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International Venture Capital Firms Syndication and Performance: A Social Network Perspective

Amir Pezeshkan
Old Dominion University

INTERNATIONAL VENTURE CAPITAL FIRMS SYNDICATION AND PERFORMANCE: A SOCIAL NETWORK PERSPECTIVE

By

Amir Pezeshkan
B.A. June 2005, UES, Tehran, Iran
M.B.A. June 2009, MAU, Tehran, Iran

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Approved by:

Dr. Anil Nair (Chair)

Dr. Jing Zhang (Member)

Dr. Edward Markowski (Member)

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Amir Pezeshkan
Old Dominion University
Director: Dr. Anil Nair

ABSTRACT

Despite a growing body of research on venture capital firms, the process by which venture capital firms invest across borders remains unclear. This three-essay dissertation integrates the literature on venture capital firms, social network theory, and international alliances to examine following research questions:

1) How do network characteristics (i.e., structure and composition) of the international venture capital firms and their potential partners impact their syndication behavior?
2) What configurations of the ventures' and the international venture capital firms' attributes is associated with syndication in emerging markets? and
3) Does the host country influence the international venture capital firms' syndication behavior and performance?

While there is a plethora of empirical studies on domestic venture capital activities and cross country comparison of the venture capital industry, there is a lack of research that looks at the process of the venture capital firms' international investments and explores the factors that influence the process of such investments. Essay I addresses this gap by developing a theoretical framework examining how network structure and composition of the both focal foreign venture capital firms potential partners operating in the host country can impact their syndication behavior. The major network constructs

constituting the framework are network centrality, density, and diversity. The theoretical argument suggests that all of these factors can play a significant role in the venture capital firms' decision with regard to syndication. The major contribution of this essay is introducing the network attributes as the antecedent mechanisms impacting the syndication likelihood. Also, this study expands the level of the analysis in this literature, from the firm to its network.

Essay II examines how venture s' risk factors (information asymmetry and technical complexity) and venture capital firms attributes (social status in the home and host countries and general and host country experiences) configure in syndicated deals applying fuzzy set qualitative comparative analysis. The results show that the venture riskiness is a more important factor driving the syndication decision compared to the venture capital firm's capabilities (identified through the social status and experience). Further, the venture capital firms' capabilities do not substitute the syndication. In other words, even firms with high social status and significant experience are willing to syndicate their investments. Finally, I found that while syndication is not systematically associated with high performance, lack of syndication is associated with low performance. This result reveals the vital role of partner selection in the venture capital syndications. Theoretically, my results lend more support to the assumption that syndication is not significantly contingent upon the venture and venture capital attributes, and other motivations such as portfolio diversification and future reciprocation are more likely to drive the syndication decision.

Essay III aims to examine whether venture capital firms alter their syndication strategy according to the host country attributes. The second research question in this

essay is whether the performance of international venture capital firms systematically varies when they invest in different countries. Results provide support for the overall significant country effect on the syndication decision. Whether venture capital firms syndicate their investment or not is systematically and partially explained by the host country characteristics. The type of partner (domestic versus home country) also partially depends on the host country. Interestingly, the host country explains more variation of syndication with home country partners compared to domestic firms. Further, I found that the performance of the venture capital firms' international investments varies with the variation of the host country. The host country effect is significantly greater when the foreign firms only syndicate with the domestic partners. There are also more fine grained analyses whose results have been presented in this essay. Thus, this essay contributes to the theory and practice by revealing the significant effect of the host country on the international venture capital firms strategy and performance. Results of this essay open new venues for future studies and shed light on the plausible directions for the future research investigating the phenomenon of the venture capital firms' internationalization.

DEDICATION

To my parents for all their love and support, putting me through the best education, and instilling a sense of drive and curiosity in me. Without their sacrifices, I would not have achieved this.

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CHAPTER 1

INTRODUCTION

Venture capital (VC) firms invest in high-potential private companies with the goal to exit successfully from the venture (in the form of public offering, merger, or acquisition) and earn a return on their investment (Aizenman & Kendall, 2012; Brander, Amit, & Antweiler, 2002). In addition to providing the capital, VC firms add value to new ventures through managerial inputs (Hellmann & Puri, 2000, 2002).

This dissertation focuses on VC syndication decisions. In contrast to the solo investment in a new venture, syndication has been defined as the situation where two or more VC firms invest in a venture together[1] (Brander et al., 2002). Syndication is one of the most critical strategic decisions that VC firms make in managing their investments (Lerner, 1994). VC firms may seek partners for many reasons such as capital and local market knowledge and connections. While in the past, the VC literature has examined syndication decisions using social network theory (Guler & Guillen, 2010), the antecedent mechanisms through which social networks influence the syndication decision have not been examined. In addition, despite the growing internationalization of the VC industry, there is a lack of studies looking at the VC firms' internalization process (Wright, Pruthi, & Lockett, 2005; Jääskeläinen, 2012).

Prior studies have focused on comparing the VC industry across different countries rather than the processes through which VC firms invest abroad and manage such investments (e.g. Black & Gilson, 1998; Cumming, Fleming, & Schwienbacher, 2006; Jeng & Wells, 2000; Megginson, 2004). This three-essay dissertation seeks to

[1] This can occur at the same round or different rounds of investments.

address these gaps in the VC literature. As there has been a rise in developed country VC firms' investment in emerging markets (Aizenman & Kendall, 2008), I develop and test my theoretical framework within this context.

