Private Equity in Southeast Asia:
A Comparative Analysis of Private Equity Returns in the Context of the Investment Process and Investment Strategy

D I S S E R T A T I O N
of the University of St. Gallen,
School of Management,
Economics, Law, Social Sciences
and International Affairs
to obtain the title of
Doctor Oeconomiae

submitted by

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Dissertation no. 3907

Stämpfli Publikationen AG, Bern 2011

The University of St. Gallen, School of Management, Economics, Law, Social Sciences and International Affairs hereby consents to the printing of the present dissertation, without hereby expressing any opinion on the views herein expressed.

St. Gallen, May 16, 2011

The President:

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Only by challenging the universality of Western assumptions about both investment practices and investment strategies will Western managers and firms be able to leverage their sophistication and expertise in a market that is less developed than in the West, seize opportunities, and ensure future success, both in Southeast Asia and the rest of the world.[1]

[1] Following Lasserre and Schütte (2006).

Acknowledgements

Working on my dissertation has been an inspiring and fulfilling experience. I am indebted to a number of people and institutions who have contributed to the success of this research project.

First and foremost, I would like to express my gratitude to my academic supervisor, Prof. Dr. Li Choy Chong, for his invaluable guidance and academic support. My sincere thanks also go to my second academic supervisor, Prof. Dr. Narendra Agrawal, for his assistance and for having faith in my work. Thanks are owed to Prof. Dr. Hellmut Schütte and to Prof. Dr. Francis Koh for their interest in the project during my research visits at INSEAD and SMU in Singapore.

The core of this dissertation relies upon detailed interviews with more than 40 leading private equity firms and academic experts in Southeast Asia. I am indebted to them for having participated in the study and for their interest in supporting academic research in this field. Such a study would not have been possible without their willingness to give up precious time to discuss their investment processes and strategies with me. Parts of the manuscript have also benefited from careful proofreading by Hazel Hamelin.

I am deeply grateful to my parents for their continuous backing of my studies and for the freedom they have always given me to pursue my interests. My sister, Hannah, was a major source of support and inspiration throughout the project. To those who provided assistance but are not mentioned by name, your kindness will never be forgotten.

Bern, June 2011 Raphael Kästli

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List of Abbreviations

ADB	Asian Development Bank
APER	Asia Private Equity Review
AVCJ	Asian Venture Capital Journal
BIMBO	Buy-in Management Buyout
CalPERS	California Public Employees' Retirement System
CAPM	Capital Asset Pricing Model
CEO	Chief Executive Officer
CFO	Chief Financial Officer
DAX	German stock index
EMPEA	Emerging Markets Private Equity Association
et al.	and others
EVCA	European Private Equity & Venture Capital Association
FoF	Fund of Funds
GDP	Gross Domestic Product
GP	General Partner
i.e.	in other words
HSG	Hochschule St. Gallen (University of St. Gallen)
INSEAD	Institut européen d'administration des affaires
IPO	Initial Public Offering
IRR	Internal Rate of Return
KKR	Kohlberg Kravis Roberts & CO.
LBO	Leveraged Buyout
LP	Limited Partner
M&A	Mergers and Acquisitions
MBI	Management Buy-in
MBO	Management Buyout
MLE	Maximum likelihood estimation
MSCI	Morgan Stanley Capital International

NASDAQ	Stock exchange (National Association of Securities Dealers Automated Quotations)
NASDAQ composite	Largest stock index at NASDAQ
NAV	Net asset value
NVCA	National Venture Capital Association
PE	Private Equity
PIPE	Private Investment in Public Equity
PME	Public Market Equivalent
PwC	PricewaterhouseCoopers
Q1	First quarter
Q4	Fourth quarter
SARS	Severe acute respiratory syndrome
SEC	Securities Exchange Commission
SENSEX	«BSE SENSEX» (value weighted index at the Bombay stock exchange)
SMU	Singapore Management University
SOE	State owned enterprise
S&P 500	Standard & Poor’s 500 stock index
SPI	Swiss Performance Index
SWF	Sovereign Wealth Fund
U.S.	United States
US$	US dollars
VC	Venture Capital

To my parents

Abstract

This research project aims to contribute to the understanding of financial returns for private equity in Asia. I build on the assumption that extraordinary returns can only be achieved through an understanding of and adaptation to contextual factors. This work highlights the need for a comprehensive private equity investment process and investment strategy for the Southeast Asian context and seeks to bridge the gap between the theoretical analysis of academic research and practical application.

Zusammenfassung

Dieses Forschungsprojekt analysiert die Renditen von Private Equity-Investitionen in Südostasien. Empirische Daten der Studie zeigen, dass nachhaltige, ausserordentliche Renditen nur von Fund Managern erzielt werden, die profunde, kontextspezifische Kenntnisse ihrer Investitionsumgebung haben. Diese Arbeit belegt die Notwendigkeit eines ganzheitlichen Private Equity-Investitionsprozesses und einer Investitionsstrategie für den südostasiatischen Kontext und versucht die Lücke zwischen der theoretischen Analyse akademischer Forschung und der praktischen Anwendung zu schliessen.

1. Introduction

In recent years alternative asset classes[1] such as private equity[2] have become increasingly important sources of investment capital in the global financial system (Steinberg and von Bismarck, 2008). Private equity activity in particular has noticeably accelerated. Private equity firms have expanded significantly in terms of the size and geographical reach of their funds (Smolarski, Verick, Foxen, and Kut, 2005). Global expansion has not only increased the number of funds expanding into different geographic areas but also the number of firms looking to complete deals outside their country of domicile. While private equity investment was an American phenomenon at its inception, it has spread from North America[3] to virtually every region in the world: first to Western Europe and Japan, then to emerging markets in Latin America and to Asia (Bruton, Manigart, Fried, and Sapienza, 2002a), the latter being the focus of this study. Today, private equity is a global phenomenon (Wright, Pruthi, and Lockett, 2005) and the majority of private equity transactions take place outside the United States (Steinberg and von Bismarck, 2008).

With growing investor awareness that private equity yielded higher returns than traditional investments in stocks and bonds, large amounts of capital started to flow in (Fenn, Liang, and Prowse, 1995; Lerner, 2008).[4] Private equity investments, particularly in Asia,

1 Historically, alternative asset classes included real estate, commodities, as well as rare coins and stamps, works of art, and trading cards. Today, the term has mostly come to be used to refer to other institutional asset classes including private equity, hedge funds, real estate, oil and gas.

2 Private equity emerged as a major asset class in the 1980s (Bain, 2010a). The term captures investments in companies that are not publicly quoted. For a detailed definition of the private equity industry, refer to chapter 2.1.

3 The number of funds under management skyrocketed in the U.S. through the 1990s. Firms faced increasing competition domestically. With excess capital chasing too few deals, prices were bid up and forced firms to look for more reasonably priced deals abroad (Bygrave and Timmons, 1992; Dixit and Jayaraman, 2001). At the same time, investors in the U.S. looked for increasing diversification of their assets to hedge their portfolio against any U.S. economic downturn (Bader, 1996).

4 Private equity returns are claimed to be some five to eight per cent higher than those from quoted markets, although with higher risks, greater volatility, and far less liquidity (Ljungqvist and Richardson,

skyrocketed, albeit from a very low base, reaching a zenith in June 2007 (Cendrowski, Martin, Petro, and Wadecki, 2008). In the first part of 2007 the private equity industry enjoyed an unprecedented boom, investments and fund sizes were at all-time highs, returns and distributions were high, and the competition for access to top funds had never been fiercer.

Over recent months the world has witnessed fundamental changes to the global financial system (Steinberg and von Bismarck, 2009), characterized by an unwinding of global imbalances and dramatic deleveraging. After years of exceptional growth, financial institutions are adapting to a new environment of tighter credit, lower economic growth and increased government intervention. Despite the recent woes brought on by the credit crisis, private equity is still getting a lot of attention and numerous firms continue to raise high levels of capital,[5] although private equity activity has slowed remarkably[6] (Cendrowski et al., 2008).

Asia has been the fastest growing economic region for the last 10 years (SCM, 2008) and is expected to remain so in the years to come (Thomann, 2010). But despite the growing impact of private equity in Asia, academic research on private equity in this region has not kept pace with the rapid changes in the market and there is limited research on private equity developments that stakeholders can reference (Lerner and Gurung, 2008). Today, it is still unclear whether less developed financial sectors, governance, regulatory systems, operational infrastructure and different social contexts create obstacles or opportunities for private equity investments in emerging markets (Lerner, Sorensen, and Strömberg, 2009). In particular, the importance of private equity both as an investment vehicle and as a catalyst for economic growth (Bruton, Ahlstrom, and Yeh, 2004; Sapienza, Manigart, and

2003b). Refer to chapter 3 for a review of the literature on private equity returns, and to chapter 6 for a comparison of Asia private equity returns with U.S. private equity market, NASDAQ composite, S&P 500, and MSCI Asia ex Japan index.

5 Big firms such as CVC Capital Partners, Charterhouse Group and Kohlberg Kravis Roberts & Co. (KKR) in Europe and First Reserve, Hellman & Friedman and Clayton Dubilier & Rice in the U.S., managed to raise lager funds in 2009 than in their previous vintage.

6 Refer to chapter 2.3 for an overview of the industry status in Asia.

Vermeir, 1996; Achleitner and Klöckner, 2005)[7] and its potential for future growth (Kaplan, 1989a; Lichtenberg and Siegel, 1990; Wright, Thompson, and Robbie, 1992; Jeng and Wells, 2000)[8] underlines the need for an academic assessment and a fuller understanding of private equity in the Asian context, requiring fundamental investigation.

1.1 Research objective and key questions

The objective of this dissertation is to analyze private equity returns in Asia, to compare these returns to those in the U.S. market, and to contribute to the understanding of the investment process and investment strategy of private equity investments in the Southeast Asian context. As shown in the literature review (Chapter 3), extensive research has been conducted on private equity in general and on private equity returns in particular from a North American and Western[9] European perspective, but studies of other geographical markets and contexts are limited.

Academics who have ventured into this research domain, such as Leeds and Sunderland (2003), simply highlight various differences in the private equity investment process, emphasizing the disappointing nature of private equity investments in Asia in absolute terms and relative to comparable funds in the U.S. and Europe,[10] where the risks are measurably lower. Bruton and Ahlstrom (2003) examine data on returns, finding that private equity markets in Asia do not perform as well as those in the West,[11] with returns

7 Cf. Amess (2003); Harris, Siegel and Wright (2005); PwC (2005); Davis, Haltiwanger, Jarmin, Lerner, and Miranda (2008); Gurung and Lerner (2009).

8 Cf. Muscarella and Vetsuypens (1990); European Venture Capital Association (2005); British Venture Capital Association (2006); A.T. Kearney (2007); Taylor and Bryant (2007); Amess and Wright (2007).

9 Western in this context is understood to mean underlying patterns of thought (in reference to Claude Lévi-Strauss) and refers to the free market economies of the U.S. and Europe. It is a practical adoption of conventional terminology for what is generally perceived as Western by most academic scholars and industry practitioners and does not imply any ethnic or geographical predisposition. In this thesis, Western private equity will mostly refer to the American experience, as it is the most developed private equity market with the longest history. Much of the academic literature is based on the American context.

10 Cf. Gottschalg, Zollo and Phalippou (2004).

11 Cf. Lerner and Schoar (2003).

often in single digits. Until recently it was thought that venture capitalist followed a similar model of investing worldwide, particularly for later stage investments (Jeng and Wells, 2000). Wright, Lockett, and Pruthi (2002), however, find evidence that the Western investment model under conditions of imperfect information, high risk, uncertainty and an unfamiliar context has not worked as expected in the emerging market context. They suggest that foreign firms entering emerging markets should adapt to local market conditions rather than seeking to replicate their domestic strategies.

In every country the private equity industry is shaped to a great extent by the institutional context (Cetindamar, 2003; Meyer, 2007), resulting in differences among venture capital and buyout firms from one country to another (Sapienza et al., 1996). In their exploratory analysis, Bruton and Ahlstrom (2003) confirm that the institutional environment in Asian economies has spawned significant differences compared with the West and subsequently raise the question whether the low rate of return can be attributed to institutional factors or to differences in the investment process and strategy of private equity employed. Although much of the difference in private equity performance between Asia and the West can be ascribed to limited access to, or unavailability of, performance data, it suggests that the private equity model which worked so successfully first in the U.S. and then in Western Europe has not travelled well to emerging markets and is applicable only to a limited degree.[12]

This paper aims to contribute to the literature in two ways. First, I analyze returns of private equity funds in Asia and compare them to those in the U.S. market, based on qualitative data. Second, I test the results through a comparison with qualitative data gathered in the data collection process in an attempt to find out how private equity investment works in Southeast Asia and how it differs from the Western experience. There is a comparative dimension to this topic as many private equity investors in Asia are non-Asian and are

[12] Much of the management literature implicitly assumes that management problems change over time but that they are universal. If Western management principles do not work, it is therefore not the fault of the principles but of the people (Hofstede, 2007). Hofstede (2007, p. 412) however argues “that management problems basically have remained and will remain the same over time, and that their solutions differ less from period to period than from part of the world to part of the world, and even from country to country”.

successful private equity investors in other parts of the world. While a comparison of returns is not the main focus of this dissertation, it should provide a point of reference for the assumption that returns in Asia have failed to meet investor expectations. The main research questions are derived from the preliminary findings and used to shed light on the difficulty of achieving high returns in the Asian context with the Western private equity model.

The objective is to respond to a number of research questions hitherto overlooked in the literature, which focus on private equity returns, the investment model, and investment strategy in the Asian context. For this purpose I conduct an exploratory examination of private equity in Southeast Asia, based on a grounded theory approach to data collection and analysis. The research draws on interviews with private equity investors currently active in the region in order to identify the framework within which private equity operates in Southeast Asia and how it compares and contrasts with the Western private equity experience. On the basis of the empirical analysis underlying this study I advocate making a distinction between venture capital investors and later stage investors. Although a number of decision parameters for the investment model and investment strategies may be relevant to all private equity segments, their respective weight of importance may vary. Seven major aspects of private equity in Southeast Asia are examined:

1. *How do private equity investments in Asia perform?*
2. *Are there differences in the performance of private equity investments in Southeast Asia compared to the West?*
3. *Are there differences in the performance of foreign and local fund investors?*
4. *Does the buyout investment process in Southeast Asia differ from the Western investment approach?*
5. *How far do institutional factors, such as normative, regulatory and cognitive elements, determine the investment process and strategy?*
6. *To what degree do institutional factors determine the success of private equity investments?*
7. *To what extent do private equity investors have to adapt their investment process and strategy in Southeast Asia to realize high returns?*

1.2 Relevance of research

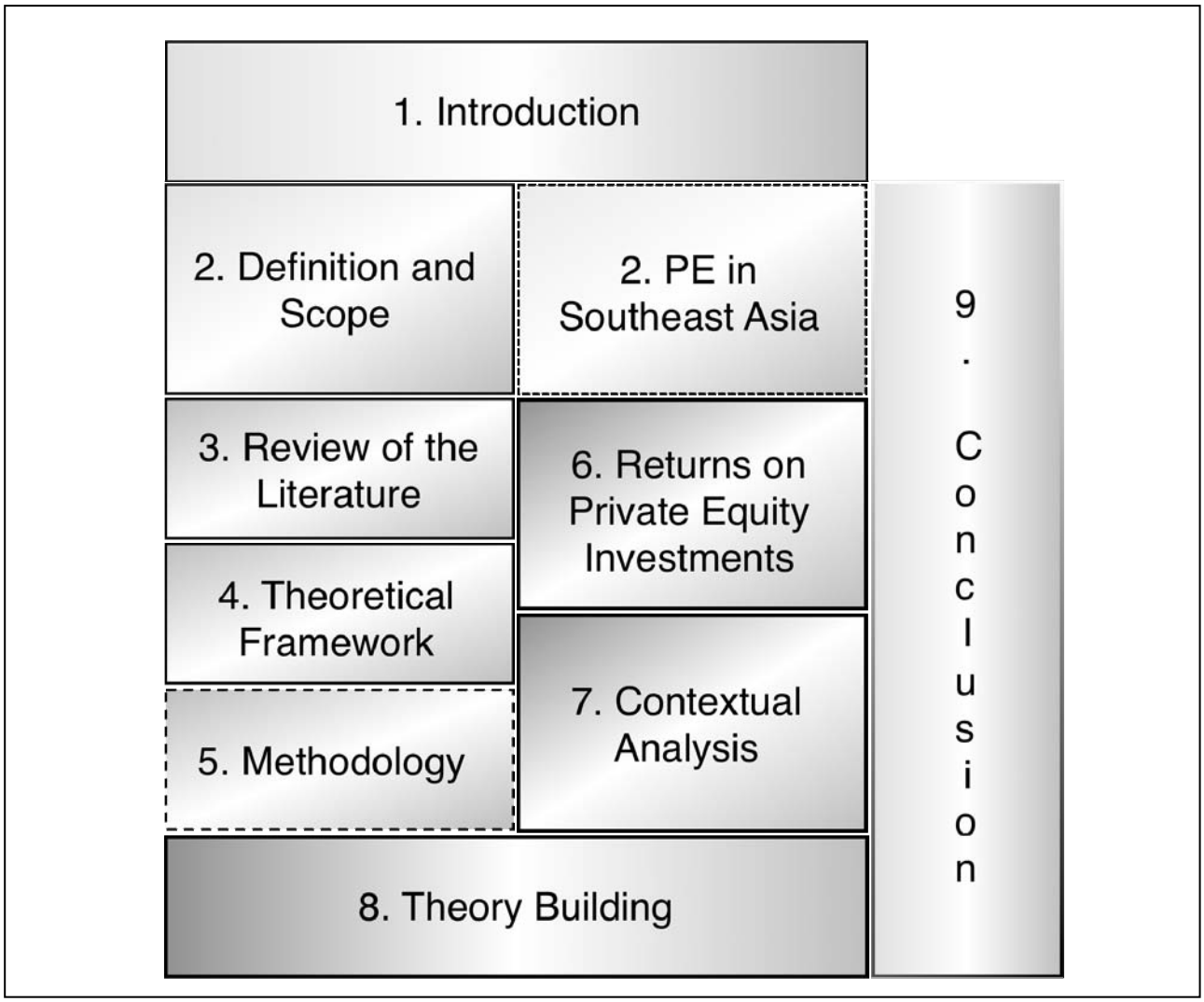
Private equity in Asia continues to attract a lot of public attention and capital, but from an academic perspective there is still scant knowledge and research-driven understanding of what is happening in the market and how private equity is successfully invested in Southeast Asia. Practitioners and academics researching investment strategies in Asia know only that the Western investment model and investment strategy is, in part, inapplicable to the context of Southeast Asia. Limited knowledge about successful investment strategies hinders practitioners when it comes to sequencing their investments effectively. Researchers are similarly limited by the non-transparency of this investment class. In the absence of an investment model and the proper conceptualization of an investment strategy, practitioners are forced to rely on individual adaptations of the Western model. In recent years, investors, entrepreneurs and government policymakers have shown an interest in gaining a better understanding of this rapidly developing sector. A fundamental grasp of the investment process and investment strategy in Southeast Asia is thus crucial both to enable a broader scope of academic analysis and to enable practitioners to build on systematically gathered knowledge.

1.3 Structure

This research paper is structured into nine chapters. Chapter 1 provides an introductory overview of the study. Chapter 2 starts with a definition of private equity, followed by an overview of the asset class and industry conditions in Asia. Chapter 3 reviews the underlying reasons for selecting this topic, which are related to gaps in the existing literature and the business need for investors to make sound judgments on investments and strategy in emerging markets. Chapter 4 reviews the literature for the purpose of formulating research questions and explains the conceptual framework underlying the research project. Chapter 5 describes the research design and in particular the research methodology. The subsequent two chapters, 6 and 7, present the findings and a discussion thereof in the light of the preceding literature review. Chapter 6 presents an analysis of private equity returns in Asia and compares these to the U.S. private equity and

stock markets. Chapter 7 provides a contextual analysis of the private equity investment model and strategy in Southeast Asia, based on interviews conducted with experts and private equity investors. Chapter 8 describes the implications for theory and practical applications for the private equity investment model and investment strategy in the region. Limitations of the study and avenues for future research are presented in Chapter 9. The structure of the study is illustrated in the exhibit below:

Exhibit 1: Structure of dissertation



Source: Author's own depiction.

2. Private Equity Fundamentals: Definitions and Scope

2.1 Definition of private equity

Private equity could for a long time be simply defined as “any equity investment in a company which is not quoted on a stock exchange” (Fraser-Sampson, 2007, p. 1). Lerner (2000) defined it as partnerships specialized in venture capital, leveraged buyouts, mezzanine investments,[13] build-ups, distressed debt, and other related investments. Fenn et al. (1995) linked the definition of private equity to the core activity of financial sponsors acquiring large ownership stakes and taking an active role in monitoring and advising portfolio companies. These definitions, however, no longer comprehensively reflect reality. Private equity has to be seen in a broader sense. Today, we find companies which are publicly listed but taken private, and instances where the company remains listed but the particular investment instrument is not (Fraser-Sampson, 2007). In addition, there is a whole secondary scene where interests in private equity are traded between investors. We also see an increasing convergence between the activities of private equity funds, hedge and property funds (Grünbichler, Graf, and Gruber, 2001; Campbell and Spiegel, 2005; Mooney and Schottenstein, 2005).

Private equity originally evolved as a means to finance entrepreneurial firms which required substantial capital to drive innovation and growth but lacked sufficient funds (Diller, 2006; Klier, Welge, Harrigan, 2009), in contrast to public equity, which is subject to the regulations of the regulatory authorities. Whether in developed or developing countries, some companies possess risk profiles that inhibit their ability to raise capital through conventional channels such as bank borrowing or the issuance of public securities (Leeds and Sunderland, 2003). Some are too new to have convincing track records, others are overburdened with debt, and still others lack transparent financial statements. At a certain stage of growth, these firms can no longer compete without making new investments that

[13] Mezzanine investments combine debt and equity-like instruments (Kirchner and Lenz, 2006). In the event of default, senior obligations are satisfied first and mezzanine financing is therefore less likely to be repaid in full.

are too large and costly to be financed internally. Private equity offers an attractive form of financing for the development of entrepreneurial ventures, filling the gap between self-financing and conventional capital market activity, where alternative funding sources such as bank debt are problematic (Le, Venkatesh, and Nguyen, 2006).

In addition to financing, private equity also implies corporate governance and management support, which is stipulated between the market participants[14] (Kaplan and Strömberg, 2009). Jensen (1989) and Kaplan (1989a, 1989b) describe three main aspects of the financial and governance engineering changes associated with private equity firms. First, private equity firms address management incentives by giving the management team a large equity upside but also a significant downside through the incentive structure and the requirement that management make a meaningful investment in the company. Second, leverage creates pressure on managers not to invest the firm's funds in inefficient projects, as they must make their interest and principal payments.[15] Third, private equity firms control the board of their portfolio companies through governance engineering, bringing in new management if necessary.[16]

Additionally to financial and governance engineering, private equity firms today provide another dimension, best described as «operational engineering», which refers to the provision of industry and operating expertise to add value to the investment (Kaplan and Strömberg, 2009). While building on the fundamentals of financial and governance engineering, private equity investors actively influence the strategic decision-making process and broaden the private equity investment concept by active portfolio management (Klier et al., 2009).

This study focuses on private equity as an international market segment where professional actors compete for resources and investment opportunities. It includes a range of finance from early-stage venture capital to later-stage private equity of growth, management buyouts and buy-ins (Wright et al., 2005). These investments involve

14 Refer to chapter 2.2.5 for a definition of market participants.

15 Cf. Klier et al. (2009).

16 Cf. Acharya, Franks, and Servaes (2007).

businesses which are not quoted after the transaction and thus do not constitute investment funds, which operate in the quoted market. They can be defined as private equity investments irrespective of their size, although in most cases it can be assumed that the intermediaries will hold the majority of voting rights in order to protect their interests. The analysis of the returns will be made at the level of the individual intermediary who manages the funds or the pooled funds. Whether the assets are provided by private persons, industrial firms, institutional investors or even the state is irrelevant as long as the investment decision remains independent from the source of funds and the investment assessment is determined by notions of risk and return.

2.2 Terminology

2.2.1 Private equity – venture capital/buyout

One important distinction to make concerning the terminology goes to the very heart of understanding the asset class. In Europe, the asset class as a whole is called «private equity» and is divided into venture capital and buyout, whereas in the U.S. different terms are frequently used – for example, the asset class as a whole is often called «venture capital» and buyouts are referred to as «private equity», which can create confusion. In this study, I use the term «private equity» to refer to the asset class as a whole, comprising venture capital and buyouts as its two main subgroups, in accordance with the definition of the European Private Equity & Venture Capital Association (EVCA, 1998).

2.2.2 Private equity segmentation

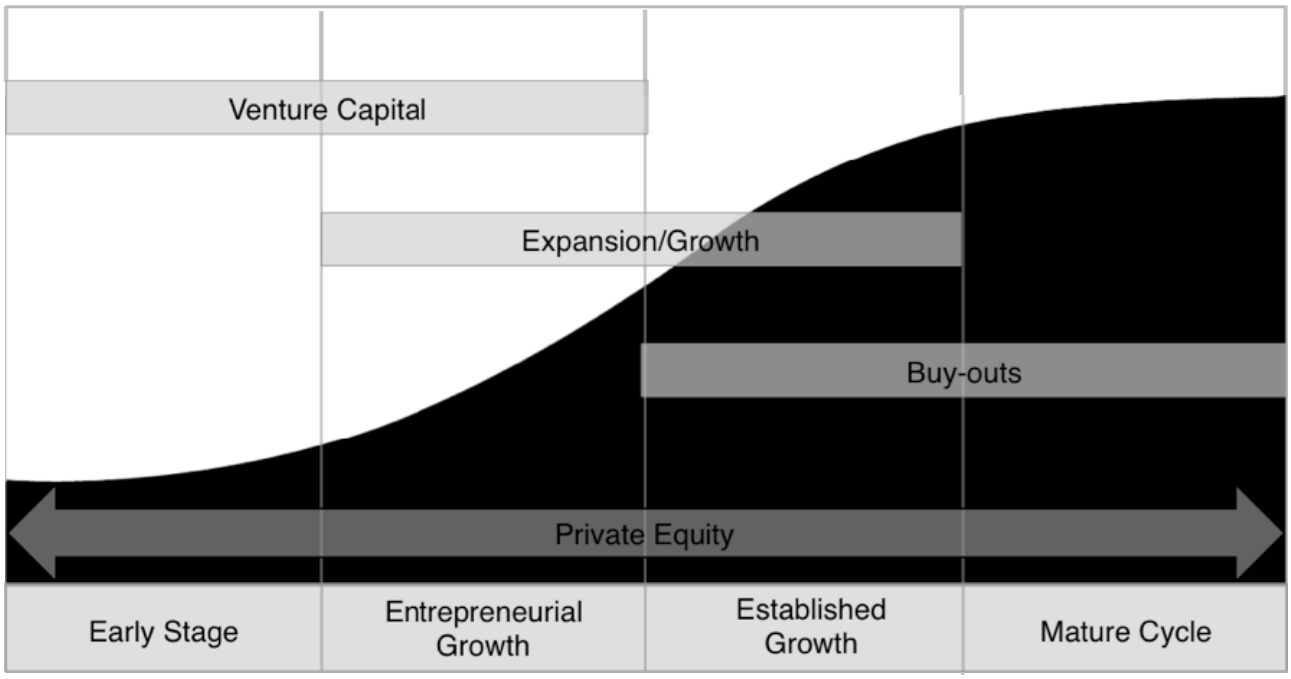
Numerous attempts have been made in the academic and practitioners' literature to categorize different types of private equity investments. Pratt (1981) segments private equity activities into six steps.[17] His segmentation concentrates on the traditional venture capital business.[18] Fenn et al. (1995) expand the classification and assume that private equity can

[17] Seed financing; Start-up financing; First stage, Second stage; Third stage, Bridge financing.

[18] Only later Pratt (1999) extends his segmentation and allows room for later stage activities.

provide financing solutions for all phases in a company's development. Kraft (2001) links the segmentation to the company life cycle, using company value as a binding characteristic for distinct financing stages. This offers a simple way to classify private equity activity, linking various segmentation approaches to the concept of the corporate life cycle.

Exhibit 2: Private equity segmentation



Source: Author's own depiction with reference to Kraft, 2001 and Sharp, 2007a.

In accordance with the EVCA definition of private equity in Exhibit 2, venture capital and buyouts represent the two broad sub-classes into which private equity is notionally divided. Within each there are a number of important differences that create further subcategories.

2.2.3 Venture capital

Venture capital firms invest in young companies – possibly even raw start-ups – whereas buyout firms invest in developed businesses (Fraser-Sampson, 2006). Venture investments usually take the form of pure equity, as there is rarely any cash flow available to service loan interest, whereas buyout investments almost always include a large element of debt.

Historically, the retail sector has always attracted a lot of venture investing and only a number of venture companies can be classified as offering a service which is technology related (Fenn et al., 1995). Indeed it has come to be expected as part of the everyday notion of venture capital that it exclusively concerns new technology companies. In fact, it is comparatively rare for a venture-backed company to develop a new technology (Fraser-Sampson, 2006). There are very few venture capitalists around who would be prepared to finance the risk of a genuinely new technology;[19] it is more common for companies to develop a new application for an existing tried-and-tested technology to meet a particular commercial need (Bader, 1996). The risk involved is therefore usually more a marketing risk than a technology risk.

All venture companies are young, but some are younger than others. *Seed* funding is the earliest stage of all, although this definition is flexible and is frequently used to refer to the first institutional round of financing (Bader, 1996). A start-up can vary in size and complexity from the traditional two-guys-in-a-garage concept to a large team of software engineers renting office space, and the amount of financing required to get off the ground will vary accordingly (Fraser-Sampson, 2006). *Early stage* is the phase at which at least one institutional investor invests for the first time. This is often the first round of financing and is composed entirely of professional investors. Venture funding proceeds from round A to rounds B and C. Fraser-Sampson (2006) classifies this as *mid-stage* investing. It is at this stage that the venture firm will consider exactly which investors are able to add most value to the company, and seek to attract, for example, a large technology company which might be a key customer or even potential acquirer, or a venture firm in a different geographic area to help roll out the business. *Later stage* is used to describe the phase which covers everything from round D onwards, and includes bridge financing, placement capital, and structuring capital (Bader, 1996).

[19] The one exception to this occurs in the healthcare domain, where drug discoveries can and do obtain venture funding (Fraser-Sampson, 2006).

2.2.4 Buyouts

Buyout investments are prevalent both in the U.S. and Europe as well as in other locations such as Asia (Fraser-Sampson, 2006). However, this distinction is often made without any difference as to the way in which these investments are made and structured. Buyouts generally focus on established companies rather than on young businesses and often use debt and equity financing where the acquiring party will take a majority stake (Fraser-Sampson, 2007). Third-party banks classically supply debt but the situation is usually more complex than that, with different tranches of senior debt and different layers of subordinated debt. Part of this subordinated debt may at times be supplied by the buyout fund, although usually the intention is to retire it at some stage as part of a recapitalization. Specialist funds have sprung up to offer mezzanine funding and they occupy a discrete position in the private equity world.

Buyouts typically focus on traditional rather than technology businesses, but it can happen that an originally venture-backed company becomes the target of a buyout transaction over time (Fraser-Sampson, 2006). Buyouts are generally larger than venture capital investments and true buyouts mostly control the company via the majority of the shares or voting rights and have usually only one round of financing (Haberich, 2009).

Buyouts can take a number of forms. Management buyouts (MBO) are a major subset of the range of corporate restructuring transactions and involve simultaneous changes in the target firm's ownership, financial structure and incentive system (Fraser-Sampson, 2007). MBOs involve the acquisition by the current management team of the business whereby ownership is concentrated in the hands of the management and the private equity firm. The purchase price is mainly paid by a private equity capital firm which provides significant amounts of equity, and by banks providing debt. The former parent may retain an equity stake, often to support a continuing trading relationship. Private equity firms become active investors by taking board seats and imposing contractual restrictions on the behaviour of management, which always include detailed reporting requirements.

Management buy-ins (MBI) are a similar form of transaction but differ insofar as the entrepreneurs leading the transaction come from outside the company. A hybrid buy-in

management buyout (BIMBO) combines the benefit of existing internal management with a contribution from external entrepreneurs. Such transactions have developed to address the shortcomings of pure MBIs, where asymmetric information problems faced by outsiders have led to significantly higher failure rates than for MBOs.

A leveraged buyout (LBO) is one where a company is acquired by a specialized investment firm using a relatively small portion of equity and a relatively large portion of outside debt financing[20] (Kaplan and Strömberg, 2009). In a typical LBO transaction, the private equity firm buys major control of the target firm. In a certain sense all buyouts are LBOs, as financial assistance is almost always an issue, but in the real world an LBO distinguishes itself from other types of MBO due to the connotation that the buyout has not been initiated by a management team, either external or internal (Fraser-Sampson, 2007). LBOs generally involve the acquisition of a publicly quoted corporation or a large division of a group by a specialist LBO association. Typically an investment bank is appointed to prepare for the sale of a target company which is large enough that no single business activity is involved but rather a range of activities. In such cases, the LBO is equivalent to an industrial acquisition where the acquirer is not a single buyout firm but a consortium of buyout firms. Research has shown that firms involved in LBOs typically have high free cash profiles, low growth opportunities, and subsequent to a buyout achieve an increase in operating efficiency and profitability, benefiting from lower tax burdens as a consequence of debt interest tax shields.[21]

Taking a company private can also be defined as a buyout, whereby a public company is delisted in order to transform it into a private company. An additional type of buyout transaction – called a «roll-up» – occurs when several small operators of a target industry are brought together to increase profits by better marketing, improved management and economies of scale (Fraser-Sampson, 2007). There exist other buyout activities such as expansion capital or growth capital deals but which are not typical buyout transactions.

[20] 60 to 90 per cent debt (Kaplan and Strömberg, 2009) before the latest financial crisis and 40 to 60 per cent after the crisis according to interviewed investors in Asia.

[21] Cf. Gilbert, 1978; Baker and Wruck, 1989; Muscarella and Vetsuypens, 1990; Kaplan, 1989b; Kaplan, 1991; Opler and Titman, 1993; Kosedag and Lane, 2002.

They are mostly «non-control investing», which, it can be argued, constitutes a separate segment. Lastly, a new type of transaction has evolved in recent years which has come to be known as «private investment in public equity» (PIPE), whereby an investment instrument is created within a public company that offers a private equity-type return (Fraser-Sampson, 2006).[22] In such a case, the company's equity is quoted while the investment instrument is not. Private equity is not a connotation created by academics but practitioners and has therefore been evolving over time. Accordingly there will always be some investments that defy precise definition.

2.2.5 Funds – the private equity market structure

The private equity market consists of three major categories of market participants: issuer, intermediary and investor (Fenn et al., 1995). The most fundamental distinction is between the investor who invests in funds and the intermediary who manages the capital invested by making investments in the companies (Fraser-Sampson, 2007). Those who invest in funds are called limited partners (LP).[23] Those who invest directly in companies are called general partners (GP) and are professional private equity managers. The former is known as «fund investing», the latter as «direct investing».

Investments are typically made by funds. Funds raise capital from institutional investors such as government and corporate pension funds, insurance companies, and endowments, as well as from high net worth private investors who rarely have the professional staff or expertise to make such investments themselves (Lerner and Hardymon, 2002). A number of banks, large corporations and sovereign wealth funds (SWF) allocate funds to private equity but prefer to maintain close control over the development and implementation of their investment strategies rather than participating as

[22] Publicly quoted shares can also be found within private equity funds where an IPO has been used as an exit mechanism and shares are still in «lock up» and cannot presently be distributed.

[23] The limited partnership has evolved as the dominant organizational form, first in the U.S. and then on a global basis as a result of extreme information asymmetries and potential incentive problems that arise in the private equity market (Fenn et al., 1995; Lerner and Hardymon, 2002).

one of several investors in a blind pool of funds where they have limited control over the investment decisions (Sharp, 2007a).

Single fund investing often occurs when a private equity investment is used as part of a broader corporate strategy, such as to get access to developing technologies (Barron, 1984) or to enhance the range of a bank's offerings to its business market[24] (Sharp, 2007a). Managers of single funds in such cases are either teams of in-house employees or specifically contracted private equity managers working to a tightly defined mandate with the close involvement of the investor.

A «fund of funds» (FoF) represents a further stage both in terms of diversification and outsourcing of private equity expertise for the investor (Sharp, 2007b). It will typically allocate its capital to 15 or more separate funds,[25] and its managers will take on the role of selecting and managing relationships with the managers of each fund, reducing the net return by charging a management fee and a performance-linked incentive fee.

An alternative to investing in a fund of funds is to hire a specialist consultant with deep knowledge of the private equity market (Sharp, 2007a). Institutional investors often use such consultants as a first method of screening GPs (Fenn et al., 2005).

2.2.6 Investment size

The size of a fund is a useful guide to the size of the investments its managers will make (Sharp, 2007a). Limited partnership agreements limit the maximum size of investments, usually to 10 or 15 per cent of committed capital, while the target median deal size will be around 5 to 7 per cent of total fund size. There is no optimal fund size, since the effectiveness of the capital employed does not primarily depend on the amount of capital employed but on the organizational structure of the fund (Bader, 1996). It is, however,

[24] Funds entirely owned by a bank, insurance company or pension fund are called captive funds (Bader, 1996).

[25] Each of these funds invests in another 15 funds. The investor in a FoF will therefore hold a portfolio of at least 225 (15 x 15) company stakes.

possible to estimate a minimum size of a private equity fund. Key elements to be taken into account include the operative costs of the fund (fixed and variable costs), the need for diversification, the quality of analysis and supervision, and the remuneration of the fund managers.

Huntsman and Hoban (1980) show that a private equity portfolio with 10 investments does not match the need for diversification and that only with 15 investments or more is the minimum need for diversification reached to eliminate the unsystematic risk.[26] Gorman and Sahlman (1989) estimate that a single partner of a private equity company will be able to professionally supervise a maximum of nine investments. To supervise a fund with 15 investments, at least two fund managers will therefore be needed.[27] Sahlman (1990) assumes that a fund manager will earn on average US$250,000 a year. With additional items such as analyst salaries, office rental, and travel expenses, the cost easily doubles. For two managers, total costs are thus likely to amount to US$1 million per year, which must be covered by the management fee. Investors generally agree to pay a management fee equivalent to a maximum of 2.5 per cent[28] of the fund volume. To cover yearly expenses the fund size has therefore to be at least US$40 million.

The European Venture Capital Association defines funds as small, medium, large or mega on the following basis:

Venture funds:	Small	up to €50 million
	Medium	€50 million to €100 million
	Large	€100 million to €250 million
	Mega	€250 million and over
Buyout funds:	Small	up to €250 million and over
	Medium	€250 million to €500 million
	Large	€500 million to €1 billion
	Mega	€1 billion and over

[26] Bader (1996) calculates 33 investments for a private equity portfolio and 10 different stakes for a stock portfolio to eliminate the unsystematic risk.

[27] Cf. Bernile, Cumming and Lyandres (2007).

[28] Management fees tend to drop to a range of 1.25 to 2 per cent, based on real costs (Bygrave and Timmons, 1992; Fenn et al., 1995; Bader, 1996).

2.3 Industry status in Asia

2008 was a defining year for the private equity industry (Asia Private Equity Review, 2009a). The meltdown on Wall Street that led to the liquidity crunch has been changing the private equity market worldwide since.[29] For the Asian private equity industry, it was the third major event in a series that began with the 1997-98 Asian financial crisis which obliterated the value of most private equity investors' portfolios in the region. Before the private equity market in Asia could recover, the technology bubble burst in April 2000, exacerbated by the events of September 11, 2001. While other parts of the world recovered, Asia was cordoned off by severe acute respiratory syndrome (SARS) for the best part of 2003. Only in late 2003 did Asia's private equity industry begin to significantly recover, going on to experience four and a half years of uninterrupted growth before re-entering the latest financial crisis in 2007.

2.3.1 The current private equity market in Asia

Asia's fast-growing private equity industry edged towards an aggregate fund pool of over US$200 billion by the end of 2007 (Asia Private Equity Review, 2007). The fresh capital coming into the fund industry broke through the US$36 billion mark within a 12-month period.

While 2007 was a remarkable year for private equity developments in Asia, negative signs were appearing on the horizon. Despite a huge increase in fresh capital, deal value

[29] According to Thomson Reuters, a direct consequence of this scarcity and higher cost of debt was a massive falloff of buyout deal activity from US$500 billion worth of deals worldwide in the cyclical peak of 2006 and 2007 to US$170 billion in 2008, and just US$81 billion in 2009, the lowest buyout activity level since 2001. The drop in deal value was most dramatic in North America and European markets, where activity plunged at a compound annual rate of 66 per cent and 62 per cent respectively. But also other regions like Asia-Pacific felt a strong contraction of 32 per cent (Bain, 2010a). As other regions declined even faster, Asia's share of global private equity deal value grew from less than 10 per cent in 2007 to 23 per cent in 2009 (Bain, 2010b).

declined by 21 per cent in 2007,[30] recording US$42 billion on aggregate compared to US$53 billion for 2006, confirming that a more challenging environment for deals had developed and that Asia was not completely immune to the prevailing credit crunch (Asia Private Equity Review, 2008a).

