reforms of strategic industries, including energy, telecommunications and finance services. By avoiding excessive competition and maintaining orderly competition, Chinese policymakers and regulators managed to steer the economy while strengthening the remaining SOEs. Most large and successful SOEs became leaders of their sector. Even though apparently benefiting from their state-backed monopolistic market position, large Chinese SOEs are not necessarily uncompetitive in terms of their business sophistication and innovation. Consequently, over the last two decades, through great political and economic efforts, China has established a unique system of market economy centered on party-supervised large SOEs that are internationally competitive. However, this passage of gradual transformation has not been smooth.

In order to let the non-state sector grow under reform while avoiding massive lay-off and minimizing social instability, the Chinese central government has kept employment in the state-owned sector almost constant at about 16% of the workforce from 1978 to 1997 and required the state-owned banks to bail out loss-making SOEs (Zhu, 2012; Lau, Qian and Roland, 2000). Lack of competition and exit pressure further reduced the economic incentives of SOEs and eliminated market selection as an important mechanism for improving aggregate productivity in the state sector (Zhu, 2012; Brandt and Zhu, 2001; Qian and Roland, 1998). This resulted in rapid accumulation of non-performing loans in the banking system and chronic high inflation due to substantial money created for loans (Brandt and Zhu, 2000).

Finally in 1995, the Chinese central government decided to bring reform into the state sector. Many small-scale SOEs were allowed to go bankrupt or be privatized through management buyouts. The structure of mixed ownership was widely adopted as the large-scale SOEs were gradually converted into shareholding companies with a controlling majority held by the state. Official statistics show that from 1998 to 2012 the number of SOEs had reduced almost 3/4 from 64737 to 17851. During the same period, private enterprises grew dramatically from 10667 to 189289, increasing by nearly 18 times. The number of foreign enterprises more than doubled, growing from 26442 to 56908 (China Statistical Yearbook 2013). The number of employees by urban SOEs also dropped from about 95 million in 1998

to about 68 million in 2012. Meanwhile, employees of urban private enterprises increased significantly from about 20 million in 1998 to about 128 million in 2012. Employment of foreign enterprises more than tripled from about 6 million in 1998 to about 22 million in 2012 (China Statistical Yearbook 2013). These evolutions are the combined result of the gradual economic liberalization, the privatization of SOEs, the legal reinforcement of private property protections and market dynamics driven by the sustained high economic growth in this period.

With various recent reforms aimed at improving Chinese enterprises' corporate governance, management incentives and overall productivity, indicators of firm efficiency have shown positive results. Yet, if we compare the state sector with the non-state sector, during the period of 2005 to 2012, the average operating efficiency in private enterprises increased from 13.9% to 21.5% while the results are much less impressive for SOEs, progressing from 10.6% to 12.8% (China Statistical Yearbook 2013). In order to accelerate the SOE transformation and to further improve their productivity through market competition, many SOEs are privatized through IPO, by listing its most valuable assets and most profitable businesses through a specially created company and selling part of the company shares to the public. In some cases, the state continues to hold the majority part of the listed company. According to SASAC, by the end of 2012, there were 953 SOEs listed on the Shanghai and Shenzhen stock markets, accounting for 38.5% of companies listed on China's "A" share market and 51.4% of total market capitalization⁷¹. Successful cases include Haier Group, TCL Group, Midea Group, Gree Group, Wuhan Iron and Steel Group, China South Locomotive and Rolling Stock Industry Corporation and China Communication Construction.

In the current round of SOE reform, the policymakers have clearly and positively confirmed the necessity of introducing private equity funds to assist SOEs in their privatization, restructuring, listing, and international mergers and acquisitions, which greatly stimulates the enthusiasm of private equity firms. Some private equity firms have even established a special team focusing on opportunities from SOE reform. Some SOEs also have talents, but they lack the appropriate incentive mechanisms and rigorous corporate governance to promote change and improve performance. Private equity firms can play an important role in providing financial support to the SOE reform and can also help change their internal company culture and the mindset of their employees. Since private equity

⁷¹ <http://www.sasac.gov.cn/n1180/n1566/n259760/n264785/15106589.html>

investors generally have clear mid-term financial goals, more management experience and a better market vision, they can be very helpful as advisor and external force influencing the process of change and adaptation. Besides an important amount of capital, with strong ability to integrate resources, they can bring SOEs international industry expertise, efficient incentive mechanisms, optimal strategy combination and best practices of internal control. Although the number of SOEs has declined drastically over the past years, there remain plentiful opportunities. Besides ownership restructuring and improving management efficiency, a new task emerged recently for private equity firms to assist SOEs in overseas M&A. Hony-backed Zoomlion's acquisition of Italy's Compagnia Italiana Forme Acciaio in 2008 and CITIC Private Equity's participation in Sany Heavy Industry's purchase of German pump manufacturer Putzmeister in 2012 are examples of this new trend. Moreover, in order to take advantages of the internal resources of SOEs, some private equity firms also invest jointly with SOEs in new ventures and growth companies. This operation can help SOEs to reform and innovate in another way.

The best known private equity firm in the Chinese SOE investment field is Hony Capital. Founded in 2003 by Legend Holdings, a quasi-governmental investment firm itself, Hony Capital now manages about \$7 billion of capital from leading institutional investors in China and across the world. The firm primarily focuses on consumer sectors, advanced manufacturing, healthcare and the service industry, and has helped a number of Chinese enterprises grow into sector leaders. SOEs currently account for almost half of its over 70 portfolio companies. With local governments eager to attract investment in their region, Hony Capital could use successful SOEs as a platform to consolidate the whole industry. The financial returns of these deals are comparable to investment in private enterprises, according to the CEO of Hony Capital⁷². Another major player, CITIC Capital, an alternative investment management and advisory company, was among the first Chinese private equity firms to pursue SOE deals since 2002. Jointly owned by CITIC Group, which itself is state-owned, China Investment Corporation, the large China's sovereign wealth fund, and Qatar Holding, CITIC Capital manages over \$4.4 billion of capital. Its core businesses include private equity, real estate, structured investment and finance, asset management and venture. Alongside Hony Capital and CITIC Capital, CCB International, China Everbright, New Horizon and JD Capital are also among the active players chasing SOE deals.

⁷² http://www.avcj.com/digital_assets/5364/2519AVCJMay22_2012.pdf

Private equity investments in SOEs cover various sectors and operate in diverse forms. As the most important player in the SOE investment market, Hony Capital has invested in leading SOEs in real estate, hospitality, financial services, IT service, mobile hardware, manufacturer, construction equipment, e-commerce, media and book distribution. Table 3-3 provides a list of primary investments in SOEs made by Hony Capital in the past few years. The year 2013 has seen many mega deals of private equity investments in SOEs. Shanghai Greenland Holding Group, one of highest-profile mainland Chinese property companies, raised capital from five private equity investors to strengthen and expand its business. IDG Capital invested in the catering chain Quanjude, best known for its roast duck. In the same year, US private equity giant KKR also made its biggest investment in China of \$556 million for a 10% stake in Haier, world Number One in terms of market share in the major appliances market. With KKR's help, Haier wants to build its global brand to compete with higher-end Western and Japanese companies. In 2014, the trend continued in much the same way. Shenzhen Great Wall Asset Management subscribed new shares of Guangdong Star Lake Bioscience, becoming its strategic shareholder and bringing its experience of corporate governance and internal control. Fosun International, another major private equity firm in China and actively involved in cross-border M&A, invested in the dairy products producer Sanyuan Group.

Table 3-3: Portfolio SOEs of Hony Capital

Company name	Business sector	Year of investment	Exit and other information
Shanghai Jin Jiang International Hotels Development Co., Ltd	hospitality industry with nearly 1000 hotels under management	2014	
Shanghai Chengtuo Holdings Co., Ltd	leading provider of real estate, environmental and venture capital services	2013	The company was listed in Shanghai Stock Exchange in 1993 but remained largely owned by the SASAC.
New China Life Insurance Co., Ltd	top 3 life insurance companies in China	2010	
Happigo	fast growing and leading national player in TV shopping, e-commerce, mobile retail	2010	
Lenovo Mobile Telecom Technological Company	No.4 mobile handset producer in China	2008	
China Yaohua Glass Group Corporation	one of the top ten sheet glass manufacturers in China	2008	
New Century Department Store	leading regional department store and supermarket chain in Chongqing, China	2008	

Jiangsu Xinhua Distribution Group	leading large-scale cultural media enterprise specialized in book distribution	2008	On June 30, 2009, the company was completely converted into a listed company
Zhongfu Lianzhong Composites Group	a key national high-tech enterprise producing rotor blades, pipes, tanks, high-pressure cylinders and pipes	2008	
Jushi Group Co., Ltd	the largest fiberglass manufacturer worldwide	2007	
CSPC Pharmaceutical Group Limited	world leading producer of Vitamin C, Penicillin industrial salt and 7- aminocephalosporanic acid	2007	it is a subsidiary under China Pharma, listed in Hong Kong
Digital China Holdings Limited	leading IT products distributor and IT services provider in China	2007	
Changsha Zoomlion Heavy Industry Science & Technology Development Co., Ltd	world leading construction and mining equipment manufacturer	2006	In 2008, Hony Capital, Goldman Sachs and Mandarin Capital Partners assisted Zoomlion to fully acquire Compagnia Italiana Forme Acciaio S.P.A.
China Glass Holding Limited	one of China's largest manufacturers of flat glass	2004	IPO on HKEX in 2005; M&A of another SOE in glass industry by China Glass.

Source: Hony Capital website

However, investing in SOEs is not an affordable business for all private equity funds. First, each of the current players has strong government connections, either through state-backed parent companies, such as Hony Capital and CITIC Capital, or with ties to powerful agencies and quasi-state institutions. In the case of CITIC co-investing with Warburg Pincus in Harbin Pharmaceutical Group in 2004, it was CITIC Capital that originated the deal and negotiated with the local government. The US-based Warburg Pincus was invited to participate as a co-investor because it was able to commit additional capital and it could offer pharma sector expertise. Without government connections, private equity funds might face many obstacles, from arranging regulatory approvals to securing alignment with company management. It can take many months to create an alignment of interest between a private equity fund and an SOE's various stakeholders.

Second, in order to prevent SOE assets from being sold at undervalued price, the State-owned Assets Supervision and Administration Commission (SASAC), responsible for overseeing SOEs controlled by the central government, has introduced a minimum purchase price for private sector investors based primarily on the net asset value of the company. Therefore, many SOEs with large assets but moderate or even low earnings would be too expensive and not financially interesting for private equity funds, which have the obligation to seek best financial returns for its own investors. Furthermore, to use an investee SOE as a

platform to carry out industrial consolidation through mergers and acquisitions also requires the participating private equity fund to commit relatively large amounts of capital. This high capital need of SOE investment will naturally result in the majority of small and medium sized funds' not being able to participate.

Third, compared to more market-oriented private companies, investing in SOEs might appear to be much more difficult because of their industrial features, managerial differences, incentive mechanism and the central approval process. Many SOEs belong to traditional sectors and hence face risks of industry cycle fluctuations. By using restructuring to improve productivity and efficiency, SOEs also face pressure to downsize and to adjust its personnel. Without any previous experience in SOE privatization or restructuring, it may be rather tough for private equity funds to well manage all these crucial changes. Financial and legal due diligence of SOE assets can be very complicated and painful. Because under the traditional SOE management regime, political objectives were the priorities during decision-making and financial considerations were less important. Managers of SOEs would receive promotion based on the realization of political objectives and not the financial performance. Consequently, managers who put personal and political objectives before business performance were liable to neglect financial records and supply unreliable information. Sometimes only after investment, private equity funds would find out that the management was far more corrupt and less cooperative than previously imagined.

On top of all this, even when an SOE is profit-making and the internal management reform is smooth, exits are not always easy. IPO is the most desirable exit channel in China given its relatively high returns when the market timing is good. However, IPO in China must go through strict investigation and approval procedures, and too many companies are queuing to be listed. Private equity investors might have a controlling stake and are theoretically capable of executing their decision for the company, but the IPO permission and timing are largely determined by the state-related interests. This means that the company should be operating in one of the sectors of policy preference and that local government should strongly support the listing with good socio-economic arguments. Other exit channels such as trade sale and secondary sale were less popular in the past, but they are becoming more and more practiced with the difficulty to achieve IPO. Meanwhile, some multinationals interested in buying attractive Chinese SOE assets have been strongly challenged by the political authority.

As long as the SOE assets are closely managed by the SASAC, the exit must be politically acceptable.

Improvement in many practical aspects is needed to make investment in SOE easier for private equity firms. The valuation method of SOE assets needs adaptation and the interests of private equity funds and of the public counterparty should both be taken into consideration. The current method of pricing based on net asset value certainly does not reflecting the true business value of any SOE conglomerate. Private equity funds usually expect to exit investment with a gain of premium, which means the price at which they buy the shares should be less than its real market price. For the public counterparty represented by SASAC, the pricing of SOE shares must avoid value loss, but it is difficult to set the right price given their sophisticated assets, dominant market position and related political factors. The valuation adjustment mechanism⁷³ still lacks legal basis in China and might be controversial in the case of SOE. Moreover, the success of private equity investment in SOEs also involves the after investment management and monitoring. It depends on whether the advanced forms of management and decision-making procedure can or not be fully implemented and if the interest of small shareholders can be protected. The core lies in the building of a competitive market environment in which private equity firms of different features can compete with each other on an equal level. The combination of privatization, market liberalization and government support has greatly improved the overall productivity of China's economy and has nurtured a fast growing domestic private equity industry. However, further institutional change and reforms on strengthening the rule of law will be needed if China is to maintain its growth by reducing remaining distortions.

3.2.2 Informal institutions: *guanxi* in the operation of private equity in China

Regarding the formal institutions that impact private equity in China, we have looked at the indispensable role of the Chinese state in designing industrial policies and strategic guidance for the reforms. We analyzed and compared the different but complementary roles of the central and local governments in promoting the development of local economy and of

⁷³ Valuation adjustment mechanism is a special investment clause commonly used in the West which grants private equity fund the right to be compensated by either cash or additional shares if the investee company produces financial results below their agreed threshold.

private equity sector. We also studied the direct involvement of government through government guiding funds and the investment opportunities provided by the SOE privatization and restructuring. Concerning the informal institutions, we choose to focus on the role of *guanxi*. *Guanxi* refers to a social concept close to the more commonly known social capital. In the second section of Chapter 2, we have already mentioned the pro-business influence of *guanxi* and its contribution to the hybrid capitalist economy in China. We will now further examine the particularity of *guanxi* as a social concept and, concerning precisely private equity, how different kinds of *guanxi* can help increase deal flow volume, secure investment opportunity, smooth internal structural changes and identify the best exit channel and timing.

3.2.2-1 Social capital and *guanxi*

OECD defines social capital as “networks together with shared norms, values and understandings that facilitate cooperation within or among groups”. In other words, social capital describes the pattern and intensity of networks among people and the shared values that arise from those networks. Its main aspects include citizenship, neighborliness, social networks and civic participation⁷⁴. For researchers, social capital has various definitions and interprets different values. Bourdieu (1986) separated social capital from economic capital and cultural capital and interpreted it as a power keeping mechanism, which is the aggregate of the actual or potential resources that one possesses to maintain a durable network or relationships of mutual acquaintance and recognition. Coleman (1988) had a more neutral view of social capital as generated by networks of relationship, reciprocity, trust and social norms that facilitate individual or collective action. Putnam (1993; 1995) considered that social capital facilitates cooperation and mutually supportive relations and hence increases personal access to information, skill sets and enhanced power. Similar to Putnam, Fukuyama (1995) also considered social capital as a kind of trust and the capacity for cooperation. He suggested that a higher level of sociability or social capital enables individuals to work collectively and cooperatively in the corporations, which explains why some countries are more economically successful than others. Nahapiet and Ghoshal (1998) argued that social capital should be studied in three dimensions, as structural (an individual’s ability to make ties to others within a system), relational (the character of connections and communication between individuals) and cognitive (shared understanding of individuals or groups). Redding

⁷⁴ <http://www.ons.gov.uk/ons/guide-method/user-guidance/social-capital-guide/index.html>

(2005) defined social capital as comprising interpersonal trust and trust in overarching formal and informal institutions. Subsequent works in this field indicated that high levels of institutionalized trust are rare outside Western Europe, Japan and the Anglo-Saxon economies (Redding and Witt, 2007).

Trust, engagement and network are central to the concept and the measurement of social capital. Trust is the foundation of all social relationship, which presumes the general good intention and reasonableness of others and a reciprocal agreement in regard to certain norms, values and understandings. Social engagement and membership of any kind of groups, such as industry institute, study circle, association, volunteer action, or religious group, are the manifestation of citizenship and an individual's active participation in the public sphere. They represent both the consciousness of one's public rights and responsibilities, and a favorable environment that encourages its expressions. These groups can be geographically defined (as neighbors) or socially defined (as families or friends), and can be related to a profession, a cause, or a common interest. Network is the personal links that one develops through different kinds of relations, kinship, friendship, comradeship, or co-working, for economic, intellectual or sentimental interests, and with the help of which one maintains exchanges and communication with the external world. The World Bank has elaborated the "Social Capital Implementation Framework" (SCIF) under which social capital is divided into five sub-categories: groups and networks; trust and solidarity; collective action and cooperation; social cohesion and inclusion; information and communication.

Previous studies have often associated higher levels of social capital with better governance, less corruption, lower crime rates, higher economic growth and better personal and public health. Boix and Posner (1996; 1998) argued that social capital enforces the government effectiveness on five levels. First, social capital enables citizens to hold the government accountable for the governance. Second, social capital may provoke a change of mind-set within the citizenry and generate a higher sense of value for collective interests. Third, social capital reduces the government costs of regulation and enforcement and thus saves resources for better public services. Fourth, social capital fosters more efficient cooperation between bureaucrats and policy makers and reduces opportunistic behaviors. Fifth, social capital may help to bridge social cleavages by adopting accommodative practices among different social classes. Tavits (2006) found that in communities with high levels of social capital the government is not an outsider but rather a partner of the community. While

administrative efficiency does not depend on the civic support, it can be improved through institutional reforms. Guiso, Sapienza and Zingales (2004) showed that social capital affected the level of financial development across different regions of Italy and was particularly important when legal enforcement was weaker and among less educated people who had limited understanding of contracting mechanisms. However, other researchers came up with different opinions suggesting that these arguments about social capital improving government effectiveness lack a clear causal mechanism explaining how trust at the micro-level expands beyond associational boundaries and eventually impacts on political decisions at the macro-level. Wollebaek and Selle (2003) considered that education, work environment and political institutions are the main factors that determine social capital. In order to influence the formation of social capital, members of associations must also participate in politically-oriented organizations. Today, the debate remains open about whether social capital is the driving force of political performances or is it the outcome of political institutional arrangements.

Guanxi is often known and studied as the Chinese version of relationship. Meanwhile, some researchers suggest that *guanxi* and relationship is not exactly the same. Jacob (1979) considered *guanxi* in its traditional concept as direct particularistic ties, stronger and more exclusive than relationship. Fan (2002) argued that though *guanxi* and relationship are similar, *guanxi* might not be created automatically by relationship and that there is no equivalent concept of *guanxi* in foreign cultures. Moreover, *guanxi* is far more delicate than the usual gift-giving and wining-and-dining components of a common relationship. It rather rests on the cultivation of long-term personal connection and mutual trust. *Guanxi* is also different from network. Pervasive in both daily life and business, *guanxi* is likely to have inherited the dyadic structure of social relationships embedded in the Confucian philosophy (Chen and Chen, 2004). Under this perspective, interpersonal *guanxi* dyads are the fundamental units of networks and groups. This also explains why network is called “*guanxiwang*” (net of *guanxi*) in Chinese. Network constitutes an important aspect of *guanxi*-based business practices (Huang and Wang, 2011). Yet, different to network which is multi-dimensional, *Guanxi* is fundamentally embedded in the interpersonal relationship between two individuals (Fan, 2002).

Guanxi is the instrumental ties built on interpersonal trust, which forms the informal foundation of exchange relations in Chinese society and serves as a means of marketization

itself (Chan, 2009; Wank, 1996; Walder, 1985). With the *guanxi* engagement, win-win cooperation is possible and common, since a favor or privilege will be returned at their due time. Meanwhile, individuals outside *guanxi net* tend to be ignored or seen as rivals. *Guanxi* is hence maintained and accumulated with the potential of being converted into economic, political or other forms of capital later. Therefore, *guanxi* is close to Bourdieu's (1986) concept of social capital in that, being instrumental, it has the ability to convert into another form of capital. Both *guanxi* and social capital are formed on the basis of long-term trust and engagement and facilitate interpersonal exchange and collective cooperation. Like *guanxi*, social capital results from investment by individuals striving to form beneficial social relations (Huang and Wang, 2011).

However, social capital and *guanxi* still have their distinct features. Social capital emphasized more on networks and the capacity of cooperation from a general perspective. It comprises of interpersonal trust and institutional trust (Redding, 2005). It focuses on individuals' inputs rather than reciprocal gains (Huang and Wang, 2011). It is hence a collective concept and is often considered as an indicator of democracy. Individuals, once accepted in the networks, can benefit from social capital by increasing personal access to information and skill (Putnam, 1993, 1995). *Guanxi*, on the contrary, is based implicitly on mutual interest and benefit. Once *guanxi* is established between two people, each can ask a favor of the other with the expectation that the debt incurred will be repaid sometime in the future (Yang, 1994:1-2). The notion of reciprocal obligation and indebtedness, as central to the function of *guanxi* in China, is however not present in social capital. If the requested one failed to pay back the needed favor without a good reason, their *guanxi* would end, and opportunities and outlets for exchange would disappear with the loss of *guanxi*. Another distinct feature of *guanxi* is the frequent involvement of sentiment and affection. In China, trust is often founded on a sentimental rather than rational basis, resulting in a true *guanxi* possessing an affective component (Gold, Guthrie and Wank, 2002). Compared with social capital, *guanxi* combines both the characteristics of instrumentalism and sentiment, which reflects the remaining existence of a moral economy in China.

Moreover, from the institutional perspective, *guanxi* is a product of under-developed legal system and regulatory structure (Guthrie, 2002). There are scholars who consider that *guanxi* has a humanitarian feature and could bridge the gap of China's transition from a country of the rule of man to a country of the rule of law. *Guanxi* could facilitate resource

allocation, stable expectations and information flows (Wank, 1996). It smoothes the potential conflicts between different parties and helps to achieve greater cooperative success based on mutual trust and benefit. Especially, executives of private companies could seek to compensate for their lack of formal institutional support, compared to SOEs, by cultivating personal connections (Xin and Pearce, 1996). However, critics see *guanxi* as fueling the country's rampant corruption and as an obstacle to its becoming a democratic society. People can be manipulating and utilize *guanxi* to get something "through the back door". There is also considerable disagreement over the future of *guanxi* with the deepening economic reforms (Gold, Guthrie and Wank, 2002). Some scholars argue that as the state gradually releases its control on the economy, the role of *guanxi* and other culturally rooted informal institutions will continue to expand in China, leading to an economic system substantially different from the law-based legal system in market economies. Others on the contrary indicate that the role of *guanxi* has been declining with the on-going reforms and that formal law will eventually become the norms of Chinese society.

3.2.2-2 *Guanxi* and informal finance

While it is true that networks of business relationships are not something unique in China, it is important to underline the strong connections between new entrepreneurial elites and political elites in China, manifested through those who have left formal political office to become entrepreneurs⁷⁵ and those business men who are children of state officials (Dickson, 2003). The commercial rationality in China has been less about searching directly for business entry than looking for building strong ties with local officialdom that will in turn grant information access and market opportunities (Wank, 1998). Meanwhile, the phenomenon of corruption became wide spread with this *guanxi* related interest sharing. During the process of privatization starting in the late 1980's, some officials have directed the privatization interests towards close contacts or relatives. Even though the corruption level in China is generally lower than the average of developing countries, 42.2% of Chinese firms report to give gifts to secure government contract, much higher than the average 26.4% for developing countries (China 2012 Enterprise Survey, World Bank). Ding (2000) referred to the resulting relationship between political and economic elites as "nomenklatura capitalism". Therefore, a form of business-oriented local state has become pervasive in China and functions as an

⁷⁵ which phenomenon is widely known as *xiaohai*, meaning "going into the sea" in Chinese

essential prerequisite for successful economic activity. Furthermore, new entrepreneurial elites are trying to stabilize their positions by joining the Party. The Party also deems the economic profits and social stability provided by entrepreneurs and their participation in political sphere as beneficial for local economic development.

However, building good *guanxi* with local government is not easy and it is not possible for all Chinese firms to participate in the interest sharing. Therefore, most Chinese firms have to seek opportunities outside the formal markets controlled by the state. A symbolic aspect is the company financing. Generally, Chinese banks do not discriminate against private firms, but they tend to refuse to provide loans to small firms, especially if they have neither visible cash flow nor *guanxi* with the government. If a business project has gained political support and government subsidy, even when there is high risk, it is much likely for the company to obtain bank loans. Even though China's banking system has a large size, its equity and bond markets are still underdeveloped compared to most developed countries, both in terms of market capitalization and total value traded as a percentage of GDP. During the past two decades, the Chinese equity markets were more of a vehicle for SOE privatization than a financial resource for firms with growth opportunities (Wang, Xu and Zhu, 2004). Excessive government regulations, low involvement of institutional investors and lack of credit rating agencies to price the debt accurately have impeded the development of corporate bond market in China. This situation has been changing since the last financial crisis, but it is still too early to show significant results.

According to the World Bank *China 2012 Enterprise Survey*⁷⁶, Chinese firms are facing less favorable financing conditions compared to its peer countries. Chinese firms have higher bank deposit rate but lower bank loan rate. Only 14.7% of Chinese firms use bank loans to finance investments, much inferior to the average rate of 25.9% for all developing countries. The principal resources of investments for Chinese firms are by order: internal finance (89.6%), banks (4.5%), equity or stock sales (3.2%), and credit supplier (1.9%). For the upper income group which China belongs to, the average breakdown are 62%, 22.9%, 5.9% and 5.5% respectively. Obviously, Chinese firms depend more on their own cash generation and

⁷⁶ The survey was conducted by World Bank from November 2011 through March 2013 with business owners and top managers of 2700 Chinese firms from 19 sectors and 25 cities in different regions to estimate the business and investment climate in China. Comparisons between China and East Asia & Pacific region and between China and the upper income group, defined by World Bank and to which it belongs, are also available. For more details, see the survey at: <http://www.enterprisesurveys.org/data/exploreeconomies/2012/china>.

reinvestment capacity than taking advantage of external financial resources offered by banks and equity markets. The difference is even more accentuated for small firms with 5 to 19 employees: 92.1% of small Chinese firms are self-financed, compared to the average 73.2% for developing countries. Only 3.8% of small Chinese firms use banks to finance investments, whereas the developing countries average is 22.5%, almost 6 times higher. These findings show that there is a huge gap between the economic growth and the financial needs of Chinese firms and that it is still very difficult for Chinese firms to obtain formal financing from banks and financial markets. In consequence, most Chinese firms have to rely on auto-financing, or use informal finance to substitute formal financial resources.

A low rate of bank financing is not rare among developing countries, but the scale of informal and alternative channels in China is quite considerable. In addition, there are private money houses and underground lending organizations, representing several hundred billion dollars deposits, which charge very high interest rates (Farrell et al., 2006). Allen, Qian and Qian (2005) suggested that China may be an important counter-example to the law and finance literature's focus on formal systems, since the fast growing private Chinese firms rely more on alternative financing channels than formal external finance. Yet, Ayyagari et al. (2008) argued that the role of *guanxi* based informal financing and governance mechanisms in supporting the growth of private sector is likely to be limited and unlikely to substitute for formal financing.

Informal financing covers a large range of activities, including trade credit, interpersonal borrowing from friends or family members, private money houses, pawnshops, community cooperatives, etc. (Tsai, 2004). Depending on the nature of financing, Allen, Qian and Xie (2013) distinguished two categories of informal financing: constructive informal financing and underground financing. Constructive informal financing refers to all kinds of borrowing from sources that use personal, community or business *guanxi* to reduce information asymmetry and risk through economic collateral and trust building. Trade credit, small loan companies, registered pawnshops or financing companies, direct and informed lending between family members and close relatives, generally belong to this category. These types of financing typically aim at supporting business projects and use business or social relationships to facilitate capital collection, recovery or recourse. The price of such borrowings takes into account project worthiness, collateral usage, potential risk, and *guanxi* as the value of social bonding. In case of delinquency or default, both economic and social

connections between the two concerned parties will help to find a resolution. The other category is underground financing, which refers to borrowings without superior information or close social bonding. This type of financing is usually made by loan sharks and loan brokers, unregistered pawnshops and lending agencies, which have little information, social link or technique capacity to evaluate risk and instead charge extremely high interest. However, these financing sources often situate in a grey area or are officially forbidden. Their lending contract has no effective legal force and there is by consequence no legal protection to either party. In case of delinquency or default, no economic or social connections could help the renegotiation. The lending party sometimes even resorts to violence to force the payment.

We have already stated that the reasons for Chinese banks to refuse loans to private firms are primarily the small firm size and their low cash flow capacity. Besides, there are problems of information asymmetry, lack of sound accounting practices, difficulty of credit evaluation and contract enforcement. The likelihood of using constructive information financing or underground financing is negatively associated with both firm size and state ownership. In China, constructive informal financing contributes much more to company's financing for working capital and new investments than underground financing. Like many other countries, constructive informal financing is generally positively associated with firm growth in China while underground financing is not (Allen et al., 2013). Lee and Persson (2012) suggested that family borrowing are usually used in more profitable and less risky projects since entrepreneurs tend to share profits and avoid damages with their own families due to its important social value. Allen et al. (2013) found that interpersonal borrowings from family and relatives were associated with higher sales growth. Bank financing and underground informal financing, however, have negative or very low correlations with firms' sales growth. Constructive informal financing and bank financing are complementary, as both rely on agents' ability and sophistication in dealing with information asymmetry and recourse within legal boundary (Allen et al., 2013). In regions where access to bank credit is extensive, constructive informal financing is also more active, even though its impact on firm growth decreases with the expansion of bank loans.

3.2.2-3 *Guanxi* and private equity investment

China's private equity market organization is structured in a way similar to those of the US and Europe. But due to its insufficient development, *guanxi* is often necessary to make

things easier. Previous study indicates that the role of personal relationship is important in rendering private equity investment accessible to entrepreneurs in more traditional cultured regions (Batjargal and Liu, 2002; Liu, 1999). Shane and Stuart (2002) found that in the US, entrepreneurs' social capital endowment in the form of having direct or indirect ties with venture capitalists increases the likelihood of startups to obtain financing but has no impact on IPO rate. In China, *guanxi* has more extensive and profound influence. We will analyze the role of *guanxi* in private equity investment from the following three perspectives. First, the founding characteristics of a private equity firm usually show what *guanxi* are at stake. Second, we will analyze respectively *guanxi* with the local government and supervision authorities, *guanxi* related to private equity firm managers and *guanxi* linked to target companies. Third, we will examine throughout the consecutive investment phases how *guanxi* with different parties impact the decision making, the rhythm of investment operation, the easiness of monitoring, and the realization of financial returns.

The founding background of a private equity firm greatly influences its business potential in China. *Guanxi* resources brought by LPs and GPs are crucial for surviving fierce competition and offsetting the lack of information transparency. Generally, it is the LPA signed between LPs and GPs at the fund raising stage that sets the outlines of a private equity firm's future operations. An LPA usually explicates all legal and contractual terms that predefine the characteristics of future investments, including the partnership structure, the investment strategies, the remuneration formula, the restrictions and the covenants. Once the fund is established, LPs won't interfere the daily management of the fund and GPs have the liberty to select industry focus and company targets. In China, however, LPs tend to play a more active role during the investment. In the case of private equity funds investing in Chinese SOEs, in order to find investment opportunities and to facilitate the investment procedure, private equity firms need to build strong connections with the government often via its LPs. Hong Capital and CITIC Capital, two most successful firms in SOE investment, both have state-owned parent companies and large Chinese financial institutions as their LPs.

When investing in private companies, GPs' personal *guanxi* and resources are also important in deciding a private equity firm's operational efficiency and financial results. Being directly involved in every investment deal's analysis and decision making, they need to obtain all the detailed information about each target company's multiple aspects: technology soundness, market position, competitors, supplier relation, customer relation, financial

stability, shareholding structure, managerial mechanisms, regulation compliance, tax payment, employee treatment, etc. Besides general information and financial reports provided by the company itself, private equity firm must find ways to gather more supplementary information. Therefore, the use of personal *guanxi*, including getting opinions from industrial experts, talking with the company's principal suppliers and distributors, big customers and competitors, sharing common acquaintance with the founder or key persons of the company, and obtaining inside information from family members or close friends, could help private equity investors elaborate comprehensive evaluations about the investment potentials and risks.

From the second perspective, we analyze the impact of three types of *guanxi*: *guanxi* with the local government and supervision authorities, *guanxi* linked to target companies, and *guanxi* related to private equity firm managers. While the market economy has been growing fast in China through the past three decades, regulatory standards, industrial norms and tools of corporate governance often lagged behind the changing business operations. As a result, improper or even illegal practices such as fraud, double-book keeping, corruption and making up sales number are quite common among Chinese companies. Therefore, private equity firms have to make thorough investigations before investment decision, especially in the case of venture capital investment with high uncertainty and risks. *Guanxi* with the local government can help private equity firms to gain access to SOEs, leading local companies and high-tech startups selected by national technology programs and subsidized by the government. The involvement of local government usually provides a kind of authoritative guaranty that enhances trust building. If these companies need borrowing in periods of economic slowdown and financial stress, it is also easier to obtain bank credits with government support. The supervision authorities, such as SASAC for SOEs and China Securities Regulatory Commission (CSRC) for regulation of private equity industry and IPO operation, provide policy orientation and investment guidance to private equity firms. Connections with these authorities could also keep fund managers well informed.

Having *guanxi* with private equity firms is most useful for entrepreneurs to obtain the chance to meet an investment manager. Small or medium-sized private firms in China often have difficulty approaching fund managers since they are very selective in companies they choose to meet with. *Guanxi* is especially helpful for startups seeking equity investment. Because startups are young companies which are just founded or have very short operating

story, hence there is high uncertainty about the quality of the project and the company management team. Information asymmetries are intrinsic between entrepreneurs who know the prospects of their project and the level of commitment of their managers and private equity investors who are not necessary technology experts and have little insight about the company's management. If the investment manager knows the entrepreneur to be a trustworthy and reliable person, it is more probable that he will assume the information provided by the entrepreneur to be authentic. New industrial technologies develop in such an unpredictable way in China that it is almost impossible for investors to rationally measure the market value of a venture company. While large costs are required for the product development and commercialization of a new technology, its economic outcome is practically uncertain. Therefore, investors are unable of truly evaluating a project under the usual risk-adjusted profit method. The determination of investment price is then more about how strongly each party believes in the project to be successful and the negotiation based on their respective belief. If the investment manager and the entrepreneur are directly or indirectly connected, they usually have a close vision about market opportunity and business ethic. Their *guanxi* could facilitate the coordination of divergent details and ease the procedure of negotiation.

On the other side, *guanxi* links with target companies could help private equity firms gain access to best investment opportunities, obtain more comprehensive information, and be more certain about the ex-post behaviors of the entrepreneurs. With numerous Chinese and foreign private equity firms competing against each other, being among the first to access attractive companies and being able to quickly build mutual trust with the company's key persons are vital for a private equity firm to secure its participation in good deals. Sometimes it is more important to make acquaintance with the entrepreneur when the project is still at an early stage and the plan of raising capital is not yet made. In this case, private equity investors can have time to better assess all important aspects of the project, than to come at last minute and face a group of strong competitors. Therefore, *guanxi* with family members, friends and professional networks allows private equity managers to get first-hand information about potential investment needs, about the characters of the entrepreneur and the quality of the project, hence to move fast to seize good opportunities.

Moreover, *guanxi* could help investors negotiate for a more reasonable investment price and reduce behaviors of ex-post opportunism (Williamson, 1975). There is a common

phenomena of “money chasing deal” when growing capital commitments, geographically or sectorally, to private equity funds result in substantial increase of pricing of investments (Gompers and Lerner, 2000). In this situation, representing a long-term relationship of mutual trust and support, *guanxi* could whether make an entrepreneur accept a less interesting price in preference for higher trust and more accordant perception of the project, or bring a private equity firm to offer better investment conditions given the potential of the project and the quality of its management team. For investors, although contractual constraints are commonly used to mitigate uncertainty and risks, they cannot eliminate the possibility of entrepreneurs taking advantage of their position, nor can the contract foresee all potential conflicts. Shane and Stuart (2002) suggested that networks could reduce ex-post opportunism by its two main functions as the selection of reliable partners and as the enforcement of implicit contracts. *Guanxi* is essentially a one-to-one relationship, which doesn't mean that the functions of enforcement and sanction are missing in *guanxi*. Comparing to network, which is a collective relationship, *guanxi* as a dyadic relationship is even more confining, because it is family and friend related, it takes time and effort to build, and it has a sentimental aspect generally respected in China. In an indirect *guanxi*, the mutual third party transmits the sentimental connection and assumes the role of trust intermediary, certifying the quality and reliability of the two unfamiliar parties.

From the third perspective, we follow the standard investment process to analyze how *guanxi* with different parties and actors impacts the four investment phases including deal sourcing, screening & execution, monitoring, and exit. First of all, it is important to note that, despite reforms and evident improvements, sometimes crucial business information and guidance of administrative procedure are still not available to all entrepreneurs and investors. Bureaucratic efficiency could vary greatly depending on the applicant's identity and political background. The lack of institutional transparency and structured information sharing about market opportunities obliges entrepreneurs and investors to seek private connections for better information and easier market entry. The value of *guanxi* in the phase of deal sourcing is partially discussed above. *Guanxi* plays the role of financial intermediary, bridging different kinds of offers and demands. Political *guanxi* between private equity firms and the government links SOEs to dedicated private equity funds and high-tech startups to specialized venture capitalists. Business *guanxi* between entrepreneurs, service suppliers (banks, accounting firms, law firms, and consulting firms) and private equity firms provides complementary financing sources and solutions to companies. Private *guanxi* with family

members, friends, old comrades and colleagues and fellow-townsmen facilitate entrepreneurs' access to private equity investors.

During the second phase of screening & execution, private equity investors investigate all crucial aspects of the project, including business plan, market position, management, risks and exit prospects. There are two rounds of screening and decision making on whether to pursue the investment or not. Finally they negotiate with the entrepreneur and previous investors the share purchase price and auxiliary conditions in the investment contracts. *Guanxi* has a different role to play here compared with the deal sourcing phase. Instead of being financial intermediary, it assumes another role of informational intermediary by providing private equity investors with more detailed and valuable knowledge about the project. Both business *guanxi* with target company's stakeholders and private *guanxi* with persons possessing useful information about the company can help due-diligence and price evaluation. And when private equity investors have direct or indirect link with the entrepreneur or management, higher level of mutual trust could reduce the barrier of communication and lead to more cooperative attitude, better information sharing and more successful negotiation. *Guanxi* can also make private equity investors to prefer more simple clauses in the investment contracts, hence facilitate the acceptance of entrepreneur and accelerate the investment agreements.

The monitoring phase is the holding period during which private equity investors, based on the results of in-depth due-diligence, assist the company management to realize its business plan and to comply with the capital market requirement. In previous chapters we have seen that private equity firms can bring to companies various added values. A private equity firm usually has at least one seat on its invested company's board and maintains a close working relationship with the management. Private equity investors can influence management decision through their shareholder right or by providing strategic advice and introducing valuable business connections. With established *guanxi* between the company management and the private equity firm, the former is more likely to seriously consider the latter's advice instead of taking it as a doubt in their competence. Private equity firms can offer strategic advice, bring best management practices and help key people recruitment. In financial aspects, they can help optimize the company's capital structure, improve cash flow and budget control, and facilitate new fund raising or bank loans through their connections with other investors and bank professionals. In growth aspects, private equity can assist the

company's business expansion by introducing valuable professional connections, use their investment networks to locate merger and acquisition opportunities for the company's external growth, and provide additional financing source for eventual takeover transactions. If there is good *guanxi* and mutual trust between an entrepreneur and a private equity investor, the monitoring phase can help the company to improve many key issues of its business and management and therefore increase its operational profits and corporate value.

Guanxi has a decisive role in the last divestment phase. In China the main channels of exit are IPO, trade sale or strategic sale, and now more and more secondary sale. An IPO operation is subject to strict regulations and complicated procedures and is typically lengthy and expensive. In China, CSRC (China Securities Regulatory Commission) has a decisive control on the companies to be listed in Chinese stock exchanges each year. Political *guanxi* is very helpful for IPO. If an IPO candidate enjoys strong support from its local government, it is often easier to gain listing approval. Trade sale is a takeover by a strategic buyer, usually with the aim to strengthen its market position or move into close business segments. There are potential risks related to trade sale, in particular resistance from the company management to changes and disclosure of confidential information during the negotiation process. Private equity investors must make sure that potential buyers at the negotiation table are trustworthy and could keep an open mind. With *guanxi*, private equity investors could obtain more information about potential buyers. If a buyer is introduced through political *guanxi*, the local government usually certifies the business soundness of the buyer and assumes certain implicit guaranty for the takeover transaction, and could mediate between different parties in cases of conflicts. Business *guanxi* with banks, lawyers and advisers could help obtain track records of the buyer's operational history and indicators of its management efficiency. Private *guanxi* can provide complementary information. Secondary sale happens between two private equity firms. It offers the seller the choice of a complete or a partial exit and the buyer the benefice of a company with appropriate governance structure installed during the previous investment. Good business *guanxi* between two private equity firms helps the communication of sale prospect, facilitates their accord with the sale price, and makes the ownership transfer more propitious for the company.

3.2.2-4 Establishment and maintenance of *guanxi*

We have seen that *guanxi* plays a crucial role for business development, company financing and corporate management in China. Different types of *guanxi* could influence the behaviors of parties in private equity investment and impact the investment process. Firms with a higher level of business *guanxi* are likely to be better informed of their competitors' current strategies, new methods of reducing costs and more efficient inventory management systems, and can consequently adjust their own business orientation promptly (Henry, 2011; Luo et al., 2008). Since *guanxi* has the characteristics of being a reciprocal, instrumental and sentimental relationship and it brings benefice and obligation to both parties, the maintenance of *guanxi* is an important issue. Meanwhile, although a moderate degree of political *guanxi* might help Chinese firms to gain a higher level of trust and facilitate their acquisition of important business and financial resources, a large extent of political *guanxi* is often harmful to the implementation of strategies and the financial performance of firms (Luo et al., 2008). The cause is probably the high cost of establishing and maintaining political *guanxi*, in the sense that entrepreneurs and top managers have to reallocate substantial time, energy and expense, which should have been placed on business strategy, management efficiency and performance control.

There is a general expectation in Chinese culture that gift giving, as a ritual respect, will cultivate connections. Private company executives need to invest in building the quality of their *guanxi* in order to protect themselves from the risks inherent in China's uncertain legal environment (Xin and Pearce, 1996). Although the building and the maintenance of *guanxi* often involve the exchange of gifts, these gifts are usually not viewed as fee-for-service bribes but as investments in the relationship. This is different from some developing countries where import licenses or construction contracts often have its implicit prices (Xin and Pearce, 1996). However, it does not mean that there is no straightforward bribery in China. The China 2012 Enterprise Survey shows that corruption level in China is generally lower than the average level of developing countries, especially regarding bribes for operating license or electrical and water connection. Meanwhile, 42.2% of Chinese firms give gifts to secure government contracts, higher than the average 26.4% for developing countries.

Yang (1994) argued that the antecedent of China's current gift economy is the early Confucian discourse which advocates a ritualized state that places social relations at its center,

as opposed to a rationalized and objective legal system. According to the Confucian political thought, sages should govern the country with the help of their moral influence. Therefore, Chinese culture used to emphasize the rule of man and the governance was relied on the person in power. Although necessary, law was subordinate to the power of person, because “when a ruler’s personal conduct is correct, he will be obeyed without the issuing of orders; if his personal conduct is not correct, he may issue orders, but they will not be followed”⁷⁷. Altogether, a combined rule of man, ritual and virtue was advocated by the Confucian tradition. Moreover, under the general material condition of resource scarcity in China, connections were vital for Chinese to survive through the long history. The scarcity and unequal distribution of resources made Chinese rely on instrumental personal relations, which formed the culture of *guanxi* and led to a lack of respect for law and regulations.

A high entertainment expense ratio over 10% of net income is commonly observed for both private and state-owned firms in China (Du et al., 2010). Entertainment expenses usually include costs related to gifts, meals, travels and other expenses in the purpose of engaging interactions with people and organizations that could impact business operation or bring new business prospect. Such spending behavior is typical in China as a means of developing relationships with government officials, regulators, business partners, suppliers, clients, and opening new channels for product sales and marketing (Du et al., 2010). As it is generally agreed that *guanxi* needs careful construction and maintenance, these expenses are often culturally legitimate. Correspondingly, the Chinese accounting rules are relatively loose on the nature and the amount of entertainment expense. However, it is extremely important for companies to keep a line with straightforward bribery when building *guanxi* with government officials and regulators. Corruption is more and more heavily sanctioned by the political rectification undertaken by the new Chinese central government. Meanwhile, high entertainment expense will produce a negative impact on the financial performance of the firm. And some managers try to exploit entertainment spending for their own self-interest and damage the benefice of the company and its stakeholders.

Besides entertainment expenses, there are other indirect ways to establish *guanxi* for Chinese entrepreneurs and companies. One effective way of *guanxi* building with government

⁷⁷ See “Analects” (Bk. xiii., c. vi.). Confucius has repeatedly announced the doctrine of the power of official example and the devoir of the ruler. Through centuries, Confucianism has been profoundly rooted in the Chinese culture and social life. *Guanxi* is largely a demonstration of its broad and lasting influence.

officials is to assist them on the realization of politically oriented economic development objectives. These objectives could be achieving higher GDP growth, increasing local tax revenue, promoting hi-tech industries, reducing pollution, or creating employment positions. When a company significantly contributes to the accomplishment of assigned objectives of government officials, it will win good credits from those activities – the political *guanxi*. Some private equity firms are better in finding deal source and lock investment opportunities because they are closely attentive to the objectives of local government and in return can obtain better information and move faster than other competitors. Concerning business *guanxi*, a common way to maintain good connections is to share opportunities. For a private equity firm, it could be bringing in co-investors in a good investment deal, introducing an investment deal to other firms if its own competences don't correspond, delivering service to a long-term relationship business partner, or informing its network of opportunities of trade-sale or secondary sale. It could also be sharing valuable resources with its business partners and potential cooperators, such as knowledge of new policy orientation, contact of industry experts and experienced managers, advice on certain decision making, or help them with concrete problem solving.

Another socio-psychological factor for the building and maintenance of *guanxi* is “face”, which has a fundamental and regulatory role in the reciprocal exchange of favor (Carsten, 2009). *Guanxi* produces imbalances in the circle of favor exchange, as there is always a favor previously given and a favor due in the future, and balances only count in the long run. “Face” refers to one's own sense of dignity or social perceptions of a person's prestige. It is important for a person to maintain “face” in Chinese social relations, because it can translate into power and influence and can affect *guanxi*. Therefore, when a person provides favor based on *guanxi*, he gains “face”, that is to say his action creates a positive social value regarding the receiver and the social network they have in common. From this moment on, the gained “face” grants the provider the right of claim over the receiver and a general prestige among other members of the shared social network. The receiver should not immediately return the favor, which in fact would hurt the “face” of the provider, because the regulatory role of “face” lies in the confidence that their *guanxi* is solid enough to endure a long term. The receiver will lose “face” and damage their *guanxi* if he eventually fails to return the favor when the previous provider claims it at time due. Compared to *guanxi*, “face” is a more sentimental factor that can be lost, maintained or enhanced, and it must be treated

with prudence. Through the role of “face” and its maintenance, *guanxi* is also constantly revived.

In recent years, there are increasing amounts of charitable contributions by Chinese entrepreneurs due to the growing awareness of social responsibility of firms and the recent recognition of the reinforcing impact of donations on social networks. Because charitable contributions can improve the public image of companies and entrepreneurs, therefore engagement in donations will help promote their products and services and further enhance the financial performance. In a word, there are plenty of ways in China to build and maintain different types of *guanxi* and improve the economic performance of companies. *Guanxi* has its cultural antecedents, social reasons and interpersonal impact. Although it is necessary to correct the damaging influence of corruption on market economy and legal systems, *guanxi* is more profoundly embedded in the socio-psychological behaviors of Chinese entrepreneurs and managers. Huang (2008) argued that there is a long-run stability of certain features of the Chinese socio-political system, such as the combination of strong political power with a weak infrastructural capacity. In this pattern, *guanxi* as personalized networks of mutual trust and commitment, based on long term reciprocity and self-enforcing social norms, will probably continue to play a constitutive role.

3.2.3 Institutional complementarity: interactions between private equity and China’s transforming economy

We have analyzed the role of government as a crucial feature of formal institutions and the role of *guanxi* as an important part of informal institutions in China and how these two institutional characteristics influence the development of private equity industry. Meanwhile, we have argued in Chapter 2 that private equity industry represents a particular form of financial institution with its own rules, structures, mechanisms and norms, and that it is constantly interacting with other institutions in the same economic environment. Although the Chinese economy has already significantly developed after the opening-up, many aspects of its market organization and legal system still need more in-depth reforms. Financial sector is a good mirror of China’s transforming economy, because it has extensive relation with all political, economic and social spheres. As a modern form of financial institution, private equity industry also reflects the progress of this transformation and the complexity of its monitoring. We choose to focus on the following three aspects of this institutional

complementarity between private equity and China's transforming economy: (1) private equity and institutional investors in China; (2) private equity and Chinese industries: innovation and industrial upgrading; (3) private equity and diversified company needs – SOEs privatization, growing private SMEs and cross-border transactions.

3.2.3-1 Private equity and institutional investors in China

With the global financialization, some financial institutions become specialized professional investors that manage capital on behalf of wealthy individuals, rich families, and collectively owned funds including banks, insurance companies, pension funds, hedges funds, public foundations, mutual funds and investment advisors. These financial institutions are defined as institutional investors. According to one OECD official paper⁷⁸, pension funds, insurance companies and mutual funds are the three primary types of institutional investors of OECD countries, which held over US\$65 trillion assets at the end of 2009, much larger than the total GDP value of US\$38 trillion of OECD members in 2009 (World Development Indicators, World Bank). In emerging economies, the role of private institutional investors is still under-developed, but an important amount of capital is now managed by their sovereign wealth funds, which presented over US\$4 trillion assets at the end of 2009.