In the first essay, I develop a theoretical framework that illustrates how network structure (i.e. social status) and composition (i.e. network density and diversity) impact VC firms' syndication decision. Expanding upon the duality rationale introduced by Ahuja (2000), I argue that the underlying mechanisms driving syndication involve an interaction between the *motivation* and *attractiveness* of all parties. Next, I describe how network structure and composition can influence this underlying mechanism and consequently impact the likelihood of syndication. In contrast to previous studies that have tended to focus only on the potential partner, in this essay, I expand the level of analysis to include the partner's network. That is, I argue that a VC firm's syndication decision is also influenced by the attributes of the partner's network.

In Essay 2, I examine whether during international expansion, social status of VC firms at home and host countries influence their syndication decision. The main research question that this essay seeks to answer is whether social status, with the advantages that it offers, can substitute for syndication, or it complements the syndication's benefits. Pior research offers two major perspectives about the syndication process: while some believe that VC firms have natural tendency towards syndication (Hochberg, Ljungqvist, & Lu, 2010; Lerner, 1994; Manigart et al., 2002), others have claimed that syndication depends on the venture and VC firm's characteristics (Dimov & Milanov, 2010; Hopp & Rieder, 2011; Jääskeläinen, 2012). I examine how venture riskiness (e.g., *asymmetric information*

and *technical* risks) and social status of the VC firm in home and host countries influence syndication.

Further, I investigate the performance implications of the syndication and social status. I develop competing propositions to examine whether certain configurations of social status in the home and host countries and venture characteristics can lead to superior performance regardless of syndication, or syndication is a necessary condition for superior performance. I employ fuzzy-set qualitative comparative analysis (fsQCA) to address the research questions. The premise of fsQCA is that in most cases, a combination of multiple conditions leads to an outcome in social sciences instead of each independent variable influencing the outcome individually (Crilly, Zollo, & Hansen, 2012). It allows us to explore certain configurations of causal conditions leading to the high and low levels of an outcome variable (Ragin, Drass, & Davey, 2006; Ragin, 2000). Results yield a certain set of configuration among the causal conditions that are associated with syndication and superior performance in VC firms' international investments. This empirical study is based on a sample of the first round investments made by U.S. VC firms in China from 1995 to 2005.

In the third essay, I examine the impact of the host country on syndication decision and performance of the international VC firms. Due to the lack of research on VC firms' internationalization, the role of the host country in refining their strategies and performance remains unclear (Meuleman & Wright, 2011). Therefore, the first step to open this venue of research is to examine whether and to what extent the host country has a significant impact on international VC firms' strategic behavior and performance. Institutional theory and liability of foreignness in international business literature

maintain that institutional and cultural differences and unfamiliarity with the local market cause foreign firms to ally with others (Ahlstrom & Bruton, 2006). Thus, depending on the host country characteristics and its institutional and cultural distances from the home country, foreign VC firms may encounter different levels of pressure to syndicate in order to mitigate their liability of foreignness. Addressing this phenomenon, the overarching research question in this essay is whether and how much of variation in the syndication decision and performance of the international VC firms are explained by the host country characteristics. To provide more fine-grained analysis, I also ask following questions: Does the amount of variance explained by the host country differ for syndication with domestic versus home country firms? Does the country effect on VC firms' performance vary for stand-alone versus syndicated deals? Does the country effect on VC firms' performance vary for syndicated deals with different partners (domestic vs. home country partners)?

I use Hierarchical Linear Modeling (HLM) to conduct a variance decomposition analysis in order to examine the explanatory power of the host country in VC firms' strategic behavior and performance. The hypotheses are tested using a sample of investments by U.S. VC firms in 53 different countries. The results show that the host country significantly influences the general decision to syndicate as well as the performance of the international VC industry. Further, the host country effect is different in magnitude for syndications formed with home country firms compared to those with domestic firms. When limiting the sample to the deals in which US VC firms had at least one domestic partner, country effect does not significantly and systematically explain performance differences across various countries. However, when I limited the sample to

the deals that had merely syndicated with domestic firms, country effects became significant. These findings show that the country characteristics are more influential when U.S. VC firms do not have any partners other than domestic firms to compensate for the institutional and cultural differences among the home and host countries. In other words, they are more powerful and dominant when they have other partners (i.e., from home or other similar countries) in addition to the domestic firms. That can be a defensive strategy against information asymmetry and unfamiliarity with domestic firms.

Overall, the findings of this dissertation make several theoretical and empirical contributions to the literature on the VC syndication, particularly internationalization of VC firms as well as the international alliance literature. I introduce a more fine-grained application of social network theory to this literature as the primary theoretical contribution. Although prior VC studies have incorporated social network perspective into their theoretical frameworks (e.g., Abell & Nisar, 2007; Echols & Tsai, 2005; Guler & Guillen, 2010; Hochberg, Ljungqvist, & Lu, 2007), their main focus has been on the domestic VC industries, and the structural dimensions of the social network theory (e.g., social status and network centrality). In this dissertation, I address this gap by including both network structure and composition dimensions and by concentrating on international VC firms. Also, I expand the level of analysis from dyads of VC firms to their network. With that regard, the major theoretical contribution of this dissertation is that since networks have several tangible and intangible resources to offer, they should be considered in examining the partnerships among VC firms in addition to the focal VC firms' qualifications. Thus, decision to syndicate with a VC firm must be examined based on both the potential partner's qualification and its network.