Despite the drop in aggregate deal value in 2007, the number of investments climbed to 691, an increase of 17 per cent on the preceding 12 months, contradicting the assumption that a decline in deal value would equate to a decline in the total number of transactions; it simply meant that opportunities for big deals had eluded private equity investors, at least for the time being. Asian private equity saw a decline in average deal size to US$60 million in 2007, compared to US$90 million for 2006 (Asia Private Equity Review, 2007). The largest deal in 2007[31] was only half the size of the largest in 2006,[32] and only four transactions exceeded the US$1 billion mark, well below the 12 records set a year earlier.

In the first six months of 2008 the private equity industry in Asia continued to boast remarkable fund raising and investments (Asia Private Equity Review, 2008f), but in the second half of the year, as the global financial industry witnessed a defining moment with the collapse of Lehman Brothers, and with Goldman Sachs and Morgan Stanley deciding to relinquish their investment banking status, Asia's golden age of private equity ended abruptly (Asia Private Equity Review, 2008e). The earlier euphoric investment mood changed, private equity fund raising dropped,[33] and transactions quickly fell prey to tightened credit restrictions (Bain, 2010a). During 2008, 27 transactions had to be aborted because of a lack of liquidity and/or gap of expectations between the buying and selling parties (Asia Private Equity Review, 2009a). At the end of 2008, Asia's private equity fund

30 Data from AVCJ shows that deal value was still increasing in 2007 and only sharply dropped from 2008 onwards (AVCJ, 2009).

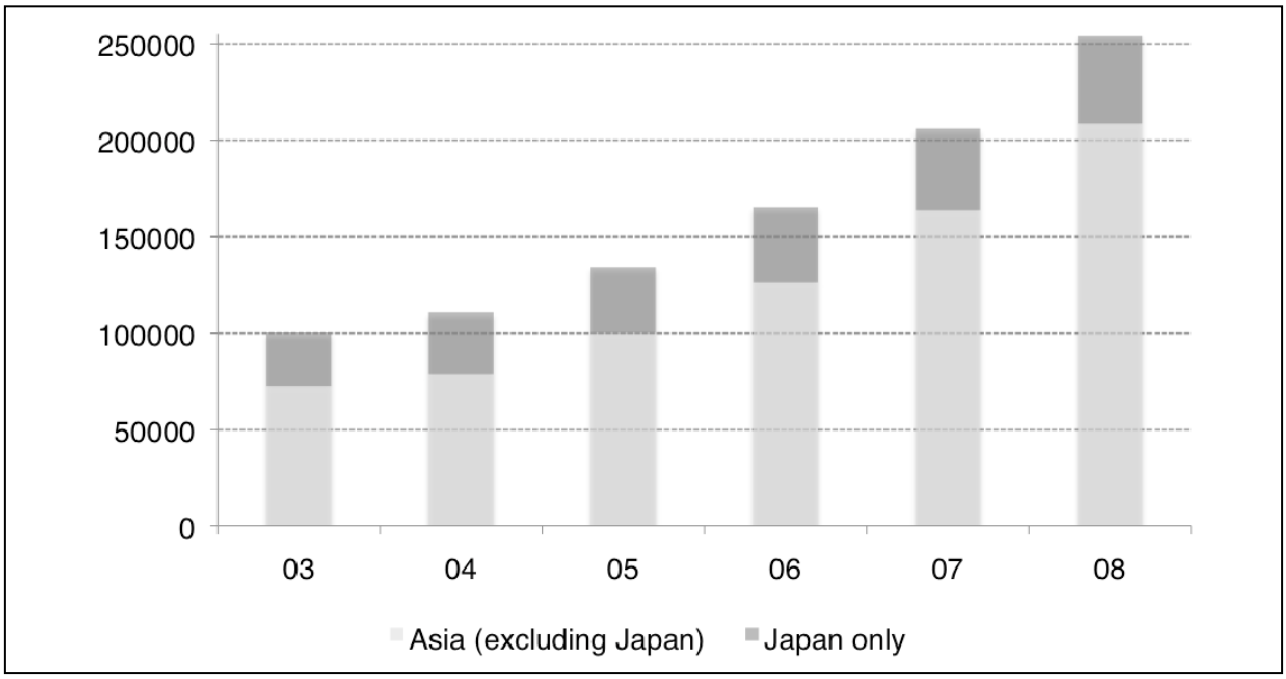
31 A$2.5 billion was committed to Australia's Alinta Ltd. (US$ 2.0 billion) by Babcock & Brown Direct Investment Fund Ltd. (Asia Private Equity Review, 2007).

32 US$4.2 billion, participated in by KTB network Co. Ltd. in South Korea's Daewoo Engineering & Construction Co. (Asia Private Equity Review, 2007).

33 Fund-raising was weak in every region. It not only took the funds longer to close but many firms scaled back new fund-raising efforts or abandoned them entirely. In the 18 months leading up to the end of 2009, effort to raise capital for 92 funds were given up globally, targeting US$48 billion in capital (Bain, 2010a).

pool still averaged US$253 billion, roughly 10 per cent of the world's fund pool aggregate. But despite a 16 per cent increase in fresh capital coming into the market compared to 2007 (Asia Private Equity Review, 2009a), it was the lowest percentage growth rate since 2004.

Exhibit 3: Asia's private equity fund pool – aggregate (US$ million)



Source: Asia Private Equity Review, 2008f.

More serious than the low percentage growth rate was the fact that 70 per cent of new funds which came into the market in the first half of the year represented mostly Asia-based investors rather than investors based in the West who continued to make commitments to funds (Asia Private Equity Review, 2008f). Allocations to Asian funds from institutions in the U.S. decreased by 44 per cent in early 2008 compared to 2007, although commitments from European investors initially stayed mostly unchanged. But when the global financial crisis dramatically deepened in the second half of 2008 and Western governments took control of their respective nations' financial institutions, commitments from European investors declined drastically and Asia's government-linked agencies emerged as the principal investors, investing billions within and outside the region, and doubling the volume of their capital allocations in the region compared to 2007.

Despite the financial turmoil, investors in Asia raised more billion-dollar funds than a year earlier[34] and transacted US$46 billion in deal value, comparable in size to 2007, although the figure would have been substantially lower had it not been for an unusual jump in transaction volume in Japan, which amounted to US$13.2 billion in 2008, accounting for almost 30 per cent of the region's transaction aggregate. After a year of relatively small buyout activity, Japan reclaimed the title of Asia's largest buyout market.

In the first half of 2009, the Asian private equity market faced a further 45.7 per cent drop in capital allocation compared to the first two quarters of the previous year. Allocations from investors based in the U.S. and Europe dropped a further 56 and 72 per cent respectively (Asia Private Equity Review, 2009c). This corresponded to a 72 per cent decline in fresh capital coming into the market for the first half of 2009. The volume of investment also declined by 72 per cent, to US$8.9 billion, for the first half of 2009, and by 61 per cent in terms of total number of transactions from just a year earlier. While deal value picked up in the second half of 2009,[35] reaching an annual total of US$24 billion at the end of the year, the deal volume[36] remained low throughout 2009 (Bain, 2010b).

Before the recent financial crisis, private equity experienced several extraordinary years for exits. A total of 380[37] divestments were initiated in 2007 in Asia alone (Asia Private Equity Review, 2007). Initial public offerings (IPOs) were the main exit route with a 77.6 per cent share of all exits. While stock exchanges in the U.S., Hong Kong and Singapore had long been successful in courting foreign company listings, a new trend in cross-border listings emerged. Two stock exchanges in Japan and one in South Korea played host to foreign private-equity-backed companies for the first time and the Hong Kong stock exchange presented its first Vietnamese stock.[38] Although IPOs accounted for the lion's share of exit movements, the capital returned from these public offerings represented only

34 There are 12 billion funds reported for 2008 (Asia Private Equity Review, 2008f). They accounted for more than 50 per cent of the overall funds pool.

35 Only three deals executed in Asia exceeded US$1 billion in deal value in 2009 (Bain, 2010b).

36 The numbers of private equity deals bottomed out in Q1 2009 but has remained at a low level for the rest of the year with 54, 74, 74 and 75 deals for the respective single quarters (Bain, 2010b).

37 Bain (2010b) counted a total of 573 exits in 2007.

38 Vietnam Manufacturing and Export Processing Limited.

39.2 per cent of the total, while trade sales mainly made up the remaining percentage (Asia Private Equity Review, 2007). The US$17.05 billion realized on an initial aggregate invested capital of US$5.8 billion represented an almost threefold return on the original investment. The main divestment activity was in China and India, which together accounted for 76.6 per cent of the 380 known exit processes initiated. However, the aggregate capital realized in those two markets accounted for only 34.3 per cent of the US$17.05 billion total.

Even though the financial crisis began to lap the shores of Asia from the beginning of 2008, private equity investors still believed in public offerings as an appropriate divestment route, despite the fact that global stock markets were suffering from extreme volatility and cases of disappointment[39] (Asia Private Equity Review, 2008b). But once the Shanghai Stock Exchange's Composite Index had recorded its worst decline in early 2008 and India's SENSEX had fallen by almost 30 per cent by the end of March 2008, IPOs dramatically declined due to depressed valuations (Asia Private Equity Review, 2008c). The number of divestments overall dropped from an all time high of 573 in 2007, to 312 and 276 in 2008 and 2009 respectively (Bain, 2010b). Divestments accelerated in Q4 but were driven by an increase in China exits. China accounted for 45 per cent of all exits in the region in 2009, followed by India and Korea. Southeast Asia saw only 19 exits in 2009.

2.3.2 Growing importance of Asia's developing economies

A total of 292 LPs or fund investors are known to have made 393 allocations to private equity funds during 2007 (Asia Private Equity Review, 2007), of which 59 per cent came from Asia[40] (including Japan), with North America accounting for 21 per cent, and Europe and the Middle East for 12 and 7 per cent respectively.[41] Until 2007, funds bigger than

[39] The second planned listing of China Pacific Insurance (Group) Co. Ltd. on Hong Kong Stock Exchange had to be postponed without any immediate future target date set (Asia Private Equity Review, 2008b).

[40] Domestic investment in private equity, particularly at early stages, is mainly controlled by government firms, university firms, and corporate firms (White, Gao and Zhang, 2005).

[41] Asia's capital under management >US$2 billion is mainly under management of international firms (roughly 60 per cent), while capital under management >US$1 billion and >US$500 million is predominantly under management of Asian firms (roughly 70 per cent) (Bain, 2010b).

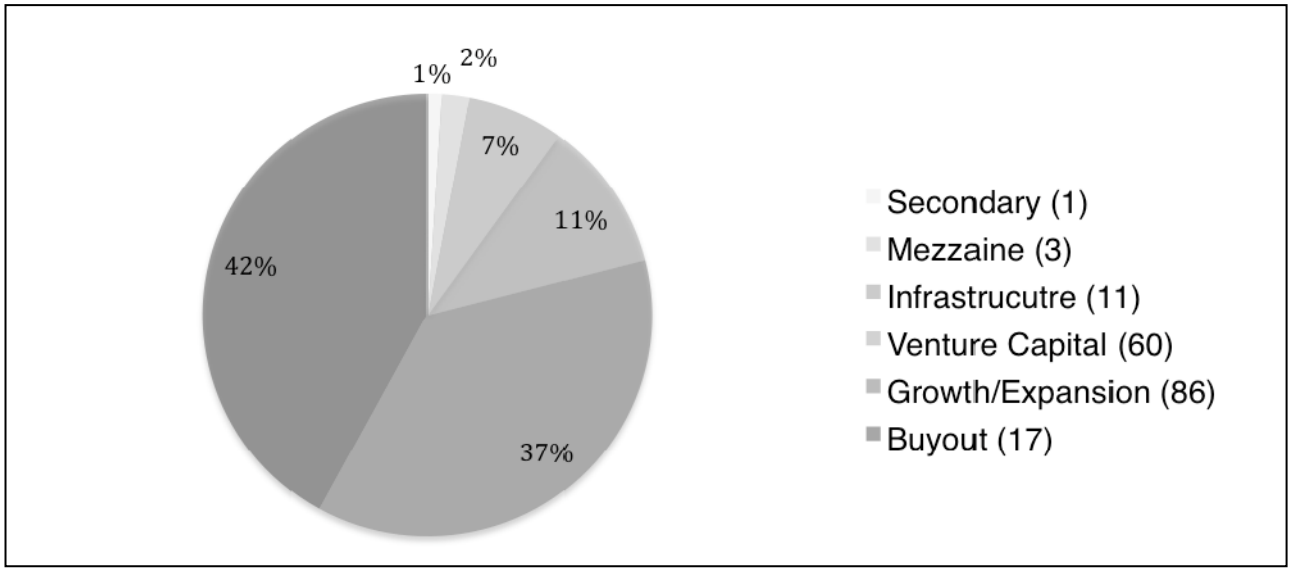
US$1 billion had been exclusively held by pan-Asian and Japan-focused funds. In 2007, for the first time, Asia's developing economies entered the billion-dollar fund pool arena.[42] China and India as developing economies not only led the way in drawing fresh capital but also in aggregate deal value as well as in the number of exits initiated. The fact that these economies could compete for deals that had long been beyond their reach was an indication of their strengthening economies.

Buyout funds were the mainstay of the Asian private equity fund pool in 2008, accounting for US$20 billion of fresh capital and US$24 billion of aggregate total transactions, followed by expansion and growth capital (Asia Private Equity Review, 2008f). Venture capital took the third-largest slice of the fund pool pie, but showed a 30 per cent drop compared to 2007. Infrastructure ranked fourth with a rise of almost 30 per cent on the previous year.

Outside of Japan, companies in the growth and expansion stage dominated the investment profile in 2008, accounting for US$18 billion, or 56 per cent, of the transaction total. The aggregate was nonetheless 23 per cent lower than the amount recorded in 2007. Buyout transactions managed to record US$14 billion, or 42 per cent of total transaction volume, compared to US$18 billion in the same period a year before. Out of 751 transactions in 2008, 77 per cent belonged to the growth and expansion category, while buyouts took just 11 per cent. Over 87 per cent of those 751 transactions that received private equity capital did not cede control to their investors. Control and non-control deals accounted for 45 per cent and 55 per cent of transaction volume.

[42] The largest fund in 2007 was KKR's fund for Asia, which achieved a final closing figure over US$4.0 billion, followed by Affinity Equity Partner's Asia Pacific Fund III at US$2.8 billion (both pan-Asian funds), Advantage Partners MBI Fund IV at US$2.1 billion, focusing only on opportunities in Japan, and the first two billion dollar funds in China (CDH China Fund III,) and India, (ChrysCapital V), which closed at US$1.63 and US$1.25 billion respectively (Asia Private Equity Review, 2007).

Exhibit 4: Profile of Asian private equity fund pool (2008)



Amount surveyed: US$47,778 million, per cent by amount, figures in ( ) denote the number of funds.
Source: Asia Private Equity Review, 2008f.

Buyouts remained the most important deal type overall Asia in 2009, followed by growth and expansion capital (Bain, 2010b). Buyout deals accounted for more than 60 per cent of deal value in Southeast Asia, Korea, Japan, Australia and New Zealand, and Hong Kong and Taiwan, albeit accounting for less than 20 per cent of the total number of deals. Exceptions were China and India, where buyout deal value accounted for less than 20 per cent and growth and expansion for more than 40 and 60 per cent respectively. Overall Asia growth and expansion capital represented roughly 25 per cent in deal value but more than 50 per cent of total number of deals.

2.3.3 Southeast Asia

Confidence in Southeast Asian economies revived strongly after 2003. Total funds raised for the region[43] rose from US$609 million to US$6.9 billion by 2007 (AVCJ, 2009) an almost 11-fold increase. In 2008, new funds raised dropped for the first time in five years, reaching less than 50 per cent of the 2007 total. By the first half of 2009 new funds had

[43] AVCJ includes Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam in its Regional Report on Southeast Asia.

sunk to less than US$1 billion in total, below the level of 2004. The relative size of Southeast Asia compared to Asia-Pacific in the funds-raised category has fluctuated between five and 12 per cent since 2003. Despite the rise and fall of the fundraising tide, in terms of the relative size of individual market share overall Asia-Pacific, Southeast Asia remained relatively stable at about 15 per cent before climbing to 20 and 26 per cent in 2008 and 2009 respectively, making it the most important destination by deal value (Bain, 2010b). From 2003 to 2007, total deal value rose from US$1.5 billion to US$13.3 billion. The numbers came down in 2008 and 2009, when investments plummeted to US$8.6 billion and US$6.3 billion respectively, but the decrease was far less than in other regions in Asia.

Buyouts in Southeast Asia were the most important deal type in 2008, accounting for US$4.2 billion, or 49 per cent of the total, and 19 deals, followed by PIPE financing which secured US$2.7 billion, or 31.7 per cent, and 17 deals (AVCJ, 2009). Third was growth/expansion capital with US$658 million, or 7.6 per cent, and a total of 56 deals.

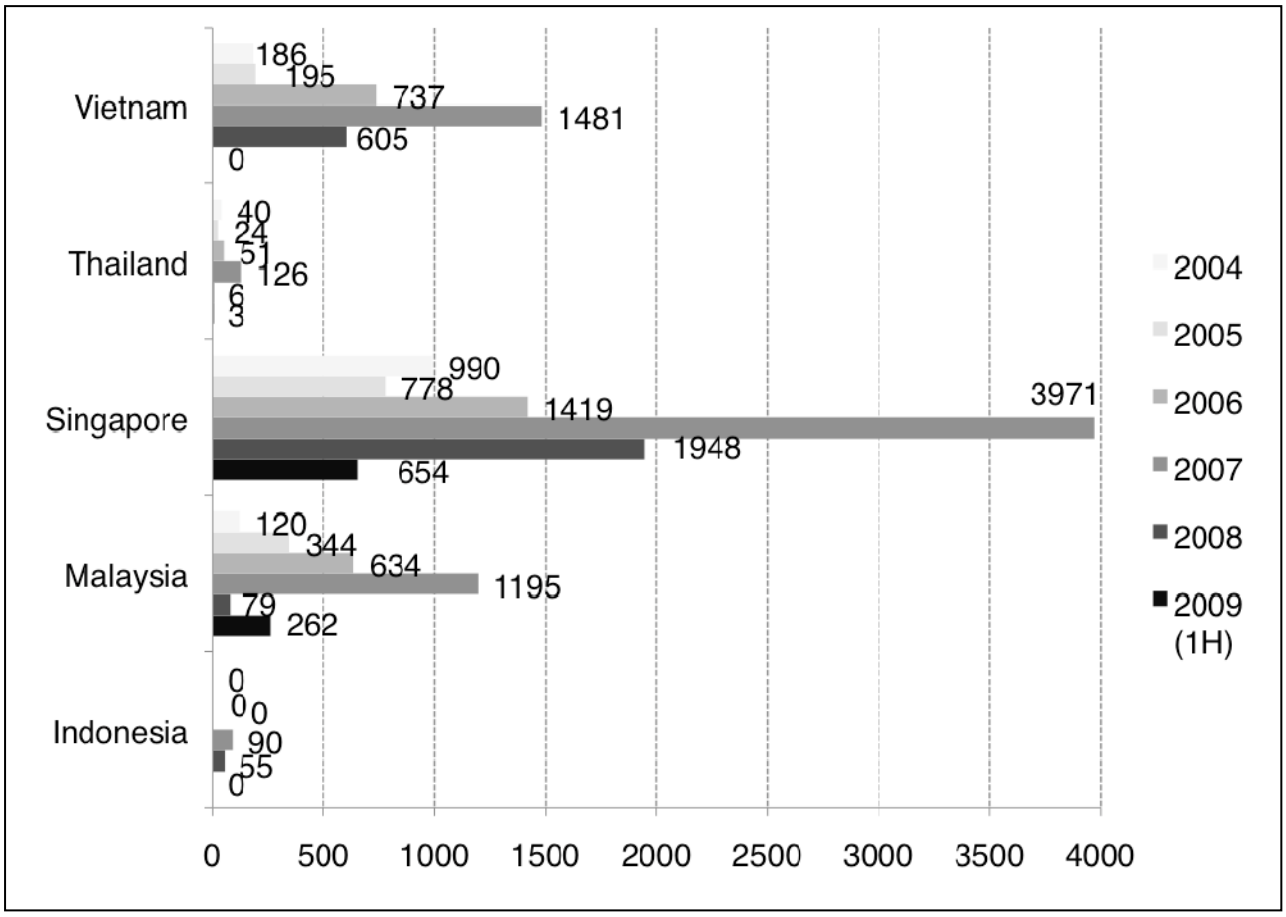
Exits through trade sales have dominated the sub-regional markets in recent years. They reached US$1.5 billion with 10 deals in 2004, doubling to US$2.8 billion with 33 deals in 2006, and, despite the difficult economic climate in 2008, reaching an all time high of US$13.2 billion[44] with 26 deals, before plunging to US$92 million with 10 deals for the first half of 2009. Exits through IPOs developed similarly but on a smaller scale. IPOs amounted to US$663 million in 2004 with 19 exits, climbed to US$849 million in 2005 with 22 exits, dipped to US$776 million a year later with 18 exits, and fell further to US$623 million in 2007 with 14 exits, before rising to US$1.6 billion in 2008 with the same number of IPOs as a year before. For the first half of 2009 only three IPOs took place, raising US$77 million in total.

In good times or bad, Singapore had the lead over its neighbours in the region. It raised US$1.4 billion in 2006 and almost tripled this to US$4 billion in 2007. Although the slowdown was unavoidable in 2008, Singapore still raised US$1.95 billion, three times the

[44] In five of the 10 largest trade sales in Southeast Asia in 2008, Singapore government entities were involved.

level of second-placed Vietnam. Even in the first half of 2009, Singapore raised US$654 million, more than two-thirds of the regional total. In 2004, Singapore-focused private equity funds invested US$1.3 billion. In 2005, the number almost quadrupled to US$4.8 billion. By 2007, the total had reached more than US$5.3 billion, before dropping to US$3.6 billion in 2008. In 2009, the deal value rose to more than US$5 billion due to one mega deal worth almost US$4 billion alone (Bain, 2010b).

Exhibit 5: Total private equity funds raised (US$ million)



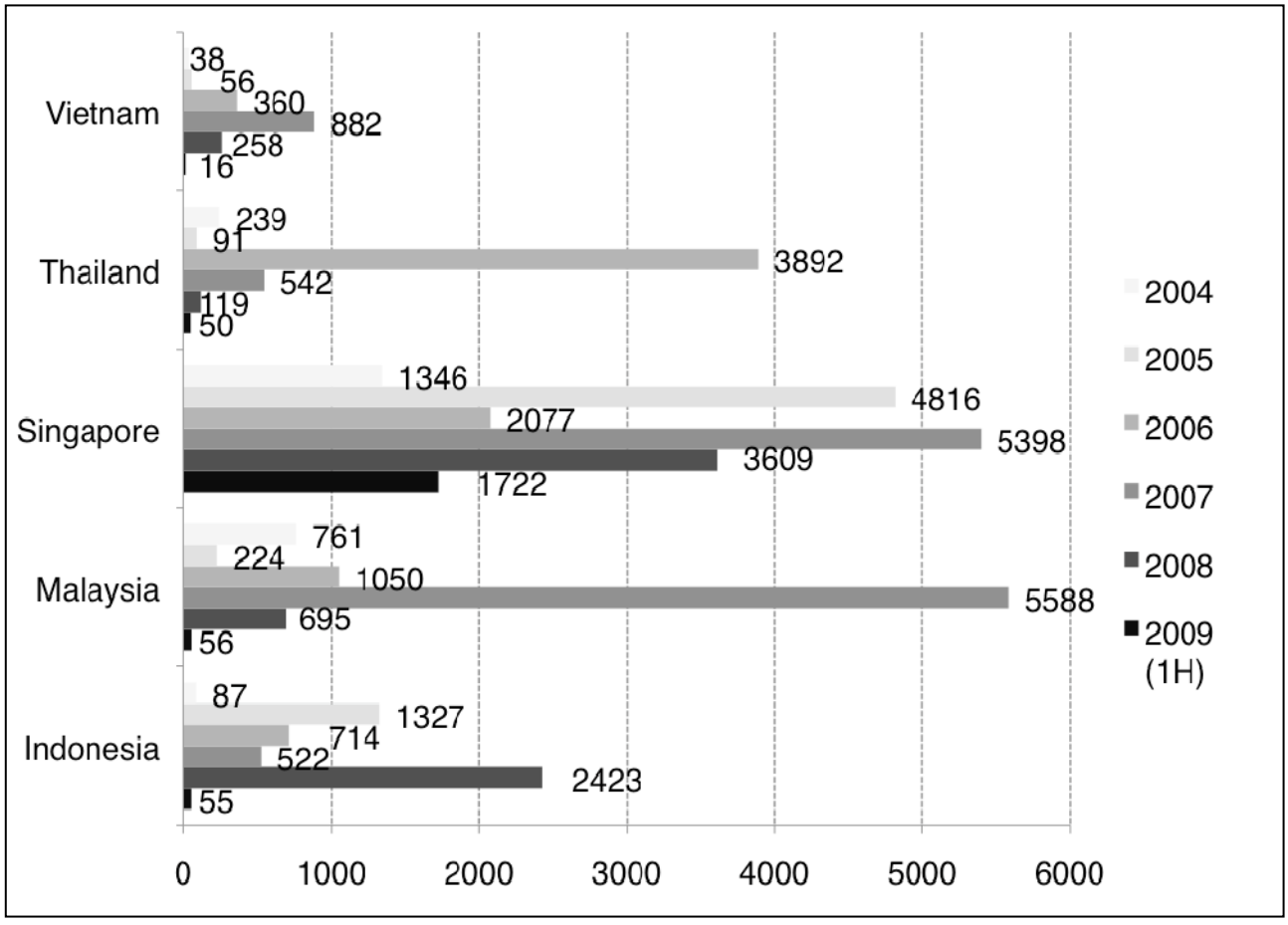
Source: AVCJ, 2009.

Vietnam's strong economic surge, its fast-growing private sector and reservoir of state-owned enterprises that are expected to be privatized, has made it a favoured destination for funds in recent years, attracting US$1.5 billion in 2007 (Asia Private Equity Review, 2008d). Vietnam kept its second place after Singapore in 2008 with US$605 million raised in total, but economic problems, such as high inflation, began to curb economic growth in

2008, as reflected in no funds being raised in the first half of 2009 (AVCJ, 2009). Even though fundraising in Vietnam was high, investments remained constantly low over the years.

Malaysia has consistently grown in funds raised, with US$120 million in 2004, increasing ten-fold in 2007. In 2008, fundraising declined by more than 90 per cent to US$79 million. However, in the first half of 2009 it regained second place with US$262 million (AVCJ, 2009). Of the US$13.5 billion deal value recorded by Southeast Asia in 2007, Malaysia accounted for the biggest share of aggregate investment. Despite the imposition of a restrictive foreign exchange control decree, Malaysia's government has been able to sustain its appeal to investors (Asia Private Equity Review, 2009b).

Exhibit 6: Total private equity investments made (US$ million)



Source: AVCJ, 2009.

Indonesia had no funds raised in 2005 and 2006. In 2007, US$90 million were raised, with US$55 million a year later before fundraising dropped again to nil in the first half of 2009 (AVCJ, 2009). Indonesia, however, had proved good for investments in the intervening period, with a peak in investments of more than US$2 billion in total in 2008.

Thailand has been in a state of political unrest since the military coup in October 2006 (Asia Private Equity Review, 2009b). At the end of 2008, funds raised sank to US$6 million from US$126 million a year earlier, with US$3 million in the first half of 2009 (AVCJ, 2009). Investments dropped from a high of almost US$4 billion in 2006 to US$119 million in 2008. In early 2010 political issues were still unresolved and investors can be expected to remain cautious in allocating capital to Thailand.

Many of the GPs and LPs I interviewed in summer 2010 said that they were expecting to see a modest recovery in deal volumes in 2010. They were convinced that Asia private equity is a profitable investment model, and that the region's economic growth, and vast pool of opportunities will help to counter the still prevailing adverse investment climate. However, they are also expecting the market to become more competitive. Asia has a capital overhang of at two to four years' worth of deal value and investors are concerned about an increasing number of funds competing in a market where the limited window of cheap deals has already closed.

3. A Review of the Literature: Gaps in the Research

3.1 Performance assessment and returns on private equity investments

Assessing the performance of private equity is a challenging endeavour. The industry lacks transparency and suffers from a stale price effect[45] (Groh, 2004). But in spite of these difficulties, several attempts have been made to evaluate the performance of private equity investments. Empirical studies have shown that returns and risk very much depend on the availability of data (Ljungqvist and Richardson, 2003b) and whether they are calculated at the level of the portfolio, the fund, or the fund of funds. A summary of existing empirical studies is presented below.

3.1.1 Portfolio level (investment level)

The most important and probably most comprehensive study of private equity returns is that of Cochrane (2005), which measures the risks and returns on venture capital investments[46] in portfolio investment companies between 1987 and 2000. The dataset is from VentureOne and consists of 7,765 companies and 16,613 rounds of financing. Cochrane (2005) extracts detailed information regarding the date of investment, the investment volume, the value of the portfolio company at the time of the respective rounds of financing, and details on exits. The results of the empirical analysis show high but very

[45] The stale price effect describes a situation where an old price of the asset no longer reflects the most recent information. It is used to describe the circumstance when market valuations of private equity transactions are only available, if at all, at two certain dates, the entry and the exit date. Hence, moments of historical returns, such as the standard deviation, are meaningless as an instrument to measure the inherent transaction risk. For a detailed description of the phenomenon of stale pricing, refer to Emery (2003), Getmansky, Lo, and Makarov (2003), and Kaserer and Wagner (2006). For further details on performance measurement of private equity, refer to chapter 4.1.

[46] Cochrane does not give a definition of private equity. Therefore it remains unclear whether his analyses mainly include venture capital or buyout transactions.

volatile returns. Cochrane (2005) uses a maximum likelihood estimate[47] that corrects the selection bias. The bias correction reduces the estimate of the mean log return from 108 per cent to 15 per cent, the mean arithmetic returns from 698 per cent to 59 per cent, and the standard deviation of arithmetic returns from 3,282 per cent to 107 per cent. The study finds that investments in later rounds are less risky. Mean returns, alphas, and betas[48] all decline steadily from the first round to further rounds of investment, while idiosyncratic variance remains the same. Cochrane (2005) compares the results with the S&P 500 for which he calculates an annualized log return of 17.6 per cent and a standard deviation of 9.4 per cent for 1991-2000. This return is greater than the private equity returns and the investment risk is more than 10 times smaller. He qualifies this by pointing out that index returns are always less volatile than the volatility of single shares and finds that the smallest NASDAQ stocks have similar large means and volatilities to the venture capital investments analyzed in his study.

Peng (2001a) builds a venture capital index from a dataset provided by OffRoad Capital, compiled from sources such as VentureOne, SDC Platinum and others. He analyzes private equity returns for the period 1987-1999 from a dataset of 12,946 rounds of financing and 5,643 target companies. He uses two innovative techniques, a re-weighting procedure and a method of moment repeat sales regression, to mitigate three problems: missing data, censored data and sample selection. He finds that the returns to venture capital are high and volatile. The geometric annual return is 55.18 per cent in the sample periods, with the lowest annual return of –5.94 per cent in 1990 and the highest of 681.22 per cent in 1999. The venture capital index with volatilities between 9.5 per cent in 1989 and 70 per cent in 1998 has much higher volatility than the S&P 500 and the NASDAQ composite index, whose volatility lies below 10 per cent for the same period. The cumulative average return of the venture capital index is always higher than that of the S&P 500 and the NASDAQ composite index in the sample period. The regression of the

[47] Maximum likelihood estimation (MLE) is a popular statistical method used for fitting a statistical model to data, and providing estimates for the model's parameters.

[48] The beta (β) of an investment or a fund is a number describing the relation of its return with that of the financial market as a whole. An asset with the beta of 0 means that its price is not at all correlated with the market. A positive beta says that the asset generally follows the market. A negative beta shows that the asset inversely follows the market.

volatility and the returns show that the beta for private equity is high (2.4), even though its correlation with the S&P 500 is low (0.04). He also finds that the beta on the NASDAQ composite is high (4.65) and the correlation with the NASDAQ composite is substantial (0.52).

3.1.2 Fund level

Gompers and Lerner (1997) analyze the risk and return of single investments by a single private equity company,[49] periodically marking value to market[50] so that returns can be compared to returns of quoted companies. Their sample includes failures but also very successful investments, eliminating a large source of selection bias. They find an arithmetic average return of 30.5 per cent gross of fees from 1972-1997. Without marking to market they find a beta of 1.08 on the market. Marking to market they find a higher beta of 1.4 on the market. This clearly shows that marking to market has a larger impact on risk measures than self-reported values. They further calculate a risk-adjusted performance of 8 per cent. As all data is used from one single private equity group the results do not necessarily represent the whole sector.

Quigley and Woodward (2003), and Woodward and Hall (2003) not only measure performance but also compute an index and deduce the correlation to a public market index. Their analysis includes venture capital investments and explicitly excludes leveraged buyouts, management buyouts, and private placements in public companies. According to the authors, their index data sample from Sand Hill Econometrics includes more than 5,600 investments and more than 12,500 rounds of financing. Quigley and Woodward (2003) find gross real returns on investments of roughly 5 per cent and a standard deviation of 14.56 per cent between 1987 and 2000, which is less than the S&P 500 and the NASDAQ composite index over the same period but better than government securities. They obtain a beta close to zero (0.04) with the S&P 500 and 0.4 with the NASDAQ composite index, and conclude that there is essentially no correlation between private equity investments and returns on other assets. This low correlation, however, may

[49] Warburg-Pincus.

[50] Based on the current fair market price.

be due to the fact that Quigley and Woodward's (2003) data sample contains only four sectors[51] compared to the NASDAQ composite index comprising 12. Woodward and Hall's index (2003) estimates an average performance of 20 per cent per year. Taking the NASDAQ composite index as the market portfolio, they find a CAPM-abnormal performance of 8.5 per cent per year and a beta of 0.86 for their venture capital investments. The measure of returns does not deduct the fees and carried interest[52] that investment funds impose on limited partnerships. Woodward and Hill (2003) find mild evidence in favour of the proposition that venture capital investments have higher returns, risk-adjusted, than the NASDAQ composite index, but definitely not as high as some venture boosters have suggested.

Nesbitt and Reynolds (1997) are probably the first to develop a methodology for evaluating the performance and risk of buyout investments using an index. Their research shows how public market indexes can be reengineered to form a customized buyout index that mirrors the systematic business and financial risk found in buyout companies. The buyout index methodology can be used to determine return, risk and correlation for buyout investments that are consistent with public stocks. The authors calculate the index based on empirical data between 1987 and 1996 and estimate an average return of 23 per cent compared to 15.3 per cent for the S&P 500.

One of the first performance studies of the American venture capital market appears in *Venture at its Crossroads* by Bygrave and Timmons (1992). They base their analysis on cash flows in the period 1974 to 1987 and find an average internal rate of return (IRR) of 13.5 per cent with 3 per cent seed stage, 16 per cent early stage, 74 per cent balanced, and 7 per cent late-stage investments. They show that venture capital returns are most often in single digits, with occasional periods in the 20 to 30 per cent range and rare spikes above 30 per cent.

Chen, Baierl, and Kaplan (2002) examine 148 venture capital funds based on a sample of Venture Economics data from 1960 to 1999. All the funds were liquidated before 1999 and

51 Healthcare, information technology, retail, and services.

52 The carried interest is usually 20 per cent.

invested mainly in the U.S. market. In these funds they find an annual arithmetic return of 45 per cent, an annual compound (log) average return[53] of 13.4 per cent, a standard deviation of 115.6 per cent, and a correlation with the public stock market of 0.04. The average return of the S&P 500 over the same period is 13.34 per cent and the standard deviation 15.65 per cent. The results are similar to those of Cochrane (2005).

Ljungqvist and Richardson (2003b) examine the private equity fund investments of a single large institutional investor. Theirs is the first analysis of private equity returns based on actual cash flows. The authors show that it takes several years for capital to be invested and over ten years for total capital to be returned and to generate excess returns. They base their sample on funds raised over the period 1981 to 2001. The data is not subject to survivorship bias, as all investments, which the limited partner made after 1981, are included. The analysis includes 73 funds of which 28.9 per cent are initial funds, 20.6 per cent are secondary funds, 11.6 per cent are third funds, and the remaining 38.9 per cent are later funds. Geographically, the data sample covers mainly the U.S. American market with 91.1 per cent. The dataset contains both venture capital and private equity (buyout) funds. The distribution between venture capital and buyout funds is 26 per cent and 74 per cent respectively in terms of number, and 12 per cent and 88 per cent of the total capital. From their database, they report that 94.7 per cent of the committed capital is effectively invested. The investment process typically takes several years: in the first year 16.28 per cent, in the second year 20.35 per cent, and in the third year 20.15 per cent of the capital is taken down to be invested for a typical American private equity fund. The takedown rate slows in the following years and spreads over another three to four years. The authors find

[53] The rate of return is usually expressed as a percentage that represents the cumulative effect that a series of gains or losses have on an original amount of capital over a period of time.
Arithmetic and logarithmic returns are not equal, but are approximately equal for small returns. The difference between them is large only when percentage changes are high. For example, an arithmetic return of +50 per cent is equivalent to a logarithmic return of 40.55 per cent, while an arithmetic return of –50 per cent is equivalent to a logarithmic return of –69.31 per cent.
Logarithmic returns are often used by academics in their research, the main advantage being that the continuously compounded return is symmetric, while the arithmetic return is not. Positive and negative percent arithmetic returns are not equal. This means that an investment of US$100 that yields an arithmetic return of 50 per cent followed by an arithmetic return of –50 per cent will result in US$75, while in the case of an investment of US$100 that yields a logarithmic return of 50 per cent followed by a logarithmic return of –50 per cent it will remain US$100.

huge differences in capital calls between the funds. They document IRRs averaging 19.81 per cent net of fees and 18.7 per cent for the median fund. They find a value weighted average of 18.1 per cent [54] and calculate an excess return compared to the public stock market of 5 to 8 per cent. They find a multiple of 2.59 for the invested capital and of 2.44 for the committed capital. In concrete terms, investments in the public stock market, measured using the S&P 500 under an identical time schedule of cash flows, yield 14.1 per cent. The authors report that private equity produces 8.06 per cent mean and 6.04 per cent median excess returns on an annualized basis compared to the S&P 500. The NASDAQ composite index reduces the relative magnitude of the returns, although the numbers are still impressive, with a 6.28 per cent mean and a 4.01 per cent median excess return.

Gottschalg, Phalippou, and Zollo (2004) use a comprehensive database provided by Thomson Venture Economics on the performance of U.S. and European private equity funds raised from 1980 to 2003. They find that the risk-adjusted performance for 500 international private equity funds net of fees is below that of public stock markets.[55] Their IRR is 10.5 per cent on an equally weighted basis and 15 per cent on a value-weighted basis. Further analysis reveals that the underperformance is caused by smaller and inexperienced private equity companies.[56] Gottschalg et al. (2004) and Zollo and Phalippou (2005) further document that fund performance co-varies positively both with business cycles and stock market cycles, which is an unattractive property. This pro-cyclical correlation therefore counteracts the power of hedging in situations of public market downturns and may not justify the negative returns. In a third paper, Groh and Gottschalg (2005) assess the risk-adjusted performance of U.S. buyouts only and come to the conclusion that private equity investments significantly outperform equally risky leveraged investments in the S&P 500. They find a mean average IRR and a median of 50.18 per cent and 35.70 per cent respectively. Since these figures do not take into account differences in either the amounts invested or the duration of the different investments, the authors calculate the aggregate IRR over all the underlying cash flows

54 This indicates that smaller funds performed somehow better than larger ones.

55 The returns of public stock markets were extremely high during the sample period.

56 Cf. Jones and Rhodes-Kropf (2004).

and find a 33.19 per cent annual return. The magnitude of outperformance is large enough to still prevail after the deduction of fees. The return figures seem high, although Peng (2001a), Ljungqvist and Richardson (2003b) and Cochrane (2005) report similar high returns. However, it should be noted that Groh and Gottschalg's (2005) paper is based on a smaller data sample, which only contains data on 199 buyout funds' investments between 1984 and 2004.