We generally distinguish two types of institutional investors according to the time span of their investment. One type is long-term institutional investors, including mainly pension funds, life insurers and mutual funds, who make important participations of mid to long term (generally from 10 to 15 years) and invest in companies with development potentials unperceived or under-evaluated by the market. These institutional investors are usually more actively involved in the corporate governance of the company and they often occupy seats on the board of directors. As their liabilities are very long-term and generally illiquid (except for open-end mutual funds) and the accumulated amount through years is considerable, they are able to take advantage of this “unbalance” by investing in under-evaluated long-term projects in order to gain market premium and reduce turnover costs. The other type is short-term institutional investors, who participate less in company management. Due to their limited investment time horizon (usually less than three years), they have no motive to bear high costs of active participations and hence have less influence on long-term projects. Yet, with crisis

⁷⁸ Raffaele Della Croce, Fiona Stewart and Juan Yermo (2011), “*Promoting Longer-term Investment by Institutional Investors: Selected Issues and Policies*”, OECD Journal: Financial Market Trends, Vol. 2011/1

and stronger competition on capital markets, in recent years institutional investors are increasing their capital allocation to alternative investments, especially to hedges funds and private equity firms, with expectation for higher financial returns under their management.

According to the report of OECD⁷⁹, institutional investors could offer “patient capital” in a counter-cyclical manner and make crucial investments in infrastructures and companies at market downturn in order to promote financial stability and help the economy recover. Institutional investors generally rely on strategic investment allocation that ensures regular returns to different asset classes and hence a certain stability in the capital allocation. They usually combine advantages of geographic diversity, asset class diversity, different maturities, diversified investment mechanisms, and multiple financial products. The strategic allocation is the most important decision for institutional investors and needs to be reviewed regularly, usually once a year. Because of their sophistication, institutional investors may often participate in private placements of securities, in which certain aspects of the securities laws may be inapplicable. The fast and sustained growth of institutional investors also contributes to the deepening organization of financial markets, optimization of capital allocation, diversification of financial products, and financing for companies and infrastructure projects. However, there could also be negative impacts from the concentrated power of institutional investors, including incitation of free-rider behaviors among the shareholders and abuse of their influence for personal interest while causing harm to companies or other investors.

Aglietta and Bai (2012) suggested that Chinese government and financial authorities should adopt better legislation to encourage the development of institutional investors, who are capable of providing capital to banks and non-financial corporations in the form of shares and buying bonds issued by companies and local governments. They considered institutional investors, if given a stable political and social environment, as key players in the financing of long-term investment. Domestic institutional investors may become long-term shareholders of domestic banks, which will allow the state to partially withdraw from its heavy charge without damaging the stability of the ownership and the governance. Their role is even more important in China’s financial system, which is still going through reforms and requires adequate protection against international capital speculation while remaining competitive. With the development of institutional investors, Chinese households and entrepreneurs will be

⁷⁹ the same as note 78

able to enjoy relative wealth increase by diversifying their savings between bank deposits, pension contracts and investment portfolio, which will in turn increase their general purchasing power and provide new impetus for future investment.

However, the majority of institutional investors face various constraints imposed by the nature of their assets, including the liability to keep a certain rate of liquidity, the necessity to produce superior returns, the ability to manage potential losses, and a decision-making structure to minimize agent problem. An investor's risk appetite is manifested by the level of mark-to-market⁸⁰ loss it can tolerate in its investment portfolio while continue to meet its short-term obligations, comply with regulatory and accounting rules, and retain the faith of its stakeholders without suffering degradation on credit rating. There are generally heavy regulations on pension funds and life insurers which assume the responsibility to pay defined annuities at date due. For example, insurance companies are strongly discouraged to invest in common stock or illiquid investments because they are obliged by the regulation to keep a high capital reserve ratio on high-risk or long-term assets.

While applying long-term investment strategy to specific decisions, institutional investors rarely have direct control over the whole process and they usually rely on advisors or direct investment agents to decide and execute in their place. This could cause several problems: principal-agent relation could make space for interest conflicts; short-term oriented managers could have biased behaviors; resource constraints due to long-term engagement could result in under-performance. If the long-term investment extends to a time horizon beyond the tenure of the investment manager and other agents, the decision made by them is likely to optimize the short-term returns rather than serve the long-term interest of the institutional investor. Another constraint on decision-making is the investors' capacity to quickly perceive and correctly evaluate long-term investment opportunities and promptly act to seize the opportunities with adequate resources and competences. Evaluating a long-term investment opportunity can be particularly complicated and delicate, as the inherent risks and returns are very difficult to be fully assessed in the globalized economic and financial spheres.

⁸⁰ Mark-to-market refers to the "fair value" of an asset or a liability on accounting terms, which is the current market value of this asset or liability irrespective of whether the investor has locked in this price by selling the asset.

From this perspective, private equity firms can play an important role in bridging the gap between institutional investors' investment requirement and the insufficient development of corporate governance in China. In 2010, the Asian Corporate Governance Association rated Chinese corporate governance 7th among eleven Asian countries and only a step up from its 9th place in 2007 (Gill, Allen and Powell, 2010). Among various factors affecting the overall score, only its implementation of the International Generally Accepted Accounting Principles was close to world-class standards. By contrast, the report identified corporate governance culture and enforcement as the weakest links in the corporate governance system in China, scoring respectively 30 and 36 out of 100 points, far from the 80 points world-class benchmark. Furthermore, corporate governance in private sector in China usually involves direct managerial control by the individual or family owners. Therefore there is considerable reluctance to separate ownership from control, mostly because owners do not trust outsider and professional managers to run the firm faithfully on their behalf. This mistrust is due to the lack of institutionalized trust in China's business system in general.

China's most important private equity research center Zero2IPO has registered in total 7511 limited partners (LPs) at the end of 2012. In their research related to limited partners in China, 19 categories of LPs were distinguished: fortunate families and individuals, companies, private equity and venture capital funds were the most important limited partners, representing respectively for 50.2%, 17.2% and 6.3% of all the LPs in China⁸¹. Their sum passed a dominating majority of 70%. The absolute leading place of fortunate families and individuals indicates that institutional investors are still far from exerting a significant influence on the investment decision in China. In fact the activation of the role of institutional investors in China was rather recent. In 2007, the pilot program of direct equity investment by securities companies was put into place. In May 2008, China's national Social Security Fund was authorized the right to invest independently in equity investment funds that had received the approval of the State Development and Reform Commission, with the investment cap set at 10% of its total capital under management (about 50 billion RMB). In the same year, a first cumulative 2 billion RMB has been invested by the national Social Security Fund in two RMB funds launched by Hony Capital and CDH Investment. In October 2010, insurance companies in China were also permitted to make capital commitment to private equity funds under the approval of China Insurance Regulation Commission (CIRC) within the limit of 5%

⁸¹ <http://finance.ifeng.com/news/special/qkshbg/20120320/5776002.shtml>

of total assets under management. In 2012, CIRC increased the cap limit to 10% of the insurance company's total assets and allowed them to invest in foreign private equity funds. Above all these, we could add capital from government guiding funds which act like limited partners. By the end of the first half of 2014, there were almost 200 government guiding funds in China, with a total investment capacity of about 100 billion RMB.

The development of institutional investors in China has shown fast improvement in the past few years. Capital commitments to private equity funds from different types of institutional investors have been constantly growing. The national Social Security Fund has committed capital to 13 private equity funds at the end of 2011. More and more local securities companies, insurance companies, trust funds and commercial banks have joined the initial development of mixed equity investment market for institutional investors. Local pension funds will also be able to use equity investment to diversify its asset portfolio and generate higher capital returns in the near future. However, until now, the participation of institutional investors in the overall structure of LPs is still quite limited, and the market mechanisms for well managing LP-GP relation are still immature in China. This is largely due to the comparatively short history of private equity industry in China and the inadequate institutional development particularly for legal system and corporate governance. With the increasing participation of institutional investors, the necessity of higher standard of risk management and corporate governance and the obligation to adopt global investment common practices will push the Chinese authorities and related organizations to further improve the institutional environment for private equity firms and their investors.

3.2.3-2 Private equity and Chinese industries: innovation and industrial upgrading

We have seen that private equity investment can make important contributions to the economic growth. As a modern form of corporate financing, private equity best represents the essence of the acceleration cycle of value creation in capitalist economy: capital promotes growth and growth compensates capital. The context of this cycle of value creation is industrial development. The evolution of modern society is mostly related to the evolution of industries. Innovations in technology, procedure, management and organization lead to new products and services and new forms of institutions. The overall knowledge institution, including public spending on R&D, intellectual property rights regime, laws governing

technology transfer and systems facilitating the commercialization of research fruits, is crucial to the creation of new ventures. Indicators of technological opportunity, such as the growth rate of R&D investment, the stock of knowledge and the number of patents, have a significantly positive relationship with the intensity and the performance of private equity investment (Hsu and Ziedonis, 2013; Mann and Sager, 2007; Romain and De la Potterie, 2004; Hellmann and Puri, 2000; Kortum and Lerner, 2000). Private equity firms are part of the knowledge institution which contributes to the realization of innovative products and services by providing suitable frameworks and environment. Private equity firms provide invested companies with different types of knowledge and encourage both formal and informal exchanges between collaborators. Private equity's participation in the process of innovation, technology transfer and commercialization has positive impact on firm growth and reinforces the knowledge institution.

Becoming the Number Two of the world economy, China has set new priorities in its 12th Five-Year Plan in 2011, focusing on the rebalance of its economic structure and the building of a society of “xiaokang” (general well-off). Innovation and technology development are assigned a central role in the plan. Its policy orientation especially favors the development of strategic sectors related to health, environment, renewable energy and services. With the fast aging Chinese population, the central government has set out strong signals on the urgency of building more pension houses, developing support structures, improving the healthcare system and enhancing technological progress of medical equipment. To restore balance between growth and the environment requires better solutions for energy efficiency and pollution treatment for air, water and earth. China has to reduce carbon intensity, industrial water consumption, the use of fossil fuels, and deal with the consequences of pollution. New standards are introduced in the building construction since 2011 and energy saving program is being implemented in energy-intensive businesses. Much importance is given to renewable energy and the development of green industries. Companies with a technological advantage in the areas of new energy, such as wind and photovoltaic panels, will find opportunities to replace less environmentally friendly energy production. The nuclear development program in China will also create needs for technology, control systems and engineering expertise. Online services, software, utilities, aerospace industry, automotive industry, agribusiness and distribution are also emphasized by the plan.

China has both advantages and challenges for achieving its goal of industrial upgrading and higher level of innovation. The large production capacity and wide range of manufacturing sector in China make it possible for innovative products to be reverse engineered and brought into large scale production within months. Many multinationals begin to set up research centers in China as part of their global R&D plan dedicated to innovation focused on local consumer needs, which creates positive externality for Chinese companies and research institutes. Furthermore, growing domestic consumer market has provided larger demand for companies with innovative products to attain scale of economics. Compared to manufacturing sector, the service sector is underdeveloped and relatively unproductive, which offers potential opportunities for innovation. However, Chinese companies have been long time oriented to export-related industries and lack market concerns for domestic household consumption. They have to now make strategy adjustments and prioritize the needs of local Chinese customers. To achieve industrial upgrading and build better innovation system, a more fair competition environment must be established between Chinese SOEs and private companies. China's SOEs control important physical assets as well as human capital. But due to the lack of competition and effective corporate governance, they are less efficient in innovation. China also needs to cooperate with multinationals which have strong experience and expertise in industry and innovation, by providing stronger innovation policies and IP protection.

According to a World Bank special report on China⁸², more productivity gains will derive from technology absorption and adaptation supplemented by incremental innovation, and high levels of investment will remain an important source of growth in China. Moreover, significant differences in technological capacities and innovation remain between coastal and inland cities in China. Many major cities in the inland provinces have substantial manufacturing capabilities, growing stocks of human capital and strong tertiary institutions, but lack technological expertise and investment in innovation. Growth in more specialized technological industries in the inland urban centers could reduce income and productivity gaps, increase the overall industrial level and stimulate domestic consumption.

⁸² "China's Growth through Technological Convergence and Innovation", World Bank and the Development Research Center of the State Council of P.R. China, 2013, *China 2030: Building a Modern, Harmonious, and Creative Society*, Part II Supporting Reports Chapter 2, pp. 155-216, Washington DC: World Bank

Industrial upgrading must focus on improvements in specialization, local value-added, productivity, and forward and backward linkages, all of which necessitate a broad base of knowledge and innovation (Ernst and Lundvall, 2004). Two aspects of industrial upgrading are of essential importance: firm-level upgrading from low-end to higher-end products and value chain stages, and industry-level linkages with support industries, universities and research institutes (Ernst, 2007). Chinese firms must develop the capabilities, tools and business models that help them to address the weaknesses of the “global factory” model (Ernst, 2007). The strength of firm-level upgrading will decide whether China can cope with the new challenges from shifts in the global innovation system. But for firm-level upgrading to succeed, necessary changes must also take place simultaneously at the level of industry linkages. Strong political and institutional support to industry upgrading and dense linkages with universities and research institutes are both indispensable. Firm-level and industry-level upgrading should be built to allow interactions in a mutually reinforcing way. Moreover, as Chinese companies are already largely integrated into multiple global networks of production and innovation, it is crucial to take advantages of international linkages to accelerate the domestic industrial upgrading.

Meanwhile, technology innovation is the comparatively easy part to change. The more difficult aspects of industrial upgrading are social, organizational and cultural. To succeed in innovation and industrial upgrading, hard R&D must be complemented by soft innovative capabilities including: construction of an IPR system offering strong protection to innovation; entrepreneurs with a good sense of market trends; specialized experts and knowledge workers of new ideas; well-developed innovation process and time-to-market management; global sourcing channels for best operation solutions; branding strategies and user-friendly designs; and adequate financial resources to support innovative projects and management adjustments. Although the dominant state-owned banks in China are available to supply credit to companies’ operational needs, they are not specialized in providing patient capital and funding to support innovative companies. The limited capacity of risk analysis and management inside Chinese banks has impeded the growth of technological entrepreneurs. Moreover, bank lending can only serve companies’ needs on a limited scale and complement the resources of entrepreneurs, angel investors, private equity and venture capital funds.

Rising demand for risk capital calls for an increase in supply, and private equity, especially venture capital, provides a good solution to the lack of financing and monitoring

capacity for innovative projects. The Chinese government has been actively promoting both public and private venture capital in the coastal cities where manufacture and technology industries are most concentrated. Comparatively, private venture capital in the inland cities is scarcer, which further creates unequal development between inland and coastal cities. Through the last few years we have observed a fast growth of private equity investments in inland cities by funds which used to focus on coastal cities, as fierce competition in major cities pushed private equity funds to look for new opportunities. The relocalisation of some manufacturing capacity from increasingly costly coastal cities to less costly inland cities also drives new capital needs. At the same time, private equity funds can also boost industrial upgrading through knowledge sharing from international linkages and from overseas mergers and acquisitions. With their widespread professional connections, fund partners could reach out to domestic or foreign industrial experts and introduce the best practices of corporate management to improve companies' industrial positioning and operational efficiency. Furthermore, through direct acquisition of more advanced innovation process, more efficient corporate management methods and participation in the higher level of global production value chain, Chinese companies could obtain a shortcut in the learning curve and streamline the effort to achieve innovation and industrial upgrading.

At present, the difficulty in financing innovation and industrial upgrading is not due to the constraint of capital in China, since there is an abundant amount of domestic and foreign capital seeking investment opportunities. The amount of capital contributed by governments and state-owned investment institutions accounted for nearly 40% of the total amount raised by China's venture capital industry in 2010 (Zero2IPO, 2011). Meanwhile, entrepreneurs still often lack the mentoring, professional assistance, networking links and market insights, which are crucial for young companies. The main reason is that the level of professionalism and the experience of venture capitalists in China are still limited compared with more developed economies. The degree of trust between providers of risk capital and borrowers is still quite low, due to a general low level of institutional trust. Moreover, some venture capital firms complain that investment exit is too difficult given the long queue for IPO and the complicated listing procedure. Trade sale mechanism is still under-developed and the secondary market has started its operation only after the crisis. Therefore, to facilitate exit for private equity is as important as raising capital for startups and innovative companies. In order to better bring into play the capacity of private equity funds in promoting innovation and industrial upgrading, the Chinese government and financial authorities must provide a

more favorable regulatory system. Local research institutions should cooperate with funds by recommending good entrepreneurial projects. And more knowledge sharing linkages should be established among researchers, producers, managers and investors at both domestic and international levels.

3.2.3-3 Private equity and diversified company needs: SOEs privatization, growing private SMEs and cross-border transactions

We have presented in the second section of Chapter 2 that the Chinese economy of today is a mixed system of restructuring SOEs, fragmented but increasingly important private enterprises and striving foreign companies and multinationals. As the economy goes into further reforms, different types of companies also manifest varied concerns about maintaining their growth, increasing their profits and obtaining larger share of the awakening domestic market. Private equity, as we will discuss in the following part, obviously has a role to play in answering the demands of the market and providing solutions to diversified company needs. We will look at three symbolic types of companies: SOEs under reform pressure, private SMEs facing fragmented market and fierce competition, and companies with global development ambition.

Private equity can serve as a tool for China to further reform SOE ownership and management-incentive systems. Private equity can value companies and management at market prices, allowing the transfer of SOE ownership to succeed without value loss for the government. Due to their particular historical background, Chinese SOEs generally lack sound management methods adapted for market competition, a vigorous corporate governance system guiding decision making and execution, an optimal financial structure maximizing profits and minimizing risks, and incentive-driven human resource management. Meanwhile, SOEs are largely concentrated in traditional industries such as construction materials, textiles, food and manufacturing, which usually have limited risks and huge room for growth but also need innovation and industrial upgrading. Therefore, private equity investment could accelerate SOEs privatization and help restructured companies to install better management practices and higher standard of operating systems.

Fang and Leeds (2008) presented two case studies focusing on the post-investment role played by private equity funds in working with senior management of their portfolio

companies to build value, enhance competitiveness and strengthen their access to international capital markets. The first case of Hony Capital and China Glass Holdings describes the privatization and restructuring of an SOE in glass manufacturing. The deal happened in 2004, when Jiangsu Glass Company (later renamed China Glass) was a mid-size glass manufacturer facing the consequences of SOE privatization and urgently needed management restructuring to become competitive in the market. Hony Capital entered the company with an operation of buyout and worked closely with the management team. The successful IPO on the Hong Kong Stock Exchanges in 2005 allowed China Glass to gain access to international capital markets. Later on, the strategic acquisition of several former competitors provided the company the capacity to carry out further industrial consolidation and thus to become the leading glass manufacturer in China. The transaction has also positioned China Glass to be competitive in global markets by shifting its product mix from flat glass with low margin towards high value-added varieties with high margins. At the same time, Hony Capital has achieved considerable financial returns with partial exit. Hony Capital continues to be China Glass's strategic shareholder today.

A remarkable feature of this deal, according to Fang and Leeds (2008), is the close collaboration between the Hony Capital team and the senior management of China Glass even since an early stage. This by consequence facilitated a series of management and system restructuring, encouraged ambitious operations of IPO and strategic acquisitions, and significantly accelerated the expansion of the company. In exchange for the generous share purchase agreement offered by Hony Capital to transfer more company share to the senior management as incentive, the executives signed long-term contracts obliging them to remain with the company. Another challenge in this deal of SOE privatization was the alignment of interests among the municipal government as the seller and reformer, the company's senior management as the professional manager, and the private equity fund as the buyer and new shareholder. To achieve a successful transaction and the effective restructuring of the company, it was crucial to focus on their common interest: transforming the company into a market leader. As the common goal was achieved, all the three major stakeholders have benefited from the transaction politically, economically or financially.

In China, many industrial and service sectors are at present inefficient and highly fragmented, yet with significant growth and increasingly strong competition. Due to the central-local political and economical dualism, there are a huge number of Chinese SMEs that

can only operate in limited local scale and are unable to develop across cities or regions. These companies now are facing the critical challenge of either improving their competitive position by more active expansion strategy and more efficient corporate management, or seeing their market share gradually taken over by new comers with better technology-based product and more offensive marketing approach. Concentration and consolidation are the natural trends when an industry is largely developed and the market has become mature. For these struggling SMEs, private equity can offer industrial expertise, restructuring advice, best management practices, efficient corporate governance standard, enhanced access to capital, and a full range of expansion strategies. The learning curve of the senior management teams of the portfolio companies is steep but incalculably beneficial (Fang and Leeds, 2008).

The second case study of Fang and Leeds (2008) is the investment deal between the London-headquartered 3i Group and Little Sheep hot pot restaurant chain in 2006. The Chinese restaurant business is generally fragmented because it is difficult to standardize and keep consistency. At the same time, the food and beverage sector in China has been growing at a rate twice as fast as China's GDP for over 15 years. Little Sheep's do-it-yourself style of dining and the ease of standardization made it possible to duplicate. Although having an enviable business growth since the beginning, the founder of Little Sheep recognized that a sustainable market expansion would require brand strategy, financial resources, industry expertise and a successful public listing outside China. Having no special experience in China but having long private equity investment history and experience, 3i sought help from research analysts, met frequently the senior management and identified the former president of Burger King as a suitable advisor for Little Sheep. Finally, 3i succeeded in winning the trust of the management of Little Sheep and they worked together to strengthen the company's corporate governance practices and franchising strategy.

According to the 3i team, at the time of investment, Little Sheep lacked crucial systems such as centralized operation management, new store development and marketing teams. Based on extensive data collection and analysis, 3i proposed a blueprint outlining a step-by-step effort to professionalize the company's management and improve its operations. The recruitment of senior executives was essential for the company organization. Before the new operation headquarters was established, a standards committee was temporarily created to focus on enhancing the communication and coordination among the regional operations and on long-term strategic issues. As a result, Little Sheep witnessed a fast expansion with solid

financial results, which led to its successful IPO on the Hong Kong Stock Exchange in 2008. The success was achieved by the cooperation between a highly experienced private equity investor with profound industry expertise and a Chinese entrepreneur with strong conviction to his vocation and an open mind to bring in private equity manager to improve the overall competitiveness of the company.

Today, what is really needed by Chinese companies is industry and management expertise, especially in optimizing market strategy, improving operational efficiency and setting up corporate governance standards. Furthermore, as Chinese companies have grown very big and the Chinese consumer market has become globally important, cross-border transactions have become frequent. CDH Investments' portfolio company Shuanghui International acquired the US Smithfield Foods in 2013 to open overseas market and to improve business efficiency, quality and food safety. In the same year, Hony Capital invested in the UK-based Pizza Express with the aim to turn its nascent China presence into a commanding success and use it as a platform to accumulate multiple brands and consolidate the highly fragmented fast dining industry in China. Hony Capital also invested in a Chinese hotel operator Shanghai Jin Jiang. Later Jin Jiang acquired Louvre Hotels, Europe's second largest hotel group, to accommodate Chinese tourists overseas and to help Louvre penetrate China's growing hospitality market. Fosun Group, with its businesses covering industry, investment, asset management, private equity and insurance, has bought strategic shareholdings of several foreign groups, including the French vacation resorts company Club Med, the British group trip organizer Thomas Cook, the Italian accessory brand Folli Follie, and the American fashion brand St John. Other examples are Hony-backed Zoomlion's acquisition of Italy's Compagnia Italiana Forme Acciaio in 2008 and CITIC Private Equity's participation in Sany Heavy Industry's purchase of German pump manufacturer Putzmeister in 2012.

For many cross-border transactions, the partnership with a strong local player is crucial for the deal success and for the future business development. Besides, building a competent in-house team to assist the fund manager will retain a degree of independence for the joint venture. The potential shortfall is the lack of cultural affiliation with the offshore targets due to the inability to well communicate and understand global mergers and acquisitions (M&A) norms. Meanwhile, private equity funds must also adjust to China's changing financial system and the increasing regulatory burdens that come with exposure to multiple strategies. A

successful M&A could create important synergy between two integrated companies, leading to stronger market position, better business strategy, higher productivity and improved financial results.

From the above examples we can see that private equity funds have an important role in answering the needs of Chinese companies to acquire industrial expertise, improve management efficiency, strengthen business strategy and seek synergy through international development. The Chinese economy in its fast development is influenced at the same time by the transitory characteristics of its institutional conditions and by the evolving technological, industrial and social contexts. Facing the particular situation, Chinese companies, both public and private, often have difficulty adapting their business strategy, management and corporate governance to respond to changing market demands. Different types of companies also have diversified needs of system reform and management restructuring. This leads to high complexity and high risks for the corporate financing in China. Private equity funds are better placed than banks in helping companies solve management problem and improve operational efficiency. Therefore, there is a complementary relationship between the activities of private equity funds and the evolving management practices and corporate governance standards in China.

Conclusion of Chapter 3

In Chapter 3, we have closely looked at the progressive development of private equity industry in China and its institutional characteristics. We presented briefly private equity's development in China from the mid 1980s till now through four phases and underlined what were the main decisive forces that had pushed forward its growth in each phase and what remained to be improved. Then, following the conclusions drawn from the analysis of the hybrid capitalist economy in China in Chapter 2, we chose to focus on three institutional characteristics of the operation of private equity funds in China: the crucial role of the state and the formal institutions under its influence, the important role of *guanxi* as the foundation of informal institutions, and the institutional complementarity between private equity and China's transforming and complex economic structure.

The development of private equity in China reflects the central-led institutional feature of most reforms in China. Private equity, and particularly venture capital, has been advocated by the Chinese government not as a means to create profit but as a mechanism to stimulate scientific and technological innovations and to promote their economic applications. The Chinese government has initiated extensive innovation structures and scientific activities to boost national technology upgrading and related industrial development. In response to the central policy guidance, local governments target private equity industry as a crucial driver of local economic development and have adopted favorable measures to encourage private equity funds to operate locally. The roles of central government are to provide policy guidance and regulatory framework; the roles of local government are to offer incentives to development projects coherent with central policy and to ensure the implementation of regulatory laws. Policy orientation was crucial in guiding the operation and investment decisions of funds. Industrial investment funds and government guiding funds were also founded to provide more impetus to the private equity industry growth. Domestic funds took over the dominance of foreign funds, aided by the government policy to treat local companies invested by foreign funds as foreign-invested enterprises. In a word, the indispensable role of the Chinese state has been frequently manifested through direct involvement, industrial policies and strategic guidance for the development of private equity in China.

Guanxi is the foundation of informal institutions in China. It refers to personalized networks of mutual trust and commitment, based on long term reciprocity and self-enforcing social norms. Compared to social capital, *guanxi* has the characteristics of instrumentalism and sentiment. Even though sometimes related to the corruption, *guanxi* has an important role in complementing the insufficient market structure. *Guanxi* resources of LPs and GPs are crucial for funds to survive fierce competition and offset the lack of information transparency. *Guanxi* with the local government can help private equity firms gain access to SOEs, leading local companies and high-tech startups selected and subsidized by the government. The involvement of local government usually provides a kind of authoritative guaranty that enhances trust building. Business *guanxi* between entrepreneurs, service suppliers and private equity firms provides complementary financing sources and solutions to companies. Private *guanxi* with family members, friends, old comrades, old colleagues and fellow-townsmen facilitate entrepreneurs' access to private equity investors. If the investment manager and the entrepreneur are directly or indirectly connected, they usually have a close vision about market opportunity and business ethic. Their *guanxi* could facilitate the coordination of

divergent details, ease the procedure of negotiation and reduce behaviors of ex-post opportunism. *Guanxi* also has a decisive role in the phase of exit through the provision of political support, important market information and strategic cooperation.

As a modern form of financial institution, private equity industry also reflects the progress of this transformation and the complexity of its monitoring. First, private equity firms can help bridge the gap between institutional investors' investment requirement and the insufficient development of corporate governance in China. The absolute leading place of fortunate families and individuals as LPs indicates that institutional investors are still far from exerting a significant influence on the investment decision in China. The Chinese government and financial authorities should adopt better legislation to encourage the development of institutional investors, which could contribute to the deepening of financial market and the stability of reforming economy. Second, private equity firms are part of the knowledge institution which contributes to the realization of innovative products and services by providing suitable frameworks and environment. Indicators of technological opportunity have a significantly positive relation with the intensity and the performance of private equity investment. Meanwhile, the level of professionalism and the experience of venture capitalists in China are still limited and the degree of trust between providers of risk capital and borrowers remains low. In order to optimize the capacity of private equity funds in promoting innovation and industrial upgrading, the Chinese government and industrial associations must provide more favorable regulatory and information systems. Third, private equity firms have an active role in answering the diversified needs of companies. They can accelerate SOEs privatization and help restructured companies to install better management practices and higher standard of operating systems. They can offer SMEs industrial expertise, restructuring advice, best management practices, efficient corporate governance standard, enhanced access to capital, and a full range of expansion strategies. They can also advice Chinese companies on cross-border transactions, leading to stronger market position, better business strategy, higher productivity and improved financial results.

Private equity firms are better placed than banks in helping companies solve management problem and improve operational efficiency. Therefore, there is a complementary relationship between the activities of private equity firms and the evolving economic structure and corporate governance standards in China. At the same time, private equity funds in China need to adapt the working method used in more developed market

economies to suit the particular institutional environment in China. The combination of privatization, market liberalization, government support and *guanxi* related practices has greatly improved the overall productivity of China's economy and has nurtured a fast growing domestic private equity industry. If the hybrid capitalist economy in China is the capitalism with Chinese characteristics, our analysis suggests that private equity as a special form of capitalist institution has also adopted a hybrid form throughout its development in China. In this sense, we could call it the "private equity with Chinese characteristics". As the hybrid capitalism of China is not only the choice of the governing Party but also the result of the institutional evolution of the modern China, the private equity with Chinese characteristics is fundamentally determined by the particular institutional conditions in China produced under the influence of path-dependency. Further reforms on strengthening the rule of law and the institutional trust will be needed if China is to maintain its growth and reduce remaining distortions. The deepening reforms will continue to transform the way in which private equity funds adapt their operations to the institutional characteristics in China.

CHAPTER 4

Two empirical and comparative studies

Introduction

During the past few decades, intensive studies have been made about the working mechanisms, the impact and the determinant factors of private equity. With its growing market size and investment attractiveness, private equity in China has become an interesting subject in recent years. However, the majority of articles about private equity in China are market overviews by economists, large global funds, financial institutions, law firms, and professional associations. Since the official development of private equity in China only dated from the beginning of 2000's and the market is still quite opaque today, it is difficult to obtain sufficient and solid materials for empirical studies. The few academic studies examined the institutional characteristics of China's venture capital industry (Ahlstrom and Bruton, 2003, 2007; White, Gao and Zhang, 2005), the role of social capital and personal network (Batjargal and Liu, 2002; Liu, 1999), the evaluation and exits on A-share market (Varadzhakov, 2009), and fund structure and legal issues (Li, 2011).

Chapter 1 and Chapter 2, composing PART I of this thesis, provided us with the fundamental concepts and theoretical frameworks for our study of private equity in China. We arrived at the conclusion that the hybrid capitalist economy of China is both the choice of the governing Communist Party and the result of institutional evolutions of the Chinese society under path-dependency. Chapter 3 of PART II presented the progressive development of private equity in China and the most important institutional features of the "private equity with Chinese characteristics". As the central part of PART II of this thesis, Chapter 4 will comprise two complementary empirical studies. The first one is a comparative analysis based on information collected from fund managers by survey with Chinese, French and British private equity funds. It is a study from the microeconomic perspective. The second one is an econometric study with panel data of China, France, the UK and the US, to identify the macroeconomic, entrepreneurial and institutional determinant factors of private equity activity and their country-specific impact, hence to verify the institutional differences of private equity in China and in the other countries. It is a study from the macroeconomic perspective.

Section 4.1 An institutional comparative study of private equity based on survey

In Chapter 1 and Chapter 2 we have discussed that private equity is a special capitalist institution with its own rules and mechanisms, which is organized in hierarchical structures and operates in a dynamic complementary relationship with other institutions. The evolution of private equity industry in China has accompanied China's economic transition and complex institutional changes. There are rapid institutional changes concerning laws and market rules, and gradual institutional changes concerning social norms, cultural codes and relations. Facing these various changes, China's private equity industry certainly shows a specific learning curve and displays particular features. We have examined in Chapter 3 the main institutional characteristics of private equity in China. In this section, we will use more concrete information collected through survey with fund managers to analyze how private equity firms in China, France and the UK differ in structure and practical operations. We will first shortly review the relative literature and recall the theoretical basis of study, and then describe the design of survey, the choice of interviewees and means of survey, before presenting the main part of the survey results and drawing our conclusions.

4.1.1 Literature review and study hypotheses

Our study is inspired by the research of Ahlstrom and Bruton (2007), White, Gao and Zhang (2005), and Batjargal and Liu (2002). Ahlstrom and Bruton (2007) found that the complexity of venture capital in China is a challenging opportunity and venture capitalists must employ appropriate working methods and build necessary connections and skills. Besides emphasizing the importance to build good relations with the government and large SOEs, they also underlined the problems of incomplete legal system, weak corporate governance, information manipulation, political control on IPO and Chinese entrepreneurs' reluctance to strategic takeover. White, Gao and Zhang (2005) suggested that particular combination of political, economic and social institutions has important impact on China's venture capital system which evolves in response. They advocated less direct government involvement and better legal and corporate environment. Batjargal and Liu (2002) evaluated the enhancing effects of social capital on investment process. Their findings show that social capital is supplementary and addictive to other determinant factors on investment decisions but only by itself is insufficient for raising venture capital successfully.

Private equity could be considered as a special form of capitalistic institution because it has set the rules of a new type of company financing, because it reduces the costs of capital transactions and risk management, and because it provides incentives and constraints to fund managers, management teams of companies, as well as scientific researchers. Private equity market is an institutional structure whose main functions are: to achieve efficient capital allocation between LPs, GPs and companies; to accelerate innovation, company growth and industrial restructure; to ameliorate corporate governance and entrepreneur culture. Particularly in the case of venture capital, promising innovations with high risks (technological risk, market risk and management risk) could be systematically financed and company management teams will receive professional advice and control thanks to institutional arrangements of venture capital. As an institution, private equity it operates according to certain codes and mechanisms inside the institutional framework of modern capitalist economy. The good working of private equity depends on overall institutional conditions including government involvement, legal systems, financial markets status, corporate governance, education, research and training system, and entrepreneurship culture. There is a complementary relation between private equity and other institutions.

In our previous PCA study based on the theory of varieties of capitalism, we found the Chinese economy model to be a unique growth model, different from other developed and developing economies and we consider it as a hybridization of the market-based model of capitalism. In Chapter 3 we have also examined the institutional features of the “private equity with Chinese characteristics”. To further confirm these results, we think it will be most worthy to compare Chinese private equity funds with foreign private equity funds and see if the institutional characteristics of private equity in China identified in Chapter 3 are manifested by the different operating methods between Chinese funds and foreign funds. The European common market is comparable to Chinese regions, divided and integrated at the same time. Yet, among different European regions, the levels of economic and institutional development diverge significantly. Regarding private equity industry, only West Europe presents a real dynamic market, comparable to the level of activity in China. Therefore, we choose to compare Chinese funds with funds in France and in the UK to examine how private equity is practiced in the three economically and institutionally different countries. With longer history of development, private equity industry in France and in the UK is more mature than in China, which could also offer a good benchmark for China. On the basis of our

conclusions in Chapter 3, we form three hypotheses on the institutional characteristics of private equity in China, which we will test in this study.

- **Hypothesis 1:** Similar to its important role in the economy, there is a stronger role of government for private equity industry in China too, which, however, might reduce as the market grows more mature.
- **Hypothesis 2:** *Guanxi* is a particularly important aspect in private equity in China and different types of *guanxi* could contribute to the successful working of private equity, but this dependency on *guanxi* also creates unequal competitions.
- **Hypothesis 3:** Private equity funds face both challenges and opportunities in the fast developing Chinese economy, and to succeed in competition, a fund must find its niche market combining its resources, team expertise and institutional values.

4.1.2 Design of survey and profile of interviewees

Taking into consideration the social institutional structure by Amable (2003)⁸³ and previous studies on venture capital in China, we have elaborated a survey which is composed of the following five sections: (1) fund organization and management background; (2) generation, screening, valuation and structure; (3) monitoring and value-adding activities; (4) informal institutions “*guanxi*”; (5) challenges, trend and social values. Each section contains a group of questions that are essential to make a good understanding of how private equity funds operate and what are the factors that influence their decisions. There are 59 questions in total with the majority as open questions. Some questions demand to evaluate different factors’ importance in order. We carried out the survey with 10 Chinese private equity firms, 8 French firms and 2 British firms during the period of 2012 to 2013. Most of the surveys were conducted during face-to-face interviews or by telephone interviews; one was directly filled in by the private equity firm.

⁸³ Amable (2003) defined the five primary institutional aspects in a capitalist economic system as: product market competition, employee relationship and job market, financial intermediation and corporate governance, social protection, and education sector.

In China, we categorize private equity firms by size of managed capital (big, mediate or small), by origin (domestic or foreign) and by nature (independent, captive or government supported). To mitigate the shortcoming of limited number of interviewees, we managed to interview at least one private equity firm from each category. We interviewed 4 big-size private equity firms, 5 medium-size firms and 1 small-size firm (also a venture capital firm). Among them 6 operate independent funds, 2 operate captive funds and 2 private equity firms enjoy government support; 9 firms are China-based and 1 firm is headquartered abroad; 6 firms manage domestic capital and 4 firms manage foreign capital. Geographically, there are 5 private equity firms in Beijing, 3 firms in Shenzhen and 2 firms in Shanghai. Beijing, being the political, economic and cultural capital, has the largest concentration of private equity firms in China. Shenzhen is the experimental field of China's economic reform; its proximity with the free port Hong Kong, its leading position in the hi-technology industry with companies like Huawei and ZTE make Shenzhen an ideal choice for venture firms. Shanghai is the financial center of mainland China, and the Chinese headquarter of many banks and multinationals. Mainland China's two stock exchange markets are also located in Shenzhen and Shanghai.

Concerning the founding time, among the 10 Chinese private equity firms interviewed, 2 were founded during 1993-1994, 1 was founded in 2002, 3 were founded during 2006-2008 and 4 were founded during 2010-2012. The 2 firms founded during 1993-1994 include one venture capital firm with government support and one private equity firm as the Chinese branch of an American private equity firm; the firm established in 2002 also has government support and big local groups as their LPs. This corresponds well to the situation of private equity's early development in China, characterized by government support and foreign funds domination. The period of 2006-2008 has seen the first fast growth of private equity funds in China and 3 interviewed private equity firms were founded during this rising tide. The rest 4 firms were founded during the rapid recovery period of 2010-2012 after the financial crisis and the majority of them are RMB funds, which is relevant to the market trend now in China. Provided the above information, the 10 interviewed Chinese private equity firms could be considered as a small sample of the gradually developed private equity industry in China from 1990s to 2012.

Regarding the French and British private equity firms, since the private equity market in France and the UK has already grown into a more stable status, we decided to focus on firms

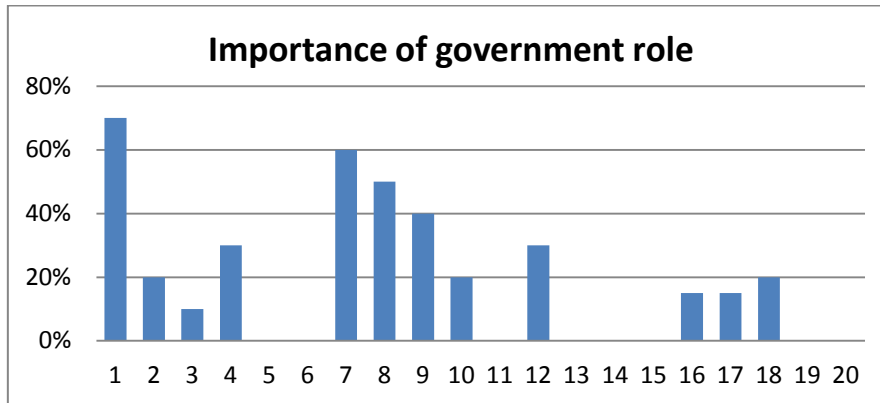
that have established operating history and good market reputation in order to compare with funds that are still in development in China. We interviewed in total 8 French and 2 British private equity firms. Among them, the 2 British firms are of very big size, 7 French firms of big size and 1 French firm of mediate size. Concerning the nature, all French and British firms operate independent funds: 2 private equity firms are listed or partially listed on the stock exchange markets; 1 firm is organized under General Partnership; 4 French private equity firms are organized in the form of *Société par Actions Simplifiée*, 2 in the form of *Société Anonyme* and 1 in the form of *Société en Nom Collectif*. The British private equity firms are both headquartered in London; 7 French firms are headquartered in Paris and 1 in Lyon. We also tried to include private equity funds founded in different periods. 1 of the British firms was founded before the 1970s, and the other in the 1980s. This reflects the fact that the UK was the first country in Europe to introduce the practice of private equity from the US, hence many British private equity firms have comparatively longer operating history. Among interviewed French firms, 4 were founded in the 1970s, 2 founded in the 1980s, 1 founded in the 1990s and 1 in the 2000s.

4.1.3 Survey results

In this part, we present the major findings of our survey on private equity funds. As we have outlined 3 hypotheses above, we will organize this part as the following. We first present individual questions relevant to each of the 3 hypotheses, by using graphs, statistic tables and further comments. We draw a short conclusion for each hypothesis at the end. Then we add a few facts to complete our presentation. Finally we make a general conclusion for our study based on survey. In the graphic presentations, the first 10 samples are Chinese private equity firms, from 11 to 18 are French firms and the last 2 are British firms. According to previous agreement, the names of all funds surveyed will stay anonym. In the tables of statistic results, we use numbers and percentages to present the total scoring by funds for each item and their comparative weight. For example, if one fund confirms the usage of a certain financial instrument, we note 1 for this item; at the end we calculate the comparative importance of this item by dividing its score over the number of funds. We also present separately “all funds”, “Chinese funds”, “French funds” and “British funds” to facilitate the comparison. For questions requiring interviewees to note importance from 1 to 5, the comparative importance of each item is its score divided by the number of funds multiplied by 5.

4.1.3-1 Hypothesis 1: government and governance

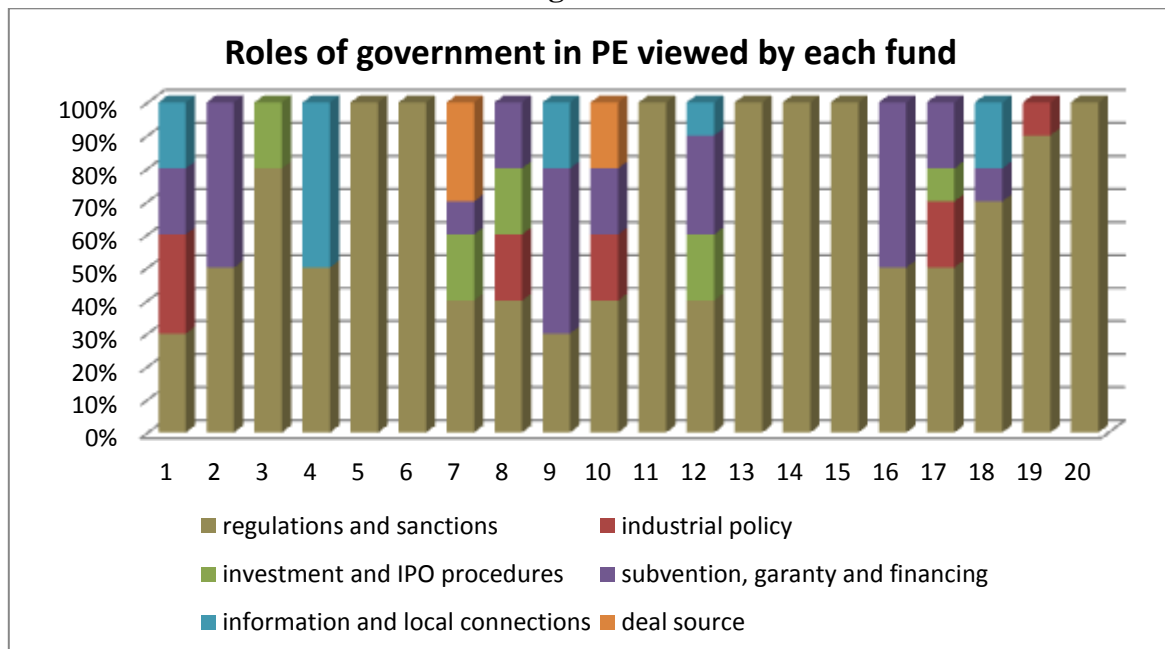
Figure 4-1



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

The role of government is an important factor of distinction between Chinese private equity firms and European private equity firms. There is a general high evaluation of the role of government among Chinese firms, with the average score at 30% and the highest at 70%. French firms consider the role of government much less important, with the average score at 10% and the highest at 20%. Two British firms note there is not really a role of government as all operate according to the market rules.

Figure 4-2

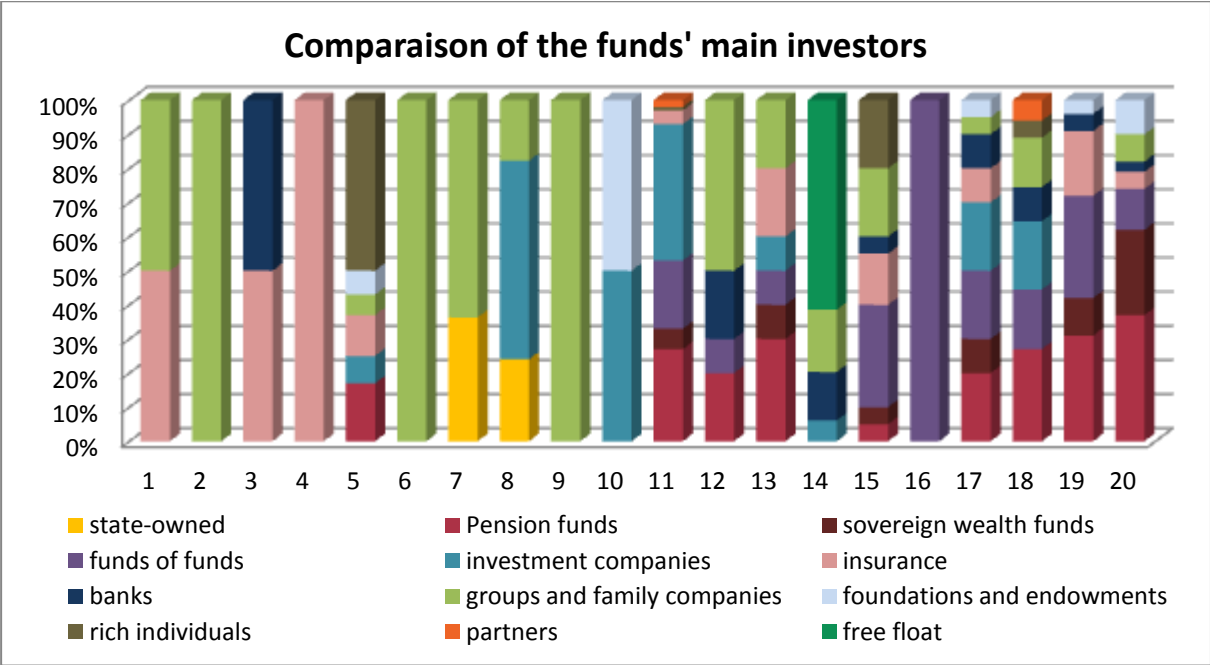


Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

While Chinese private equity firms and European private equity firms attach quite different degree of importance to the role of government, they do share some similar opinions

on the precise roles that the government should assume regarding private equity industry. Most of them think that the government should focus its most efforts on regulations and sanctions, providing a more stable environment of fair competition. 5 out of 10 Chinese firms and 4 out of 8 French firms consider offering subvention, guaranty and financing to be the role that governments should play to support the healthy growth of private equity industry. 3 out of 10 Chinese firms and 2 out of 8 French firms think that governments should make sure of the good application of investment and IPO procedures. Furthermore, 3 out of 10 Chinese firms and 2 out of 8 French firms suggest that governments should provide help and assistance on information communication and local connections. This also indicates that Chinese and French firms both consider it important to build good local networks and improve information sharing. 3 Chinese firms, 1 French firm and 1 British firm also mention the role of government in making appropriate industry policy and its application. Only 2 Chinese firms consider that the government has also a role play in the deal sourcing. We can see that Chinese firms hope the government to assume more diversified roles. French firms look for less involvement of the government and British firms only the basic regulatory aspects.

Figure 4-3

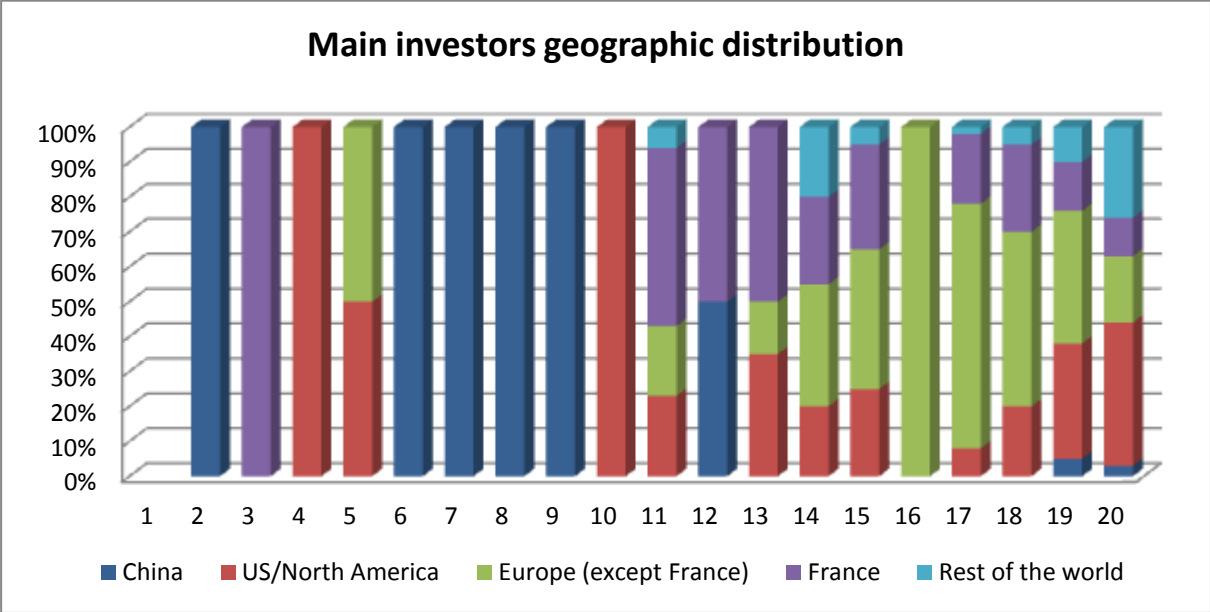


Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

Chinese funds have much less diversity in the investor types; except for one fund, the rest mainly have only one or two types of investors. On the contrary, funds in France and in the UK generally have much more complex composition of investors, except for those

belonging to a big group or owned by a large fund of funds. We can also see that the main investors of Chinese funds are groups and family companies, while in France and the UK they are more of pension funds and funds of funds. Pension funds and funds of funds are typical institutional investors, whose investment horizon is normally longer than banks or private companies. More participation of long term investors usually means better legal structures and more mature market development of private equity. According to the research center of Zero2IPO⁸⁴, at the end of 2012, there were 7511 LPs officially registered in China. Among them, 3773 (50.2%) are rich families and fortunate individuals, 1289 (17.2%) are companies and 475 (6.3%) are VCs/PEs. However, if we look at the investment amount for the same period, the three leading investor types are listed companies (26.3%), pension funds (20.7%) and SWFs (19.1%), most of which are foreign LPs.