From the empirical stand point, essays 2 and 3 rely on data from actual investments made by VC firms overseas to examine the presented theoretical framework. Essay 2 introduces a new method, Fuzzy Set Qualitative Comparative Analysis (FSQCA), to the VC literature. This opens a new methodological venue for future studies. Due to the advantages that FSQCA has to offer in conducting rigorous qualitative studies even with small sample sizes, it can be applied in the VC literature in opening the black box of VC firms' strategic behaviors such as syndication. Finally, essay 3 is the first step to start an entirely new research stream in the VC literature. Future studies are encouraged to explore specific country level factors that impact foreign VC firms' operation and performance. Also, comparing the type and magnitude of the host country effects on foreign and domestic firms is warranted.

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CHAPTER 2

ESSAY I: INTERNATIONAL VENTURE CAPITAL SYNDICATION: THE IMPACT OF NETWORK STRUCTURE AND COMPOSITION

2.1 ABSTRACT

Syndication is a popular strategy among the venture capital firms. How the venture capital firms make this strategic decision in an international setting and factors that influence it have been neglected in the past venture capital research. This paper examines the role of the venture capital firms' and their potential partners' network structure and composition on the syndication decision. This paper examines the syndication decision in the context of investments made by the developed country venture capital firms in emerging markets due to the increasing trend of such investments. I adopt Ahuja's opportunity/inducement framework. The major theoretical contribution is that the interplay between network characteristics and willingness/attractiveness of the partners influences the likelihood of syndication between them. Accordingly, a conceptual framework and propositions are developed and implications for both theory and practice are discussed.

2.2 INTRODUCTION

VC firms are characterized as companies investing in high potential entrepreneurial ventures and providing them with finance, business skills, and connections with suppliers and customers (Lockett & Wrigh, 2001). Syndication is one of the most common strategies that VC firms use to manage their investment. Prior studies have defined the syndication as the investments made by two or more VC firms in the same round in a venture (Bygrave, 1987; Lerner, 1994). Some also have expanded the definition to the situations in which different VC firms have joined a venture at different stages or in different rounds (Brander, Amit, & Antweiler, 2002). Due to its strategic importance, syndication has attracted the attention of business scholars (Jääskeläinen, 2012). Prior studies have explored the motivations behind the syndication decision from different perspectives. For example, risk sharing (Lockett & Wright, 2001; Wilson, 1968), resource based view (Busenitza, Fiet, Moesel, 2004; Sapienza, 1992), social network, and deal flow and future reciprocity of the partners (Lockett & Wright, 2001; Wright & Lockett, 2003) are some perspectives used to understand and explain the syndication behavior.

Within the social network perspective, some have focused on the structure of the VC firms' network (Bygrave, 1987, 1988), while others have examined the performance effects of the VC firms' network. For instance, the position of the VC firms in their syndication network has been identified to have a positive impact on their performance at the fund level and on the individual venture's performance (Abell & Nisar, 2007; Echols & Tsai, 2005; Hochberg, Ljungqvist, & Lu, 2007). Also, previous studies have explored

how VC firms' network characteristics influence their decision to expand internationally (Guler & Guillén, 2010a).

Due to extensive interactions among the VC firms and because syndication is a common strategy for them, the VC industry is recognized as a highly social industry (Guler & Guillén, 2010a), which makes it an appropriate context to apply social network theory. Despite several studies using social network perspective in the VC context, there are two major gaps in the literature: first, antecedent mechanisms through which social networks influence the syndication decision remains unclear. Second, most of the prior studies are concentrated on the focal VC firm's network and mostly the position of the VC firms in its network (Abell & Nisar, 2007; Echols & Tsai, 2005; Hochberg, Ljungqvist, & Lu, 2007). Thus the partner's network as well as other network characteristics particularly network composition remains under-researched. I address these gaps in the literature in this study.

I examine how network structure and composition function as the antecedents of the VC firms' syndication decision. Further, I expand the level of analysis from dyadic relationships in syndication to include the partner's network. I discuss how partner's network features, beyond its individual characteristics, can impact other VC firm's decision with regard to form syndications with them. Also, VC activities have been expanding from the U.S. — where it originated— to other countries around the world from mid-1990's (Guler & Guillén, 2010a). Witnessing the positive impacts of the VC industry on the economy of pioneer countries, other countries started to encourage local VC activities and at the same time facilitate the inflow of VC investments from other countries (Aizenman & Kendall, 2008). The untapped investment opportunities and

reforms undertaken by the governments in emerging countries have made them the investment destination for many VC firms from developed countries (Ahlstrom & Bruton, 2006). Despite its growing popularity, internationalization of the VC firms is still under-researched in the VC literature (Jääskeläinen, 2012; Wright, Pruthi, & Lockett, 2005). To respond to this gap, I examine the syndication behavior of the international VC firms from developed countries investing in emerging markets as the context of my study.

Due to the general similarity between the syndication of the VC firms and alliances in other industries (Wright & Lockett, 2003), I employ the findings of previous studies on the international alliances and particularly those that have examined alliances between firms from developed and emerging countries (e.g., Dacin, Hitt, & Levitas, 1997; Hitt et al., 2000; Yan & Gray, 1994) to develop my conceptual framework. I build on the dual rationale for alliances introduced by Ahuja (2000). He argued that for a firm to form an inter-organizational link, it needs to have the *motivation* and *opportunity* for such relationship at the same time. I use the same logic in the VC firms' syndication and develop it in some aspects. First, while previous studies have mostly focused on one side of the inter-firm links (that is, the focal firm), I address the motivation and attractiveness of both sides examining the syndication likelihood between them. Second, analyzing prior studies on international alliances (mainly between developed and emerging country firms), I classify the motivation and attractiveness factors into two groups: *business-related* and *context-related* factors. Whereas the former refers to the situations that a firm allies with others in order to gain advantages directly related to the technical aspects of the business, the latter occurs in instances that the environment and context of the host country impose the need for alliance to the firm. For instance, liability of foreignness

(LOF) is one of the context-related factors that may lead an international firm towards an alliance while it might be able to handle the actual business operation alone (Zaheer, 1995). Finally, in addition to the individual partner's attributes, I introduce the partner's network features as the influential factors on its motivation and attractiveness.