Jones and Rhodes-Kropf (2004) develop a principal agent model for their performance assessment. Their data, which cover most of the U.S. venture capital and buyout market, include 1,245 funds and are obtained from Thomson Venture Economics. The dataset contains funds formed from 1969 to 2002. The authors assume that the intermediary has the capability to choose positive investments for the investor. Based on this model they determine that the performance of a fund falls with an increasing principal agent problem. They find an equal weighted mean across all venture capital funds of 19.25 per cent and an average of 9.67 per cent for buyout funds in their data sample. The value of weighted buyout returns is only 4.57 per cent and 19.31 per cent for venture capital funds. They further find for the portfolio of the venture funds a beta of 1.8 and 0.65 for buyout funds. The results for venture capital funds concur with those of Gottschalg et al. (2004) who calculate a beta of 1.6 but deviate from the beta of 1.7 of the buyout funds. Jones and Rhodes-Kropf's (2004) results though contrast with the high returns reported by Gompers and Lerner (1997), and Cochrane (2005). There are two possible explanations for this discrepancy: Jones and Rhodes-Kropf's (2004) returns are net of fees while Cochrane's returns are gross returns, and the stock market declines over the last two years of their data sample and therefore reduces overall returns to the asset class.

Cumming and Walz (2004) study returns on venture capital and buyout investments by 221 venture capital and buyout funds, spanning 32 years from 1971 to 2003, and 39 countries from North and South America, Europe and Asia. They build their analysis on prior literature (Gompers and Lerner, 1997), investigating the determinants of realized IRRs. They show that both unrealized and partially realized investments are important to consider when analyzing the determinants of realized returns since there exist significant systematic biases in the reporting of unrealized investments to institutional investors.

When public equity markets experience high returns, realized returns are greater than unrealized returns. Conversely, when public equity markets experience low returns, unrealized returns are greater than realized returns. Further, they find that more monitoring, advice and the use of incentive-compatible financial instruments contribute to a significant increase in the IRRs of realized returns.

Kaplan and Schoar (2005) investigate the performance and capital inflows of private partnerships. They additionally study the persistence of fund returns and the impact of private equity cycles on the fund characteristics. Using a data sample collated by Venture Economics, they report performance at the fund level in three ways: (1) the IRR of the funds calculated by Venture Economics, (2) the IRR of the funds that they calculate themselves using the funds' cash flows, and (3) the public market equivalent (PME).[57] The PME compares an investment in a private equity fund to an investment in the S&P 500 index. Using this calculation the value-weighted performance exceeds the equal weighted performance. The Venture Economics IRRs have a median of 14 per cent and an average of 18 per cent, while the cash flow IRRs have a median of 12 per cent and an average of 18 per cent. The PME increases to a median of 0.82 and an average of 1.05, indicating that, on average, an investment in private equity slightly outperforms the S&P 500. There is, however, a substantial difference between the average PMEs for VC and for LBO funds. VC funds have average PMEs of 1.21, while buyout funds have average PMEs of 0.93. The authors argue that this difference can be explained by the fact that the larger VC funds of the 1990s outperformed the smaller VC funds of the 1980s, while the reverse was true for LBOs. The average returns net of fees of 0.96 (equal weighted) and 1.05 (value weighted) suggest that the average returns to private equity gross of fees in both cases exceed the S&P 500. The biggest difference in returns lies between the top quartile (1.4) and the bottom quartile (0.55). The authors relate the different fund performance to the fund size and argue that larger funds tend to outperform smaller ones. They conclude that fund performance grows with each subsequent new fund placement. Better performing

[57] The PME is an approach to the benchmarking problems of private equity portfolios against that of the public market. With this approach, cash on cash returns obtained by investing in private equity are compared with a benchmark, based on the hypothetical cash returns obtained by buying and selling an index-tracking fund at the same rate of the investment (Rouvinez, 2003).

funds are seen as more likely to raise follow-on funds and larger funds. However, if the funds become too big, performance may decline again due to the money chasing deal effect.[58] They are further able to show that there is persistence in fund performance of subsequent funds. An increase in performance of the previous fund leads to a performance increase for the current fund of 0.54 per cent. Through the integration of the pre-preceding fund the coefficient increases by another 0.77 per cent. For venture capital funds the coefficient is bigger than for buyout funds. However, neither are significant for three or more preceding funds. A further finding is that market entry and fund performance are procyclical, but that established funds are less sensitive to cycles than new entrants.

3.1.3 Fund of funds level

Lai (2006) describes the advantages of a FoF in his paper from an institutional investor perspective. Based on an empirical dataset, he shows that a private equity FoF does not over-perform despite size effects, retention of talent, and superior access to better funds. The explanation lies in the diversification whereby positive outliers are compensated, and in the fees charged.[59] However, a FoF is able to target a market-compliant return at low risk. Small investors can save costs by investing in a FoF with respect to fund selection. There are also positive aspects for larger investors as they do not have to hire their own fund management team and can rely on external expertise. Another advantage is the large diversification opportunity. In their simulation based on Thomson Venture Economics data, Weidig and Mathonet (2004) find that the risk of total loss of FoF is literally zero.

The general conclusion from these studies regarding returns is mixed. The findings obviously vary quite substantially. These variations can be partly attributed to the quality of data (Ljungqvist and Richardson, 2003b) but also due to sample differences.[60] There is also an absence of generally accepted accounting principles. Differences in accounting

[58] Cf. Gompers and Lerner (2000).

[59] 1-3 per cent of assets.

[60] For example, Cochrane (2003) uses data from VentureOne that covers the period from 1987-1999, Quigley and Woodward (2003) and Woodward and Hall (2003) use a dataset from Sand Hill Econometrics from 1987-2003, and Peng (2001a) uses data from OffRoad Capital. The last two datasets are improved versions of VentureOne.

practices occur, as some private equity funds are more conservative in their assessments and value investments at cost until the investments are realized. Others, such as first-time funds, may be more aggressive in their valuations – not writing down poorly performing companies or even overstating the value of ongoing ones. For the same investment, different private equity funds thus may assess very different values (Gompers and Lerner, 1997).

The academic literature reviewed above concentrates exclusively on private equity returns for the U.S. and the European market. Studies of returns in other regions in the world do not exist, mainly because compared to the U.S. even the European private equity market is still relatively young. Most available data comes from the U.S. and, in terms of reported numbers, relatively little is going on in the rest of the world, although investments are catching up fast globally, as stated earlier. Asia's private equity market is still in its infancy. It takes up to seven years for capital to be invested (Ljungqvist and Richardson, 2003b) and up to another three to five years for it to be returned (Lerner and Hardymon, 2002), hence building up data on returns in Asia will take years. Notwithstanding, this study takes an explorative approach and analyzes the small data set available for Asia in an attempt to derive at least some initial learning.

3.2 Private equity in unfamiliar contexts

Private equity has been widely studied in the U.S. and to some extent in the European context. In other settings analysis has been limited (Bruton and Ahlstrom, 2003). In Asia, the examination of the industry is almost non existent. The development of the industry, particularly in emerging markets, poses new strategic challenges (Hoskisson, Eden, Lau and Wright, 2000) and there is increasing recognition of the impact of differences in the institutional, legal and cultural environments on business practices (Scott, 1995). It can therefore not be assumed that Western practices are universal in application. Institutional factors and culture in particular create informal constraints,[61] while formal rules[62] (North,

[61] Sanctions, taboos, customs, traditions, and codes of conduct.

[62] Constitutions, laws, property rights.

1990) impact the behaviour both of individuals and firms (Scott, 1995), thereby giving the private equity industry its own idiosyncratic characteristics (Bruton, Dattani, Fung, Chow, and Ahlstrom, 1999; Bruton and Ahlstrom, 2003).

3.2.1 The private equity life cycle

Ahlstrom, Bruton, and Yeh (2007) adopt a venture capital life cycle approach to structure their contextual analysis of venture capital in China. They focus on deal sourcing, problems arising from the lack of institutional stability, poor property rights and the weak rule of law, and difficulties in negotiating contracts and exit strategies. Their research provides insight into the downside of guanxi,[63] and its importance in doing business in the Chinese context is explicitly stated.[64] Bruton, Ahlstrom, and Singh (2002b) note that in Singapore, for example, connections and relationships with potential clients are likely to be far more important than in the West. This aspect has implications for corporate governance. While in the Western context investors often seek majority ownership or a significant level of control over the firm to install their own CEO or management team, this is often not possible in Asia (Kambil, Long, and Kwan, 2006). Even if the investor could easily make the changes, it would cause the firm to lose a number of connections and would be difficult to implement, particularly to get the employees to go along with the change (Bruton, Ahlstrom, and Wan, 2003; Bruton et al., 2004). Ahlstrom et al. (2007) elaborate on the particular problematic aspects of asymmetric information regarding accounting information and due diligence in an emerging economy and find that information sources are not easily transferred between different contexts but that valuation techniques may be. Evidence from multi-country studies by Wright, Kissane, and Burrows (2004a) and Wright, Lockett, Pruthi, Manigart, Sapienza, Desbrières, and Hommel (2004b) suggest that private equity firms adapt their due diligence approaches and information sources according to the institutional context.

Leeds and Sunderland (2003) note that a major reason for the problems experienced by private equity funds that entered emerging markets in the late 1990s was that the legal

63 Refer to chapter 5.2.4 for a definition of guanxi.

64 Cf. Peng and Luo, 2000; Peng and Zhou (2005).

and regulatory framework did not provide adequate investor protection, while dramatic differences in accounting standards, corporate governance and exit potential created problems. Various other studies (Bruton et al., 1999; Bruton et al., 2004; Lockett, Wright, Sapienza, and Pruthi, 2002) find that private equity can still function in spite of the lack of formal institutions such as market-friendly laws and regulations, and minimal enforcement of those laws. However, private equity in such a setting relies heavily on social network ties to substitute for the formal institutions present in the Western system (Bruton and Ahlstrom, 2003; Peng and Heath, 1996). It can therefore be concluded that the relative importance of contracts versus relationships varies from one institutional context to another, depending on how important the legal framework and social networks are (Bruton et al., 2004).

Lieber (2004) suggests proactive portfolio management, particularly in emerging market contexts, as an alternative to the ad hoc processes frequently employed in the private equity industry, and shows how important it is to plan an exit strategy when acquiring a firm. For private equity exits, Cumming, Fleming and Schwienbacher (2005) find that the quality of a country's legal system is more directly connected to facilitating IPOs than the size of a country's stock market, and focus directly on contextual factors. Their data indicate that legality is a central mechanism which mitigates agency problems between outside shareholders and entrepreneurs. This is confirmed in the case of Singapore, where the regulatory environment created by the government and its agencies has led to a decrease in agency costs and to a greater development of high-technology start-ups than elsewhere in Asia (Bruton et al., 2002b).

3.2.2 Internationalization

Ahlstrom et al. (2007) do not elaborate on the challenges involved in entering other markets. Wright (2007) comments on this missing aspect by suggesting that domestic firms may need to develop extensive international social networks with foreign private equity firms. Indeed, foreign firms have reputations that enable them to certify IPOs of local firms on foreign stock markets. Conversely, local firms may be attractive to foreign investors because they have information about the operation of the local market, including

access to deal flow. Local investors are also likely to have a dense network of contacts which can help foreign investment firms build up social capital and familiarity with different legal requirements. They may also play a certification role regarding potential investees for incoming investors by identifying attractive deals and, by being in close proximity, provide monitoring and value-adding activities which are difficult for a distant foreign investor to perform.

Ahlstrom et al. (2007) comment on the problem of staffing foreign firms in an unknown context, emphasizing how outside knowledge and connections can be valuable in the area of human resources. In their analysis of internationalizing venture capital firms, Pruthi, Wright, and Meyer (2006) find that recruiting local executives is significantly more important than deploying expatriates, as firms compete to a large extent on the basis of tacit knowledge. Their findings suggest that while venture capital firms can transfer their general human capital across markets, they need to acquire context-specific knowledge and experience of the local market they are entering. Expatriation is only more important for transferring knowledge than for any other motive. If investment firms recruit executives who are mainly trained in the U.S. approach to investment, they may encounter challenges, as this approach may not easily carry over into emerging economy contexts. It may also lead to the view that private equity in Asia is converging with the Western model given that private equity training is the same in Asia and the West, and thus tempt internationalizing private equity firms to implement firm-wide policies regarding various aspects of their investment behaviour (Bruton et al., 2004).

A further barrier to internationalization is the lack of entrepreneurs with technological skills as well as the expertise to internationalize ventures. Ahlstrom et al. (2007) find that entrepreneurs who are scientists and engineers returning to their home countries, having gained educational or business experience in the West, may play an important role in resolving the lack of entrepreneurial leadership. Westhead, Wright, and Ucbasaran (2001) conclude that human capital linked to considerable industry-specific knowledge, dense contact networks and previous international experience are key to the internationalization of firms, particularly in an emerging market context.

3.2.3 Foreign private equity firms

An important issue regarding foreign private equity firms relates to the extent to which they attempt to replicate behaviour from their domestic market, or whether they adapt to the local market. Central to this is the question of which aspects or patterns of behaviour are transferable to the foreign context and which are not.

It has been argued that venture capitalists follow a similar worldwide model of investing, particular for later stage investing (Jeng and Wells, 2000). This argument is primarily based on research that does not include firms from countries in Asia. However, it is widely recognized that Asia's environment and institutions differ from those in the U.S. and Europe. The limited research on international comparisons of private equity firms has tended to focus on cross-country comparisons of venture capital firms (Sapienza et. al., 1996). Jeng and Wells (2000) analyze the determinants of private equity activity in 21 countries and consider the importance of IPOs, gross domestic product (GDP), growth of market capitalization, labour market rigidities, accounting standards, private pension funds, and government programmes. They find that IPOs are the strongest driver of venture capital investments and that private pension fund levels are a significant determinant over time but not across countries. Surprisingly, GDP and growth of market capitalization are not significant. However, government policies can have a strong impact. Mayer, Schoors and Yafeh (2005) look at venture activity in four nations and conclude that neither financial systems nor sources of finance are the main explanations for the differences in venture capital activities, but rather the existence of investment projects, tax incentives, legal differences and prevailing macroeconomic conditions. Aizenman and Kendall (2008) investigate the internationalization of venture capital and private equity (buyout) investments, covering three decades and about 100 countries, focusing on investment volume across countries. Their analysis indicates that the presence of high-end human capital, a better business environment, and deeper financial markets are important local factors, but network effects and fixed costs of entry also attract international venture capital and private equity investments. Questions of how macro institutions, such as the country-level legal and regulatory frameworks mentioned above, influence transaction costs remain relatively unexplored, however, but nowhere is this point more clearly demonstrated than in emerging economies, where institutional frameworks differ greatly

from those in developed economies (Meyer and Peng, 2005; Wright et al., 2005; Gelbuda, Meyer, and Delios, 2008).

Other studies have found specific and significant differences between developed countries such as the U.S. and Europe, and even within Europe (Manigart, Wright, Robbie, Desbrières and De Waele, 1997; Manigart, De Waele, Wright, Robbie, Desbrières, Sapienza, and Beekman, 2000). These differences are attributed to the dominant corporate governance mechanism or the level of the venture capital market. Their findings highlight the need for venture capital firms entering non-domestic markets to invest considerable effort in understanding the operations of these markets if they are to fully exploit their perceived competitive advantages. Wright et al. (2002) compare the behaviour of foreign and domestic venture capital firms in India and the U.S. regarding information usage and valuation approaches. They find that foreign venture firms have a tendency to adapt their behaviour when they enter an emerging market. Similarly, Pruthi, Wright and Lockett (2003) find that foreign venture firms in India are more likely to be involved at the strategic level, while domestic firms are more likely to be active at the operational level. However, they do not find significant differences in approaches to monitoring between foreign and domestic venture capital firms.

A study by Zutshi, Tan, Allampalli, and Gibbsons (1999) examines investment opportunities in Singapore and Southeast Asia and finds that the investment criteria of Singaporean venture capitalists are not very different from those adopted by venture capitalists in other countries, including the U.S. This suggests that firms may attempt to replicate their domestic mode of operation when entering foreign markets. However, there may be a need for local offices overseas to use significant discretion in decision making (Wright, 2007). It may also be important to take a longer perspective to become familiar with local information sources and networks when investing in emerging markets; otherwise, investors run a serious risk of investing in poor deals on the basis of inadequate information. This is not specific to one country – many internationalizing private equity companies have experienced similar problems in Europe.

Institutional theory (Scott, 1995; North, 1990) provides a useful lens through which to examine the key questions of whether private equity investors conform to Western investment models and investment strategies or if they adapt to the Asian environment. By linking these research questions to our preliminary findings I hope to shed light on the difficulties of achieving high returns in the Asian context. The objective is to provide answers to a number of questions that remain unanswered, and which focus on private equity returns, and the investment model and investment strategy in the Southeast Asian context.

4. The Conceptual Framework

The conceptual framework attempts to connect and complete all aspects of this research project. It draws upon the previous review of the literature and expands on existing theory by bringing together theory-based conclusions from several research streams. The aim of this approach is to develop sound formal conceptual definitions (Wacker, 2004) as the basis for a detailed underlying conceptual framework that will support the research questions and give coherence to the empirical enquiry.

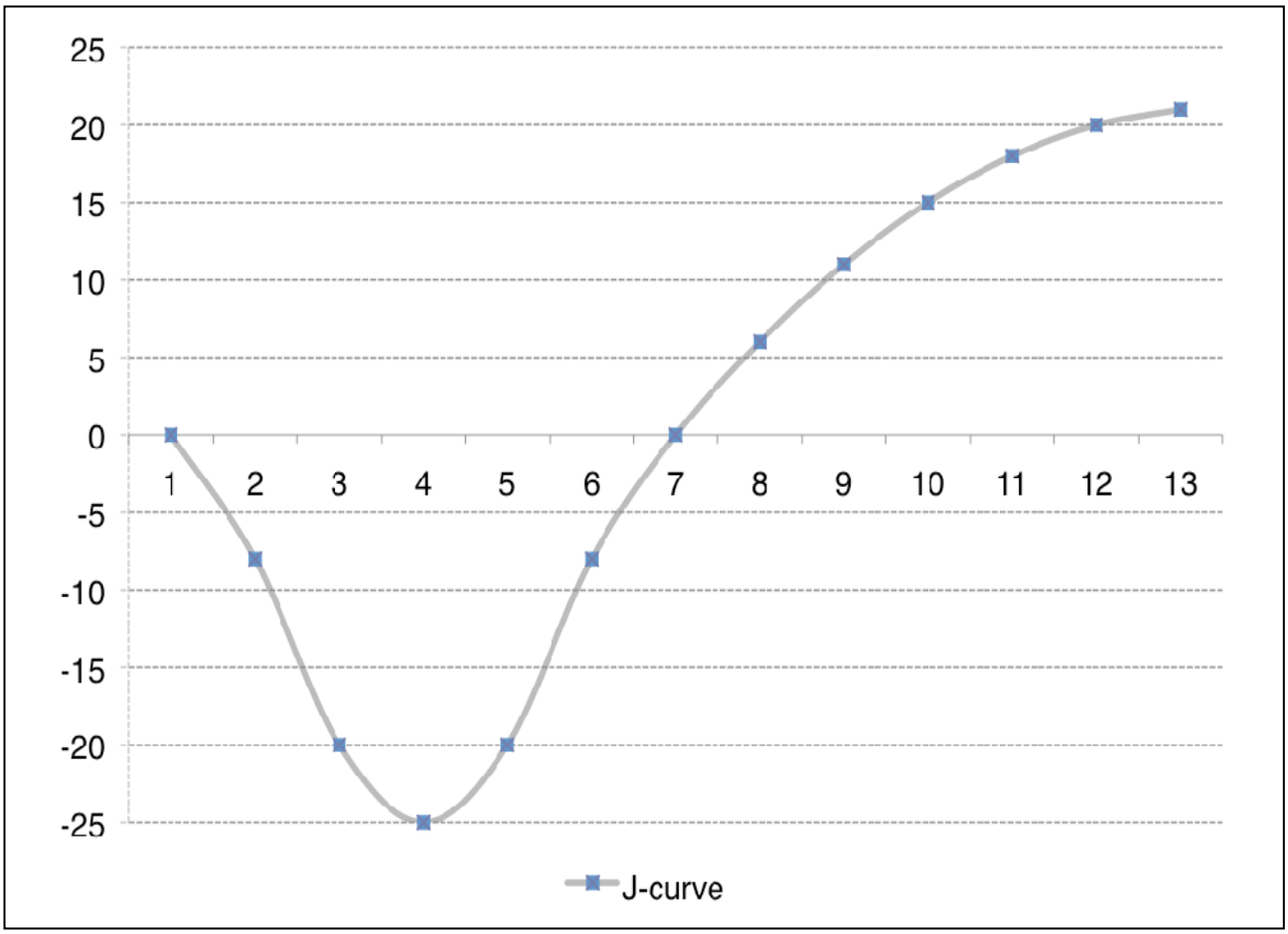
4.1 Performance measures of private equity

The illiquid character of investments in private equity (Buchner, Kaserer, and Wagner, 2008) and the generally discreet nature of the industry – GPs try to avoid publicity on their funds' returns – present particular challenges for performance assessment (Povaly, 2006). For other forms of alternative investments, such as hedge funds, standardized methods for the quantitative evaluation of risk and return have made significant progress in recent years, but for private equity returns globally accepted reporting standards have not yet been established (Gompers and Lerner, 1997; Fraser-Sampson, 2007). Unlike private equity, the risk-return characteristics of publicly traded asset classes can easily be estimated by standard statistical procedures from historical time-weighted returns based on the securities' observable market prices.

The difficulty in measuring the risk and return profile of private equity not only stems from the lack of reported data but also from missing or highly imperfect secondary markets for which observable market prices do not exist. Fund returns are typically highly volatile over time as performance profiles follow a J-curve, with negative returns upfront[65] (Kraft, 2001).

[65] Private equity investments deliver negative returns in the early years and positive returns in the outlying years when the portfolio of companies mature (Fraser-Sampson, 2007). Thus, if a private equity fund were to be valued in year 2, for instance, it would show the same sort of negative return regardless of whether it was the best private equity fund in history or the worst. It is almost impossible to gain any

Exhibit 7: J-curve in private equity investments



The y-axis shows the value of the portfolio in percentage of the money invested, the x-asis the years of investment.

Source: Author's own depiction

Private equity is basically an investment in a stream of cash flows.[66] Both the timing and the amount of these out- and inflows are totally uncertain. The return on private equity funds can therefore only be calculated once the very last cash flow has occurred. As a consequence, there are only few points in time when transaction prices can be objectively observed – essentially at the time of an investment acquisition and at the time of exit

meaningful insight into the performance of a fund until it is at least five years old in the case of a buyout fund, and about eight years in the case of a venture fund.

66 Bonds would also suit this definition but they typically only have one cash outflow when the bond is bought, and several inflows when the coupons are paid and the value of the bond is at the end of its life. The dates and amounts can be precisely predicted (Fraser-Sampson, 2007).

(Diller and Kaserer, 2004). Private equity is thus the only asset class where annual returns are meaningless, invalid and irrelevant; true returns can only be measured retrospectively (Fraser-Sampson, 2007).

4.1.1 Performance methods

Several methods are used to report private equity performance: gross performance on the basis of realized investments, gross performance on the basis of all investments, and performance net of fees (Bygrave and Timmons, 1992; Kaplan and Schoar, 2005; Diller and Kaserer, 2004; EVCA, 2005). The first level captures only investments that are either fully divested or written off the books, measures cash flows to the private equity fund rather than to its investors, and does not take fees into account. The second level differs in that all investments (rather than just realized investments) are considered. In addition to the achieved cash flows, all portfolio investments are recorded on a net asset value (NAV) basis. In the case of performance net of fees, returns are computed on the basis of underlying actual cash flows to limited partners, which means that returns are net to investors, thus minus management fees and performance fees.[67]

Performance calculated on the basis of cash flow streams to limited partners is regarded as the most appropriate and reliable metric for private equity performance measurement (Ljungquist and Richardson, 2003; Jones and Rhodes-Kropf, 2004; Diller and Kaserer, 2004; Gottschalg et al., 2004; Kaplan and Schoar, 2005). As a series of individual cash flows it can be best assessed with a value-weighted return measure, i.e. the internal rate of return (IRR) (Gompers and Lerner, 2004; Ick, 2005). The IRR gives the discount rate that renders the present value of all cash flows equal to zero (Diller and Kaserer, 2004).

[67] For a clearer understanding of future remarks, further clarification of the difference between allocated, committed, drawn down, and invested capital is necessary. According to Fraser-Sampson (2007) *allocated capital* is the amount of capital which an investor would ideally like to have invested in private equity investments. *Committed capital* is the amount which an investor has legally promised to provide to private equity funds by signing a limited partnership agreement. *Draw down capital* is the amount of committed capital that has been requested by the private equity fund and paid to it. This includes capital to be invested and also money required to cover fees and expenses. *Invested capital* is that part of the draw down capital which has actually been invested in companies.

Mathematically, the IRR can be expressed as the following equation, where T represents the lifetime of the fund and CF_t denotes the cash flow accrued over period t:

$$\sum_{t=0}^{T} CF_t \left(1 + IRR\right)^{-t} = 0$$

The IRR has a practical drawback. Hirshleifer (1970) argues that the IRR may not be unique when future cash flows vary in sign. The IRR formula is not linear; all cash flows have to be pooled and the IRR calculated across the totals (Sharp, 2007b). Second, the IRR is based on the assumption that intermediate cash flows can be reinvested at the discount rate. Further, it does not allow the estimation of a standard deviation of returns or the correlation of private equity returns to other asset classes, such as publicly traded stocks (Diller, 2006). IRR measures the return that is earned on money while it is invested but does not take into account how long this money remains invested as it is a value-based measurement (Fraser-Sampson, 2007). The difficulty of maintaining an IRR increases dramatically with each passing year, as the return must at least compound itself each year in order to stay the same. A venture fund, which normally keeps the money longer than a buyout fund, will have to deliver a higher IRR than a buyout fund. Buyout funds will thus have a reasonable IRR but a relatively low multiple (Fraser-Sampson, 2007). This investment multiple indicates the multiple of the initially contributed capital returned to investors following a divestment but lacks any consideration of the time component,[68] as cash flows are not weighted or discounted over time.

Some empirical studies on the performance of private equity funds try to avoid these drawbacks by calculating time-weighted returns[69] based on the funds' disclosed NAV (Chen et al., 2002). However, these NAV returns are based on the implicit assumption that the assets of the fund may be realized, or at least accurately measured by the reported NAV of the fund management, either at a fair market value or at cost, and are therefore subject to valuation biases. Hence, returns estimated on this basis will be biased as well

[68] This static performance measurement also lacks the risk component, which is obviously also missing in the IRR approach (Groh, 2004).

[69] It should be noted that the time-weighted return is simply a geometric mean (Diller, 2006).

(Diller and Kaserer, 2004). As discussed in Getmansky et al. (2003) and Kaserer and Wagner (2006), reported net asset values further suffer from the problem of stale and management pricing.[70]

4.1.2 Returns and risks

The private equity industry consistently claims to deliver returns to investors which exceed those available from investing in conventional quoted equities (Sharp, 2007b). As mentioned above, simply comparing annual rates of return from the two different asset classes is of limited value, since institutional fund managers do not primarily focus on absolute levels of return; they take into account the risks associated with making a particular investment. Risk, in this context, means the probability of failing to achieve a targeted or desired rate of return (Fraser, 2006). The convention in public markets – built upon the Nobel Prize-winning work by Professor William Sharpe[71] – is to equate risk with volatility, so that a stock whose performance is more volatile than the stock market as a whole is perceived to carry more risk than one which is less so. The mathematics used to compare these degrees of volatility use basic statistical techniques, in particular arithmetic means and standard deviation. However, this approach and the mathematical tools adopted by Sharpe and his successors are unsuited to appraising risk in private equity portfolios.[72] This is because the quoted market risk measures assume that returns are scattered in a pattern which looks something like a normal distribution, where the majority of results lie close to the mean, smoothly declining as it moves away from the mean and with very few results at the extremes. Returns from private equity investments do not conform to this pattern (Sharp, 2007b). They show a much higher degree of volatility and are dominated by outliers.

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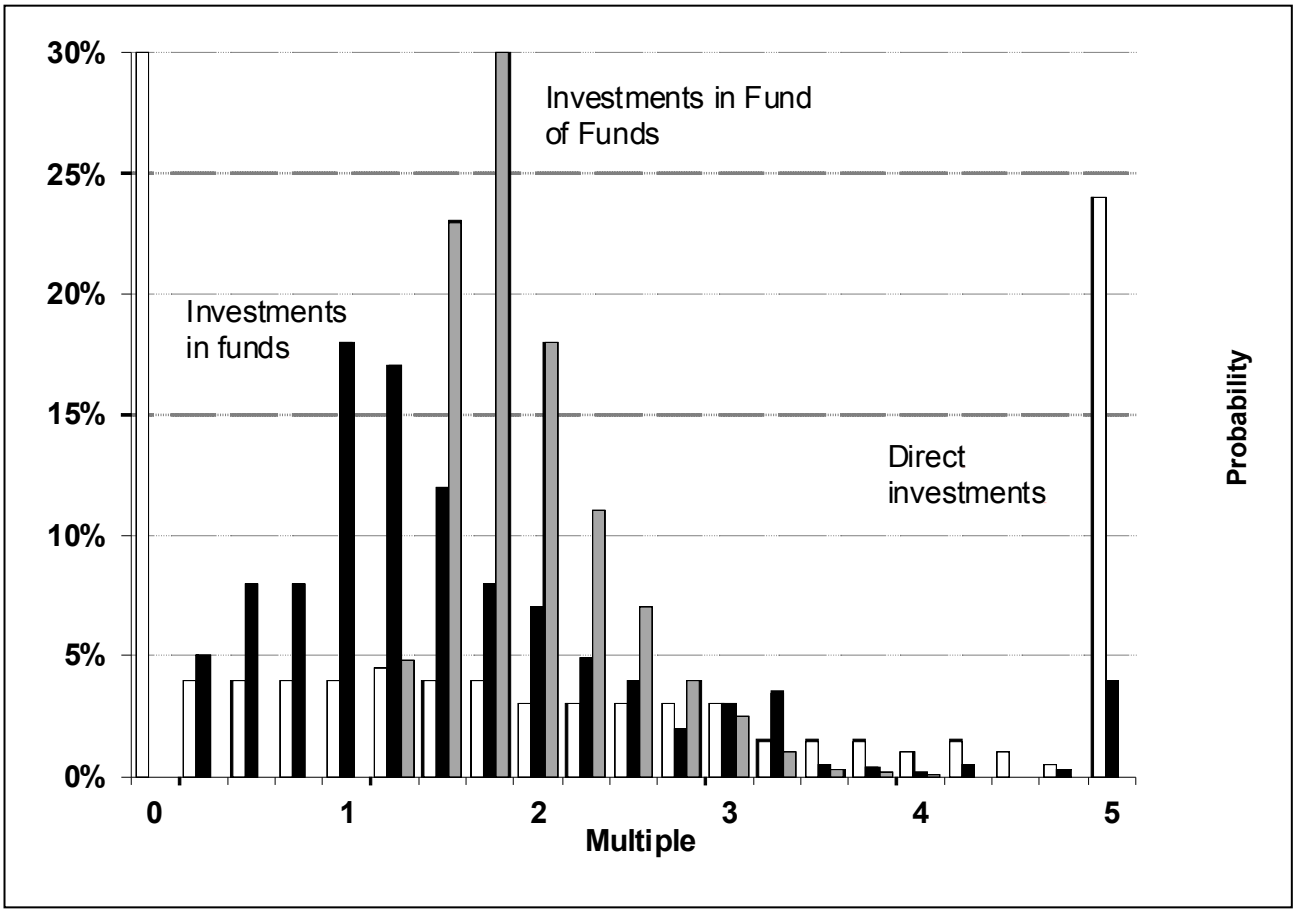
70 See footnote 46 for a discussion on the stale pricing effect and chapter 6.1 for management pricing.

71 Cf. Sharpe (1966), Treynor (1965), and Jensen (1968).

72 Perfect competition cannot explain the existence of the private equity market segment. The neoclassic theory in its stringent form has no answers to the question of why investors allocate their money to a highly illiquid asset class afflicted with high transaction costs, information asymmetry and long response time (Groh, 2004). Neo-institutional theoretical approaches are better suited to explain the characteristics of private equity (Bader, 1996).

Exhibit 8: Risk profile of venture capital investments



Source: Author's own depiction in reference to Weidig and Mathonet, 2004, and Cochrane, 2005.

The depiction shows extreme profits but also huge losses for direct investments. FoF are highly centred around the mean and have no probability of total loss. Investments in funds are less skewed than the other two investment vehicles. The risk profile of buyout investments looks very similar to the risk profile of venture capital investments (Weidig and Mathonet, 2004) but with less probability of extreme losses or profits at both ends of the multiple scale.

The reason for the disparity is that quoted shares are constantly revaluated and repriced, added to, or removed from investment portfolios, so that the markets normally adjust to changes in incremental steps. Private equity investments are held over the medium or long term and the markets offer little opportunity to rebalance or adjust a portfolio. The outcome of each investment will, in most cases, be either a significant return or a total loss. This

argument is supported by Huntsman and Hoban (1980), who find that by excluding the top performing 9 per cent quartile of their data sample, their average calculated returns become negative. The broad distribution of returns is exacerbated by the fact that the GPs managing a private equity portfolio have a much greater influence over the performance of individual investments than an investor in quoted shares.

Because private equity and public equity behave in such different ways, different statistical methods are required to analyse this behaviour (Fraser, 2006). The arithmetical mean or average is distorted by outlying values, which makes it misleading as a tool in private equity analysis. The median – the value at which half the results are below and half above – is far more representative. Since standard deviation is based upon variances from the mean, it too is deficient as an indicator of risk in private equity. The large number of outlying performances to the right will increase the standard deviation – and hence the apparent risk – when in fact their presence represents the potential to achieve a reduction in risk.[73]

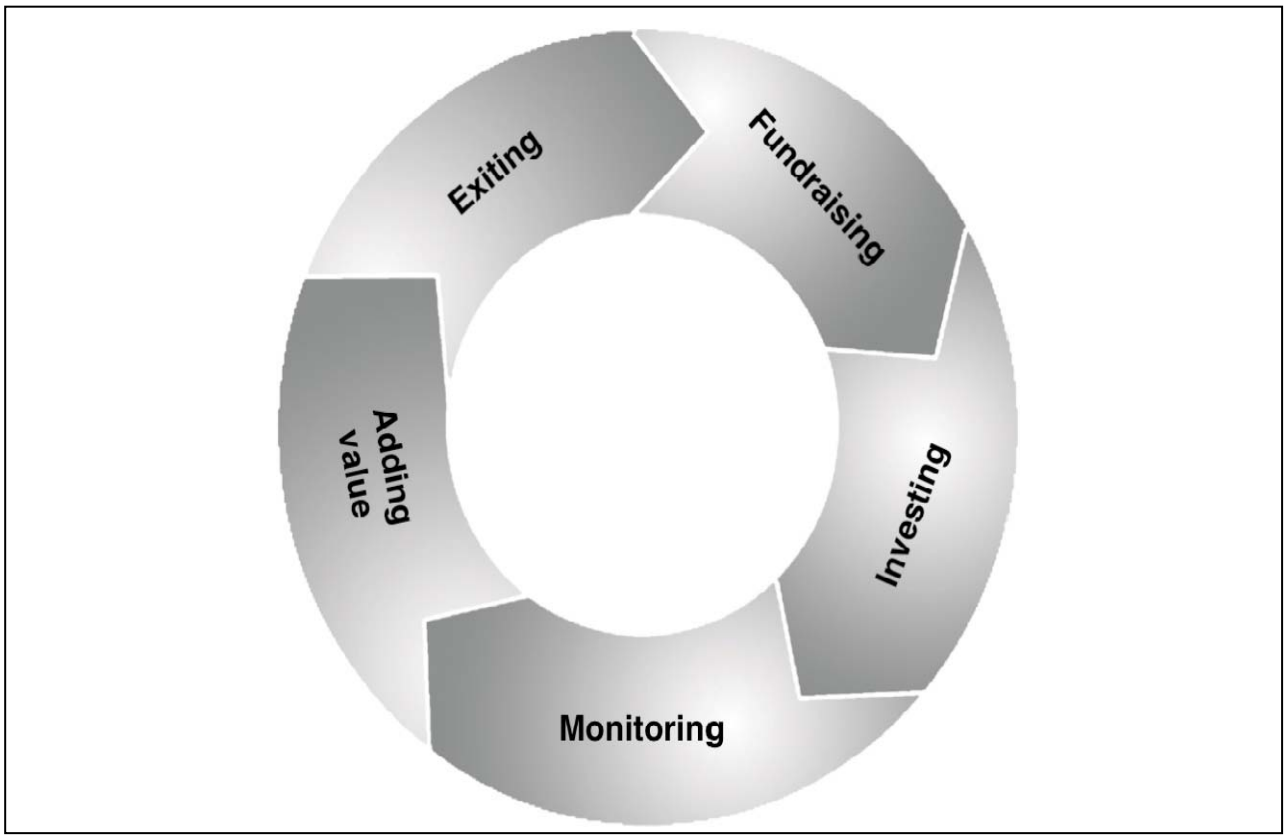
4.2 The private equity life cycle

Gompers and Lerner (2004), two Harvard Business School professors, developed the concept of the «venture capital cycle» in 1999. They argue that in order to understand the functions of venture capital and private equity (buyout) investing, one has to grasp each of the steps inherent to the nature of the private equity business. The individual steps of private equity investment are depicted in the exhibit below and comprise fundraising,

[73] Stochastic techniques, of which the Monte Carlo simulation is the best known, use the repeated random selection of variables to produce probability distributions. According to Capital Dynamics, when one fund is chosen at random 100,000 times in a simulation of 1,755 U.S. funds as of 31 December 2004, it shows a distribution slightly less than 1.0 (Fraser-Sampson, 2007). Obviously this is an unacceptable probability of selecting a fund that loses money. When three, 10 funds and 30 funds are selected at random, not only the mean, median and average multiple of returns increase, but the probability of losing money across the portfolio markedly decreases. This may seem counter-intuitive, as the more funds chosen at random, the greater the possibility of choosing losers. However, it works because of the asymmetric risk. Successful funds earn returns many times higher than the single multiple, which is the maximum a fund can lose. A larger portfolio will capture more of these successes, which will more than compensate for the losers and help bring the median return closer to the average.

investing, monitoring investments, adding value to portfolio companies, and exiting investments.

Exhibit 9: The private equity life cycle



Source: Author's own depiction with reference to Venture Capital Cycle (Gompers and Lerner, 2004).

4.2.1 Fundraising

The private equity life cycle starts with fundraising. Private equity investors (GPs) typically do not provide the bulk of capital for a fund from their own assets but seek to attract capital from institutional investors such as governments and corporate pension funds, insurance companies and university endowments, as well as from high net worth private investors and family funds (Lerner and Hardymon, 2002).

4.2.2 Investing

Investing is the second stage of the cycle and is often divided into three sub-steps. First, deals are originated by private equity investors identifying and gaining access to high potential investment opportunities. Deal origination is directly linked to the screening criteria that private equity investors apply in terms of funding size, funding stage, industry sector or geography[74] (Gupta and Sapienza, 1992) and the ability to attract and develop investment professionals who bring the relevant skills and experience to execute the sourcing strategy (Bygrave and Timmons, 1992).

Second, the investors proceed to deal evaluation and conduct detailed due diligence[75] on potential investment opportunities after an investment target has passed a pre-screening

[74] It is common for private equity firms to scan hundreds of candidates in industries and sectors where they have experience, expertise and a valuable network among suppliers, customers and advisers, before finally investing in a mere one per cent of the initial proposals (Fenn et al., 1995).

[75] Due diligence is the process of assuring that all the assumptions on which an investment or acquisition decision are based hold true (Sharp, 2007c). It is an exercise in validation or verification. In modern practice it goes further than this and is a result of thorough, detailed and focused series of reviews into a company's markets, processes, finances, management, technologies, assets, and intellectual property, and identifies areas where improvement can be made, risks reduced and additional gains realized. Due diligence has evolved in depth, complexity and sophistication.
In modern practice it is broken down into a series of different disciplines (Hörmann and Fischer, 2006):
Commercial due diligence, also referred to as market or strategic due diligence, is focused on establishing the credibility of the revenue projections in the invitee company's business plan, providing an objective assessment of the company's market and its position, and testing and evaluating the key strategic drivers in the company's business plan. The perspective is primarily external. Commercial due diligence need not be limited to specific investment proposals but can also be used as a tool for identifying attractive sectors of investment opportunities.
Financial due diligence looks in details at the company itself, providing a review of the company's historic financial performance, working capital movements and cash flows, comparison of actual performance with forecasts and budgets, the financial projections, financial reporting and control systems, tax compliance and the post-transaction funding position of the company and comparisons of projected financial performance against available facilities and banking covenants.
Management due diligence is designed to supplement the subjective, experience-based views developed by the investor and includes a detailed review of each team member's CV and career history, taking references, informal feedback from advisors, management structure and succession issues.
Legal and regulatory due diligence have both an internal and external focus. They cover aspects of the regulatory environment within which the business operates, the impact of the regulatory environment on

filter based on the viability of the project, the quality of management, and the potential for superior returns. The level of competition in modern private equity markets requires that investors consistently add value in order to outperform, and to do so requires an ever-deeper understanding of the market and the strategic opportunities of the target company. The due diligence exercise contributes to this understanding by providing the raw material of the entire investment growth and realization process, and establishes the difference between a good deal and a bad investment (Wexler and Connor, 2006). In a broader sense, due diligence is an important risk management tool and should not be seen as a tedious and non-productive hurdle between commercial decision making and completion.[76]

day to day operations, strategy and financial structuring, the likelihood and consequences of regulatory changes, confirmation that the company is in compliance with regulatory requirements, the terms and status of major commercial contracts, the cause, status and likely outcome of any significant litigation, the potential for future litigation, title and ownership of major tangible and intangible assets, and employment liabilities, contracts, disputes or tribunals.