Figure 4-4



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

Chinese funds’ capital is mainly raised in the Chinese territory, except for few foreign funded funds which are primarily owned by US investors. It seems similar with French and British funds, whose main capital source is also from the European territory. Meanwhile, we see apparently that there is more diversity of capital origin for European funds, with usually 4 to 5 different origins, and while for Chinese funds there are mainly one origin and at most 2 origins. The higher diversity of capital origin may represent more open financial markets, better asset management and risk management practice, and stronger fund track record.

⁸⁴ Source: <http://research.pedaily.cn/201301/20130110341786.shtml>

Table 4-1: Financial instruments
(All funds)

equity	18	90%
convertibles	11	55%
preferred shares	8	40%
debt	3	15%
garanty	1	5%
stock-option	1	5%

(Chinese funds)

equity	9	90%
preferred shares	4	40%
convertibles	3	30%
debt	1	10%
garanty	1	10%
stock-option	0	0%

(French & British funds)

equity	9	90%
convertibles	8	80%
preferred shares	4	40%
debt	2	20%
stock-option	1	10%
garanty	0	0%

Chinese firms and European firms commonly use “equity” as financial investments (90%). But European funds also frequently use “convertibles” (80%) which are still not quite used in China (30%), due to lack of legal support. Stock-option is another instrument available in Europe but not at all in China. The level of debt financing is very low in China too. Their differences in the usage of financial instruments show that PE investment in China is still very controlled by the financial authority and there are fewer financial instruments available for Chinese firms to make more sophisticated deal structure. It is hoped that with the private equity market in China becoming more mature with more thorough regulations, there will be more financial instruments available for investors and more balanced relationship between market rules and authority control.

Table 4-2: Company management actively seeks help for
(All funds)

new round investment	17	85%
management aspects	12	60%
business development	11	55%
financial control	2	10%
government relation	2	10%
key persons	0	0%

(Chinese funds)

new round investment	9	90%
management aspects	6	60%
business development	5	50%
government relation	2	20%
financial control	1	10%
key persons	0	0%

(French & British funds)

new round investment	8	80%
management aspects	6	60%
business development	6	60%
financial control	1	10%
key persons	0	0%
government relation	0	0%

During the monitoring period, company management may ask for help and advice from PE firms on different aspects. The most frequently raised demands for both Chinese firms and European firms are: “new round investment” (scoring 85%), “management aspects” (scoring 60%) and “business development” (scoring 55%). The dominant need of “new round investment” shows that PE investment is first of all an important source of development capital, before other added values it might bring. On this perspective, Chinese firms and European firms are very similar, except for “government relation”. Chinese firms sometimes might need to leverage government relation to help an invested company better develop, or to facilitate certain decision making. This never happens with French or British firms.

**Table 4-3: Main added values through PE investment
(All funds)**

financing resources	18	90%
corporate management	18	90%
strategic advice	18	90%
exit	13	65%
distribution	11	55%
M&A	11	55%
key recruitment	5	25%
restructuring	3	15%
R&D	2	10%

(Chinese funds)

financing resources	10	100%
strategic advice	9	90%
corporate management	8	80%
distribution	7	70%
exit	7	70%
M&A	4	40%
key recruitment	2	20%
R&D	1	10%
restructuring	1	10%

(French & British funds)

corporate management	10	100%
strategic advice	9	90%
financing resources	8	80%
M&A	7	70%
exit	6	60%
distribution	4	40%
key recruitment	3	30%
restructuring	2	20%
R&D	1	10%

On the question of added values brought by PE investment, Chinese firms and European firms are very similar and show very close scoring on each item. For both Chinese and European firms, the most important added values through PE investment are: “financing resources”, “corporate management” and “strategic advice” (each scoring 90%). Small differences still exist on several aspects. For French and British firms, “corporate management” aspect is comparatively more important than “financing resources” aspect, and “M&A” aspect is more important than “distribution” aspect. The differences in scoring represent the different needs of companies under different economic and social contexts. “Corporate management” is still new in China; “financing resources” is less abundant in China; “M&A” is gradually developing in China; and “distribution” is more important in

China as the market is less organized and standardized. For the same reason, we see fewer “restructuring” needs in Chinese companies, as most of them are young companies and are still growing in their markets.

**Table 4-4: Social impact of PE
(All funds)**

industrial restructuring	12	60%
higher quality products/services	11	55%
higher job creation	10	50%
better corporate governance	10	50%
technology progress	9	45%
entrepreneur culture	8	40%

(Chinese funds)

industrial restructuring	7	70%
technology progress	7	70%
higher quality products/services	7	70%
higher job creation	4	40%
better corporate governance	3	30%
entrepreneur culture	1	10%

(French & British funds)

entrepreneur culture	7	70%
better corporate governance	7	70%
higher job creation	6	60%
industrial restructuring	5	50%
higher quality products/services	4	40%
technology progress	2	20%

Besides added values brought to companies, we also question about the social values that PE firms can create. Even though the scores are lower than direct values to companies, indicating that PE firms are less devoted to create social values, there are still some obvious contributions and social impact of PE. The most mentioned aspects are “industrial restructuring” (scoring 60%), “higher quality products and services” (scoring 55%), “higher job creation” (scoring 50%) and “better corporate governance” (scoring 50%). We notice that the differences among Chinese firms and European firms are more significant on this question, as their scores for each item are very opposite. “Entrepreneur culture” and “better corporate governance” are the most emphasized social values among European firms (scoring both 70%), but they are the least mentioned by Chinese firms (scoring respectively 10% and 30%). “Technology progress” is one of the most emphasized by Chinese firms (scoring 70%), but the least mentioned by French and British firms (scoring 20%). These results show the characteristic differences of Chinese and European private equity firms, as influenced by their own economic and social environment.

The first group of findings is related to the role of government, the aspect of corporate governance and the value creations of private equity investment. Based on the results and our comments, we confirm the **Hypothesis 1** about the important role of government in private

equity investment in China. We also underline the differences between Chinese and European private equity firms concerning investor composition, corporate governance and their value contributions. However, the findings also suggest that government's strong controls on resources, investment opportunities and exits will jeopardize the healthy growth of private equity and encourage opportunistic behaviors rather than fair market competition to improve industry performance and economic efficiency. This particular institutional aspect has a temporary impact in the early stage of private equity development in China by assuming an active role to promote its growth. But the comparison with private equity firms in Europe shows that, with growing investment activity and deepening market structure, the government should change its focus to build more thorough legal system and corporate legislation, impose more severe punishment to frauds and violations, maintain a more stable political and economic environment, and provide more transparency and more consistency in their actions. Its direct involvement in the operational aspects of private equity firms should diminish.

4.1.3-2 Hypothesis 2: *guanxi* and relation

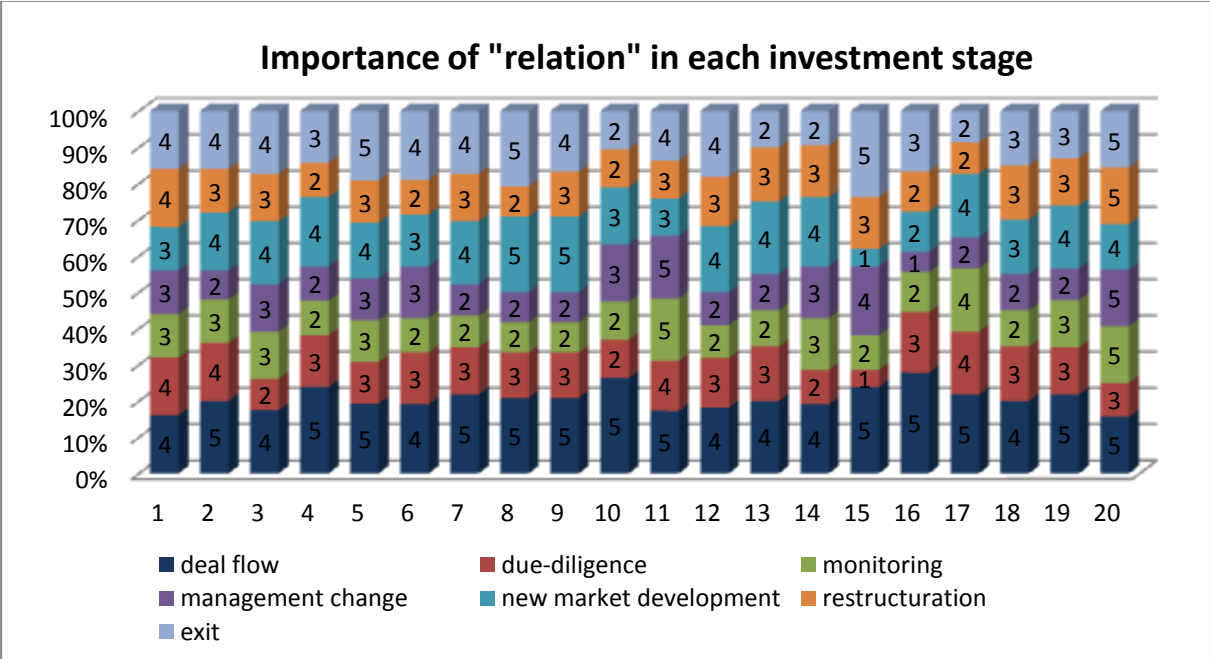
Table 4-5: Deal sourcing channels distribution

(All funds)			(Chinese funds)		
intermediaries	15	75%	personal relations	9	90%
banks	14	70%	intermediaries	8	80%
personal relations	13	65%	banks	6	60%
consultants	9	45%	consultants	6	60%
other PE/VC firms	9	45%	other PE/VC firms	6	60%
accountants and lawyers	7	35%	former partners	6	60%
former partners	6	30%	investment forums	5	50%
investment forums	6	30%	investment/industrial associations	5	50%
investment/industrial associations	6	30%	angel investors	5	50%
alumni	5	25%	government	5	50%
angel investors	5	25%	accountants and lawyers	4	40%
government	5	25%	alumni	4	40%
dedicated deal flow team	4	20%	from LPs	2	20%
from LPs	3	15%	dedicated deal flow team	0	0%

(French funds)			(British funds)		
intermediaries	7	88%	banks	2	100%
banks	6	75%	consultants	2	100%
personal relations	3	38%	personal relations	1	50%
other PE/VC firms	3	38%	accountants and lawyers	1	50%
dedicated deal flow team	3	38%	investment forums	1	50%
accountants and lawyers	2	25%	dedicated deal flow team	1	50%
consultants	1	13%	intermediaries	0	0%
investment/industrial associations	1	13%	other PE/VC firms	0	0%
alumni	1	13%	former partners	0	0%
from LPs	1	13%	investment/industrial associations	0	0%
former partners	0	0%	alumni	0	0%
investment forums	0	0%	angel investors	0	0%
angel investors	0	0%	government	0	0%
government	0	0%	from LPs	0	0%

For Chinese funds, there are 13 channels used and 10 channels frequently used (over 50%) by all funds. And the most important and frequently used channels are “personal relations”, scoring as high as 90%, and “intermediaries”, scoring 80%. After the two, come “banks”, “consultants”, “other PE/VC firms” and “former partners”, each scoring 60%. Note that “government” is also considered an important deal sourcing channel, scoring 50%. French funds use less diversified deal sourcing channels, with 10 channels used and only 2 channels frequently used (over 50%): “intermediaries”, scoring 88%, and “banks”, scoring 75%. After the two, come “personal relations”, “other PE/VC firms” and “dedicated deal flow team”, each scoring 38%. Note that “dedicated deal flow team” is more commonly seen for French and British funds, and not for Chinese funds. British funds are the most less diversified in the deal sourcing channels. There are 6 channels used and 2 channels frequently used, which are “banks” and “consultants”. By the contrary, British funds use much less “intermediaries” as deal source channel. Generally speaking, Chinese funds use more diversified deal sourcing channels compared to European funds. We may consider that more mature one private equity market is less deal sourcing channels are needed, as information will be more organized and centralized. The most important channels are still quite similar for both Chinese and European funds, including “intermediaries”, “banks”, “personal relations” and “consultants”. “Government” is also considered an important deal sourcing channel in China, which is different from France and the UK.

Figure 4-5: Importance of “relation” at each investment stage



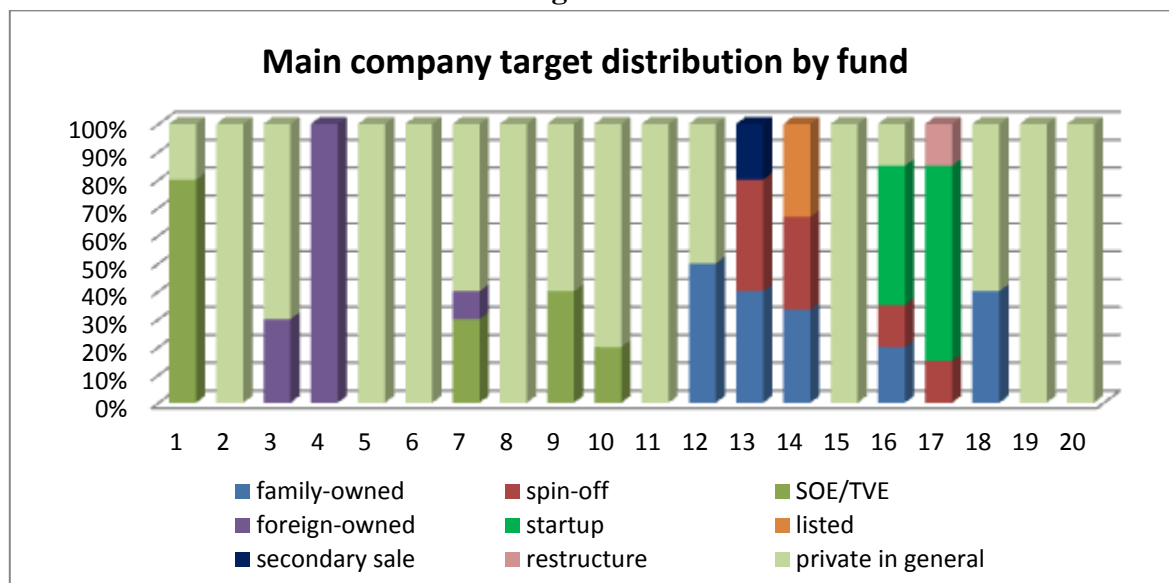
Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

Table 4-6: Importance of “relation” at each investment stage

deal flow	93
new market development	72
exit	72
due-diligence	59
restructuration	57
monitoring	54
management change	53

We see from Table 4-6 that for Chinese funds and European funds all together, relation plays a most important role in the deal flow stage (scoring 93%). Relation is also quite important for “new market development” and “exit” (both scoring 72%) during the investment. For other phases and aspects, relation has comparatively less influence, but its worth is still generally recognized by both Chinese funds and European funds (all scores are over 50%). And from Figure 4-5 we see little difference among Chinese funds and European funds concerning the value of “relation” during the whole process of PE investment. One explanation could be that “relation” can mean “personal relation” and “professional relation”, and the former is more important in China while the latter more important in Europe. But they are both a kind of connection, whether combined to a physical individual, or to a specific job position. The essential value of both “personal relation” and “professional relation” is to enlarge information, share resources, bridge common interests, coordinate actions, and simplify procedures. “Relation” is not the only solution to problems but could facilitate the working process and final agreement.

Figure 4-6



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

For all funds combined, the main company targets are concentrated in the category “private in general”, which means that they target all kinds of private companies. There are however some small differences between them: (1) 4 out of 10 Chinese funds also target SOE/TVE, which are wholly or partially owned by the state or local governments; (2) 5 out of 8 French funds also target family-owned companies; (3) French funds seem to have more diversified types of target, and usually target at least 3 types of companies; (4) British funds have little differentiation in their targets. As in the last question we have found relation to be most important for the investment stage of deal sourcing, the choice of company targets is therefore closely related to the resources of the private equity fund and the networks of its fund partners and managers. Chinese funds targeting SOE/TVE must have built connection with local governments and authorities that manage the state or collective properties. The choice of company targets also reflects the economic and industrial structure of the country. We see French funds target more mature companies in the categories of family-owned, spin-off, restructure and secondary sale. Family-owned companies seeking external financing are usually companies in the phase of transition or distress. For the two British funds, the non-specification of their target might come from the fact that they are very large size funds that invest across Europe and sometimes also in emergent countries, therefore their targets should vary according to the local economy.

**Table 4-7: Participation in company management
(All funds)**

business strategy	19	95%
financial reporting	18	90%
key appointment	14	70%
project development	13	65%
R&D	2	10%

(Chinese funds)

business strategy	10	100%
financial reporting	10	100%
key appointment	8	80%
project development	7	70%
R&D	1	10%

(French & British funds)

business strategy	9	90%
financial reporting	8	80%
project development	6	60%
key appointment	6	60%
R&D	1	10%

Chinese funds and European funds share similar monitoring aspects. For all funds combined, the most important participations of fund manager in the company management are “business strategy” (scoring 95%) and “financial reporting” (scoring 90%). Comparatively, “R&D” appears to be the least considered aspect in the monitoring, which differs from the

conclusions of Antonelli and Teubal (2007), and Romain and De la Potterie (2003). Interestingly, Chinese funds seem to be more involved in company management compared to European funds, with higher score in each item, and particularly for “business strategy” and “financial reporting” (scoring 100% both). This could be due to Chinese companies’ less mature corporate governance structure and lack of expertise in management and reporting system. Therefore, Chinese funds need to help companies to put into place better management practice and provide advice on their strategies and plan of development. To assist invested companies in these different aspects, fund managers should apply their own expertise and management experience, and also seek help from consultants, industrial specialists and other cooperative funds. Professional networks and personal relations are still important for monitoring.

**Table 4-8: Difficulties met in monitoring
(All funds)**

information asymmetry	12	60%
openness of management to follow PE advice	11	55%
corporate governance	5	25%
conflicts with other investors/creditors	2	10%

(Chinese funds)

information asymmetry	7	70%
openness of management to follow PE advice	6	60%
corporate governance	4	40%
conflicts with other investors/creditors	0	0%

(French & British funds)

openness of management to follow PE advice	5	50%
information asymmetry	5	50%
conflicts with other investors/creditors	2	20%
corporate governance	1	10%

For Chinese funds and European funds combined, “information asymmetry” is the biggest difficulty in monitoring (scoring 60%). The second is “openness of management to follow PE advice” (scoring 55%). These results show that even though many researchers indicate that private equity funds use complex financial and managerial instruments to deal with problems of information asymmetry and management trust, these problems still exist in the practice and they are far from being solved. We also notice that there are slight differences between Chinese funds and European funds. Comparatively, Chinese funds have more difficulty with the aspects of corporate governance, because the concept is still relatively new to many local Chinese companies, which used to be directed by political orders when state-owned and controlled by the entrepreneur if private-owned; it requires time and efforts to put up a relevant system of control and reporting and to change old methods of management.

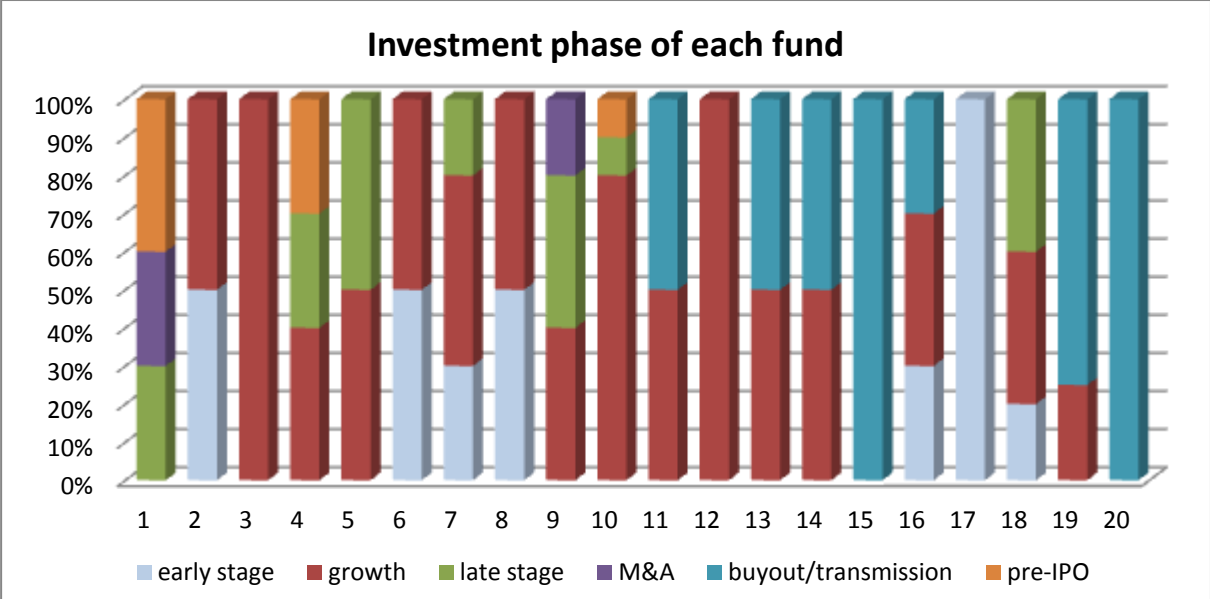
Meanwhile, a few French and British funds indicate a problem of interest conflicts with other investors or creditors of the portfolio companies, which is not expressed by Chinese funds interviewed. This might be due to the fact that in China relation maintenance is an important part of business and investment, which helps to avoid or abate direct conflicts.

The second group of findings is related to the role of relation and what kinds of relation do Chinese funds and European funds leverage in assisting company management and dealing with difficulties. Based on the results and our comments, we can confirm **Hypothesis 2** that relation is comparatively more important for private equity funds in China than in Europe. In particular, we find that personal relations and government connections, which all belong to the scope of interpersonal and reciprocal *guanxi*, are more emphasized as sources by Chinese funds, while European funds rely more on business partners such as banks, consultants and other intermediaries. Moreover, compared to funds in France and the UK, the importance and common practice of maintaining good relations in China might help funds ease the problems of mutual trust and conflicts with other shareholders and stakeholders.

However, if we consider “relation” in its general definition of connection and mutual benefice, we can see that different types of funds could leverage different types of relations (personal, professional or governmental) and the effects of relations could vary according to the concrete investment deal context. Even though relation is generally more emphasized in China, some Chinese funds managers interviewed still consider the good match between fund and company much more important than relation. There are also quite diverged opinions among Chinese fund managers concerning whether the role of relation is losing its importance in China with the on-going economic reforms and whether it will still play a role in a more developed private equity market. At the same time, the change will probably be slow given the fact that informal institutions, especially cultural customs, always take more time to change than formal institutions and organizations.

4.1.3-3 Hypothesis 3: opportunities and challenges

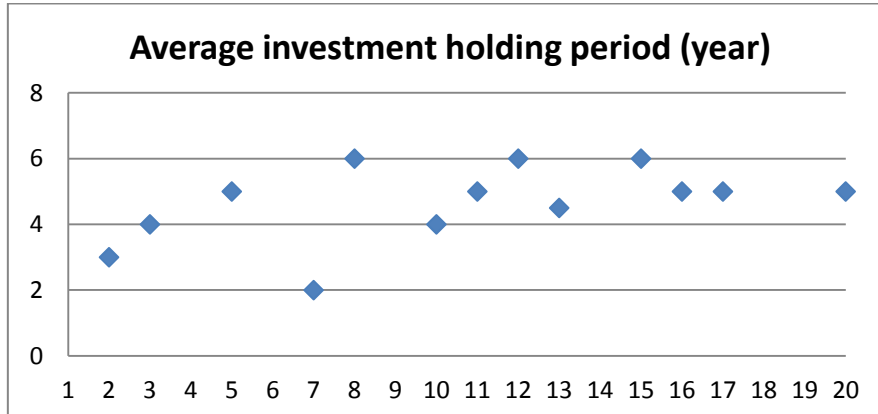
Figure 4-7



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

Chinese funds are mostly focused on growth and late stage deals, with a few also investing in early stage, and few funds targeting pre-IPO or M&A (mergers and acquisitions). The choice of investment strategy is closely related to the industrial structure of Chinese economy and the operational needs of Chinese companies. As the Chinese economy is in a transitory period from concentration in low and mid value-adding manufacture sectors to upgrade to larger weight of high value-adding technological sectors, it is obvious that private equity and venture capital funds should have more focus on companies in early and development phases; and the on-going industrial consolidations have also brought a lot of opportunities for M&A financing. However, the few funds targeting pre-IPO deals also reflect that some Chinese funds might lack of the patience or the competence to accompany early or development stage companies and prefer to pay higher price to seize opportunities that permits quick exit. On the contrary, French and British funds are more focused on late growth and buyout stage deals, with a few venture funds also focus on early stage. Their choice is largely determined by the more developed industrial structure of European economies and more mature market organizations.

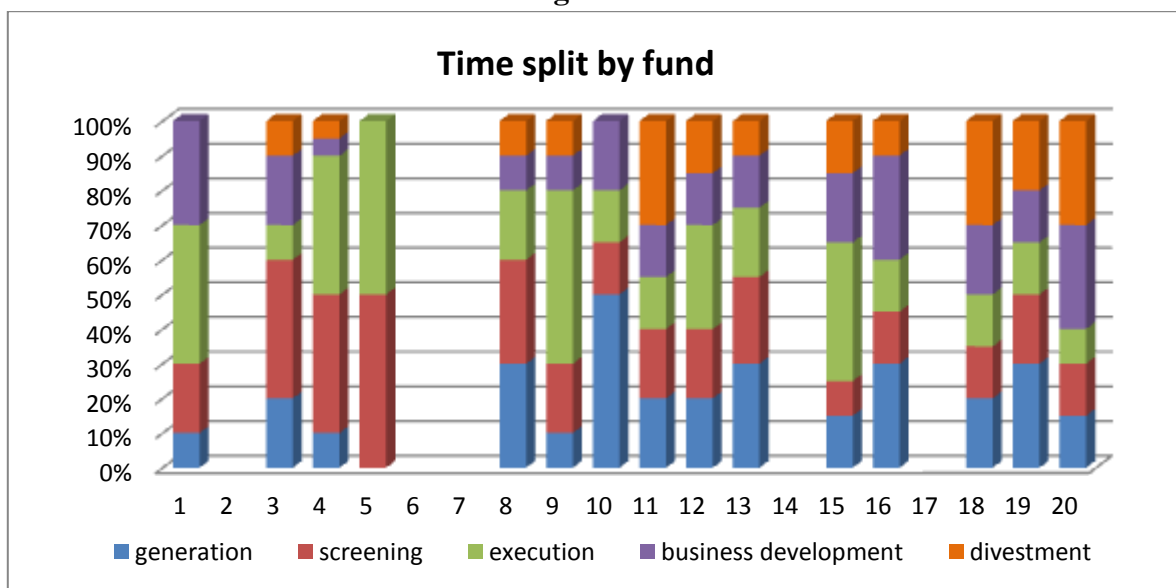
Figure 4-8



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

According to our survey, the average holding period of Chinese funds varies from 2 years to 6 years for our interviewed funds. French and British funds have a more standard average holding period of generally around 5 years. Normally, a too short holding period of less than 2 years could suggest speculative investment behaviors by the fund while a too long holding period over 6 years could be caused by the fund’s incapability to achieve profitable exit. Meanwhile, the overall duration depends on a lot of factors, including the type of industry, investment stage, market conditions and management coordination. For funds investing in early stage ventures or when the economy is facing a downturn, the holding period is likely to be longer than the average. For funds investing in pre-IPO deals, it could be shorter than the average.

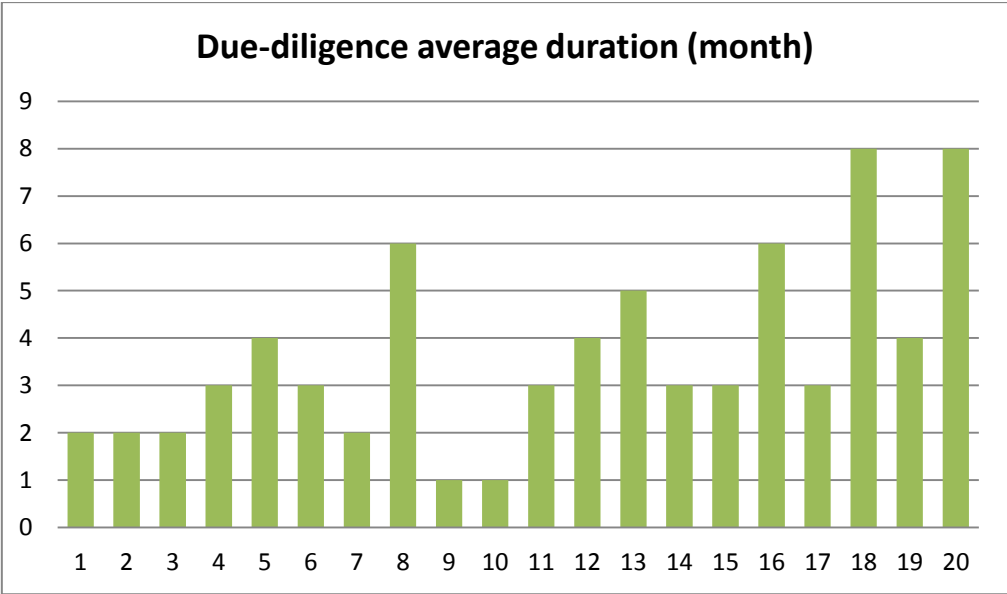
Figure 4-9



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

We distinguished 5 investment phases for private equity funds and asked our interviewees to split their working time among the 5 investment phases. 5 interviewees did not provide this information and therefore are left blank. From the comparative graph, we see that Chinese fund managers pass relatively more time on the phases of “screening” and “execution”; then come the phases of “generation” and “business development”; little time is spent on “divestment”. This indicates that Chinese funds spend more time on the early investment phases to select good companies to invest and spend less time on the after-investment monitoring and exit strategy. Comparatively, French and British funds have more balanced time split for each investment phase and pass more time on “business development” and “divestment” than Chinese funds. One possible explanation for the differences of time split among Chinese and European fund managers is the different maturity of private equity market organization. As we have seen that European funds generally have more standard and organized deal sourcing channels and fund managers have longer industrial experience, it is comparatively easier for fund managers to select companies. Since private equity market is more mature in Europe, there will be less market premium and to create values fund managers must involve more in the monitoring and exit strategy. For Chinese funds, many industrial norms and investment methods are newly put into practice and the Chinese market is very complex to apply standard criteria; the shorter history of both company and fund operation makes it difficult for Chinese fund managers to select qualified deals, to provide management advice, and to bring creative exit strategy.

Figure 4-10



Note: 1-10 are Chinese, 11-18 are French, and 19-20 are British

Chinese funds participating in our survey pass on average 2 to 3 months doing due-diligence (DD) for each investment deal. Meanwhile, the exact duration could vary from 1 month to 6 months depending on the fund manager and deal specificity. French and British funds participating in our survey pass on average more than 3 months doing DD. The exact duration could be as long as 8 months for some deals. According to information provided by our interviewees and from other sources, the gap of average DD duration between Chinese and European funds could result from several elements. First, the competition among Chinese funds has become quite fierce in recent years with more capital entering the market. The more quickly DD finishes, the sooner the fund can move on to negotiate the investment terms, and the larger chance is for the fund to seize the opportunity before other funds. Second, Chinese companies have shorter operating history hence less data for DD. With the fast changing Chinese market, it is more difficult to forecast the trend according to past data and information. Given this situation, PE investment is investing in the management team rather than in the company itself. Moreover, as Chinese funds usually leverage different kinds of relations and networks to obtain more information and try to build mutual trust with the entrepreneur and management before officially entering the deal, it can also help accelerate the DD process. However, a longer DD phase allows the fund and the company management to better know each other, plan the negotiation and map out the issues to be improved.

Table 4-9: Importance of due diligence source

(All funds)			(Chinese funds)		
management	19	95%	management	10	100%
customers	16	80%	customers	9	90%
suppliers	15	75%	competitors	9	90%
competitors	15	75%	suppliers	8	80%
industrial advisor	15	75%	bank statements	8	80%
inventory	12	60%	government filings	8	80%
bank statements	10	50%	inventory	7	70%
government filings	10	50%	field check	7	70%
field check	10	50%	employees	7	70%
employees	9	45%	contacts of entrepreneur	7	70%
contacts of entrepreneur	9	45%	industrial advisor	6	60%

(French funds)			(British funds)		
management	7	88%	management	2	100%
industrial advisor	7	88%	competitors	2	100%
suppliers	6	75%	industrial advisor	1	50%
customers	6	75%	suppliers	1	50%
competitors	5	63%	customers	1	50%
inventory	4	50%	inventory	1	50%
field check	3	38%	field check	0	0%
bank statements	2	25%	bank statements	0	0%
government filings	2	25%	government filings	0	0%
employees	2	25%	employees	0	0%
contacts of entrepreneur	2	25%	contacts of entrepreneur	0	0%

For all funds combined, “management”, “customers”, “suppliers”, “competitors” and “industrial advisor” are the most important DD sources. “Management” is also the most important DD source for funds of each country. Therefore, there are many similarities between Chinese and European funds concerning DD sources. Meanwhile, our interviewed Chinese funds use much diversified information sources. There are 11 types of DD sources frequently used (all over 60%) by Chinese funds, with the three most important sources as “management” (100%), “customers” (90%) and “competitors” (90%). They are followed by “suppliers”, “bank statements” and “government filings”, scoring 80% each. French funds also use various information sources, but only 6 sources are frequently used. “Management” and “industrial advisor”, both scoring 88%, are the two most important sources. British funds use comparatively few source channels and consider “management” and “competitors” as the most important sources. When taking into consideration the last question, we see that even though the average duration of DD for Chinese funds is comparatively shorter than European funds, more sources of information are considered and checked by Chinese funds during the DD. The Chinese private equity market regulations are less mature and still in adjustments; some companies might infringe legal or social regulations without being aware; some managers might also take advantage of this situation of information asymmetry for their personal benefice. Therefore, Chinese funds should verify different information sources and check the company’s bank statement and government filings to see if all its operations conform to the rules and regulations.

Table 4-10: Importance of difficulties in due diligence
(All funds) **(Chinese funds)**

trustworthy and meaningful data	11	55%	trustworthy and meaningful data	6	60%
hard to build mutual trust	11	55%	hard to build mutual trust	4	40%
industrial trend	5	25%	industrial trend	3	30%
time pressure	4	20%	fake information	2	20%
fake information	2	10%	time pressure	0	0%
(French funds)			(British funds)		
hard to build mutual trust	7	88%	industrial trend	2	100%
trustworthy and meaningful data	5	63%	hard to build mutual trust	0	0%
industrial trend	4	50%	trustworthy and meaningful data	0	0%
fake information	2	25%	fake information	0	0%
time pressure	2	25%	time pressure	2	100%

For all funds combined, “trustworthy and meaningful data” and “hard to build mutual trust” are the primary difficulties for the due diligence process. Chinese funds have most difficulties getting “trustworthy and meaningful data” (60%) and “mutual trust” (40%). This

could also explain why Chinese funds need to seek information from more DD sources and spend generally less time on DD. French funds have most difficulties building “mutual trust” (88%) and getting “trustworthy and meaningful data” (63%). The high scores on difficulties given by French funds indicate that the private equity market in France is suffering from strong information asymmetry. On this aspect, Chinese funds and French funds seem to face similar difficulties. Meanwhile, our interviewed French funds and British funds have also mentioned time pressure during the practice of DD. British funds also have strong difficulty with the aspect of “industrial trend”, which is not mentioned by Chinese funds or French funds. In comparison, British funds have fewer problems with trustful data and mutual trust.

Table 4-11: Importance of difficulties in valuation
(All funds) **(Chinese funds)**

good benchmarks	13	65%	good benchmarks	5	50%
many funds chasing few qualified deals	7	35%	insufficient historic	4	40%
insufficient historic	6	30%	volatile market	4	40%
volatile market	5	25%	many funds chasing few qualified deals	3	30%
fake numbers	3	15%	fake numbers	3	30%
(French funds)			(British funds)		
good benchmarks	7	88%	many funds chasing few qualified deals	1	50%
many funds chasing few qualified deals	3	38%	good benchmarks	1	50%
insufficient historic	2	25%	insufficient historic	0	0%
volatile market	1	13%	volatile market	0	0%
fake numbers	0	0%	fake numbers	0	0%

For all funds combined, the most difficult aspect in valuation is to find “good benchmarks” (65%). This indicates that, for a private equity fund in whichever country, it is most difficult to perform good evaluation for an investment deal because each deal has its unique features and the market conditions in which the evaluation must be made keep changing all the time. For French funds and British funds, “many funds chasing few qualified deals” is also impacting the formation of a reasonable investment price. It is probable that due to the maturity of their economies and private equity markets, there is stronger direct competition among the European funds, which results in increased valuation for good investment opportunities. Meanwhile, Chinese funds face other difficulties such as “insufficient historic”, “volatile market” and “fake numbers” which are much less mentioned by European funds. These aspects show that the valuation of investment deals in China is negatively influenced by the short history of companies and the unstable conditions of the market.

**Table 4-12: Special clauses in investment contracts
(All funds)**

anti-dilution protection	19	95%
redemption right	18	90%
board of directors	18	90%
liquidation preference	17	85%
drag-along/tag-along right	17	85%
convertible preferred stock	17	85%
valuation adjustment method	17	85%
board of administration	2	10%
stock-option	2	10%
supervision board	1	5%
earn-out	1	5%
ratchet	1	5%

(Chinese funds)

board of directors	10	100%
redemption right	9	90%
anti-dilution protection	9	90%
liquidation preference	8	80%
drag-along/tag-along right	8	80%
convertible preferred stock	8	80%
valuation adjustment method	8	80%
ratchet	1	10%
board of administration	0	0%
supervision board	0	0%
stock-option	0	0%
earn-out	0	0%

(French & British funds)

anti-dilution protection	10	100%
liquidation preference	9	90%
redemption right	9	90%
drag-along/tag-along right	9	90%
convertible preferred stock	9	90%
valuation adjustment method	9	90%
board of directors	8	80%
board of administration	2	20%
stock-option	2	20%
supervision board	1	10%
earn-out	1	10%
ratchet	0	0%

Complex contracting has been seen as one of the most important investment mechanisms in private equity operations. In Chapter 1 we have presented the primary special clauses frequently used in private equity investment contracts. From our survey results, we see that many special clauses are systematically used by both Chinese and European funds, including “anti-dilution protection”, “redemption right”, “board of directors”, “liquidation preference”, “drag-along/tag-along right”, “convertible preferred stock” and “valuation adjustment method”. Meanwhile, small differences can be observed. Chinese funds, usually being minority investors, consider it most important (100%) to obtain seat in the board of directors of its invested companies in order to participate in the crucial decisions. French and British funds consider it most important (100%) to have “anti-dilution protection”. As minority investors, Chinese funds need to make sure that they have the right to participate in decision making and the vote for important changes, that’s why they need to obtain the board seat. Often being majority investors, European funds could directly control the decision making. However, some European funds consider it better to restrain their influence and to leave more control in the hands of the owner and top management, that’s why some funds prefer to obtain seat in the board of administration (20%). On the contrary, European funds

are more careful with the eventual changes of company control; by systematically including “anti-dilution protection”, they limit the risk of reducing their shareholding part if the company wants to raise money from new investors.

**Table 4-13: Importance of monitoring aspects
(All funds)**

financial control	16	80%
carrying out of business plan	14	70%
operating metrics	13	65%
corporate governance	6	30%
inventory	3	15%
incentive system	2	10%
patents	2	10%

(Chinese funds)

financial control	8	80%
carrying out of business plan	6	60%
operating metrics	5	50%
corporate governance	2	20%
inventory	1	10%
patents	1	10%
incentive system	0	0%

(French & British funds)

carrying out of business plan	8	80%
financial control	8	80%
operating metrics	8	80%
corporate governance	4	40%
inventory	2	20%
incentive system	2	20%
patents	1	10%

Monitoring is the period after capital injection to the company and before final divestment, during which the PE fund will work to assist the company management on various aspects in order to improve the company’s business performance and accelerate its growth. Our survey results indicate that Chinese funds and European funds have similar behaviors concerning monitoring aspects. For every fund interviewed, the three most important aspects of monitoring are always “financial control”, “carrying out of business plan” and “operating metrics”. This means that the monitoring focuses are quite similar in China and in Europe. Meanwhile, we see that compared to Chinese funds, French and British funds pay slightly stronger attention to different monitoring aspects, as they show a score higher than Chinese funds for each item.

The third group of findings is related to the market status of private equity in China, the differences between Chinese and European funds concerning different operational aspects, and the challenges and opportunities that are facing Chinese funds. Based on the results and our comments, we can confirm **Hypothesis 3** that compared to European private equity funds, Chinese private equity funds face more challenges and opportunities in the fast developing and transforming Chinese economy, and to succeed in competition, a fund must find its niche market, combining its own resources and team expertise. The Chinese economy is still in the

middle of its development to a more market-oriented economy. Its economic actors are mixed with transforming SOEs/TVEs, localizing foreign companies and fast growing domestic private ventures; its industrial structure is undergoing various changes for the purposes of import substitution, value chain upgrading, technology innovation, and other developments to accompany China's social and demographic evolutions; a sound and well enforced legal system is still to be accomplished, while informal institutions such as local customs, cultural norms and relationship will keep playing their roles in social and business affairs. Private equity in Europe has reached a mature stage embodied by more standard market organization and fund behaviors and stronger direct competition among the funds. Private equity market in China is evolving alongside its changing economic and institutional environment. With the on-going market integration, only funds possessing comparative advantages in resources, expertise and relations could succeed the growing competition in China.

4.1.3-4 Supplementary information

Legal forms:

Generally, a private equity fund has four choices of legal form in China: off-shore fund, limited company, joint venture and limited partnership. The most common form is limited company, which is fully registered as a Chinese legal person and can invest in domestic companies. To invest in Chinese companies, foreign investors could either set up a limited company under the approval of MOFCOM (Minister of Commerce of P.R.C) and convert the devise into RMB through SAFE (State Administration of Foreign Exchange), or set up a joint venture with a local investor. They can also set up an off-shore fund in a fiscal paradise such as Cayman or BVI, which can invest into a Chinese company by buying shares of an off-shore holding company registered by the company owner, which effectively controls the Chinese company. By this mechanism, an off-shore fund can avoid complex procedures and controls of MOFCOM and SAFE, as well as some tax charges. But since 2005, SAFE and MOFCOM have issued regulations aiming at a stricter control of off-shore funds. The limited partnership law was only adopted in China from 1st July 2006 and the regulations on the formation of foreign-invested partnerships did not come out until 1st March 2010. Consequently, most of the Chinese funds interviewed for the survey are organized in the form of limited company. Yet there is one big short-coming of limited company: the tax payment

of fund and partners is affected by local government's tax policy, which brings problems of tax differentiation among different regions and cities and leads to instability of the market.

French funds are usually formed as SA or its more flexible version SAS. Moreover, French funds that invest in high-risk and innovative companies, or limit its investments to regional companies, could also benefit from special tax reductions by adopting the legal form of a FCP (Fonds Communs de Placement). A FCP managed by a private equity or venture capital fund could be: FCPR (Fonds Communs de Placement à Risques), FCPI (Fonds Communs de Placement dans l'Innovation) FIP (Fonds d'Investissement de Proximité). Another advantageous form is SCR (Société de Capital Risque), which is fiscally transparent on share price appreciation for shareholders. British funds have simpler legal forms; most of them are founded as public limited companies. Limited partnership is widely used especially when there are foreign capital investors. Some fiscal regimes offer preferential conditions for venture investments: VCT (Venture Capital Trust), EIS (Enterprise Investment Scheme), and the newly applied SEIS (Seed Enterprise Investment Scheme). Even though European funds professionals still call for a more favorable tax incitation for investments, they enjoy comparatively better market conditions than their Chinese colleagues⁸⁵.

Investment strategies:

Although specialization is considered the inevitable trend of private equity development, our interview findings show that most of the Chinese and European funds interviewed don't have special sector focus but are interested by all businesses that have a good potential of fast growth and could resist to cyclic crisis. These sectors include: consumer goods, TMT, industrial, healthcare, clean-tech, modern logistics, modern agriculture, financial services, education and culture industry, real estate and infrastructure, and natural resources. In fact, for the year of 2012 in China, the first five sectors that have got most PE investments in terms of numbers are real estate (11.8%), healthcare (9.4%), machinery (7.9%), internet (7.2%) and clean-tech (6.6%); in terms of investment amount, the first five sectors are internet (18.4%),

⁸⁵ However, the AIFM Directive issued by the ESMA and aimed at redressing financial regulation on European hedges funds and private equity funds, just entered into force on 22 July 2013. Following its implementation, most European fund managers will be subject to a series of requirements: capital, transparency, valuation and depository, restrictions on delegation, and a policy on remuneration. According to a recent survey by Deloitte, the majority of UK funds think the Directive will reduce the industry's competitiveness and the number of non-EU managers operating within the EU. See http://www.deloitte.com/view/en_LU/lu/market-challenges/aifmd/index.htm#UirIOSdM80M
<http://www.cfo-insight.com/financing-liquidity/equity/fund-managers-afraid-of-aifm-directive/>

real estate (16.2%), energy and mines (11.4%), financial services (11%) and healthcare (5.9%)⁸⁶. In Europe, the first five sectors in terms of investment amount are consumer goods (15.2%), life sciences (14.9%), business & industrial products (12.4%), business & industrial services (10.9%), communications (9%); in terms of deal numbers, the first five sectors are E-commerce (17%), life sciences (16.9%), business & industrial products (12.5%), communications (12.1%) and consumer goods (9.5%)⁸⁷. Apparently, a larger investment focus in China is given to sectors of high returns (real estate, energy and mines) and good potential due to demographic characteristics (internet, healthcare), as well as fast growing industry (machinery, financial services, clean-tech). While in Europe, investments are more focused on fast growing industry such as E-commerce and life sciences, as well as consumer goods and industrial as comparatively more resistant to economic cycles.

Human capital:

The US has a major influence on China's private equity development because many of the first private equity funds in China were managing capital from American investors, and because going IPO on NASDAQ or NYSE used to be the only real success for a Chinese company. More importantly, many investment managers and fund partners in China have been trained in prestigious American universities or have worked in the US before going back to China for new opportunities. In the most successful funds working in China, such as IDGVC, CDH, CITIC, Hony Capital, Legend Capital, we can find a lot of Chinese back from the US. Our survey findings show that most of fund partners and managers have a master degree and a large part have also received MBA education. There is no significant difference between Chinese funds and European funds. Among our interviewed funds in China, nearly half of their team members have been to foreign countries; and among those have been abroad, over half have been in the US. Having lived or worked abroad is generally appreciated by private equity fund recruiters in China, since there is a need of multi-competences and intercultural understanding. Besides, having received education at top Chinese universities is also valuable because of the importance of relation and business networks. For the European fund professionals, abroad experience is also quite common, while the majority happened in another country inside Europe. Therefore, education background and abroad experience are similarly important to Chinese and European private equity funds.

⁸⁶ <http://research.pedaily.cn/201301/20130106341517.shtml>

⁸⁷ EVCA 2012 Pan-European Private Equity and Venture Capital Activity

Concerning experience in the investment field, the interviewed Chinese investment teams generally have around 10 years experience; only few of them have reached 20 years experience. This is due to the retarded development of an entire private equity industry in China, only taking acceleration since 2004/2005. Comparatively, European funds have much longer operation history and many of them were set up during the 1980s to 1990s. As a result, the funds that we have interviewed usually have 20 to 30 years of investing experience, and one of them have even exerted the *métier* since half a century ago. And besides investing experience, many European fund partners and managers also have former experience in other industrial or financial sectors such as retail, communication technology, bio-medical research, corporate management, business consulting, audit, banking, etc. Chinese fund partners and managers, on the contrary, have less cross-sector experience: some of them have specialties in technology fields, consumer goods and audit; but a larger part of them only have worked in finance. Shorter development history and less operational experience have to some extent limited Chinese funds' capacity to recruit more diversified profiles from different sectors and therefore to enlarge its human capital reservoir.

Deal sourcing:

Deal sourcing works more or less the same way for Chinese and European funds. Different types of funds often have different specific deal sources, depending on who are their LPs, what their sector focuses are and what are their industry experiences, and the working method could vary according to different investment conditions. When the fund is managing capital of a big group or a financial institution, it could benefit from the clients portfolio and the business networks of this group or institution. When the fund is founded by partners with technical or industrial background, its investment focus is probably on new technology or industrial upgrading, and their professional connections in that field will be valuable to the fund. When it has direct relation with the local government for supporting local ventures, their sourcing method and investment focus will also be different. For funds that seek potential M&A exits, investment banks often offer them the best channels. Based on different heritages (from founders and partners, from LPs, from government, from investment managers' career experience, from alumni networks, or from other business partners), an investment fund usually has its own specific sourcing channels that others have no direct access to and this often allows it to accomplish certain types of investment. Only differences are that sourcing

through families and friends is more common for funds working in China while professional relations are more emphasized for funds working in Europe. This could be a question of trust and cultural difference. In China, people generally have more trust in close relationships such as family, friends or classmates. In Europe, people tend to keep personal relations separated from professional relations.

Screening:

Among all the interviewees, only a very few funds do all the due diligence in-house, namely by their own means and methods; the majority of funds interviewed usually hire third-party specialists for doing financial and legal audit. European funds and funds in China with foreign capital usually employ one of the “big four”⁸⁸ for audit, while many Chinese local funds prefer Chinese accounting firms which charge less and sometimes understand better the Chinese accounting system. We can also observe a general trend to externalize the due diligence work as the fund size grows and its managed capital increases. Some big European funds also hire big consulting firms, such as Bain & Company and Mckinsey, to do the commercial due diligence. To be sure of the company’s pension debt, the fund could also seek help from an insurance company. Generally speaking, more mature the fund is, more in-depth due diligence it will take to check the target company. The “double book” is a common practice among local Chinese companies to illegally increase reducible charges and decrease taxable incomes. This often brings Chinese funds difficulties with faked data and information manipulations. In comparison, European funds don’t often encounter information manipulations. Only few funds interviewed say they have met cases of overstating cash. European funds could appeal to clause of representations and warranties⁸⁹ to better protect themselves from faked information.