The article is structured as follows. In the next section, I briefly review the basic concepts of the VC industry and its internationalization history. Thereafter, reviewing literature on the VC firms' syndication, social network, and international alliances, theoretical perspective and the propositions on the international VC firms' syndication based on the dual rationale are developed. Finally, overall conclusion and implications for researchers and practitioners are discussed.

VC INDUSTRY

The VC industry grew rapidly in the United States in mid-1990s. The origins of the VC industry can be traced back to 1958 when investors provided funds to general partners or venture capitalists to invest in entrepreneurial ventures (Guler & Guillén, 2010a). After that, limited partnership became the dominant form of incorporation in the U.S. Contemporary VC firms have between two and over 30 general partners. The amount of capital invested in ventures can be from $10 million to several billion dollars (Fenn, Liang, & Prowse, 1997).

The VC industry has been one of the major drivers of innovation and growth of high-technology industries in the U.S. economy. As of 2010, venture- capital-backed companies represented 11% of the total U.S. private sector employment and 21% of the U.S. GDP (National Venture Capital Association, 2011). While the VC sector in the U.S. has been large and active for many years, there had been very little growth in VC activity

in other countries until the mid-1990s. Since that time, the internationalization of the VC sector has been driven by general factors driving globalization as well as historical facts specific to the VC industry (Aizenman & Kendall, 2008).

There are several factors that contributed in the internalization of the VC industry. With saturation of the developed markets, many VC firms have turned to emerging and less developed countries as attractive and growing markets with untapped investment opportunities (Gompers & Lerner 1998). Regulatory reforms by the governments in those countries have also facilitated the foreign investments by VC firms. Significant role of the VC investments in the economic growth of the pioneer countries such as U.S. has also encouraged emerging country governments to facilitate the inflow of foreign funds by international VC firms (Wright et al., 2005). As a result, the flow of international VC funds across the countries has increased (Baygan & Freudenberg, 2000). However, the U.S. is still a dominant player in the VC industry and most of the international investments are made by the U.S. VC firms (Aizenman & Kendall, 2008). China has emerged as an international host market, and now has the second largest amount of private capital in Asia including about one-third of all capital under management in Asia (Bruton & Ahlstrom, 2003). It is the dominant net importer of VC funds, followed by Sweden, Canada, the UK, India, and France (Aizenman & Kendall, 2008).

2.3 THEORETICAL BACKGROUND

VC Firms Syndication

Syndication is an important and popular[1] strategy among VC firms (Lockett, & Wright, 2001). While some scholars have defined syndication as the situation in which

[1] According to Jääskeläinen (2012) the rate of syndicated investments in VC industry ranges between 40-80% of all investments. VC firms in different countries have different desires toward syndication. For

two or more VC firms invest in a venture at the same investment round (e.g. Lerner, 1994), others have offered a broader definition which includes ventures backed with different VC firms that have invested in different rounds (e.g. Brander et al., 2002). Syndication in the VC industry to some extent resembles the alliances in other industries (Wright & Lockett, 2003). However, there are some unique aspects that distinguish the syndication from typical alliances (Wright & Robbie, 199). Unlike traditional alliances or joint ventures, in a syndication, VC firms come together and invest in a legal entity that already exists. Further, VC firms do not engage in the day-to-day operation of the venture and mostly have a supportive monitoring role. Finally, in addition to helping the venture to succeed in its business, the ultimate goal of the VC firms is to exit the venture in the form of IPO or merger and acquisition (M&A). Due to the fact that VC firms do not engage directly in the venture's operation and are to support the venture with providing resources and connecting them to experts in the field, network of the VC firms can play a vital role in bringing them those connections and increasing their access to the required resources.

Prior studies offer three different rationales for the syndication decision: risk mitigation, resource sharing and reciprocal deals in the future. First, from a traditional finance perspective, sharing the investment risk is one of the explanations for VC firms' syndication (Lockett & Wright, 2001). From this view, VC firms syndicate to mitigate the potential risks stemming from the venture or the market (Ruhnka & Young, 1991). In

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instance in 2001 the share on syndicated investments in U.S. (between 40-50%) was more than three times as much as that in U.K.

some cases, lack of sufficient information[1] about the venture increases the risk of the investment. Through adding more counterparts to the deal, VC firms try to improve the due diligence in selection process and invest in more promising ventures (Lerner, 1994). Further, VC firms may engage in syndication to diversify their investment portfolio and therefore reduce their risk by putting their eggs in different baskets (Wilson, 1968). In this case, syndication is a general financial risk sharing strategy independent from the VC firm and venture characteristics.