IT due diligence assesses the performance, suitability and robustness of a company's IT system. Investors instruct advisers to explore the ability to cope with growth, capacity to operate independently, vulnerabilities, especially with regard to reliance on a few key people or inadequate documentation, efficiency, complexity and design, obsolescence and ownership.

Technology and product due diligence are a significant part of the company's strategic competitive advantage. Investors will commission a report to identify the likely longevity of the technological advantage, its renew ability or capacity to maintain the advantage, production reliability, scalability and conformity with target market demand and requirements.

Environmental due diligence analyzes the ever-increasing stringency of environmental regulations. Key areas include land contamination, whether inherited from previous usage or caused by current activities, use of hazardous materials including sourcing and control policies, compliance with regulations, existing or potential future litigation or complaints and environmental management, policies, standards and practices.

Forensic due diligence, better known as *investigative or integrity due diligence*, commonly associated with the identification of fraudulent or deceptive actions, is a review of the company and its management's track record, reputation integrity and reliability.

Other *specialist due diligence* reports may be commissioned to explore specific risk areas like pension liabilities, obligations and funding, insurance overage, premiums, the retention and transfer of risk, the likely terms and cost of insurance coverage in the future, and antitrust regulations.

Many due diligence disciplines interrelate with each other (Sharp, 2007c). Ownership of intellectual property will concern both legal and technical due diligence, and trends in raw material prices may be an issue for both financial and commercial disciplines. Due diligence has therefore to be done in a comprehensive fashion.

[76] Cf. Smithee, 1998, 2001.

Private equity investors also attach great importance to assessing additional relevant aspects of the investment opportunity, particularly unpublished and subjective information which is referred to as «operations and qualitative due diligence» (Wexler and Connor, 2006). This includes stress testing financial models, interviews with second and third level employees, and an assessment of the integrity and quality of the management team (Vega, 2004). Assessing information applies directly to the problem of adverse selection[77] as investment targets, particularly in emerging markets, do not always have reliable track records for an outside investor and the unknown entrepreneur usually knows more about his own quality and abilities than the investor (Kaplan and Strömberg, 2004).[78]

Third, deal structuring and negotiation follow the successful due diligence process (Ghandi, 2010). A contract is structured and negotiated between the private equity investor and the entrepreneur to cover the terms of the investment. This includes the timing of the investment round, the size of the investment, the company valuation, equity distribution, and other clauses to protect shareholder interests (Vega, 2004).

4.2.3 Monitoring

The structuring of the deal has a direct impact on the investor's ability to monitor and retain control over the investment (Fenn et al., 1995). For effective monitoring and control investors typically claim a representation on the firm's board of directors and specific voting rights to actively exert influence on the investment strategy, provide managerial expertise, control additional financing and implement a clear reporting structure (Jensen and Meckling, 1976; Sahlmann, 1990; Bader, 1996) to be able to closely monitor cash management and performance development (Gompers and Lerner, 2004; Ghandi, 2010). Fama and Jensen (1983) and Williamson (1983) argue that the composition of the board should be accurately

77 Please refer to chapter 4.3.

78 High-quality market data, financial information and legal advice play a major role in deal evaluation for investors to bridge the gap of asymmetric information (Wright et al., 1992). In the Western context, private equity investors have established processes and checklists to complete this phase with a number of trusted professional service providers and data sources, such as lawyers, auditors, market research companies and consultants, who can effectively judge the quality of management teams, the size of target markets, and the strength of a particular product or technology (Bader, 1996; Vega, 2004).

shaped according to the need for oversight and is particularly important if the board is a major provider of managerial expertise in a «hands-on» investment approach. Geographic proximity is therefore a crucial factor as firm oversight involves substantial costs.

4.2.4 Adding value

The value-adding phase is very much related to the previous phase (Gompers and Lerner, 2004). Investors' relations with the entrepreneur play a key role in the post-investment stage. Practitioners insist that the early days set the tone for the relationship and it is essential that a climate of transparency, sharing and openness to constructive input from all parties is established from the beginning. Even though the level of involvement of investors in the management of a firm may vary («hands-off» or «hands-on» approach), all parties seek to add value to the acquired business by increasing the likelihood of success and improving returns on investment (Sahlman, 1990). This can be achieved by the investor providing expert advice regarding strategic, managerial and financing issues, together with incentives for the entrepreneur to boost his/her efforts to deliver excellent results (Kaplan and Strömberg, 2009; Bottazzi and Da Rin, 2002). The investor's contribution to value creation additionally involves driving the exit process (Sharp, 2007d).

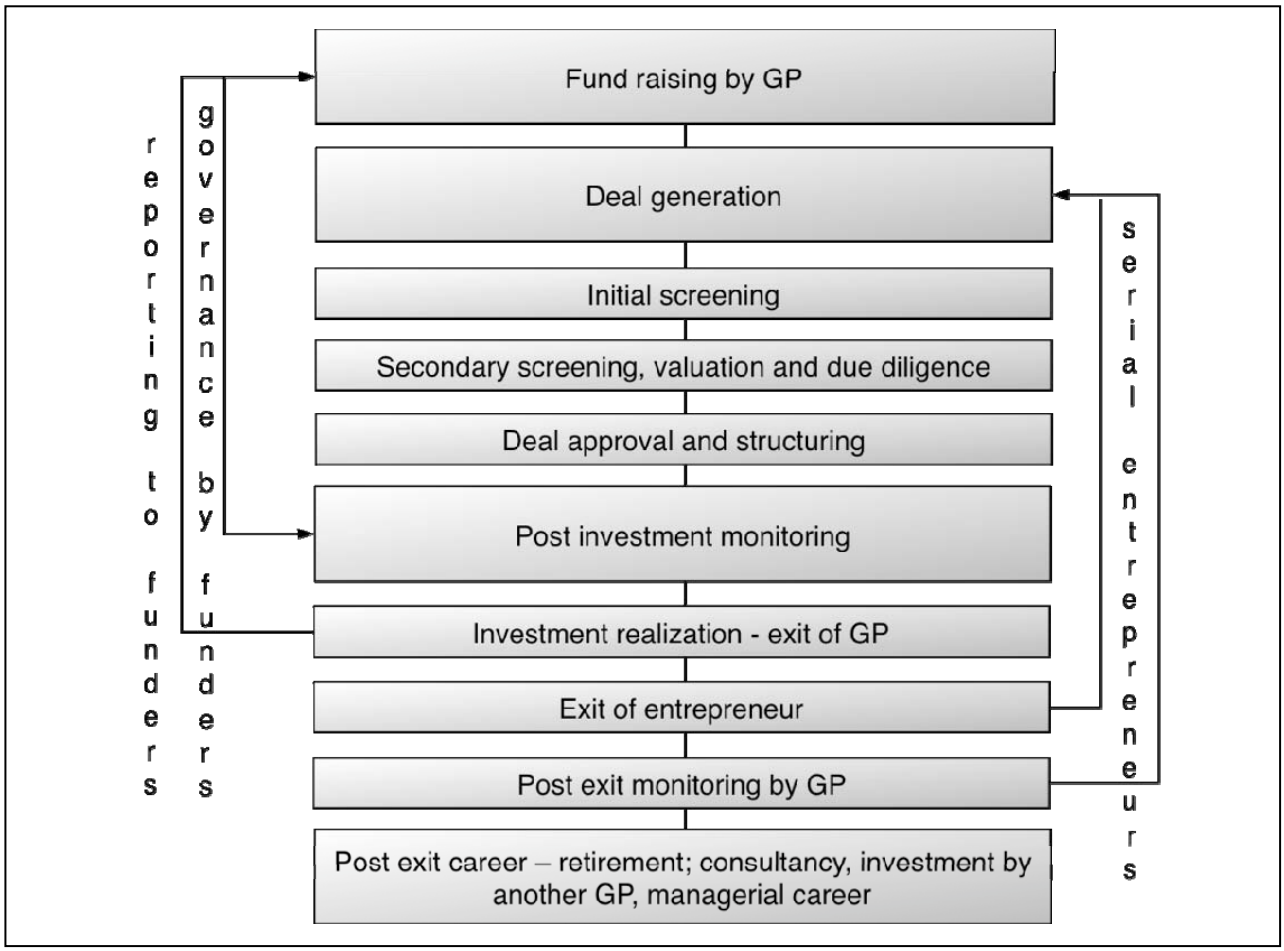
4.2.5 Exiting

In a final step, the private equity investor needs to manage the divestment of portfolio companies. The need to ultimately exit investments shapes every stage of the private equity life cycle, from the ability to raise capital to the types of investments made, and the viability of the exit in the form of a trade sale, secondary buyout, IPO, buy-back or write-off (Wright and Robbie, 1998; Gompers and Lerner, 2004) and planning the exit should start before the investment is made (Lieber, 2004; Weber, 2006). Lieber (2004) strongly advocates planning the exit strategy when acquiring a firm. If investors cannot foresee and plan that a company will be mature enough to be taken public or sold towards the end of the fund's life, they should refrain from investing in the business in the first place (Gompers and Lerner, 2004).

As part of the appraisal process, exit routes will be reviewed down to the last detail of identifying who is likely to want to buy the company and why. Management has to be involved in these discussions as it is worth incorporating their experience and expertise. But just as important is to reinforce their understanding that achieving a successful exit is critical to the whole private equity model (Sharp, 2007d) in order to raise additional capital for new investments.

Ahead of Gompers and Lerner (2004), Wright and Robbie (1998) had already categorized private equity activity in 1998, with more stages in the investment life cycle than Gompers and Lerner's more simplified venture capital life cycle approach. The figure below shows their concept of private equity functioning:

Exhibit 10: Alternative depiction of the private equity investment process



Source: Wright and Robbie, 1998, slightly modified.

Wright and Robbie's (1998) framework additionally to Gompers and Lerner's life cycle captures the post-exit component as well as the role of entrepreneurs who have received financing from the investor for future deal generation. They find that investors and entrepreneurs are unlikely to exit at the same time, which is an important consideration in the contractual arrangements for exits. More strongly than in the venture capital cycle framework of Gompers and Lerner (2004), Wright and Robbie (1998) stress the dynamic nature of the overall process and the ongoing interaction between all parties involved.[79] Like them, they emphasize the critical nature of successful exits for investors, insisting that divestment arrangements will be largely influenced by the relative bargaining power between an investor and the entrepreneur of the portfolio firm's management team.

The above-mentioned literature, focusing on the Western investment experience, serves as a theoretical basis for the contextual analysis in Chapter 7 of this paper.

4.3 Agency theory

A concept often applied in the private equity context is the phenomenon of information asymmetry[80] between the investor and the entrepreneur or managers of an acquired company (Kaplan and Stömberg, 2003). This points to agency theory, which recognizes the separation of ownership and managerial control in modern firms (Berle and Means, 1932). The principle of agency theory concerns the different problems arising between an «agent» who carries out a certain duty and the «principal» for whom that duty is being processed. Since classic theories hold that each individual wishes to maximize his own benefit, clearly

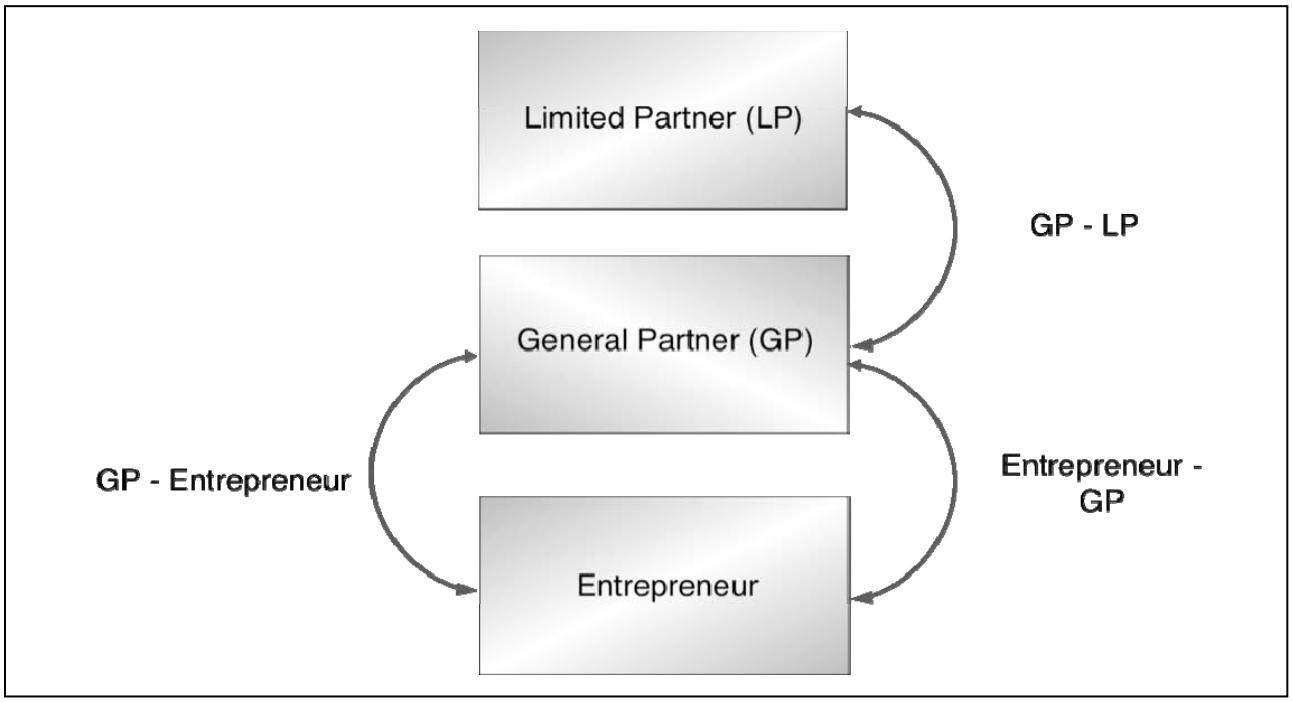
[79] Unlike Gompers and Lerner (2004) and Wright and Robbie (1998), Fenn et al. (1995) emphasize two sub-steps in their early four-step transaction process description. They find that investments are often made jointly by two or more private equity investors forming a consortium, particularly when bidding for sizable target companies and therefore syndicate. They further stress the importance of aligning the management's or entrepreneur's interests with those of investors, which involves the appropriate determination and negotiation of incentives such as managerial stock ownership plans. This aspect also includes structuring the equity capital with regard to instruments used, compensation contracts, board representation, and the allocation of voting rights.

[80] Information asymmetry means one party has information that the other party lacks and cannot easily acquire.

there is a potential for conflict between the agent and the principal who both seek to maximize the task for their respective benefit (Stiglitz, 1974; Grossman and Hart, 1983). Kaplan and Strömberg (2004) point out that agency problems are a major source of tension between private equity investors and entrepreneurs.

For the purpose of this paper, the principal is either the LP who invests capital in a project that is carried out by the GP as agent, or the GP whose project is carried out by the entrepreneur as agent. Both GP and entrepreneur as agents have an information advantage and an incentive to not always act in the best interests of the project once ownership of the project is shared with the investor (Chua and Woodwards, 1993). In other words, the GP has incentives to prioritise his own interests over those of the investors, and the entrepreneur has an incentive to favour his interests over those of the GP. The GP may sometimes have an incentive to act in the best interests of the entrepreneur and can thus be characterized as an agent of the entrepreneur. The three relationships are summarized in the exhibit below:

Exhibit 11: The three types of agency relationships



Source: Author's own depiction, with reference to Bygrave and Timmons, 1992, and Cumming and Macintosh, 2003.

Spremann (1990) classifies agency theory into three main categories, as follows:

4.3.1 Moral hazard

The problem of moral hazard was first articulated by the economist and philosopher Adam Smith in *The Wealth of Nations* (1776). It describes circumstances in which the agent either uses information not observable by the principal (hidden information) or undertakes actions not observable by the principal (hidden action) in order to increase his own utility against the principal's best interest (Spremann, 1990). The investor, as the principal, can only observe the company's ultimate success but he cannot fully observe the agent's behaviour. In his capacity as principal he can try to mitigate the inherent agency risks through various governance mechanisms such as pre-contractual screening or potential investments and post-contractual monitoring and incentive-settings (Kaplan and Strömberg, 2004; Koryak and Smolarski, 2008). Although the investor engages in information collection and monitors the entrepreneur's behaviour, it is clear that the level of monitoring is limited.[81] Milgrom and Roberts (1992) claim that the cost of perfect monitoring is typically greater than the return from the employee's perfectly monitored effort for developed markets. This leaves room for incentive systems that can induce effort without having to constantly watch the agent (Kaplan and Strömberg, 2009). Moreover, it is in the investor's interest to make the entrepreneur's compensation contingent on as many variables as possible that can be verified as correlated with effort (Harris and Raviv, 1979).

4.3.2 Holdup

Holdup refers to situations in which the agent systematically uses gaps or deficiencies in incomplete contracts – where not every future state is pre-specified – in his favour. After the closing of the contract and after certain investments have been made and sunk costs have been incurred by the principal, the agent reveals his previously hidden intentions and forces

[81] The higher the level of monitoring, the higher the monitoring costs will be. In this condition, the single investor aims to keep the monitoring costs as low as possible (Jensen and Meckling, 1976). Based on the specialization effect, the GP is able to monitor the entrepreneur at a lower cost than the LP. In order to keep the above relationships stable, the cost of monitoring between LP and entrepreneur has to be higher than the cost between LP and GP (Bader, 1996).

the principal into renegotiations (Spremann, 1990). Since individuals are opportunistic in an asymmetric information environment, contracts are employed to limit the agency costs that may arise in such cases (Jensen and Meckling, 1976). However, as individuals are rationally bounded and cannot foresee all states of the future, contracts are by nature incomplete. In other words, taking the agency theory approach, the principal can establish complete contractual incentives for the agent to exert optimal effort when he cannot observe the behaviour of the agent, whereas in the incomplete contracts approach it is assumed that not all variables are observable by both parties and that contracting all variables will be too costly, hence the costs related to full contract formulation and enforcement may exceed the benefits secured from the agent's tasks (Fama and Jensen, 1983).

4.3.3 Adverse selection

Adverse selection is a problem that appears in markets with asymmetric information where one party cannot discriminate between the good vs. bad quality of the other (Spremann, 1990). This problem applies directly to the market for buyout financing with reference to two main scenarios. First, entrepreneurs can easily misrepresent their management abilities, as they know more about their own quality and abilities than the investor does (Walsh and Seward, 1990). Second, many buyout targets do not have reliable track records for an outside investor to assess their merits (Kaplan and Strömberg, 2004). Entrepreneurs tend to compete for investment funds by presenting optimistic projections of success and withholding negative information they may have uncovered in their earlier development efforts. General partners on the other hand tend to signal their ability to potential investors by bringing investees to the public sooner than older private equity firms in order to establish a reputation and successfully raise capital for new funds (Gompers, 1996). For new ventures, due diligence investigations in advance of contracting or negotiation of contractual contingencies is therefore an important tool to mitigate the value of information disadvantages and thus the risk of adverse selection.

4.4 Institutional theory

Institutional theory identifies the effects of norms, culture and regulations on the behaviour of both individuals and firms (Scott, 1995). North (1990) argues that institutions provide the rules of the game that structure human interactions in societies; organizations are the players bound by those formal and informal rules. The roles of institutions in an economy are to reduce both transaction and information costs by reducing uncertainty and establishing a stable structure that facilitates interactions. The institutional components that shape organizational activity include regulatory, normative and cognitive aspects (Scott, 1995; Bruton et al., 2004).

4.4.1 Regulatory elements

Regulatory elements of institutions include laws and sanctions that regulate the behaviour of firms and individuals (North, 1990). Bruton, Fried, and Manigart (2005) find major differences between regulatory institutions around the world, based on the underlying legal philosophy, degree of legal protection for investors, enforcement of laws, and the fundamental nature of the capital market system. In Asia, financial and commercial rules are generally less developed than those in the West, and even when rules exist they are often not as strictly enforced (Bruton et al., 2004). According to Leeds and Sunderland (2003), a major reason for the problems experienced by private equity funds entering emerging markets in the late 1990s was that the legal and regulatory framework did not provide adequate investor protection, particularly for minority investing but also differences in accounting standards, corporate governance and exit potential added to the complexity of the investments. Differences in the level of investor protection[82] undoubtedly impact the way the private equity industry develops (Bruton et al., 2005). The case of Singapore is for that a perfect example (Bruton et al., 2002b). The regulatory environment created by the government and its agencies has effectively spurred greater development of the private

[82] La Porta, Lopez-De-Silanes, Shleifer, and Vishny (1998) compare the level of investor protection in 49 countries, including Asia, and find that common-law countries provide the strongest legal protection to shareholders, while legal protection is weaker in German civil-law countries, and weaker still in French civil-law countries.

equity industry than in any other parts of Southeast Asia. This development is due not only to the existence of laws but also to their strict enforcement (Bruton et al., 2003).

4.4.2 Normative elements

Scott (1995) defines normative as the acceptable behaviour and values of individuals and organizations. Normative elements of institutions refer to roles and actions that derive from professional standards and are propagated through teaching and training (DiMaggio, 2001). Evidence of the presence and power of normative factors is thus seen in a professional setting. Professionals that follow the originators tend to replicate what others have done, whether or not it is economically rational to do so (Bruton et al., 2005).

There is some evidence that the beliefs and standards of conduct in private equity carried over from the U.S. to Europe in the early 1990s. The argument that private equity in Asia has converged with the Western model is consequently related to the same phenomenon of normative components. Many Asian private equity investors have worked for Western firms where they received their training in the industry, hence normative practices in Asia are strongly influenced by Western ideas of what private equity managers should do and how they should do it (Bruton, Manigard, Fried, and Sapienza, 2001). This is consistent with the private equity industry with its strong values and norms that derive from the nature of interaction within the industry and the dependence of its members on each other (Bruton et al., 2005). The fact that the dominant normative logic is U.S. based does not imply that the local environment is unimportant. Wright et al. (2002) show evidence that U.S. venture capital companies entering the Indian market adapted their way of working to the local market conditions but only to a certain degree.

4.4.3 Cognitive elements

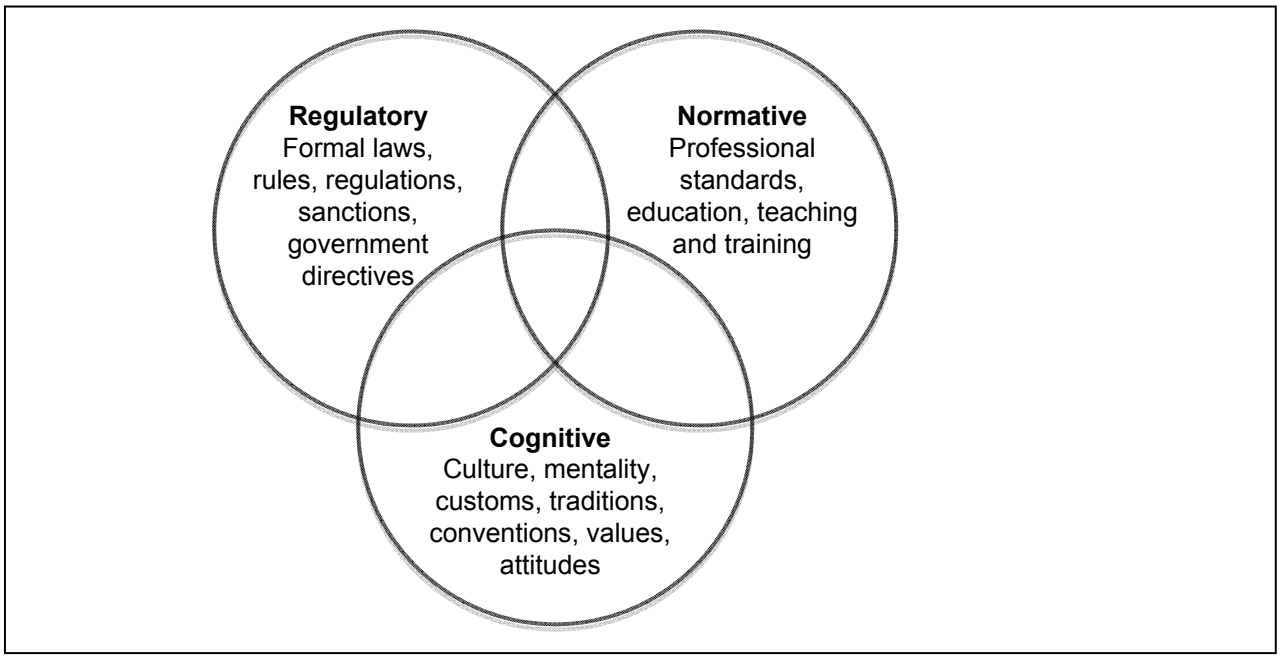
Cognitive elements are closely associated with culture and refer to influences that develop through social interaction. They include informal constraints embodied in traditions, including subconsciously accepted rules and customs, and commercial conventions which are taken for granted (Bruton et al., 2004). These culture/cognitive institutions develop

over time through social interactions among the various participants and shape their notions of what is appropriate and conceivable behaviour (Bruton, Keels, and Scifres, 2002c). Of greatest concern for private equity investors are the differences in the value placed on entrepreneurship and the role of social networks (Bruton et al., 2005). A major difference between the U.S. and some European countries is the status attached to entrepreneurship. While entrepreneurs in the U.S. are held in high regard, in some European countries they are typically seen as opportunists. In countries where entrepreneurs have high status, the rewards for success are high and the punishment for failure is low. Conversely, outside the U.S., entrepreneurial success does not necessarily confer high status and failure has major negative implications. In Asia, while entrepreneurs are not viewed as opportunists, a similar attitude towards failure as in Europe prevails (Reynolds, Hay, Bygrave, Camp, and Autio, 2000). Hence, fear of potential failure can hinder the supply of entrepreneurs in Asia.

The other important cognitive difference is in the strength of social networks. For example, connections between business people in much of Europe are stronger than in the U.S. and even stronger in Asia. The culture of the Overseas Chinese,[83] with their strong family and network-based financing connections, is for that reason known to have an influence on their managerial behaviour (Chen, 2001). Cognitive institutions such as guanxi, which initially arose in response to the absence of strong legal traditions, can therefore be expected to have an impact on private equity investment, particularly for those activities that involve intense interpersonal interactions, such as selecting firms for funding and monitoring those firms (Bruton et al., 2004).

[83] Refer to chapter 5.2.4 for a detailed description of the Overseas Chinese community and the Southeast Asian region.

Exhibit 12: Institutional factors that shape the private equity industry



Source: Author's own depiction based on Bruton et al., 2004. Scott, 1995.

Hoskisson et al. (2000) contend that the number of theoretical and empirical studies that take an institutional perspective in emerging economies is limited, even though it has been argued that this perspective is one of the most applicable paradigms for explaining enterprise behaviour in emerging economies. As mentioned before, Bruton et al. (2003, 2004, 2005) argue that institutions shape business practices internationally and propose that all three categories of institutional theory can be used to study the development of private equity worldwide. More specifically, Ahlstrom and Bruton (2006) apply Scott's framework in their analysis of East Asian venture capital associations. They determine that regulatory institutions are generally weak, that normative institutions are only just developing, and that cognitive institutions are significantly impacted by the Overseas Chinese commercial and entrepreneurial culture in many Asian countries. In line with this approach, this paper examines to what extent regulatory, normative and cognitive elements influence and shape the investment process and investment strategy of private equity in Southeast Asia.

4.5 Research questions

Although private equity performance has been measured in the U.S. and to a limited degree in the European market, the findings are markedly inconsistent.[84] Authors primarily reduce the inconsistencies in results to the variety of datasets and to the different methods of performance assessment, but scant attention has been paid to whether these differences could be explained by other factors. To this author's knowledge, only one academic paper by Haberich (2009) attempts to assess venture capital performance in China, relating the results to contextual factors, albeit with a limited scope. Several papers by Bruton et al., Wright et al., and others analyze differences in private equity, mainly venture capital in Asia, particularly between China and the West, but none of them have so far related private equity performance to an emerging economy context, leaving unanswered the question of whether Asia's less developed financial sectors, governance, regulatory systems, operational infrastructure and different social context actually create obstacles or opportunities for private equity in emerging markets, or directly determine performance outcomes.

Based on the gaps in the literature identified above, this paper aims to relate private equity performance to the investment process and investment strategy in Southeast Asia, and to establish whether contextual factors cause performance differences despite the existence of standardized investment procedures across developed and emerging markets. The following research questions are the focus of my investigation:

1. *What is the performance of private equity investments in Asia?* This question should provide a first in-depth answer, based on the data available,[85] to the various statements by practitioners and academics that private equity performance in Asia so far has been disappointing in absolute terms.
2. *Are there any performance differences between private equity investments in Southeast Asia compared to the West?* Western returns, which have been assessed in different studies and in various ways, should provide a benchmark to

[84] For a review of the literature, refer to chapter 3.

[85] Thomson VentureXpert.

the returns in Southeast Asia. The comparative aspect of this question is designed to complement Question 1 by establishing whether returns are satisfactory in relative terms.

3. *Are there performance differences between foreign and local fund investors?* There are many foreign private equity investors active in Southeast Asia, who are highly trained and apply the latest Western know-how when making investments. There are also a number of local private equity investors with less experience but better contextual knowledge. The question is whether there are performance differences between these two groups and whether mergers of foreign and local expertise have emerged to combine their respective competitive advantages.
4. *Does the buyout[86] investment process in Southeast Asia differ from the Western investment approach?* This paper posits that there is a basic worldwide American-shaped state-of-the-art private equity investment process but with clear differences between the Asian and Western approach in prioritizing and the emphasis given to the individual investment steps. The aim here is to analyze the crucial differences in the investment approach.
5. *How far do institutional factors such as normative, regulatory and cognitive elements determine the investment process and the investment strategy?* Institutional theory argues that institutions in general and culture in particular shape the actions of firms and individuals in a number of subtle but substantive ways. Research has found that institutional factors considerably shape the development of private equity worldwide, suggesting that differences must exist in the way private equity operates in Asia, where the culture differs substantially from the West. Based on interviews with private equity investors in Southeast Asia, this exploratory research question discusses the significant differences created by the institutional environment between Asia and the West.
6. *To what degree do institutional factors determine the success of private equity investments?* Neoclassical economics[87] cannot explain the existence of private equity, but market imperfections make exceptional returns for private equity

[86] The questions focuses mainly on the buyout sector for Southeast Asia is mainly a buyout and not a venture capital market (Varma, 2010).

[87] See footnote 73 for an explanation on neoclassical economics.

possible. To what degree do such institutional factors determine the success of private equity?

7. *To what extent must private equity investors in Southeast Asia adapt the investment process and investment strategy to realize successful returns?* This synthesizes the previous questions by tracking what private equity investors have learned, how they have adapted their investment processes and strategies in Southeast Asia in recent years, what they will have to change in the future, and how they must integrate contextual success factors into their investment approach to achieve the hoped-for returns.

5. Research Design

5.1 Research methodology

The main focus of this study is to analyze private equity returns in Asia, to compare them to returns in the U.S. market, and to explore the private equity investment process and strategy in the Southeast Asian context using the following research methodologies.

5.1.1 Principal considerations for the research methodology

The academic literature in management and social sciences is generally categorized into three principal methodologies: qualitative, quantitative and comparative approaches (Ragin, 1994), each with its strengths and weaknesses, assessed along the categories of construct validity, internal validity, reliability and external validity (Black, 1999; Scandura and Williams, 2000).

Quantitative research aims to systematically isolate common patterns or processes that can be used to characterize a population, to identify cause-and-effect relationships, and to make predictions (Bentz and Shapiro, 1998) by means of statistical analyses of experimental, survey, and archival data sources (Martin, 1990). Quantitative research is structured, logical (Bouma and Atkinson, 1995) and measures and analyses causal relationships between variables but not processes (Denzin and Lincoln, 1994).

Qualitative research can be described as any social science research that produces results which are not obtained by statistical procedures or other methods of quantification (Bouma and Atkinson, 1995; Denzin and Lincoln, 1994). It implies an emphasis on process and meanings that are not rigorously examined or measured in terms of quantity, amount, intensity or frequency. Qualitative methods emphasize the understanding and interpretation of social phenomena in real-life situations, the reasoning that governs such phenomena, and the why and how of processes and meanings. It can therefore be described as intuitive, subjective and deep (Bouma and Atkinson, 1995). The qualitative approach focuses on the particular context within which the participants act and the

influence of that context on their actions. It is especially well suited to understanding the process by which events and actions take place (Bouma and Atkinson, 1995; Maxwell, 1996). In practice, qualitative methods can be used to generate quantitative data (Brewerton and Millward, 2001), while quantitative methods can be used to verify qualitative results.

Comparative approaches lie between the qualitative and quantitative approach in terms of the number of cases studied and are used to verify whether the initial evidence was correct (Glaser and Strauss, 1967). This method focuses on examining similarities and differences between sets of cases that are clearly bounded in time and space (Ragin, 1994). Comparative research aims to replicate facts with comparative evidence, either within the study or externally, in order to generate properties that increase the categories' generality and thus their explanatory power (Glaser and Strauss, 1967). It is therefore well suited to the goals of exploring diversity, interpreting cultural or historical significance, and advancing theory (Ragin, 1994).

The research design of this study has two purposes: (a) the analysis and comparison of secondary data, and (b) theory building. To date there has been no analysis of private equity performance data in Southeast Asia and only limited research on developments in the region's private equity industry that stakeholders can reference (Lerner and Gurung, 2008). This calls for a quantitative approach and comparative elements for a performance assessment, as well as a qualitative research approach that allows for the development of conceptual categories and their relationships using raw data to investigate investment processes and strategies in the region.

To achieve a holistic picture, this paper proposes a grounded theory approach and a triangulation of the qualitative and quantitative findings (Jick, 1979). Grounded theory is a specific method that supports the detection and explanation of social phenomena (Haig, 1995). Since its introduction in 1967, grounded theory has been progressively developed as a «problem-solving» endeavour. It is particularly applicable to a research area which has been relatively ignored and as a methodology suited to the exploratory and explanatory nature of the research questions, generating theory and explaining specific behaviour in the Southeast Asian context (Bruton et al., 2003; Goulding, 2002).

5.1.2 Introduction to grounded theory

The grounded theory research approach allows for the discovery of theory through the emergence of conceptual categories and relationships from raw data systematically obtained without prior conceptual knowledge (Glaser and Strauss, 1967). Grounded theory can be viewed as a data analysis tool for qualitative data, a research strategy, or a general method of comparative analysis. As a research strategy it involves a recursive process of data collection, data coding and data interpretation. Grounded theory uses deductive coding with a focus on the discovery of categories and thus is most applicable to exploratory research (Bernard, 2000).

There are two main approaches to grounded theory: the Glaserian and the Straussian schools. The Glaserian school stresses the interpretative, contextual and emergent nature of theory development (Glaser, 1992; Locke, 1996): the specific research problem emerges and questions regarding the problem emerge by which to guide theoretical sampling. The research questions are not deduced from literature. Glaser argues strictly against preconceptions (Glaser, 1992): only when the grounded theory research process is nearly complete “literature search in the relevant area…be accomplished and woven into the theory as more data for constant comparison” (Glaser, 1998, p. 67).

The Straussian school uses preliminary studies to identify research problems, starting out with categories or themes which emerge from a review of the literature and the analysis of secondary data. Comparative analysis is used to evaluate new data items relative to data items already assigned to categories; in other words, the area of research is derived from data and then illustrated by characteristic examples of data (Glaser and Strauss, 1967). The comparison of newly added data observations to data already assigned to categories tests the category properties for consistency. Theoretical saturation is reached once the comparison and observations of new data yield no new insights or properties to the conceptual framework. Only when theoretical saturation is achieved in the categories do their properties and the relationships between them constitute a conceptual framework that is grounded in the data. The conceptual framework derived from the data should then be tested against an independent dataset for validity.

Given that my research is driven by research questions, approaching the private equity field without an idea of what to look for makes it unrealistic to expect results, and for this reason the Straussian grounded theory appears to be more appropriate than the Glaserian grounded theory approach.

5.2 Data collection

5.2.1 Secondary data

Any analysis of the private equity market will be handicapped by a lack of available information. Since private equity securities are not registered with the regulatory authorities, only limited data about private equity is publicly available (Fenn et al., 1995). Moreover, many of the firms that issue private equity securities are private and do not disclose financial or operational data. Accordingly, relatively little analysis of the market and its development exists for reference purposes.

To the greatest extent possible this research relies on public sources of data, primarily professional organizations that collect data and publish newsletters and reports for the private equity community. Thomson VentureXpert, which supports the cash flow based measurement approach, has become the main data provider with probably the biggest database of private equity fund performance in the Western hemisphere. VentureXpert contains cash flows of more than 2,500 funds with a very strong focus on the U.S. market but lacking data from emerging markets. It does not contain single cash flows but only aggregated data, average IRR, and information on multiples. Most academic research relies on the VentureXpert data but few researchers have direct access to the cash flow datasets. Despite the wide acceptance of VentureXpert data, some academics question its quality owing to a number of potential biases.[88]

Cambridge Associates, the second biggest data provider, with data on around 2,100 funds, provides data on cash flows and basic information on funds but is not a professional data provider. VentureOne, a provider whose database contains primarily information on

[88] See Chapter 5.4 for a discussion on the validity and reliability of the database.

venture capital investments, claims to cover around 98 per cent of investments in the venture capital domain in the West, with a transaction volume of more than US$20 million. Big FoF also have cash flow information on their own funds but such information is usually inaccessible. Statistics on investments, funds, exits and other aspects of the industry are also collected by national and regional trade associations, such as the National Venture Capital Association (NVCA) for the U.S. market and the European Venture Capital Association (EVCA) for Europe. Private firms such as the Asian Venture Capital Journal (AVCJ) and the Asia Private Equity Review (APER) also publish industry data.

This research paper relies on VentureXpert performance data. The dataset contains performance information from foreign investors investing in Asia – it does not cover data from local investors. The database is well regarded by both academic researchers and practitioners, although the author cannot guarantee the accuracy and completeness of the data supplied. In order to triangulate the performance results and to cover information gaps, extensive interviews were conducted with market participants and the resulting information was relied upon where publicly available data were lacking.

5.2.2 Interviews

The best data sources for the empirical part of this study are experts who possess so-called vertical and horizontal knowledge (Goulding, 2002; Locke, 1996). Vertical knowledge refers to an in-depth knowledge of cases; horizontal knowledge to the exposure to a large number of cases. Data collection was therefore accomplished through personal interviews. These served to explore the research area in more detail and also to generate hypotheses in line with the grounded theory approach. Saunders, Lewis and Thornhill (2007) find that managers are more likely to agree to be interviewed than to complete a questionnaire, especially when the interview topic is perceived as interesting and relevant to their current work.

Interviews can range from totally unstructured interactions, through semi-structured situations, to highly formal interactions (Bernhard, 2000). Different types of interviews produce different types of data that are useful for different types of research projects.

Semi-structured interviews incorporate elements of both quantifiable, fixed-choice responding and the facility to explore in more depth certain areas of interest (Brewerton and Millward, 2001). This makes it generally easier to analyze, quantify and compare by allowing interviewees to explain their responses and to provide more in-depth information.

Interviewing, like all research methods, is subject to a number of biases and shortcomings (Saunders et al., 2007). There may be a temptation to spend too long on peripheral subjects, a danger of ceding control to the interviewee, and a reduction in reliability when using a non-standardized approach to interview each respondent. Essential to the nature of any interview is that it be consistent with the research question and objectives and the research strategy (Hughes, 2002). Interviews can be combined with other approaches in order to quantify and objectify the interview data and provide a means to overcome the above obstacles. They can be carried out in person, by phone, by email and even by computer (Sanders et al., 2007).

The experts interviewed were contacted based on the population as defined in Section 5.2.3. The main round of interviews consisted of well-prepared and semi-structured interviews. Most of the interviews were conducted in person (>80 per cent), with a few exceptions over the telephone (<20 per cent). The interviews followed a carefully prepared protocol, used both specific and open-ended questions, and were in English. They were conducted between June and August 2010 and typically lasted one hour. The interviewees were mostly senior members of a fund's management, usually managing directors or managing partners. Interviewees were assured of the confidentiality of their statements, names and affiliations. Since the interviews included high-profile private equity experts with exposure to well-known buyouts in Southeast Asia, the anonymity of the respondents was a prerequisite in order to obtain meaningful and open information.

To ensure an open discussion the interviews were not taped. Instead, notes were taken and transliterated the same day. All responses and quotations were used on an anonymous basis to ensure the statements of experts could not be traced to specific cases. It was agreed that specific information should not be provided in any published documents and that information would only be provided on an aggregate basis.