Valuation:

Similar for funds in China and in Europe, three main valuation methods are applied, according to the business specificity of the company. The most common valuation method is

⁸⁸ The big four here means the four largest international accountancy and professional services firms, including Ernst & Young, PwC, KPMG and Deloitte.

⁸⁹ In contract law, the clause of representations and warranties generally means a guarantee or promise which provides the assurance by one party to the other party that the representations of specific facts or conditions are true or will happen. In the case of shareholding purchase, such clause is to set out the premises the parties relied on in agreeing to the deal and allow them to make claims to each other if the actual facts turn out to be different.

“PE comparables” by which the company’s value estimation is obtained by multiplying its EBIT (earnings before income tax) and EBITDA (earnings before income tax and depreciation and amortization) by a multiplier calculated from comparable peer companies, usually listed in the stock exchange market. The majority of interviewed funds in China and in Europe use the method of comparables because it reflects the conditions of stock exchange markets thus could offer a better evaluation of the real market value of the company in the prospect of its future IPO. “Net assets value” method is used when the company works in the field of financial services or real estate where book value is a good reflection of the company’s real value. And “future cash flows” method is normally used for mature companies with steady and predictable cash flows, which don’t have much investment expense. This method is often used in buyout, especially LBO deals. Private equity funds also use cash flows to forecast the IRR (internal rate of return) for their investors. Besides the three general methods, a lot of funds usually elaborate several valuation scenarios under different hypotheses of market sensibility and try to obtain a price of compromise. Because the valuation is also based on the overall macroeconomic status, due to higher growth potential in the general Chinese economy, comparable multipliers are at present higher in China (on average 10x to 12x EBITDA for traditional sector) than in Europe (on average 6x to 8x EBITDA for traditional sector).

Special clauses:

Although some of the special clauses such as convertible preferred stock, earn-out and valuation adjustment mechanism are not valid under the Chinese legislations, private equity funds in China still often include them in investment agreement. However, 2 Chinese fund managers consider that most special clauses are very complicated to implement and often deteriorate their relationship with the target company. They say that sometimes Chinese entrepreneurs have difficulty accepting those special clauses because it seems to them a lack of confidence from investors, and they feel “losing face” to demanding capital under such suspicion especially when the investors are introduced by their personal relations. In order to deal with this Chinese “mentality”, some private equity funds choose not to use complicated special clauses, keeping only the essential ones, such as redemption right, anti-dilution and board seat. This kind of adaptation to entrepreneur’s psychology is rare in Europe. Meanwhile, one French fund mentioned about their preference of taking seat in the supervisory board (conseil de surveillance) of the invested company instead of the board of directors (conseil d’administration). They explain that they find it more beneficial to be a hand-off investor,

providing advice and control at arm's length and leaving executive matters to the company management.

Monitoring:

During monitoring period, most of the Chinese and European fund managers interviewed pay monthly or quarterly visit to the company, make weekly status-checking call to the management, and participate in board meeting and general meeting of shareholders. Their main interlocutors during the monitoring period are the key persons of the portfolio company, including the founder, the CEO and the CFO, and sometimes the CTO and the COO too. Several French fund managers mentioned spending more time with the management at the early stage of monitoring after investment, and the time spending decreases if the business plan realizes smoothly. The most important aspects of monitoring, according to our interviewed funds, are “the carrying-out of the entrepreneur’s initial business plan” and “the company’s financial status”, which best reflect the business progress and the execution ability of the management. Other monitoring aspects include the inventory, the validation and control of budget, working capital, pricing, sales force and procurement. In a more general way, fund manager usually participate in the company’s strategy planning, financial reporting, commercial development and key person appointment. Private equity fund can play an important role if the company needs to make an operation of M&A. Some funds interviewed also indicate that they could create necessary tension upon the company management in order to improve the business performance.

With a better understanding of industry standard, efficient governance mechanisms and system control practices, investment managers can greatly shorten the learning-curve of entrepreneurs. They usually have connections to operational partners, industry associations and research centers that can provide inside information and connections to enlarge the company’s market scope. In our survey, one Chinese fund focused on retail industry has operational partners managing department stores, shopping malls and commercial centers, and its portfolio companies could benefit from the fund’s direct connections to their potential business partners and target clients. Sometimes if the management cannot fulfill their development plan and the performance is lagging, the fund could recommend an outsider disposing relevant competence as CEO of CFO to cope with the problems. Exit is crucial for both fund and company. Some private equity funds have built close relationship with

investment banks for IPO and M&A operations; the latter can offer extra capital, services of underwriting and roadshow, list of potential buyers or sellers, etc. For companies undertaking over-border transactions to develop foreign market or acquire foreign technologies, private equity fund is a very helpful assistant who can bring global market vision and international operational partners.

“Guanxi” and relation:

The majority of interviewees think relations refer to all kinds of connections, formal and informal, professional and private, which include government, family relatives, friends, old classmates, business partners, etc. According to them, *guanxi* is a complementary guaranty for doing business and making investment in China, which will help secure the “grey zone” beyond the legal protection, especially since protection of investors in China is relatively lagging behind the fast expansion of its capital market. *Guanxi* can release private and even confidential information, introduce beneficial connections, and various conventions concerned by *guanxi* can keep the best interest shared only among the insiders and help install greater mutual confidence between investors and the invested companies. Sometimes personal relations, such as old business partner, acquaintance since childhood or good friend of a good friend, can provide a better “supervision” than legal text in China. Most managers surveyed consider that private equity is, and has always been, very relational, the same in Europe and the US as in China. Private equity investment is a profession of human relations: the better we know the company and its management team, the more confidence we can offer for its venture. “*Guanxi* means you can get good deals and move on more easily, and *guanxi* can get good deals done and can help in difficult situations, for example knowing the key person can smooth many problems”, said one manager from a foreign currency fund operating in China. Many fund managers underline that *guanxi* is mostly helpful for the sourcing and the exit and can facilitate market and distribution development, but the key of successful investment is still the intrinsic value of the company.

However, relations with the government can be important in China concerning certain aspects (subsidies, favorable conditions) or under certain situations (investments in strategic or controlled sectors, such as energy, resources and financial services). According to our interviewees, some big Chinese private equity funds can often negotiate advantages (land rental reduction, tax reduction, public purchase, participation in public project, introduction to

potential partners, cheaper bank credit, etc.) for its portfolio companies with the local government, because the local government also wants to incite economic dynamism, create more job opportunities and gain more tax revenues. When a fund has the government backing its operations, finding good deals and going through the rest of investment process and finally achieving a good exit by IPO can be much easier than without the government. However, when funds benefit from government support, they also should return the favor by supporting local companies, sometimes in crucial situations, and make all their efforts to make the exit by IPO instead of trade-sale, as the yearly number of IPO companies now becomes a measure of local governor's politic achievement. Therefore, the benefit of keeping a good relation with local government can also be controversial.

Even though private equity funds have more or less the same investment mechanisms, their funding requirements and disposable resources are different and their investment strategies and working method must also have differentiations, just like companies competing in the product market should have product and service differentiations. Some funds, more mature and having established reputation and more resources at their disposal, can more easily handle difficult situations such as fierce competition, tightening market and complicated exit procedure; some other funds, less experienced and lacking established reputation and good deal resources, may have more difficulties to survive and need to apply all their means and relations to save its place. Thus the meaning and the importance of relations may also change according to the individual status of the fund and its managers. Meanwhile, about 3/5 of our Chinese interviewees believe that the role of "guanxi" in private equity investments will endure and may become even more important as the competition will be fiercer and market shares more difficult to gain.

Challenges:

The most cited problem of investing in China according to interviewed funds is too much involvement of government. In the first place, if the local government has established an interest-sharing relationship with a local company, it could adopt certain specific legislations to offer this company protection against any private equity supported competitors. Secondly, many Chinese local governments have also hastily established a series of "industrial funds" which are backed by governments themselves and often contain public money and capital from local banks. This practice is however against the principle of a fair-

play market in which the government should not be involved directly in equity investment but should only support investment activities and industry development through policy guidance and capital supply as fund of funds, in order to avoid unfairness in the market competition. Thirdly, the influence of the government on private equity industry is much too strong. This often produces collective rush for fund creation when a favorable measure is adopted and fast retreat if high expectation fails to realize. On the contrary, government should impose more severe punishment to frauds and violations, given problems of faking information, double-book practice and opportunist behaviors. Some fund managers have expressed their wish to enjoy a more stable political and economic environment, especially to have more consistency in the application of established legislations. They expect clearer investment policy, more transparency and less complicated IPO procedure. And it is necessary to reduce numerous controls on sectors such as finance, energy and natural resources and to provide more tax advantages to industrial investors.

In the coming three to five years, the development trend of private equity in China will probably be market clean-out, reallocation of investment capital and development of secondary market. Healthcare sector has great potential. Low cost manufacture will decline. Lots of consumer goods suppliers and factories will meet great challenge due to continuously increasing labor cost. Funds will need better sector focus to show its value and expertise. Private equity funds will be more polarized while the total business volume will reduce and the market evaluation more reasonable. Many small and middle sized funds that have been doing mainly co-investments will be cleaned out of market, as well as some big funds who have offered high and aggressive evaluation in the last period. On the contrary, there will be further expansion of large and mediate funds which benefit from advantageous resources such as government background, special business channels, regional dominant position, sector experience and rational evaluation. And with the expansion of those funds and the reinforcement of their financing capacity, they will form more industrial funds with significant size and invest more capital in technology R&D and further processing fields.

Based on our survey results and the above analyses in details, we draw out the following table to summarize the differences between Chinese, French and British funds. We stay with the structure of our survey, separating 4 main survey aspects which include several questions inside each part. To distinguish the comparative importance of each country on each

question, we use “+” to indicate a weak importance, “++” a mediate importance, and “+++” a strong importance.

Table 4-14: Differences among Chinese, French and British private equity firms

		China	France	UK
<i>I. Market organization</i>				
1	stable and favorable legal system	+	++	+++
2	geographic concentration of firm headquarter	+	++	+++
3	firm size in terms of committed capital and number of professionals	+	++	+++
4	complexity of investors in terms of type and origin	+	++	+++
5	participation of long term investors	+	++	+++
6	industry focus	+	++	+++
7	education level and working experience	++	+++	+++
8	Influence from the US	+++	+	++
9	importance of government role	+++	+	
10	ideal degree of government involvement in more diversified roles	++	+	
		China	France	UK
<i>II. Investment process</i>				
11	standardized structured working schedule	+	++	++
12	diversity of company targets	++	+++	++
13	concentration on early and growth stage	+++	++	+
14	concentration on late and buyout stage	+	++	+++
15	diversity of deal sourcing channels	+++	++	+
16	screening efficiency	++	++	++
17	average duration of DD	++	+++	+++
18	diversity of DD sources	+++	++	+
19	comparatively difficult to obtain trustworthy and meaningful data	+++	++	+
20	comparatively difficult to build mutual trust	+++	++	+
21	comparatively difficult to forecast industrial trend	+	++	+++
22	comparatively difficult to find good benchmarks	++	+++	++
23	comparatively difficult to compete for good deals	++	++	+++
24	comparatively difficult to deal with fake numbers	+++	+	
25	diversity of financial instruments	++	+++	+++
26	diversity of special clauses	++	+++	+++
27	weight of shareholding	+	++	+++
		China	France	UK
<i>III. Monitoring and values</i>				
28	length of average holding period	++	+++	+++

29	financial control	+++	+++	+++
30	carrying out of business plan	++	+++	+++
31	operating metrics	++	+++	+++
32	incentive system	+	++	++
33	business strategy	+++	+++	+++
34	key appointment	+++	++	++
35	comparatively difficult with information asymmetry	+++	++	++
36	comparatively difficult to win management openness	++	++	++
37	need to improve corporate governance	++	+	+
38	conflicts with other investors and creditors		+	++
39	value on financial resources	+++	+++	+++
40	value on management advice	++	++	++
41	value on distribution	++	+	+
42	value on connection to the government	++		
43	value on exit	++	+	+
44	facilitating M&A	+	++	++
45	assisting on industrial restructuration	+++	++	+
46	promoting technology progress	+++	++	+
47	higher job creation	++	+++	+++
48	better corporate governance	+	+++	+++
49	promoting entrepreneur culture	+	+++	+++
		China	France	UK
IV. Relation				
50	comparative importance to deal flow	+++	+++	+++
51	comparative importance to new market development	+++	++	++
52	comparative importance to exit	+++	++	++
53	comparative importance of personal relations	+++	++	+
53	comparative importance of professional relations	++	+++	+++
54	comparative importance of government relation	++	+	
55	relation will continue to be important in China PE	++	++	++

4.1.4 Comparison with existing literature

Role of government:

White, Gao and Zhang (2005) suggested that particular combination of political, economic and social institutions has important impacts on Chinese venture capital system which emerges and evolves in response to its evolving environment. They advocated less direct government involvement and better legal and corporate environment. The results of our

survey confirm their arguments. We find a higher valuation of the role of government among Chinese funds than European funds, especially British funds. If there is one specific role of government that every fund appreciates, it is the effort on regulations and sanctions to provide a more stable environment of fair competition. However, strong political control makes the market less flexible and restrains financial innovation and the usage of more sophisticated deal structure. The differences between Chinese funds and European funds indicate that, with growing private equity activity and more mature market regulations, Chinese government might reduce their direct involvement and take more responsibility in assuring a stable political, economic and legal system.

Complexity of private equity in China:

Ahlstrom and Bruton (2007) argued that the complexity of venture capital in China is a challenging opportunity and venture capitalists must employ appropriate working methods and build necessary connections and skills to deal with the unique conditions in China. Our study shows similar findings. Private equity market in China today is more complex than those in more developed and mature economies, such as the US, France and the UK. This is mainly due to lack of unified standards, less market specialization, and moreover, the complexity of the fast evolving economic and institutional environment in China. There is higher diversity of deal sourcing channels and of due-diligence sources applied in private equity operation in China. It is comparatively more difficult for Chinese funds to obtain trustworthy and meaningful data, to deal with fake numbers and to build mutual trust. Meanwhile, European funds have higher diversity in investor type and origin, and the majority of their capital is usually from institutional investors. There are more available choices of financial instruments for European funds, thus higher complexity in their deal structure. Different from the complexity of Chinese private equity market resulted from under-development and lack of industry consolidation, the diversity of private equity market in Europe reflects the depth of their market development and a more mature legal structure.

Role of relation and “guanxi”:

In China, having *guanxi* with key individuals both inside and outside the company can greatly help private equity investors to “seal” the investment and to facilitate the monitoring (Ahlstrom and Bruton, 2003). Batjargal and Liu (2002) evaluated the enhancing effects of

social capital on investment process. Their findings show that social capital is supplementary and additive to other determining factors on investment decisions, but only by itself is insufficient for raising venture capital successfully. Our survey observes some different opinions on the role of relation for Chinese funds and European funds. As shown by the survey results, the importance of relation to private equity investment activity is generally recognized by both Chinese funds and European funds. For both Chinese funds and European funds, relation plays a most important role in the deal flow phase, followed by market development phase and exit phase. Meanwhile, the survey also shows that Chinese funds consider personal relation as the most important channel for deal sourcing, while French and British funds consider it less important than intermediary and bank. We explained that we could separate “relation” into “personal relation” and “professional relation”. The former is more important in China while the latter is more important in Europe. They both help to enlarge information access, share resources, bridge common interests, coordinate actions and simplify procedures.

Private equity and institutions:

Prior research has shown that there are similarities between the US and Europe in the venture capital industry which might relate to their strong cultural similarities (Sapienza, Manigart and Vermeir, 1996). On the other hand, Asian culture is significantly different. China’s institutional environment is quite different from the West (Boisot and Child, 1996; Peng and Heath, 1996; Peng, 2000; Peng et al., 2001). According to institutional theory, the behavior of venture capitalists in Asia should be also different from those in the US and Europe, impacted by different local norms. Bruton et al. (2002) found that across Asia, the US and Europe, the most important roles of venture capitalists are their strategic roles; support roles are moderately important, while interpersonal roles are relatively unimportant. They also underlined that, despite sharing similar views on the relative importance of a variety of roles, venture capitalists from the three continents implement those roles in different manners under local institutional conditions. The time spent by an Asian venture capitalist with the CEO of an invested company does not decline gradually as it might in the West, since Asian venture capitalist is concerned about maintaining a close relationship. They attribute the differences to the greater emphasis in Asia on the importance of collective action.

However, some scholars consider regulatory institution to be the most important determinant of investment behavior. Lerner and Schoar (2005) and Kaplan et al. (2006) argued that legal system and the degree of enforcement of contracts have a significant impact on the structure of private equity firms and the way they operate. Private equity managers could use more complex contracts and financial instruments to optimize their investment and their control on the portfolio company if the legal systems provide a strong enforcement of contracts as in Common Law countries. Da Rin, Nicodano and Sembenelli (2005) suggested that three types of policy have noticeable effect on the creation of active capital markets: taxation on corporate capital gains, the opening of new stock markets and measure to promote entrepreneurship. Black and Gilson (1998) argued that the differences in venture capital between countries are based on whether the given country's capital market is bank centered or stock market centered. In Asia, strong regulatory control is unfavorable to stock markets, financial reporting is far from transparent (Backman, 1995), and shareholders are not enough protected (Allen, 2000). The differences of regulatory institutions between Asia and the West have strong impact on how venture capital is managed.

Through our study, we find that there are both similarities and differences among Chinese, French and British funds. As shown by the survey results, the investment process always includes deal sourcing, due-diligence, monitoring and exit, four different phases, but there are differences among funds in how each fund manages these phases and what kind of resource is used to fulfill each phase's needs. Chinese funds and European funds both consider they bring added values to invested companies and contribute to various social values. However, Chinese funds consider themselves to contribute mostly to industrial restructuring and technology progress while European funds emphasize corporate governance and entrepreneurship culture. All the funds recognize the importance of relation in investment activity, especially for deal sourcing phase. Yet, personal and governmental relations are important for Chinese funds while professional relation is important for European funds. Therefore, there is always a combination of general industry codes, particular country codes and consideration for specific deal features in the working of each fund for each deal.

The differences between Chinese funds and European funds seem more obvious regarding cognitive institutions, as defined by Scott (1995). Since they are formed over time through social interactions, cognitive institutions are composed of informal norms that are

rooted in people's instinctive, spontaneous and natural reactions. The results of our survey show the importance of personal relations in the Chinese culture, and the necessity to build mutual trust before any business interest enters in discussion. As a result, Chinese funds tend to keep a close and personal relationship with their entrepreneurs in order to better understand and advice their business. Meanwhile, Chinese entrepreneurs are much more reluctant regarding takeover offers. Different from the Chinese collective culture, European culture emphasizes more the individual right and responsibility. As according to the survey results, European funds prefer to leave operational decisions to the company management and constrain their own roles to supervision and control. During the investment process, professional relationship is much more leveraged than personal relationship, and time and effort spent on each investment tend to decrease with the deal grows more mature and stable. Therefore, we confirm the argument of Bruton et al. (2002) that Chinese culture embraces more the collective action and European culture advocates more the individual action, which have an impact on the roles and behaviors of their venture capitalists.

The findings of our survey also suggest an important impact of regulatory institutions on private equity industry development. Firstly, the legal basis for investor protection greatly influences the participation of institutional investors. Chinese funds interviewed have much less diversity in investor types, while funds in France and in the UK generally have more sophisticated investors. The main investors of Chinese funds are groups and family companies, while in France and the UK they are institutional investors, such as pension funds and funds of funds. Secondly, we see more diversity of capital origin for European funds than Chinese funds. A higher diversity of capital origin indicates more open financial markets and more efficient market regulations. Private equity funds with higher diversity of capital generally show better asset management and risk management practices and have stronger fund track record. Thirdly, the legislation concerning certain specific financial instruments is lagging in China and there are fewer financial instruments available for Chinese funds to make more efficient investment structure. Fourthly, due to less efficient legal system and the "double book" practice, Chinese funds often have to deal with fake information and other problems related to frauds. This increases the difficulty of a good and fluent due diligence operation as well as time and resource consummation. On the aspects of regulatory institutions, Chinese funds operate in a less legally efficient environment compared to European funds.

4.1.5 Conclusion of study

By the means of survey, we have made a comparative study of the institutional differences of private equity funds in China, France and the UK. We collected testimonies from a representative sample of private equity and venture capital funds and brought a dynamic view of the complementary relationship between private equity and other institutions. From the survey results, we can see how the differences rooted in institutional environment impact the way private equity funds work with local companies. Besides inevitable similarities between Chinese funds and European funds, there exist significant differences among them due to the distinct institutional characteristics of their economy. There are stronger involvements of governments and local authorities in Chinese private equity market. Chinese funds need to use more diversified deal sourcing channels and information sources because the market is less organized. The structure of investment is generally simpler in China as less financial instruments are available and Chinese entrepreneurs prefer minority investor in order to ensure their control over the company.

We reexamined the three hypotheses based in the analysis in Chapter 3. We confirm **Hypothesis 1** about the important role of government in private equity investment in China. The Chinese governments at both central and local levels have strong controls on resources, investment opportunities and exits. This particular institutional aspect has a temporary positive impact in the early stage of private equity development in China by assuming an active role to promote its growth. However, our findings also suggest that government's strong controls will jeopardize the healthy growth of private equity and encourage opportunistic behaviors rather than fair market competition to improve industry performance and economic efficiency. The comparison with private equity firms in Europe shows that, with growing investment activity and deepening market structure, the Chinese government must change its focus from direct involvement in operations to building a thorough legal system, imposing severe punishment to frauds and violations, maintaining a stable political and economic environment, and providing more transparency and consistency in their actions.

We also confirm **Hypothesis 2** that relation is comparatively more important for private equity funds in China than in Europe. In particular, we find that personal relations and government connections are more emphasized as sources by Chinese funds, while European funds rely more on business partners such as banks, consultants and other intermediaries.

Besides, the common practice of maintaining good relations in China might help funds ease the problem of mutual trust and reduce potential conflict of interest. Meanwhile, from another perspective, we also underline that both Chinese and European funds seek the leverage of different relations (personal, professional or governmental) and the effects vary according to the concrete investment context. Some Chinese funds managers consider the good match between fund and company to be much more important than relation. Therefore, relation or *guanxi* is more important for private equity in China but it is not decisive in every case.

Our findings support **Hypothesis 3** that compared to European private equity funds, Chinese private equity funds face more challenges and opportunities in the fast developing and transforming Chinese economy. The Chinese economy is still in the middle of its development to a more market-oriented economy. Its economic actors are mixed with transforming SOEs/TVEs, localizing foreign companies and fast growing domestic private ventures. Its industrial structure is undergoing various changes for the purposes of import substitution, value chain upgrading, technology innovation, and other developments to accompany China's social and demographic evolutions. Private equity market in China is evolving alongside the changing institutional environment. With the on-going market integration, only funds possessing comparative advantages in resources, expertise and relations could succeed the growing competition in China.

The development of private equity in China is based on this complex context of growth and transition. Our study shows that, while the fundamentals of private equity investment remain the same for China, France and the UK, there are evidently institutional differences among the funds on various aspects. In order to mitigate risks, Chinese funds actively seek complementary protection by building good relations with local government, founding alliances with business partners and leveraging personal connections. This confirms our previous argument of the "private equity with Chinese characteristics". A sound and well-enforced legal system is still to be accomplished in China, while informal institutions such as local customs and *guanxi* will probably slowly reduce their influence on social and business affairs. By confronting comparatively young Chinese funds with more experienced European funds, we also observed that in a mature market fund organization and investment operation become more standardized, business relations plays a more important role than private relations, and the role of government is much limited.

Section 4.2 A cross-country panel study on factors influencing venture capital and private equity activity

In Chapter 2, we have studied with the method of Principal Component Analysis (PCA) the divergence of economic models over the past decade and we underlined the unique position of China among the 6 economic groups. In Chapter 3, we discussed in details the three main institutional features of the private equity industry development in China, covering aspects of formal institutions, informal institutions, and institutional complementarities. In the last section we studied 20 representative private equity firms in China, France and the UK, which provides us with first-hand information about how private equity investment works in each country in the practice, and what are the crucial aspects and difficulties for professionals from different private equity firms.

In this last section of the thesis, we will conduct a cross-country panel study to examine the main factors impacting private equity investment activity in China, France, the UK and the US. Using the total annual investment amount of venture capital and private equity respectively as a percentage of the annual GDP as our two dependent variables, we include three groups of factors as our independent variables, representing respectively the macroeconomic, entrepreneurial and institutional environment. We construct several models to test the significance and coefficient of each variable. Furthermore, based on the results of our earlier PCA and survey studies, we use country-specific variables to compare the differences between the four countries. This econometric study is complementary to our former analyses, and will deepen our understanding of the institutional characteristics of private equity and their specificities in our sample countries. The introduction of some new entrepreneurial and institutional variables as well as political stability in the study also provides valuable insight on the institutional complementarities between private equity and its institutional environment.

4.2.1 Literature review

Private equity activity has been subject to boom and bust cycle over time, but their economic weight as relative to the total value of one country's stock market has been more or less consistent in the mature market for the past three decades. In the US, the percentage has always varied between 0.1% and 0.2% (Kaplan and Lerner, 2010). In Chapter 1 section 2, we

have shortly reviewed the previous studies about the factors that influence the investment intensity of venture capital and private equity firms. Here we will present a more detailed literature review, recapturing the factors that are suggested to have a significant impact on venture capital investment by different scholars and the economic model that each of them have used in their econometric analysis.

Black and Gilson (1998) indicated a greater vitality of venture capital in stock market-centered system compared to bank-backed system, by contrasting the US with Germany. A simple regression of capital contributions in year $X+1$ against number of venture capital backed IPO in year X shows that there is a statistically significant correlation between number of IPOs in year X and new capital commitments in $X+1$ in the US during the period of 1978-1996. They argued that the main reason of the US competitive advantage in venture capital industry is the existence of a strong IPO market and a more liquid stock market to support investment exit. They also suggested some other alternative explanations that may account for the functional differences between venture capital in the US and in Germany: institutional differences, the role of pension fund financing, differences in labor market regulation, and cultural differences in entrepreneurship.

Gompers and Lerner (1999) examined the forces that affect fundraising by independent US venture capital firms and found that regulatory changes influence venture capital fundraising by affecting pension funds, capital gains tax rates, overall economic growth, R&D expenditures, and firm-specific performance and reputation. They found significant impact of GDP growth on US venture capital investing, but no impact of IPO. They also indicate that lower tax rates on capital gains have strong positive effect on the amount of venture capital investments supply. In their regressions for industry-wide fundraising, the dependent variable was the natural logarithm of the amount of venture capital commitments (in millions of 1994 dollars) from 1972 to 1994. Independent variables included the natural logarithm of the market value of all venture capital-backed firms issuing equity in the previous year (in millions of 1994 dollars), the previous year's real growth in GDP, the return on t-bills in the previous year, the previous year's CRSP value weighted stock market return, a dummy variable that equals one if the Department of Labor clarified the prudent man rule and allowed pension investment in venture capital (equals one for all years after 1978), and the highest marginal capital gains tax rate effective in that year. All regressions were ordinary least squares estimates.

Jeng and Wells (2000) used panel data covering the period of 1986 to 1995 to analyze the determinants of venture capital investing of 21 countries. The dependent variables were early stage investments divided by average GDP, annual new funds raised divided by average GDP, and annual expansion and early stage investments divided by average GDP. The independent variables included IPOs, labor market rigidities (average job tenure of employees with tertiary education, and the percent of labor force that has job tenure greater than 10 years), financial reporting standards, private pension funds, macroeconomic variables (GDP growth, market capitalization growth and exchange rates), and government programs. In their regression analysis, they used a linear specification for the supply and demand schedules of venture capital funds, and estimate the coefficients of the equilibrium specification. In equilibrium, Venture capital funds supplied = Venture capital funds demanded = Venture capital funds investments. Their results show that IPOs are the strongest driver of venture capital investing, but having no effect on early stage investments. Similarly, early stage venture capital investing is negatively impacted by labor market rigidities, while later stage is not. Private pension fund levels can be a significant determinant over time but not for all countries under exam. Government policies can produce a strong impact both by providing regulatory norms and spurring investment when facing economic downturn. GDP and market capitalization growth turn out to be having no significant effect on venture capital investing. They also found that government funded venture capital and non-government funded venture capital have different sensitivities to the determinants.

Schertler (2003) analyzed the driving forces of venture capital activity by using dynamic panel estimations with 14 Western European countries during the time period of 1988-2000. He followed the model of Jeng and Wells (2000) and included institutional regulations, rigidity of labor markets, liquidity of stock markets and human capital endowment as main factors. The dependent variables were investments in early stage and expansion stage. The author scaled investments by the gross domestic product (GDP). For the variables of human capital endowment, the number of research R&D employees in business sector and the number of patent applications were used. As a measure of liquidity of stock markets, the stock markets capitalization % GDP and the number of firms listed % total population were used. The rigidity of labor markets was approximated by the strictness of protection against dismissals either for regular employment only (*LR1*), or for temporary employment only (*LR2*), or for a combination of both (*LR3*). The variable of accounting

standards *AS* was also included. Dynamic panel data techniques were employed to capture the effects of reputation building and experience accumulation of venture capital markets. In addition, the lagged endogenous variable, fixed effects and time effects were considered. Liquidity of stock markets, human capital endowments and the rigidity of labor markets show significant positive impact on venture capital investments in enterprises' early stages. In order to analyze whether the impact of the variables of interest is identical across the countries in the sample, the author then included country-specific coefficients for several subgroups. He first tested whether the British coefficients of stock market capitalization and human capital endowment differ from the coefficients of the rest of the sample. He then separated small countries from large countries. The results show that British coefficient of stock market capitalization is significantly higher than the rest of the sample, while the coefficient of human capital endowment do not differ as much. The coefficients of stock market capitalization and human capital endowment of large countries are much larger than the respective coefficient of small countries.

Romain and De la Potterie (2004) examined the main factors that affect the demand and supply of venture capital of 16 major OECD countries over the period 1990-1998 from three aspects: macroeconomic conditions, R&D and technological opportunity, and the entrepreneurial environment. They used a panel dataset for the econometrical evaluation. Same as previous studies, they argued that changes in the level of VC funds come from changes either in the demand or the supply of VC. The demand comes from the entrepreneurs interested in setting up an innovation startup. The supply corresponds to the share of risk capital provided by private investors, pension funds and banks. The actual amount of VC invested represents the equilibrium between demand and supply. The dependent variable was VC funds divided by GDP. The independent variables included IPO, GDP growth, private pension funds, corporate gains tax rate, R&D expenditures, interest rates, entrepreneurial activity, and labor market rigidity. As entrepreneurial activity and labor market rigidity are indices only available for one year, they introduced them in interaction with other variables. Their model shows that venture capital intensity is highly pro-cyclical, reacting positively and significantly to GDP growth; short-term interest rates have a positive and significant impact on venture capital demand side; corporate income tax rate has a negative impact on supply side. Indicators of technological opportunity, such as the growth rate of R&D investment, the stock of knowledge and the number of patents, have a significantly positive relation with the volume of venture investment. Meanwhile, labor market rigidities will reduce the impact of

the GDP growth rate and of the stock of knowledge on venture capital. They also considered that factors related to the entrepreneurial environment partially explain the substantial cross-country variations in venture capital intensity. They thus suggest that policy makers and industry deciders should simulate venture capital activity by providing more knowledge and improving the entrepreneurial environment.

Félix et al. (2007) extended the equilibrium model of Jeng and Wells (2000) by working with a panel data of 23 European countries from 1992 to 2003. The dependent variables were annual total amount of new fundraising for venture capital (% GDP), annual venture capital total investments (% GDP), annual value of hi-tech investments (% GDP), and annual value of early stage investments (% GDP). The independent variables included GDP annual growth rate, stock market capitalization annual growth rate, R&D expenditures, real interest rate, total entrepreneurial activity index (TEA), price/book ratio, unemployment rate, divestment through IPO, trade sales and write-offs. Following the methodology used by Jeng and Wells (2000), they used both random effect models to capture divergences of the different characteristics between the countries and fixed effect models to capture differences due to the alterations through time in the independent variables. The results of estimation confirm the positive and significant impacts from stock market capitalization growth, long-term interest rate, divestment through IPO and trade sale, on the amount of total venture capital investment (% GDP). Unemployment rate is identified to have a negative relationship with venture capital investments.

Bonini and Senem (2011) added political risk and legal variables in their panel analysis of 16 OECD countries from 1995 to 2002. They used the sum of the early stages and expansion investments expressed in 2002 USD as a measure of venture capital activity. Since the countries differ considerably in size, they adopted a logarithmic transformation, which also allowed capturing non-linear components in the data. They set three groups of independent variables capturing respectively the characteristics of the political, legal and entrepreneurial environment of one country. The first group of political factors contained four items including socioeconomic condition (unemployment, consumer confidence and poverty), investment profile (contract viability/expropriation, profits repatriation and payment delays), internal conflict (civil war threat, terrorism/political violence and civil disorder) and corruption. The second group featured legal origins, including UK origin, French origin, German origin and Scandinavian origin. The third group represented entrepreneurial

environment, by corporate tax rate, labor market rigidities, and the level of total entrepreneurial activity (TEA). To capture the quality and stability of an economy, they included seven control variables: GDP growth, inflation, interest rates, annual number of IPO, total value of stocks traded (% GDP), stock turnover and business expenditures on R&D. They tested the three groups of independent variables through a multivariate panel data regression approach, with the overall amount of VC investment and the subset of early stage investments as dependent variables, both after non-linear logarithmic transformations to cope with the fact that VC investment growth follows a non-linear process. Their results show strong and positive effects of a favorable sociopolitical and entrepreneurial environment on the inception and development of VC investment activity. The level of entrepreneurial activity and the level of R&D have a positive and significant relationship with VC activity both for early stage and overall investments. Socioeconomic conditions and investment profile have strong and positive impact on overall investment but insignificant influence on early stage investment. Inflation, corporate tax rate and labor market rigidity have negatively and significantly affects both early and overall investment activity. Internal conflict and corruption appear to have significant and negative impact only on early stage investment.

Cherif and Gazdar (2011) by applying the panel data technique of estimation, carried out a thorough exam of the determinants of venture capital investments across 21 European countries during 1997-2006. To introduce for the first time variables indicating the institutional environment, they used the index of economic freedom provided by the heritage foundation (1995-2007) as an indicator of institutional quality, which is composed of 10 indicators. The dependent variables were early stage investments, as the sum of startup and seed investments, and funds raises. The explanatory variables included: macroeconomic factors (GDP growth, interest rate, unemployment rate, and stock market capitalization), technological opportunities (R&D expenditures), venture process variables (exit through IPO, trade sale and write-offs), and institutional factors (index of economic freedom). Their results show that GDP growth, market capitalization, R&D expenditures and unemployment rate are the most important macroeconomic determinants of European venture capital investments. The unemployment rate has a strong negative impact on early stage investments. The divestment forms (IPO, trade sale and write-off) have significant effects on neither early stage investments nor funds raised. The study suggests that fund raised and early stage investments are differently affected by institutional quality: while the index of economic freedom has a significant and a positive effect on funds raised, it does not exert significant influence on early

stage investments. Only freedom from corruption affects significantly and positively the early stage investments. Property rights freedom, financial freedom and trade freedom appear to play a major role in determining funds raised.

Table 4-15: Literature summary

Authors and year of publication	Country coverage	Studied period	Dependent variables	factors with significant and positive impact	factors with significant and negative impact	Supplementary information
Black and Gilson (1998)	mainly US and Germany	1978-1996	venture capital contributions	- strong IPO market - liquid stock market		contrasting stock markets with banks
Gompers and Lerner (1999)	US	1972-1994	the natural logarithm of venture capital commitments	- GDP - equity market returns	- corporate gains tax rate	no impact of IPO at aggregate level
Jeng and Wells (2000)	21 OECD countries	1986-1995	- early stage investments % GDP - new funds raised % GDP - expansion and early stage investments % GDP	- strong IPO market (early stage VC) - government policy	- financial reporting standards - labor market rigidities (early stage VC)	- no impact of GDP or market capitalization
Schertler (2003)	14 West EU countries	1988-2000	- investments in early stage % GDP - investments in expansion stage % GDP	- liquid stock market - human capital - labor market rigidities		only affect VC in early stage
Romain and De la Potterie (2004)	16 OECD countries	1990-2001	total amount of venture capital funds % GDP	- GDP growth - short-term interest rates - R&D expenditures - stock of knowledge - number of patents	- corporate tax rate - labor market rigidities	entrepreneurial environment impacts cross-country variations
Félix et al. (2007)	23 European countries	1992-2003	- venture capital new fundraising % GDP - venture capital investment % GDP - total value of hi-tech investments % GDP - total value of early stage investments % GDP	- long-term interest rate - market capitalization growth - divestment through IPO and trade sale	- unemployment rate	GDP growth rate is not statistically significant in most models
Bonini and Senem (2011)	16 OECD countries	1995-2002	the sum of the early stages and expansion investments in logarithm	- strong IPO market - interest rates - R&D expenditures - level of entrepreneurial activity - Socioeconomic conditions - investment profile	- corporate tax rate - inflation rate - labor market rigidities	Internal conflict and corruption significantly and negatively impact early stage VC
Cherif and Gazdar (2011)	21 European countries	1997-2006	- early stage investments (the sum of startup and seed investments) - funds raises	- GDP growth - market capitalization - R&D expenditures	- corruption - unemployment rate	

4.2.2 Data set, methodology and descriptive statistics

4.2.2-1 Data set

Our panel data set contains data for four countries, including China, France, the UK and the US. We have collected the complete statistics for all our dependent and independent variables, covering the time period of 2000 to 2013. The four countries under study all have dynamic venture capital and private equity market. We choose them for this analysis because they represent three different types of economic models of capitalism, as we have demonstrated in Chapter 2, and because we want to compare China's venture capital and private equity industry with other countries from an institutional perspective. Compared to the existing literature, our study uses more recent data and more comprehensive variables. The introduction of institutional variables and political stability as well as more entrepreneurial factors in the study will provide valuable insight on the institutional complementarities between private equity and its environment. We will also run estimations with a crisis factor capturing the effect of the last financial crisis and with country-specific coefficients allowing us to examine institutional differences of private equity investment in our sample countries.

Dependent variables

Although we have been regarding venture capital as a particular form of private equity in this thesis, here in order to capture the possible differences of how private equity and venture capital investors react to the influence of our chosen factors, we will treat venture capital and private equity as two different variables. In this case, we refer to their definitions by EVCA (European Venture Capital Association). According to EVCA, venture capital investments include all investments in seed, startup and later stage venture. The rest, namely investments in growth, rescue/turnaround, replacement capital and buyout, are private equity investments. We have seen in Chapter 1 that there are important technical and operational differences between investing in startup and ventures and investing in growth, expansion or buyout companies. Therefore, it is reasonable to estimate separately the determinant factors for venture capital and private equity investments. Since the growth of venture capital and private equity investments are cyclical and the four countries under study are different by economic size and investment volume, we decided to use the annual investment amount as a percentage of the annual GDP as our dependent variables. The annual GDP we use is the

current US dollar value of GDP of each country, measured at purchaser prices and converted from domestic currencies using single year official exchange rates; because we need GDP values to be relevant with venture capital and private investment numbers, which are expressed in current US dollars. Our two dependent variables are therefore: total annual venture capital investment amount as a percentage of annual GDP amount (vcgdp), and total annual private equity investment amount as a percentage of annual GDP amount (pegdp).

Macroeconomic factors

For the independent variables, we select three groups of determinant factors. The first group is composed of six macroeconomic factors. In the past research, mainly macroeconomic factors were used in the estimation of determinants of venture capital investment intensity. Using our literature review for reference, we include GDP growth rate, short-term interest rate, research and development expenditures (% of GDP) and market capitalization of listed companies (divided by GDP) in the macroeconomic factors. We add two dynamic factors, total value of traded stocks (% of GDP) and economy openness, because we consider that the liquidity of stock market and the level of external openness could also impact private equity investment, and that they are complementary to other static factors. Some of these factors have shown constant results in past research, while others have varied results in different studies. We will test their impact and significance with our new estimations.

- GDP growth rate

The annual GDP growth rate data we use in the study are provided by the World Bank. It is a most common macroeconomic factor reflecting general economic conditions and fluctuations. It is widely used in previous studies on determinants of venture capital activity intensity. When there is a higher GDP growth, economic expansions will create more needs of corporate financing. Meanwhile, higher GDP growth is resulted from higher business profitability, which also increases the financing capacity of the economy. Since economic expansions and related higher profitability affect both the demand and the supply of private equity, we expect a positive relation between GDP growth and private equity investments. Studies of Gompers and Lerner (1999), Romain and De la Potterie (2004) and Cherif and Gazdar (2011) show a significant and positive impact of GDP growth on venture capital

intensity. However, Jeng and Wells (2000) and Félix et al. (2007) found this factor statistically insignificant in their models.

- *Short-term interest rate*

In past research, both long-term and short-term interest rates have been tested as variables. As short-term interest rate is more frequently used and is more closely related to corporate credit, here we use short-term interest rates provided by OECD monetary and financial statistics, which are either the three month offer rate of interbank loans or the rate associated with Treasury bills, certificates of deposit, or comparable instruments, each of three month maturity. Short-term interest rate has a wide influence on the environment of business and investment activity. Investing in bonds is an alternative to private equity investment, and when short-term interest rate increases, the returns of bonds become more interesting than private equity. Meanwhile, increasing interest rate also corresponds to higher costs of loan financing from banks or other financial institutions. Therefore, higher short-term interest rate leads to lower supply and higher demand of private equity. The final relationship between interest rate and private equity investments depends on the aggregated results of negative and positive effects. Bonini and Senem (2011) and Romain and De la Potterie (2004) found a positive relationship between short-term interest rate and venture capital investments.

- *Research and development expenditure (% of GDP)*

Data of research and development expenditure % GDP are provided by the World Bank, as one of the World Development Indicators. Increase in R&D expenditures generally results in more technological innovation and a larger number of potential entrepreneurs. Venture capital is specially adapted and extremely important for financing high risk high profit innovative companies. Therefore, R&D expenditures impact positively the demand of venture capital. As an important number of once venture-backed hi-tech companies have become large listed companies or leading multinationals, many of them also have set up their own corporate venture funds therefore increase the supply of venture capital. For private equity, R&D is also important for mature firms to keep a competitive position in the market; besides, mergers and acquisitions of small ventures by large firms represent an important business line for private equity firms. Therefore, we could expect a significant and positive impact of R&D expenditures on both venture capital and private equity investments.

- Market capitalization of listed companies (divided by GDP)

A country's market capitalization is the total value of all the shares understanding issued by companies listed on the country's stock exchange markets at the time spot of statistic registering. The annual market capitalization is usually the average daily value for the last trading day of the year. Here we use market capitalization values extracted from the data system of Thomson Reuters, which are expressed in current US. Correspondingly, we use annual GDP values in current US for the calculation. A large market capitalization has a positive and direct impact on the economic growth of the economy given that the extra capital increases the investment level considerably (Chang, 2002). Market capitalization growth reflects investors' optimist expectation of the economy, which could correspond to higher supply of private equity capital. On the demand side, private equity investment exit through IPO on stock market offers one of the highest capital returns. Therefore, the market capitalization growth also leads to increase in the demand for private equity. We expect a positive relation between this factor and venture capital and private equity investments.

- Total value of traded stocks (% of GDP)

Total value of traded stocks is a measure widely used for representing the liquidity of the stock markets. This indicator complements the market capitalization ratio by showing whether market size is matched by trading. Liquidity is an important attribute of stock markets because it improves the allocation of capital and enhances prospects for long-term economic growth. Theoretically, total value of traded stocks corresponds to the total amount of transactions of all shares on the stock exchange markets of one country during a year. It can be calculated by summing up the daily transaction amounts of shares listed in one country's stock exchange markets. In the practice, with globalized electronic trading systems, it is impossible to calculate all the share transactions for countries with large stock markets. The data system of Thomson Reuters allows us to obtain the daily transaction volume and price in current US dollars for all the important stock exchange markets, which we use as a proxy for the actual values. Correspondingly, we use annual GDP values in current US dollars for the calculation. We assume that this factor should have a positive impact on venture capital and private equity investments.

- Economy openness

In our study, economic openness of one country corresponds to the weight of its participation in international trade over its GDP. We calculate this rate by dividing the sum of export and import by GDP. Institutional academics who have studied the rapid growth rates in East Asia in the 1990s have found that the impressive growth was partly facilitated by export (Dunning et al., 2006). The export-led growth strategies opened the domestic markets for foreign competition and additionally initiated market access to other countries. Besides receiving foreign direct investment and thereby creating jobs, the countries had the opportunity to export goods. The advocates of liberalization of trade argue that the lack of competition causes prices to increase in the country and the government costs of imposing and collecting tariffs are larger than the benefits for the country (Edwards, 1998; Dollar, 1992). Private equity funds are often managed by globally based teams and they could bring cross-border development strategies. Therefore, we consider that economic openness should have a positive relation with private equity investments.

Entrepreneurial factors

The major independent variables used in past research on venture capital investment are macroeconomic factors and factors related to divestment and investment returns. Few studies have included indicators of entrepreneurial activity (Bonini and Senem, 2011; Félix et al., 2007) in their estimation. Therefore, we consider it important to test if some factors representing the entrepreneurial environment could have a significant impact on private equity and venture capital investment intensity. We introduce five entrepreneurial factors in our study, including corporate income tax rate, household final consumption expenditures growth, domestic credit to private sector by bank % GDP, annual number of IPO, and patent applications by residents. Because private equity and venture capital investments are closely related to entrepreneurial activity, factors having direct impact on business such as corporate taxes, household consumption and bank credit to private sector will also influence the level of equity investment. Annual number of IPO reflects if a country has a strong and dynamic IPO market; a dynamic IPO market provides financial and reputation incentives for successful entrepreneurs and is crucial for the exit of private equity and venture capital investment. Patent application is an indicator of innovation intensity and represents the technological level of entrepreneurial activity.

- Corporate income tax rate

Corporate income tax rate is a very crucial indicator of entrepreneurial environment, because tax rates directly impact the financial results of a company's business operations and the incentives for people to start ventures. A higher corporate income tax rate will reduce a company's net come and its capacity to invest in future projects; it will also discourage people to take risk in pursuing the entrepreneurial activity. The most basic measure of corporate income tax rate is the statutory tax rate. Corporate income taxes are often applied by both central and local governments; and there may also be temporary or permanent supplementary taxes, as well as special tax rules for small and medium-sized enterprises (Devereux and Sørensen, 2006). Between countries, tax competition is also sometimes used as a short-term development policy. The general trend across OECD countries through the last three decades has been a gradual reduction in corporate income tax rates. In this study, we use corporate income tax rates provided by OECD tax database. According to our analysis, we expect to find a significant and negative impact of corporate income tax rates on venture capital and private equity investments.

- Household final consumption expenditure growth rate

Household final consumption expenditure is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It also includes payments and fees to governments to obtain permits and licenses. The World Bank's World Development Indicators provide data on each country's household final consumption expenditure growth across a large time period, which we use in this study. Although this factor might be highly correlated with GDP growth, we still try to test its significance, because it reflects an important aspect of business environment. While GDP growth measures the overall economic dynamism of a country, the revenues created might be allocated for saving instead of consumption or investment in new projects. Therefore, we consider household consumption expenditure growth to have a more direct impact on market demand and entrepreneurial activity. A positive relation should be found between this factor and venture capital and private equity investments.

- Domestic credit to private sector by banks (% of GDP)

Domestic credit to private sector refers to financial resources provided to the private sector by banks and financial corporations through loans, purchases of non-equity securities, trade credits and other accounts receivable. Banking system is the traditional and main financing channel for companies and individuals; it finances production, consumption and capital formation, which in turn affect economic activity and investment. Besides banks, other financial corporations such as leasing companies, money lenders, insurance companies, pension funds, and foreign exchange companies could also provide credit. The composition of credit is likely to vary from country to country. During our data collection, we notice that the UK and the US have a much higher rate of bank credit to private sector in percentage of GDP compared to France and China. Higher availability of credit to private sector represents more and cheaper financial resources for companies to finance their business projects and lower costs for consumers to buy products and services. Apparently this should lead to a better entrepreneurial environment and produce a positive impact on venture capital and private equity investment. However, we should remember that private equity investment is an alternative financing which is complementary to the bank credit. When bank credit is easy to obtain, the equity financing demands from companies will stay low. Therefore, the aggregated impact of banks credit to private sector on the activity of private equity investment depends on which of the supply and demand sides is dominant.

- Annual number of IPO

Annual number of IPO of one country corresponds to the total number of Initial Public Offering by companies listed for the first time on one of the stock exchange markets in the country in a specific year. The data in our study are provided by the Pwc IPO Center, including all the IPO events during 2000-2013. By selecting the same exchange nationality, we sum up how many IPO were realized in one country each year. The link between the IPO market and private equity investments is frequently included in previous studies. IPO is an important exit channel for private equity investment and often represents high financial returns for investors. It is the form of private equity divestments most used in the US and the UK. Here we include all IPO events, not only IPO backed by private equity firms. An economy with a higher number of annual IPO has more dynamic stock markets and stronger activity on corporate financing. Furthermore, an important part of IPO deals are private equity

backed. Therefore, we expect a positive relationship between the number of IPO and the amount of venture capital and private equity investments. Previous studies by Black and Gilson (1998), Jeng and Wells (2000), Félix et al. (2007) and Bonini and Senem (2011) all indicate a significantly positive impact of IPO on venture capital investments.

- Patent applications by residents

Data on patent application by residents are extracted from the database of WIPO. This variable includes both direct and PCT national phase entries. The number of patent applications by residents is a common indicator of the innovation depth of a country and the technological level of entrepreneurial activity. Patent is the formal legal protection for a scientific innovation that might bring economic and social values to its owner. It grants the owner the exclusive property right and other subordinate rights concerning the industrial applications and commercialization of his invention. As higher activity of innovation and industrial upgrading with technology improvement should provide more impetus to economic growth and more opportunities for investment, we expect this factor to contribute positively to the activity of private equity investment and especially to show a significant impact on venture capital intensity.

Institutional factors

Institutional factors were hardly included in previous studies on venture capital and private equity investment. Cherif and Gazdar (2011) were the first to use the index of economic freedom provided by the heritage foundation as an indicator of institutional quality. Their findings indicate that property rights freedom, financial freedom and trade freedom play a major role in determining the funds raised, while only freedom from corruption affects significantly and positively the early stage investments. Meanwhile, institutions are at the center of our study, because they have a fundamental impact on business and investment activities. We have analyzed the different features of formal institutions (laws, legislations, rules) and informal institutions (norms, customs, relations). Considering private equity as a special form of financial institution, we have also demonstrated how private equity interacts with other institutions (government, financial markets, legal systems, labor markets, education system, and innovation system). The UK and the US symbolize the market-based capitalist model; France represents the continental European capitalist model; while China appears to

be an independent model in our PCA study. We have analyzed in details how institutional characteristics of the Chinese economy, especially the role of governments, the role of relations and the transforming economic system, impact the development of private equity in China. We are interested not only in identifying the factors determining the global aggregated level of private equity and venture capital investments, but also in verifying if institutional differences among the four countries produce variations in the investments. It is therefore necessary for us to add institutional factors in our econometric analysis.