Second, VC firms syndicate to share resources. VC firms do not function just as a financial resource provider for the entrepreneurial firms. They are presumed to create value in the venture through their managerial expertise and other resources and connections that they have access to which goes beyond the financial resources (Brander et al., 2002). To perform more effectively in value adding process[2], VC firms bring other counterparts to the deal to benefit from their specific experiences, skills, and resources in the venture's operation area (Busenitz et al., 2004; Sapienza, 1992). In this case, syndication is a strategy to enhance the venture's performance that ultimately makes it more marketable at the time of exit.

Finally, some of the prior studies have identified future reciprocity as another motivation for VC firm to syndicate their investments. This argument is based on the importance of securing prospect deals to invest in the future specially in unfavorable conditions (e.g. macro-economic conditions) when finding promising deals is difficult (Hochberg et al., 2007; Lerner, 1994). In essence, VC firms may invite other counterparts

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[1] The lack of information can be because the venture is young or in lower stages of development and thus, has short track record for the VC firms to rely on in investment decision (Gompers & Lerner, 2002; Hopp & Rieder, 2011).

[2] Value-added activities of VC firms can be classified in following categories: financial, administrative, marketing, and strategic/management (Cumming, Fleming, & Suchard, 2005; Sapienza, 1992).

to their deal (syndicate their deals) hoping that those counterparts will do the same in the future.

Alliances and Syndication

Alliances are cooperative arrangements between two or more firms to achieve the strategic objectives of the partners (Das & Teng, 1998). Given the similarity between syndication and inter-firm alliances (Wright & Lockett, 2003), some of the findings of the prior studies on alliances can be applied in the syndication context as well. Specific context of this study is international investments of developed country VC firms[1] in emerging markets. Increasing trend of the investment outflow mainly from developed countries towards the emerging markets has enhanced the likelihood of co-operation between firms from these countries (Hitt et al., 2000). The emergence of the inter-firm relationships between developed and emerging country companies has encouraged scholars in alliance literature to focus specifically on the dynamics of such relationships. As a result, there are several studies that have investigated this phenomenon from different perspectives. One of the streams in this literature is concentrated on the motivations and inducements of the firms from different origins (developed vs. emerging markets) for creating such alliances. The main idea here is that evolving in different environments, firms from these countries have different motivations and needs of forming alliances (Glaister & Buckley, 1996).

From an institutional perspective, the developed countries are characterized by strong rule of law and economic stability, while institutions in emerging markets are weak. As a result, such markets are characterized by uncertainty and ambiguity which in turn generate political risks for the firms investing in such markets (Diamonte, Liew, &

[1] Hereafter is called focal VC firms

Stevenset, 1996; Hoskisson, Eden, Lau, & Wright, 2000; Pedersen & Thomsen, 1997). The lack of institutions and risk make the emerging economies hostile markets for the VC firms from developed countries, as their previous experiences are not quite applicable. The technology gap between developed and emerging markets also influences inducements of different parties for alliance formation. Most of the contemporary industries have emerged in developed countries which has created a technology gap among different countries in the world (Svetlicic & Rojec, 1994). Consequently, compared to the rich, resource-endowed counterparts in the developed countries, firms in emerging markets have less access to advanced resources and sophisticated technologies. Relying on this rationale, previous studies have explored distinct motivations that developed and emerging market firms have when they form alliances (Dacin et al., 1997; Dong & Glaister, 2006; Gillespie & Teegen, 1995; Hitt et al., 2000; Yan & Gray, 1994). Table 1 offers a summary of these studies.

[INSERT TABLE 2.1 ABOUT HERE]

As Table 1 illustrates, firms from similar markets share similar motivations in alliance formation. In fact, the developed economy firms mainly use alliances to cover their disadvantages resulting from the lack of local market knowledge and also institutional distances with emerging markets (Beamish, 1987; Hitt et al., 2000). Thus, what they wish to receive from their local partners are local market knowledge and information, customer information, access to different geographical markets in the host country, and institutional connections required to succeed in the business operation in emerging markets (De Mattos, Neto, & Sanderson, 2001; Gillespie & Teegen, 1995). On the other side, for the emerging market firms, alliance with the developed country firms is

a great opportunity for access to advanced resources and technologies, and connecting to the foreign markets (Dong & Glaister, 2006; Hitt et al., 2000; Raveed & Renforth, 1983). I use these findings to develop dual rationale of alliances.

Dual Rationale of Inter-Firm Relationships

Ahuja (2000) in his analysis of inter-firm alliances introduced dual rationale for collaboration among firms. He argued that to form an alliance, a firm needs to have an *inducement* to engage in that relationship, and at the same time the *opportunity* to create a partnership. He identified three types of capital that can influence the inducement and opportunity of the firms to engage in alliances: technical, commercial, and social. Other studies have also applied this rationale to explore the factors that make a firm an attractive alliance partner to others and consequently increase the alliance likelihood (Alvarez & Barney, 2001; Bae & Insead 2004; Rothaermel, 2002). In the context of VC industry, Dimov and Milanov (2010) followed the same logic and examined the interplay between need and opportunity in the VC firms' syndication. They found that in the novel investments where the egocentric uncertainty is high, the VC firms are more willing to syndicate the investment, with their reputation and status increasing their opportunity to find better partners.

I build on this logic and develop it in two major ways: first, I divide both motivation and attractiveness into two categories as *business-related* and *context-related* categories. This categorization is based on what prior studies have found in the international alliances between developed and emerging country firms. The context-related motivations stem from institutional and cultural differences between the home and host countries. According to the previous studies summarized in Table 1, the firms from

developed economies mainly use alliances to cover their disadvantages resulting from the lack of local knowledge as well as institutional distances with emerging markets. Indeed, it is the context of the investment that leads them to ally with other firms to share the risk deriving from LOF. On the other hand, emerging market firms usually ally with the developed country counterparts to cover the technological gap existing between developed and emerging countries. According to that, I call those motivations business-related since they are mostly related to the technical aspects of the business.