5.2.3 Population sample

The target population of private equity funds in Southeast Asia is relatively small given that it is a young market and far less capitalized than the American and European markets. The Thomson VentureXpert dataset contains information on cash flows to investors and reports an estimate of the net-of-fees performance of private equity investments in Asia, as described above. It is important to note that the performance measured is not only for fully liquidated funds. As shares in private equity funds are not traded and in the absence of observable market prices, the historical interim return data on private equity funds are influenced by the valuation that GPs assign to their portfolio companies. Because these valuations are often kept at cost until valuations are realized, data on returns from sources such as VentureXpert are likely to be understated (Emery, 2003). Using only liquidated funds would overcome the stale pricing problem but would add a selection bias influenced by the success of the investment, which may be biased towards the «winner», while technically excluding those that are unsuccessful. Gottschalg et al. (2004) argue that cash flows on the fund level is most likely to reflect both successful and unsuccessful investments than an overall database, as fund investments are aggregated and do not reflect only single investments. The data collection for private equity returns in Southeast Asia is, moreover, too «young» and the data sample too small to only look at liquidated funds. The question therefore remains as to how to value ongoing investments.

The data sample for the interviews included personal contacts with private equity experts in the region and additional contacts provided by the interview partners and private equity associations, contacts of LPs and GPs extracted from the VentureXpert database, contacts reached via sources such as the APER, Private Equity International, AVCJ, PEI Asia (the magazine for private equity in Asia, Australia and the Middle East) and other sources which emerged with the theory as the research progressed. Ultimately, the data sample materialized at the point of theoretical saturation and was enlarged by interviews with academic experts utilized to validate the research findings once the data analysis was complete.

The experts that made up the sample were systematically contacted electronically with a request for a meeting or a telephone interview and were sent a document explaining the

background of the research project. A written endorsement from official institutions helped convince managers that this was an important academic exercise with official support. The involvement of INSEAD, SMU and the HSG provided an indication of the research focus of the work. Despite the commonly perceived disadvantages of telephone interviews compared to «in person» interviews – such as a greater likelihood of self-generated answers and lower effectiveness for complex issues – telephone interviews were considered by the author to be a valid method which met the requirements of the enquiry. If no response to an email was received after two requests for a meeting it was interpreted as a rejection. Including the academic experts to validate the research findings, a total of 43 individuals, all experts in private equity, participated in the research. The sample includes 33 leading experts from private equity firms[89, 90] (LPs and GPs) and 10 experts from academic and research institutions in Asia. About a third of those interviewed provided sufficiently detailed data for the qualitative analysis and the triangulation of the quantitative analysis. The interviews were conducted in Hong Kong, Indonesia, Malaysia, Singapore, Thailand and Vietnam.

5.2.4 The Southeast Asian region

Southeast Asia is large, diverse and multi-cultural (Lockett and Wright, 2002). It is important to recognize that it is not a homogenous region on many continuums, including the development of the private equity industry (Bruton et al., 2005; Lockett and Wright, 2002). Levels of economic development differ from one country to the next[91] and a wide range of religions and traditional heritages co-exist.

The Overseas Chinese community plays a dominant economic role[92] across the economies of East and Southeast Asia, including Hong Kong, Taiwan, Singapore, Malaysia, Indonesia, Thailand and the Philippines (Hodder, 1994). In Hong Kong and Singapore, the commercial dominance of ethnic Chinese can be explained by the fact that

89 >100 private equity firms known to be active in the region.

90 >90 per cent investment grade.

91 Hong Kong and Singapore are categorised as developed markets, Indonesia, Malaysia and Thailand as emerging markets and Vietnam as a frontier market (MSCI Barra, 2010).

92 Weidenbaum and Hughes (2003) state that Overseas Chinese dominate the private business sector (industry, commerce and finance) of every Southeast Asian country.

they constitute a majority of the country's population. In Singapore, for example, almost three-quarters of the population are ethnic Chinese (Singapore Department of Statistics, 2009). In Malaysia, Indonesia, Thailand and the Philippines, ethnic Chinese are a minority of the population yet account for a disproportionate volume of economic activity (Carney and Gedajlovic, 2003). The importance of the Overseas Chinese in Indonesia offers a particularly striking example: while ethnic Chinese make up only 3 per cent of the Indonesian population, firms controlled by Overseas Chinese account for more than half of the country's trade and three-quarters of its private domestic capital (Hodder, 1994; Lim, 1996; Claessens, Djankov, and Lang, 2000). Similar numbers can be found in Malaysia, where ethnic Chinese control 40 to 50 per cent of corporate assets, and in Thailand, where the Overseas Chinese account for about 10 per cent of the population (Weidenbaum and Hughes, 1996) and yet 90 per cent of the manufacturing sector and 50 per cent of the service sector are under Chinese control (Yeung, 1999).

The fact that ethnic Chinese control a very large proportion of Southeast Asia's and East Asia's leading business groups makes them effectively the region's business class (Lim, 1996; Weidenbaum and Hughes, 1996). Given the dominant role of ethnic Chinese-owned firms and their homogeneous behaviour[93] due to shared strong network ties[94] in their local and overseas business activities (Yeung, 1999), this study of returns, investment process and investment strategy in Southeast Asia can be expected to have a wide applicability across the region[95] (Hofstede and Bond, 1988).

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93 Cultural norms and institutional practices are very difficult to imitate and can therefore set the basis for sustained competitive advantage for members of a global economy with a common cultural heritage (Van de Ven, 2004).

94 These particularistic ties have different reasons, mainly due to inadequate institutional factors within low trust cultures (Fukuyama, 1995). Management in Asia is thought to depend largely on interpersonal relationships (guanxi) (Chen and Tjosvold, 2007), which results from imperfect competition and has lead to today's social organization of Chinese businesses in Southeast Asia (Yeung, 1999). Further, the Confucian tradition is remarkably persistent. The common core of Confucian teaching includes values like loyalty to a hierarchical structure of authority, a code of defined conduct between children and adults, and trust among friends (Weidenbaum and Hughes, 2003), but also characteristics of Confucian tradition like a sense of collective responsibility and pride in work ethic, which are beneficial to a market economy.

95 Even though Asian managers are in a transition phase, some of the most important traditional attitudes, beliefs and values persist and are not likely to be replaced (Dong and Glaister, 2007), particularly when

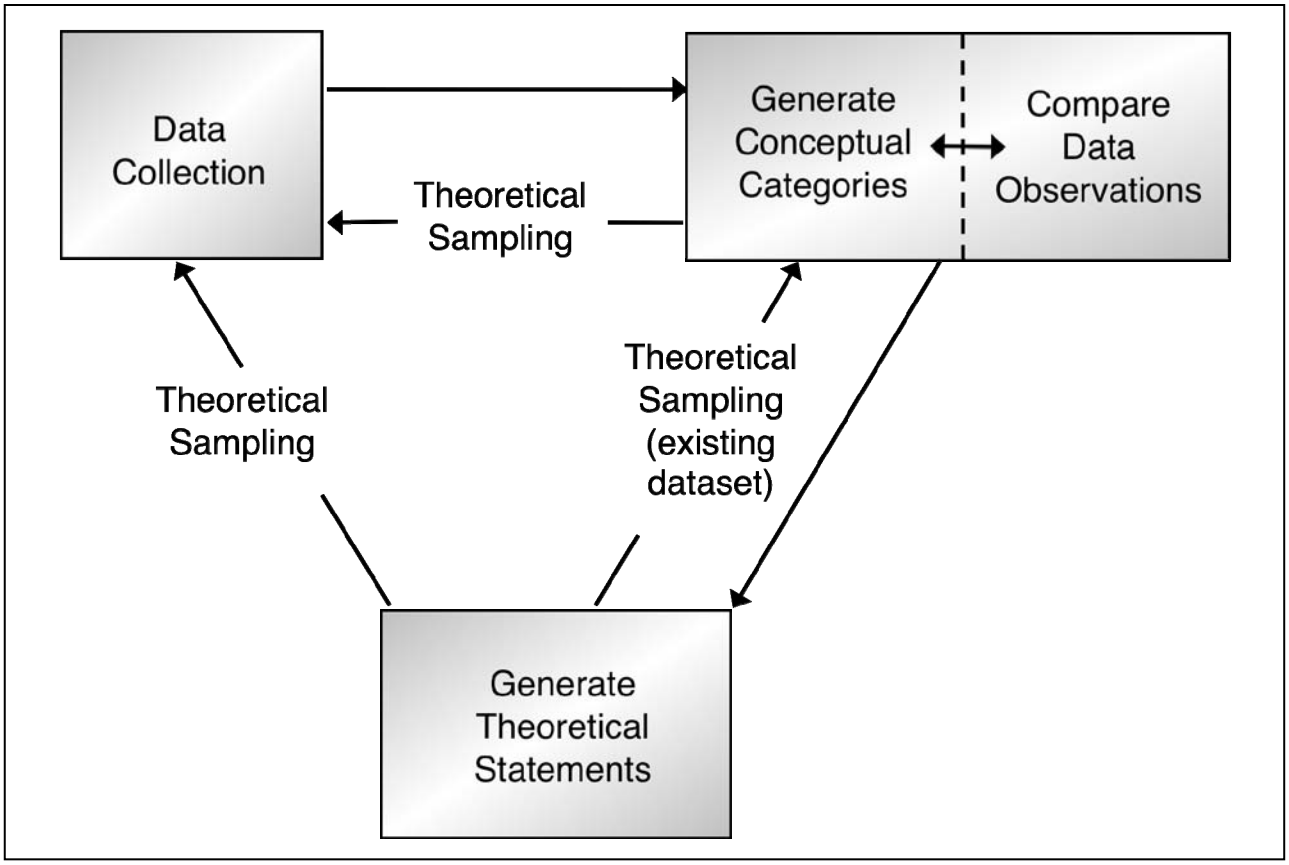
5.3 Data analysis

The analysis of performance data is primarily derived from the secondary data provided by Thomson VentureXpert. It includes the measurement of the capital weighted average return, the pooled average, the maximum return, the upper quartile, the median, the lower quartile, and the minimum achieved return, as well as putting returns in perspective relative to the U.S.

As indicated, Straussian grounded theory strategy was used to address the research questions of the private equity investment process and investment strategy. Consistent with this, a recursive process of data collection, data coding, comparative analysis and theoretical sampling until theoretical saturation was used to develop a model of the private equity investment process and a framework for strategy (Glaser and Strauss, 1967; Locke, 1996; Strauss and Corbin, 1998; Goulding, 2002).

the change means adopting a model that is contrary to one's context-specific competence (Van de Ven, 2004). Consequently, traditional values such as the personalization of economic relations and the importance attached to guanxi, described as more than networking but as the sidestepping of traditional regulatory or contractual processes to seize a business opportunity (Weidenbaum and Hughes, 2003), and also refers to internal organizational financing or financing from numerous banks, allied firms and relatives (Van de Ven, 2004), change slowly and will feature as dominant business norms and practices in the Chinese-dominated Asian societies for years to come, even though Chinese firms tend to engage in more Western management practices (Yeung, 1999) and the West and the East are expected to converge towards a network capitalism (Li, 2007).

Exhibit 13: Grounded theory



Source: Locke, 1996.

5.3.1 Phase 1: Open coding and open sampling

The initial phase of the Straussian grounded theory approach aims to explore categories. With an initial set of data based on the literature review, semi-structured interviews were used to generate conceptual categories for the private equity life cycle and the institutional dimensions, as well as to determine how the categories varied dimensionally. The data was broken down into events, ideas and facts by carefully analyzing the interview transcript. Key statements by the interviewees were highlighted until patterns across cases began to emerge.

5.3.2 Phase 2: Axial coding

Once emergent categories could be distinguished and a good understanding of the properties of the different categories had been established, axial coding, meaning comparative analysis, was used to explore relationships between the categories and to further explain relationships with newly added categories. Where conceptual categories and relationships between categories started to emerge, the data was scanned and the interviewees were asked for cases that would otherwise challenge the category and relationship properties. Such a process allowed for the efficient refinement of the properties and the relationships. Proposed relationships that were unsupported by the data were dropped.

5.3.3 Phase 3: Selective coding

Once the research process had clarified the properties of the conceptual categories of the investment process and the institutional elements, selective coding was used to compare relationships between the categories and to integrate the categories in order to build a series of theoretical statements. The findings then were contrasted with the conceptual framework and existing theory. The ensuing interviews focused on challenging and justifying the categories, their properties and relationships.

The point of theoretical saturation was reached in the interview process when additional theoretical sampling and data analysis ceased to develop the emergent theory further, and simply reiterated the categories and category properties of the model of the private equity life cycle and institutional elements.

5.3.4 Phase 4: Validity test

To validate the emerging theory, the Straussian grounded theory approach recommends that the theory be tested against an independent dataset for increased robustness, as well as to go through the three coding processes again with the new data (Glaser and Strauss, 1967; Strauss and Corbin, 1998). In this study, the test of the emergent theory took the

form of a discussion with experts. No substantial refinement of the emergent theory was necessary, according to the experts' feedback.

5.4 Validity and reliability

Formal theory in combination with a field study involving interviews and secondary data appears to be the most promising set-up for this set of research questions. According to Scandura and Williams (2000), interviews provide a strong realism of context, while secondary data from a reliable professional data provider offer high precision of measurement. The weakness of this combination of research methods can be seen in the lack of accuracy of measurement for some of the measures. However, as the design carries both quantitative and qualitative characteristics with overlapping parts for some of the research questions, it achieves a substantial degree of triangulation[96] and therefore increases the research validity and reliability (Scandura and Williams, 2000).

5.4.1 Construct validity

A study with high construct validity ensures that the methodology measures what it is supposed to measure (Black, 1999). As indicated, VentureXpert is the most professional data provider with the largest database on private equity. It provides detailed explanations of how the results are composed and therefore ensures high construct validity. The Straussian grounded theory approach, in which construct validity is addressed by using multiple sources of evidence (Strauss and Corbin, 1998), was applied in this study to explore the investment process and strategy, and to follow the private equity life cycle as well as institutional elements. Given the in-depth nature of the interviews and comprehensive analysis of the investment process and strategy, construct validity can be expected to be high. Interviews were combined with external information sources to build an accurate picture of the private equity scene in Southeast Asia. Any conflicting

[96] Triangulation is the use of several complementary methodologies to view the same phenomenon. It is an effective way to increase the quality of the scientific work from a technical perspective and to overcome the weaknesses of using a single research method (Denzin and Lincoln, 1994).

information that was critical for the analysis could be clarified with the interviewees. Additionally, the discussion with experts for the validity test of the theory increased the construct validity.

5.4.2 Internal validity

According to Black (1999), a design that posits a clear causal relationship and allows for the control of all other possible contribution variables is said to possess a high level of internal validity. Using secondary data for the performance measurement provides a huge advantage as it saves resources. Indeed, the personal collection of such data would be virtually impossible. However, secondary data have been collected for a specific purpose and may not perfectly match the specific research. Furthermore, secondary data are often aggregated in some way or another and may not entirely suit the definition of the research variables. Another limitation is that these data represent the interpretation of those who produced the data, and therefore do not necessarily offer an objective picture.

The suitability of the data provided by VentureXpert has been carefully evaluated taking into account the above-mentioned limitations. Even though contribution variables cannot be controlled, VentureXpert's data collection process is well established. Indeed, many private equity performance analyses have relied on VentureXpert datasets. The underlying dataset is therefore considered suitable for analysis and comparison with other datasets. Internal validity is achieved in grounded theory during the data analyses phase by pattern matching, explanation building, time-series analysis and logical models (Glaser and Strauss, 1967, Strauss and Corbin, 1998). The iterative rounds of data collection, analysis and theoretical sampling in the three initial phases of the research process were designed to explore the investment process and investment strategy and were accordingly implemented to ensure a high degree of internal validity.

5.4.3 Reliability

A research methodology has a high degree of reliability if the findings can be replicated by other research studies applying the same methodology (Black, 1999). Bauer (2004) warns

that VentureXpert data may suffer from selection biases, implying that low-performing funds may withhold information on their returns in order not to harm their reputation, whereas better performing funds are willing to release this information. The selection bias is amplified by the fact that VentureXpert collects the data with questionnaires on a voluntarily basis. Furthermore, the cash flow data cannot be verified and only about 40 per cent of the cash flows of the funds in the database are known; for the remaining 60 per cent various methods of calculation are applied. The reliability of the findings presented here can thus only be addressed by the performance data made available by VentureXpert and the possibility of replicating the results obtained based on the same dataset. For the interview dimension, reliability can be assured during the data collection and data analysis by producing a comprehensive transcript of interviews (Glaser and Strauss, 1967).

5.4.4 External validity

“Acquiring a sample and ensuring that the conditions under which the study is carried out are representative of the situations and time to which the results are to apply, ensures what is referred to as external validity” (Black, 1999, p. 49). External validity refers to the degree of generalizability of findings. My data sample of private equity returns in Southeast Asia is admittedly small, but there is no other dataset available which could enlarge the sample and boost its external validity. The external validity is therefore limited but could be improved in a later stage once more data on returns in the region are integrated. External validity of the grounded theory approach is addressed during the analysis phases by covering the universe of structural situation and theoretical condition in the interviews and the selection of the interviewees. The findings thereby achieve analytical generalizability. Statistical generalization from a sample to a universe is not possible using a Straussian grounded theory approach as the sample is not intended to be statistically representative of a universe.

5.5 Limitations

While the results derived from the analysis of the private equity firms in Southeast Asia may not be fully transferable and generalizable to other countries and situations, they may provide

additional insight and be at least partly prescriptive for other environments with similar characteristics. The Southeast Asia context which is the focus of this study can be regarded as somewhat representative of the emerging market spectrum.[97]

[97] See Chapter 5.2.4 for a further discussion on the dominant role of ethnic Chinese-owned firms and the homogeneous business behaviour of ethnic Chinese in the Southeast Asian region.

6. Returns on Private Equity Investments

Major reasons for the explosive growth of the private equity market since 1980 in the U.S. and over the last seven years in Asia[98] include the anticipation of substantially higher returns than those which can be earned in alternative markets (Fenn et al., 1995; Cendrowski et al., 2008) and the search for new investment opportunities outside the U.S. and Western Europe (Bygrave and Timmons, 1992; Dixit and Jayaraman, 2001). Private equity investments are regarded as considerably more risky and illiquid than other assets[99] and therefore are expected to compensate the investor with higher returns.[100] For those willing to bear such risk and illiquidity,[101] potential high returns are the major attraction of this asset class.

6.1 Data from VentureXpert

The most comprehensive information on returns to venture and buyout partnerships is available from Thomson VentureXpert, which has provided information on returns to limited partners for venture capital partnerships since 1969 and buyout partnerships since the early 1980s, as measured by the IRR. VentureXpert constructs IRRs using cash flow information from the audited financial statements provided by partnership management companies and LPs. IRRs for each partnership are based on capital contributions (negative cash flows), distributions to limited partners (positive cash flows), and a valuation of the assets that remain in the partnership (terminal value). Distributions to LPs, and therefore IRRs, are net of management fees and other partnership expenses. Returns to partnerships that have not yet been liquidated, which include the majority of the

98 See Chapter 2.3 for further details on the growth of private equity in Southeast Asia.

99 Cf. Pointdexter, 1975.

100 Investors are paid for the systematic, non-diversifiable risks they bear with greater returns. When an investor bears no risk, he or she should receive only the market risk-free rate of return. See Chapter 2.2.6 for further details on the investment size and the diversification of a fund portfolio.

101 Illiquidity does not categorically mean that the security cannot be sold at a certain point in time but rather for what price it can be sold (Bader, 1996).

partnerships formed in the last 15 years, reflect the valuation of a residual component comprising investments whose market values are unknown but are often reported at cost. The inclusion of such a valuation presents less of a problem for funds formed in the early 1990s, which have a relatively low residual value component, than for those formed in the late 1990s onwards. It can be expected that the residual value of recent returns will be biased downward and returns underestimated due to the fact that investments are recorded at cost and investments exited through the public markets are usually discounted by 20 per cent to 30 per cent (Fenn et al., 1995; Cumming and Walz, 2004). In certain cases the residual value may be biased upwards, for example, when general partners attempt to raise a follow-on fund. If their current investment portfolio is underperforming they may postpone writing down the assets until their follow-on fund is closed (Gompers and Lerner, 1997). Although such actions go against the standards set by organizations such as the NVCA, there is no policing body like the SEC to regulate and examine valuations (Cendrowski et al., 2008). Since the introduction of the EVCA reporting guidelines and a willingness by fund managers and investors to report – either voluntarily or being contractually bound – in accordance with these standards, Kemmerer and Weidig (2000) have uncovered an improvement in the reporting to private equity fund investors in recent years and thus in the quality of the published data.

The following analysis uses data provided by Thomson VentureXpert on the returns to LPs of private equity limited partnerships. The dataset presents the sample size for the respective year, the capitalization weighted IRRs, the pooled average IRRs, data on the highest and lowest achieved returns in the respective year, the median and the returns for the top and lower quartile. It covers the period from 1994 to 2009 for the Asian market and from 1972 to 2009 for the U.S. market. Samples of less than three are not displayed in the figure and simply marked as N/A but are included in the totals of the total return, the geometric average and the arithmetic mean. In order to perform calculations of geometric averages, values are converted to factors that represent the percentage returns during each period. This interim step is required for the calculation of the geometric average but is not displayed in the figures.

6.2 Private equity returns in Asia

6.2.1 All private equity returns in Asia

The VentureXpert dataset[102] on private equity in Asia covers a total of 103 partnerships. The sample size per year has steadily increased over the years but has slightly dropped since 2003. Samples of less than three are not displayed in the figure but are included in the totals at the bottom. Therefore it is not possible to calculate the totals based on the figures above. The capital weighted average[103] IRR over the last 15 years was 0.96 per cent, but returns varied considerably over the period, from an average high of 47.4 per cent in 1996 to a low of –48.7 per cent in 2008. The highest reported single return was 192.2 per cent in 1996 and the lowest a write-off of 100 per cent in 2002. The upper quartile reached an average return of 13.13 per cent over the last 15 years, with positive returns in every single year except 2000, 2002 and 2008.

6.2.2 Venture capital returns in Asia

The venture capital dataset for Asia covers a total of 45 partnerships. The sample size has remained very small over the years and has rarely exceeded the minimum sample size of three per year. Samples of less than three are not displayed in the figure but are included in the totals at the bottom. The totalled sample size and returns of the venture capital and the buyout figure may therefore not always match the numbers of the dataset including all private equity in Asia. The capital weighted average IRR over the last 15 years was 10.66 per cent. The returns, however, varied considerably from an average high of 102.5 per cent in 1996 to a low of –33.0 per cent in 2002. The highest reported single return was 192.2 per cent in 1996 and the lowest a write-off of a 100 per cent in 2002. The upper quartile reached an average return of 14.18 per cent over the last 15 years, with positive returns in each single year except in 2000, 2002 and 2008.

[102] VentureXpert dataset as of September 14, 2010.

[103] Arithmetic mean.

6.2.3 Buyout returns in Asia

The dataset on buyouts in Asia covers a total of 51 partnerships. The sample size has remained very small over the years. The capital weighted average IRR over the last 15 years was –0.67 per cent. Returns varied significantly over the years, from an average high of 35.6 in 2004 to a low of –55.6 per cent in 2008. The highest reported single return was 138.8 per cent in the year 2000 and the lowest was –98.5 per cent in 2008. The upper quartile reached an average return of 10.12 per cent over the last 15 years, with positive returns in every single year except 1998 and 2008.

6.3 Private equity returns in the U.S.

6.3.1 All private equity returns in the U.S.

The VentureXpert dataset on private equity in the U.S. covers a total of 16,722 partnerships. The sample size per year has continuously increased over the last 35 years, reaching over a 1,000 in 2004. Since 2007 it has slightly dropped to less than a thousand. Samples of less than three are not displayed in the figure but are included in the totals at the bottom. For the U.S. dataset this is not too important as the overall sample size is huge and the small sample size only accounts for the very first years of the data pooling. The capital weighted average IRR over the whole acquisition period was 12.01 per cent, but the returns varied considerably over the years from an average high of 72.9 per cent in 1980 to a low of –27.1 per cent in 1987. The highest reported single return was 1995.7 per cent in 1999 and the lowest several write-offs of 100 per cent since 1984. The upper quartile reached an average return of 22.74 per cent as of 1969, with positive returns in every single year except 1974, 2001, 2002 and 2008.

6.3.2. Venture capital returns in the U.S.

The venture capital dataset for the U.S. market covers a total of 11,598 partnerships. The sample size has steadily increased over the years, reaching 700 samples in 2004, but has decreased since. Samples of less than three are not displayed in the figure but are

included in the totals at the bottom. The totalled number of samples and returns on the venture capital and the buyout figure might therefore not always match the numbers of the dataset including all private equity in the U.S. The capital weighted average IRR over the last 35 years was 13.38 per cent. Returns, however, varied considerably over the years from an average high of 127.5 per cent in 1999 to a low of –26.5 per cent in 2001. The highest reported single return was 1995.7 per cent in 1999 and the lowest several write-offs of 100 per cent since 1984. The upper quartile reached an average return of 23.19 per cent over the last 35 years, with positive returns in every single year except in 1974, 2001, 2002 and 2008.

6.3.3 Buyout returns in the U.S.

The dataset on buyouts in the U.S. covers a total of 5,107 partnerships. The sample size has grown from four in 1983 to 375 in 2004, but has slightly decreased since. The capital weighted average buyout IRR over the last 26 years was 7.36 per cent. Returns varied considerably over the years from an average high of 48.9 per cent in 1989 to a low of –52.0 per cent in 1987. The highest reported single return was 1851.1 per cent in the year 2000 and the lowest several write-offs of 100 per cent since 1987. The upper quartile reached an average return of 16.28 per cent over the last 25 years, with positive returns in every single year.

Exhibit 14: All Asia private equity (time weighted returns using periodic IRRs)

Report Dates	**12/31/1981 to 12/31/2009**

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/93	12/31/94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/94	12/31/95	3	6.2	-18.3	-7.1	58.3	25.0	-8.3	-19.9	-31.5
12/31/95	12/31/96	5	49.6	47.4	34.8	192.2	41.2	13.8	0.6	0.4
12/31/96	12/31/97	4	3.2	9.0	-10.9	22.2	17.3	3.3	-10.9	-16.0
12/31/97	12/31/98	4	-9.7	-24.0	-24.8	25.1	9.4	-14.2	-28.8	-35.5
12/31/98	12/31/99	7	20.5	15.1	43.2	46.8	38.1	18.9	3.1	-2.9
12/31/99	12/31/00	8	4.0	-13.2	-13.3	138.8	-8.5	-12.6	-20.3	-24.1
12/31/00	12/31/01	8	-3.5	-6.0	-7.1	42.5	0.2	-0.7	-20.2	-26.3
12/31/01	12/31/02	10	-22.1	-15.1	-10.0	48.3	-3.5	-21.3	-30.2	-100.0
12/31/02	12/31/03	10	5.1	15.4	18.0	38.3	22.0	1.3	-10.5	-22.6
12/31/03	12/31/04	8	10.0	25.5	17.9	76.4	31.2	-1.7	-17.1	-21.2
12/31/04	12/31/05	7	6.9	10.0	9.4	46.3	19.3	2.4	-4.9	-29.4
12/31/05	12/31/06	7	11.9	4.6	4.6	60.0	28.1	1.1	-7.6	-18.5
12/31/06	12/31/07	8	-9.8	-14.9	36.6	86.8	19.3	-3.6	-47.7	-95.3
12/31/07	12/31/08	7	-50.9	-48.7	-36.2	-18.0	-18.6	-33.5	-85.7	-98.5
12/31/08	12/31/09	7	29.5	32.4	-0.1	90.4	66.4	18.2	-7.5	-8.9
Geometric	Average		0.77	-0.84	1.15	30.00	11.18	-1.49	-16.49	-100.00
Arithmetic	Mean		2.45	0.96	2.71	36.97	13.13	-0.69	-12.61	-20.56

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	All Private Equity Funds
Fund World Location	AS Asia

Type: Summary Performance Report, September 14, 2010

Exhibit 15: Asia venture capital (time weighted returns using periodic IRRs)

Report Dates	12/31/1981 to 12/31/2009

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/94	12/31/95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/95	12/31/96	3	68.8	102.5	58.2	192.2	103.0	13.8	7.1	0.4
12/31/96	12/31/97	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/97	12/31/98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/98	12/31/99	3	39.6	46.1	309.7	46.8	46.8	39.6	32.4	32.4
12/31/99	12/31/00	3	-13.8	-17.1	-17.8	-7.6	-8.7	-9.7	-16.9	-24.1
12/31/00	12/31/01	4	-6.9	-6.1	-9.1	-0.5	-0.6	-0.7	-10.2	-19.6
12/31/01	12/31/02	6	-40.8	-33.0	-27.4	-19.9	-20.1	-26.3	-52.4	-100.0
12/31/02	12/31/03	6	-1.2	9.8	12.3	25.0	12.4	-4.7	-12.6	-22.6
12/31/03	12/31/04	4	8.3	10.6	11.3	51.3	25.2	-1.7	-8.6	-14.6
12/31/04	12/31/05	3	5.5	3.7	3.7	12.0	7.2	2.4	2.2	2.1
12/31/05	12/31/06	3	6.5	11.3	13.4	21.9	11.5	1.1	-1.1	-3.4
12/31/06	12/31/07	4	-6.6	-3.8	14.6	25.2	19.3	4.9	-32.5	-61.5
12/31/07	12/31/08	3	-25.7	-28.8	-30.2	-18.0	-18.0	-25.7	-33.5	-33.5
12/31/08	12/31/09	3	16.8	26.8	12.8	42.5	42.5	16.8	-8.9	-8.9
Geometric	Average		5.36	7.43	10.97	14.76	11.30	4.75	-1.48	-100.00
Arithmetic	Mean		8.11	10.66	18.86	19.55	14.18	6.66	1.49	-2.74

Query History Detail

Selected Category	Selected Value
Primary Market	United States
PeType	Venture Funds
Fund World Location	AS Asia

Type: Summary Performance Report, September 14, 2010

Exhibit 16: Asia buyouts & mezzanine (time weighted returns using periodic IRRs)

Report Dates	**12/31/1981 to 12/31/2009**

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/95	12/31/96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/96	12/31/97	3	0.1	8.9	-12.2	22.2	8.1	-5.9	-10.9	-16.0
12/31/97	12/31/98	3	-21.3	-25.2	-28.0	-6.3	-14.2	-22.1	-28.8	-35.5
12/31/98	12/31/99	4	10.9	4.0	5.4	38.1	21.8	4.3	0.1	-2.9
12/31/99	12/31/00	5	14.7	-10.9	-8.7	138.8	-9.3	-15.5	-18.7	-22.0
12/31/00	12/31/01	4	-0.9	-5.9	-5.7	42.5	21.7	-10.0	-23.6	-26.3
12/31/01	12/31/02	4	5.9	-0.1	8.6	48.3	24.9	-1.1	-13.0	-22.6
12/31/02	12/31/03	4	14.6	20.0	23.5	38.3	30.1	11.7	-0.8	-3.1
12/31/03	12/31/04	4	11.7	35.6	23.5	76.4	43.8	-4.2	-20.4	-21.2
12/31/04	12/31/05	4	7.9	13.8	13.9	46.3	36.4	7.3	-20.7	-29.4
12/31/05	12/31/06	4	16.0	0.5	-1.4	60.0	47.1	11.2	-15.2	-18.5
12/31/06	12/31/07	4	-14.2	-20.9	64.5	86.8	26.4	-34.0	-64.6	-95.3
12/31/07	12/31/08	4	-67.6	-55.6	-37.5	-18.6	-52.1	-85.7	-92.1	-98.5
12/31/08	12/31/09	4	42.2	34.7	-2.9	90.4	90.4	42.2	-6.1	-6.1
Geometric	Average		-2.47	-2.68	-0.59	19.03	7.04	-8.91	-19.22	-30.60
Arithmetic	Mean		-0.13	-0.67	1.03	23.98	10.12	-4.48	-13.23	-16.17

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	Buyout and Mezzaine Funds
Fund World Location	AS Asia

Type: Summary Performance Report, September 14, 2010

Exhibit 17: All U.S. private equity (time weighted returns using periodic IRRs)

Report Dates	12/31/1969 to 12/31/2009

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/72	12/31/73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/73	12/31/74	3	-8.5	-17.2	-14.7	-	-0.7	-1.4	-12.7	-24.0
12/31/74	12/31/75	3	9.2	14.9	14.1	17.4	14.2	11.1	5.1	-0.9
12/31/75	12/31/76	4	7.3	11.3	21.7	35.0	21.0	2.5	-6.4	-10.8
12/31/76	12/31/77	4	10.6	13.5	18.1	23.8	21.3	10.4	-	-2.1
12/31/77	12/31/78	9	30.2	30.0	36.1	92.0	49.4	28.2	-1.1	-3.3
12/31/78	12/31/79	12	32.0	20.4	22.8	206.6	35.1	19.9	0.1	-15.2
12/31/79	12/31/80	19	48.5	72.9	36.6	328.7	46.4	23.2	7.9	-2.6
12/31/80	12/31/81	26	34.9	12.8	19.0	439.0	22.5	7.4	0.5	-14.8
12/31/81	12/31/82	36	22.2	17.0	30.0	200.8	29.3	11.6	2.0	-95.5
12/31/82	12/31/83	66	31.5	22.6	52.5	284.6	44.9	7.0	-1.2	-91.8
12/31/83	12/31/84	102	-2.0	-2.4	-4.4	85.3	3.3	-1.8	-9.7	-100.0
12/31/84	12/31/85	134	-0.2	-3.4	2.9	234.9	4.9	-	-9.0	-100.0
12/31/85	12/31/86	177	7.7	14.8	11.7	461.2	13.1	1.8	-3.6	-99.9
12/31/86	12/31/87	232	4.2	-27.1	9.6	276.4	11.6	0.4	-6.9	-100.0
12/31/87	12/31/88	287	3.3	17.3	17.6	152.2	9.4	-	-6.1	-89.5
12/31/88	12/31/89	350	1.8	29.8	13.9	167.7	12.0	0.9	-7.1	-92.3
12/31/89	12/31/90	379	1.8	-2.3	-4.3	282.7	8.0	-1.7	-10.6	-91.0
12/31/90	12/31/91	432	20.6	23.4	22.4	540.6	27.1	7.6	-4.4	-98.5
12/31/91	12/31/92	473	7.6	6.5	11.5	641.9	19.8	4.3	-9.7	-100.0
12/31/92	12/31/93	522	20.5	16.7	18.4	1,166.8	29.1	9.5	-6.3	-99.9
12/31/93	12/31/94	564	14.0	16.3	20.2	709.5	24.1	5.0	-10.2	-99.0

12/31/94	12/31/95	600	39.3	28.7	32.2	1,395.4	49.2	16.6	-1.2	-100.0
12/31/95	12/31/96	675	39.4	27.5	34.6	1,392.0	50.4	15.8	-2.9	-99.6
12/31/96	12/31/97	660	30.1	31.5	27.8	1,505.6	37.5	9.0	-9.0	-100.0
12/31/97	12/31/98	686	17.1	5.5	15.4	470.7	31.5	4.3	-11.8	-100.0
12/31/98	12/31/99	760	97.9	61.2	71.8	1,995.7	99.1	22.0	-2.8	-100.0
12/31/99	12/31/00	860	27.4	7.0	11.6	1,851.1	35.0	0.1	-20.4	-98.7
12/31/00	12/31/01	901	-13.4	-17.6	-20.4	1,404.7	-0.5	-20.1	-40.7	-100.0
12/31/01	12/31/02	891	-13.8	-11.9	-13.0	951.1	-1.1	-18.6	-38.1	-100.0
12/31/02	12/31/03	886	12.2	17.7	17.7	1,493.5	22.3	-0.2	-14.4	-99.8
12/31/03	12/31/04	1,076	15.2	17.2	18.3	1,807.7	24.5	3.2	-11.3	-98.5
12/31/04	12/31/05	1,055	16.9	16.9	21.0	578.1	23.7	6.0	-8.1	-100.0
12/31/05	12/31/06	1,028	21.9	17.2	20.9	868.5	31.4	9.8	-5.4	-100.0
12/31/06	12/31/07	973	19.4	11.7	18.1	1,049.5	34.6	9.2	-7.1	-100.0
12/31/07	12/31/08	928	-12.8	-22.7	-21.0	908.7	-0.1	-15.8	-30.1	-93.6
12/31/08	12/31/09	909	6.8	10.6	12.2	442.4	17.9	1.9	-8.6	-92.2
Geometric	Average		13.39	10.39	13.55	372.15	21.32	4.18	-8.49	-100.00
Arithmetic	Mean		14.96	12.01	14.98	611.76	22.74	4.66	-7.87	-70.68

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	All Private Equity Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

Exhibit 18: U.S. venture capital (time weighted returns using periodic IRRs)

Report Dates	12/31/1969 to 12/31/2009

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/72	12/31/73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/73	12/31/74	3	-8.5	-17.2	-14.7	-	-0.7	-1.4	-12.7	-24.0
12/31/74	12/31/75	3	9.2	14.9	14.1	17.4	14.2	11.1	5.1	-0.9
12/31/75	12/31/76	4	7.3	11.3	21.7	35.0	21.0	2.5	-6.4	-10.8
12/31/76	12/31/77	4	10.6	13.5	18.1	23.8	21.3	10.4	-	-2.1
12/31/77	12/31/78	9	30.2	30.0	36.1	92.0	49.4	28.2	-1.1	-3.3
12/31/78	12/31/79	12	32.0	20.4	22.8	206.6	35.1	19.9	0.1	-15.2
12/31/79	12/31/80	18	48.5	72.9	35.8	328.7	46.4	23.2	7.9	-2.6
12/31/80	12/31/81	25	36.8	15.2	20.1	439.0	22.5	7.4	0.7	-14.8
12/31/81	12/31/82	34	22.8	16.9	30.5	200.8	30.0	11.6	2.2	-95.5
12/31/82	12/31/83	62	32.8	25.1	54.9	284.6	44.9	7.9	-1.2	-91.8
12/31/83	12/31/84	97	-2.6	-3.3	-5.8	85.3	3.0	-2.0	-9.7	-100.0
12/31/84	12/31/85	126	-0.7	-3.1	-0.9	234.9	4.5	-0.6	-9.0	-100.0
12/31/85	12/31/86	159	6.0	2.3	4.8	461.2	11.6	1.7	-4.4	-99.9
12/31/86	12/31/87	202	3.6	1.9	6.1	90.8	11.7	-	-6.6	-99.4
12/31/87	12/31/88	246	1.8	-0.3	2.6	152.2	7.4	-0.4	-6.2	-89.5
12/31/88	12/31/89	294	0.7	2.1	5.3	87.5	10.4	0.6	-8.9	-77.3
12/31/89	12/31/90	315	1.8	3.1	2.9	282.7	7.7	-2.1	-10.9	-78.1
12/31/90	12/31/91	361	21.4	24.8	22.8	540.6	27.4	8.5	-4.6	-49.6
12/31/91	12/31/92	387	8.5	11.4	15.1	641.9	20.9	3.3	-9.9	-100.0
12/31/92	12/31/93	410	20.0	16.8	19.3	1,166.8	30.2	9.3	-7.1	-99.3
12/31/93	12/31/94	439	14.1	9.9	14.6	709.5	24.4	3.4	-13.1	-99.0

12/31/94	12/31/95	450	45.1	46.0	50.0	711.6	56.6	19.4	-0.9	-100.0
12/31/95	12/31/96	476	44.5	44.8	43.0	1,392.0	57.2	18.7	-2.7	-99.6
12/31/96	12/31/97	454	28.9	27.7	33.4	1,505.6	35.5	6.7	-12.1	-100.0
12/31/97	12/31/98	443	20.0	10.8	18.8	470.7	33.5	4.0	-11.6	-89.4
12/31/98	12/31/99	494	134.5	127.6	183.0	1,995.7	138.6	37.2	-1.5	-100.0
12/31/99	12/31/00	542	36.9	16.9	27.1	1,355.9	52.8	1.8	-22.4	-98.7
12/31/00	12/31/01	559	-18.8	-26.5	-34.4	1,404.7	-9.7	-26.2	-47.8	-100.0
12/31/01	12/31/02	552	-20.8	-26.2	-29.7	951.1	-11.0	-28.1	-45.3	-100.0
12/31/02	12/31/03	553	10.1	11.4	6.5	1,493.5	14.7	-4.9	-19.9	-99.8
12/31/03	12/31/04	700	10.2	7.4	14.9	687.2	18.5	-	-13.2	-98.5
12/31/04	12/31/05	698	12.0	11.1	12.7	485.6	17.1	1.5	-11.6	-100.0
12/31/05	12/31/06	670	22.0	16.2	17.6	868.5	29.0	6.9	-8.1	-93.2
12/31/06	12/31/07	622	15.2	17.2	19.5	316.3	30.2	6.9	-7.7	-100.0
12/31/07	12/31/08	595	-9.6	-12.9	-16.2	908.7	-1.2	-15.5	-28.7	-85.2
12/31/08	12/31/09	580	2.2	3.0	4.4	442.4	14.1	-0.4	-12.7	-89.5
Geometric	Average		13.44	10.99	13.49	327.36	21.03	3.48	-9.74	-100.00
Arithmetic	Mean		15.65	13.38	16.82	526.98	23.19	4.20	-8.89	-68.01

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	Venture Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

Exhibit 19: U.S. buyouts & mezzanine (time weighted returns using periodic IRRs)

Report Dates	12/31/1969 to 12/31/2009

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/81	12/31/82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12/31/82	12/31/83	4	11.9	7.3	29.1	50.8	25.4	-0.1	-1.6	-3.2
12/31/83	12/31/84	5	8.4	4.2	6.5	36.7	27.8	0.8	-9.4	-14.0
12/31/84	12/31/85	8	8.2	-4.9	33.4	70.9	16.3	10.1	-12.0	-32.2
12/31/85	12/31/86	18	22.6	34.9	23.9	113.3	39.0	7.8	-	-22.3
12/31/86	12/31/87	30	7.9	-52.0	15.2	276.4	11.0	3.3	-10.0	-100.0
12/31/87	12/31/88	41	13.4	30.8	37.0	114.8	22.3	10.6	-3.6	-81.7
12/31/88	12/31/89	56	7.2	48.9	23.4	167.7	14.4	6.5	-1.4	-92.3
12/31/89	12/31/90	64	2.1	-6.1	-10.3	220.5	8.9	-0.8	-9.0	-91.0
12/31/90	12/31/91	71	16.1	22.2	22.1	311.8	23.0	7.2	-2.7	-98.5
12/31/91	12/31/92	86	3.5	2.7	8.4	119.5	13.8	5.1	-6.9	-100.0
12/31/92	12/31/93	112	22.5	16.7	17.6	531.5	26.3	9.8	-1.7	-99.9
12/31/93	12/31/94	125	13.9	21.0	24.2	220.9	22.9	7.2	-4.1	-72.9

12/31/94	12/31/95	150	21.3	17.3	21.3	1,395.4	26.7	9.3	-2.1	-100.0
12/31/95	12/31/96	199	26.6	19.5	30.1	1,349.9	31.4	14.8	-3.7	-96.8
12/31/96	12/31/97	206	32.9	33.1	25.1	1,004.5	42.5	15.1	-2.2	-100.0
12/31/97	12/31/98	242	11.8	3.4	13.9	455.9	28.1	5.3	-11.8	-100.0
12/31/98	12/31/99	264	29.8	30.1	28.2	715.7	37.5	7.9	-4.8	-99.9
12/31/99	12/31/00	315	11.4	1.6	2.7	1,851.1	19.0	-1.3	-15.9	-97.6
12/31/00	12/31/01	340	-4.4	-13.2	-12.0	1,367.0	6.4	-7.1	-27.6	-100.0
12/31/01	12/31/02	338	-1.8	-4.3	-5.2	793.1	6.8	-3.8	-21.4	-100.0
12/31/02	12/31/03	331	15.7	21.0	21.9	609.1	30.9	7.7	-4.9	-90.8
12/31/03	12/31/04	375	22.8	21.8	19.6	1,807.7	28.5	10.4	-4.8	-96.1
12/31/04	12/31/05	356	24.8	19.5	24.6	578.1	34.4	14.9	-0.1	-99.7
12/31/05	12/31/06	358	21.9	17.6	22.0	784.4	37.8	14.0	-1.7	-100.0
12/31/06	12/31/07	351	24.8	10.2	17.7	1,049.5	36.7	12.2	-6.1	-100.0
12/31/07	12/31/08	333	-16.8	-25.2	-22.1	90.0	0.7	-16.2	-34.0	-93.6
12/31/08	12/31/09	329	12.1	12.5	14.0	408.2	22.4	7.6	-4.2	-92.2
Geometric	Average		8.63	5.71	26.11	205.62	15.35	3.68	-5.85	-100.00
Arithmetic	Mean		9.25	7.36	586.77	412.62	16.28	3.94	-5.49	-57.17

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	Buyout and Mezzaine Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

6.4 Comparison and analysis of returns

6.4.1 Returns in the context of the global economic climate

The Asian and U.S. private equity industries show similar patterns of good and bad returns between 1994 and 2009 (Exhibit 20). Both markets achieved remarkable returns during economic booms and sustained losses in economic downturns.[104] The Asian private equity market was first hit by the Asian financial crisis in 1998, achieving a capital weighted annual return of –24.0 per cent. The U.S. private equity industry still managed to achieve a return of 6.3 per cent that year, as the financial crisis predominantly hit Asia. The private equity markets in both regions were starting to recover in 1999, when the dotcom bubble burst in early 2000 and severely hit both markets. On Monday, March 13, 2000, the NASDAQ composite dropped from 5,038 to 4,879 points in a single day, a one-day return of –3.2 per cent. The market briefly recovered before re-entering a slump in the third quarter of 2000. The crash was particularly disastrous for the venture capital market globally. Both markets saw negative returns for over two consecutive years.