We include six institutional factors in the estimation: school enrollment of tertiary education, labor market rigidities, unemployment rate, political stability, urban population growth, and internet users per 100 people as an indicator of infrastructure level. School enrollment of tertiary education indicates the scale of population receiving a higher education. Normally higher level of education will provide better human capital endowment for a country's economic growth, and produce more researchers and entrepreneurs capable of technology and business innovations. Labor market rigidities and unemployment rate are indicators of labor market conditions. With higher labor market rigidity, companies are more reluctant to recruit and business restructuring is more expensive. High unemployment rate is often due to low economic growth, rigid labor market and inappropriate education system, so it is a good indicator of general institutional environment. Urban population growth is closely related to economic growth; it creates both supplies of labor and demands of products and services. We use internet usage intensity to represent the infrastructure level of a country. Some of the institutional factors evidently will have correlations with other variables, but we keep them in the estimation because they could show interesting results and country-specific features. We will use a multiple regression method to separate strongly correlated factors.

- School enrollment of tertiary education (% gross)

The educational level of the workforce affects the growth rate of the country (Stevens and Weale, 2003). It is generally believed that it is beneficial for governments to invest in public education: by increasing investment in education, the skills of the workers will enhance, and consequently the increased skills will contribute to higher economic growth. Instead of using secondary school enrollment rate as in common practice, we use the enrollment rate of tertiary education provided by World Bank's development indicators as independent variable. We consider private equity investment to be more directly related to human capital with

higher level of education, concerning both aspects of technological innovation and managerial competences for companies. We have also seen in our survey on private equity funds, that the majority of partners and managers have an MBA, or Engineer (French *grande école* system), or Master degree. Therefore, we tend to assume a positive relation between the supply of human capital with higher education and private equity investment.

- Labor market rigidities

Labor market legislation is widely used to protect employees from arbitrary, unfair or discriminatory actions by employers. However, in economies with rigid labor markets, an entrepreneur has a smaller incentive to start up a company because of the increased difficulty of hiring and firing, and the related costs and risks, in particular facing economic downturns and financial distress. Under well-protected labor market conditions, people with higher education tend to prefer working for large corporations with good compensation package instead of funding their own companies. Labor market rigidity is also considered unfavorable to private equity investment, which often involves management changes and staff reallocations. Existent literature suggests that venture capital financing in Europe suffers from the rigidity of labor market (Bonini and Senem, 2011; Romain and De la Potterie, 2004). Jeng and Wells (2000) indicated that venture capital in Asia faces the same problem. Only Schertler (2003) found labor market rigidities to impact positively early stage venture capital activity. Following Jeng and Wells (2000), we use the percentage of labor force with tenure greater than 10 years as indicator of the general labor market rigidities. The data are available for France, UK and US in the OECD database. For China, we only managed to obtain the numbers for year 2000 and year 2013 from the information communication of the labor and social security department of the government; as we observe a rather smooth evolution in other countries, we apply the linear incremental model to build proxy data for China. We expect labor market rigidity to impact significantly and negatively private equity investments.

- Unemployment rate

Unemployment rate data are provided by World Bank's development indicators. Institutional academics acknowledge that labor participation and productivity are relevant determinants of economic growth. Higher unemployment rate is often considered a sign of economic downturn. It is therefore probable that unemployment has a negative relation with

the supply of private equity financing. On the demand side, unemployment might provide self-employment incentive and push people to start their own business, hence increase the potential demand of private equity financing. The higher the unemployment rate, the more will be the number of people who probably have incentives to become entrepreneurs. Especially if the government provides incentives and structures to reduce unemployment and encourage self-employment, the demand of venture capital financing will probably increase with unemployment rate. The aggregate relationship between unemployment rate and venture capital investments depends on which one of demand and supply factors dominates. Félix et al. (2007) found a negative aggregate relationship while Cherif and Gazdar (2011) suggested it to be positive.

- Political stability

Political stability in a country is important for economic growth (Arbache et al., 2008; North, 1990). Political risk occurs when the government's rules for doing business in one country, such as regulations on production and price and relative taxation, can be quickly and unexpectedly changed (Henisz, 2000). Brunetti and Weder (1997) demonstrated that there is a negative link between institutional uncertainty and private investment. Yet, political risks were hardly considered in the past research on private equity. Bonini and Senem (2011) were the first to integrate political stability in their study. Their results show strong and positive effects of favorable socioeconomic and investment environment on venture capital investment activity but mixed evidence of the impact of corruption, internal conflict and stability. In our study, we include political stability as one institutional factor. Following Bonini and Senem (2011), we use the PRS index provided by Political Risks Services International Country Guide as indicator for country-specific political stability. It includes six indicators: voice and accountability (VA), political stability and absence of violence (PV), government effectiveness (GE), regulatory quality (RQ), rule of law (RL), and control of corruption (CC). The indicator of voice and accountability represents the level of military in politics and democratic accountability. The indicator of political stability and absence of violence captures four aspects: government stability, internal conflict, external conflict and ethnic tensions. Government effectiveness stands for the bureaucratic quality of a country. Regulatory quality represents the investment profile of an economy vis-à-vis the investors. The indicator of rule of law captures the level of implementation of law and order. In order to integrate the 6 indicators into a single indicator representing country-specific political stability, we create the

variable f1 with the method of principal components. Table 1, Table 2 and Table 3 in Annex 1 are the statistic features of our newly created variable f1. We expect to find a positive relation between political stability and private equity investment.

- Urban population growth (annual %)

We obtain data of urban population growth from the World Bank database. Urban population growth is probably highly correlated with GDP growth. High GDP growth is generally related to growing industrial, commercial and investment activities, which lead to increasing concentration of population in more developed urban areas. From the other side, growing urban population in return increases the supplies of workforce and the demands for products and services. Our analysis in Chapter 3 shows that urban population growth has greatly contributed to the economic growth and business development in China during the past few decades, even though not without negative environmental and social side effects. Therefore, as we want to compare the institutional factors impacting private equity activity in different countries, we decided to include this factor in our econometric study, while separating it from GDP growth in the estimation. Generally, we expect to find a positive impact of urban population growth on private equity investment intensity.

- Infrastructure

There are various indicators measuring the infrastructure conditions of an economy. Since our study focuses on private equity and venture capital investments, which concern more the technological and knowledge-based business activities, we decide to use the rate of internet users per 100 people as our indicator of infrastructure level. The data are provided by World Bank's development indicators. An economy with higher internet user rate must have built more extensive infrastructure to provide electricity, telecommunication, internet connection and corresponding maintenance services to residents and companies. Furthermore, with the fast development of online consumption, there is an increasingly important part of internet-related business growth, especially in the case of venture startups. Therefore, we suppose that there is a positive relation between one country's level of internet usage and the activity of private equity.

Table 4-16: Principal variables, expected impact and data sources

<i>Dependent variables</i>	
vcgdp	Annual venture capital investment amount divided by annual GDP (Sources: VC China by Zero2IPO, VC France and VC UK by EVCA, VC US by PwC/NVCA, GDP current by World Bank)
pegdp	Annual private equity investment amount divided by annual GDP (Sources: PE China by AVCJ, PE France and PE UK by EVCA, PE US by PitchBook, GDP current by World Bank)
<i>Macroeconomic variables</i>	
gdp (+?)	GDP annual growth (Source: World Bank)
intr (+/-)	Short-term interest rates (Source: OECD)
rd (+)	Research and development expenditures % of GDP (Source: World Bank)
mkp (+)	Market capitalization of listed companies divided by GDP (Sources: market capitalization by Thomson Reuters/Datastream, GDP current by World Bank; calculation by author)
sttr (+)	Total value of traded stocks % of GDP (Sources: total value of traded stocks by Thomson Reuters/Datastream, GDP current by World Bank; calculation by author)
open (+)	Economy openness, represented by the annual rate of (export-import)/GDP (Source: World Bank; calculation by author)
<i>Entrepreneurial variables</i>	
tax (-)	Corporate income tax rate (Source: OECD)
csun (+)	Household final consumption expenditure annual growth (Source: World Bank)
cred (+/-)	Domestic credit to private sector by banks % of GDP (Source: World Bank)
ipo (+?)	Annual IPO number by nationality of exchange market (Source: Pwc IPO center/Dealogic)
pat (+)	Total patent applications by applicant's origin (Source: WIPO)
<i>Institutional variables</i>	
hedu (+)	School enrollment of tertiary education % gross (Source: World Bank)
labo (-)	Labor market rigidities % of labor force with tenure over 10 years (Source: OECD; data for China calculated by author)
unem (+/-)	Unemployment rate % total labor force (Source: World Bank)
f1 (+)	Political stability calculated by principal component method (Source: Political Risk Services International Country Risk Guide)
urpp (+)	Urban population annual growth rate (Source: World Bank)
infra (+)	Infrastructure, by the rate of internet users per 100 people (Source: World Bank)

Note: the expected relationship between each independent variable and the dependent variables is indicated in the parentheses. “+” represents an expected positive relationship; “-” represents an expected negative relationship; “?” refers to an insignificant relationship shown in existent literature.

4.2.2-2 Methodology and hypotheses

We use panel data and the method of OLS (Ordinary Least Squares) to estimate the equation and coefficients. The fundamental advantage of a panel data set is that it will allow the researcher great flexibility in modeling differences in behavior across individuals. Our panel data cover four countries, including China, France, the UK and the US. We have two dependent variables: total annual amount of venture capital investments of % GDP and total annual amount of private equity investments of % GDP. We want to examine their relations with 3 groups of independent variables, representing respectively macroeconomic factors, entrepreneurial conditions and institutional environment. The time period of our data is from 2000 to 2013. Therefore we work simultaneously with sectional (4 countries) and time (14 years) observations. The basic structure for analysis of a mixed model is the equation (1) of Gulamhussen (1995):

$$Y_{it} = \alpha_{it} + \beta_{it} X_{it} + \varepsilon_{it} \quad (1)$$

Where $i = 1, \dots, N$ relates to the sections (countries) for one period of time and $t = 1, \dots, T$ relates to the different time periods (years).

Following the model of Jeng and Wells (2000), which was later reused or adapted by Schertler (2003), Félix et al. (2007), Bonini and Senem (2011) and others, we consider two basic equations for the supply side and demand side of private equity investment. As some of our independent variables impact the demand side of investment, some impact the supply side, and some impact both sides, the total quantities of supply and demand are likely to be different. However, at the point of equilibrium, the final investment amount must equal both supply and demand. Therefore, when we solve the equation between supply and demand, we obtain the final model with random effects. We have 3 groups of independent variables, which are not tested all at the same time because of potential statistic problems of multicollinearity. We run multiple tests on each group of independent variables to identify those having a significant impact on venture capital or private equity investment. We include 1 or 2 independent variables from the other two groups as control factors. To keep it simple, we present our regression model in an aggregated equation as the following:

$$\text{Venture capital or Private equity investments \% GDP}_{it} = \alpha \quad (2)$$

$$\begin{aligned} & (\text{macro}) + \beta_1 \text{gdp}_{it} + \beta_2 \text{intr}_{it} + \beta_3 \text{rd}_{it} + \beta_4 \text{mkp}_{it} + \beta_5 \text{sttr}_{it} + \beta_6 \text{open}_{it} \\ & (\text{entrepreneur}) + \beta_7 \text{tax}_{it} + \beta_8 \text{csum}_{it} + \beta_9 \text{cred}_{it} + \beta_{10} \text{ipo}_{it} + \beta_{11} \text{pat}_{it} \\ & (\text{institution}) + \beta_{12} \text{hedu}_{it} + \beta_{13} \text{labo}_{it} + \beta_{14} \text{unem}_{it} + \beta_{15} \text{fl}_{it} + \beta_{16} \text{urpp}_{it} + \beta_{17} \text{infra} \end{aligned}$$

To use OLS for the regression, there are several hypotheses that we should examine their acceptance. The most important hypotheses are the following: degree of freedom, stationarity, homoscedasticity, non serial correlation, and non multicollinearity. For an OLS regression model to be significant and robust, we need at least verify if the four hypotheses have high probability to be true and make necessary data adjustments if the test results indicate the contrary. We first look at the degree of freedom. As we have 4 sections (countries) and 14 observations (years), and for each estimation model we include at most 6 independent variables, therefore there is no problem with the degree of freedom. Next, we run the Levin–Lin–Chu (2002)⁹⁰ test to identify if our panel data are stationary. According to the test results, 7 of our 19 variables are non stationary series, including *vcgdp*, *rd*, *tax*, *pat*, *labo*, *hedu* and *unem*. As we are aware that these data might not be linear, we use natural logarithm transforming to first linearize them. Then we redo the Levin-Lin-Chu test. The results of the second test show that after natural logarithm transforming, *vcgdp*, *rd*, *hedu* and *unem* become almost stationary within our statistical acceptance. Meanwhile, *tax*, *pat* and *labo* are still not stationary after natural logarithm transforming. Even though, the three variables are very important factors for our study and we see from literature review that they were frequently used in previous studies without causing significant problem or statistical bias (Bonini and Senem, 2011; Félix et al., 2007; Romain and De la Potterie, 2004; Schertler, 2003; Jeng and Wells, 2000; Gompers and Lerner, 1999). Therefore we decided to keep the three variables after logarithm transforming in our analysis. Besides, we consider it more comparable to keep the dependent variables *vcgdp* and *pegdp* in the same form, so we also applied logarithm transforming to the latter. We then rewrite our regression equation as the following:

$$\text{Invc}_{it} \text{ or Inpe}_{it} = \alpha \quad (3)$$

$$\begin{aligned} & (\text{macro}) + \beta_1 \text{gdp}_{it} + \beta_2 \text{intr}_{it} + \beta_3 \text{lnrd}_{it} + \beta_4 \text{mkp}_{it} + \beta_5 \text{sttr}_{it} + \beta_6 \text{open}_{it} \\ & (\text{entrepreneur}) + \beta_7 \text{ln tax}_{it} + \beta_8 \text{csum}_{it} + \beta_9 \text{cred}_{it} + \beta_{10} \text{ipo}_{it} + \beta_{11} \text{lnpat}_{it} \end{aligned}$$

⁹⁰ The Levin–Lin–Chu (2002) test is used for identifying if the panel data are stationary. The null hypothesis of the test is that the tested data set contains a unit root, therefore it is not stationary. Here because our panel data is relative small with only 14 years of observation, we could not be too strict with the stationary requirement. Therefore, we choose to reject the null hypothesis at a *p*-value level lower than 15%.

$$(institution) + \beta_{12} lnhedu_{it} + \beta_{13} lnlabo_{it} + \beta_{14} lnunem_{it} + \beta_{15} fl_{it} + \beta_{16} urpp_{it} + \beta_{17} infra$$

We then run the Breusch-Pagen test to identify if there is heteroscedasticity in our variables. The null hypothesis of the test is homoscedasticity. We run two tests including all independent variables and *lnvc* or *lnpe* respectively. The test for all independent variables with *lnvc* produces an *F*-value of 1.54 and a *p*-value of 0.1327, and the test for all independent variables with *lnpe* has an *F*-value of 1.71 and a *P*-value of 0.0848. Therefore, we could accept the null hypothesis of homoscedasticity for all our variables. For examining serial correlation, we use Wooldridge's test applied by Drukker (2003). The test for all independent variables with *lnvc* produces an *F*-value of 5.888 and a *P*-value of 0.0936, and the test for all independent variables with *lnpe* has an *F*-value of 64.421 and a *P*-value of 0.0040. We can accept the null hypothesis of no first-order autocorrelation for the group with *lnvc*, but we have to reject the null hypothesis for the group with *lnpe*. To correct the problem of serial correlation, Baltagi and Wu (1999) suggest a transformation of the data by running the regression with "xtregar" to removes the first-order autocorrelation. Multicollinearity could happen in particular when the variables are highly correlated, which will cause problem for the standard OLS. We control for multicollinearity risk by performing the test of Variance in Factors (VIF). The highest VIF values are *lnhedu* (101.65), *lnrd* (85.22), *urpp* (70.91) and *f1* (57.41); the mean VIF is 33.79. The results indicate that there are important correlations among our variables, and we should avoid putting highly correlated variables in the same estimation model.

Before carrying out our estimations, we should also decide whether to use random effects model or fixed effects model for the regression. The random effects model allows us to capture differences due to the alterations through time in the independent variables. Using random effects model, we could identify factors having a significant impact on the aggregated level of venture capital or private equity investments of the four countries across our time of observations. The fixed effects model, on the other side, allows the unobserved individual effects to be correlated with the included variables. It can capture differences due to the alterations within the sections. In order to verify whether fixed effects model or random effects model is more appropriate for our study, we conducted the test of Hausman⁹¹ with *lnvc*

⁹¹ The test of Hausman (1978) is used to differentiate between fixed effects model and random effects model in panel data. The null hypothesis is that the estimator under OLS is indeed an estimator of the true parameters. If this is the case, there should be no systematic difference between the estimators under random effects and fixed

or *lnpe* and all the independent variables. The test results with the first group (*lnvc*) show a chi-square value of 11.17 and a *p*-value of 0.7404, and with the second group (*lnpe*) a chi-square value of 1.7 and a *p*-value of 1.000. Therefore, we can accept the null hypothesis for regressions with *lnvc* or *lnpe* as dependent variable, which corresponds to a preference for the random effects model for both.

Furthermore, to complete the regression study, we introduce two types of dummies. The first is “crisis”, which represents the factor of financial crisis and is equal to 1 for the years of 2007, 2008, 2009 and 2010. Considering the important influence of last financial crisis on economic and financial activities, we integrate this crisis dummy to see if it has a significant coefficient and if it impacts the coefficients of other independent variables for interpreting differently the evolution of dependent variables across the period of crisis. The crisis broke out around the summer of 2007 and made large economic damages in 2008 and 2009, and its impact on financial markets and global economy actually lasted until after 2010. We also observe a substantial drop in global private equity investments in 2008, and the level of investment was not recovering until 2010. Therefore, we define 2007, 2008, 2009 and 2010 as our period of crisis in this study, and use the variable value equal to 1 to mark the presence of a crisis for each country under study.

Secondly, on the basis of previously established multiple models, we test with country-specific coefficients the institutional differences in venture capital and private equity investments among our sample countries during the same period. In the study of Schertler (2003), the author used country-specific coefficients to test if the British stock market capitalization and the human capital endowment differ from the coefficients of the rest of the sample, and if the coefficients of the stock market capitalization and the human capital endowment of large countries are significantly different from the respective coefficient of small countries. Following this example, we apply the same method to certain variables that we consider crucial to distinguish the characteristics of the four countries. We will separate two countries groups for each variable with the help of dummy variables to examine their respective country-specific coefficient by rerunning the previously statistically efficient

effects. If there exists a systematic difference in the estimates, the efficient estimator is biased. The test result should be checked against the critical values distribution of the chi-squared table with correspondent degree of freedom $k-1$. If the chi-square value is superior to the critical value, then the null hypothesis must be rejected and the model with fixed effects should be used. We can also compare if the *p*-value is above the level of confidence to accept null hypothesis.

models. For some independent variables of economic growth and market size, we want to test if China has a more significant coefficient compared to other three countries. For some variables of market dynamism and institutional efficiency, we want to test if the UK and the US (market-based model) represent a larger coefficient compared to China and France (more rigid and less efficient markets). The reexamination with country-specific or group-specific variables will help us to distinguish the economic and institutional characteristics of the four sample countries. In the following part, we will shortly present the main results of the descriptive statistics and correlation relations of our variables.

4.2.2-3 Descriptive statistics

Table 5 in Annex 1 shows the statistics of our initial variables before any transforming, including 2 dependent variable and 17 independent variables. For the four sample countries during the period of 2000 to 2013, the average venture capital investments were about 0.139% of the amount of GDP, with the lowest level at 0.0258% (UK 2013) and the highest level at 1.022% (US 2000). Venture capital investment has seen a large drop in the UK since the year of crisis 2007, while private equity investment keeps an important volume. The year 2000 was the peak year for global venture capital activity caused by the technology gold rush and soaring market valuation, just before the internet bubble breaking up in 2001, and US has shown the historically highest level in this year. For both China and France, venture capital investment over GDP generally stays at a relatively lower level below 0.1%; their highest level is respectively 0.177% in 2011 for China and 0.205% in 2000 for France.

For private equity investment over GDP, the average number is 0.711% for the period of 2000 to 2013, with the lowest level at 0.0294% (China 2002) and the highest at 4.432% (US 2007). The general level of private equity investment over GDP is above 1% for the US and around 1% for the UK. The year 2007 was the peak year for global private equity activity due to favorable macroeconomic environment and cheap bank loans, which led to a quite high level of private equity investment over GDP in particular for the US and the UK. Comparatively, China and France have a much lower level of private equity investment of between 0.2% and 0.4% of GDP since 2004; France had a historical peak of 0.606% in 2007. These statistics show that important variations exist among countries across our observation period for both venture capital and private equity investment relative to GDP. For the US and

the UK, we also observe significant within variations mainly due to market bubbles. China and France show small within variations because of their low level.

From the table we can see that some of the independent variables have important variations. Short-term interest rates (intr) show the lowest level at 0.17% and the highest level at 6.46%. The financial market development indicators of market capitalization (mkp) and total value of traded stocks (sttr) also have significant variations. As for group, we notice that the entrepreneurial factors generally show large variations: household final consumption expenditure growth rates (csum) vary between -3% and 11%; bank credits to private sector % GDP rates (cred) score from 82% to 206%; number of IPO (ipo) has lowest level of 0 and highest of 392; patent application (pat) vary between 26445 and 734096. For institutional factors, school enrollment at tertiary (hedu), internet usage (infra) and political stability (f1) show significant variations. Important variations across countries mean an unequal level of development among sample countries; important variations across time indicate a cyclical nature of during the period of observations. The easiest way to explain these variations is that we are looking at 4 countries of different institutional and entrepreneurial contexts and that they are applying different growth models. The fast economic growth and social progress in China during this period have also contributed to important variations in the data.

Table 6 and Table 7 in Annex 1 show the statistics of correlations. We examine the correlations of each dependent variable with all the independent variables respectively. Non stationary variables are adjusted with natural logarithm before correlation estimation. In Table 6 we see that venture capital investment over GDP (lnvc) has a strong and positive correlation with number of IPO (ipo) and a strong and negative correlation with labor market rigidities (lnlabo). This is relevant with previous research findings and our expectations. Venture capital investment (lnvc) is positively but less significantly related to market capitalization (mkp), short-term interest rates (intr) and corporate tax rate (lntax). In total, the correlations between lnvc and independent variables are generally not very strong. In Table 7 we see that private equity investment over GDP (lnpe) has strong and positive correlations with bank credits (cred), interest usage (infra), higher education (lnhedu), market capitalization (mkp) and political stability (f1). Similar to venture capital, private equity is strongly and negatively correlated with labor market rigidities (lnlabo). Meanwhile, contrary to our expectations, both venture capital and private equity activity have negative correlations with GDP growth (gdp), economy openness (open) and urban population growth (urpp). The statistics give us a first

hint at the relationships between venture capital and private equity intensity and our 3 groups of independent variables, which we will test later with multiple regression models.

Previously by running the test VIF we found that most of our independent variables have strong correlations with each other. Variables with highest VIF values are tertiary school enrollment (lnhedu), R&D expenditure (lnrd), urban population growth (urpp), political stability (f1) and labor market rigidities (lnlabo). We note four most important aspects in the correlations. First, from Table 6 and Table 7 in Annex 1 we see that GDP growth (gdp), consumption (csum), higher education (lnhedu), political stability (f1), urban population growth (urpp), and internet usage (infra) are strongly inter-correlated. This indicates that GDP growth is closely related to institutional factors, and institutional factors are strongly complementary as argued in Chapter 2. Second, tertiary school enrollment (lnhedu) has strong and positive correlations with many variables, especially R&D expenditure (lnrd), stock market capitalization (mkp), corporate income tax rate (lntax), political stability (f1) and infrastructure (infra). This shows that human capital resource is widely related to macroeconomic, entrepreneurial and institutional factors. Meanwhile, it is strongly and negatively correlated with urban population growth (urpp), GDP growth (gdp) and household consumption growth (csum). This might be explained by the fact that developed economies which generally have higher education level usually have lower growth rates in GDP, consumption and urban population compared to developing economies. Third, R&D expenditure (lnrd), tertiary school enrollment (lnhedu) and corporate tax rate (lntax) are strongly and positively correlated with each other. Higher education level offers better human capital for R&D and business development; higher corporate tax probably pushes companies to innovate for higher market premium, and governments generally provide tax reduction to encourage R&D. For the rest, we notice that market capitalization (mkp) has a strong and positive relationship with political stability (f1) and a strong and negative relationship with labor market rigidities (lnlabo). Bank credit to private sector (cred) is also strongly and negatively correlated with labor market rigidities. Unemployment has strong and negative correlations with both GDP growth (gdp) and household consumption growth (csum).

We have three groups of independent variables, capturing the comprehensive conditions and environment for venture capital and private equity activity. Since we found multicollinearity with the VIF test and we observe general strong correlations of our independent variables in the above statistic estimations, we will build multiple regression

models with different independent variables and avoid putting variables with strong correlations in the same model. We first run various regressions with the group of macroeconomic variables to identify those among them having a significant impact on venture capital investment; while testing macroeconomic variables, we include one or two independent variables from entrepreneurial and institutional variables as control factor. Then we do the same for the two other groups. We also test regression models including the crisis dummies. When one model includes at least 4 independent variables with all of them showing a statistically significant result, and when the F and R² values confirm model significance and robustness, we keep this model in our multiple regression presentation. In the end, we obtain 9 estimation models for venture capital and 8 estimation models for private equity.

4.2.3 Regression results and analysis

Tables 4-17 and 4-18 present respectively the results of the estimation of our multiple regression models. Table 4-17 includes 9 models for the estimation of venture capital investment with different groups of variables. Table 4-18 includes 8 models for the estimation of private equity investment with mixed variables. For venture capital, we obtained significant results with group variables: Models 1, 2 and 3 are estimations with macroeconomic variables, using 1 or 2 control variables from entrepreneurial or institutional factors; Models 4 and 5 estimate entrepreneurial variables, using 1 or 2 control variable from macroeconomic or institutional factors; Models 6, 7 and 8 estimate institutional variables, with 1 or 2 control variables from macroeconomic or entrepreneurial factors. For private equity, many variables in the same group didn't show significant statistics when tested together, therefore the models are more mixed. The last model in each table tests the crisis variable. From the two tables, variables being significant in various models include: short-term interest rate, stock market capitalization, total value of traded stocks, economy openness, corporate income tax rate, bank credit to private sector, number of IPO, labor market rigidities, and infrastructure. Meanwhile, some of them have small coefficients, such as stock market capitalization, total value of traded stocks and number of IPO. Crisis variable shows a significant and negative impact on venture capital and a positive impact on private equity. We will analyze the multiple regression results and compare our findings with existent literature. There are also differences between venture capital and private equity regression, which we will try to provide explications.

Table 4-17: Determinants of venture capital investments over GDP

	Invc	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	
		macroeconomic			entrepreneurial		institutional			crisis	
macroeconomic	<i>gdp</i>	0.033* (1.85)									
	<i>intr</i>	0.144**** (3.79)	0.094** (2.11)	0.162**** (4.33)	0.134**** (3.44)					0.147**** (5.03)	
	<i>lnrd</i>		1.558**** (5.18)	0.809*** (3.04)							
	<i>mkp</i>		0.005**** (4.59)	0.002*** (2.76)	0.003**** (3.53)						
	<i>str</i>	0.002*** (3.08)	0.001** (2.03)					0.001** (2.07)		0.002** (2.45)	0.001** (2.39)
	<i>open</i>	-2.837**** (-5.90)		-2.502**** (-5.41)						-2.135**** (-4.29)	
entrepreneurial	<i>lntax</i>				2.506**** (7.08)			1.412**** (4.23)		1.709**** (5.91)	
	<i>csum</i>			0.112**** (4.69)	0.113**** (4.64)	0.106*** (2.61)					
	<i>cred</i>	-0.010*** (-2.98)			0.005*** (2.97)						
	<i>ipo</i>					0.003*** (3.19)		0.003**** (5.29)		0.002*** (3.00)	
	<i>lnpat</i>					0.188** (2.43)					
institutional	<i>lnhedu</i>						1.267**** (5.16)				
	<i>lnlabo</i>	-2.802**** (-3.50)					-1.464* (-1.89)	-1.846**** (-3.54)		-1.160*** (-3.22)	
	<i>lnunem</i>						-0.776* (-1.90)		-1.436**** (-4.68)		
	<i>f1</i>					0.246**** (3.93)		0.096** (2.04)			
	<i>urpp</i>								-0.321**** (-3.58)		
	<i>infra</i>		-0.016**** (-4.25)					-0.023**** (-6.35)	-0.015**** (-5.47)		
	<i>crisis</i>									-0.412*** (-3.24)	
	<i>constant</i>	9.889*** (3.02)	-3.941**** (-17.80)	-2.931**** (-6.91)	-1.662**** (-3.48)	-5.181**** (-5.91)	0.593 0.20	6.452*** (3.13)	1.673** (2.42)	3.125** (2.37)	
	F	25.92	19.88	30.45	28.31	22.22	28.21	38.54	20.08	34.67	
	R ²	0.760	0.665	0.753	0.739	0.635	0.738	0.794	0.612	0.809	
	Adj R ²	0.731	0.632	0.728	0.713	0.601	0.712	0.773	0.581	0.786	

Note: Dependent variable is venture capital investment amount % GDP ln transformed (Invc). Independent variables include 3 groups: macroeconomic variables, i.e. GDP growth (gdp), short-term interest rates (intr), R&D expenditure % GDP ln transformed (lnrd), stock market capitalization over GDP (mkp), total value of traded stocks % GDP (str), economy openness (open); entrepreneurial variables, i.e. corporate income tax rate ln transformed (lntax), household consumption growth (csum), bank credits to private sector % GDP (cred), annual number of IPO (ipo), patent applications by residents ln transformed (lnpat); institutional variables, i.e. school enrollment of tertiary education ln transformed (lnhedu), labor market rigidities ln transformed (lnlabo), unemployment rate ln transformed (lnunem), political stability (f1), urban population growth (urpp) and internet usage rate as infrastructure (infra). "crisis" denotes a dummy variable representing financial crisis, equal to 1 for the year 2007, 2008, 2009 and 2010. ****, ***, ** or * denotes respectively the coefficient being significant at the 0.1%, 1%, 5% or 10% level. t statistic is given in parentheses under each coefficient.

Table 4-18: Determinants of private equity investment over GDP

	lnpe	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
macroeconomic	<i>gdp</i>	0.118** (2.16)							0.094*** (2.59)
	<i>intr</i>		0.112** (2.46)						
	<i>lnrd</i>			1.474**** (3.88)					
	<i>mkp</i>			0.003** (2.38)	0.007**** (4.98)	0.004*** (2.90)			
	<i>sttr</i>						0.0015** (1.98)		
	<i>open</i>	2.016** (2.41)	2.477** (2.45)	2.157*** (2.92)					2.362*** (3.25)
entrepreneurial	<i>lntax</i>		2.530**** (3.34)		2.492**** (3.63)	1.201* (1.74)			
	<i>csum</i>	-0.265**** (-3.73)							
	<i>cred</i>		0.018**** (4.62)	0.015**** (5.30)			0.010*** (3.12)	0.011**** (3.41)	
	<i>ipo</i>	0.003*** (2.69)		0.0014* (1.74)			0.0014* (1.76)	0.0015** (2.02)	0.001 (1.24)
	<i>lnpat</i>	0.364**** (3.35)				0.221* (1.66)		0.376**** (3.30)	
institutional	<i>lnhedu</i>						0.776**** (4.51)		1.308**** (4.99)
	<i>lnlabo</i>	-3.401**** (-4.18)							-2.502*** (-2.98)
	<i>lnunem</i>					-0.953** (-2.28)			
	<i>f1</i>							0.306**** (5.33)	
	<i>urpp</i>				0.712**** (3.88)				
	<i>infra</i>		0.013*** (2.96)		0.032**** (5.80)	0.022**** (4.24)			
	<i>crisis</i>								0.290* (1.72)
	<i>constant</i>	6.492* (1.92)	-2.668**** (-3.51)	-5.778**** (-7.71)	-2.361*** (-2.82)	-2.218 (-0.88)	-5.544**** (-9.31)	-8.056**** (-5.98)	2.026 (0.57)
	Wald chi2	87.22	94.58	105.47	73.67	72.02	88.53	112.05	95.71
	overall R ²	0.752	0.763	0.743	0.737	0.734	0.750	0.767	0.757

Note: Dependent variable is private equity investment amount % GDP ln transformed (lnpe). Independent variables include 3 groups: macroeconomic variables, i.e. GDP growth (gdp), short-term interest rates (intr), R&D expenditure % GDP ln transformed (lnrd), stock market capitalization over GDP (mkp), total value of traded stocks % GDP (sttr), economy openness (open); entrepreneurial variables, i.e. corporate income tax rate ln transformed (lntax), household consumption growth (csum), bank credits to private sector % GDP (cred), annual number of IPO (ipo), patent applications by residents ln transformed (lnpat); institutional variables, i.e. school enrollment of tertiary education ln transformed (lnhedu), labor market rigidities ln transformed (lnlabo), unemployment rate ln transformed (lnunem), political stability (f1), urban population growth (urpp) and internet usage rate as infrastructure (infra). "crisis" denotes a dummy variable representing financial crisis, equal to 1 for the year 2007, 2008, 2009 and 2010. We use GLS regression with AR(1) disturbances due to serial correlations. ****, ***, ** or * denotes respectively the coefficient being significant at the 0.1%, 1%, 5% or 10% level. t statistic is given in parentheses under each coefficient.

4.2.3-1 Macroeconomic factors

GDP growth rate appears to have significant and positive impact on venture capital and private equity investment, as shown by Model 1 in Table 4-17 and Models 1 and 8 in Table 4-18. Its coefficients are respectively 0.033, 0.118 and 0.094. Various studies have concluded a significant and positive impact of GDP growth on venture capital investment, including Gompers and Lerner (1999), Romain and De la Potterie (2004) and Cherif and Gazdar (2011). However, Jeng and Wells (2000) and Félix et al. (2007) came to the opposite conclusion. Although our results seem to agree with the first conclusion, we only have 3 valid models and the nature of our data could have brought a bias. In fact, the US and the UK have larger private equity investment activity while their GDP growth rates are much lower than China. In the 3 models that GDP growth has a significant coefficient, we can see that comparatively GDP growth has a larger impact on private equity investment than venture capital investment. Therefore, we tend to accept GDP growth rate as a determinant factor of venture capital and private equity intensity under certain reservation.

Short-term interest rate has a significant and positive impact on both types of investment, in particular on venture capital. The coefficients in different models vary between 0.094 and 0.162, indicating that the influence of short-term interest rate is at a low level but not ignorable. In the data presentation we discussed that this variable could show a positive or a negative aggregate relationship with final investment, because it impacts negatively the supply side and positively the demand side. Based on our estimations, the aggregate impact of short-term interest rate was positive for our sample countries over the observation period; therefore during this period, when short-term interest rate increased, it strongly reduced the availability of loans by banks or other financial institutions in the four countries, which pushed entrepreneurs to turn to venture capital and private equity firms as an alternative financial source; even though higher interest rate also increased the costs of capital allocated to venture capital and private equity firms thus reduced the supply, the aggregate effect was positive. This has higher validity for venture capital, because the risk character of ventures makes banks especially sensitive to interest rate changes; furthermore, private equity investment usually takes the form of buyout in the US and the UK, which is negatively impacted by interest rate increase due to the use of debt leverage. Our results confirm the findings of Romain and De la Potterie (2004) and Bonini and Senem (2011).

Results on R&D expenditures indicate a strong and positive relationship with venture capital and private equity investment. With significant level at 1%, the coefficients vary between 0.809 and 1.558; no evident difference between its relation to venture capital and private equity is shown by the results. The estimations confirm our expectation that a higher level of R&D expenditure would result in both more technological innovation and a larger number of potential entrepreneurs thus an increased demand of capital, and more listed technological companies setting up their venture fund thus an increased supply of capital. This also holds true for private equity investment. Romain and De la Potterie (2004), Bonini and Senem (2011) and Cherif and Gazdar (2011) suggested a significant and positive impact of R&D expenditures on venture capital intensity. Meanwhile, in our study only 3 models show statistically significant evidence of this relationship, which is probably due to the problem of multicollinearity between R&D expenditure and other variables.

Both stock market capitalization over GDP and total value of traded stocks % GDP have statistically significant and positive impact in venture capital and private equity investment. They both have 6 models out of 17 that strongly confirm their statistical validity. Our estimation results confirm a significant and positive relationship between financial market dynamism and venture capital private equity activity, as suggested by Black and Gilson (1998), Gompers and Lerner (1999), Schertler (2003), Félix et al. (2007) and Cherif and Gazdar (2011). Meanwhile, their economic effects are not strong enough as the coefficients are very small in all models: coefficients for market capitalization over GDP vary between 0.002 and 0.007, and those for traded stocks % GDP are between 0.001 and 0.002. This might indicate that the existence of large and liquid stock exchange markets don't directly lead to the accomplishment of more venture capital and private equity investment.

The variable of economy openness shows interesting results. It has a very significant and strongly negative relationship with venture capital investment, while its impact on private equity appears to be significantly and strongly positive. Economy openness corresponds to the weight of export and import over GDP. Theoretically, higher economy openness is related to higher economic growth, more entrepreneurial activity and more developed financial markets, hence a better macroeconomic environment for venture capital and private equity investment. This hypothesis is confirmed by estimations on private equity, as the coefficient is significant in 5 models and generally at a level above 2. The estimations on venture capital, however, indicate that more open an economy less dynamic would be its venture capital activity. One

possible explanation is that higher economy openness could increase consumption for foreign products instead of local products especially for technological products. Another explanation is the fact that some developing countries, e.g. China, have higher economy openness because they export large amount of low added-value products and import more expensive industrial and technological products.

4.2.3-2 Entrepreneurial factors

Corporate income tax rate directly impacts the financial results of company business and the incentives for starting ventures. Normally, higher tax rate decreases the net profits of companies and reduce the incentives for entrepreneurship. Existent literature suggests a significant and negative relationship between corporate income tax rate and venture capital investment (Gompers and Lerner, 1999; Romain and De la Potterie, 2004; Bonini and Senem, 2011). Surprisingly, our estimations show this relationship to be significant and positive for both venture capital and private equity investment. In fact, corporate tax rate is generally used as an anti-cyclic policy: when the economic growth slows down, government reduces tax rate to stimulate business activity. Therefore, tax rates could go in the same direction as economic level and investment level, while its effect on the latter usually lags. Among our sample countries, the US has the highest corporate income tax, following by France, and China has the lowest rates; the regression results might also be biased by the data and our study focus.

Household final consumption expenditure growth rate turns out to be statistically significant only for venture capital and has a positive impact on the investment amount. The coefficients vary between 0.106 and 0.113, showing a small but evident influence on venture capital intensity. Its impact on private equity is less statistically evident as it appears significant in one model only, with the coefficient being negative. Compared to GDP growth, we consider that household consumption growth rate has a more direct impact on market demand and entrepreneurial activity. However, due to few valid models, we can only accept its significance under reservation.

Domestic credit by banks to private sector % GDP shows generally significant results in our regressions and has a positive impact on both venture capital and private equity investment. The coefficients are generally small, varying between 0.1 and 0.2, and are comparatively larger for private equity than venture capital. The results confirm our

expectation as higher availability of credit to private sector represents more and cheaper financial resources for companies and lower costs for consumers, producing a positive impact on investment. Meanwhile, venture capital and private equity is a financing source alternative to bank credit; abundant bank credits reduce the demand for equity financing demands. Therefore, the aggregated impact could also change depending on conditions. This might be an explanation for the coefficient being negative in Model 1 of venture capital.

The annual number of IPO is statistically significant for both venture capital and private equity regressions. The factor is present in 8 models out of 17 in total. Meanwhile, its direct impact on investment is not economically strong as the coefficients vary between 0.001 and 0.003, showing a small influence on the dependent variable. In previous studies, Black and Gilson (1998), Jeng and Wells (2000) and Félix et al. (2007) suggested that strong IPO market has a significant and positive impact on venture capital activity, while Gompers and Lerner (1999) and Cherif and Gazdar (2011) reported no impact of IPO. Bonini and Senem (2011) also considered active IPO market to be significant in determining cross-country variance in early stage venture capital investments. In our estimations, IPO number, stock market capitalization, and total value of traded stocks, as three factors related to financial market dynamism and liquidity, all have high significant level but comparatively small coefficient. This might indicate a weak connection, contrary to theory and expectation, between private equity financing and market financing for listed companies.

In accord with our expectation, patent applications by resident appear to have a significant and positive impact on private equity, although less strong for venture capital. Models 1, 5 and 7 in Table 4-18 show its coefficient to be between 0.221 and 0.376, while Model 5 in Table 4-17 figures a coefficient at 0.188. Patent application intensity is an indicator of the level of innovation, which is directly related to industry development and entrepreneurial activity. Our findings confirm the similar conclusions of the studies of Schertler (2003) and Romain and De la Potterie (2004).

4.2.3-3 Institutional factors

It is difficult to test the significance of school enrollment of tertiary education because it is strongly correlations with many other variables. We managed to include it in 1 model in Table 4-17 and 2 models in Table 4-18. The results show that it has significant and positive

impact on both venture capital and private equity investment; its coefficient figures at a value level around 1. This confirms our expectation that a higher general level of human capital should lead to more active venture capital and private equity investment. This institutional factor has not, however, been frequently used in previous studies on private equity. Only Schertler (2003) identified human capital endowment, approximated by the number of R&D employees and the number of patent applications, as an important driving force for early stage venture capital investments in Europe.

Both venture capital and private equity investments are significantly and negatively impacted by labor market rigidities. Moreover, its impact is highly valid in 6 models out of 17 and its coefficients are particularly strong in our estimations: in Models 1, 6, 7 and 9 in Table 4-17 the coefficients of labor market rigidities vary between -1.16 and -2.8, and in Models 1 and 8 in Table 4-18 it is respectively -3.4 and -2.5. Therefore, we can confirm a strongly negative influence of labor market rigidities on both venture capital and private equity activity. This conclusion is in accord with Romain and De la Potterie (2004) and Bonini and Senem (2011). Our findings disagree with the study of Schertler (2003) which found a significant positive relation between labor market rigidities and early venture capital investment. We also differ from Jeng and Wells (2000) who suggested that labor market rigidities have significant negative impact only on early stage venture capital investing and not on later stage investment.

The variable of unemployment turns out to be significant in 2 models for venture capital and 1 model for private equity. In Models 6 and 8 in Table 4-17 its coefficient is -0.776 and -1.436 at a significance level of 10% and 1% respectively; in Model 5 in Table 4-18 its coefficient is -0.953 at a significance level of 5%. In previous studies, Félix et al. (2007) found a significantly negative impact of unemployment on venture capital investments and Cherif and Gazdar (2011) suggested a strong negative influence of unemployment on early stage venture capital activity. Our regression results seem to indicate strong and negative impact on both venture capital and private equity investment; but due to few valid models, we can only confirm this relationship with certain reservation.

Political stability is a compound variable built on 6 different aspects of political risks and governance efficiency. Due to problem of multicollinearity, we only obtained 3 valid models with the variable of political stability included. Models 5 and 7 in Table 4-17 show that political stability has a significant and positive impact on venture capital investment; the

coefficients figure respectively 0.246 and 0.096. Model 7 in Table 4-18 indicates the same relation for private equity, with a coefficient of 0.306. Although we only have 3 models out of 17 which include this factor as a valid determinant, it is interesting to underline a possible significant and positive influence of political stability on the intensity of venture capital and private equity activity. The only reference study on the impact of political risks on venture capital is by Bonini and Senem (2011), who found strong and positive effects of favorable socioeconomic and investment environment and strong and negative effects of internal conflict and corruption on venture capital activity. Our findings confirm similar relationships.

Urban population growth does not show very relevant results from our estimations. Model 8 in Table 4-17 indicates a strong and negative impact on venture capital while Model 4 in Table 4-18 indicates a strong and positive impact on private equity. Yet we hoped to find a positive impact for both types of investment. Meanwhile, the VIF test suggested this variable to be highly correlated with other variables. Therefore, we consider that it is probably not a very good explanatory factor for venture capital and private equity investment.

Infrastructure, presented here by the internet usage intensity, has very significant results in both types of investment. However, it seems strange that it has a negative impact on venture capital and a positive impact on private equity. Models 2, 6 and 8 in Table 4-17 show that its coefficients vary between -0.015 and -0.023 for venture capital; Models 2, 4 and 5 in Table 4-18 figure the coefficients to be between 0.013 and 0.032. Hence, this factor seems both statistically and economically valid as an important determinant of venture capital and private equity investment. However, while the results for private equity confirm our expectation that better infrastructure and higher level of internet usage should stimulate business activity and investment, this relation does not hold true for venture capital. A significant and continuous improvement in the percentage of people using internet for all our sample countries has not been effective to prevent the general decline of venture capital investment intensity except for China (see Graph 1 in Annex 1). We take this fact as an indication that compared to certain other variables, infrastructure is less important for venture capital and private equity intensity. Therefore, we can only accept it as determinant factor under reservation.

4.2.3-4 Crisis dummy

We find interesting results for the two models in which the crisis dummy is included for the years of 2007, 2008, 2009 and 2010. Model 9 in Table 4-17 shows a significantly negative impact of crisis on venture capital activity, with the coefficient figuring -0.412; while Model 8 in Table 4-18 indicates a less significant but positive impact of crisis on private equity activity, with the coefficient at 0.29. Generally, when crisis happens there is a serious economic downturn and financial markets become less dynamic. Especially during the last financial crisis, bank credits were greatly reduced, leading to a shortage of financial source for companies, especially SOEs and more risky venture startups. Therefore, the demand for venture capital and private equity might actually increase during this period. However, the huge financial losses due to the crisis could also result in some LPs not able to fulfill their capital commitment to funds and oblige fund managers to prefer safer late stage investments, which could lead to a preference towards private equity investment instead of venture capital investment. Meanwhile, we notice that there might be a time-differentiated effect of crisis on our sample countries: in our data, both venture capital and private equity investment % GDP peaked in 2006 for France and the UK, while their peak came in 2007 for the US and 2011 for China. Therefore, we consider that the country variations could cause bias in the estimation results.

We use Table 4-19 to summarize the regression results. As shown by the table, the most important determinant factors are by order labor market rigidities (lnlabo), economy openness (open), corporate income tax rate (lntax), R&D expenditure (lnrd), patent applications (lnpat), short-term interest rate (intr), stock market capitalization (mkp), total value of traded stocks (sttr), number of IPO (ipo), school enrollment of tertiary education (lnhedu) and bank credit to private sector (cred). Among them, labor market rigidities have the strongest and negative impact on both types of investment; economy openness has strongly negative impact on venture capital and strongly positive impact on private equity; corporate income tax rate has strong positive impact on both types of investment; short-term interest rate and bank credit to private sector have less important coefficients; stock market capitalization, total value of trade stocks and number of IPO have the smallest coefficients, indicating that their direct impact is not strong. Note that economy openness and corporate income tax rate might be biased by the data specificity. Besides, some factors showing certain impact but lack statistical robustness are accepted as determinant factors with reservation, which include GDP growth (gdp),

household consumption growth (csum), unemployment rate (lnunem), political stability (f1) and infrastructure (infra). We reject the variables of urban population growth (urpp) and crisis dummy (crisis) due to irrelevant results probably caused by strong bias in our data.

Table 4-19: Summary of regression results

Var.	No. of valid models and <i>coeff.</i> range for VC	No. of valid models and <i>coeff.</i> range for PE	Important factor or not (Y/N)	Positive/negative impact (+/#)	Agree with authors	Disagree with authors
Gdp	1 0.033	2 0.094-0.118	Y with reservation	++	Gompers and Lerner (1999), Romain and De la Potterie (2004), Cherif and Gazdar (2011)	Jeng and Wells (2000), Félix et al. (2007)
Intr	5 0.094-0.162	1 0.112	Y	++ (vc)	Romain and De la Potterie (2004), Bonini and Senem (2011)	
Lnrđ	2 0.829-1.558	1 1.474	Y	+++	Romain and De la Potterie (2004), Bonini and Senem (2011), Cherif and Gazdar (2011)	
Mkp	3 0.002-0.005	3 0.003-0.007	Y	+	Félix et al. (2007), Cherif and Gazdar (2011)	Jeng and Wells (2000)
Sstr	5 0.001-0.002	1 0.0015	Y	+ (vc)	Black and Gilson (1998), Gompers and Lerner (1999), Schertler (2003)	
Open	3 (-2.135)-(-2.837)	5 1.319-2.477	Y with bias risk	### (vc) +++ (pe)	No previous studies	
Lntax	3 1.412-2.506	3 1.201-2.530	Y with bias risk	+++		Gompers and Lerner (1999), Romain and De la Potterie (2004), Bonini and Senem (2011)
Csum	3 0.106-0.113	1 -0.265	Y with reservation	++ (vc) ## (pe)	No previous studies	
Cred	2 (-0.01)-0.005	4 0.01-0.018	Y	++	No previous studies	
Ipo	3 0.002-0.003	5 0.001-0.003	Y	+	Black and Gilson (1998), Jeng and Wells (2000), Félix et al. (2007), Bonini and Senem (2011)	Gompers and Lerner (1999), Cherif and Gazdar (2011)
Lnpat	1 0.188	3 0.221-0.376	Y	++	Schertler (2003), Romain and De la Potterie (2004)	
Inhedu	1 1.267	2 0.776-1.308	Y with reservation	++	Schertler (2003)	

Lnlabo	4 (-1.16)-(-2.802)	2 (-2.502)-(-3.401)	Y	###	Romain and De la Potterie (2004), Bonini and Senem (2011)	Jeng and Wells (2000), Schertler (2003)
lnunem	2 (-0.776)-(-1.436)	1 -0.953	Y with reservation	##	Félix et al. (2007), Cherif and Gazdar (2011)	
f1	2 0.096-0.246	1 0.306	Y with reservation	++	Bonini and Senem (2011)	
Urpp	1 -0.321	1 0.712	N		No previous studies	
Infra	3 (-0.013)-(-0.023)	3 0.013-0.032	Y	# (vc) + (pe)	No previous studies	
Crisis	1 -0.412	1 0.29	N		No previous studies	

4.2.4 Models with country-specific and group-specific coefficients

In the study of Schertler (2003), the author uses country-specific coefficients to test if the British stock market capitalization and the human capital endowment differ from the coefficients of the rest of the sample and if the coefficients of the stock market capitalization and the human capital endowment of large countries are significantly different from the respective coefficient of small countries. Inspired by this research, to serve the purpose of comparing China with the other three countries in our study, especially in the institutional aspects, we decide to make a series of tests to verify if the impact of some variables is identical cross the four countries under study.