The general motivations of VC firms to form syndication were mentioned in the previous section. Improving the value added process and pooling the resources are two of the common VC firms' motivations. In such cases, VC firms engage in the syndication because they want to benefit from the expertise and resources of the counterparts. I label such instances where the technical aspects of the business lead the VC firms towards syndication, as business-*related* motivation. However, there are other instances, especially in the international settings, when syndication is motivated by the risks that the VC firms perceive in the context of the investment. The unfamiliarity with the local market and cultural distance with the local entrepreneurs make the deal selection process difficult. I call such factors *context-related* motivations. In such situations, having extensive experiences and knowledge about the host country, local firms have context-related attractiveness in the eyes of the focal firms. In addition, the VC industry is much more experienced and advanced in the developed countries such as U.S. than it is in the emerging markets (Wright et al., 2005). That makes the VC firms from developed countries attractive to the local firms in emerging markets from the business-related aspects. Therefore, matching needs (motivations) of one side and capability of the other

side to fulfill those needs (attractiveness) enhances the likelihood of the alliance between them.

Network Characteristics

This study seeks to examine how networks impact the syndication decision of the VC firms. To answer this question, I consider the network's structure and composition. Network structure refers to the "pattern of relationships that exist among a set of actors" (Phelps, 2010: 890). Network composition implies the characteristics of the actors in a network such as their resource endowments (Wasserman & Faust, 1994).

Network Structure and Social Status. Social status includes an actor's set of direct ties. So, it can illustrate the structure of the relationships in a network and relative position of actors in this structure (Guler & Guillén, 2010a). It implies the prestige of an actor by showing its standing in its network (i.e. syndication network) relative to the others (Burt, 1982). Podolny (2005: 11) clearly describes this implication:

> "The concept of status invokes the imagery of a hierarchy of positions - a pecking order - in which an individual's location within that hierarchy shapes others' expectations and actions toward the individual and thereby determines the opportunities and constraints that the individual confronts"

One of the common ways of defining the social status is the position of the firm in its network relative to the other actors; that is, to what extent existing ties make the focal firm's position central in the network (Podolny, 2001). From this perspective, the focal firm's social status is also a function of the social status of the other actors to which it is related (Stuart, Hoang, & Hybels, 1999). In other words, affiliation with firms with higher social status enhances the status of the focal firm. The high social status creates several benefits for the firm: firms with high social status are more attractive partners, since affiliation with them can enhance the status of the partner as well (Podolny, 1993).

Co-operation with other firms – the basis of the social status – gives the focal firm visibility and thereby enhances the firm and its actions' legitimacy in other actors' view (Eisenhardt, & Schoonhoven, 1996). Further, capturing the level of the firm's embeddedness in its network (Ahuja, 2000), status shows the magnitude and likelihood of access to different resources existing in the network such as information, human capital, advices, and financial resources (Bothner, Kim, & Smith, 2012; Hoang & Antocic, 2003; Sparrowe, Liden, Wayne, & Kraimer, 2001; Stuart et al., 1999). Firms with higher status enjoy superior access to these resources.

Acknowledging these benefits, prior studies in the VC literature have examined the impact of the VC firms' social status[1] on their operation. For instance, Podolny (2001) found that the value of social status increases in cases where there is a high altercentric uncertainty. Altercentric uncertainty refers to the situations in which the focal firm's partner does not have sufficient information to assess the quality of the focal firm. Social status has also been identified to positively impact the ultimate performance of the VC firms in terms of having more successful exits in their investments (Abell & Nisar, 2007; Hochberg et al. 2007).

Network Composition. *Diversity* and *density* are two constructs that have been used in prior studies focusing on the social networks (Phelps, 2010). Network diversity[2] implies the extent to which a network can expose the focal actor to different and various resources, knowledge, and information (Houston et al., 2004). In a general perspective, diversity can be an attribute of any system with different elements (Stirling, 2007). According to this perspective, Phelps (2010: 894) defines diversity as follows:

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[1] Prior studies have used the terms *network position*, *network centrality*, and *social status* interchangeably.
[2] Network efficiency has also been equivalently used in some studies (e.g. Baum et al. 2000) instead of the term diversity.

> "Diversity refers to the extent to which a system consists of uniquely different elements, the frequency distribution of these elements, and the degree of difference among the elements."

According to this general definition, diversity in the networks refers to the extent to which the actors in a network have unique "skills, knowledge, and capabilities" (Houston et al., 2004: 253). Diversity in a network lowers the level of redundancy. Redundancy indicates the fact that actors in a network possess similar resources (tangible and intangible such as information) and capabilities (Burt, 2000; Gomes-Casseres, 1994). Redundant configuration of a network decreases the likelihood of access to the novel information and knowledge which is necessary for creativity and innovation (Uzzi, 1996, 1997). Redundancy in a firm's network occures if managers expand their network without considering the diversity of new actors' resources, capabilities, and skills (Baum, Calabrese, & Silverman, 2000). The extent to which new actors are distinct from the existing ones can increase the likelihood of providing new information, knowledge, and other resources to the network (Lee, 2007). Relying on this characteristic of diverse networks, prior studies have found that affiliation to a diverse network can enhance the firm's performance and its likelihood of survival (Baum et al, 2000; Powell, Koput, & Smith-Doerr, 1996).