For several years thereafter, the pulse of the entire industry was weak both in Asia and the U.S., until it finally began to recover in 2003. In the years 2003-2007, investments and returns in the venture capital and buyout industry continued to grow. Returns in the buyout sector grew more strongly, while venture capital continued to recover from the dotcom debacle, before the whole private equity industry entered the global financial crisis of 2007-2008. According to the VentureXpert dataset, Asian private equity returns had already turned negative in 2007, while the U.S. market was hit one year later. According to data from APER (Asia Private Equity Review, 2008f), the Asia private equity market was mainly hit in the second half of 2008, when Lehman Brothers collapsed and several financial institutions around the world had to be bailed out by their governments. The Asian and the U.S. market showed a negative average return of –48.7 and –22.7 per cent respectively.

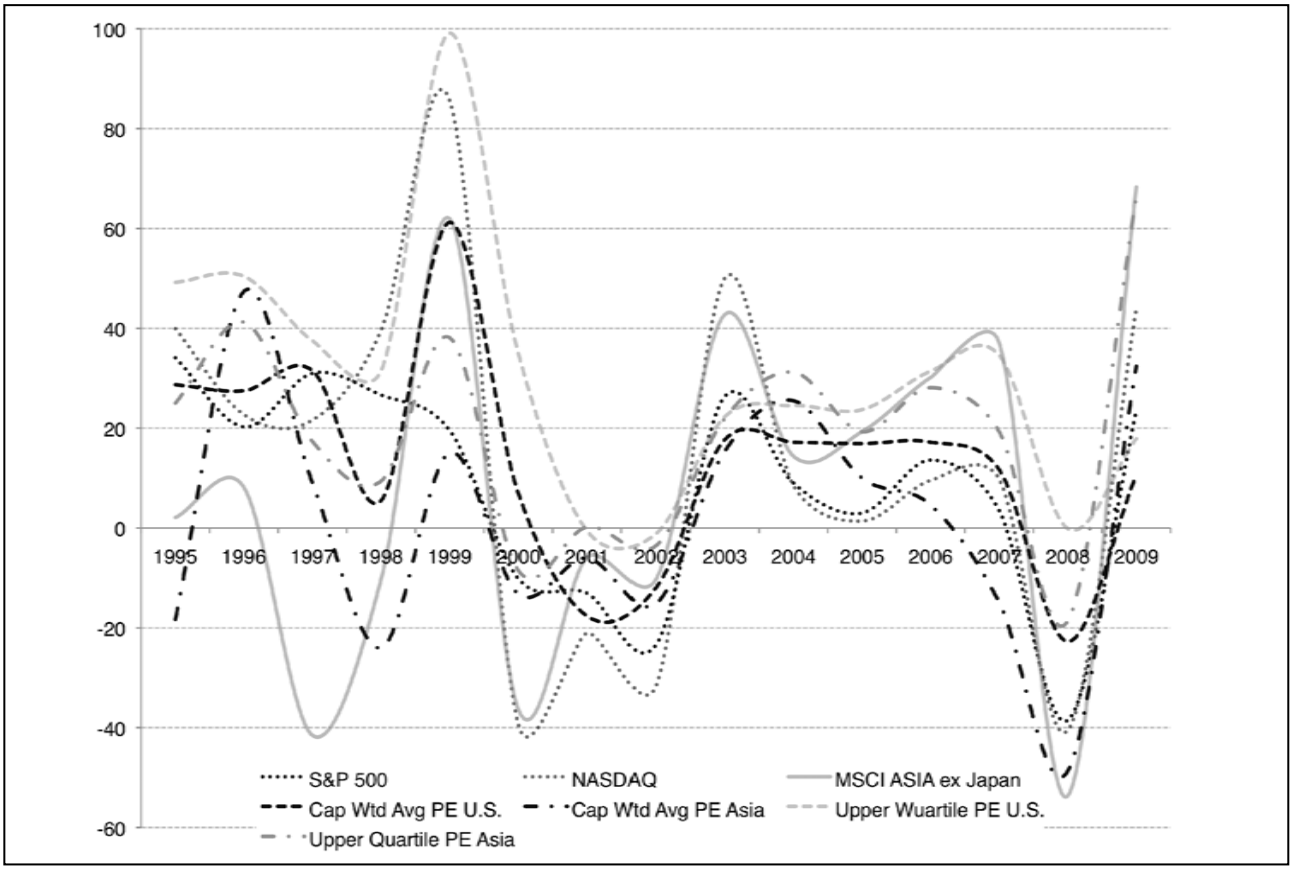
According to the VentureXpert dataset, the global financial crisis has had the most severe negative impact on private equity worldwide.[105] As described in chapter 2.3, private equity

[104] Cf. Gottschalg et al., (2004); Kaplan and Schoar, (2005).

[105] For further details concerning the private equity market in Asia see Chapter 2.3.1.

activity literally came to a standstill in 2008. Since early 2009, fundraising, investing and exiting are slowly making up lost ground. Return numbers, nonetheless, seem to have recovered fast since the lowest point of the crisis, but the data mostly reflects the re-evaluation of the assets (portfolio valuation by market-to-market regulations) and does not show effectively realized returns.[106] LPs and GPs interviewed expect private equity to pick up subject to the recovery of the global economy. They assume that the industry will only fully recover if it is able to regain investors' trust and show sustainable returns in the post-crisis era.

Exhibit 20: Asia and U.S. PE average and top quartile returns in comparison to the S&P 500, the NASDAQ composite and the MSCI Asia ex Japan index



Source: VentureXpert and Bloomberg.

[106] Private equity firms do not manage their portfolio businesses for quarterly earnings. The objective is to create value over years, not quarters. Quarterly valuations therefore provide a very limited snapshot of what is truly happening in a portfolio, the more so as there were very few exits and therefore few distributions in 2009.

6.4.2 Returns of the Asian private equity market compared with the U.S. market

Asia private equity returns in absolute numbers are below of those of the U.S. market. The Asian market achieved an arithmetic mean of 0.96[107] per cent over the data period and a return of 4.82[108] per cent, excluding the disastrous results in 2008, while the U.S. market reached an arithmetic mean of 13.37 per cent and 15.94[109] per cent respectively over the same period. Even though the Asian private equity market showed better results for 1996, 2001, 2004 and 2009, the U.S. market outperformed the Asian market and performed more consistently. The Asian market achieved highly positive IRRs of 192.2 and 138.8 per cent in 1996 and 2000 respectively, but never reached the heights seen in the U.S. of 1995.7 and 1851.1 for venture capital and buyout investments in 1998 and 2000. If we compare the upper quartile results, the Asian returns only exceeded the U.S. returns in 2001, 2004 and 2009. The Asian market achieved an average return for the upper quartile[110] of 13.13 per cent, while the U.S. market scored an average of 30.36 per cent

[107] Cambridge Associates (2009a) published a 10-year pooled end-to-end return from April 1, 1999 to March 31, 2009 for Asia excluding Japan of 2.4 per cent, net of fees, expenses and carried interest. Interviewees confirmed that average returns in Southeast Asia are very likely in the small single digits.

[108] Author's own calculation based on the VentureXpert dataset.

[109] Author's own calculation based on the VentureXpert dataset.

[110] It is traditional for practitioners when evaluating private equity funds, and the returns of the asset class as a whole, to use the upper quartile year return (Fraser, 2006). This would seem to confer an obvious advantage if one takes only the top performing 25 per cent of the population at first, but Fraser (2006) argues that it is effectively not the case. First, there is a huge variation in terms of quality between private equity firms, and there is an art to discerning these. As a result, most experienced investors, such as FoF, are able to pick upper quartile funds consistently. Given the huge variation in results, even within the upper quartile this can be achieved probably with no more than 60 per cent upper quartile picks by number. According to Fraser's experience, it is possible for an experienced FoF to get above 70 per cent upper quartile picks by number over a period of many years. Aigner, Albrecht, Beyschlag, Friedrich, Kalepky, and Zagst (2008) are less optimistic but still calculate the probability of achieving a top-quartile performance of more than 40 per cent, which is quite considerable, taking into account that, by pure chance, the probability ought to be 25 per cent. Therefore, if one is attempting to copy the effect of investing with an experienced FoF, the upper quartile is an appropriate measure to take. Secondly, it is often overlooked that the upper quartile return referred to is not the pooled IRR of all the funds in the upper quartile but the IRR of the individual fund that stands at the boundary of the upper quartile. Thirdly, many of the funds included in the VentureXpert dataset for the sake of completeness are not institutional investment grade. The VentureXpert population is put together with the aim of capturing as

over the same period. Moreover, the median[111] of –0.69 per cent for the Asian market compared to the 2.88[112] per cent of the U.S. market shows that the U.S. private equity market delivered more consistent and compelling results than Asia, without the risk factors.

Data published by Cambridge Associates (2009b) on top quartile private equity fund performance for Asia and U.S. funds, concludes that top quartile Asia private equity funds outperformed top quartile U.S. funds for the vintage years[113] 2004-2007. Unfortunately, Cambridge Associates does not say on how many fund records they base their performance calculation. As few private equity managers ever disclose any performance data[114] in the region it can be assumed that the dataset is rather small. Data from VentureXpert supports Cambridge Associates' argument that U.S. top quartile underperformed Asia top quartile vintage years in 2004, 2005 and 2006, but clearly contradicts the presumption for 2007. CalPERS' Asia private equity funds[115] outperformed U.S. top quartile funds in the vintage years 2000, 2001, 2003 and 2005, but lagged behind the U.S. top quartile performance for the most recent vintage years 2006, 2007 and 2008.

much private equity activity as possible, but does not necessarily represent the actual population from which institutional investors can choose their commitments.

111 Further to the argument of the upper quartile as an appropriate measure, the median and average figures are even more unrealistic as a valid industry benchmark. Refer to Chapter 4.1.2 for a discussion on different statistical methods to analyse private equity behaviour.

112 Author's own calculation based on the VentureXpert dataset.

113 The IRR to date (or to the date when the fund was finally closed) from the year in which the fund was formed gives the vintage year return.

114 Most of the 33 GPs interviewed said that they do not disclose any data at all. They therefore assume that most data published on private equity in Asia covers only a very small part of the market and therefore is more indicative than anything else.

115 CalPERS (2010) is currently invested in 24 Asian funds (updated September 2010).

Exhibit 21: Vintage years IRRs (top quartile)

From	To	U.S. PE (CA)	Asia PE (CA)	U.S. PE (VXpert)	CalPERS PE Asia*	CalPERS overall
12/31/99	12/31/00			7.00	17.33	7.90
12/31/00	12/31/01			11.30	16.09	13.40
12/31/01	12/31/02			12.10	N/A	14.60
12/31/02	12/31/03			12.20	21.95	23.80
12/31/03	12/31/04	11.3	16.5	11.70	N/A	15.80
12/31/04	12/31/05	5.0	8.4	8.10	10.40	5.80
12/31/05	12/31/06	3.7	4.3	1.20	0.47	N/M
12/31/06	12/31/07	-6.3	-3.6	5.80	1.68	N/M
12/31/07	12/31/08			3.50	-5.42	N/M**

***Author's own calculation based on CalPERS' AIM Program Fund Performance Review data.**
****IRR for funds formed during or after a vintage year of 2006 are considered by CalPERS as not meaningful.**
(CA) Cambridge Associates (June 2009); (VXpert) VentureXpert (Sept 2010); (CalPERS) The California Public Employees' Retirement System (Sept 2010)

Cambridge Associates' calculation that Asia's top quartile vintage funds outperformed U.S. top quartile vintage funds in recent years is probable,[116] as Asia fund market data is less comprehensive than U.S. market data, and VentureXpert's Asia top quartile annual returns also outperformed U.S. top quartile returns in 2001, 2004 and 2009. According to the interviewees, various funds in Asia achieved at least three times gross multiple in recent years. Vintage year outperformance of immature funds, however, does not allow us to assume that Asia's private equity industry overall started outperforming the private equity market in the West. As described in Chapter 4.1, private equity investments follow a J-curve. If a private equity fund were to be valued, for example, in year 2, whether on a vintage year or an annual basis, it would show the same sort of negative return regardless of whether it was the best private equity fund in history or the worst. It is almost impossible to gain any meaningful insight into the performance of a fund until it is at least five years

[116] Cf. Prahl (2010b), Fraser-Sampson (2007).

old,[117] and even then this will only be an indication, not a guaranteed outcome.[118] Particularly in Asia, where investors have entered the asset class only within the last five to ten years or so, there are very few investors who have a fully mature programme to date.

Few GPs have been active in the region for more than 10 years and all of those interviewed had not been reporting performance data to any private equity data provider. A small number of GPs agreed to disclose confidential data on their portfolio company investments for this research project. GPs who could not provide specific data on their portfolio company investments for reasons of confidentiality or a lack of a track record, mostly revealed numbers on their fund's performance. Even though the details on portfolio companies and funds only represent about 20 per cent of the GPs active in the region, and thus is not representative of the market by a long way, some basic conclusions can be drawn.[119]

Based on the data analyzed, a portfolio of a successful GP in Southeast Asia consists of at least a third of very successful investments, achieving cash multiples of various magnitudes. Another third represents portfolio companies which manage to return the money invested, including fees. The remaining third represents unsuccessful investments – write-downs close to a 100 per cent are not uncommon. Many GPs said that the high rate of failure for growth and buyout investments reminded them of the risk profile of the venture capital industry in the U.S.[120] Academics in the region were reluctant to draw such a comparison. For Asia as a whole they assumed that the risk of failure of growth and buyout investments was higher than in the West but certainly lower than for venture capital investments in the U.S., adding that the particular risk profile varies from country to country. The data provided by GPs showed multiples up to 24 for single

[117] Five years in the case of a buy-out fund and about eight years for a venture fund (Fraser, 2006).

[118] CalPERS follows this line of argument and does not publish any IRRs formed during or after the vintage year of 2006 (CalPERS, 2010).

[119] It can be assumed that most interviewed experts were top managers and best positioned to generate above-average rate returns.

[120] Cf. Nahata (2004) with write-offs for the early stage of about 40 per cent.

investments; multiples ranged from two to three times investment for their funds.[121] This corresponds to an IRR in the lower teens to late teens. Investors asserted that a 2.5 times multiple and an IRR of almost 20 per cent was regarded as top performance in the region. This corresponds to the top quartile performance of 13.13 per cent in Asia of the VentureXpert dataset. Evidently, certain Asian GPs have managed not only to exit individual portfolio companies at attractive returns but also to achieve a strong fund performance, while the average performance data was obviously not telling the full story.

Many international investors who have committed capital to private equity in Asia hope to achieve risk-adjusted returns[122] that exceed those in the West. However, one has to remember that Asia is not a large homogenous region but a vast and complex geography – home to more than half of the world's population – with individual country markets that differ socially, politically and economically (Lim, 2008). In the quest for risk-adjusted returns it is often implicitly assumed that because it is Asia, the risk will inevitably be greater than elsewhere and can only be justified if a suitable premium over returns in the West can be generated. Depending on where you are invested in Asia, however, there may be no reason to assume the existence of a risk premium. Many emerging Asian economies show brighter economic fundamentals than many countries in the West. Markets like Singapore and Hong Kong, for example, have infrastructures that are superior to many cities in Europe as well as transparent legal systems and regulatory regimes that favour foreign investors – in other words, these markets are at least as efficient as many of their Western counterparts. Hence expectations of risk-adjusted returns are misplaced.

So while in theory emerging Asia should offer higher risk-adjusted returns than in the West, the reality is somewhat different. Interviewees confirmed that private equity in Southeast Asia does not favour too much leverage, particularly as GPs do not want to put

[121] Corresponding with Prahl (2010b), who calculates an expected fund return of 2.7x gross multiple for Southeast Asia.

[122] According to Coller Capital and EMPEA, institutional investors expect a risk premium over developed buyout markets of between 6 to 7 per cent (Prahl, 2010a). In developed markets, buyout IRRs have historically been in the range of 12 to 16 per cent net of fees, corresponding to ~2x gross multiple, which means that Asian developing markets are expected to achieve an IRR in the range of 18 to 23 per cent, corresponding to ~2.5x gross multiple (Cf. Prahl, 2010b).

firms in danger due to the greater volatility of the markets than in the West.[123] This not only limits the downside of an investment but also its possible upside. The return curve of private equity is skewed to the right, as described in Chapter 4.1.2. This conservative approach to investing consequently lowers the average return achieved in the region. So far, even big funds have had no real scale effect in Southeast Asia, and this will persist unless larger deals come by. From our interviewees' statements, it can be concluded that the perception held by Western investors of a risk premium is largely subjective, mainly based on single instances of extraordinary returns, hence generally too high and in need of adjustment. Even if the environment in particular cases is riskier than elsewhere, it should not be assumed that higher returns can be achieved as a matter of course. Investors must first fully understand Asia before they will be happy with their returns.

6.4.3 Returns benchmarked to publicly traded equity

It is impossible to determine in absolute terms whether a particular IRR of an Asia private equity fund should be considered good or bad per se; rather, the question should be «good or bad relative to what?» One approach to this problem is to benchmark private equity investments against the returns of similar stock market investments. In doing so, however, it has to be considered that private equity and stock market investments differ fundamentally on the key determinants of investment risk, such as the average size and age of the company, the degree of financial leverage – particularly relevant in the buyout segment – and also the timing of cash flows and the illiquidity of these two investment alternatives.[124] The difficulty of assessing whether the performance of a given private equity fund is better or worse than the returns of the NASDAQ composite, S&P 500 or MSCI Asia ex Japan index over a comparable time period therefore remains.

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123 A GP in Southeast Asia who explained his investment strategy for emerging markets said that many inexperienced private equity firms in the region face refinancing challenges. Many deals before 2007 were financed with excessive leverage and optimistic assumptions about cash flows to service that debt. He expects that some of these companies will have a hard time tapping the dept and equity markets to ease their debt loans. Inevitably, some will go bankrupt or end up in an out-of-court restructuring. Others will need to complete a distressed exchange, whereby some of the dept is cancelled, to reinforce their capital structure.

124 Cf. Lerner (2008).

According to Gottschalg (2006), the question of how private equity funds performed historically compared to investments in the public markets can only be partially answered. To date, data on private equity investments of a sufficient depth and breath to conduct an accurate, unbiased and comprehensive performance comparison is largely unavailable, particularly for Asia.[125] Nevertheless, findings from various studies in the U.S. and limited data from Asia allow a number of important conclusions to be drawn. General claims that private equity historically offered higher returns than the stock markets are unfounded and should be called into question. The majority of the broader studies report the net-of-fee performance of private equity to be either below (Zollo and Phalippou, 2005; Phalippou and Gottschalg, 2006) or not very different from (Bygrave and Timmons, 1992; Kaplan and Schoar, 2005) those of stock market investments. Studies that do report substantial outperformance either look at smaller samples for a sub-segment of the private equity market or look exclusively at investments made by funds that were selected by a sophisticated LP such as Ljungqvist and Richardson (2003b). Importantly, none of these studies quantify the less attractive features of private equity, such as the illiquidity and the unpredictable nature of cash flows, in their analysis. If these were to be considered, they would lead to an additional discount on private equity returns that would further reduce the relative performance of this asset class.

[125] Fraser (2006) argues that, at least for the U.S. private equity market, an accepted and respected set of benchmarks exists, namely datasets from Thomson Financial (today Thomson Reuters). He says that Thomson Financial is a long-established and highly professional organization and the data within their system goes back to 1969 for the U.S., although he admits that it does not become truly meaningful until 1988 for any of the private equity sub-sectors. However, this is a period of more than 20 years and the figures are accepted as an industry benchmark, and also by academics.

If Asia private equity pooled average returns[126] and top quartile returns are compared to the MSCI Asia ex Japan index for the years 1994 to 2009, the following numeric values are obtained:

Exhibit 22: Asia PE returns versus public traded equity (1994-2009)

From	To	Asia PE (Pooled Avg)	Asia PE (TQ)	MSCI Asia ex Japan
12/31/94	12/31/09	2.71	13.13	2.11

Source: VentureXpert, Bloomberg.

While the figures above are not a precise assessment of the returns that can be earned, they indicate that on average private equity investments did not outperform the local stock market. It should be added that, over the last 10 years,[127] returns on stock markets[128] have practically reached zero; this applies to a good many of the relevant asset categories unless the selected investment contained some sort of additional risk (Hummler, 2010). Given that very many deliberate investment decisions are made pro-cyclically,[129] it is more than likely to be the case that a large number of investors have been waiting a very long time for an adequate return on their capital.

126 This calculation involves treating all funds as a single fund by summing their monthly cash flows together. This cash flow series is then used to calculate an IRR. A large cash flow, whether positive or negative, will have a disproportionate effect, just as the returns of a large fund will have a disproportionate effect within a capital weighted average.

127 January 1999 – January 2010.

128 Regional total-return indices in local currencies; S&P 500 for the U.S., SPI for Switzerland and DAX for Germany.

129 See Chapter 6.5.4 for pro-cyclical investment decisions.

6.4.4 Degree of correlation with quoted equity markets

To measure the correlation of private equity returns with quoted equity I use annual returns. As can be seen from the table, private equity exhibits a positive correlation with quoted public markets, but at a fairly low level.

Exhibit 23: Correlation between PE annual returns and quoted equities

Upper quartile U.S. correlation with NASDAQ	79.96%
Upper quartile U.S. correlation with S&P 500	58.91%
Capital-weighted average correlation with NASDAQ	72.71%
Capital-weighted average correlation with S&P 500	74.74%
Upper quartile Asia correlation with MSCI Asia ex Japan	79.75%
Capital-weighted average correlatuion with MSCI Asia ex Japan	58.24%

Source: Own calculation based on data from VentureXpert.

Private equity is a highly cyclical industry, with periods of easy financing availability often in response to the success of earlier transactions, leading to an acceleration of deal volume, greater use of leverage, higher valuations and ultimately to more troubled investments (Bernstein, Lerner, Sorensen, Strömberg, 2010). This pattern is corroborated by several academic studies (Kaplan and Stein, 1993; Kaplan and Schoar, 2005; Axelson, Jenkinson, Strömberg, and Wiesbach, 2009). Gottschalg et al. (2004) argue that private equity performance not only depends on the pattern described but that performance is pro-cyclical relative to public markets. When the IPO market is active, or when earnings are relatively low compared to stock prices, private equity performance is significantly higher. Price multiples are substantial when investments are exited as public market valuation levels are used at the time of the IPO or the trade sale. Hence, private equity performance is highly dependent on the valuation levels in the public stock markets and therefore shows a pro-cyclical correlation with the latter, all the same in Asia.[130]

[130] See Chapter 6.4.1 for returns in the context of the global economic climate.

6.5 Determinants of private equity returns in Asia

Private equity returns run in cycles, as mentioned above, and these are strongly influenced by market conditions, credit markets, company valuations, liquidity for exits and M&A activity (Lovejoy, 2008), but also by factors such as the amount of money looking for exposure to the asset class, investment opportunities, management quality, and sophistication (Prahl, 2010a). These are growth drivers, some of which apply universally, while others exclusively to Asia.

6.5.1 Macroeconomic growth

Asia is home to three of the world's largest economies[131] and more than half of the world's population today (Prahl, 2010a). A rise in income levels, improved life expectancy, high saving rates and a prevailing low cost structure in the region have turned it into a powerhouse of the global economy. In recent years, much of emerging Asia has diversified well beyond its traditional export and manufacturing base, developing consumer markets and a strongly growing service industry as interview partners said. The region's resilience to and swift recovery from the recent global financial crisis underscores its growing influence in the world economy.[132]

Macroeconomic growth is an important factor driving private equity investments and exits (Aigner et al., 2008). In the case of Asia, economic growth has been exponential for several years,[133] driving both top-line and bottom-line growth, thereby providing tremendous impetus for private equity investment in the region. Interviewees expect that an increasing number of investments continues to exploit the unfulfilled demand for financial and particularly intellectual capital due to the prevailing structural inefficiencies and contextual differences to the West, which constrain managerial capacity, and other latent catalysts for improving investments.

[131] Japan, China, India.

[132] Cf. Asian Development Outlook 2010 (ADB, 2010)

[133] Cf. SCM (2008) and Thomann (2010).

6.5.2 Investment opportunities

Economic growth combined with the privatization of the economies in Southeast Asia has generated an increasing number of private investment opportunities. Opportunities with lower risks and higher return potential, however, are the preserve of those who truly understand the risks and are capable of picking the right deals. In Asia, the private equity market is still in its infancy and companies are still rarely put through any kind of auction process.[134] The ability to source deals proactively and to transact deals on an exclusive basis is still very much alive in Southeast Asia, even though it is expected to change fast, whereas it has largely disappeared in the West.

Investment opportunities in Asia fall into two broad categories: export-driven industries that cater for the global market, and those which serve the burgeoning regional and domestic markets (Prahl, 2010a). Findings indicate that those industries that serve the fast growing regional and domestic markets are of greatest interest for future investments particularly as whole of Asia is moving towards a supersize economic zone. GPs already invested across the region in the past in order not to limit the upside of private equity investing as good opportunities in a single country are rare and all the more today regarding cross-border mergers and acquisitions[135] and exit opportunities.

Research findings indicate that Southeast Asia is mainly a market for later stage deals.[136] Not only are seed and early-stage investments very risky but also risks in emerging markets, particularly in terms of moral hazards, differ in nature from those encountered when investing in start-ups in the U.S. and Europe. When investing in growth or later stage companies the market has already screened the legitimacy of the ventures, the target companies have mostly already shown a profit, and the market has validated the business concept and the entrepreneurial creativity.[137] At investors evaluation the early stage

[134] Interviewees said that this is rapidly changing and as the size of deals increases, companies are increasingly sold through auction processes.

[135] The consolidation process is still in its infancy, and the size of the business units involved rarely gives rise to any serious monopoly problems.

[136] Cf. Naqi and Hettihewa (2007).

[137] Cf. Lerner et al. (2009).

market in Asia is therefore dominated by government venture capital funds which are particularly geared towards attracting and promoting specific industries to the region.

Even though Asia has fast recovered from the recent financial crisis and economists expect it to continue to grow at high rates – across much of Asia the fundamentals are in place for buoyant growth – the investment climate has changed. Before the crisis, it was possible to invest in any top 20 company in almost any industry as the economy of the entire region was growing exponentially. Today, not all industries are prospering anymore and investments must therefore be more carefully selected than in the past.[138] Interviewees caution against rushing into private equity deals,[139] for they are convinced that only quality of the buy drives top returns.[140] These days it is neither realistic nor feasible for any investors to act solely as financiers since maximum value in an increasing competitive environment can only be captured when inventors are able to add key pieces besides financing to the build-up of investee companies.

According to the interviewees' experience investors in general should be careful about investing in state-owned enterprises (SOE). While there are a few very successful investment cases, they are not the rule. There is no doubt that investing in such companies can build relationships, which are very important for doing business in Asia (although investors in the region like to say that one has to get married in order to secure that good relationship) but it also bears a high level of risk.

Investing in SOEs involves several challenges. Government-owned companies tend to lack transparency; even management may not know exactly which subsidiaries effectively belong to the company and where the cash flows, which implies hidden risks. SOEs typically involve strong local minority shareholders, who benefit from having the government as main shareholder and thus are unwilling to relinquish their favorable position. State-owned enterprises tend to be sold if they operate at a loss and the

138 Cf. Malmgren (2010).

139 Cf. Zhang (2002).

140 Warburg Pincus, one of the most successful high-profile firms in Asia, makes on average only one investment a year (Singh, Singh, and Jadeja, 2005; Tannon, 2006).

government sees an opportunity to cut its losses by selling to investors with industry expertise. Other reasons to sell include retaining jobs and pension schemes which governments are no longer able to fund. Other challenges include new regulations and laws, such as the anti-corruption law in Indonesia, which hamper decision-making and may delay investment by several years. According to one interviewee's experience, such investments can only work as long as the government is the «gatekeeper» and interests can be aligned, but changes in government can lead to a resumption of enquiries into earlier decisions and lead to a drain on government properties.

6.5.3 Improving management quality

The findings from the interviews suggest that strong and cohesive management teams provide a significant strategic advantage and are crucial to the generation of extraordinary returns. In recent years, a new class of private equity firms has emerged in Southeast Asia with a more professional style of management. With mixed investment teams comprised of Westerners and locals with a Western education background and training, the implementation of state-of-the-art U.S. investment standards, an increasingly «hands-on» investment approach and adaptation to the local context, a safer environment for investments has emerged. Empirical evidence shows that foreign investors must consider whether to link up with purely «foreign» or «local» partners. While the former are likely to be able to adapt only to a limited degree to the local context, the latter may lack practical experience in following a disciplined investment framework over the whole private equity investment cycle. After years spent abroad, returnees, despite their local look and language knowledge, tend to overstate their local competitive advantage as they fail to realize that they are no longer regarded as such. Experience among LPs suggests that, based on their culture of relationships, locals rely more on gut feeling than logical analysis for their investment decisions. Furthermore, they have a different risk perception because they are used to uncertainties, and tend to downplay risk compared with conservative foreign investors. In extreme cases they have been known to make an investment decision at the dinner table, which can be particularly problematic if they no longer have the local touch and are not regarded as a full member of the relationship-based society.

Taking an active role in portfolio companies in Asia is critical. It is never enough to insist upon corporate governance only, investors say. Cheating passive investors is a business norm which can be found in any corrupted economy. No investor should therefore put money into a venture and simply wait for the returns to materialise. Such investments are likely to become a one-way transfer. To be sure, there are investors who believe that they can find trusted managers to run the show for them or invest in entrepreneurs with integrity. However, local managers and entrepreneurs may not have the same definition of integrity as Westerners. Foreign investors in Asia need more than pure luck if they are to find the right people to run the company. Investors will only earn a return if they have a good relationship with the GPs, align interests, get involved in decision-making, and work side by side with entrepreneurs.

Beyond taking an active investment role, returns for LPs can be further enhanced not just by selecting the very best fund managers, but by overcoming the far simpler challenge of avoiding the worst. Fraser (2007) argues that, in practice, an experienced investor is expected to be able to identify fundraising proposals whose strategies or management teams are unlikely to perform.[141] An LP with an active investment role affirmed that increasing levels of skill in doing so deliver results further up the return probability curve.

6.5.4 Capital overhang

Since the global financial crisis, Asia has had a capital overhang of two to four years' deal value. Market participants interviewed in Southeast Asia are particularly concerned that returns to partnerships will fall below the level needed to compensate investors for the risk and illiquidity of private equity investments.[142]

[141] Refer to footnote 111 for the selection of upper quartile funds.

[142] Cf. Lerner and Schoar (2003).

Fenn et al. (1995) showed for the U.S. private equity market that returns were greatest for venture and buyout investments during periods when relatively small amounts of capital were available.[143,144] Diller's analysis (2006) supported the money-chasing deal hypothesis and found that too much money led to overpricing of the deals.[145] In practice, greater capital availability can lead to a breakdown in investment discipline.[146,147] During periods of high commitments, competition for allocations intensifies and deals close more quickly than usual, without time for adequate due diligence and careful deal structuring, which are considered the cornerstones of private equity investing. Intense competition makes it more likely that GPs will pay a higher price to reduce the risk of losing the deal. Given the fee structure of private equity funds and a timely limited supply of investment opportunities, interview partners assumed, that for many private equity investors in Southeast Asia the personal incentive to put capital to work may outweigh the incentive to invest in only fairly-priced deals or to return the money, hence lower returns.

Given that periods of high commitments to partnerships may be associated with lower returns, why would LPs commit capital at times when other limited partners are also investing large amounts? One explanation is that the high level of commitments is

143 The limited availability of capital might not be the only factor that contributed to the extraordinary high returns on private equity partnerships during the early 90s.

144 Fraser-Sampson (2007) also finds a very negative correlation between return measures and fund raising figures for U.S. figures. He says that if average fund size is bigger one vintage year than the year before then it is highly likely that any of the return measures will be lower, and the same holds true for total capital raised. For European funds during the same vintage, he sees the same relationship, although the degree of negative correlation is significantly lower. This means that if the above hypothesis about the inverse relationship between average fund size/capital raised and returns is correct then Asian buyout returns are due to decline steadily to the sort of levels being achieved in the U.S. and Europe, assumed that Asia private equity top quartile vintage years outperformed U.S. top quartile vintage years lately (see Chapter 6.4.2 for a comparison of the private equity returns).

145 Cf. Gompers and Lerner (2000).

146 On the other hand, high interest rates negatively influence the return. Particularly buyout funds depend on low interest rates because of debt financing. Furthermore, indices such as the MSCI also profit from low interest rates, which in turn determine exit opportunities.

147 Particularly in Vietnam funds are in trouble today because they bought too high before the recent financial crisis and spoiled the market.

triggered by favorable exit conditions, such as a hot IPO market[148] or a robust M&A market, which substantially increase returns on earlier partnerships. Such periods produce returns to private equity that are not only high for this asset class, but also when compared with returns on other assets. Allocating funds to private equity on the basis of recent performance can be amplified by other factors. When exit conditions are favorable, investors receive dividends in cash or stock, reducing uncertainty about returns. Returns reported at this time provide new information about the valuation of exiting assets. General partners recognize that limited partners are more inclined to invest when exit conditions are good and may time their fund raising accordingly. Being approached by GPs gives LPs another reason to invest as the opportunity to invest with a specific set of GPs tends to come along only once every three to five years. However, only if institutional investors start allocating funds to private equity on the basis of factors other than recent performance will the risk of a cycle of high commitments followed by lower returns decrease.

[148] Xu (2008) hypothesizes that the number of private equity backed IPOs and the stock market performance are particularly positively related to the return on the private equity funds in Asia.

7. Contextual Analysis

The interviews with private equity investors and academic experts carried out in Southeast Asia on the investment process and investment strategy highlight findings in five key activities: (1) fund raising and selection of the GP, (2) the investment process, (3) monitoring the firm and monitoring the GP, (4) value-added activities provided to the funded firm and the GP, and (5) investment exits within the institutional context of Southeast Asia.

7.1 Fundraising

7.1.1 Global vs. local fundraising

GPs in Southeast Asia raise investment funds globally. The major part (up to 80 per cent) of the funds committed to the region come from the West.[149] A number of local GPs had raised funds exclusively from local sources so far, but only because it was their first fund. The share of local funding committed to Southeast Asia significantly increased during the recent global financial crisis. There are, however, signs that the share of funding from the West will at least short term return to pre-crisis levels as a majority of Western institutional investors plan to increase their Asia private equity commitments[150] and as Western central banks swamp the financial markets with cheap money, looking for investment opportunities beyond their home countries.

7.1.2 Benchmarking vs. relationships

Obtaining information about publicly traded stocks, investment funds or any other commercial paper is relatively simple, but for private equity funds it is different. Fund managers are under no obligation to publish data on performance or other investment-

[149] With a share of more than 50 per cent of institutional money.

[150] Cf. Prahl (2010b).

related areas. The maximum information that investors can expect to receive is during the fund raising period when fund managers need the support of investors.

In the U.S., and to a large degree in Europe, investors simply benchmark GPs before allocating their funds. In Southeast Asia, however, benchmarking is virtually impossible; there are not enough players in the market to allow for selection based on track records. Asian LPs most often base the decision to commit money to a fund on the basis of relationships, as local GPs say. Only when they develop a relationship with, and can trust, the GP, understand their investment strategy, see how market conditions make the GP's strategy attractive, and assess the management team and be sure that it is capable of executing the strategy will they commit capital to a fund.[151] Western investors likewise regard these as crucial, but tend to focus on track records and the general dependability of the economic, political and regulatory infrastructure. With the lack of track records and the fast change of Asia's economic, political and regulatory infrastructure, networks and relationships are relied upon by experienced investors in Southeast Asia to assess the GP's capabilities in the setting of information asymmetry with the absence of institutional provisions such as a strong legal system and government regulations that protect shareholders' interests.[152]

[151] LPs said that the human capital required to successfully run a private equity firm is absolutely crucial. According to their experience a range of professional disciplines are required. The right mix of people will depend on the focus of the funds under management. Firms that specialize in start-up and early stage venture capital firms staff their investment teams with former industrial line managers and experienced entrepreneurs. At this end of the market there is less demand for sophisticated modelling of financial projections and financial engineering. For later stage, larger fund transactions, the emphasis is on attracting professionals with more financial engineering and consulting experience, but not exclusively. In practice this also translates into levels of operational experience and competence that exceed the companies' day-to-day requirements. Also GPs emphasized that particularly in emerging markets there is no scope for taking any risks with management capacity. Investing in Southeast Asia is not the place for learning on the job. Managers are required to exploit their previous experience rather than to develop it in order to steer the investment from the beginning of the cycle towards a successful exit.