4.2.4-1 institutional basis

In Chapter 2, we have carried out a PCA study between China and several groups of economies, as defined by the varieties of capitalism. Our findings show that market competition, labor market flexibility and well-developed financial markets are the corner stone of market-based economies, represented by the US and the UK. The two countries both have good levels of institutional soundness and market efficiency. Characterized by deregulated markets, low levels of business coordination and limited state intervention, their economies are primarily determined by market-oriented decision-making and inter-firm relationships. Meanwhile, due to market emphasis on short-term profits, there is a co-existence of strong financing in hi-tech industry and innovation, and low expenses on vocational training and long-term investments in employees. Therefore, we presume that the

UK and the US will distinguish themselves by having high coefficients with the variables of stock market capitalization, higher education, and political stability in our estimations of venture capital and private equity investments.

France is a member of the continental European model group. Characterized by high employment protection and coordinated wage-bargaining, France has less favorable institutional and market conditions compared to the US and the UK. Large French firms use the education system to provide general skills and train only firm-specific skills at the firm level. With the deregulation of financial markets and labor markets since the late 1980s, many state-owned companies were privatized and the system for industrial credit was reorganized around the stock market. Still, the most important institutional characteristic of the French economy is the long-term collaboration through a complex network of large firms, small-size suppliers, banks, capital from family houses and institutional investors, and political dirigents, top managers and engineers formed by the same elite education system. In our estimation models, we assume France to have comparatively higher coefficients with the variables of higher education and labor market rigidities, and lower coefficients with stock market capitalization.

The Chinese economy model enjoys significantly positive size effects through its strong specialization in the manufacture with middle or low technology and moderate innovation, and an important part of international trade and foreign investment in the GDP growth. Manufacturing employment is high in China but evolution in services industries is slow and concentrated in below-average productive sectors such as retail and personal services. In the past decades, the economic growth in China is much related to fast urban development. The labor market efficiency, enforcement of property rights, and market efficiency in China are still to be improved. Compared to developed economies, China has better indicators of market size and macroeconomic environment, and worse indicators of technology readiness, education & training, and infrastructure. In the economic competitiveness rankings, China has closest scores with the US concerning market size and health and primary education, and with France concerning institution and goods market efficiency. We expect hence to find comparatively high coefficient for China with GDP growth, household consumption growth, urban population growth, infrastructure and labor market rigidities, and low coefficient with high education and political stability.

Therefore, we compare the variations between China, France, the US and the UK for the variables of: GDP growth (*gdp*), stock market capitalization (*mkp*), household consumption growth (*csum*), school enrollment for tertiary education (*lnhedu*), labor market rigidities (*lnlabo*), political stability (*f1*), urban population growth (*urpp*) and infrastructure (*infra*). Although urban population is found to be insignificant in previous models, we still include it here as it won't impact other variables. For the 6 variables *gdp*, *csum*, *lnhedu*, *f1*, *urpp* and *infra*, we create two groups including respectively China and the three other countries. For the 2 variables *mkp* and *lnlabo*, we create two groups with one including the UK and the US, and the other including China and France. We then rerun the previously validated 17 models by replacing each of the 8 variables with new country-specific variables. We expect to find higher coefficients for China with its country-specific variables of *gdp*, *csum* and *urpp*, higher coefficient with the variable *mkp* for the group UK and US, higher coefficients for the group France and China with the variables of *lnlabo*, and lower coefficients for China with *lnhedu*, *f1* and *infra*. The results of new regressions are shown in Table 4-20 and Table 4-21.

4.2.4-2 New regression results

In Table 4-20, China has a country-specific coefficient of 0.318 for GDP growth, much higher than the other three countries of 0.042, even though the level of significance is at 10%. However, in Table 4-21, Model 1 shows the opposite with China having a coefficient at 0.083 and the rest at 0.182, under significance level of 5%; Model 8 doesn't show significant results. Therefore, China might have a statistically stronger coefficient for GDP growth rate compared to other countries but the effect is only visible for venture capital.

Estimation results for the group-specific coefficients of stock market capitalization confirm our expectation. The differences are particularly strong for venture capital regressions: the coefficients for the group UK and US are between 0.001 and 0.003, and for the group France and China between -0.002 and -0.0002; although the significance levels are not strong except for one model. In the table of private equity regressions, the differences between the two groups are smaller, but the significance levels are much stronger. We could confirm that the stock market capitalization variable of the UK & US group has significantly stronger impact on both venture capital and private equity activity than the same variable of the France & China group.

Table 4-20: Determinants of venture capital investments over GDP with specific coefficients

	lnvc	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
		macroeconomic			entrepreneurial		institutional			crisis
macroeconomic	<i>gdp*D1</i>	0.318* (1.64)								
	<i>gdp*(1-D1)</i>	0.042 (0.99)								
	<i>intr</i>	0.149**** (3.37)	0.146**** (3.82)	0.175**** (4.59)	0.143**** (3.75)					0.165**** (4.78)
	<i>lnrd</i>		1.811**** (7.17)	0.977**** (3.50)						
	<i>mkp*D2</i>		0.002 (1.57)	0.001 (1.07)	0.003** (2.00)					
	<i>mkp*(1-D2)</i>		-0.002 (-1.50)	-0.0004 (-0.23)	-0.0002 (-0.12)					
	<i>sttr</i>	0.002*** (2.98)	0.001** (2.27)					0.0016** (2.26)	0.002** (2.45)	0.0016**** (2.59)
	<i>open</i>	-2.809**** (-5.30)		-2.016**** (-3.44)					-2.009**** (-3.34)	
entrepreneurial	<i>lntax</i>				2.706**** (5.52)			1.828**** (4.17)		1.771**** (5.99)
	<i>csum*D1</i>			0.104**** (3.88)	0.106**** (3.81)	0.037 (0.50)				
	<i>csum*(1-D1)</i>			0.115** (2.45)	0.090 (1.53)	0.170*** (3.32)				
	<i>cred</i>	-0.009** (-2.40)			-0.00002 (-0.01)					
	<i>ipo</i>					0.003*** (3.01)		0.003**** (5.13)		0.002*** (2.98)
	<i>lnpat</i>					0.203** (2.46)				
institutional	<i>lnhedu*D1</i>						0.413 (0.89)			
	<i>lnhedu*(1-D1)</i>						0.817** (2.50)			
	<i>lnlabo*D2</i>	-2.245 (-1.06)					-1.545 (-0.59)	0.191 (0.11)		0.591 (0.33)
	<i>lnlabo*(1-D2)</i>	-2.283 (-1.16)					-1.529 (-0.63)	0.013 (0.01)		0.441 (0.27)
	<i>lnunem</i>						-0.918* (-1.87)		-1.439**** (-4.65)	
	<i>f1*D1</i>					0.110 (0.61)		0.272**** (3.52)		
	<i>f1*(1-D1)</i>					0.096 (0.76)		0.218* (1.77)		
	<i>urpp*D1</i>								-0.283** (-2.13)	
	<i>urpp*(1-D1)</i>								-0.148 (-0.32)	
	<i>infra*D1</i>		-0.028**** (-3.74)					-0.006 (-0.45)	0.012 (1.62)	
	<i>infra*(1-D1)</i>		-0.018**** (-5.78)					-0.024**** (-6.41)	-0.021**** (-7.32)	
<i>crisis</i>									-0.419*** (-3.29)	
<i>constant</i>	7.829 (1.02)	-3.212**** (-14.17)	-2.965**** (-7.05)	-0.342 (-0.38)	-5.296**** (-5.46)	3.052 (0.34)	0.085 (0.01)	1.452 (1.60)	-2.960 (-0.48)	
F	18.71	25.80	22.83	22.18	16.09	18.80	35.13	15.83	29.86	
R ²	0.761	0.790	0.769	0.764	0.663	0.762	0.857	0.613	0.813	
Adj R ²	0.720	0.759	0.735	0.729	0.622	0.721	0.832	0.574	0.786	

Note: Dependent variable is venture capital investment amount % GDP ln transformed (lnvc). Independent variables include 3 groups: macroeconomic variables, i.e. GDP growth (gdp), short-term interest rates (intr), R&D expenditure % GDP ln transformed (lnrd), stock market capitalization over GDP (mkp), total value of traded stocks % GDP (sttr), economy openness (open); entrepreneurial variables, i.e. corporate income tax rate ln transformed (lntax), household consumption growth (csum), bank credits to private sector % GDP (cred), annual number of IPO (ipo), patent applications by residents ln transformed (lnpat); institutional variables, i.e. school enrollment of tertiary education ln transformed (lnhedu), labor market rigidities ln transformed (lnlabo), unemployment rate ln transformed (lnunem), political stability (f1), urban population growth (urpp) and internet usage rate as infrastructure (infra). "crisis" denotes a dummy variable representing financial crisis, equal to 1 for the year 2007, 2008, 2009 and 2010. D1 refers to the country dummy for China; in the case of China, D1 is equal to 1. D2 refers to the group dummy for UK and US; in the case of UK or US, D2 is equal to 1. ****, ***, ** or * denotes respectively the coefficient being significant at the 0.1%, 1%, 5% or 10% level. t statistic is given in parentheses under each coefficient.

Table 4-21: Determinants of private equity investments over GDP with specific coefficients

	lnpe	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
macroeconomic	<i>gdp*D1</i>	0.083 (1.16)							0.130 (1.57)
	<i>gdp*(1-D1)</i>	0.182** (2.28)							0.055 (1.05)
	<i>intr</i>		0.111** (2.46)						
	<i>lnrd</i>			1.491**** (3.52)					
	<i>mkp*D2</i>			0.003** (2.25)	0.007**** (4.25)	0.003*** (2.65)			
	<i>mkp*(1-D2)</i>			0.002 (0.96)	0.005** (2.06)	0.003 (1.40)			
	<i>sttr</i>						0.001 (1.24)		
	<i>open</i>	3.018**** (3.45)	2.874** (2.43)	2.163*** (2.87)				3.055**** (3.96)	1.275* (1.73)
entrepreneurial	<i>lntax</i>		2.573**** (3.41)		2.717**** (3.55)	0.882 (0.80)			
	<i>csum*D1</i>	-0.255*** (-2.72)							
	<i>csum*(1-D1)</i>	-0.200** (-1.98)							
	<i>cred</i>		0.019**** (4.59)	0.015**** (3.45)			0.009*** (3.04)	0.015**** (4.13)	
	<i>ipo</i>	0.002** (2.04)		0.0014* (1.75)			0.0014* (1.81)	0.002*** (2.84)	0.0016* (1.70)
	<i>lnpat</i>	0.529**** (4.39)				0.275 (1.21)		0.291** (2.47)	
institutional	<i>lnhedu*D1</i>						1.210** (2.48)		1.508**** (3.53)
	<i>lnhedu*(1-D1)</i>						1.052*** (3.12)		1.522**** (4.98)
	<i>lnlabo*D2</i>	-0.084 (-0.03)							0.357 (0.14)
	<i>lnlabo*(1-D2)</i>	-0.348 (-0.15)							0.114 (0.05)
	<i>lnunem</i>					-0.930** (-2.06)			
	<i>fl*D1</i>							0.464**** (5.17)	
	<i>fl*(1-D1)</i>							-0.079 (-0.44)	
	<i>urpp*D1</i>				0.568*** (2.73)				
	<i>urpp*(1-D1)</i>				0.474 (0.83)				
	<i>infra*D1</i>		0.006 (0.46)		0.042**** (3.53)	0.015 (0.68)			
<i>infra*(1-D1)</i>		0.012*** (2.58)		0.029**** (4.52)	0.021**** (3.97)				
<i>crisis</i>								0.322* (1.80)	
<i>constant</i>	-7.506 (-0.77)	-2.881**** (-3.48)	-5.733**** (-6.65)	-1.499 (-1.30)	-3.126 (-0.82)	-6.617**** (-5.20)	-7.607**** (-5.72)	-8.792 (-0.98)	
Wald chi2	115.10	98.75	109.72	78.90	83.67	93.35	122.14	129.83	
overall R ²	0.796	0.764	0.743	0.760	0.736	0.754	0.794	0.780	

Note: Dependent variable is private equity investment amount % GDP ln transformed (lnpe). Independent variables include 3 groups: macroeconomic variables, i.e. GDP growth (gdp), short-term interest rates (intr), R&D expenditure % GDP ln transformed (lnrd), stock market capitalization over GDP (mkp), total value of traded stocks % GDP (sttr), economy openness (open); entrepreneurial variables, i.e. corporate income tax rate ln transformed (lntax), household consumption growth (csum), bank credits to private sector % GDP (cred), annual number of IPO (ipo), patent applications by residents ln transformed (lnpat); institutional variables, i.e. school enrollment of tertiary education ln transformed (lnhedu), labor market rigidities ln transformed (lnlabo), unemployment rate ln transformed (lnunem), political stability (fl), urban population growth (urpp) and internet usage rate as infrastructure (infra). "crisis" denotes a dummy variable representing financial crisis, equal to 1 for the year 2007-2008, 2009 and 2010. D1 refers to the country dummy for China; in the case of China, D1 is equal to 1. D2 refers to the group dummy for UK and US; in the case of UK or US, D2 is equal to 1. We use GLS regression with AR(1) disturbances due to serial correlations. ****, ***, ** or * denotes respectively significant at the 0.1%, 1%, 5% or 10% level. t statistic is given in parentheses under each coefficient.

At first look, household consumption growth rate does not show significant differences between the coefficient for China and the coefficient for the other three countries. For venture capital, only in one model China has a higher coefficient of 0.106 against 0.09. However, if we make country-specific comparisons, China probably still has the highest coefficient among the four countries under study. For private equity, the negative impact of consumption growth on investment is significantly stronger for China than the group of three other countries. Therefore, we consider that the household consumption growth of China contributes more to the activity of venture capital than any other country in our study, while it strongly discourages the activity of private equity more than the sum of the rest countries.

The differences between China and the other countries concerning the variable of higher education are not significant. For venture capital, the coefficient of China is half of the coefficient of other three countries, while for private equity, they are very close. The institutional factor of higher education in China impacts private equity activity at the same level as in France, the UK and the US.

For labor market rigidities, we separate two groups of UK & US and France & China. The regression results do not provide supportive statistics for our expectation. Not only the group-specific variables show insufficient significance levels in most models, but also the differences between the coefficients of the two groups are not indicating a stronger impact of France & China group. Moreover, the impact on venture capital and private equity even becomes positive in 3 models. Therefore, we tend to consider that there is no systematic difference between the group UK & US and the group France & China concerning the impact of their labor market on venture capital and private equity activity.

On the contrary, the variable of political stability shows unexpected results. Among 3 models, except 1 model with insignificant results, the 2 others both indicate a significantly stronger coefficient for China compared to the three other countries. The differences are 0.272 against 0.218, and 0.464 against -0.079. Although the compound indices of political stability show China to be at a comparatively lower level than the three other countries, the index has been mildly improved for China and France during our period of observation, while it has decreased in the cases of the UK and the US. Hence China's political stability evolution has exercised more positive effect on venture capital and private equity activity.

Even though in our previous regressions, urban population growth was considered an inappropriate explanatory factor, we still try to see if there are important differences between China and the other countries. Apparently the coefficient for China is significantly larger than the other three countries, whether when it is negative for venture capital or when it is positive for private equity. This confirms our expectation, although we cannot accept the variable as a valid determinant factor for venture capital and private equity intensity.

New regressions on the variable of infrastructure seem to more or less confirm our expectation of a lower coefficient for China. Among 6 models, only in 2 models China has significantly stronger coefficient than the other three countries. The impact of infrastructure continues to be negative for venture capital and positive for private equity as in previous regressions. Meanwhile, if we make country-specific comparisons, China probably still has the highest coefficient among the four countries under study.

To sum up, concerning the 8 variables chosen as indicators of country variations, China has the strongest coefficients for impact of GDP growth on venture capital activity, for household consumption growth's positive impact on venture capital and negative impact on private equity, for political stability's positive effect on both venture capital and private equity, and for the impact of infrastructure. China also has significantly larger coefficients for the variable of urban population growth, although it is not validated as a determinant factor. The institutional factor of higher education in China impacts private equity activity at the same level as in France, the UK and the US. The stock market capitalization of the UK and the US is contributing more to the positive impact on venture capital and private equity than France and China. Meanwhile, there is no systematic difference between the group UK & US and the group France & China as we supposed concerning the impact of their labor market on venture capital and private equity activity.

4.2.5 Conclusion of study

Our study is a cross-country panel study on determinant factors of venture capital and private equity investment, which covers the period of 2000 to 2013 and includes four countries of different economic models. Compared to existent literature, we have introduced new variables in our estimations and we have systematically examined all the main factors

reflecting macroeconomic, entrepreneurial and institutional environment of our studied countries. We have also considered the impact of the last global financial crisis of 2007-2012, which has not been analyzed before given that our reference studies stop at 2006. Furthermore, we have tested country-specific coefficients for several variables, characteristic of certain economic models, to verify if their differences are significant and thus representing important institutional differences among our studies countries. Only random effects models are used in our study, based on the results of the Hausman test.

According to our results, the most important determinant factors are: 4 macroeconomic factors, short-term interest rate, R&D expenditure, stock market capitalization, total value of traded stocks, and economy openness; 4 entrepreneurial factors, corporate income tax rate, bank credit to private sector, number of IPO, and patent applications; 2 institutional factors, school enrollment of tertiary education and labor market rigidities. Investment activity is most strongly influenced by labor market rigidities, economy openness and corporate income tax rates. Stock market capitalization, total value of traded stocks and number of IPO, contrary to our expectation, have comparatively weak influence. GDP growth, household consumption growth, unemployment rate, political stability and infrastructure also impact venture capital and private equity activity but are less statistically robust. No significant impact of crisis is identified in our study probably due to strong country variations. With country-specific variables, we have identified institutional differences relevant to our previous analysis. China, as an economic model emphasizing growth and size, has the strongest coefficients for GDP growth, household consumption growth, political stability and infrastructure. UK and US, representing the market model, have significantly stronger coefficient for stock market capitalization than France and China. Although we expected a stronger impact of labor market rigidities from France and China than UK and US, no systematic difference is found.

Conclusion of Chapter 4

Chapter 4 comprises two sections of two complementary empirical studies. The first section presented the first study with a microeconomic perspective. We analyzed 20 representative private equity funds operating in China, France and the UK, based on information directly collected from fund managers by the means of survey. Our findings confirmed the three institutional characteristics of private equity in China proposed by our

analysis in Chapter 3: **Hypothesis 1** about the important role and strong involvement of government in private equity investment in China; **Hypothesis 2** about the influence of guanxi and Chinese funds' emphasis on personal relations and government connections; **Hypothesis 3** about the interactions between private equity funds and the institutional environment and the challenges and opportunities that they face in the transforming Chinese economy. From these results, we suggest that besides inevitable similarities between Chinese funds and European funds, there exist significant differences among them due to the distinct institutional characteristics of their economy. Chinese funds need to seek government support, use more diversified deal channels and information sources because the market is less organized. The structure of investment is simpler in China because there are less financial instruments and Chinese entrepreneurs prefer minority investor in order to ensure their control over the company. Meanwhile, both Chinese and European funds seek to leverage relations and sources to facilitate their operation. Government connections and guanxi are more important for private equity in China but they are not decisive in every case.

The second section presented the second study with a macroeconomic perspective. We conducted a cross-country panel study covering the period of 2000 to 2013 to examine the main factors impacting private equity investment activity in China, France, the UK and the US. We included three groups of independent variables, representing respectively the macroeconomic, entrepreneurial and institutional environment. According to our results, private equity investment activity is most strongly influenced by labor market rigidities, economy openness and corporate income tax rates. Stock market capitalization, total value of traded stocks and number of IPO, contrary to our expectation, have comparatively weak influence. GDP growth, household consumption growth, unemployment rate, political stability and infrastructure also impact venture capital and private equity activity but are less statistically robust. No significant impact of crisis is identified in our study. Furthermore, we have identified institutional differences among the countries relevant to our previous analysis. Private equity investment in China is more strongly impacted by factors of growth and economic size, including GDP growth, household consumption growth, political stability and infrastructure. The UK and the US have significantly stronger coefficient for stock market capitalization.

Private equity market in China is evolving alongside its changing institutional environment. Our theoretical and empirical studies show that, while the fundamentals of

private equity investment remain the same for China and more developed countries, e.g. France, the UK and the US, there are evidently institutional differences among the funds on various aspects. In order to mitigate risks, Chinese funds actively seek complementary protection by building good relations with local government, founding alliances with business partners and leveraging personal connections. Therefore, private equity funds have to adapt their working method to the particular institutional conditions of China. This is the “private equity with Chinese characteristics”. With further economic reforms and a better enforced legal system, the private equity market in China will grow mature and investment operation will become more standardized. The role of the Chinese government regarding private equity must change from direct involvement to more regulatory responsibility. The importance of *guanxi* will probably reduce gradually. Moreover, the determinant factors of private equity investment change their impact when the institutional conditions vary according to country. The market-based model of the US and the UK and the hybrid capitalist model of China also manifest different institutional characteristics regarding private equity activity. Interactions between private equity, a special financial institution of the modern capitalism, and other crucial institutional domains reflect both the nature of institutional complementarity and the fundamental features of each economic model.

General conclusion

This thesis constitutes a thorough study on the development and the institutional characteristics of private equity funds in China. Under the framework of institutional analysis and following the logic of the varieties of capitalism, we compared private equity funds in China with funds in more developed economies. As mentioned in the general introduction, private equity is a particular financial institution which operates according to certain mechanisms, requires suitable legal system and governance structures, and is closely interrelated with other institutions. Therefore, we must study private equity in China vertically under its historical, institutional and environmental conditions. Meanwhile, we need to compare Chinese private equity funds horizontally with other foreign funds. The two main perspectives have guided our analysis through four chapters. Although a few previous studies have examined the same subject with an institutional angle, none of them used multi-disciplinary approach combining both micro and macro empirical analysis. Our study has brought new light to the research on private equity in China with thorough examinations, relatively up-to-date market data and valuable first-hand information.

A better understanding of private equity as financial institution

The starting point of **Part I** of the thesis was an overview of the most fundamental notions and aspects of private equity. We began by reviewing the nature of private equity and the essential mechanisms, strategies and procedures of private equity investment. We laid special stress on the particular structure of limited partnership and related contractual features of private equity, developed alongside its global expansion. LPA provides protection to investors, guidelines to investment strategies and incentives to general managers at the same time. Then, we underlined the complex investment process of selection, screening, monitoring and exit, through which promising projects are financed and added values are produced. Sophisticated contracts are used by private equity funds to define its rights and responsibilities and to restrain the opportunist behaviors of company founders and managers. A further look at the value creations of private equity as well as the main factors impacting it investment volume and its financial performance helped us to understand why private equity sector has made such fast development during the past few decades among the major economies. The principal objective of **Chapter 1** was to provide the conceptual preparation for our study. It shows that the operation of private equity is achieved mainly through an

organized market guided by regulatory rules and specific industrial norms, and that private equity activity interacts with many economic and social factors. This also explains why we decided to borrow the framework of institutional analysis.

The first section of Chapter 2 was dedicated to the introduction of the institutional analysis framework. We started with a theoretical review of the nature of institution and its principal characteristics. Institutions are “the rules of the games of a society” and “the humanly devised constraints that structure human interaction and incentives” (North, 1990), and “multifaceted, durable social structures, made up of symbolic elements, social activities, and material resources” (Scott, 1995). The hierarchical relationships inside and among institutions serve to summarize relevant information (Aoki, 2002), channel expectations about others’ behavior (North 1990) and impose penalties for agents deviating from the rules (Commons, 1990). Due to technological and social progress, institutions must constantly evolve in response to the changing economic and social environment, which may be highly complex under the scheme of dynamic institutional complementarities (Chavance, 2001). Based on the above characteristics of institutions, we developed a new understanding of private equity’s sophisticated hierarchies and its complementary relations with other institutions. We proposed three hierarchical structures for private equity: contractual hierarchy, informational hierarchy and corporate governance hierarchy. Institutional complementarities have fundamental influence on the operation of private equity. The working mechanisms of private equity are closely conditioned by the institutional arrangement that one country has opted for. In return, the features of one country’s private equity sector also reflect the institutional characteristics of its overall system.

A multi-disciplinary analysis of “capitalism with Chinese characteristics”

With the intention to provide a more comprehensive background of private equity’s growth in China, in the second section of Chapter 2 we interpreted the Great Transformation of the Chinese economy under a multi-disciplinary approach. Through the examination of different theories about the nature of capitalism and important historical studies on the global development of capitalism, we demonstrated that the remaining divergence and the creation of comparative advantages in the global economy are the result of different political and social choices of each country. The current economic system in China is the result of over three decades’ reforms and experiments. It has been developed under particular historical, political,

social and cultural conditions. It is the consequence of a path-dependency symbolically represented by Deng Xiaoping's famous saying "cross the river by groping for stones". The capitalist market system in China is a hybrid form of capitalism, which besides market competition comprises a Party of monopole power, the privileged SOEs, mixed ownership, politically controlled financial markets, and the pro-business *guanxi* networks. It is the "capitalism with Chinese characteristics" (Huang, 2008).

In the third section of Chapter 2, we applied the method of Principal Component Analysis (PCA) under the framework of the varieties of capitalism to compare China's economic model with other major world economies. The five capitalist models by Amable (2003) are the market-based model, the social democratic model, the continental Europe model, the Mediterranean model and the Asian model. We also included the BRIC economies in the comparison. Our findings show that China belongs to none of the six groups and its economic model is relatively unique. Meanwhile, it shares some similar characteristics with Asian model and Mediterranean model, regarding product market, labor market, skill formation and financial market development. Overall, China has strong market size effect, but its institutional conditions and market efficiency still need improvement. However, as we have pointed out previously, the presence of vested interests and cultural predispositions is likely to hinder rapid institutional changes in China.

Institutional characteristics of private equity in China, or private equity with Chinese characteristics

Part II of the thesis provided several empirical analyses of the institutional characteristics of private equity in China based on the conceptual and theoretical framework presented in the first part. Guided by the institutional characteristics identified for the Chinese economy in Chapter 2, we carried out in **Chapter 3** a more profound analysis of private equity funds in China and raised three hypotheses about their particular features. Firstly, we presented briefly private equity's development in China from the mid 1980s till now through four phases and underlined what were the main decisive forces that had pushed forward its growth and what remained to be improved. Secondly, we focused on three institutional characteristics of the working of private equity in China: the crucial role of the state and the formal institutions under its influence, the important role of *guanxi* as the foundation of informal institutions, and the institutional complementarity between private equity and

China's transforming economic structure. Regarding the first characteristic, we pointed out that the development of private equity in China reflected the central-led institutional feature of most reforms in China. The indispensable role of the Chinese state in the Chinese economy, as we discussed in Chapter 2, has been frequently manifested through direct involvement, industrial policies and strategic guidance for the development of private equity in China. The second characteristic was related to the informal and cognitive institutions in China, symbolized by the pro-business *guanxi*. *Guanxi* can help private equity funds gain access to companies, obtain financial sources and information, and better communicate with entrepreneurs to reduce behaviors of ex-post opportunism. It functions as a complement to the insufficient market structure. The third characteristic referred to the complementarity between private equity and the transforming institutional environment in China. We examined respectively the relationship between private equity funds and institutional investors, market legislation, indicators of technology innovation, effort for industrial upgrading, level of professionalism and degree of institutional trust in China. Moreover, private equity has an active role in answering Chinese companies' diversified needs regarding privatization, industrial expertise, management efficiency, access to capital, and expansion strategies. The combination of government support, *guanxi* related practices, privatization process and market liberalization has greatly improved the productivity of the Chinese economy and has nurtured a fast growing private equity with Chinese characteristics.

As the central part of Part II, **Chapter 4** had the main objective to verify the three institutional characteristics of private equity in China identified in Chapter 3 and to further examine the institutional differences between funds in China and funds in more developed countries. It comprised two complementary empirical studies. The first study was a comparative analysis of private equity funds in China and in West Europe from the microeconomic perspective, based on information collected by surveying in total 20 Chinese, French and British funds. Our findings confirmed: Hypothesis 1 about the important role and strong involvement of government in private equity investment in China; Hypothesis 2 about the influence of *guanxi* and Chinese funds' emphasis on personal relations and government connections; Hypothesis 3 about the interactions between private equity funds and the institutional environment and the challenges and opportunities that they face in the transforming Chinese economy. Besides inevitable similarities between Chinese funds and European funds, there exist significant differences among them due to the distinct institutional characteristics of their economy. Chinese funds need to seek government support and *guanxi*

connections, use more diversified deal channels and information sources because the market is less organized. Meanwhile, both Chinese and European funds leverage relations and sources to facilitate their operation. The second study was an econometric study of the determinant factors of private equity activity and their country-specific impact from the macroeconomic perspective, with a panel data including China, France, the UK and the US covering the period of 2000 to 2013. Among the 17 macroeconomic, entrepreneurial and institutional factors examined, private equity investment activity was strongly influenced by labor market rigidities, economy openness and corporate income tax rates. Stock market capitalization, total value of traded stocks and number of IPO, contrary to our expectation, had comparatively weak influence. No significant impact of crisis was identified. Private equity investment in China was more impacted by factors of growth and economic size, while the UK and the US had significantly stronger coefficient for stock market capitalization. This study further confirmed that private equity is influenced by the institutional characteristics of the economy inside which it operates, and that it has developed country-specific features correspondingly.

Principal contributions and comparison with existing literature

One of the principal contributions of this thesis is a structured examination of private equity as a special financial institution, which is symbolic of the modern capitalism. We developed solid arguments of the institutional hierarchies inside private equity organization and the institutional complementarity between private equity and other institutions of an economy as previously presented by White, Gao and Zhang (2005). Later, on an empirical basis and following the research perspective of Jeng and Wells (2000), Schertler (2003), Romain and De la Potterie (2004), Bonini and Senem (2011) and Cherif and Gazdar (2011), we examined 17 macroeconomic, entrepreneurial and institutional factors' influence on private equity activity and found strong impact from labor market rigidity, economic openness and corporate tax rate on private equity investment intensity. We also underlined that the impact of determinant factors changes when the institutional conditions vary according to country. The market-based model of the US / UK and the hybrid capitalist model of China manifest different characteristics regarding private equity activity. Interactions between private equity, a special financial institution of the modern capitalism, and other principal institutions reflect the nature of institutional complementarity and the fundamental features of each economic model.

Another important contribution of this thesis is the comparison of private equity funds in China and in Europe based on the differences of their institutional environment. Institutional analysis is a new perspective recently used in studies on venture capital in the US and in Europe (Bedu and Montalban, 2013; Hazarika, Nahata and Tandon, 2009; Aoki, 2005; La porta et al., 1997; Shleifer and Vishny, 1997). Existing research of cross-country comparison of venture capital firms mainly concerns subjects of risk assessment, sourcing information and cultural differences (Wright et al., 2002; Lockett et al., 2002; Manigart et al., 1997: 2000; Sapienza et al., 1996). Our study focused on China, a less studied private equity market, and enlarged the scope of existing institutional research. Through the PCA study in Chapter 2, we compared the economic model of China with the five capitalisms of Amable (2003) and established a better understanding of China's hybrid capitalist economy. By examining the three hypotheses of the institutional characteristics of private equity in China, we confirmed the point of view of White, Gao and Zhang (2005) that the particular combination of political, economic and social institutions has important impact on Chinese venture capital system. We also agreed with Ahlstrom and Bruton (2007) that the complexity of venture capital in China is a challenging opportunity and venture capitalists must employ appropriate working methods and build necessary connections and skills to deal with the unique conditions in China. Like Batjargal and Liu (2002) who underlined the enhancing effects of social capital on investment process, we identified a general recognition of the importance of relation regarding private equity investment activity among Chinese funds and European funds. Meanwhile, government connections and personal relations are more strengthened by Chinese funds while professional relations are more important for French and British funds. Therefore, we do not completely agreed with Bruton et al. (2002) that the most important roles of venture capitalists are their strategic roles while interpersonal roles are relatively unimportant. Yet, we agreed with Bruton et al. (2002) on the aspect that Chinese culture embraces more the collective action and European culture advocates more the individual action, which has an impact on the roles and behaviors of their venture capitalists.

We also pointed out an important impact of regulatory institutions on private equity industry development. The legal basis for investor protection greatly influences the participation of institutional investors and the capital allocation diversification. A higher diversity of capital origin indicates more open financial markets and more efficient market regulations. Private equity funds with higher diversity of capital generally have better asset

management and risk management practices and stronger track record. The lack of regulation for some financial instruments in China also limits the capacity of Chinese funds to build more efficient investment structure. Furthermore, due to less efficient legal system and the “double book” practice, Chinese funds often have to deal with fake information and other problems related to frauds. These above conditions explain why the limited partners of Chinese funds are mainly industrial groups and family companies, while in France and the UK they are mainly institutional investors.

The particular value of our study is using institutional theory to prove that the behaviors of private equity and venture capital funds managers in China show institutional differences from fund managers in the US and Europe, impacted by their different regulative, normative and cognitive institutions. Private equity market in today’s China is more complex than those in more developed and mature economies. This is mainly due to the lack of unified standards, less market specialization, low industrial consolidation, and moreover, the complexity of the fast evolving economic and institutional environment in China. Meanwhile, European private equity markets show strong diversity, reflected by the presence of a large number of institutional investors, a deeper market development and a more mature legal structure. Private equity market in China is evolving alongside its changing institutional environment. Our theoretical and empirical studies show that, while the fundamentals of private equity investment remain the same for China and more developed countries, there are evidently institutional differences among the funds on various aspects. In order to mitigate risks, Chinese funds actively seek complementary protection by building good relations with local government, founding alliances with business partners and leveraging personal connections. Therefore, private equity funds have to adapt their working method to the particular institutional conditions of China. This is the “private equity with Chinese characteristics”.

Perspectives of future research

In this thesis, we developed a thorough analysis of private equity funds in China based on the particular mechanisms of private equity and the perspective of fundamental impacts from the institutional characteristics of China’s economic model. Our study of the working mechanisms of private equity was limited to the basic conceptual aspects and the most principal operational structures. In some arguments, we borrowed the agent behavioral perspective but did not develop any in-depth analysis. There is existing literature on private

equity using this perspective to analyze venture capital in the US in particular. It could be valuable to examine how this framework applies to the case of private equity in China.

From the institutional perspective, we analyzed private equity as a special capitalist institution and pointed out the existence of institutional hierarchies inside private equity structure, as well as institutional complementarities between private equity and other major institutions. Our two empirical studies in Chapter 4 brought new light to the institutional complementarities between private equity and some major institutional factors, such as the government, political stability, financial market, labor market, education, infrastructure and informal institutions. However, we did not use further empirical studies to verify the institutional hierarchies of private equity in this thesis. A possible perspective of future research is to apply case study theory to examine the three institutional hierarchies that we have suggested in our analysis.

Through the empirical studies, we also found that compared to private equity funds in Europe, private equity funds in China are more strongly impacted by the factors of growth rate and economic size, including GDP growth, household consumption growth, and infrastructure development. This confirmed the results of our PCA study about the features of the Chinese economic model. Regarding private equity development, our analysis underlined in China a strong influence of the state, an extensive impact of *guanxi* and many difficulties related to the complexity of a transforming market system. The three main institutional characteristics of China were verified by our case study with 20 private equity funds in China and Europe. But given the small sample scale, our conclusions might be biased. Future study could reexamine these characteristics by using larger scale of samples and involving more countries.

Our empirical studies mainly covered the period of 2000-2013 and we found no particular impact of the last crisis on the private equity activity. Meanwhile, the specificity of our country focus and the choice of determinant factors might have brought bias to the results. We also consider it valuable to verify, if with the European debt crisis, the US economic recovery and recent reforms in China, the adjustments of global and domestic environment have impacted the institutional progress of the Chinese private equity market after 2013.

References

- Acemoglu Daron, Johnson Simon and Robinson James A. (2005), "Institutions as a Fundamental Cause of Long-Run Growth", Philippe Aghion and Steven N. Durlauf (eds), *Handbook of Economic Growth*, Volume 1A, 2005 Elsevier B.V.
- Admati A. and Pfleiderer P. (1994), "Robust financial contracting and the role of venture capitalists", *Journal of Finance*, Vol. 49, pp. 371-402
- Adolf A. Berle and Gardiner C. Means (1932), "The Modern Corporation and Private Property", New York: Harcourt, Brace & World, revise edition published in 1968
- Aglietta Michel and Bai Guo (2012), "La Voie Chinoise - Capitalisme et Empire (China's Development - Capitalism and Empire)", French version, Odile Jacob, Octobre 2012, ISBN: 978-2-7381-2846-1
- Aglietta Michel (2009), "Sovereign Wealth Funds: Long-Term Investors in Need of Effective Strategies", *Revue d'Economie Financière*, 2009, pp.329-337
- Aglietta Michel and Rigot Sandra (2009), "The Regulation of Hedge Funds under the Prism of the Financial Crisis. Policy Implications", *Recherches Economiques de Louvain*, vol. 75(1), 2009
- Aglietta Michel and Landry Yves (2007), "La Chine vers la superpuissance", Paris, Economica
- Aglietta Michel and Reberieux Antoine (2005), "Corporate Governance Adrift: A Critique of Shareholder Value", Cheltenham: Edward Elgar
- Aglietta Michel and Reberieux Antoine (2004), "Dérivés du capitalisme financier", Paris : Michel Albin
- Aglietta Michel and Orléan André (2002), "La monnaie entre violence et confiance", Paris, Odile Jacob
- Aglietta Michel (2000), "Shareholder value and corporate governance: some tricky questions", *Economy and Society*, 29 (1), pp. 146-159
- Agmon T. and Messica A. (2009), "Financial Foreign Direct Investment: The Role of Private Equity Investments in the Globalization of Firms from Emerging Markets", *Management International Review*, 49, (1), 11-26
- Ahlstrom, Bruton and Yeh (2007), "Venture Capital in China: Past, Present and Future", *Asia Pacific Journal of Management*, 24:247-268
- Aizenman Joshua and Kendall Jake (2008), "The Internationalization of Venture Capital and Private Equity", UCSC and the NBER, the World Bank
- Albert Michel (1991), "Capitalisme contre capitalism", Paris: Seuil
- Alexander Groh, Heinrich Liechtenstein and Miguel A. Canela (2008), "International Allocation Determinants of Institutional Investments in Venture Capital and Private Equity Limited Partnerships", IESE Business School Working Paper No. 726, January, 2008
- Alexander Groh and Heinrich Liechtenstein (2010), "The Global Venture Capital and Private Equity Country Attractiveness Index 2009/2010 Annual", IESE Business School and Ernst & Young

Alfaro L., Ozcan S.K. and Volosovych V. (2005), “Capital Flows in a Globalized World: The Role of Policies and Institutions”, NBER Working Paper No. 11696

Allen F., Qian M. and Xie J. (2013), “Understanding Informal Financing”
<http://abfer.org/docs/track2/track2-understanding-informal-financing.pdf>

Allen F., Qian J. and Qian M. (2005), “Law, finance, and economic growth in China”, *Journal of financial economics*, Vol. 77, No. 1, pp. 57-116

Allen F. (1993), “Stock Markets and Resource Allocation”, in C. Mayer and X.Vives, (eds.), *Capital Markets and Financial Intermediation*, Cambridge University Press, Cambridge

Allen N. Berger and Gregory F. Udell (1998), “The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle”, *Journal of Banking and Finance*, Volume 22, 1998

Amable Bruno (2003), “The Diversity of Modern Capitalisms”, Oxford University Press Inc., New York, ISBN 0-19-926113-X

Amable Bruno (2000), “Institutional Complementarity and Diversity of Social Systems of Innovation and Production”, *Review of International Political Economy*, 7(4), pp. 645-687

Amable Bruno, Ernst Ekkehard and Palombrini Stefano (2002), “Comment les marchés financiers peuvent-ils affecter les relations industrielles ? Une approche par la complémentarité institutionnelle”, *L'Année de la Régulation*, No. 6, 2002-2003, Presses de Sciences Po, pp. 271-289

Anson Mark (2007), “Performance measurement in private equity: another look”, *Journal of Private Equity*, Summer 2007

Antonelli Cristiano and Teubal Morris (2007), “Venture capitalism as a mechanism for knowledge governance: the emergence of the markets for knowledge intensive property rights”, ICER Working Paper Series No. 12/2007

Aoki Masahiko (2007), “Endogenizing Institutions and Institutional Changes”, *Journal of Institutional Economics*, 3(1), pp. 1-31

Aoki Masahiko (2006), “Fondements d’une analyse institutionnelle comparée”, Bibliothèque ALBIN MICHEL Economie

Aoki Masahiko (2004b), “An Organizational Architecture of T-form: Silicon Valley Clustering and its Institutional Coherence”, *Industrial and Corporate Change*, 13(2004), pp.967-981

Aoki Masahiko (2004a), “Schumpeterian Innovation of Institution, the Tenth Conference of the International Schumpeter Society”, Milan Italy, June 10, 2004

Aoki Masahiko (2001), “Information, Corporate Governance, and Institutional Diversity”, Oxford University Press, January 2001

Armour J. and Cumming D. (2004), “The Legal Road to Replication Silicon Valley”, Working Paper No. 281, University of Cambridge

Aron Raymond (1967), “Les étapes de la pensée sociologique”, Paris, Gallimard, 1967, p. 541

Aron Raymond (1962), “Dix-huit leçons sur la société industrielle”, Gallimard: Folio essais

- Arrighi Giovanni (2007), “Adam Smith in Beijing: Lineages of the Twenty-First Century”, New York & London: Verso
- Arrow K. (1974), “The Limits of Organization”, W. W. Norton & Company, February 1974
- Arthur B. (1994), “Increasing Returns and Path Dependence in the Economy”, Ann Arbor: University of Michigan Press
- Ayyagari Meghana, Demircuc-Kunt Asli and Maksimovic Vojislav (2008), “Formal versus informal finance: evidence from China”, Policy Research Working Paper Series 4465, The World Bank
- Baker M. and Gompers P. (2003), “The determinants of board structure at the initial public offering”, *Journal of Law and Economics*, Vol. 46, pp. 569-598
- Balding Christopher (2008), “A Portfolio Analysis of Sovereign Wealth Funds”, SSRN, <http://ssrn.com/abstract=1141531>
- Barry C., Muscarella C., Peavy J. and Vetsuypens M. (1990), “The role of venture capital in the creation of public companies: evidence from the going public process”, *Journal of Financial Economics*, Vol. 27, pp. 447-471
- Barry Stewart Clark (1998), “Political Economy: A Comparative Approach”, ABC-CLIO, pp. 57–59, ISBN 978-0-275-96370-5
- Bédu Nicolas and Montalban Matthieu (2014), “Analysing the Uneven Development of Private Equity in Europe: Legal Origins and Diversity of Capitalism”, *Socio-Economic Review*, Vol. 12, No. 1, pp. 33-70
- Bengtsson Ola and Sensoy Berk A. (2011), “Investor abilities and financial contracting: evidence from venture capital”, *Journal of Financial Intermediation*, Volume 20, Numéro 4, pp. 477-502
- Berk Jonathan, Richard Green and Vasant Naik (2004), “Valuation and Return Dynamics of New Ventures”, *Review of Financial Studies*, 17:1-35
- Bernstein S., Lerner J., Sørensen M. and Strömberg P. (2010), “Private equity and industry performance”, NBER Working Paper No. 15632, January 2010
<http://www.nber.org/papers/w15632>
- Bethune Richard (2006), “Private Equity in China”, *Virginia Review of Asian Studies*, Summer 2006
- Bhidé A. (1994), “The origin and evolution of new businesses”, Oxford University Press
- Bianchi Marcello and Enriques Luca (2001), “Corporate Governance in Italy after the 1998 Reform: What Role for Institutional Investors?”, CONSOB (Commissione Nazionale per le Società e la Borsa) Working Paper No.43, January 2001
- Black B.S. (1990), “Shareholder Passivity Re-examined”, *Michigan Law Review*, Vol. 89, pp. 520-608
- Black B. S. (1998), “Shareholder Activism and Corporate Governance in the United States”, in Newman P. edited, *The New Palgrave Dictionary of Economics and the Law*, Stockton Press: New York
- Black B. and R. Gilson (1998), “Venture capital and the structure of capital markets: banks versus stock markets”, *Journal of Financial Economics*, Vol. 47, pp. 243-277

- Boix Carles and Posner Daniel N. (1998), “Social Capital: Explaining its Origins and Effects on Government Performance”, *British Journal of Political Science*, Vol. 28, No. 4, pp. 686-693
- Boix Carles and Posner Daniel N. (1996), “Making Social Capital Work: A Review of Robert Putnam’s ‘Making Democracy Work: Civic Traditions in Modern Italy’”, Working Paper No.96-04, Weatherhead Center for International Affairs, Harvard University
- Boliari Natalia and Topyan Kudret (2007), “Conceptualizing Institutions and Organizations: A Critical Approach”, *Journal of Business & Economic Research*, Volume 5, Number 1
- Bonini Stefano and Senem Alkan (2011), “The macro and political determinants of venture capital investments around the world”, *Small Business Economics*, Vol. 36, No. 3:1-20
- Botero Juan, Djankov Simeon, Porta Rafael and Florencio C. Lopez-De-Silanes (2004), “The Regulation of Labor”, *Quarterly Journal of Economics*, Vol. 119, pp. 1339-1382, November
- Bottazzi L., Da Rin M. and Hellmann T. (2011), “The Importance of Trust for Investment: Evidence from Venture Capital”, NBER Working Paper No. 16923, April 2011
<http://www.nber.org/papers/w16923>
- Bottazzi L., Da Rin M. and Hellmann T. (2008), “Who are the active investors? Evidence from venture capital”, *Journal of Financial Economics*, Vol.89, No.3, September 2008, pp. 488–512
- Bottazzi L. and Da Rin M. (2002), “Venture capital in Europe and the financing of innovative companies”, *Economic Policy*, Vol. 34, pp. 229-269
- Bourdieu Pierre (1986), “The forms of capital”, in J. Richardson (Ed.) *Handbook of Theory and Research for the Sociology of Education*, New York, Greenwood, pp. 241-258
- Bowles Samuel and Boyer Robert (1990), “A Wage-led Employment Regime: Income Distribution, Labor Discipline, and Aggregate Demand in Welfare Capitalism”, in Marglin Stephen A. & Schor Juliet Eds, *The Golden Age of Capitalism*, Clarendon Press, Oxford, pp. 187-217
- Boyer Robert (2014), “Welfare States and Institutional Complementarity: From North to South”, Draft paper for the UNRISD Conference “New Directions in Social Policy: Alternatives from and fro the Global South”, April 2014, Geneva, Switzerland
- Boyer Robert (2012), “The Chinese growth regime and the world economy”, in Robert Boyer (Ed.) *Diversity and Transformations of Asian Capitalisms*, Hiroyasu Uemura and Akinori Isogai, Routledge, pp. 184-205
- Boyer Robert (2004), “Théorie de la régulation : 1. Les fondamentaux”, Paris, La Découverte « Repères », 2004, ISBN : 9782707132161
- Boyer Robert (2003a), “Les analyses historiques comparatives du changement institutionnel : quels enseignements pour la théorie de la régulation ? ”, *L’Année de la Régulation*, No. 7, 2003-2004, Presses de Sciences Po, pp. 167-203
- Boyer Robert (2003b), “Les institutions dans la théorie de la régulation”, working paper, No.2003-08, CEPREMAP-ENS, CNRS, EHESS
- Boyer Robert (1999), “The Variety and Dynamics of Capitalism”, in: John Groenewegen / Jack Vromen (eds.), *Institutions and the Evolution of Capitalism: Implications of Evolutionary Economics*, Northampton: Edward Elgar, 122-140

- Boyer Robert (1997a), “The Variety of Unequal Performance of Really Existing Markets: Farewell to Doctor Pangloss?”, in: Rogers J. Hollingsworth / Robert Boyer (eds.), *Contemporary Capitalism: The Embeddedness of Institutions*, Cambridge: Cambridge University Press, 55–93
- Boyer Robert (1997b), “French statism at the crossroads”, in Colin Crouch and Wolfgang Streeck (eds), *Political Economy of Modern Capitalism: Mapping Convergence and Diversity*, London: Sage
- Boyer B., Charron E., Jürgens U. and Tolliday S. (1998), “Between Imitation and Innovation: The Transfer and Hybridization of Productive Models in the International Automobile Industry”, Oxford University Press
- Boyer R., Chavance B. and Godard O. (1991), “Les figures de l'irréversibilité en économie”, Éditions de l'École des Hautes Études en Sciences Sociales, pp. 396
- Bozkaya Ant and Kerr William R. (2013), “Labor regulations and European venture capital”, Bank of Finland Research Discussion Papers, No. 30, 2013
- Bozkaya Ant and Kerr William R. (2009), “Labor regulations and European private equity”, No. w15627, National Bureau of Economic Research
- Brander J, Du Q, Hellmann T. (2010), “Governments as venture capitalist: Striking the right balance, globalization of alternative investments”, Working Papers Vol. 3, The Global Economic Impact of Private Equity Report 2010, World Economic Forum
- Brandt Loren and Zhu Xiaodong (2001), “Soft Budget Constraint and Inflation Cycles: A Positive Model of Macro-Dynamics in China during Transition”, *Journal of Development Economics*, Vol. 64, No. 2, pp. 437-457
- Brandt Loren and Zhu Xiaodong (2000), “Redistribution in a Decentralized Economy: Growth and Inflation in China under Reform”, *Journal of Political Economy*, Vol. 108, No. 2, pp. 422-439
- Braudel Fernand (1979), “Civilisation matérielle, économie et capitalisme (XVe - XVIIIe siècles)”, Paris, Armand Colin, 3 volumes
- Braudel Fernand (1985), “La dynamique du capitalisme”, Paris, Arthaud
- Breslin Shaun (2004), “Capitalism with Chinese Characteristics: the Public, the Private and the International”, Working Paper No. 104, Asia Research Center of Murdoch University, June 2004
- Brickley A. James, Lease Ronald C. and Smith Clifford W. (1988), “Ownership Structure and Voting on Antitakeover Amendments”, *Journal of Financial Economics*, Vol. 20, pp. 267-292
- Brigl Michael, Herrera Alejandro, Heinrich Liechtenstein, Meerkatt Heino, Prats M. Julia and Rose John (2008), “The Advantage of Persistence, How the Best Private-Equity Firms ‘Beat the Fade’”, The Boston Consulting Group, Inc., and the IESE Business School of the University of Navarra, 2008
- Brunetti Aymo and Beatrice Weder (1997), “Investment and institutional uncertainty: a comparative study of different uncertainty measures”, Vol. 4, World Bank Publications
- Bruton Garry D., Manigrat Sophie, Fried Vance and Sapienza Harry J. (2002), “Venture capitalists in Asia: a comparison with the U.S. and Europe”, Vlerick Working Papers 2002/15
- Carlin W. and Mayer C. (2003), “Finance, investment, and growth”, *Journal of Financial Economics*, 69 (2003) 191-226