Network density is the extent to which there is interconnectedness among different actors in a network (Coleman 1988, Houston et al., 2004). The idea of density is related to the seminal piece by Granovetter (1973) in which he distinguished between weak and strong ties among the actors in a network. Strong ties refer to a direct and robust relationship between two actors and weak ties refer to an indirect relationship in which there is no serious exchange between the actors (Granovetter 1973). Dense

networks are those networks consisting of more strong and direct ties which are highly interconnected while networks with lower level of density[1] include weak and absent relationships among the actors (Sparrowe et al., 2001). One of the main differences between dense and sparse networks is the quality and diversity of the exchanged resources among the actors. In dense networks, similar resource pool (e.g. knowledge and information) among all firms is likely (McEvily & Zaheer, 1999), because strong ties are usually created among actors which are similar to each other (Granovetter, 1973). Hence, higher level of density in a network decreases the likelihood of access to diverse and novel resources. However, since it facilitates the circulation of the same knowledge and information among different actors, the quality of the information flowing in the network is higher and it is more reliable (Hoang & Antoncic, 2003).

Further, repeated interactions among the same actors in a dense network lead to creation of a common language among them and enhance their understanding of "each other's motives, processes, and routines" (Lee, 2007: 20). Trust is another characteristic of the dense networks. From the social capital perspective, stronger relationship between the actors (firms or individuals) and repeated interactions among them can strengthen the social capital in the network (bonding social capital) and consequently, enhanced social capital creates and sustains trust among the actors (Coviello, 2006). Density can also promote co-operation in a network through facilitating the exchange of norms throughout the network (Houston, Walker, Hutt, & Reingen, 2001). One of the unique advantages of the dense networks is the lower level of opportunistic behaviors by the actors. Density facilitates diffusion of the information in the network and establishes trust among the actors. Thus, firms avoid behaviors that can negatively affect their reputation in the

[1] They are also called "sparse networks" (Rowley, 1997).

network because they know that any positive or negative signals will spread in the network fast (Houston et al, 2001). In this case, network density functions as a deterrent system which prevents opportunistic behaviors by the actors and therefore reduces the cost of monitoring, control and coordination in an alliance (Rowley, Behrens, & Krackhardt, 2000; Phelps, 2010).

2.4 SYNDICATION IN AN INTERNATIONAL SETTING

When investing abroad, VC firms have different potential syndication partners in terms of their nationality. They can syndicate with the local firms, with the other firms from their home country operating in the host market, and with the firms from other countries operating in the host country. Drawing on the insights from the social network theory, prior findings in the international alliance literature, and existing theoretical perspectives on the VC firms' syndication, in the following sections, syndication likelihood with each of these three groups of partners will be discussed.

Syndication with local VC firms

To discuss the syndication likelihood between the focal VC firms and each set of the potential partners, I analyze the interplay of motivation and attractiveness of each party. I introduce the network characteristics' impact on the VC firms' attractiveness and motivation to syndicate with others. As Table 2 shows, although there are several studies applying social network theory in the VC literature, the role of networks as the antecedent to syndication decision is missing in the literature. When entering a foreign market, VC firms suffer from the LOF (Zaheer, 1995). The cultural distance between the focal VC firm and the entrepreneurs in the emerging markets aggravates the information asymmetry problem which commonly exists between these two parties in the VC

investments (Wright et al., 2005). Further, the weak institutional environment and investor protection in the emerging markets reduce the reliability of information provided by the entrepreneur (Manigart et al., 1997; Manigart et al., 2000), which in turn increases the risk of the VC firm's investment and evokes more due diligence in the deal selection stage (Lockett, Wright, Sapienza, & Pruthi, 2002). As discussed earlier, one of the primary reasons why the VC firms syndicate their investment is improving the deal selection process. Adding more counterparts allows the VC firms to tap into their expertise in evaluating the deals (Lerner, 1994). High information asymmetry and cultural distance makes the selection process more critical for the foreign VC firms in the emerging markets.

[INSERT TABLE 2.2 ABOUT HERE]

These factors increase the context-related motivation of the focal VC firms to syndicate with the local counterparts. The focal firm's willingness is not sufficient to form the syndication. According to the duality rationale, the focal firm should also be attractive to the other party. The VC firms from developed countries are more experienced and capable in handling the investments. In contrast, the VC industry is relatively young in emerging economies and the VC firms in these countries have less experience compared to the developed country firms (Ahlstrom & Bruton, 2006). The difference in the experience has a more pronounced impact on the post investment activities where the focal VC firms seek to add value to the venture (Zider, 1998). In addition, the success of the VC firms is determined by their ability to exit the venture through IPO or M&A (Hochberg et al., 2007). A successful exit requires an efficient financial market and a stable institutional environment that minimizes the corruption and

safeguards the investments (Wright & Robbie, 1998). The lack of efficient financial markets, unpredictability, volatility, and the fact that many of the markets for goods and services are in a nascent stage add to the investment risk of the both local and foreign VC firms in emerging markets.

In this situation, having a partner with more experience in the VC industry which also provides access to the developed market resources increases the likelihood of success. Such a partner not only can directly contribute to the venture's growth and performance but is also able to add to the exit options in other markets rather than relying only on the local market. These capabilities make the focal VC firms attractive partners for the local firms from the business-related aspects. The combination of context-related motivation of the focal VC firms to partner with the local firms and the business-related motivation of the local firms to partner with the focal VC firms increases the likelihood of the syndication between them.