[152] Cf. Leeds and Sunderland (2003).

7.1.3 Building local networks

Private equity investing is a relationship-intensive business where managers tend to meet frequently with their investee companies. This applies globally but is particularly the case in the context of Southeast Asia. For an LP it is crucial that the managing partner is committed to stay in the region for the duration of the fund.[153] As will be discussed later, private equity in Southeast Asia requires that GPs manage their investments and activities in a «hands on» approach, not in a long-distance manner with periodic trips to the region. Even if the firm is aligned with a strong domestic partner, absentee management can be a recipe for disaster. Hence there is a need for a reliable managing partner who understands the local context, and is willing to live in the region and stay close to the funded firms in order to keep the costs of deal origination, screening and monitoring down and to build up a strong local network.[154]

Building a local network for the GP is vital according to the interview partners in two respects: first, to generate and sustain deal flows; second, to substitute for the regulatory controls missing from the institutional environment.[155] In the absence of certain market-supporting regulations,[156] managers and entrepreneurs use networks to perform basic functions, such as obtaining market information, interpreting regulations, enforcing contracts and safeguarding them from excessive interference. In emerging Southeast Asia, where formal institutional constraints such as laws and regulations are weak, informal institutions such as those embodied in interpersonal networks, connections and ties help to overcome the deficiency in part by facilitating economic exchange among network members. The importance of a well-connected local team cannot be overstated. A contract in Asia can play a less important role than a handshake over a drink. Having been to the right school or college, or knowing the right person in the government, can therefore make a huge difference.[157] Ultimately, while taking steps towards litigation and court action signals a failed relationship between an investor and portfolio company also in the West, it

153 Cf. Pruthi et al. (2006).

154 Cf. Sahlman (1990).

155 Cf. Peng (2001b); Bruton and Ahlstrom (2003).

156 Formalization in the institutional environment.

157 Cf. Singh et al. (2005).

is the implicit and credible threat of resorting to such actions that serves as a deterrent as well as an incentive to adhere to contractual agreements which is missing in emerging Southeast Asia. Particularly GPs in Indonesia and Vietnam base their contracts on Singapore law. Up to now, GPs have benefitted from the implicit threat of taking legal action, they say, but only the first court cases will show whether Singaporean jurisdiction confers a strategic advantage.

The research findings suggest that the importance of networks, however, should not be overstated, as they do not compensate for all institutional shortcomings. First, it remains the duty of governments to provide a general institutional framework that facilitates a stable economy, a strong currency, a corruption-free environment, effective capital markets and a legal and regulatory system with a strong enforcement mechanism. Second it resides with the GPs to meet the challenge of hiring local management capacity with the required know-how and network, and to balance this against the need for Western state-of-the art management expertise to create an investment team that possess truly differentiated capabilities with a global perspective, network and culture, which is able to adopt a professional investment approach.[158]

7.2 Investing

7.2.1 Deal sourcing

The challenge for a private equity firm is to identify opportunities early, to be better informed about the target company than the competition, and hence able to make the best, most robust offer based on detailed knowledge of the target. The generation of deal opportunities will be heavily influenced both by the supply of deal flows from different vendor sources and the demand for private equity in terms of the willingness of managers to take risks and to buy enterprises.[159]

[158] Cf. Bruton et al. (2004).

[159] In an economic crisis there are usually good opportunities to acquire companies at very favourable conditions. Many of the GPs interviewed said that they were not able to benefit from the economic hardship, time pressure for certain industries and the small number of buyers, which generally put the

In Southeast Asia, where family-owned businesses dominate, it was until recently very difficult to invest in such companies and even more challenging to acquire a majority share, as findings indicate, because family owned firms in Asia ever since rarely sold any valuable assets and even less a majority of the firm in order not to dishonor the family.[160] Moreover, the companies in the region were not desperate for money, and for those in need there were plenty of borrowing opportunities available from family members and banks. There was also no real conviction in the region that businesses had to adapt to the fast-moving but still flourishing environment. However, with many entrepreneurs' sons and daughters being educated in the West, their increasing employment opportunities available worldwide, and the fact that many family businesses are now second or third generation, the longstanding reluctance to give up control of the family business is waning and investment opportunities are on the rise.

Research findings from the interviews reveal that most of the deals are still sourced in-house though personal networks. This includes proactive deal origination strategies, including company or sector tracking, building relationships with management, or introductions from established contacts.[161] These deals are considered to be the most attractive, first, because the acquisition happens without a bidding process (as bidding forces up the price), although entrepreneurs usually assess different investors; and second, because deals can be done much faster. As deals get bigger and the private equity market in Southeast Asia matures, auctions become more and more popular and an increasing number of financial intermediaries such as investment banks are getting involved in arranging deals.[162]

buyer in a dominant position in the takeover negotiations. The economic outlook was so bad during 2008/2009 that literally no one took the risk to invest and by the time the first signs of economic recovery appeared on the horizon, the time window for cheap deals had already closed.

160 Particularly the founder of the firm.

161 It is not unusual that CEOs of companies receive phone calls or approaches form private equity firms, expressing their interest in exploring a buyout. This process of stalking a prospective target can go on for years, as buyout firms seek to build relationships with target companies' management teams that will put them at an advantage when and if the target company decides on a disposal.

162 Larger companies are sold through an auction process. The objective of an auction is to generate competitive tension between a number of bidders, and this achieves the highest price. The process is managed by an investment bank, which prepares a document describing the company and invites

For GPs, the trouble with the auction process is that it is highly effective in extracting maximum value for the vendor and increases the risk of the buyer overpaying.[163] Indeed, many LPs take a negative view of fund managers who rely heavily on participation in auctions. The only insurance against overpaying is to have an extensive, detailed knowledge of the target company, its market, and prospects for future growth. This reinforces the trend towards industry specialization in order to develop a competitive advantage by making superior selection decisions based on a much broader range of information sources than supplied by the vendor.[164] GPs in Southeast Asia are still far from investing according to an industry specialization, first, because the markets are too small to invest in one industry only, and second, because GPs want the opportunity to invest in industries based on their fund strategies which are most promising. Notwithstanding, GPs still try to build up and leverage their expertise by investing in companies which exhibit strategic and synergistic benefits.[165] GPs in particular avoid heavily regulated industries,[166] licensing businesses, industries with little aggregate value added, and those dominated by families of doubtful reputation, which applies directly to the problem of adverse selection. While it is not possible to call this «industry specialization», it is a step towards achieving a clearer investment focus.

indicative bids from potentially interested acquires, including private equity firms and companies for whom the acquisition would offer strategic or synergistic benefits. In an iterative process, the number of bidders is whittled down over a number of bidding stages, during which increasing amounts of information and limited access to the management team are usually made available.

163 Some years before the crisis, the situation in the private equity market in Asia changed, with much larger funds forcing GPs to target public companies, or their subsidiaries, which likely had already high levels of operating debt and were well managed. This obviously reduces the potential for significant earnings growth and such companies are presumably bought at a premium over the quoted multiple.

164 In the West, firm evaluation is very much based on the exploitation of industry relatedness, in other words specialization. Skills and structures in a specific industry enable private equity professionals to form a skill base which they base their decisions on.

165 A study by Ernst and Young (2007) shows that 70 per cent of U.S. deals benefited from sector focus.

166 Such as the media, telecom and financial industry.

7.2.2 Prescreening

One of the main difficulties for GPs in any economy is determining the viability of a proposed investment. In Southeast Asia, private equity firms have several hurdles to overcome to avoid the problem of adverse selection. GPs attached particular importance to the sources of information which are more complex than in the West[167] and highlighted the fact that gathering accurate accounting and financial data to assess the prospects of businesses before obtaining full inside access to the companies poses a particular challenge.

The private equity industry in the U.S. evolved gradually (Fenn et al., 1995) in response to strong demand from corporate entrepreneurs, a favourable public policy environment, a reliable legal system, political and economic stability, and well-developed financial markets (Leeds and Sunderland, 2003). All these success factors are noticeably absent in emerging markets (Peng, and Luo, 2000; Bruton and Ahlstrom, 2003). In particular, the lack of property rights and enforceable laws has resulted in heightened risk, adding to the complexity of private equity investment decisions (Wright et al., 2004b). Bruton et al. (2005) characterize Asia's regulatory institutions as generally poorly developed and weak in enforcing laws and regulations. This was confirmed by a solid majority of the managing partners interviewed. Southeast Asia is not a homogeneous economic region, as indicated earlier, but represents a continuum of economic development ranging from developed economies and institutions, such as those of Singapore and Hong Kong, to emerging economies with relatively undeveloped institutions that include Indonesia, Malaysia, Thailand and Vietnam (Lockett et al., 2002). Regulatory institutions have been seen to play a significantly positive role in the development of venture capital in Singapore, a country with fully developed regulatory institutions and a vibrant private equity industry (Bruton, et al., 2002b).

Due to its weak institutional environment, investors in emerging Southeast Asia usually fund firms at a much later stage than in the U.S., a finding in line with Bruton and Ahlstrom (2003). Mature firms are less problematic to assess since they usually have more solid financials, cash flow records, and established processes (Bader, 1996) and have passed

[167] Cf. Ahlstrom et al. (2007).

the proof-of-concept stage.[168] Regarding earlier-stage investing, all the private equity managers interviewed highlighted the need for governments to provide a supportive infrastructure that is conducive to private equity transactions, such as the legal and financial framework and taxation regimes – including corporate reporting regimes – to improve the quality of data. They also included the existence of suitable exit routes – the scope for the realization of gains – comprising the availability of stock markets, M&A markets and the scope for recapitalization through secondary buyouts.[169] There was consensus among all interviewees that the region should learn from Singapore as a model of an investor-friendly institutional environment and an investment environment similar to the West[170] to better exploit private equity's potential to provide an additional catalyst for economic growth.[171]

A key challenge in making an investment decision, even for later-stage firms, is when the country's accounting practices differ greatly from those in developed economies.[172] According to the partners interviewed, entrepreneurs rarely have ever undergone an independent audit or adhered to international accounting standards. The interviews revealed that accounting rules and conventions in Southeast Asia diverge from generally accepted international accounting standards in three major respects. First, it is not uncommon for companies to have separate sets of financial statements – it can happen that there are three different accounting books: one for the managers, one for the investor and one for the tax authorities. Second, accounting mechanisms are primarily aimed at managing production rather than asset valuation. Third, terms may be defined or understood differently from those in the West; accounting terminology can take on different meanings in different industries. These problems result in financial reports being of very limited value to investors. Interviewees emphasize that if a firm eventually gets funded, it is important that the GP ensures that the accounting and financial controls are in place in

168 Cf. Cochrane (2005).

169 Cf. Wright and Kitamura (2003).

170 Cf. Zutshi et al. (1999).

171 See Chapter 1.

172 Cf. Leeds and Sunderland (2003).

accordance with international standards to allow for proper monitoring of the firm and facilitate an exit at a later stage.[173]

7.2.3 Due diligence

Due diligence follows any promising pre-screening to validate in detail the information that prospective firms submit. Our interviews revealed that due diligence is a standardized process in Southeast Asia which follows a very similarly structured investment process to that in the West, in line with Jeng and Wells (2000) who found that venture capitalists followed a similar worldwide model of investing, particular for later-stage investing. Due to the different institutional environment and the rapidly changing nature of emerging markets, the implementation of due diligence must however be adapted to the local context, as affirmed by Wright et al., (2004a; 2004b), since the contextualization is perceived to be more complex. Interviewees indicated that the due diligence process can easily take up to six months[174] – about double the time needed in the West to assess an investment.[175]

In Southeast Asia, private equity firms have to consider specific aspects and develop the expertise to properly assess investment opportunities. The main difficulty is a lack of data; and even if when available, the accuracy of such information is usually problematic. Consequently GPs have to make greater efforts and to dig deeper than in the West to aggregate the information typically required. The assumption that GPs in emerging markets base their investment decisions on less grounded data than in the West proved to be unfounded. Indeed, managers regarded the assertion that it is more difficult to carry out due diligence for a major investment decision in Southeast Asia than in other parts of the world as a pathetic excuse for bad investment decisions. They affirmed that there is always a way to cross-check data. Due diligence therefore should start from the understanding that proper due diligence is needed and always possible but will take time, and end with the conviction to perform due diligence to a high standard until the end and never rush into a deal, even if the competition is fierce and the risk high to loose a deal.

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173 Cf. Kambil et al. (2006).

174 Cf. Chotigeat, Pandey, and Kim (1997); Pandey (1998); Zutshi et al. (1999).

175 Cf. Zeisberger (2010).

Due diligence is mostly done in-house but always with the help of third parties. GPs frequently outsource certain due diligence disciplines, such as financial and legal due diligence, to one of the «Big Four» audit firms,[176] or recognized national names but which are generally less specialized or advanced in Southeast Asia than elsewhere. Yet experienced investors do not rely exclusively on numbers and take the figures with a pitch of salt. Whenever possible they make their own analysis and qualitative and quantitative assumptions. Where there is no data available, GPs bridge the gaps with the help of third parties. To verify the quality of data they rely heavily on their personal networks in order to mitigate the risk of adverse selection. One manager revealed that, in his case, surprises always appeared and contracts quite often had to be renegotiated, but, luckily, deals had never been cancelled so far.

Ultimately, the main criterion for the final investment decision is the capacity of the management team. While the evaluation of the people leading a proposed investment is an essential aspect of the due diligence process in the West, it is even more important in the Southeast Asia context, where a firm's financial statements may contain only marginally valuable information and other aspects of due diligence can be problematic.[177] All the GPs I talked to assessed the target company's management team themselves. Private equity firms that invest in growth companies – which is mostly minority investing – put a particular emphasis on the experience and flexibility of the company's management team, since changing the management team in Southeast Asia is virtually impossible. The backgrounds and connections of the management team are considered to be one of the most important resources the firm possesses. Even if the market does not develop as predicted, with a sophisticated team the company may still be able to successfully «sail through rough waters» and find an attractive alternative business opportunity.[178]

[176] The Big Four (Deloitte Touche Tohmatsu; PricewaterhouseCoopers; Ernst & Young, and KPMG are the four largest international accountancy and professional service firms, which handle the vast majority of audits for publicly traded companies as well as many private companies.

[177] Cf. Pruthi et al. (2006).

[178] Cf. Lerner (2002).

7.2.4 Negotiations

Negotiating the deal is the last part of the selection of a firm, but one that is particularly challenging due to the fact that Asian business owners often do not agree on company valuations. Local entrepreneurs frequently benchmark against similar firms in the U.S., where the risk tends to be lower. In contrast, GPs tend to stress not only firm differences but also country-specific risks. Often, national growth rates are an important component of a firm's total valuation. However, these may be inflated in Southeast Asia by highly optimistic growth projections for the region, and are difficult to verify and to extrapolate into the future.

When a price gap exists, there is only one way to bring about a win-win solution to reach an agreement. However, it is difficult for a GP to get a significant minority (or even a majority) stake to have the power to intervene in the business whilst leaving the entrepreneur sufficient equity to remain committed to and motivated by the investment. In this respect, GPs specifically stress the importance of having portfolio company management teams with the right mindset and attitude towards sharing gains and aligning interests with the investor. That said, they would never fund an entrepreneur who would only partner with the investor who paid the most, or who overlooked the GP's potential contribution to the development of the company.

The negotiation process is further complicated by the fact that contracts are not viewed in the same absolute terms as in the West, as mentioned earlier. Depending on the situation, a signed contract may merely serve as a green light for further negotiations. As a result, negotiations are typically an ongoing process towards the ultimate investment decision. It might even happen that the local partner continues to seek revisions to the contract as the relationship with Western investors develops. Early participation of the in-house legal team can help ensure that negotiation success and contract implementation are based on a mutual understanding of the deal and help to avoid misunderstandings.

7.3 Monitoring

Private equity investments are made in non-publicly traded companies and are characterized by a high level of information asymmetry between investors and entrepreneurs (Xu, 2008). As a consequence, GPs have to monitor the operations of their investments carefully, as this not only significantly reduces agency costs (Berg and Gottschalg, 2003) but also acts as a lever where most value creation happens (Ghandi, 2010). Monitoring can be active or passive. In order not only to preserve but also to have positive effects on the investment, the managers interviewed invariably affirmed the need for active monitoring of portfolio companies in Southeast Asia.

7.3.1 Active monitoring

The difficulties in monitoring a firm in Southeast Asia are linked to issues with the institutional environment identified earlier. Even so, more than two thirds of GPs interviewed said that monitoring is basically done the same way in Southeast Asia as in the West but is more intense.[179] A single manager is able to monitor two to three companies at the same time, about half of what is possible in the West.[180] Monitoring is mainly done through monthly financial reporting, regular meetings with the management team, and unexpected visits by the internal audit team to avoid opportunistic behavior. Managers revealed that monitoring can be as radical as sending people into a firm to count things and to double-check that operations are going smoothly, irrespective of the data reported by the company. About half of the GPs investing in minority stakes interviewed in the region said that they insist on the right to appoint their own CFO to watch the portfolio firms' financials and to exchange key personnel within the management team if necessary to further help in monitoring operations.

[179] Historically investors in Asia spent less time in direct contact with the entrepreneur (58 hours per month) compared to investors in the U.S. (153 hours per months), as they were restricted to provide advice on financial matters only (Naqi, 2002).

[180] See Chapter 2.2.6.

Today, GPs in Southeast Asia are usually granted a board seat. In the U.S. it is an established fact that investments perform significantly better where the GP has representatives on the board, compared to companies with no representation (Wahrenburg, Schmidt and Toth, 2003). This seems to hold true for Southeast Asia, but, depending on the context, the protection and input that board seats offer may be limited. Corporate governance regulations in Southeast Asia vary widely from country to country, and are mostly weak and difficult to enforce. Even today, many entrepreneurs prefer «hands off» investors. They may tell the GP that their input is welcome, but what they mean by this is at odds with what most Western managers would understand and expect. Entrepreneurs may withhold important information, call board meetings when GPs are out of town, or hold meetings in the local language, excluding the GP from its strategic and governance roles.[181] To be able to provide active input in a minority situation, GPs have no choice other than to develop a high level of trust with the entrepreneur, where the GP is seen as more than an investor – also as a trusted adviser. These findings are in line with the results of Cumming and Walz (2004), who find that only active monitoring and giving advice based on trust contribute to a significant positive change in the portfolio companies and improve performance.[182]

7.3.2 Regionalism

A critical issue of concern to GPs in Southeast Asia is what has been called «regionalism». Most funds in Southeast Asia are active in the region as a whole, as one single country is usually too small to offer adequate investment opportunities. Although Southeast Asia is perceived as one, the region has a highly fragmented nature that presents challenges to monitoring invested firms.

Our research findings revealed the importance of understanding the local setting of the portfolio firms and the necessity of close geographical proximity. Particularly laws vary greatly from country to country and even from province to province, and their

[181] Cf. Ahlstrom, Young, Chan, and Bruton (2004).

[182] On a differentiated basis, Cumming and Walz (2004), however, find that this impact is only significant for profit maximization and not for reducing losses.

implementation often depends upon both the views and the moods of local bureaucrats. In Indonesia, for example, after the Suharto era, reforms devolved authority in a number of areas from the central government to provincial and local governments, and the provinces now exert a great deal of control. There has yet to be a clear delineation of authority among the central, provincial and local governments. This lack of clarity in the authority structure is often exploited by local government officials. Private equity professionals in the West find this contrast with their home context difficult to grasp, being accustomed to standardized laws and to monitoring by telephone, email or videoconferences, regardless of where the partner of the funded firm is located. In Southeast Asia, and particularly its emerging markets, the situation is markedly different to the U.S. experience and has come to influence how GPs structure their deals.

A close friend of mine investing in Vietnam recently stated that he would never again fund deals more than a couple of hour's drive from his office, for the simple reason that deals in Vietnam must be monitored very carefully. One of his top managers disappeared with a significant amount of money a few years ago. Although he had visited the firm regularly and the manager was supposedly a good friend, it was not enough. He now limits his investments to firms that he can visit more frequently or to companies where he trusts the management, based on his wife's family's relations.

7.3.3 Conflicting goals

GPs must be aware that their goals in monitoring their investments can be fundamentally different from those of the entrepreneur. Investors therefore must remain vigilant to ensure that the firm performs as desired. GPs' experiences show, however, that there can be nothing like good monitoring without a good relationship with the portfolio companies' management team. Monitoring is ideally not primarily used to control a firm but to assist the management and to professionalize the company. GPs reported that almost every single day they are somehow involved in monitoring their investments, although not with regard to day-to-day business operations. In rapidly-changing markets such as Southeast Asia, local management teams can frequently reach their limits in terms of handling the pace of change internally as well as externally. All the more there is significant value for

GPs in monitoring their companies deliberatively to develop corporate planning and execution capabilities to identify new opportunities and threats as they arise. Yet, this is only possible in close alignment with the management team.

7.4 Adding value

In the early years of the private equity industry, investors were commonly categorized by their approach to aftercare as either «hands on» or «hands off».[183] With a greater understanding of the imperative to build and maintain close relations between investors and management, that distinction has largely disappeared. The nature of value adding today is provided through relationships associated with governance, financial and operational engineering, and strategic involvement, which are discussed in turn below.

7.4.1 Relationship building

Many new private equity firms from the West may not be able to call upon extensive *guanxi* capital for relationships to develop over time.[184] Instead, GPs depend on entrepreneurs who can connect them with key individuals who the firm can hire or pay a retainer to. For example, an entrepreneur may have relationship with a town's village head. Although the village head may no longer hold that position, his or her influence with the people in the area will remain strong – people will still listen and be deferential to his influence. In the Asian context, people do their best to give face and not embarrass the village head in any way. He is likely to know most people in the area and is accustomed to evaluating and selecting people for work. This makes it less likely that workers will steal assets or shirk their responsibilities on the job, which also has a positive effect on the monitoring process.

[183] Bygrave and Timmons (1992) argued in the 90s that private equity moved away from the idea of entrepreneurship to financial engineering. With increasing competition and institutional challenges in emerging markets, the era of opportunistic investing is definitely over and GPs are moving back to what is know as «old fashioned» or «classical» private equity.

[184] Cf. Peng and Luo, 2000; Peng and Zhou, 2005 and Aizenman and Kendall (2008).

Both GPs and, on a higher level, LPs provide a network to help advance the portfolio company. Their networks span governance, financial and management expertise and open up opportunities for new markets not only in the region but globally. Ultimately, their networks can help in identifying viable exit routes, which is imperative for a fund's profit realization.

7.4.2 Corporate governance

Corporate governance in Southeast Asia can diverge significantly from the West.[185] In the U.S., GPs tend to seek majority ownership or a significant level of control over an invested firm. Management replacement is seen as an integral part of private equity investing and GPs therefore always retain the option to install their own chief financial officer (CFO), chief executive officer (CEO), or even replace the entire management team.[186]

In Southeast Asia this is not the case,[187] owing to the lack of local management capabilities to professionalize the management team. But even if GPs were able to make such changes, they would cost the firm a number of connections and would be difficult to implement, particularly getting employees to go along with the change for reasons of loyalty[188] towards the managers or owners.[189] However, GPs in the region insist that

185 Cf. Manigart et al., (1997; 2000).

186 Private equity firms drive a process of rapid change, with new business plans, often new management, new incentives and strong board-level leadership. 74 per cent of the private equity investors in the U.S. and 68 per cent in Europe made management changes, according to Ernst and Young (2007). The CEO was changed in 61 per cent of U.S. deals and 45 per cent of European deals.

187 Cf. Kambil et al., (2006).

188 The concept of loyalty plays a role between management/owners and employees and vice versa. Due to the fact that employees have worked with the company for a long time, sometimes even for generations, management or owners feel obliged to avoid retrenchment even though inefficiency from overstaffing might be apparent. Similar to the management/owner's loyalty, employees feel attached to their company and sometimes even to the families of the management/owners. The loyalty of employees is a result of the understanding of the role of the entrepreneur to provide a family-like setting within the firm and a perception of family-like belonging in the company setting. The ties between members of the firm, and especially toward the family of the management/owners, are therefore relatively strong.

189 Cf. Bruton et al. (2003).

unless you have a high degree of control, your own CFO, and your own managers, you will find you do not really know what is going on. This underscores that the challenge for GPs in Southeast Asian is to enhance transparency, strengthen financial controls and provide input to top management, given that founders will reject too much interference from outsiders and may not fully trust the GP's intentions. This makes the due diligence process all the more important, as well as the connections to the management. For example, installing some middle management and someone high up in the finance department can help to monitor the firm as well as add value by governing major strategic activities. The alignment of interests between investors, private equity professionals and top management through the implementation of a strong, performance-based incentive structure with a long-term focus therein plays a crucial role.[190]

7.4.3 Financial engineering

Financial engineering in this context is employed as a strategy, first, to optimize working capital, and second, to drive the divestment process. Like anywhere else, financial engineering in Southeast Asia involves the analysis of financial needs, the identification of financial options (debt versus equity/mezzanine; global versus local capital) and assistance in financial restructuring in order to prepare early for the exit process.

Southeast Asia has a legacy of direct lending by state-owned banks or family members which has long hindered the development of a credit culture and expertise in assessing credit worthiness, risk control and risk pricing. GPs are challenged to reach financial clarification, bring companies back to financially sound levels in an understandable and monitorable form, and gear portfolio companies towards promising exits for there is a lot of pressure on certain companies to hide some of their revenues to avoid official and unofficial taxes. There is evidence about a company in Indonesia who pretended for decades to be small in order not to attract any attention from government officials. The firm was organized as dozens of unconsolidated entities where value was siphoned out of the company in many intransparent ways. Only after a private equity investor bought a

[190] Cf. Kaplan and Strömberg (2009).

significant share of that company transparency, internal controls and corporate governance significantly improved.

7.4.4 Operational expertise

Interviewees were challenged to say to what extent a GP's active role on the operational level makes a difference for a private equity investment. GPs typically responded that value adding particularly happens on the operational level and often provides a margin of success over failure.

The main focus is on providing management capacity, not on a daily business level, but in terms of expertise by the GP to enhance management systems and processes as well as access to external operational experts and specialists. To review operations, identify improvement opportunities and ultimately implement change for the better tends to take longer in Southeast Asia than in the West, primarily because GPs tend to work alongside the former management teams, which first have to adapt to the new professional standards and then grow into the new processes. Then again, working with the former management team, who knows the company inside out, ensures continuity, which is particularly important in an emerging market context.

7.4.5 Strategic involvement

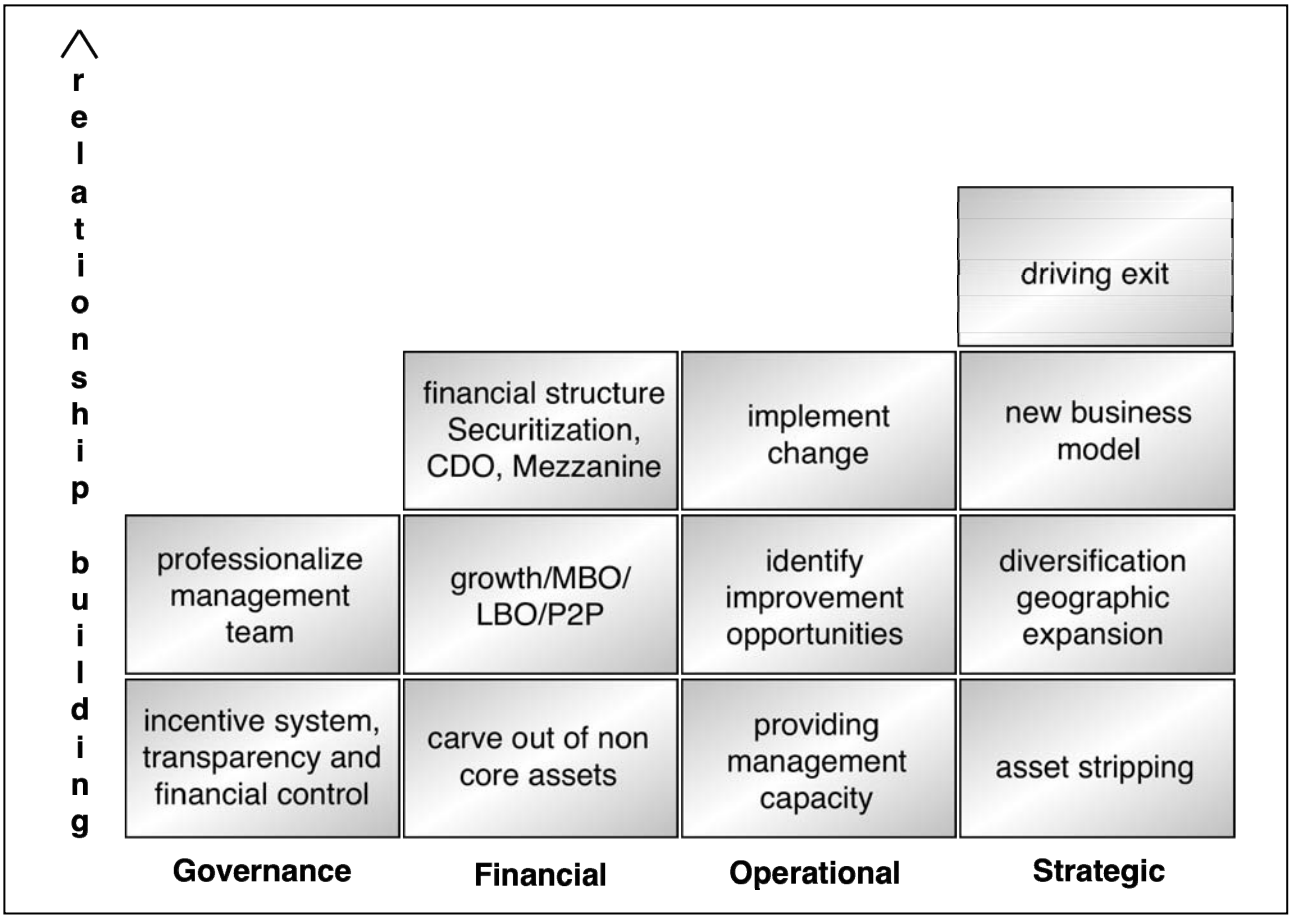
Strategies are moderated by the characteristics of the particular context in which they operate (Peng, 2001b). Firms should therefore identify a unique strategy and stick to it. Managers in Southeast Asia believe that a deep knowledge of Asian business culture, the policy environment and the execution of a disciplined investment approach offers a considerable competitive advantage when defining the portfolio company's strategy in order to fully capitalize on inefficiencies in emerging market environments.

Strategic involvement in a firm is best defined as a function of sound investment judgment, a careful, well thought out execution to generate yields throughout the whole investment cycle, with an able and willing partner to ultimately exit. At the same time it concerns

value-creating activities in the firm and the process whereby the value is delivered to the customer. About two thirds of the managers interviewed explained that, in their personal experience, strategic value creation is most promising when executed by experienced private equity investors with deep industry expertise who team up with local experts who have an affinity with both the Western and local culture, and local entrepreneurs who are able to first recognize and then capitalize on the value. This is in line with the findings of Klaus (2009), who says that combining local knowhow and foreign investment professionalism is the most promising key to successful investing in Asia.

The five adding value strategies described above are illustrated in the exhibit below. The important finding thereby is that relationships interact with all other dimensions of the value adding process.

Exhibit 24: Adding value strategies



Source: Author's own depiction with reference to Merger Management Consulting 2003.

Klier et al. (2009) compare the performance achieved by active portfolio management with less-active management models and find that active portfolio managers substantially outperform the latter. Over a five-year investment horizon, active management models generate an average outperformance of five percentage points, net of IRR, cf. the passive approach. Over a 10-year investment time frame (a fund life-cycle), the performance gap grows further, with active investors achieving 14 per cent higher returns (double the return) than passive managers.

Most private equity managers in the region indicated that the «hands on», approach was even more applicable to Southeast Asia. A few GPs have made money with a «hands off» approach, but they are the exception. Even in the growth segment, where minority investing still prevails, all the successful GPs interviewed took a sophisticated «hands on» approach, insisting on an active investor role.

7.5 Exiting

Our interviews revealed that GPs in Southeast Asia expect to exit through trade sales for buyouts[191] and through IPOs for growth investments.[192] Even for successful companies with a consistent growth record, exiting through an IPO in Southeast Asia has proven to be difficult, although some local GPs claim that exits (apart from the recent financial crisis) are getting easier. The market for corporate control is still not really active in the region; shares from exits on domestic stock exchanges easily become non-tradable due to lack of liquidity, which largely eliminates this as a source of liquidity unless the company can be listed on the Singapore or Hong Kong stock exchange, or overseas.

A majority of the GPs interviewed said that they identify an optimal exit strategy early on and drive the exit process over the whole fund cycle in close alignment with the management team.[193] The involvement of the management team is important not only for

[191] Where there is a majority share.

[192] Where there is usually a minority share.

[193] Cf. Lieber (2004).

the exit process but also for the identification of exit opportunities. Trade sales tend to involve competitors, suppliers or customers of the portfolio firm. As a consequence, management often has a closer relationship with these parties than the private equity firm and is thus better positioned to originate a divestment. Few GPs revealed during the interviews that they scan the market before investing to identify other buyers. Some try to link companies worldwide through their network but only in the post-investment phase as an alternative source of liquidity.[194] For each exit approach, good relationships with regional, country-focused investment bankers, global consulting firms and government officials help the GP to identify viable individual exit routes, which may offer superior exit alternatives in certain circumstances and conditions.

Findings indicate that for the purpose of exits, it is important to avoid minority stakes that have no strategic purpose or to eliminate them prior to exit, as a strategic buyer will almost always want a majority stake in the firm. GPs themselves often have a minority interest in their invested firms. This poses an additional challenge, as the GP needs to convince the entrepreneur to sell a part of his shares and become a minority owner – a difficult sell to an owner who is not only emotionally attached to the company as in the West but also reluctant to sell for cultural reasons. Many investors solve the issue of majority/minority investing with a buy-back option for the entrepreneur. Such exits are not, however, very attractive because returns are capped.

A general assumption on returns among the partners interviewed was that the multiple paid in a trade sale in Southeast Asia is likely to result in a return lower than that traditionally associated with an IPO. Buyout investors qualified this, pointing out that many strategic buyers in Southeast Asia are typically larger local corporations looking to acquire new capabilities or strategic institutional positions. Strategic local buyers are often willing to pay a premium, which then makes trade sales as well an attractive exit route in the region.[195]

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[194] According to GPs, investing in China is easier than in Southeast Asia as the market is much bigger and there are much more sellers and buyers, particularly buyers from the West, which makes the market more attractive.

[195] Cf. Lerner and Schoar (2003).

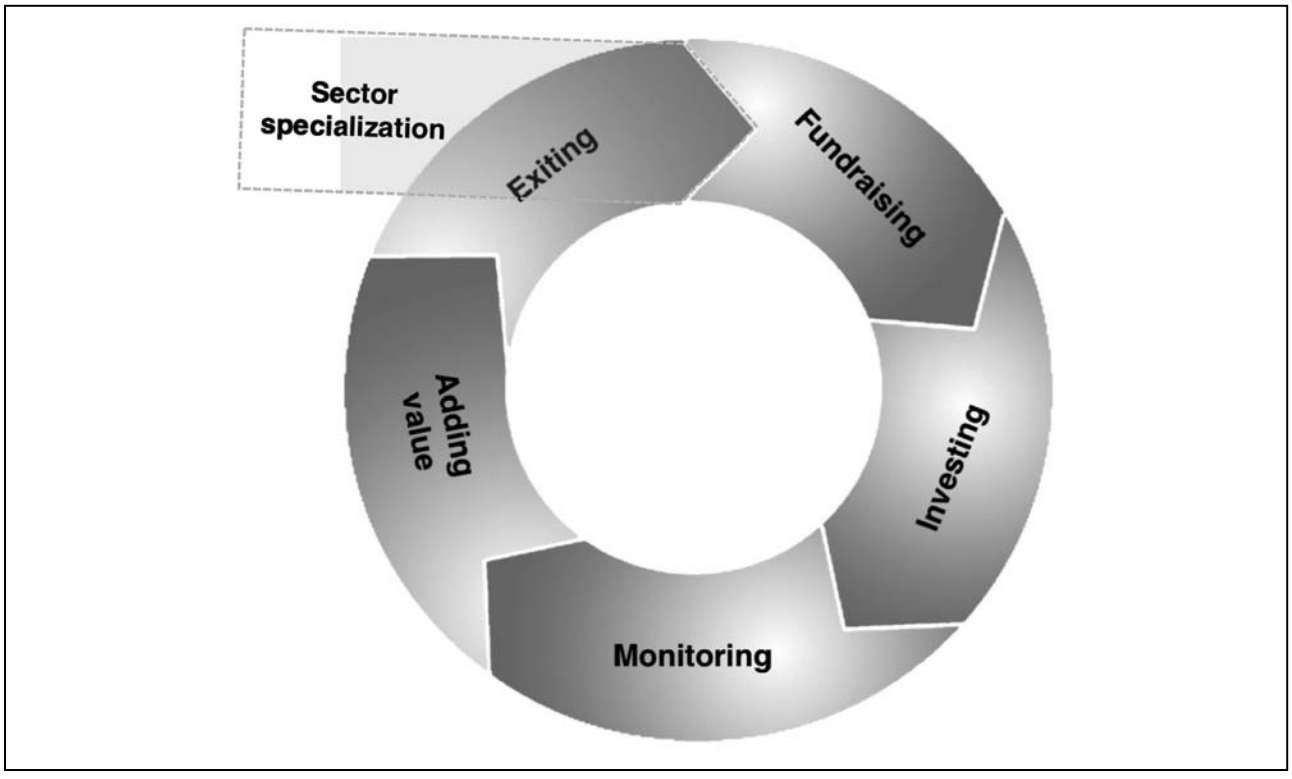
In the final analysis, the timing of a divestment – particularly in emerging economies where markets tend to be volatile – will determine to a great extent the success of an exit. Reviewing his returns, one very experienced manager said that most of his successful deals in Asia were those when he was not in a hurry to exit. This corresponds to the advice at the beginning of the investment cycle never to rush into a deal; for whenever deals have to be done and exited fast, returns tend to be lower.

8. Theory Building

In terms of implications for theory, this study offers insights about the institutional factors shaping the investment process and investment strategy for private equity in emerging markets. Key elements of our interview data suggest that while investors in Southeast Asia follow a similarly structured investment approach to those in the West,[196] the institutional features of Southeast Asia create a different context from the Western model that investors need to take account of.[197] Successful private equity investors in the region have found ways to recognize the key institutions at work in the investment process at different levels, adapt to the differences, and leverage on the distinct characteristics of each market.

The impact of the findings in this study are summarized below as a series of propositions.

Exhibit 25: Contextualized private equity life cycle



Source: Author's own depiction with reference to Venture Capital Cycle (Gompers and Lerner, 2004).

196 The industry's dominant logic.

197 Cf. Naqi and Hettihewa (2007).

Proposition 1: *Sector specialization despite the lack of strong deal flows*

Investors in the U.S. usually identify an area for their investment focus. While Southeast Asia does not offer the strong flow of deals that U.S. investors are used to, a similar strategy in Southeast Asia may still be advisable given the current lack of quality opportunities.[198] Competition for good deals has strongly intensified in the region in recent years and entrepreneurs tend to take advantage of investors being under pressure to make swift investment decisions. Industry specialization is the only way to allow for improved sourcing and hence superior selection decisions. The ability to leverage specialization throughout the whole investment cycle will accrue to investors who demonstrate the discipline to stick to their investment strategy[199] and have developed the expertise to identify, select and assemble business opportunities that will ultimately be successful.

Proposition 2: *Proactive deal sourcing through personal relationships*

The ability to source high-quality deals in Southeast Asia is the critical competency for GPs operating in the market. According to our interview findings, success in deal sourcing is primarily dependent on personal networks. The Chinese-influenced business culture in Southeast Asia places a particularly strong emphasis on personal relationships as the basis of any business decision. To put it another way, quality investments, particularly for minority shares, can only come about if there is a good relationship between the business owner and the management team; moreover, networks not only encompass the development of personal relationships with business partners but also with governments, professional service providers and other organizations involved in the private equity industry.

198 Selective investing in private equity as most GPs in Southeast Asia do, is similar to stock picking, Prahl (2010b) says and does not bring the desired returns. Investors will achieve better and more consistent returns when following a dedicated and long-term investment model that diversifies between strategies, vintages and geographies.

199 LPs have to look for those firms, which stick with their basic investment model. The investment model should drive the fund size, not vice versa. Whenever a GP is looking to raise a new fund which is considerably bigger than the previous one, or looking to close a fund above its original target size, it is important for the investor to check as to how the GP's investment model has changed and why (Cf. Fraser-Sampson, 2007).