Carney Richard W. and Michael A. Witt (2014), “The Role of the State in Asian Business Systems”, in Michael A. Witt and Gordon Redding (Eds.), *The Oxford Handbook of Asian Business Systems*, pp. 538-560, Oxford, UK: Oxford University Press

Casper Steven (1999), “High Technology Governance and Institutional Adaptiveness”, Discussion Paper, FS I 99–307, Berlin: Wissenschaftszentrum Berlin für Sozialforschung

Chamberlain Neil W. (1963), “The Institutional Economics of John R. Commons”, *Institutional Economics: Veblen, Commons, and Mitchell Reconsidered*, edited by Joseph Dorfman, Clarence W. Ayres, Neil W. Chamberlain, Simon Kuznets, and Robert A. Gordon, Berkeley, University of California Press, 1963, pp. 63-94

Chan K-M (2009), “Civil Society and Social Capital in China”, in H. Anheier and S. Toepler (Eds.), *International Encyclopedia of Civil Society*, pp. 242-247, New York: Springer

Chan V. S., Siegel D. and Thakor A. V. (1990), “Learning, corporate control and performance requirements in venture capital contracts”, *International Economic Review*, Vol. 31, pp. 365-382

Chang Ha-Joon (2002), “Kicking Away the Ladder: How the Economic and Intellectual Histories of Capitalism Have Been Re-Written to Justify Neo-Liberal Capitalism”, *post-autistic economics review*, issue no. 15, September 4, 2002, article 3. http://www.btinternet.com/~pae_news/review/issue15.htm

Chavance Bernard (2001), “Organisations, institutions, système: types et niveaux de règles”, *Revue d'économie industrielle*, Vol. 97, 4ème trimestre 2001, pp. 85-102

Chavance Bernard (2000), “The Evolutionary Path away from Socialism: The Chinese Experience”, in E. Maskin, A. Simonovits, eds., *Planning, Shortage, and Transformation: Essays in Honor of Janos Kornai*, Cambridge (Mass.), MIT Press

Che J. and Qian Y. (1998), “Institutional environment, community government, and corporate governance: Understanding China's township-village enterprises”, *Journal of Law, Economics, and Organization*, Vol. 14, No. 1, pp. 1-23

Chemmanur Thomas, Krishnan Karthik and Nandy Debarshi (2011), “How does venture capital financing improve efficiency in private firms? : a look beneath the surface”, *Review of Financial Studies*, ISSN 0893-9454, 2011, Vol. 24, No. 12, pp. 4037- 4090

Chen X. P. and Chen C. C. (2004), “On the intricacies of the Chinese guanxi: A process model of guanxi development”, *Asia Pacific Journal of Management*, Vol. 21, No. 3, pp. 305-324

Cherif Mondher and Gazdar Kaouther (2011), “What Drives Venture Capital Investments in Europe? New Results from a Panel Data Analysis”, *Journal of Applied Business & Economics*, v2011, Vol. 12, Issue 3

Cimoli Mario, Dosi Giovanni and Stiglitz Joseph E. (2008), “The Political Economy of Capabilities Accumulation: the Past and Future of Policies for Industrial Development”, Oxford University Press

Coase Ronald (1937), “The nature of the firm”, *Economica*, New Series, Vol. 4, No. 16 (Nov., 1937), pp. 386-405
<http://www.colorado.edu/ibs/eb/alston/econ4504/readings/The%20Nature%20of%20the%20Firm%20by%20Coase.pdf>

Cohen W. M. and Levinthal D. A. (1989), “Innovation and learning: the two faces of R & D”, *Economic journal*, Vol. 99, No. 397, pp. 569-596

- Coleman James (1988), "Social Capital in the Creation of Human Capital", *American Journal of Sociology Supplement*, Vol. 94, pp. S95-S120
- Cornelli Francesca and Karakas Oguzhan (2008), "Private equity and corporate governance: do LBOs have more effective boards?", unpublished preliminary version, February, 2008
- Commons John R. (1934), "Institutional Economics – Its Place in Political Economy", New York: The Macmillan Company
- Commons John R. (1931), "Institutional Economics", *American Economic Review*, Vol. 21, No. 4, pp. 648-657
- Commons John R. (1924), "Legal Foundations of Capitalism", New York: The Macmillan Company
- Coriat B. and Dosi G. (1998), "The Institutional Embeddedness of Economic Change: An Appraisal of the 'Evolutionary' and 'Regulationist' Research Programmes", in K. Nielsen, B. Johnson, eds., *Institutions and Economic Change*, Cheltenham, Edward Elgar, pp. 3-32
- Coriat B. and Weinstein O. (1995), "Les nouvelles théories de l'entreprise", LGF-Le livre de poche
- Craig J. Calhoun (2002), "Classical Sociological Theory", Wiley-Blackwell, pp. 20–23, ISBN 978-0-631-21348-2
- Crouch Colin (1993), "Industrial Relations and European State Traditions", Oxford: Clarendon Press
- Cumming D. J., Schmidt D. and Walz U. (2010), "Legality and venture capital governance around the world", *Journal of Business Venturing*, Vol. 25, pp. 54-57
- Cumming D. J. (2007), "Government policy towards entrepreneurial finance: Innovation investment funds", *Journal of Business Venturing*, Vol. 22, No. 1, pp. 193-235
- Cumming Douglas, Siegel Donald S. and Wright Mike (2007), "Private equity, leveraged buyouts and governance", *Journal of Corporate Finance*, Vol. 13, No. 4, pp. 439-460
- Cumming Douglas and Johan Sofia (2007), "Regulatory Harmonization and the Development of Private Equity Markets", *Journal of Banking and Finance*, Elsevier, Vol. 31(10), pp. 3218-3250
- Cumming Douglas and Johan Sofia (2006), "Private Equity Markets and Regulation: Policy Issues and Lessons from Dutch Institutional Investors", AEI-Brookings Joint Center/Sciences Po Regulatory Studies, January 2006
- Cumming D. J. and MacIntosh J. G. (2006), "Crowding out private equity: Canadian evidence", *Journal of Business Venturing*, Vol. 21, No. 5, pp. 569-609
- Cumming D. J. (2005), "Agency costs, institutions, learning, and taxation in venture capital contracting", *Journal of Business Venturing*, Vol. 20, No. 5, pp. 573-622
- Da Rin M., Hellmann T. and Puri M. (2011), "A Survey of Venture Capital Research", NBER Working Paper No. 17523, October 2011
<http://www.nber.org/papers/w17523>
- Da Rin M., G. Nicodano and A. Sembenelli (2006), "Public policy and the creation of active venture capital markets", *Journal of Public Economics*, Vol. 90, pp. 1699-1723
- De Cleyn Sven and Braet Johan (2007), "The Due Diligence Process – Guiding Principles for Early

- Stage Innovative Products and Venture Capital Investments”, *Journal of Private Equity*, Summer 2007
- Della Croce Raffaele, Stewart Fiona and Yermo Juan (2011), “Promoting Longer-term Investment by Institutional Investors: Selected Issues and Policies”, *OECD Journal: Financial Market Trends*, Vol. 2011/1
- Demsetz Harold (1983), “Structure of Ownership and the Theory of the Firm”, *the Journal of Law & Economics*, 1983, Vol. 26, No. 2, pp. 375-390
- Denazau A. and North D. (1994), “Shared mental models: ideologies and institutions”, *Kyklos*, Vol. 47, No. 1, pp. 3-31
- Desai Mihir, Gompers Paul and Lerner Josh (2005), “Institutions, Capital Constraints and Entrepreneurial Firm Dynamics: Evidence from Europe”, Harvard University and National Bureau of Economic Research, Harvard NOM Research Paper, No. 03-59
- Devereux Michael P. and Sørensen Peter Birch (2006), “The Corporate Income Tax: international trends and options for fundamental reform”, European Commission, Economic Papers, http://ec.europa.eu/economy_finance/index_en.htm
- Diamond D. (1984), “Financial Intermediation and Delegated Monitoring”, *Review of Economic Studies*, Vol. 51, pp. 393-414
- Dickson B. (2003), “Red Capitalists in China: The Party, Private Entrepreneurs, and Prospects for Political Change”, Cambridge: Cambridge University Press
- Ding Xueliang (2000), “Informal Privatization through Internationalization: the Rise of Nomenklatura Capitalism in China’s Offshore Business”, *British Journal of Political Science*, Vol. 30, No. 1, pp. 121-46
- Djankov S., T. Ganser, C. McLiesh and R. Ramalho (2010), “The effect of corporate taxes on investment and entrepreneurship”, *American Economic Journal: Macroeconomics*, Vol. 2, pp. 31-64
- Dopfer Kurt, Foster John and Potts Jason (2004), “Micro-meso-macro”, *Journal of Evolutionary Economics*, Springer, Vol. 14, No. 3, pp. 263-279
- Dosi G., Marengo L. and Pasquali C. (2006), “How much should society fuel the greed of innovators? On the Relations between Appropriability, Opportunities and Rates of Innovation”, *Research Policy*, Vol. 35, No. 8, pp. 1110-1121
- Du J., Guariglia A. and Newman A. (2013), “Do Social Capital Building Strategies Influence the Financing Behavior of Chinese Private Small and Medium Sized Enterprises?”, *Entrepreneurship Theory and Practice*, June 2013, Wiley Online Library
- Du J., Guariglia A. and Newman A. (2010), “Does social capital affect the financing decisions of Chinese small and medium-sized enterprises?”, <http://ssrn.com/abstract=1619230>
- Du Julan and Xu Chenggang (2005), “Market Socialism or Capitalism? Evidence from Chinese Financial Market Development”, IEA 2005 Round Table on Market and Socialism
- Duncan Angwin (2001), “Mergers and acquisitions across European borders: National perspectives on pre-acquisition due diligence and the use of professional advisers”, *Journal of World Business*, Volume 36, No. 1, pp. 32-57
- Dunning J. (2006), “Comment on Dragon Multinationals: New players in the 21st century

globalization”, *Asia Pacific Journal of Management*, Vol. 13, pp. 139-141

Eichengreen Barry (2008), “The European Economy since 1945: Coordinated Capitalism and Beyond”, Princeton University Press, ISBN-13: 978-0691138480, July 2008

Engel D. and Keilbach M. (2007), “Firm level implications of early stage venture capital investments: an empirical investigation”, *Journal of Empirical Finance*, Vol. 14, pp. 150-167

Ernst D. (2007), “Beyond the ‘Global Factory’ model: innovative capabilities for upgrading China's IT industry”, *International Journal of Technology and Globalization*, Vol. 3, No. 4, pp. 437-459

Ernst D. and Lundvall B.A. (2004), “Information technology in the learning economy: challenges for developing countries”, in Reinert E.S. (Ed.), *Globalization, Economic Development and Inequality: An Alternative Perspective*, Edward Elgar Publishing USA., pp. 258-287

Esping-Andersen Gosta (1990), “The three worlds of welfare capitalism”, John Wiley & Sons

Fairbank John King and Goldman Merle (2010), “Histoire de la Chine. Des origines à nos jours”, Tallandier, Paris. Translated from “China a new history” (2006), Harvard University Press

Fairbank John King (1987), “The Great Chinese Revolution 1800-1985”, Harper Perennial 1st Perennial Library Ed Edition, ISBN-10: 006039076X

Fama E. F. and Jensen M. C. (1983), “Agency problems and residual claims”, *Journal of Law and Economics*, Vol. 26, pp. 327-349

Fama E. F. (1997), “Market Efficiency, Long-Term Returns, and Behavioral Finance”, *Journal of Financial Economics*, Vol. 49, Issue 3, 1 September 1998, pp. 283-306

Fan Gang and Hope Nicholas C. (2013), “The Role of State-Owned Enterprises in the Chinese Economy”, Part 2 Chapter 16 in *US-China Economic Relations in the Next Ten Years – towards Deeper Engagement and Mutual Benefit*, sponsored by China-United States Exchange Foundation, <http://www.swwww.chinausfocus.com/2022/>

Fan Y. (2002), “Questioning guanxi: definition, classification and implications”, *International business review*, Vol. 11, No. 5, pp. 543-561

Fang L., Ivashina V. and Lerner J. (2012), “The Disintermediation of Financial Markets: Direct Investing in Private Equity”, INSEAD Faculty & Research Working Paper

Fang Lily and Leeds Roger (2008), “Chinese private equity cases”, World Economic Forum, The Global Economic Impact of Private Equity Report 2008, pp. 113-140

Farrell Diana, Susan Lund, Rosenfeld J., Morin F., Gupta N. and Greenberg E. (2006), “Putting China’s Capital to Work: The Value of Financial System Reform”, McKinsey Global Institute Report

Felipe J., Kumar U., Usui N. and Abdou A. (2013), “Why has China succeeded - And why it will continue to do so”, *Cambridge journal of economics*, Vol. 37, No. 4, pp. 791-818

Félix E., Gulamhussen M.A. and Pires C.P. (2007), “The Determinants of Venture Capital in Europe - Evidence Across Countries”, CEFAE-UE Working Paper No. 2007/01

Fenn G., Liang N. and Prowse S. (1995), “The Economics of Private Equity Markets”, Staff Study 168, Board of Governors of the Federal Reserve System

- Ferragina E. (2012), "Social Capital in Europe: A Comparative Regional Analysis", Cheltenham: Edward Elgar
- Ferragina E. (2010), "Social Capital and Equality: Tocqueville's Legacy", *The Toqueville Review*, Vol. 31, pp. 73-98
- Frank Andre Gunder (1998), "Reorient: Global Economy in the Asian Age", University of California Press
- Fried V. H. and Hisrich R. D. (1994), "Toward a model of venture capital investment decision-making", *Financial Management*, 1994, Vol. 23, pp. 28-37
- Fu Xiaolan and Gao Yuning (2007), "Export Processing Zones in China: A Survey", report submitted to ILO, October 2007
- Fukuyama Francis (2000), "Social Capital and Civil Society", IMF Working Paper No.00/74, available at SSRN: <http://ssrn.com/abstract=879582>
- Fukuyama Francis (1995), "Social capital and the global economy", *Foreign Affairs*, Vol. 74, pp. 89-103, available at <http://www.jstor.org/stable/20047302>
- Fukuyama Francis (1989), "The End of History", *The National Interest*, available at <http://www.wesjones.com/eoh.htm>
- Fung Huang Gay, Xu Xiaqing Eleanor and Zhang Qizi (2007), "On the financial performance of private enterprises in China", *Journal of Developmental Entrepreneurship*, Vol. 12, Issue 4, pp. 399-414
- Galbraith John K. (2009), "The Great Crash", Houghton Mifflin Harcourt, 1st edition published in 1953
- Garmaise M. (1999), "Informed Investors and the Financing of Entrepreneurial Projects", Working paper, University of Chicago
- Gary H. Jefferson, Su Jian, Jiang Yuan and Yu Xinhua (2003), "The Impact of Shareholding Reform on Chinese Enterprise, 1995-2001", Center for Global Development Washington D.C., September 22, 2003
- Gentry W. M. and R. G. Hubbard (2000), "Tax policy and entrepreneurial entry", *American Economic Review*, Vol. 90, pp. 283-287
- Gill A., Allen J. and Powell S. (2010), "CG Watch 2010: Corporate Governance in Asia", CLSA Asia-Pacific Markets
- Gillan Stuart L. and Starks Laura T. (2002), "Institutional Investors, Corporate Ownership and Corporate Governance", UNU/WIDER United Nations University, Discussion Paper No. 2002/9
- Gilson Ronald J. (2003) "Engineering a venture capital market: Lessons from the American experience", *Stanford Law Review*, Vol. 55, No. 4, pp. 1067-1103
- Gold T., Guthrie D. and Wank D. (2002), "An introduction of the study of guanxi", in Gold T., Guthrie D. and Wank D. (Eds.), *Social connections in China: Institutions, culture, and the changing nature of guanxi*, Cambridge University Press, pp. 3-20
- Gompers Paul, Kovner Ann, Lerner Josh and Scharfstein David (2008), "Venture capital investment

- cycles: The impact of public markets”, *Journal of Financial Economics*, Elsevier, Vol. 87, No. 1, pp. 1-23, January
- Gompers P. and Lerner J. (2000), “Money chasing deals? The impact of fund inflows on private equity valuations”, *Journal of Financial Economics*, 55, pp. 281-325
- Gompers P.A. and Lerner J. (1999), “What Drives Venture Capital Fundraising”, NBER Working Paper No. 6906
- Gompers Paul A (1996), “Grandstanding in the venture capital industry”, *Journal of Financial Economics*, Vol. 42, No. 1, pp. 133-156
- Gompers Paul A. and Lerner Josh (1996), “The Use of Covenants: An Empirical Analysis of Venture Partnership Agreements”, *Journal of Law and Economics*, Vol. 39, Issue 2, pp. 463-498
- Gompers Paul A. (1995), “Optimal Investment, Monitoring, and the Staging of Venture Capital”, *Journal of Finance*, Vol. 50, No. 5, pp. 1461-1489
- Gorton G. and Winton A. (2003), “Financial Intermediation”, in *Handbook of the Economics of Finance: Corporate Finance*, New York, Elsevier Science
- Grenier Paola and Wright Karen (2006), “Social Capital in Britain: Exploring the Hall Paradox”, *Policy Studies*, Vol. 27, Issue 1, pp. 27-53
- Gu S. (1999), “China’s Industrial Technology: Market Reform and Organizational Change”, Routledge, London
- Guiso L., Sapienza P. and Zingales L. (2000), “The role of social capital in financial development”, No. w7563, National bureau of economic research
- Guo Di, Guo Yan and Jiang Kun (2014), “Government Subsidize R&D and Innovation Outputs: An Empirical Analysis on China’s Innofund Program”, Stanford Center for International Development, working paper No. 494
- Guthrie Doug (2002), “Information asymmetries and the problem of perception: The significance of structural position in assessing the importance of guanxi in China”, in Gold T., Guthrie D. and Wank D. (Eds.), *Social connections in China: Institutions, culture, and the changing nature of guanxi*, Cambridge University Press, pp. 37-56
- Hall Peter A. (2005), “Institutional Complementarities: Causes and Effects”, *Socioeconomic Review*, Vol. 3, No. 2, May 2005
- Hall P. A. and Gingerich D.W. (2004), “Varieties of Capitalism and Institutional Complementarities in the Marcoeconomy: An Empirical Analysis”, MPIfG Discussion Paper 04/5, Max Planck Institute for the Study of Societies Cologne, September 2004
- Hall Peter A. and Soskice David (2003), “Varieties of Capitalism and Institutional Change: A Response to Three Critics”, *Comparative European Politics*, Vol. 2, 2003
- Hall Peter A. and Soskice David (2001), “Varieties of Capitalism: The Institutional Foundations of Comparative Advantage”, Oxford: Oxford University Press
- Hall Peter A. (1999), “Social Capital in Britain”, *British Journal of Political Science*, Vol. 29, No. 3, pp. 417-461

Hamilton Gary G. (1989), "Patterns of Asian Capitalism: The Cases of Taiwan and South Korea", Program in East Asian Culture and Development Research Working Paper Series, No. 28, Davis: Institute of Governmental Affairs, University of California

Hancké Bob and Soskice David (1996), "Coordination and restructuring in large French firms: the evolution of French industry in the 1980s", discussion paper at Wissenschaftszentrum, Berlin

Hardy C. and Maguire S. (2007), "Institutional Entrepreneurship", The SAGE *Handbook of Organizational Institutionalism*, edited by Royston Greenwood, Christine Oliver, Roy Suddaby and Kerstin Sahlin-Andersson

http://books.google.fr/books?id=ZPhlVSswXIROC&pg=PA198&lpg=PA198&dq=actors+whom+the+responsibility+for+new+or+changed+institutions+is+attributed++Hardy+and+Maguire,+2007&source=bl&ots=08iXo6xb_C&sig=CVqx_2vKVpycYbiGsLxRgxFr66c&hl=fr&sa=X&ei=A4DrU4zrLLGA7Qa5p4DoCw&ved=0CCAQ6AEwAA#v=onepage&q=actors%20whom%20the%20responsibility%20for%20new%20or%20changed%20institutions%20is%20attributed%20%20Hardy%20and%20Maguire%2C%202007&f=false

Harris R., Siegel D. S. and Wright M. (2005), "Assessing the impact of management buyouts on economic efficiency: plant-level evidence from the United Kingdom", *Review of Economics and Statistics*, Vol.87, pp. 148-153

Harriss J., Hunter J. and Lewis C. (1995), "The New Institutional Economics and Third World Development", London: Routledge

Hart O. (1995), "Corporate governance: some theory and implications", *Economic Journal*, Vol. 105, pp. 678-689

Harvey David (2010), "The Enigma of Capital and the Crises of Capitalism", London: Profile Books, pp. 46, ISBN 1-84668-308-4

Hayek F. (1973), "Droit, législation et liberté", Vol. 1, Règles et ordres, Paris, PUF, 1995

Heilbroner Robert L. (1985), "The Nature and Logic of Capitalism", W.W. Norton & Company

Heilbroner Robert L. (2000), "The Worldly Philosophers: The Lives, Times and Ideas of the Great Economic Thinkers", 7th edition, Penguin Economics History, 1st edition in 1953

Hellmann T. (2002), "A theory of strategic venture investing", *Journal of Financial Economics*, Vol.64, pp. 285-314

Hellmann T. and Puri M. (2002), "Venture Capital and the Professionalization of Start-up Firms: Empirical Evidence", *Journal of Finance*, Vol. 57, No. 1 (Feb., 2002), pp. 169-197

Hellmann T. and Puri M. (2000), "The Interaction between Product Market and Financing Strategy: The Role of Venture Capital", *Review of Financial Studies*, Vol. 13, No. 4, pp. 959-984

Henisz W. J. (2000), "The institutional environment for economic growth", *Economics & Politics*, Vol. 12, No. 1, pp. 1-31

Henrekson M. and N. Rosenberg (2001), "Designing efficient institutions for science-based entrepreneurship: lesson from the US and Sweden", *Journal of Technology Transfer*, Vol. 26, pp. 207-231

Herrmann-Pillath Carsten (2009), "Social Capital, Chinese Style: Individualism, Relational Collectivism and the Cultural Embeddedness of the Institutions-Performance Link", *China Economic*

Journal, Vol. 2, No. 3, pp. 325-350, available at SSRN: <http://ssrn.com/abstract=1481192>

Hevia James L. (1995), “Cherishing Men from Afar: Qing Guest Ritual and the Macartney Embassy of 1793”, Durham, NC: Duke University Press

Hirukawa M. and Ueda M. (2008), “Venture capital and industrial innovation”, CEPR Discussion Paper No. 7089

Hodgson M. Geoffrey (2003), “John R. Commons and the Foundations of Institutional Economics”, *Journal of Economics*, Vol.37, No.3, September 2003

Hollingsworth J. Rogers and Boyer Robert (1997), “The Variety of Institutional Arrangements and Their Complementarity in Modern Economics”, in Hollingsworth J. Rogers and Boyer Robert edited, *Contemporary Capitalism: the Embeddedness of Institutions*, New York and Cambridge: Cambridge Press, pp. 49-55

Hsu David and Ziedonis Rosemarie (2013), “Resources as dual sources of advantage: implications for valuing entrepreneurial-firm patents”, *Strategic Management Journal*, ISSN 0143-2095, 2013, Vol. 34, No. 7, pp. 761-781

Hsu David and Ziedonis Rosemarie (2011), “Strategic factor markets and the financing of technology startups: when do patents matter more as signaling devices?” Unpublished working paper

Huang K. P. and Wang K. Y. (2011), “How guanxi relates to social capital? A psychological perspective”, *Journal of Social Sciences*, Vol. 7, No. 2, pp. 120-126

Huang Yasheng (2011a), “Rethinking the Beijing Consensus”, *Asia Policy*, No. 11, January 2011, pp. 1-26

Huang Yasheng (2011b), “Capitalism with Chinese Characteristics: Dynamics and Challenges in Chinese Economy”, MIT Sloan School of Management Founder, China Lab and India Lab

Huang Yasheng (2008), “Capitalism with Chinese Characteristics – Entrepreneurship and the State”, Cambridge University Press

Hwang Hokyū and Powell Walter W. (2005), “Institutions and Entrepreneurship”, *The Handbook of Entrepreneurship*, Chapter 9, pp.179-210
<http://www.stanford.edu/group/song/papers/HwangPowell.pdf>

Ippolito Roberto (2007), “Private Equity in China and India”, *Journal of Private Equity*, Fall 2007

Isaksson A., Cornelius B., Landström H. and Junghagen S. (2004), “Institutional theory and contracting in venture capital: the Swedish experience”, *Venture Capital*, January 2004, Vol. 6, No.1, pp. 47-71

Jacob J.Bruce (1979), “A preliminary model of particularistic ties in Chinese political alliances: Kan-ching and Kuan-his in a rural Taiwanese township”, *China Quarterly*, No. 78, pp. 237-273, Cambridge University Press, available at <http://www.jstor.org/stable/652955>

Jeng L.A. and Wells P.C. (2000), “The Determinants of Venture Capital Fundraising: Evidence across Countries”, *Journal of Corporate Finance*, Vol. 6, No. 3, pp. 241-289

Jenkinson T. (2006), “The development and performance of European private equity”, working paper, Saïd Business School

Jensen Michael (1989), “Eclipse of the Public Corporation”, *Harvard Business Review*, Vol. 67, No. 5, pp. 61-74

Jensen Michael C. and Meckling William H. (1976), “Theory of the Firm: Managerial Behavior, Agency costs and Ownership Structure”, *Journal of Financial Economics*, October, 1976, Vol.3, No.4, pp. 305-360
<http://www.people.hbs.edu/mjensen/pub1.html>

Kaplan S. N. (1989a), “The effects of management buyouts on operations and value”, *Journal of Financial Economics*, Vol.24, pp. 833-840

Kaplan S. N. (1989b), “Management buyouts: Evidence on taxes as a source of value”, *Journal of Finance*, Vol. 44, No. 3, pp. 611-632

Kaplan Steven N. and Schoar A. (2005), “Private Equity Performance: Returns, persistence, and capital flows”, *Journal of Finance*, 2005, Vol.60, 4:1791-1823

Kaplan Steven N. and Strömberg Per (2003), “Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital”, *Review of Economic Studies*, Vol. 70, No. 2, pp. 281-315

Kaplan S. N. and Lerner J. (2010), “It ain’t broke: the past, present, and future of venture capital”, *Journal of Applied Corporate Finance*, Vol. 22, No. 2, 2010, pp. 36–47

Keynes J.M (1936), “General Theory of Employment, Interest and Money”, Macmillan Cambridge University Press

Khanin Dmitry, Baum J. Robert, Mahto Raj V. and Heller Charles (2008), “Venture Capitalists’ Investment Criteria: 40 Years of Research”, *Small Business Institute Research Review*, Vol.35, 2008, pp.187-192

Klepper S. and Sleeper S. (2005), “Entry by spinoffs”, *Management Science*, Vol. 51, pp. 1291-1306

Knack S. and Keefer P. (1995), “institutions and economic performance: cross-country tests using alternative institutional indicators”, *Economics and Politics*, 1995, Vol.7, No. 3, pp. 207-228

Knell M. (2012), “Schumpeter, Minsky and the financial instability hypothesis”, unpublished manuscript on <http://www.aomevents.com/media/files/ISS>

Knight Jack (1992), “Institutions and Social Conflict”, Cambridge: Cambridge University Press, 1992

Knight R. M. (1994), “Criteria used by venture capitalists: a cross cultural analysis”, *International Small Business Journal*, Vol. 13, pp. 26-37

Kornai Janos (2014), “Can China set us an example?”, first available online at http://www.kornai-janos.hu/Kornai2014_Can_China_Set_Us_an_Example.pdf

Kornai Janos (2009), “Socialism and the Market: Conceptual Clarification”, In János Kornai and Yingqi Qian (Eds.), *Market and Socialism – In the Light of Experiences of China and Vietnam*, New York: Palgrave Macmillan, in association with the International Economic Association, pp. 11-24

Kortum S. and Lerner J. (2000), “Assessing the contribution of venture capital to innovation”, *Rand Journal Economics*, 2000, Vol. 31, No. 4, pp. 674-692

Kung James Kai-sing and Lin Yi-min (2007), “The Decline of Township-and-Village Enterprises in China’s Economic Transition”, *World Development*, Vol. 35, No. 4, pp. 569-584

Kwon Seok-Woo and Adler Paul S. (2014), "Social capital: maturation of a field of research", *Academy of Management Review*, Vol. 39, Issue 4, pp. 412-422

La Porta R, Lopez-de-Silanes F, Shleifer A and Vishny R. (2002), "Investor Protection and Corporate Valuation", *Journal of Finance*, 2002, Vol. 57, pp.1147-1170

La Porta R, Lopez-de-Silanes F, Shleifer A and Vishny R. (2000), "Agency problems and dividend policies around the world", *Journal of Finance*, Vol.55, pp.1-33

La Porta R., Lopez-de-Silanes F., Shleifer A. and Vishny R. (1998), "Law and Finance", *Journal of Political Economy*, 1998, Vol. 106, pp.1113-1155

La Porta R., Lopez-de-Silanes F., Shleifer A. and Vishny R. (1997), "Legal Determinants of External Finance", *Journal of Finance*, Vol.52, pp.1131-1150

Landes David S. (1998), "The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor", W. W. Norton & Company

Landström H., Manigart S., Mason C. and Sapienza H. (1998), "Contracts between entrepreneurs and investors: terms and negotiation processes", In P. D. Reynolds, W. B. Bygrave, N. M. Carter, S. Manigart, C. M. Mason, G. D. Meyer and K. G. Shaver (eds), *Frontiers of Entrepreneurship Research*, Babson Park, MA: Babson College, pp. 571-585

Landström H. (1990), "Co-operation between venture capital companies and small firms", *Entrepreneurship and Regional Development*, Vol. 2, No. 4, pp.345-362

Lau Lawrence J. (2002), "The Source of Long-Term Economic Growth", Stanford University

Lau Lawrence J., Qian Yingyi and Roland Gerard (2000), "Reform without losers: an interpretation of China's dual-track approach to transition", *Journal of Political Economy*, Vol. 108, No. 1, pp. 120-43

Lazonick William and O'Sullivan Mary (1997), "Finance and industrial development, Part I: The United States and the United Kingdom?", *Financial History Review*, Vol. 4, pp.7-29

Lee K. and Mathews J. A. (2010), "From Washington Consensus to BeST Consensus for world development", *Asian-Pacific Economic Literature*, Vol. 24, pp. 86-103

Lee Samuel and Persson Petra (2013), "Financing from Family and Friends", IFN Working Paper No. 933, NYU Stern Working Paper FIN-12-007, ECGI - Finance Working Paper No. 358. Available at SSRN: <http://ssrn.com/abstract=2086625>

Leisen Dietmar P.J. (2012), "Staged venture capital contracting with ratchets and liquidation rights", *Review of Financial Economics*, Vol. 21, pp. 21-30

Lerner J. and Tåg J. (2013), "Institutions and venture capital", *Industrial and Corporate Change*, Vol. 22, No. 1, pp. 153-182

Lerner J. and Schoar A. (2005), "Does legal enforcement affect financial transaction? The contractual channel in private equity", *Quarterly Journal of Economics*, Vol. 120, pp. 223-246

Lerner J. (2002), "When bureaucrats meet entrepreneurs: the design of effective 'public venture capital' programs", *Economic Journal*, Vol. 112, Issue 477, F73-F84

Lerner J. (1995), "Venture capitalists and the oversight of private firms", *Journal of Finance*, Vol. 50,

pp. 301-318

Leslie Phillip and Oyer P. (2009), "Managerial incentives and value creation: evidence from private equity", Stanford Graduate School of Business, August, 2009

Li Jing (2011), "Private Equity Financings in China: Is There an Issue of Corporate Relocations?" Tilburg Law School Working Paper, January 15, 2011

Li Xing and Shaw Timothy M. (2013), "The Political Economy of Chinese State Capitalism", *China and International Relations*, Vol. 1, No. 1, pp. 88-113

Li Yaojun (2013), "Social Class and Social Capital in China and Britain: A Comparative Study", *Social Inclusion*, Vol. 1, Issue 1, pp. 59-71

Lichtenberg F. R. and Siegel D. S. (1990), "The effect of leveraged buyouts on productivity and related aspects of firm behavior", *Journal of Financial Economics*, Vol. 27, pp. 165-194

Lin Nan (1999), "Building a Network Theory of Social Capital", *Connections*, Vol. 22, No. 1, pp. 28-51. Available at: <http://www.insna.org/PDF/Keynote/1999.pdf>

Lin Yifu (2011), "New structural economics: a framework for rethinking development", *World Bank Research Observer*, Vol. 26, No. 2, pp. 193-221

Lin Yifu (2010), "Demystifying the Chinese Economy", Econometric Society World Congress

Lin Yifu (2009), "Economic Development and Transition: Thought, Strategy, and Viability", Cambridge: Cambridge University Press

Lin Yifu (2005), "Development Strategies and Regional Income in China", China Center for Economic Growth, November WP 2005006

Lin Y. and Zhu T. (2001), "Ownership restructuring in Chinese state industry: an analysis of evidence on initial organizational changes", *The China Quarterly*, Vol. 166, pp. 298-334

Lin Yifu and Liu Zhiqiang (2000), "Fiscal Decentralization and Economic Growth in China", *Economic Development and Cultural Change*, Vol. 49, No. 1, pp. 1-21

Lin Y., Cai F. and Li Z. (1996), "The China Miracle: Development Strategy and Economic Reform", Hong Kong SAR, China: Chinese University Press

Linden Greg (2004), "China Standard Time: A Study in Strategic Industrial Policy", *Business and Politics*, Article 4, Volume 6, Issue 3

Linton Katherine Conner (2006), "Access to capital in China: competitive conditions for foreign and domestic firms", U.S. International Trade Commission

Lipietz Alain (1991), "Regulation", in Bottomore (ed) *Dictionary of Marxist Thought*, second edition, Blackwell, Oxford

Ljungqvist A. and Richardson M. (2003), "The cash flow, return and risk characteristics of private equity", NYU Finance Working Paper No. 03-001

Lordon Frédéric (2008), "Jusqu'à quand ? Pour en finir avec les crises financières", édition Raisons d'agir, 2008

- Lordon Frédéric (2008), “Conflits et pouvoirs dans les institutions du capitalisme”, Presses de Sciences-Po, 2008
- Lossen U. (2006), “The Performance of Private Equity Funds: Does Diversification Matter”, Munich Business Research, Ludwig-Maximilians-Universität, Working paper No. 2006-14
- Luo Yadong, Huang Ying and Wang Stephanie Lu (2012), “Guanxi and Organizational Performance: A Meta-Analysis”, *Management & Organization Review*, Vol. 8, Issue 1, pp. 139-172
- Luo X., Hsu M. K. and Liu S. S. (2008), “The moderating role of institutional networking in the customer orientation-trust/commitment-performance causal chain in China”, *Journal of the Academy of Marketing Science*, Vol. 36, No. 2, pp. 202-214
- MacMillan I. C., Zemann L. and Subba N. (1987), “Criteria distinguishing successful from unsuccessful ventures in the venture screening process”, *Journal of Business Venturing*, Vol. 2, pp. 123-137
- MacMillan I. C., Siegel R. and Subba N. (1985), “Criteria used by venture capitalists to evaluate new venture proposals”, *Journal of Business Venturing*, Vol. 1, pp. 119-128
- Malone S. (1989), “Characteristics of smaller company leveraged buyouts”, *Journal of Business Venturing*, Vol. 4, pp. 345-59
- Medearis John (1997), “Schumpeter, the New Deal, and Democracy”, *American Political Science Review*, Vol. 91, pp. 819-832, December
- Megginson W. (2004), “Towards a Global Model of Venture Capital?”, *Journal of Applied Corporate Finance*, 2004, Vol.16, 1:89-107
- Megginson William L. and Jeffrey M. Netter (2001), “From State to Market: A Survey of Empirical Studies on Privatization”, *Journal of Economic Literature*, Vol. 39, No. 2, pp. 321-389
- Mehrling Perry (1999), “The vision of Hyman P. Minsky”, *Journal of Economic Behavior & Organization*, Vol. 39, pp. 129-158
- Ménard Claude and Shirley Mary M. (2014), “The Contribution of Douglass North to New Institutional Economics”, *Institutions, Property Rights and Economic Growth: The Legacy of Douglass North*, Cambridge University Press, pp. 11-29
- Merton R. (1987), “A Simple Model of Capital Market Equilibrium with Incomplete Information”, *Journal of Finance*, Vol. 42, pp. 483-510
- Metrick Andrew and Yasuda Ayako (2011), “Venture Capital and Other Private Equity: a Survey”, *European Financial Management*, Volume 17, Issue 4, pages 619–654, September 2011
- Metrick A. and Yasuda A. (2010), “The Economics of Private Equity Funds”, *Review of Financial Studies*, Vol.23, 2303-2341
- Meyer John W. and Rowan Brian (1977), “Institutionalized Organizations: Formal Structure as Myth and Ceremony”, *American Journal of Sociology*, Vol. 83, pp. 340-363
- McCluskey Alan (2006), “Individuals and Institutions”, ISSN: 1664-834X
<http://www.connected.org/is/Institutions.html>
- Michelacci C. and J. Suarez (2004), “Business Creation and the Stock Market”, *Review of Economic*

Studies, Vol. 71, pp. 459-481

Minsky Hyman P. (1993), "Finance and Stability: The Limits of Capitalism", Levy Economics Institute Working Paper No. 93, available at SSRN: <http://ssrn.com/abstract=141121>

Minsky Hyman P. (1992), "The Financial Instability Hypothesis", Jerome Levy Economics Institute Working Paper No. 74, available at SSRN: <http://ssrn.com/abstract=161024>

Minsky Hyman P. (1986), "The evolution of financial institutions and the performance of the economy", *Journal of Economic Issues*, Vol. 20, No. 2, pp. 345-353

Minsky Hyman P. (1982), "Can 'It' Happen Again? A Reprise", Hyman P. Minsky Archive, Paper 155, http://digitalcommons.bard.edu/hm_archive/155

Minsky Hyman P. (1974), "John Maynard Keynes" Columbia University Press: New York

Minsky Hyman P. (1967), "Financial intermediation in the money and capital markets", in: Pontecorvo G., Shay R.P. and Hart A.G. (Eds.), *Issues in Banking and Monetary Analysis*, Holt, Rinehart and Winston, New York, pp. 33-56

Montinola G., Qian Yingyi and Weingast B. (1996), "Federalism, Chinese Style: The Political Basis for Economic Success", *World Politics*, Vol. 41, No. 1, pp. 50-81

Morin François (2000), "A transformation in the French model of shareholding and management", *Economy and Society*, Vol. 29, No. 1, pp. 36-53

Morris Samit (2005), "Cultural effects on entrepreneurial decision-making: why every society can't be entrepreneurial", Florida Atlantic University, AIB-SE (USA) 2005 Annual Meeting, Charleston, SC

Muzyka D., Birley S. and Leleux B. (1996), "Trade-offs in the investment decisions of European venture capitalists", *Journal of Business Venturing*, Vol. 11, pp. 273-287

Nahapiet J. and Ghoshal S. (1998), "Social capital, intellectual capital and the organizational advantage", *Academy of Management Review*, Vol. 23, No. 2, pp. 242-266

Nan Lin and Bonnie H Erickson (2008), "Social Capital: An International Research Program", Oxford: Oxford University Press

Naughton Barry (2011), "China's economic policy today: The new state activism", *Eurasian Geography and Economics*, Vol. 52, No. 3, pp. 313-329

Naughton Barry (2010), "China's distinctive system: can it be a model for others?", *Journal of Contemporary China*, Vol. 19, No. 65, pp. 437-460

Naughton Barry (2009), "China: Economic Transformation Before and After 1989", draft prepared for the conference "1989: Twenty Years After", University of California, Irvine, November 6-7, 2009

Naughton Barry (2008), "A Political Economy of China's Economic Transition", in Loren Brandt and Thomas G. Rawski (eds.), *China's Great Transformation*, Cambridge University Press, pp. 91-135

Naughton Barry (2007), "The Chinese Economy: Transition and Growth", MIT Press, Cambridge

Naughton B. (1995), "China's macroeconomy in transition", *The China Quarterly*, Vol. 144, pp. 1083-1104

- Naughton Barry (1990), "China's Experience with Guidance Planning", *Journal of Comparative Economics*, Vol. 14, pp. 743-767
- Nee Victor, Sonja Opper and Sonia Wong (2007), "Developmental State and Corporate Governance in China", *Management and Organization Review*, Vol. 3, No. 1, pp. 19-53
- Nee Victor (1992), "Organizational Dynamics of Market Transition: Hybrid Forms, Property Rights, and Mixed Economy in China", *Administrative Science Quarterly*, Vol. 37, No. 1, March, pp. 1-27
- Needham Joseph (2004), "General Conclusions and Reflections", Part 2 of Volume 7 *the Social Background*, edited by Kenneth Girdwood Robinson
- Needham Joseph (1970), "Clerks and craftsmen in China and the west: lectures and addresses on the history of science and technology", London: Cambridge University Press
- Nikoskelainen Erkki and Wright Mike (2007), "The impact of corporate governance mechanisms on value increase in leveraged buyouts", *Journal of Corporate Finance*, Vol. 13, pp. 511-537
- North Douglass C. (1994), "Economic Performance through Time", *American Economic Review*, Vol. 84, No. 3, pp. 359-363
- North Douglass C. (1990), "Institutions, Institutional Change and Economic Performance", Cambridge University Press
- North Douglass C. (1981), "Structure and Change in Economic History", New York: W.W. Norton
- North Douglass C. and Thomas Robert P. (1972), "The Rise of the Western World: A New Economic History", Cambridge University Press, 1972
- Oi J. (1995), "The Role of the Local State in China's Transitional Economy", *China Quarterly*, No. 144, pp. 1132-1150
- Oi J. (1999), "Rural China Takes Off: Institutional Foundations of Economic Reform", Berkeley: University of California Press
- Ohmae Kenichi (1990), "The Borderless World", London: Collins
- Oliver Christine (1991), "Strategic Responses to Institutional Processes", *Academy of Management Review*, Vol. 16, No. 1, January 1991, pp. 145-179
- Orléan André (1999), "Le pouvoir de la finance", Paris, Odile Jacob
- Ostrom Elinor (1990), "Governing the Commons: The Evolution of Institutions for Collective Action", New York: Cambridge University Press
- Palich L. E., Cardinal L. B. and Miller C. C. (2000), "Curvilinearity in the diversification - performance linkage: an examination of over three decades of research", *Strategic Management Journal*, Vol. 21, No. 2, pp. 155-174
- Palombarini Stefano et Théret Bruno (2001), "Le politique et l'économique dans l'émergence des nouvelles régulations", note de recherche CEPREMAP
- Palombarini Stefano (1999), "Vers une théorie régulationniste de la politique économique", *l'Année de la Régulation*, No. 3, La Découverte, Paris, pp. 97-125

Peres Wilson and Primi Annalisa (2009), “Theory and Practice of Industrial Policy – Evidence from the Latin American Experience”, Industrial and Technologies Development Unit, U.N. Economic Commission for Latin American and the Caribbean (ECLAC), United Nations Publications, ISBN: 978-92-1-121697-4

Perelstein J.S. (2009), “Macroeconomic Imbalances in the United States and Their Impact on the International Financial System”, Levy Economics Institute Working Paper No. 554

Phalippou Ludovic and Gottschalg Oliver (2009), “The Performance of Private Equity Funds”, *Review of Financial Studies*, Vol. 22, Issue 4, pp. 1747-1776

Phalippou L. and M. Zoilo (2005), “What Drives Private Equity Fund Performance”, working paper, November 2005

Phan P. and Hill C. (1995), “Organizational restructuring and economic performance in leveraged buyouts: an ex post study”, *Academy of Management Journal*, Vol. 38, pp. 99-124

Polanyi Karl (2001), “The Great Transformation: The Political and Economic Origins of Our Time”, Boston: Beacon Press. First edition (1944), New York: Farrar & Rinehart

Pomeranz Kenneth (2000), “The Great Divergence: China, Europe, and the Making of the Modern World Economy”, Princeton University Press

Poterba J. (1989a), “Venture capital and capital gains taxation”, in L. Summers (ed.), *Tax Policy and the Economy*, MIT Press: Cambridge, MA, pp. 47-67

Poterba J. (1989b), “Capital gains tax policy toward entrepreneurship”, *National Tax Journal*, Vol. 42, pp. 375-390

Putnam Robert D. (1995), “Bowling Alone: America’s Declining Social Capital”, *Journal of Democracy*, Vol. 6, No. 1, pp. 65-78

Putnam Robert D. (1993), “Making Democracy Work: Civic Traditions in Modern Italy”, Princeton: Princeton University Press

Qian Mu (2001), “China Historical Research Method”, Beijing: Sanlian Publishing

Qian Yingyi (2002), “How Reform Worked in China”, CEPR Discussion Papers

Qian Yingyi (1999), “The Institutional Foundations of China’s Market Transition”, paper prepared for the World Bank’s Annual Conference on Development Economics, Washington, D.C., April 28-30, 1999

Qian Yingyi and Roland Gerard (1998), “Federalism and the Soft Budget Constraint”, *American Economic Review*, Vol. 88, No. 5, pp. 1143-1162

Qian yingyi, Bai Chong-en and Hsieh Chang-tai (2006), “The Return of Capital to China”, *Brookings Papers on Economic Activity*, Vol. 2, pp. 61-101

Redding Gordon, Michael Bond and Michael A. Witt (2014), “The Role of Culture in Asian Business Systems”, in Michael A. Witt and Gordon Redding (Eds.), *The Oxford Handbook of Asian Business Systems*, pp. 358-382, Oxford, UK: Oxford University Press

Redding Gordon and Michael A. Witt (2009), “China’s Business System and Its Future Trajectory”,

Asia Pacific Journal of Management, Vol. 26, No. 3, pp. 381-399

Redding Gordon and Michael A. Witt (2007), "The Future of Chinese Capitalism: Choices and Chances", Oxford, UK: Oxford University Press

Reinert Erik S. (2009), "Emulation versus Comparative Advantage: Competing and Complementary Principles in the History of Economic Policy", in Mario Cimoli, Giovanni Dosi, and Joseph E. Stiglitz edited, *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*, Oxford University Press

Reinert Erik S. (2007), "Institutionalism Ancient, Old and New: A Historical Perspective on Institutions and Uneven Development", in H-J. Chang (ed.), *Institutional Change and Economic Development*, United Nations University Press, New York/Anthem, London

Reinert Erik S. (1994), "Catching-up from Way Behind: A Third World Perspective on First World History", in J. Fagerberg, B. Verspagen, and N. Tunzelmann (eds.), *The Dynamics of Technology, Trade and Growth*, Edward Elgar, Aldershot

Robinson R. R. (1987), "Emerging strategies in the venture capital industry", *Journal of Business Venturing*, Vol. 2, pp. 53-77

Robinson David T. and Sensoy Berk A. (2013), "Cyclicality, Performance Measurement, and Cash Flow Liquidity in Private Equity", Charles A. Dice Center Working Paper No. 2010-021

Rodrik Dani (2010), "Making Room for China in the World Economy", *American Economic Review*, Vol. 100, No. 2, pp. 89-93

Rodrik Dani (2008), "Second-Best Institutions", *American Economic Review*, Vol. 98, No. 2, pp. 100-104

Roe Mark J. (1993), "Mutual Funds in the Boardroom", *Journal of Applied Corporate Finance*, Morgan Stanley, Vol. 5, No. 4, pp. 56-61

Romain A. and Van Pottelsberghe de la Potterie B. (2004), "The Determinants of Venture Capital: a Panel Data Analysis of 16 OECD Countries", Université Libre de Bruxelles Working Paper WP-CEB 04/015, 2004

Rostow W. W. (1960), "The Stages of Economic Growth: A Non-Communist Manifesto", Cambridge: Cambridge University Press

Sahlman W. A. (1990), "The structure and governance of venture-capital organizations", *Journal of Financial Economics*, Vol. 27, No. 2, pp. 473-521

Sapienza H. and Korsgaard M. (1996), "The role of procedural justice in entrepreneur-venture capitalist relations", *Academy of Management Journal*, Vol.39, pp. 544-574

Schertler A. (2003), "Driving Forces of Venture Capital Investments in Europe: a Dynamic Panel Data Analysis", European Integration, Financial Systems and Corporate Performance (EIFC), working paper No. 3-27, United Nations University

Schmidt Vivien A. (2003), "French capitalism transformed, yet still a third variety of capitalism", *Economy and Society*, Volume 32 Number 4, November 2003, pp. 526-554

Schmidt Vivien A. (2002), "The Futures of European Capitalism", Oxford: Oxford University Press

- Schumpeter J. A. (1949), "The Theory of Economic Development: An inquiry into profits, capital, credit, interest and the business cycle", Cambridge, Mass: Harvard Univ. Press
- Schumpeter J. A. (1942), "Capitalism, Socialism, and Democracy", New York: Harper & Row
- Schumpeter J. A. (1939), "Business cycles", Vol. 1, pp. 161-174, New York: McGraw-Hill
- Scott W.R. (1995), "Institutions and Organizations", *Thousand Oaks*: Sage Publications
- Scott W.R. (1987), "Organizations: rational, natural, and open systems", Englewood Cliffs, NJ: Prentice-Hall
- Searle J. R. (2005), "What is an Institution?", *Journal of Institutional Economics*, Vol. 1, pp. 1-22
- Shane S. and Stuart T. (2002), "Organizational endowments and the performance of university start-ups", *Management Science*, Vol. 48, pp. 154-170
- Shapiro Robert and Pham Nam (2008), "The Role of Private Equity in U.S. Capital Markets", a PEGCC (Private Equity Growth Capital Council) supported study, October 2008
<http://www.pegcc.org/wordpress/wp-content/uploads/pec-study-role-of-pe-in-capital-markets-10-16-08-final.pdf>
- Shleifer Andrei and Vishny Robert W. (1997), "A Survey of Corporate Governance", *Journal of Finance*, 1997, Vol. 52, No.2, pp. 737-783
- Simon H. A. (1982), "Models of Bounded Rationality: Behavioral Economics and Business Organization", vol. 2. Cambridge, MA: MIT Press
- Soskice David, "Divergent production regimes: coordinated and uncoordinated market economies in the 1980s and 1990s", in Herbert Kitschelt, Peter Lange, Gay Marks and John Stephens (eds), *Continuity and Change in Contemporary Capitalism*, New York: Cambridge University Press
- Standifird S. S. and Marshall R. S. (2000), "The transaction cost advantage of guanxi-based business practices", *Journal of World Business*, Vol. 35, No. 1, pp. 21-42
- Stevens Philip and Weale Martin (2003), "Education and Economic Growth", *International Handbook on the Economics of Education*, pp. 164
- Stiglitz Joseph E. (1998), "Redefining the Role of the State: What should it do? How should it Do it? And How should these decisions be made?", the Tenth Anniversary of MITI Research Institute, Tokyo, Japan
- Stiglitz Joseph E. (1997), "The Role of Government in the Economies of Developing Countries", in E. Malinvaud and A.K. Sen eds., *Development Strategy and the Management of the Market Economy*, Oxford: Clarendon Press, pp. 61-109
- Stiglitz Joseph E. (1994), "Economic Growth Revisited", *Industrial and Corporate Change*, Vol. 3, No. 1, pp. 65-110
- Storm S. and Naastepad C. W. M. (2005), "Strategic factors in economic development: East Asian industrialization 1950–2003", *Development and Change*, Vol. 36, No. 6, pp. 1059-1094
- Stuart T. and Sorenson O. (2003), "Liquidity events and the geographic distribution of entrepreneurial activity", *Administrative Science Quarterly*, Vol. 48, pp. 175-201

- Suchman M. C. (1995), "Localism and globalism in institutional analysis: the emergence of contractual norms in venture finance", *The Institutional Construction of Organizations* (Thousand Oaks: Sage Publications)
- Sun Ming and Fang Sihai (2008), "The Role of Venture Capital in Listed Companies: Evidence from Mainland China", China National Natural Science Fund Project (70673008/G0302)
- Takeshi Jingu (2009), "China's Second Board", *Nomura Journal of Capital Markets*, winter 2009, Vol.1, No.4
- Takeshi Jingu and Tetsuya Kamiyama (2008), "China's Private Equity Market", *Nomura Capital Market Review*, Vol.11, No.3
- Talavera Oleksandr, Lin Xiong and Xiong Xiong (2012), "Social Capital and Access to Bank Financing: The Case of Chinese Entrepreneurs", *Emerging Markets Finance & Trade*, Vol. 48, Issue 1, pp. 55-69
- Tavits Margit (2006), "Making Democracy Work More? Exploring the Linkage between Social Capital and Government Performance", *Political Research Quarterly*, Vol. 59, No. 2, pp. 211-225
- Thompson S. and Wright M. (1995), "Corporate governance: The role of restructuring transactions", *Economic Journal*, Vol. 105, pp. 690-703
- Tirole Jean (2006), "The Theory of Corporate Finance", Princeton University Press, Princeton
- Tissen J.H. (1997), "Individualism, Collectivism, and Entrepreneurship: A Framework for International Comparative Research", *Journal of Business Venturing*, 12, pp. 367-384
- Trester Jeffrey (1998), "Venture capital contracting under asymmetric information", *Journal of Banking & Finance*, Vol. 22, No. 6, pp. 675-699
- Tsai K. S. (2004), "Imperfect Substitutes: The Local Political Economy of Informal Finance and Microfinance in Rural China and India", *World Development*, Vol. 32, No. 9, pp. 1487-1507
- Tyebjee Tyzoon T. and Bruno Albert V. (1984), "A Model of Venture Capitalist Investment Activity", *Management Science*, Vol.30, No.9, pp.1051-1066
- Ueda Masako (2004), "Banks versus Venture Capital: Project Evaluation, Screening, and Expropriation", *Journal of Finance*, Vol. LIX, No. 2, April 2004
- Ueda Masako (2000), "Bank versus Venture Capital", Economics Working Papers 522
- Ulf Axelson, Strömberg Per and Weisbach Michael S. (2009), "Why are Buyouts Levered? The Financial Structure of Private Equity Funds", *Journal of Finance*, Vol. 64, pp. 1549-1582
- Useem, M., Bowman E., Myatt J. and Irvine C. (1993), "US Institutional Investors Look at Corporate Governance in the 1990s", *European Management Journal*, Vol. 11, No. 2, pp. 175-189
- Vanberg V. (1997), "Institutional Evolution through Purposeful Selection: The Constitutional Economics of John R. Commons", *Constitutional Political Economy*, Volume 8, No.2, pp. 105-122
- Vanberg V. (1992), "Organizations as Constitutional Systems", *Constitutional Political Economy*, Volume 3, No.2, pp. 223-253
- Vassilev Miroslav (2005), "Venture Capital, Emerging Technology Firms and Value Added Beyond

- Financing”, Ford Fellowship Final Report, Mack Center for Technology Innovation, Wharton School
- Veblen Thorstein B. (1898), “Why is Economics Not an Evolutionary Science”, *The Quarterly Journal of Economics*, Volume 12
- Veblen Thorstein B. (1899), “The Theory of the Leisure Class: An economic study in the evolution of institutions”, New York: The Macmillan Company
- Veciana José Maria and Urbano David (2008), “The institutional approach to entrepreneurship research”, *International Entrepreneurship and Management Journal*, 2008, Vol. 4, pp. 365-370
- Vogel Ezra F. (2011), “Deng Xiaoping and the Transformation of China”, Belknap Press
- Wade Barbara (1962), “The Rich Nations and the Poor Nations”, W.W. Norton and Company: New York
- Walder Andrew G. (1986), “Communist Neo-Traditionalism: Work and Authority in Chinese Industry”, Berkeley, University of California Press
- Wallerstain I. (1980), “Mercantilism and the Consolidation of the European World Economy”, Volume II of his book *The Modern World-System*, New York and London: Academic Press
- Wallerstain I. (1974), “Capitalist Agriculture and the Origins of the European World Economy in the Sixteen Century”, Volume I of his book *The Modern World-System*, New York and London: Academic Press
- Walter C.E. and Howie F.J.T. (2012), “Red Capitalism: The Fragile Financial Foundation of China’s Extraordinary Rise”, Singapore: John Wiley & Sons
- Wang Jinmin, Wang Jing, Ni Hua and He Shaowei (2013), “How government venture capital guiding funds work in financing high-tech start-ups in China: a ‘strategic exchange’ perspective”, *Strategic Change*, Vol. 22, Issue 7-8, pp. 417-429
- Wang Xiaozu, Xu Lixin and Zhu Tian (2004), “State-owned enterprises going public: The case of China”, *Economics of Transition*, Vol. 12, No. 3, pp. 467-487
- Wank David L. (1998), “Commodifying Chinese Communism: Business, Trust, and Politics in a South Coast City”, Cambridge University Press
- Wank David L. (1996), “The Institutional Process of Market Clientelism: Guanxi and Private Business in a South China City”, *China Quarterly*, No. 147, September 1996, pp. 820-838, Cambridge University Press, <http://www.jstor.org/stable/655377>
- Weber Max (1968), “The Religion of China: Confucianism and Taoism”(1915), Free Press, New edition, May 1968
- Weber Max (1905), “The Protestant Ethic and the Spirit of Capitalism”, French edition “L’Ethique protestante et l’esprit du capitalisme” (1964), Plon
- Weiss Linda (1999), “State power and the Asian crisis”, *New Political Economy*, Vol. 4, pp. 317-342
- Weitzman Martin L. and Xu Chenggang (1994), “Chinese Township-Village Enterprises as Vaguely Defined Cooperatives”, *Journal of Comparative Economics*, Elsevier, Vol. 18, No. 2, pp. 121-145
- Williamson O. E. (2000), “The new institutional economics: Taking stock, looking ahead”, *Journal of*

Economic Literature, September 2000, Vol. 38, No. 3, pp. 595-613

Williamson O. E. (1996), "The mechanisms of governance", New York: Oxford University Press

Williamson O. E. (1991), "Comparative economic organization: the analysis of discrete structural alternatives", *Administrative Science Quarterly*, Vol. 36, No. 2, pp. 269-296

Williamson O.E. (1990), "The firm as a nexus of treaties: an introduction", in M. Aoki, B. Gustafsson and O.E. Williamson (eds), *The Firm as a Nexus of Treaties*, London: Sage

Williamson O.E. (1985), "The Economic Institutions of Capitalism", Free Press, 1985, trad. française: "Les institutions de l'économie", Inter-éditions, 1994

Williamson O.E. (1975), "Markets and Hierarchies: Analysis and Antitrust Implications", Free Press

Witt Michael A. and Redding Gordon (2014), "China: Authoritarian Capitalism", in Michael A. Witt and Gordon Redding (Eds.), *The Oxford Handbook of Asian Business Systems*, pp. 11-32, Oxford, UK: Oxford University Press

Witt Michael A. and Gordon Redding (2013), "Asian Business Systems: Institutional Comparison, Clusters, and Implications for Varieties of Capitalism and Business Systems Theory", *Socio-Economic Review*, Vol. 11, No. 2, pp. 265-300

Witt Michael A. (2010), "China: What Variety of Capitalism", INSEAD Faculty and Research Working Paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2171651

White S., Gao J. and Zhang (2005), "Financing new ventures in China: System antecedents and institutionalization", *Research Policy*, Vol. 34, pp. 894-913

Woeller Andreas (2012), "Private equity investment in the BRICs", *Fordham Journal of Corporate & Financial Law*, Vol. 17, pp. 1307-1361

Wong Bin R. (1998), "China Transformed: Historical Change and the Limits of European Experience", Cornell University Press

Wright Mike, Amess Kevin, Weir Charlie and Girma Sourafel (2009), "Private equity and corporate governance: retrospect and prospect", *Corporate Governance: An International Review*, 2009, Vol. 17, No. 3, pp. 353-375

Wright M., and Robbie K. (1998), "Venture capital and private equity: a review and synthesis", *Journal of Business and Accounting*, Vol. 25 No.5/6, pp. 521-70

Wright M., Thompson S. and Robbie K. (1992), "Venture Capital and Management-led buy-outs: A European perspective", *Journal of Business Venturing*, Vol. 7, No. 1, pp. 47-71

Xin Katherine K. and Pearce Jone L. (1996), "Guanxi: Connections as Substitutes for Formal Institutional Support", *Academy Of Management Journal*, Vol. 39, No. 6, pp. 1641-1658

Xu Chenggang and Zhang Xiaobo (2009), "The Evolution of Chinese Entrepreneurial Firms – Township-Village Enterprises Revisited", IFPRI Discussion Paper 00854, April 2009

Xu Chenggang and Zhuang Juzhong (1998), "Why China Grew: The Role of Decentralization", in Peter Boone, Stanislaw Gomulka, and Richard Layard (eds), *Emerging from Communism: Lessons from Russia, China, and Eastern Europe*, Cambridge, Mass.: MIT Press, pp. 183-212

Yang J., Chi J. and Young M. (2011), “A review of Corporate Governance in China”, *Asian-Pacific Economic Literature*, Vol. 25, No. 1, pp. 15-28

Yang M. M. (1994), “Gifts, favors and banquets: The art of social relationships in China”, *Ithaca*, New York: Cornell University Press

Yeager T. J. (1998), “Institutions, transition Economies, and Economic Development”, Westview Press: Boulder, Colorado

Yeo Yukyung (2012), “Revisiting China’s Economic Regulatory Reform”, *The Korean Journal of International Studies*, Vol. 10, No. 2, December 2012, pp. 255-274

Zacharakis A.L. and G. D. Meyer (1998), “A lack of insight: do venture capitalists really understand their own decision processes?” *Journal of Business Venturing*, Vol. 13, pp. 57-76

Zacharakis A.L. (1995), “The venture capital investment decision, an unpublished doctoral dissertation”, University of Colorado at Boulder

Zenger Todd R., Lazzarini Sergio G. and Poppo Laura (2000), “Informal and Formal Organization in New Institutional Economics”, in Paul Ingram, Brian S. Silverman (ed.) *The New Institutionalism in Strategic Management (Advances in Strategic Management, Volume 19)*, Emerald Group Publishing Limited, pp. 277-305

Zhang Jun (2010), “Reform unknown to the public: an economist’s account of the reform”, CITIC Publication, 1st January 2010

Zhang Yuyan and Gao Chen (2005), “Overseas Silver, Initial Institutional Conditions and the Stagnation of the Oriental World”, *Quarterly Journal of Economics*, Vol. 4, Part 2

Zhu Xiaodong (2012), “Understanding China’s Growth: Past, Present, and Future”, *Journal of Economic Perspectives*, Vol. 26, No. 4, Fall 2012, pp. 103-124

Zingales Luigi (1998), “Corporate Governance and the Theory of the Firm”, *New Palgrave Dictionary of Economics and the Law*, London: Macmillan, 1998, pp. 497–503

Zysman J. (1983), “Governments, Markets and Growth: Financial Systems and the Politics of Industrial Change”, Ithica: Cornell University Press

Reports or working papers:

China Venture Capital Annual Report 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 Published by Zero2IPO Group

Yearbook 2007, 2008, 2009, 2010 Published by National Venture Capital Association

Yearbook 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 Published by European Private Equity and Venture Capital Association

China Capital Markets Development Report, Published by China Securities Regulatory Commission

The 5th Edition of Venture Impact: The Economic Importance of Venture Capital-Backed Companies to the U.S. Economy, publication by National Venture Capital Association, conducted by HIS Global Insight, 2009

AT KEARNEY (2007), “Creating new jobs and value with private equity: all companies can learn from the strategies employed by PE firms”

“State Owned Enterprises in China: Reviewing the Evidence”, OECD Working Group on Privatization and Corporate Governance of State Owned Assets, 26 January, 2009

Global Competitiveness Report 2005/2006, 2006/2007, 2007/2008, 008/2009, 2009/2010, 2010/2011, 2011/2012, 2012/2013, 2013/2014, 2014/2015, working papers by World Economic Forum
<http://www.weforum.org/issues/global-competitiveness>

Global Alternative Investments: The Global Economic Impact of Private Equity Report 2008, 2009, 2010, working papers by World Economic Forum
<http://www.weforum.org/reports/>

Enterprise Survey: China Country Profile 2012, conducted by World Bank

Private Equity Insight into Deal Origination, KPMG special advisory report, 2005

CRM Systems and Deal Sourcing Survey, a special report produced by Preqin and LexisNexis Enterprise Solutions, in September 2011

“Private equity et capitalisme français”, rapport du Conseil d’Analyse Economique, La Documentation française. Paris, 2008 - ISBN : 978-2-11-007275-7

“China’s Growth through Technological Convergence and Innovation”, World Bank and the Development Research Center of the State Council of P.R. China, 2013, *China 2030: Building a Modern, Harmonious, and Creative Society*, Part II Supporting Reports Chapter 2, pp. 155-216, Washington DC: World Bank

Abbreviations

AFIC: Association Française des Investisseurs pour la Croissance

AIFM: Alternative Investment Fund Managers

APER: Asian Private Equity Research

AVCJ: Asian Venture Capital Journal

BVCA: British Private Equity and Venture Capital Association

CSRC: China Securities Regulatory Commission

EBIT: earnings before income tax

EBITDA: earnings before income tax and depreciation and amortization

EIS: Enterprise Investment Scheme

ESMA: European Securities and Markets Authority

EVCA: European Private Equity and Venture Capital Association

FCP: Fonds Communs de Placement

FCPI: Fonds Communs de Placement dans l'Innovation

FCPR: Fonds Communs de Placement à Risques

FDI: Foreign Direct Investment

FIP: Fonds d'Investissement de Proximité

FOF: Fund of Funds

GP: General Partner

GVCFs: Government-Financed Venture Capital Firms

ICT: Information and Communication Technologies

IPO: Initial Public Offering

LBO: leverage buyout

LOI: Letter of Interest

LP: Limited Partner

LPA: Limited Partnership Agreement

M&A: Memorandum of Associations / Mergers and Acquisitions

MOF: Ministry of Finance

MOFCOM: Ministry of Commerce of China

MOST: Ministry of Science and Technology (former SSTC)

NDA: Non-Disclosure Agreement

NDRC: National Development and Reform Commission

NVCA: National Venture Capital Association (of the US)

PCA: Principal Component Analysis
PE: Private Equity
PIPE: Private Investment in Public Equity
QFLP: Qualified Foreign Limited Partner
RMB: Renminbi (Chinese currency)
SA: Société Anonyme
SAFE: State Administration of Foreign Exchange of China
SAS: Société par Actions Simplifiée
SEIS: Seed Enterprise Investment Scheme
SHA: Shareholder Agreements
SOE: State-owned Enterprise
SPA: Share Purchase Agreements
SPV: Special Investment Vehicle
SSTC: State Science and Technology Commission
TMT: Technology, Media & Telecommunications
TVE: Township and Village Enterprise
VC: Venture Capital
VCT: Venture Capital Trust

Annex 1: tables and graphs

Table 1: Principal components of new variable f1

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.17357	3.16757	0.6956	0.6956
Comp2	1.006	.611494	0.1677	0.8633
Comp3	.394507	.19799	0.0658	0.9290
Comp4	.196516	.0204343	0.0328	0.9618
Comp5	.176082	.122754	0.0293	0.9911
Comp6	.0533278	.	0.0089	1.0000

Table 2: Scores of principle components of f1

Principal components (eigenvectors)

variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
va	0.4742	-0.1405	0.0504	0.0065	-0.0728	0.8646	0
pv	-0.2125	0.8839	0.0743	0.3142	0.0531	0.2579	0
ge	0.4486	0.1610	-0.0206	-0.1685	0.8502	-0.1458	0
rq	0.3970	0.2737	-0.7841	-0.1331	-0.3332	-0.1546	0
r1	0.4118	0.2947	0.5951	-0.4276	-0.3848	-0.2419	0
cc	0.4490	-0.1065	0.1500	0.8200	-0.0998	-0.2868	0

Table 3: Summary of principal components of f1

summarize va pv ge rq r1 cc

variable	Obs	Mean	Std. Dev.	Min	Max
va	56	.7797619	.2595054	.2916667	1
pv	56	.7327178	.0768864	.5700758	.9015151
ge	56	.8214286	.2116724	.5	1
rq	56	.8319805	.1850781	.5	1
r1	56	.8258928	.0983151	.5833333	1
cc	56	.5907738	.1888808	.1666667	.8333333

Table 4: Levin-Lin-Chu unit-root test

	<i>p-value</i>		<i>p-value</i>
vcgdp	1.0000	cred	0.0738
pegdp	0.0025	ipo	0.0007
gdp	0.0082	pat	0.9999
intr	0.0063	hedu	0.1344
rd	0.7306	labo	0.9983
mkp	0.0000	unem	0.2133
sstr	0.0478	f1	0.0170
open	0.0128	urpp	0.0551
tax	0.8607	infra	0.0181
csum	0.0527		

The Levin–Lin–Chu (2002) test is used for identifying if all the panel data are stationary. The null hypothesis is that the tested data set contains a unit root, therefore the data is not stationary. We choose to reject the null hypothesis at a probability level lower than 10%. Therefore, according to the test results, we should make stationary adjustments for the variables marked in bold: vcgdp, rd, tax,

pat, hedu, labo and unem. We decide to include pegdp as well, because the country-specific graphs in Graph 1 indicate that its evolution by country is not stationary. Moreover, we consider it more comparable for our study to keep vcgdp and pegdp in the same statistic form.

Graph 1: Panel data line plots for vcgdp, pegdp, Invc and Inpe

Here below, graph1 refers to China, graph 2 refers to France, graph 3 refers to UK and graph 4 refers to US. The vertical axis unit is expressed in 100 %. This first four graphs show the evolution by country of venture capital investment % GDP and private equity investment % GDP. The rest four graphs show the evolution by country of the two variables after natural logarithm transforming.

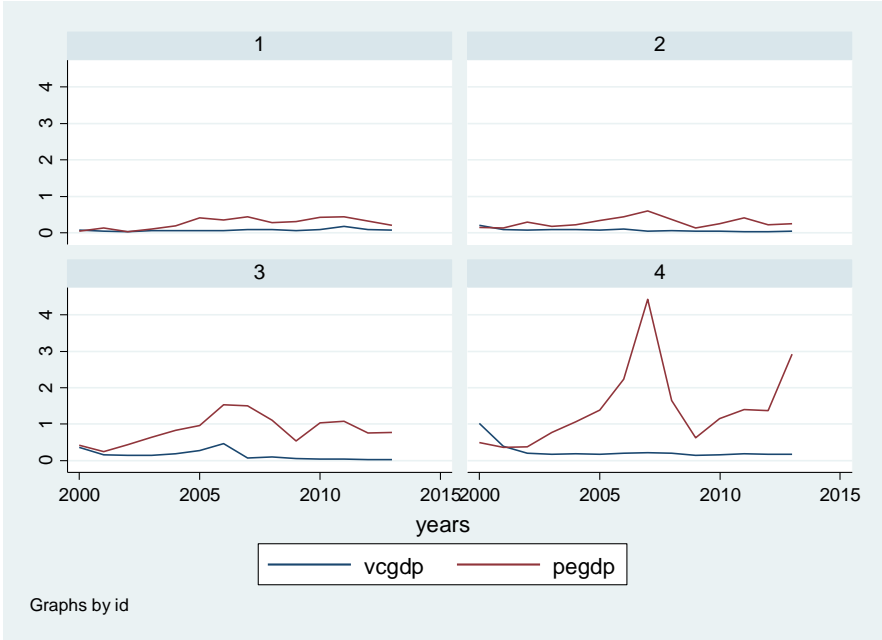
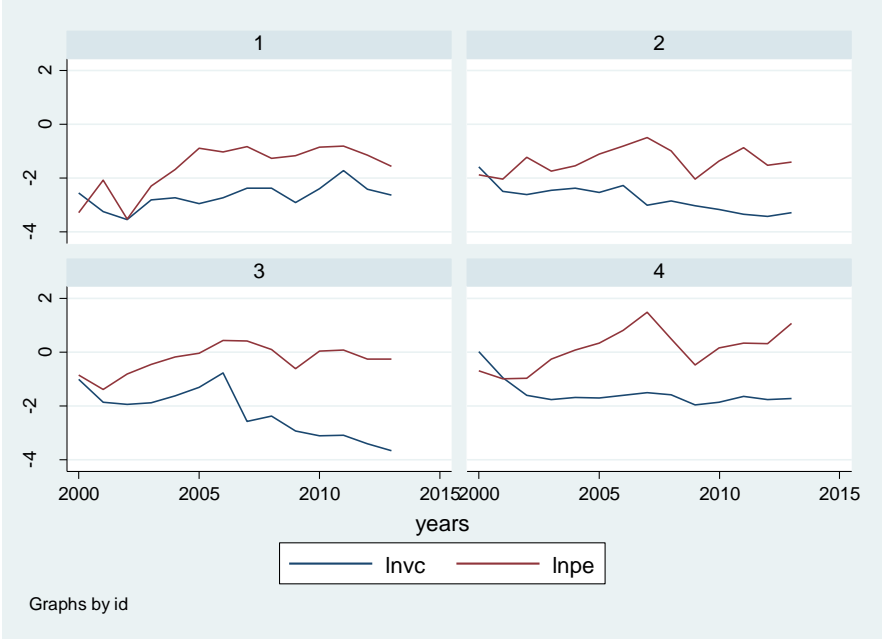


Table 5: Descriptive statistics of private equity variables

	Obs	Mean	Std. Dev.	Min	Max
<i>vcdp</i>	56	.1392013	.1512318	.025834	1.02208
<i>pegdp</i>	56	.7106987	.7624015	.029373	4.43209
<i>gdp</i>	56	3.732033	3.999441	-4.31061	14.1624
<i>intr</i>	56	2.849286	1.79494	.17	6.46
<i>rd</i>	56	2.010245	.5024833	.90276	2.81594
<i>mkp</i>	56	216.6713	87.39997	46.2959	432.666
<i>sttr</i>	56	144.8001	110.9804	24.0997	525.71
<i>open</i>	56	.5025654	.1598119	.23104	.766249
<i>tax</i>	56	.3234374	.0551796	.23	.3934
<i>csum</i>	56	3.470989	3.129099	-3.07182	11.0175
<i>cred</i>	56	140.8043	37.64458	82.5122	206.303
<i>ipo</i>	56	121.3393	107.9689	0	392
<i>pat</i>	56	178055.5	178742.8	26445	734096
<i>hedu</i>	56	54.48103	24.08281	7.75683	97.3821
<i>labo</i>	56	38.36626	6.366002	30	47.5382
<i>unem</i>	56	6.475	2.082503	3.8	10.4
<i>f1</i>	56	-2.75e-08	2.04293	-3.78845	2.27456
<i>urpp</i>	56	1.647398	1.158508	.433616	4.198
<i>infra</i>	56	52.543	26.68612	1.77591	89.8441

Table 6: Correlations of venture capital variables

	<i>Invc</i>	<i>gdp</i>	<i>intr</i>	<i>Inrd</i>	<i>mkp</i>	<i>sttr</i>	<i>open</i>	<i>Intax</i>	<i>csum</i>	<i>cred</i>	<i>ipo</i>	<i>Inpat</i>	<i>Inhedu</i>	<i>Inlabo</i>	<i>Inunem</i>	<i>f1</i>	<i>urpp</i>	<i>infra</i>
<i>Invc</i>	1.0000																	
<i>gdp</i>	-0.0843	1.0000																
<i>intr</i>	0.4841	0.1883	1.0000															
<i>Inrd</i>	0.4164	-0.6415	-0.1313	1.0000														
<i>mkp</i>	0.5263	-0.5115	0.2870	0.3808	1.0000													
<i>sttr</i>	0.3638	0.2984	0.2072	0.1920	0.1162	1.0000												
<i>open</i>	-0.5436	0.5250	0.1467	-0.6123	-0.4476	0.0313	1.0000											
<i>Intax</i>	0.4728	-0.4490	-0.0953	0.7751	0.2233	0.0236	-0.7291	1.0000										
<i>csum</i>	0.0729	0.9344	0.3278	-0.5294	-0.4070	0.3933	0.4687	-0.4333	1.0000									
<i>cred</i>	0.3620	-0.3427	-0.1034	0.3754	0.5027	0.3225	-0.5662	0.1886	-0.3435	1.0000								
<i>ipo</i>	0.7067	0.1256	0.3502	0.1946	0.4508	0.4668	-0.3696	0.1598	0.2382	0.4979	1.0000							
<i>Inpat</i>	0.4177	0.1224	-0.0599	0.5515	-0.0382	0.6456	-0.3498	0.3531	0.2143	0.5006	0.4493	1.0000						
<i>Inhedu</i>	0.4047	-0.8022	-0.1056	0.8698	0.6866	0.0167	-0.6358	0.6706	-0.7310	0.4995	0.2051	0.2351	1.0000					
<i>Inlabo</i>	-0.6126	0.4162	-0.1632	-0.4125	-0.7803	-0.2518	0.6189	-0.2717	0.3350	-0.8509	-0.5667	-0.3224	-0.6451	1.0000				
<i>Inunem</i>	-0.2685	-0.7103	-0.5325	0.5242	0.1004	-0.3923	-0.2233	0.4047	-0.7441	-0.0980	-0.4292	-0.2017	0.5602	0.1425	1.0000			
<i>f1</i>	0.3580	-0.8267	0.0339	0.5954	0.8177	-0.1530	-0.5596	0.4939	-0.7653	0.4264	0.1740	-0.1325	0.8874	-0.6706	0.4660	1.0000		
<i>urpp</i>	-0.2669	0.8772	0.0539	-0.7202	-0.7060	0.1855	0.5061	-0.5558	0.7948	-0.2716	-0.0421	0.0937	-0.9212	0.4950	-0.6620	-0.9409	1.0000	
<i>infra</i>	0.0181	-0.7530	-0.2791	0.6240	0.5274	0.0417	-0.3514	0.2862	-0.7408	0.6066	0.1166	0.1640	0.7894	-0.5551	0.4990	0.7457	-0.7482	1.0000

Table 7: Correlations of private equity variables

	<i>Inpe</i>	<i>gdp</i>	<i>intr</i>	<i>Inrd</i>	<i>mkp</i>	<i>sttr</i>	<i>open</i>	<i>Intax</i>	<i>csum</i>	<i>cred</i>	<i>ipo</i>	<i>Inpat</i>	<i>Inhedu</i>	<i>Inlabo</i>	<i>Inunem</i>	<i>f1</i>	<i>urpp</i>	<i>infra</i>	
<i>Inpe</i>	1.0000																		
<i>gdp</i>	-0.3427	1.0000																	
<i>intr</i>	0.0376	0.1883	1.0000																
<i>Inrd</i>	0.5452	-0.6415	-0.1313	1.0000															
<i>mkp</i>	0.5970	-0.5115	0.2870	0.3808	1.0000														
<i>sttr</i>	0.4051	0.2984	0.2072	0.1920	0.1162	1.0000													
<i>open</i>	-0.4052	0.5250	0.1467	-0.6123	-0.4476	0.0313	1.0000												
<i>Intax</i>	0.3690	-0.4490	-0.0953	0.7751	0.2233	0.0236	-0.7291	1.0000											
<i>csum</i>	-0.3440	0.9344	0.3278	-0.5294	-0.4070	0.3933	0.4687	-0.4333	1.0000										
<i>cred</i>	0.7434	-0.3427	-0.1034	0.3754	0.5027	0.3225	-0.5662	0.1886	-0.3435	1.0000									
<i>ipo</i>	0.5133	0.1256	0.3502	0.1946	0.4508	0.4668	-0.3696	0.1598	0.2382	0.4979	1.0000								
<i>Inpat</i>	0.4450	0.1224	-0.0599	0.5515	-0.0382	0.6456	-0.3498	0.3531	0.2143	0.5006	0.4493	1.0000							
<i>Inhedu</i>	0.6831	-0.8022	-0.1056	0.8698	0.6866	0.0167	-0.6358	0.6706	-0.7310	0.4995	0.2051	0.2351	1.0000						
<i>Inlabo</i>	-0.7359	0.4162	-0.1632	-0.4125	-0.7803	-0.2518	0.6189	-0.2717	0.3350	-0.8509	-0.5667	-0.3224	-0.6451	1.0000					
<i>Inunem</i>	0.0492	-0.7103	-0.5325	0.5242	0.1004	-0.3923	-0.2233	0.4047	-0.7441	-0.0980	-0.4292	-0.2017	0.5602	0.1425	1.0000				
<i>f1</i>	0.5711	-0.8267	0.0339	0.5954	0.8177	-0.1530	-0.5596	0.4939	-0.7653	0.4264	0.1740	-0.1325	0.8874	-0.6706	0.4660	1.0000			
<i>urpp</i>	-0.4857	0.8772	0.0539	-0.7202	-0.7060	0.1855	0.5061	-0.5558	0.7948	-0.2716	-0.0421	0.0937	-0.9212	0.4950	-0.6620	-0.9409	1.0000		
<i>infra</i>	0.6885	-0.7530	-0.2791	0.6240	0.5274	0.0417	-0.3514	0.2862	-0.7408	0.6066	0.1166	0.1640	0.7894	-0.5551	0.4990	0.7457	-0.7482	1.0000	

Annex 2: China private equity policy development

Table drawn from “Antecedents and Institutionalization of China’s Venture Capital System” (White, Gao and Zhang, 2003) and “Report on Venture Capital and Private Equity’s Role in Promoting China’s Economic Restructuring” (Zero2IPO, 2012), with complements from China private equity industry information media and legal regulation resources.

	Government regulatory policy	Related private equity activity
1981		ChinaVest was founded in 1981 in China as the oldest American merchant banking firm operating in China which provides both financial advisory and private equity capital to companies in Greater China.
1984	National Research Center of Science and Technology for Development first organized research on “New Technology and China’s Countermeasures” and suggested a venture capital system be established to promote the development of new and high technology.	
1985	- The Chinese Communist Party (CCP) and State Council released “The Decision on the Reform of the Science and Technology System” which raised the subject of using venture capital to support high-tech development in areas of rapid change and high risk. - China’s first patent law was launched.	State Science and Technology Commission (SSTC) and Ministry of Finance (MOF) established China New Technology Venture Investment Corp., the first limited corporation in China which focused on venture capital.
1986	863 High-Tech Program started and applied over RMB 10 billion funding for scientific research for the next 10 years.	
1987		China’s first incubator was founded by Hubei government as Wuhan East Lake Entrepreneur Service Center.
1988	Torch Program launched to promote spin-off ventures from research institutes and universities with direct government investment.	
1989	State Council and Ministry of Foreign Trade and Economic Cooperation (MOFTEC) permitted the establishment of Kezhao High-Tech Ltd., China’s first Sino-foreign joint venture investment fund, by China Merchants Holdings (HK), SSTC and Commission of S&T and Industry for National Defense, aiming to fund the industrialization of R&D results from national high-tech plans.	
1991	- State Council announced “Authorization of National High-Tech Zones and Related Policies”, allowing relevant departments to set up venture funds in high-tech zones to support high-tech industry development.	- SSTC, MOF and Industrial and Commercial Bank of China established the Technology Venture Development Center. - American International Digital Group (IDG) started its venture in China by employing Xiong Xiaoge to develop its Asian business.
1992	- Deng Xiaoping paid an inspection tour to south China especially in Shenzhen where he delivered speeches to support the construction of special economic zones and strengthened the necessity of carrying out reform and opening-up while	- Technology Venture Development Corporations were established by local governments in Shenyang, Shanxi, Guangdong, Shanghai and Zhejiang. - More and more foreign venture capital funds

	maintaining the stability. His south China tour and speeches strongly insured the continuity of China's economic development and investment activities.	such as Walden International, H&Q Asia Pacific, WI Harper Group gradually established their activity in China.
1993	Standing Committee of the National People's Congress (NPC) approved "Science and Technology Promotion Law of China".	ChinaVest invested in Zindart, which was listed on NASDAQ in 1997.
1994	<u>Shenzhen government passed "Regulations on Limited Liability Corporation in Shenzhen Special Economic Zone" which set the first experimentation of introducing limited liability structure in company legal structure in China.</u>	- The Pacific Technology Venture Investment Fund of the US firm International Digital Group (IDG) established three venture capital companies with the local S&T commissions of Beijing, Shanghai and Guangdong. - Texas Pacific Group (TPG), Blum Capital and ACON Investments created Newbridge Capital, a joint-venture to invest in emerging markets, particularly Asia and later Latin America.
The period of 1995 to 2004 was the first development phase of China private equity industry, which was dominated by foreign private equity funds, especially venture capital funds		
1995	- CCP and State Council announced "The Decision on Accelerating Scientific and Technological Progress", putting much accent on the importance of developing venture capital and establishing a technology venture capital system in China. - <u>State Council approved in August the "Procedures for the Management of China's Industrial Investment Funds Abroad" as the first regulation on China private equity industry, who greatly promoted foreign private equity funds to invest in China.</u> - In June, China established and enacted "Provisional Regulations on Guiding Foreign Investment Direction and Industrial Catalogue Guiding Foreign Investment", making public the industrial policies for foreign investment absorption in legal forms, and improving the transparency of the policies.	
1996	- State Council published the white paper "On Further Improving China's S&T System" emphasizing the need to actively investigate and promote venture system to increase China's S&T outputs. - National People's Congress passed "Law Promoting the Industrialization of China's Technological Achievements", the first legal statement allowing VC as a commercial activity and funds to be raised from national or local governments, enterprises or other organizations, or individuals to support technology ventures. - SSTC sent delegation to USA to study laws and policies related to small enterprise financing, intellectual property rights and venture capital mechanism.	At least 20 venture capital firms were established by S&T commissions and finance departments of local governments.
1997	- Deng Nan (daughter of Deng Xiaoping and Vice Minister of SSTC) appointed to oversee study of VC system. She directed the School of Economics and Management of Tsinghua University to deliver a	- China's first VC firm founded in 1985 was declared bankrupt and forced to close. - Zindart, a toy manufacturer invested by ChinaVest in 1993, was the first Chinese venture

	<p>report with practical recommendations for VC structure and the relationship between VC and capital markets, preparing to establish VC system in China.</p> <ul style="list-style-type: none"> - 973 Program applied RMB 4.5 billion to supported basic research. 	<p>to list on NASDAQ.</p> <ul style="list-style-type: none"> - New-tech venture AsiaInfo received US\$18 million from three foreign VCs. - Sohu.com received US\$6.5 million from foreign VCs, being the first new venture in China's IT industry.
1998	<ul style="list-style-type: none"> - Prime Minister Li Peng held a meeting of China's leading policy group on S&T concluding on a general plan for setting a VC system in China. - Vice Prime Minister Zhu Rongji formed a coordination group including the State Planning Commission, People's Bank of China, China Securities Regulatory Commission and relevant government departments, supported by the finance research centers of the Academy of Social Sciences and the Bank of China. - Deng Nan discussed VC system and mainland high-tech firm listings with president of the Hong Kong Stock Exchange. - After meeting with the Education Commission and Finance Commission of the NPC, MOST submitted "Report on Establishing China's S&T Venture Capital System" to State Council. - Proposal on developing China's VC industry by the Central Committee of the Chinese National Democratic Constructive Association, presented at the Ninth Conference of the NPC, created a wave of VC firm founding, including local government's direct investments in VC firms. 	<ul style="list-style-type: none"> - Sohu.com received a second round investment of US\$2.2 million from VCs. - Kingdee, a Chinese software service supplier, received RMB20 million investments from Guangdong Pacific Investment Corp. jointed by IDG and Guangdong's S&T Bureau. - IDG signed cooperation agreement with MOST for IDGVC to invest US\$1 billion over 7 years in Chinese new high-tech ventures and promote Chinese high-tech industry. - Approximately 92 VC firms actively operate in China with RMB7.4 billion under management.
1999	<ul style="list-style-type: none"> - Prime Minister Zhu Rongji approved final report of MOST while directing that S&T VC should primarily support SMEs. - Group formed by NPC to draft a VC law, on which 7 ministers would provide input and opinion before the "Procedure for Managing the Industrial Investment Fund" would be debated by the CCP and State Council and supported in the white paper "Decision on Strengthening Technological Innovation, Developing High-Tech and Realizing its Industrialization". - First international discussion held regarding the drafting of the Investment Fund Law. - <u>Technology-based SME Innovation Fund was established and overseen by MOST.</u> 	<ul style="list-style-type: none"> - International Financial Corporation (IFC) became shareholder of Bank of Shanghai. Since then, more and more private equity related merger and acquisitions took place in China.
2000	<ul style="list-style-type: none"> - <u>Shenzhen, as always the experimental field of China's economic reforms, enacted the first local regulatory statutes for VC in "Temporary Regulations for VC Investing in High-Tech Industry in Shenzhen".</u> - NPC held second international meeting to discuss the Investment Fund Law. - State Council announced "Policy for Encouraging the Software Industry and Promoting the IC Industry". - New regulations of "Nine Rules of Hong Kong new 	<ul style="list-style-type: none"> - <u>Beijing VC Association, formed in 1999, formally registered with government, becoming the first municipal VC association, and followed by associations in Shenzhen and Shanghai.</u> - Singapore Technology Management Department TIF and Shanghai Venture Investment Corporation co-founded China's first US dollar fund, Venture TDF, which later merged to KPCB. - First Chinese private incubator, Jinghai Business Incubator, was established in Zhongguancun Science Park.

	Growth Enterprises Market (GEM)” and “Interim Provisions on Domestic Investment by Foreign-funded Enterprises”.	- AsiaInfo and UTStarcom became first Chinese tech-based new ventures to list on NASDAQ, followed by Sohu.com, Sina.com and Netease.
2001	<p>- Technology-based SME Innovation Fund distributed RME1.96 billion to 2577 projects by the end of 2001.</p> <p>- <u>Beijing enacted its VC regulations by releasing “Byelaw of Zhongguancun Science Park” and “Management of Limited Liability Corporations”</u> to promote the development of VC firms and direct VC operation, organizational structure, registered funds and means of return.</p> <p>- MOFTEC, MOST and the National Industry and Commerce Administration released and enacted the “Temporary Regulations for Establishing Foreign Venture Capital Corporations”.</p> <p>- VC Investment Committee of the S&T Finance Promotion Association, a semi-government organization, was established in Beijing as the first truly cross-regional organization focused on VC, with mission to promote linkages between government and private VC, study government environment for successful VC industry, exchanges within the VC industry, consolidate activities and experience, and develop training.</p>	<p>- <u>First limited partnership VC corporation in China was established in Beijing (Beijing Tianlu VC Center)</u>, a joint venture of Tianye Corporation, the Economic Construction and Development Corporation in Xinjiang and Sinotrust in Beijing; only to be closed the same year.</p> <p>- 465 incubators registered nationwide, funded by government, universities, research institutes, SOEs, private and foreign enterprises.</p> <p>- <u>Kingdee became first Chinese high-tech venture to list on HK new Growth Enterprises Market (GEM).</u></p>
2002	<p>- “Provisions on Administration of Foreign-funded Telecommunications Enterprises” was passed at the 49th executive meeting of the State Council.</p> <p>- “Catalogue of Industries for Guiding Foreign Investment”.</p> <p>- New amendments to “Regulations on Guiding Foreign Investment Direction and Industrial Catalogue Guiding Foreign Investment” to meet the demand of China’s entry into the World Trade Organization (WTO).</p>	<p>- In total 13 private equity funds established jointly by Chinese and foreign investors. Approximately 160 domestic and 50 foreign-funded VC firms actively operate in China, but there was a slowdown since July 2001 due to the internet bubble.</p> <p>- China Venture Capital Association (CVCA) registered in Hong Kong, and included at that time over 50 VC firms with a total US\$60 billion funding and an annual investment of total US\$300 to 500 million in Greater China.</p>
2003	Publication of official measures for the “Administration of Foreign-invested VC Investment Enterprises” in the No.3 Document of the State Administration of Foreign Exchange (SAFE).	
2004	“Catalogue of Industries for Guiding Foreign Investment” (revised 2007), was promulgated by National Development and Reform Commission and the Ministry of Commerce, followed by significant increase of outbound and inbound investments.	<p>- Newbridge Capital acquired 17.89% of Shenzhen Development Bank, becoming the first foreign controller of a Chinese national bank since 1949.</p> <p>- Warburg Pincus, CITIC Capital and Heilongjiang Chenery Hit High-tech Venture Capital co-invested in Harbin Pharmaceutical Group for a 55% stake, as the first international acquisition of the majority part into a Chinese SOE.</p> <p>- SAIF (Tianjin) Venture Capital, the first non-legal person entity venture capital in China with RMB150 million investment capital was co-founded by SAIF and Tianjin Venture Capital.</p>

The year 2005 is a milestone in China's private equity industry history when private equity funds in narrow sense were catching up with venture capital funds in scale and influence.

2005	<p>- Documents No.11, 29 and 75 of the State Administration of Foreign Exchange (SAFE) set the <u>regulatory scheme for financings and return investments by PRC residents through offshore special purpose vehicles, and procedural steps to be taken in offshore restructurings that had previously been used by many PRC enterprises in recognizing their corporate structures so as to facilitate investments by foreign investors and to ultimately effectuate listings on foreign stock exchanges.</u></p> <p>- “Interim Measures on the Administration of Venture Capital Investment Enterprises” was promulgated by State Development and Reform Commission regarding regulations of venture capital funds.</p>	<p>- The four biggest global private equity funds Blackstone, Carlyle Group, KKR and TPG all established their office in China.</p> <p>- Carlyle Group acquired an 85% stake in Xugong Group Construction Machinery Company in October for \$375 million. That deal marked one of the first times a foreign company had ever engaged in a direct buyout of a Chinese SOE. Carlyle also invested about \$800 million between 2005 and 2007 for a 17% stake in China Pacific Insurance, China's third-biggest insurer which was then state-backed and on the verge of collapse.</p>
2006	<p>- MOFCOM published the document No.10 “Provisions for the Acquisition of Domestic Enterprises by Foreign Investors” on the regulation of overseas investments through special purpose vehicles (SPV).</p> <p>- Re-launch of China's IPO Application on June 19 to promote the Split Share Structure Reform (SSSR) of Chinese companies and especially SOES.</p>	<p>- Bohai Industrial Investment Fund, with registered capital of RMB200million from multiple public entity shareholders (Bank of China Investment, National Council for Social Security Fund, Postal Savings Bank of China, Tianjin Jinneng Investment Company, China Development Bank Capital Corp., China Life Insurance etc.) was founded on December as the first regional public-found investment fund to apply innovative financial reform. Later were also gradually founded Guangdong Nuclear Energy Fund, Shanghai Financial Industrial Fund, Shanxi Energy Fund, Sichuan Mianyang High-Tech Fund and China New High-Tech Industrial Investment Fund.</p>
2007	<p>- The application of “Measures for the Administration of Trust Companies” in March 2007 opened the gate for Trust companies to set up industrial investment funds.</p> <p>- <u>On June 1st, the newly revised “Partnership Enterprise Law” came into practice, and progressive implementation of regional regulations and operational rules in Shenzhen, Tianjin, Beijing, Shanghai, Zhejiang, etc.</u></p> <p>- Pilot of direct investment by securities companies</p> <p>- Preferential Tax Policies for VC Investment Enterprises</p> <p>- Revision of “Catalogue of Industries for Guiding Foreign Investment”</p>	<p>- Shenzhen Fortune Capital Investment and Hunan Trust launched the first industrial investment fund in China which collected capital by providing trust products to public investors.</p> <p>- <u>Shenzhen Nanhai Development Venture Capital Limited was established as the first Chinese venture capital founded in limited partnership structure</u>, with registered capital RMB162 million all collected from individuals under the management of Shenzhen Co-win Venture Capital Investments Limited and advised by Shenzhen International Hi-Tech Property Exchange, among which 50% will be used to invest venture companies preparing for public listing.</p> <p>- In September, China sovereign fund China Investment Corporation (CIC) was founded.</p>
2008	<p>- <u>In May, China's national social security fund was authorized the right of independently investing in equity investment funds that had received the approval and filings of the State Development and Reform Commission</u>, with the investment cap of 10% of its total capital under management (about RMB50 billion).</p> <p>- Draft on GEM New Rules on Shanghai and</p>	<p>- China's national social security fund has invested a cumulative RMB 2 billion in RMB funds launched by Hony Capital and CDH Investment.</p> <p>- In 2008, private equity industry in China reached its fund-raising summit with 51 newly established funds collecting US\$61 billion capital, 71.9% higher than 2007, among which 30 are dollar funds and 20 RMB funds.</p>

	<p>Shenzhen Stock Exchanges</p> <ul style="list-style-type: none"> - State Council raised discussions on equity investment fund, measures to enlarge company financing channels and to promote venture development through advantageous tax policies, and passed “Measures for the Administration of VC Guiding Funds”, all which greatly encouraged the private equity industry in China. - Guidelines on the Risk Management of M&A Loans of Commercial Banks 	
2009	<ul style="list-style-type: none"> - Properly broaden trust investment businesses and lower threshold of direct investment by securities companies. - <u>The Chinese second board for public listing ChiNext was launched in the aim to create the Chinese NASDAQ to promote venture development. China Securities Regulatory Commission passed “Administrative Measures for Initial Public Offerings and Listing on the Second Board”.</u> - Document No.87 “Notice of the State Administration of Taxation on Income Tax Preferences for Startup Investment Enterprises” to implement the income tax preferential policies for startup investment enterprises to promote their development. 	
2010	<ul style="list-style-type: none"> - State Council published “Several Opinions of the State Council on Encouraging and Guiding the Healthy Development of Private Investment”, firmly encouraging, supporting and guiding the development of the private investment. - Policy on Taxation of Private Investment Funds - Provisions on the registration of foreign-funded partnership enterprises - Direction of the State Council on Accelerating the Fostering and Development of Strategic Emerging Industries - <u>In October, insurance companies were permitted to make direct investments in equity.</u> - 12th Five-year Plan 	
2011	<ul style="list-style-type: none"> - QFLP (Qualified Foreign Limited Partner) Program was carried out in Beijing, Shanghai and Chongqing which allows a certain number of foreign PE funds to make equity investments in China after exchange settlement. - Circular on “Regulating the Record-filing Administration of Equity Investment Firms” - “Provisions of the Ministry of Commerce for the Implementation of the Security Review System for Mergers and Acquisitions of Domestic Enterprises by Foreign Investors” set the rules and procedures of M&A of Chinese companies by foreign investors. - The establishment of the Chinese New OTC (over the counter) market provided important platform for Chinese SMEs to introduce private equity and strategic investors. 	<ul style="list-style-type: none"> - As of the end of 2011, Shanghai Municipal Government had granted QFLP (Qualified Foreign Limited Partner) licenses to 14 private equity investment firms. - Until July 2011, 33 securities companies were approved by SAFE to invest in private equity funds in China.

2012	<ul style="list-style-type: none"> - In July and October, China Insurance Regulatory Commission issued respectively “Notice on investments by insurance companies in equity and real estate” and “Interim measures and implementation rules on overseas investment of insurance capital”, further easing the restrictions on insurance capital, allowing insurance companies to increase investment operations. - In October, China Securities Industry Association issued “Direct investment subsidiary securities companies’ self-management approach”, changing the previous regulation of examination and approval by CSIA to direct administrative register. This measure was set to reduce the PE entry barrier. - In November, after several big scandals of information frauds of listed Chinese companies, in order to regular the IPO market, the CSRC (China Securities Regulatory Commission) has suspended the IPO in Chinese stock and exchange markets. 	<ul style="list-style-type: none"> - The suspension of domestic IPO has largely impacted the private equity exit. On the contrary, operations of M&A were growing fast. - A report by Zero2IPO found that for funds established after 2008, 90% of LPs are waiting for the return of their principal investment.
2013	<ul style="list-style-type: none"> - Implementation of the “Modified Laws on Security Investment Funds” in June 2013. - In December 2013, China ended the IPO ban that had been in place since November 2012, reopening the IPO exit in China. - In 2013, the release of “CPC Central Committee decision on several major issues of the deepening reform” led to active PE investments aimed at SOE privatization. - By the end of 2013, the State Council issued the “Decision on the National SME share transfer system related issues”, allowing companies already listed in the domestic share system to transfer directly to the stock exchange if they satisfy relate conditions. 	<ul style="list-style-type: none"> - A statement of CRSC in November said that 760 companies were waiting for their IPO. - According to Dealogic, between 2012 and 2013, PE exits by M&A more than doubled in China. - 2013 also saw the largest take-private operation ever by a private equity supported Chinese company, Shuanghui, of a US-listed company, Smithfield foods, with US\$ 7.1 billion.
2014	<ul style="list-style-type: none"> - In February, the CSRC set up a private equity fund supervision department and issued the “Interim Measures for supervision and management of private equity fund”. - In December, the China Insurance Regulation Commission (CIRC) published a statement, allowing insurance companies to form directly managed private equity funds in the form of limited partnership for the purpose of providing financing to Chinese SMEs. 	<ul style="list-style-type: none"> - 6 insurance companies, leaded by Sun Life Everbright Life Insurance, were the first to be authorized to establish their own equity investment funds. - The fast expansion of the Chinese New OTC to over 1500 listed companies and the introduction of market-maker system to the New OTC brought more opportunities for PE investment in China.

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