Proposition 3: *A rigorously structured and network-based due diligence process*

A comprehensive, rigorously structured due diligence process, similar to that in the West, has proven to be the key to accurate investment decisions in an emerging market setting. Information asymmetry, issues surrounding the professionalism and/or integrity of entrepreneurs and management teams, and a lack of formal institutional support such as laws, regulations and their enforcement may impede the due diligence process but they can never excuse a bad investment decision, investors say. Indeed, investment managers insist that proper due diligence in Southeast Asia is always viable if it is customized to the local setting. Where data is not available or the quality of data is problematic, investors must rely heavily on their personal networks and run third-party checks in order to mitigate information asymmetries. This also holds for the evaluation of the people leading a proposed investment. It has been said that prudential U.S. private equity investors "fund the person, not the project" (Bruton et al., 1999). This observation applies even more strongly in Southeast Asia. Given the information asymmetries between investor and entrepreneur, vetting the capacity and integrity of the management team and developing a relationship with the latter is an indispensable part of a comprehensive due diligence process. Ultimately, a good relationship with the management team is of vital importance as a value-adding tool to overcome the lack of institutional support in the region by facilitating economic exchange among network members.

Proposition 4: *Active monitoring and «hands on» adding value*

Monitoring and adding value are basically done the same way as in the West, but in the absence of a comprehensive regulatory framework are more intensive. Even with sophisticated monitoring tools available, GPs have no choice other than to develop a high level of trust with the entrepreneur – where the GP is seen as more than an investor – to properly monitor the investment. There can be nothing like adequate monitoring, particularly in a minority investment in Southeast Asia, unless there is a good relationship with the portfolio company's owner and the management team. Active monitoring is primarily used not to control the firm, but to assist the management and professionalize the

company, providing a regular flow of financial and operating information, which in turn facilitates the basic monitoring process.

In terms of «hands on» adding value, managers will find that unless they have a high degree of control (in other words, a significant share of the deals are proprietary)[200] – particularly in a culture where founders tend to resent over-interference from outsiders – they will be unable to represent their interests or substantially add value to their portfolio companies.[201] Our interview findings indicated that «hands on» governance, financial, operational and strategic involvement are among the most important aspects of the private equity business; they are what differentiates it from opportunistic investment models. Significant ownership, the relationship with the management team, and an alignment of interests between investors, private equity professionals and top management therein play a crucial role, given the challenge of ultimately creating a viable exit opportunity.

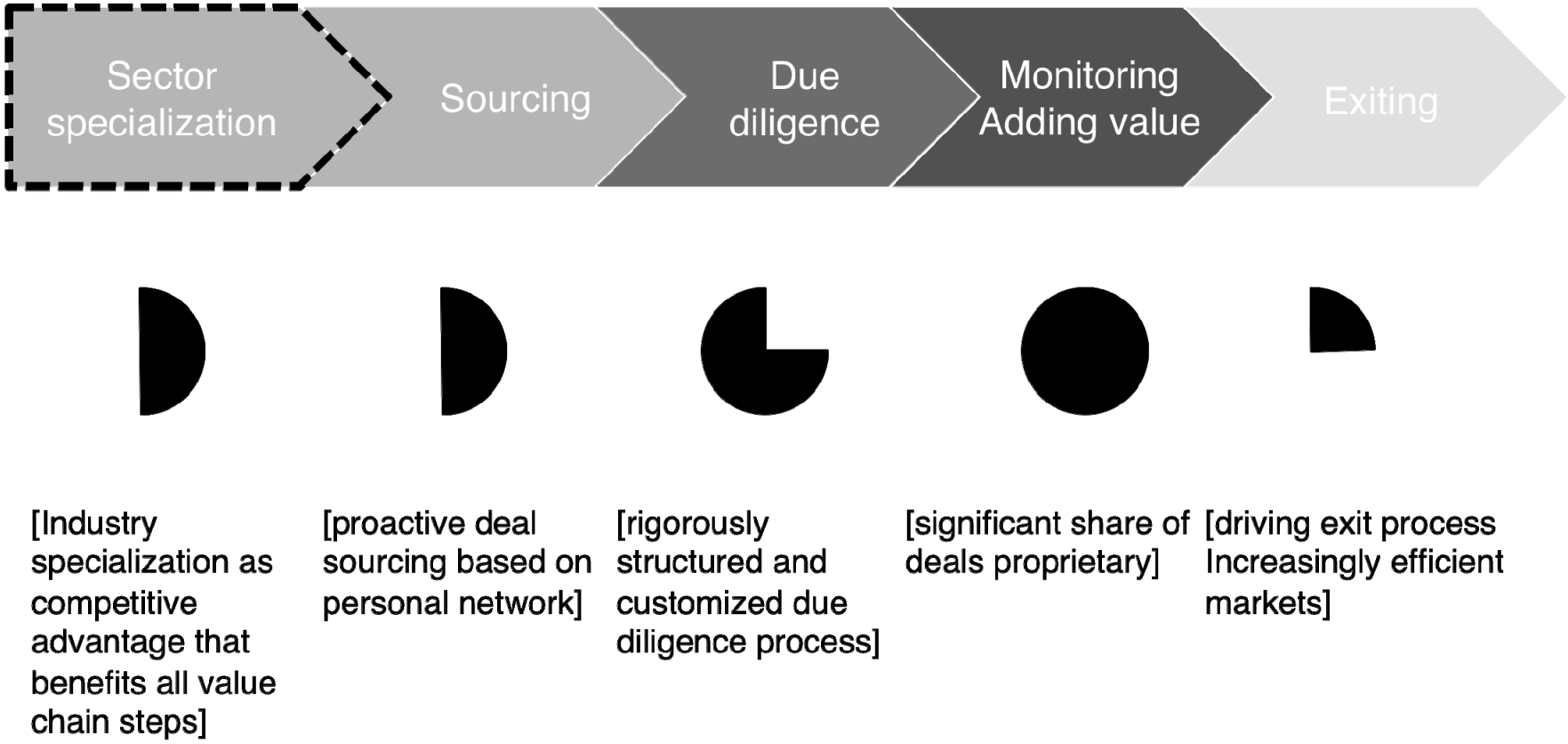
Proposition 5: *Driving the exit process*

Private equity investors in Southeast Asia must have the foresight and prudence to start planning their investment exit from a very early stage, ideally even before the decision to invest is taken. Otherwise, they risk investing in a company from which it will be difficult to exit. Ideally the exit process should be systematically driven over the whole private equity investment cycle. Investors need to be creative and resourceful when planning their exit strategies in order to evaluate the most appropriate options and hit the optimal timeframe available.

200 Cf. Kim, Hoskinsson, Kim and Cannella (2009).

201 When the rule of law is more established, private equity investors are less likely to have control of the firms' equity (Lerner and Schoar, 2003). Conversations with GPs in Southeast Asia, however, revealed that many of their initial losses had stemmed from investments in markets with poorly defined property rights or a limited ability to enforce these rights because of the lack of ownership control.

Exhibit 26: Differentiated investment capabilities for Southeast Asia



Source: own depiction.

9. Conclusion

9.1 Summary of findings

The lack of empirical work on private equity returns in Southeast Asia is partly due to the difficulty of getting access to systematic data. Nevertheless I considered it worthwhile to attempt to compose a dataset and triangulate it against observations reported by interviewees in order to derive some first findings on returns in the region.

Average net returns on private equity investments in Southeast Asia appear to have been significantly lower than the performance of average U.S. private equity funds. Even though Asian private equity funds have shown improved results in recent years, the U.S. market outperformed the Asian market and performed more consistently throughout the period of inquiry. Results in the upper quartile in the Southeast Asian private equity market, however, achieved an average return close to the upper quartile returns in the U.S. market, and certain data even suggests that Asia's top quartile vintage funds lately outperformed their U.S. counterparts. According to some interviewees, various funds in Asia have reported at least two to three times gross multiple in recent years.

However, such a vintage year performance by immature funds does not mean that Asia's private equity industry overall started outperforming the private equity market in the West. It is almost impossible to gain any meaningful insight into the performance of a fund until it is at least five years old, and even then it will only offer an indication, not a guaranteed outcome. Particularly in Asia, where investors have only entered the asset class within the last years, very few have a fully mature programme to date.

Although a definitive assessment of private equity returns in Southeast Asia would be premature, the average performance proves to be well below expectations, particularly given the illiquidity of the investments and the cyclical nature of performance. Average private equity returns in Southeast Asia may therefore not justify the illiquidity and costs

associated with the asset class so far. We therefore infer that successful private equity investors have both the ability to identify, as well as access to, superior funds to achieve the hoped-for returns.

Our interviews on the private equity investment process and the investment strategy in Southeast Asia show both similarities and differences compared to the U.S. approach. Interviewees revealed that they follow a similarly structured investment process to that in the West, with the same five steps of firm funding, investing, monitoring, adding value and exiting. However, although the goals of the investment process are fundamentally the same, the path to achieving them differs somewhat in Southeast Asia, reflecting the need to adapt to local conditions.

The relative absence of formal institutions in Southeast Asia results in investors having difficulty obtaining accurate information and thus taking investment decisions. Relationships and network connections therefore play an important role throughout the investment process in helping private equity investors navigate the challenging environment. Even in optimal circumstances, the relationship between investors and the managers of their portfolio companies can be complex and often contentious. Nowhere is it more problematic than with family owned businesses.

Based on the existing literature, our analysis of the interview findings suggests a growing strategic advantage conferred by sector specialization in Southeast Asia, which benefits the whole investment cycle. Successful deal sourcing is primarily dependent on personal networks, where the GP knows the friends and families of the business owner and management team. Despite variations in local settings, interviewees throughout the region reported using a similar rigorously structured due diligence process to that used in the West, mitigating any information asymmetries through informal institutions such as those embodied in interpersonal networks, connections and ties.

Once investors have committed capital to a company, they play an active, hands-on monitoring role, typically much more intense than in the West. GPs in our sample repeatedly stressed the importance of finding competent and backable managers, for there

can be no effective monitoring without a good relationship with the portfolio companies' management team. Although adding value is believed to be one of the critical aspects of successful investing in Southeast Asia, the role of GPs in emerging markets tends to be limited. Investors find that unless they have a high degree of control or an excellent relationship with the owner or the management team they will not be able to provide significant additional value. A shared vision, interdependence and collaboration between all parties are preferred conditions, not least to successfully steer towards the exit process.

The fundamental shortcomings described above underline the reality of the private equity environment in Southeast Asia. The region must make progress towards embedding regulatory and normative institutions that nurture the private equity business while reducing its dependence on cognitive elements. Despite the constraints, successful private equity investors have nevertheless found ways to identify the key institutions at work, adapt to the differences, learn how to leverage on market inefficiencies, and produce returns akin to top quartile returns in the U.S.

9.2 Contribution to the academic literature

This research paper contributes to the literature in two ways: first, through the analysis of private equity returns in Asia and comparison with returns in the U.S. market; second, through an exploratory analysis of the private equity investment process and investment strategy in the Southeast Asian context. It expands on the existing literature by making a first assessment of private equity returns, calculating average returns for Asia in the lower single digits, which are well below those in the U.S. market, as well as top quartile returns in the low teens, similar to those in the U.S. market, based on quantitative data from VentureXpert and qualitative data provided by private equity investors present in the region during the data collection process.

The study further closes the gap in the literature on the topic of the investment process and strategy of later stage investments in the Southeast Asian context using a life cycle approach. Its findings suggest that private equity in Southeast Asia still works – despite a lack of formal institutional underpinnings such as legislation, regulations, and accounting

standards and their enforcement – by following a rigorously structured investment approach similar to that in the West but contextualized to local conditions, implying that social network ties substitute for the institutional framework present in the Western system.

9.3 Limitations and areas for future research

The limitations of this study are due to data availability, assumptions made and inherent constraints in the methodologies applied. Data on returns on private equity investments in Southeast Asia are scarce and funds typically do not invest in one single country but across the region. Returns can thus only be assessed for the region as a whole, and in the best case for early and later stage investments but not for individual industries. The life cycle approach in the context of agency and institutional theory constrains the framework in which the private equity investment process and strategy in Southeast Asia are analyzed. Applying a grounded theory methodology further limits the generalizability of the findings.

Evidence gathered from interviews with private equity managers and academics reveals that the private equity industry in Southeast Asia has developed some characteristics that are unique to Asia. Even though private equity institutions in the West have influenced the industry in Asia, and certain values have resulted in commonly-held beliefs about the private equity investment approach, such beliefs have been adapted to the specific environment within each country. Although the region continues to move its institutional infrastructure closer to the U.S. model, and the institutional environments of these countries begin to converge, the results of our analysis are uniquely derived from private equity firms in Southeast Asia and may therefore not be fully transferable and generalizable to other countries and contexts. Notwithstanding, the Southeast Asia context, which can be regarded as somewhat representative of the emerging market spectrum, may still provide additional insights and be at least partly prescriptive for other environments with similar characteristics.

Due to the small and very recent dataset of private equity returns in Southeast Asia, our results are of limited validity. Within the next five to ten years researchers should be able to compose larger datasets using return data from more mature funds, which should

provide a better basis for performance comparisons. With a fast-growing and maturing private equity industry in Southeast Asia, a further step should be the segmentation of returns data based on different investment stages and industries, which should allow for a comprehensive picture of private equity returns in the region.

Our sample of investors in Southeast Asia is not large enough to differentiate between the investment processes and strategies of individual Southeast Asian countries. Not all institutions in the region are equal, and the impact of institutions on strategic behaviours can therefore vary widely depending on the strength of different institutions. Future research employing institutional theory needs to recognize the implications of these findings, expand the sample in step with the growing market participants, explore how differing institutional factors influence the investment process and strategy, and determine which aspects are common across all markets, which are common to emerging economies, and which are exclusive to specific countries.

9.4 Closing remarks

Private equity investing in Southeast Asia is no simple task, but this paper shows that successful investing is possible. A keen understanding of private equity in general and of the local environment in particular, as well as the ability to adjust to that environment, are crucial to maximize the chances of success. Private equity investing in Southeast Asia is therefore more like a trans-Atlantic yacht race than a cruise on Lake Geneva. Where the waves can be high, the winds strong and the conditions ever-changing, you need a team which is more experienced, better equipped and able to adapt quickly to the changing environment to ensure your ship not only comes home safely but in first place.

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Appendix 1: U.S. private equity returns (1994-2009)

U.S. All Private Equity (Time Weighted Returns using Periodic IRRs)

Report Dates 12/31/1994 to 12/31/2009

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/94	12/31/95	600	39.3	28.7	32.2	1,395.4	49.2	16.6	-1.2	-100.0
12/31/95	12/31/96	675	39.4	27.5	34.6	1,392.0	50.4	15.8	-2.9	-99.6
12/31/96	12/31/97	660	30.1	31.5	27.8	1,505.6	37.5	9.0	-9.0	-100.0
12/31/97	12/31/98	686	17.1	5.5	15.4	470.7	31.5	4.3	-11.8	-100.0
12/31/98	12/31/99	760	97.9	61.2	71.8	1,995.7	99.1	22.0	-2.8	-100.0
12/31/99	12/31/00	860	27.4	7.0	11.6	1,851.1	35.0	0.1	-20.4	-98.7
12/31/00	12/31/01	901	-13.4	-17.6	-20.4	1,404.7	-0.5	-20.1	-40.7	-100.0
12/31/01	12/31/02	891	-13.8	-11.9	-13.0	951.1	-1.1	-18.6	-38.1	-100.0
12/31/02	12/31/03	886	12.2	17.7	17.7	1,493.5	22.3	-0.2	-14.4	-99.8
12/31/03	12/31/04	1,076	15.2	17.2	18.3	1,807.7	24.5	3.2	-11.3	-98.5
12/31/04	12/31/05	1,055	16.9	16.9	21.0	578.1	23.7	6.0	-8.1	-100.0
12/31/05	12/31/06	1,028	21.9	17.2	20.9	868.5	31.4	9.8	-5.4	-100.0
12/31/06	12/31/07	973	19.4	11.7	18.1	1,049.5	34.6	9.2	-7.1	-100.0
12/31/07	12/31/08	928	-12.8	-22.7	-21.0	908.7	-0.1	-15.8	-30.1	-93.6
12/31/08	12/31/09	909	6.8	10.6	12.2	442.4	17.9	1.9	-8.6	-92.2
Geometric	Average		17.62	11.54	14.30	1,105.98	28.32	2.12	-15.11	-100.00
Arithmetic	Mean		20.24	13.37	16.48	1,207.65	30.36	2.88	-14.13	-98.83

Query History Detail

Selected Category	Selected Value
Primary Market	United States
PeType	All Private Equity Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

U.S. Venture Capital (Time Weighted Returns using Periodic IRRs)

Report Dates	**12/31/1994 to 12/31/2009**

From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/94	12/31/95	450	45.1	46.0	50.0	711.6	56.6	19.4	-0.9	-100.0
12/31/95	12/31/96	476	44.5	44.8	43.0	1,392.0	57.2	18.7	-2.7	-99.6
12/31/96	12/31/97	454	28.9	27.7	33.4	1,505.6	35.5	6.7	-12.1	-100.0
12/31/97	12/31/98	443	20.0	10.8	18.8	470.7	33.5	4.0	-11.6	-89.4
12/31/98	12/31/99	494	134.5	127.6	183.0	1,995.7	138.6	37.2	-1.5	-100.0
12/31/99	12/31/00	542	36.9	16.9	27.1	1,355.9	52.8	1.8	-22.4	-98.7
12/31/00	12/31/01	559	-18.8	-26.5	-34.4	1,404.7	-9.7	-26.2	-47.8	-100.0
12/31/01	12/31/02	552	-20.8	-26.2	-29.7	951.1	-11.0	-28.1	-45.3	-100.0
12/31/02	12/31/03	553	10.1	11.4	6.5	1,493.5	14.7	-4.9	-19.9	-99.8
12/31/03	12/31/04	700	10.2	7.4	14.9	687.2	18.5	-	-13.2	-98.5
12/31/04	12/31/05	698	12.0	11.1	12.7	485.6	17.1	1.5	-11.6	-100.0
12/31/05	12/31/06	670	22.0	16.2	17.6	868.5	29.0	6.9	-8.1	-93.2
12/31/06	12/31/07	622	15.2	17.2	19.5	316.3	30.2	6.9	-7.7	-100.0
12/31/07	12/31/08	595	-9.6	-12.9	-16.2	908.7	-1.2	-15.5	-28.7	-85.2
12/31/08	12/31/09	580	2.2	3.0	4.4	442.4	14.1	-0.4	-12.7	-89.5
Geometric	Average		17.89	13.86	16.24	890.58	27.73	0.53	-17.78	-100.00
Arithmetic	Mean		22.16	18.30	23.37	999.30	31.73	1.87	-16.41	-96.93

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	Venture Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

U.S. Buyouts & Mezzanine (Time Weighted Returns using Periodic IRRs)

Report Dates	12/31/1994 to 12/31/2009

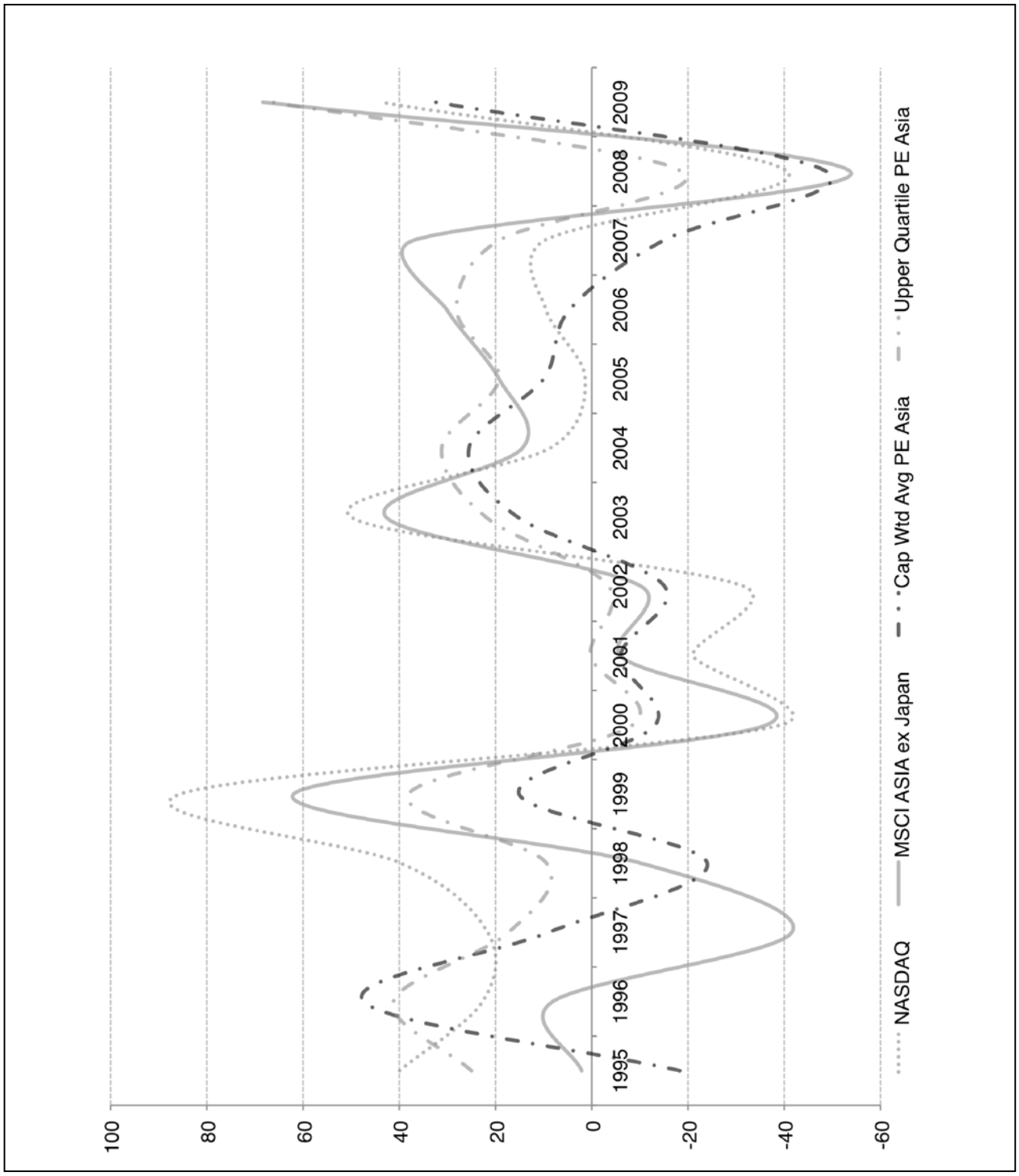
From	To	Sample Size	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
12/31/94	12/31/95	150	21.3	17.3	21.3	1,395.4	26.7	9.3	-2.1	-100.0
12/31/95	12/31/96	199	26.6	19.5	30.1	1,349.9	31.4	14.8	-3.7	-96.8
12/31/96	12/31/97	206	32.9	33.1	25.1	1,004.5	42.5	15.1	-2.2	-100.0
12/31/97	12/31/98	242	11.8	3.4	13.9	455.9	28.1	5.3	-11.8	-100.0
12/31/98	12/31/99	264	29.8	30.1	28.2	715.7	37.5	7.9	-4.8	-99.9
12/31/99	12/31/00	315	11.4	1.6	2.7	1,851.1	19.0	-1.3	-15.9	-97.6
12/31/00	12/31/01	340	-4.4	-13.2	-12.0	1,367.0	6.4	-7.1	-27.6	-100.0
12/31/01	12/31/02	338	-1.8	-4.3	-5.2	793.1	6.8	-3.8	-21.4	-100.0
12/31/02	12/31/03	331	15.7	21.0	21.9	609.1	30.9	7.7	-4.9	-90.8
12/31/03	12/31/04	375	22.8	21.8	19.6	1,807.7	28.5	10.4	-4.8	-96.1
12/31/04	12/31/05	356	24.8	19.5	24.6	578.1	34.4	14.9	-0.1	-99.7
12/31/05	12/31/06	358	21.9	17.6	22.0	784.4	37.8	14.0	-1.7	-100.0
12/31/06	12/31/07	351	24.8	10.2	17.7	1,049.5	36.7	12.2	-6.1	-100.0
12/31/07	12/31/08	333	-16.8	-25.2	-22.1	90.0	0.7	-16.2	-34.0	-93.6
12/31/08	12/31/09	329	12.1	12.5	14.0	408.2	22.4	7.6	-4.2	-92.2
Geometric	Average		14.67	9.81	12.33	811.71	25.36	5.65	-10.31	-100.00
Arithmetic	Mean		15.53	10.99	13.45	950.64	25.99	6.05	-9.69	-97.78

Query History Detail

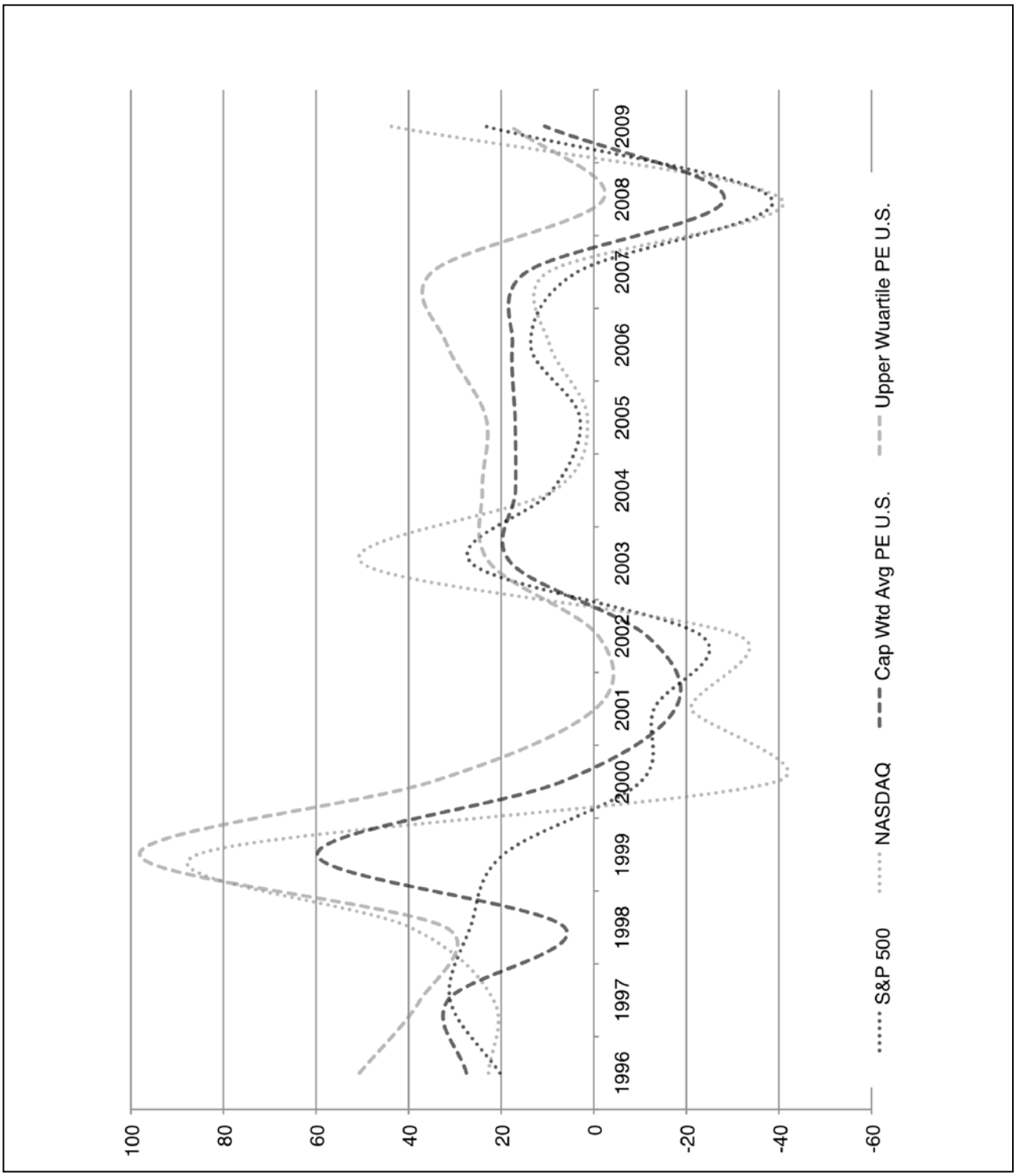
Selected Category	Selected Value
Primary Market	United States
PeType	Buyout and Mezzaine Funds
Fund Nation	United States

Type: Summary Performance Report, September 14, 2010

Appendix 2: Asia PE average and top quartile returns in comparison to the NASDAQ composite and the MSCI Asia ex Japan index



Appendix 3: U.S. PE average and top quartile returns in comparison to the S&P 500 and the NASDAQ composite



Appendix 4: U.S. cumulative vintage year performance

All Private Equtiy Funds: Cumulative Vintage Year Performance

Reported dates 12/31/1969 to 12/31/2009

Calculation Type: IRR

Primary Market US

Vintage Year	Num	Avg	Cap Wtd Avg	Pooled Avg	Max	Upper	Med	Lower	Min
1969-75	13	19.30	18.80	19.80	36.20	24.50	19.90	12.50	7.80
1976-79	19	30.10	29.30	28.20	74.10	43.80	31.20	13.90	3.10
1980	20	15.70	23.40	21.60	41.10	21.60	13.70	9.10	-1.90
1980-83	140	9.20	18.60	14.00	146.70	13.30	7.40	0.80	-57.50
1981	25	9.70	12.80	13.40	40.20	14.80	10.10	0.10	-3.30
1982	29	3.00	4.70	5.10	13.50	9.10	4.20	0.10	-21.40
1983	66	9.80	21.60	12.50	146.70	13.00	6.90	1.30	-57.50
1984	71	7.70	14.70	15.50	124.80	12.50	4.20	1.50	-18.40
1985	56	10.50	17.10	14.70	54.70	16.80	11.80	3.20	-41.50
1986	57	8.90	13.50	14.00	64.50	13.00	7.10	3.80	-11.20
1987	90	7.90	13.40	13.00	65.10	17.10	8.20	0.60	-69.80
1988	65	11.60	12.00	13.50	42.70	18.50	10.50	1.80	-10.20
1989	79	13.10	21.80	20.00	71.30	21.70	11.10	4.30	-42.20
1990	35	13.30	15.60	17.60	74.90	19.30	10.30	-0.10	-24.20
1991	25	17.30	19.80	20.00	61.30	25.50	13.90	3.90	-0.60
1992	46	22.40	24.20	25.20	116.40	37.00	14.60	9.00	-47.20
1993	67	20.10	22.30	23.50	98.60	28.90	12.60	3.60	-25.00

1994	68	20.50	21.40	21.10	112.90	28.50	14.40	1.20	-47.90
1995	77	31.60	20.40	19.20	247.80	32.20	10.00	2.30	-36.10
1996	70	41.70	18.60	22.70	454.90	41.80	7.90	0.50	-15.10
1997	115	29.50	16.10	12.50	296.00	24.70	7.60	-1.00	-25.00
1998	149	15.20	7.20	5.50	721.00	10.80	3.40	-3.20	-100.00
1999	164	-1.80	1.30	2.60	140.00	5.10	-2.30	-9.60	-100.00
2000	189	1.60	5.70	6.20	112.10	7.00	-0.80	-4.60	-22.80
2001	99	5.30	8.90	10.60	58.50	11.30	1.20	-2.80	-22.60
2002	45	5.60	8.50	10.20	54.60	12.10	1.40	-2.40	-22.00
2003	33	6.60	13.80	16.10	40.90	12.20	4.20	1.20	-23.90
2004	51	5.70	7.90	7.50	59.30	11.70	1.90	-2.60	-18.20
2005	51	1.10	-0.60	1.20	22.40	8.10	1.50	-5.90	-20.90
2006	69	-6.20	-7.50	-7.00	16.90	1.20	-4.10	-11.80	-45.10
2007	49	-2.80	-5.40	-2.90	38.80	5.80	-2.50	-13.50	-29.70
2008	34	-14.00	-17.30	-6.20	31.40	3.50	-11.80	-27.50	-65.70
2009	17	-22.40	-36.90	-25.20	106.30	0.20	-28.70	-48.40	-92.20

Query History Detail

Selected Category	**Selected Value**
Primary Market	United States
PeType	All Private Equity Funds
Fund Nation	United States

Type: Summary Performance Report 2009, retrieved September 14, 2010

Appendix 5: Interview guidelines

TARGET COMPANY

Date of Interview:
Location (city, country):
Name of company:
Investment stage focus:
Sector specialization (by industry):
Current portfolio of companies (#):

INTERVIEWEE

Surname, First Name:
Work experience in private equity (years):
Area of expertise:
Countries of experience:
Education background:
Position and responsibility at company:

PRIVATE EQUITY IN SINGAPORE

Broad description of the private equity market in Singapore:
How attractive is the market from a macro economic perspective?
How big is the market? (volume; #; venture/buyout)
How many players are in the market?
What is different in the private equity market in Singapore compared to other countries in Southeast Asia?
Outlook:

PRIVATE EQUITY RETURNS IN SINGAPORE

How do private equity investments in Singapore perform?
Are there any performance differences in Singapore compared to the West?
Are there any performance differences of local and foreign fund investors?

PRIVATE EQUITY INVESTMENT PROCESS (LIFE CYCLE)

Broad description of the private equity investment process with similarities and differences to the West:

Fundraising: Sources of funding

Investing: **Deal origination** (key sources of deals) **Deal evaluation** (due diligence; business plans/data – particular challenges) **Deal structuring** (contracts; board seat; financial aspect)

Monitoring: (financial reports; visits)

Adding value: hands-off/hands-on

Exiting: When does exiting start for you?

Is exiting more difficult in Asia than in the West?
Do you favour one particular exit route?

What is particular to Southeast Asia in the investment process you described?

What is your advantage over other companies in the investment process?

INSTITUTIONAL FACTORS (NORMATIVE; REGULATIVE; COGNITIVE)

How far do institutional factors such as **normative** (accepted behaviour of individuals, professional standards), **regulatory** (law, legal enforcement) and **cognitive** elements (rules, business customs, failure; guanxi) determine the investment process and the investment strategy in Asia?

To what degree do institutional factors determine the success of private equity investments in Asia?

To what extent do private equity investors have to adapt their investment process and strategy (Western approach) in Asia to realize successful returns?

Appendix 6: Data sample

Interview No	Organizational Rank	Industry	Country	Date	Start	End
1	Managing Partner	Private Equity	Malaysia	17.Jun.10	written reply to the questions	
2	Chief Administration Officer	Private Equity	Malaysia	22.Jun.10	10.00am	12.00am
3	Managing Partner	Private Equity	Malaysia	23.Jun.10	09.45am	11.05am
4	Senior Vice President	Private Equity	Malaysia	23.Jun.10	02.45pm	04.30pm
5	Head Southeast Asia	Private Equity	Thailand	30.Jun.10	09.00pm	09.30pm
6	Associate	Private Equity	Indonesia	6.Jul.10	03.55pm	05.45pm
7	Chief Economist	Bank	Indonesia	7.Jul.10	09.15am	10.30am
8	Associate	Consulting	Indonesia	7.Jul.10	09.30pm	11.30pm
9	Professor	Research	Indonesia	9.Jul.10	09.30am	10.30am
10	Managing Partner	Private Equity	Indonesia	9.Jul.10	03.00pm	04.30pm
11	Managing Partner	Private Equity	Indonesia	9.Jul.10	03.00pm	04.30pm
12	Mgmt and Training Consultant	Consulting	Singapore	10.Jul.10	07.15pm	09.15pm
13	Investment Officer	Private Equity	Vietnam	11.Jul.10	07.00pm	09.00pm
14	Senior Investment Manager	Private Equity	Vietnam	12.Jul.10	10.00am	11.30am
15	Associate Director	Private Equity	Vietnam	12.Jul.10	11.45am	01.20pm
16	Executive Director	Reserach	Singapore	13.Jul.10	10.10am	11.15am
17	Assistant Professor	Reserach	Singapore	13.Jul.10	1.45am	2.25am
18	Managing Director	Consulting	Thailand	15.Jul.10	10.20am	11.30am
19	Executive Chairman	Private Equity	Thailand	16.Jul.10	10.50am	12.00am
20	Partner	Private Equity	Hong Kong	19.Jul.10	04.20pm	04.50pm
21	Managing Director	Private Equity	Hong Kong	20.Jul.10	10.15am	11.50am
22	Vice President	Private Equity	Hong Kong	21.Jul.10	10.45am	12.00am
23	Senior Associate	Private Equity	Vietnam	21.Jul.10	09.30pm	10.00pm

24	Associate	Private Equity	Hong Kong	22.Jul.10	02.30pm	03.30pm
25	Associate	Private Equity	Hong Kong	22.Jul.10	02.30pm	03.30pm
26	Associate	Private Equity	Hong Kong	22.Jul.10	02.30pm	03.30pm
27	Managing Director	Private Equity	Hong Kong	22.Jul.10	04.50pm	05.20pm
28	Research Manager	Research	Hong Kong	23.Jul.10	02.50pm	04.10pm
29	Managing Editor	Reserach	Hong Kong	23.Jul.10	02.50pm	04.10pm
30	Managing Partner	Private Equity	Singapore	26.Jul.10	12.00am	01.15pm
31	Investment Director	Private Equity	Singapore	26.Jul.10	12.00am	01.15pm
32	Manager	Consulting	Singapore	26.Jul.10	02.00pm	03.30pm
33	Director	Private Equity	Singapore	26.Jul.10	03.30pm	05.00pm
34	Associate	Private Equity	Singapore	27.Jul.10	12.15am	01.35pm
35	Associate	Private Equity	Singapore	27.Jul.10	12.15am	01.35pm
36	General Partner	Private Equity	Singapore	28.Jul.10	02.00pm	03.30pm
37	Partner	Private Equity	Hong Kong	29.Jul.10	10.30am	10.50am
38	Associate	Reserach	Hong Kong	11.Aug.10	09.00am	09.45am
39	Associate	Reserach	Hong Kong	11.Aug.10	09.00am	09.45am
40	Associate	Research	Hong Kong	11.Aug.10	09.00am	09.45am
41	Associate	Research	Hong Kong	11.Aug.10	09.00am	09.45am
42	Professor	Reserach	Singapore	20.Aug.10	9.00am	09.45am
43	Managing Partner	Private Equity	London	23.Aug.10	10.00am	10.45am

Curriculum Vitae

RAPHAEL KAESTLI

EDUCATION

04/2006 – 12/2010	**DOCTORAL STUDIES AT THE UNIVERSITY OF ST. GALLEN**, St. Gallen, Switzerland Asia Research Centre (Chair of International Management, Southeast Asia), Prof. Dr. Li Choy Chong; Research on «Private Equity in Southeast Asia: A Comparative Analysis of Private Equity Returns in the context of the Investment Process and Investment Strategy»
05/2009 – 07/2010	**VISITING SCHOLAR** at INSEAD Asia Campus (Prof. Dr. Hellmut Schütte) and Singapore Management University (Prof. Dr. Francis Koh)
10/2000 – 10/2005	**UNIVERSITY OF ST. GALLEN (HSG), School of Management**, St. Gallen, Switzerland Graduate degree in Business Administration (lic. oec. HSG) with special emphasis on Finance, Accounting and Controlling
10/1998 – 04/2000	**UNIVERSITY OF BERNE, Jurisprudence**, Berne, Switzerland Undergraduates studies in private law, public law, criminal law, and basic legal subjects

PROFESSIONAL EXPERIENCE

07/ 2007 – present	**University of St. Gallen,** St. Gallen, Switzerland ▪ Research Associate at the Asia Research Centre (Chair of International Management, Southeast Asia)

02/2006 – 06/2007	**Rising STAR AG, Alternative Investments,** Bottighofen, Switzerland ▪ Personal assistant to the CEO ▪ Controlling and Compliance
01/2005 – 04/2005	**Internship with Population & Community Development Association (PDA),** Bangkok, Thailand ▪ Fundraising for Tsunami victims, market study on Red Rise Crispies as an alternative way to sell broken rice grains.
03/2004 –12/2004	**Ortega (private school),** Switzerland ▪ Teaching German, French, English, Mathematics and Accounting to high school level pupils
2003 – 2004	**TBIRD** (Thai Business Initiative in Rural Development) ▪ Project Coordinator in cooperation with the Institute for International Management (FIM) at the University of St. Gallen under Prof. Dr. Li Choy Chong ▪ Including PR at university, selection of students, organizing and coordinating of volunteer student missions, communication Thailand – Switzerland, sponsoring
2001 – 2004	**ASIAN STUDENTS' ASSOCIATION**, St. Gallen, Switzerland (Club of Asian students and of those with regional focus on Asia) *Vice-president (since autumn 2001)* ▪ Organized intercultural student exchange projects between students of Hitotsubashi University, Tokyo, Japan and the University of St.Gallen in spring of 2001, 2003, and 2004.