However, this equation holds till the focal VC firm takes root in the local market. In the international alliances where the local partner's main contribution is providing local market's information and connection, foreign partner will lose interest in the alliance as soon as they can establish their own connections and accumulate the experience of operating in the local market (Child, Faulkner, & Tallman, 2005). The host country social status can provide the focal firm with these advantages, as it facilitates access to the information and other resources in the network. Access to the deal information is one of the motivations of the focal VC firms of syndication with the local peers (Wright & Lockett, 2003). Social status in the host country can cover this need for the focal VC firms. Another motivation behind the syndication with the local

counterparts is improving the deal selection. The selection stage is especially problematic in the emerging markets where the information asymmetry and cultural and institutional distances are high between the focal firms and the local entrepreneurs. However, the firms with high social status can easily ask for other actors' advice (Flynn, 2003), which can facilitate the deal selection process. Thus, the social status can decrease the focal VC firm's motivation to syndicate. Further, due to the advantages of an investor with a high status, entrepreneurs are willing to grasp the opportunity of working with them even at a discount (Hsu, 2004). This can mitigate the agency problems between the focal VC firm and the entrepreneur since the entrepreneur may be more willing to provide transparency to attract the VC firm. Hence, the need for a local partner to take care of this problem is reduced.

In addition to the advantages of social status, disadvantages and problems of inter-firm collaborations also may encourage the focal firm to avoid the syndication. The agency problems and the information asymmetry also exist between the VC firms. It becomes even more severe in the cases of high cultural and institutional distances between the partners (which would be the case in the syndication between developed and emerging market VC firms) (Coval & Moskowitz, 2001). Further, when VC firms syndicate, they have to give up a potential profit and share that with other partners (Brander et al., 2002). If they can handle the investment alone, sharing the profit with others would seem meaningless. Figure 1 provides an organizing framework for such dynamics.

[INSERT FIGURE 2.1 ABOUT HERE]

In sum, I expect up to a certain point of social status, the mutual motivation and attractiveness of the focal and local VC firms increase the syndication likelihood between them. However, after the focal VC firm reaches a high level of social status, it loses the context-related motivation of syndication with local firms. Also, the local firms cannot bring business-related contribution to the deal either due to their lack of experience compared to the focal firms or due to the underdevelopment of many industries in the emerging markets. Thus, the alliance likelihood between them starts to decrease after this point. According to this dynamic, I propose that:

> *Proposition 1: There is a curvilinear (inverted U) relationship between focal VC firm's social status in the host country and likelihood of its syndication with local firms. With increasing social status, the likelihood of syndication will first increase and then decrease.*

For the focal VC firm from a developed country, the social status in the home country indicates its access to the advanced resources and technologies available at home. In addition to that, reaching to the top of the network in a market characterized by fierce competition and long history of the VC activities (such as U.S.) signals the trustworthiness and quality of the focal firm (Guler & Guillén, 2010a). Further, having an established position and contacts in the home country network enables the focal VC firm to count more on the home country for its emerging market investments' exit. A well-established financial market is required for the venture exit through IPO (Black & Gilson, 1998). These markets are much more efficient in developed countries which increases the chance of IPO for the venture (Ahlstrom & Bruton, 2006). Also, due to the fact that most of the industries are more advanced in developed countries relative to emerging economies (Hitt et al., 2000), high social status in the home enhances the chance of the focal VC firms to find a home country incumbent firm operating in the venture's industry

to buy the venture. Thus, they are also more likely to be able to exit the venture through M&A. These factors add to business-related attractiveness of the focal VC firm.

Similar to the entrepreneurs who are willing to give a discount to work with an experienced VC firm (Hsu, 2004), the local VC firms are also aware of the benefits that the focal VC firm with high social in a developed country can offer. Partnering with such firms not only increases the likelihood of success in current investment but also can connect the local VC firms to the focal firm's network outside the host country and creates more value for them in the long run. Considering that, I expect that the focal firm will receive more and more attractive syndication offers. That increases the likelihood of the syndication between local and focal firms compared to those developed country VC firms that do not have such high social status in home. However, similar to the arguments leading to the first proposition, after reaching a high level of social status in the host country, focal VC firm will lose its context-related motivation for partnership.

The social status is obtained through extensive interactions with other firms in previous investments (Guler & Guillén, 2010a). Thus, high social status can also reflect the general experience of the firm in the VC industry and managing different investments. Successful past experiences of a firm enhance its absorptive capacity and facilitate its operation in the future (Zahra & George, 2002). Foreign firms with higher absorptive capacity are more able to capture the ways of doing business successfully in a host country. Thus, focal firms with high level of social status in home will became stronger players in the host country after reaching to the top of the host country network compared to those that do not have that position in the home country. As a result, their motivation to syndicate after reaching to the high social status in the host country will

drop more substantially. Following proposition reflects the impact of the home country social status on the syndication likelihood between the focal and local VC firms:

> *Proposition 2: Home country social status of the focal VC firm will amplify the curvilinear relationship between its host country social status and the likelihood of its syndication with the local firms. That is, the impact of the home country social status would steepen both sides of the curve.*

Characteristics of the local firms can also change the dynamic of the syndication between them. For example, considering its implications, the local firm's social status can be one of the influential characteristics that determine the likelihood of syndication. High status firms in the host country have richer resource pool that can utilize in their current investment, which in turn contributes to the performance of the syndicated deals with other firms (Giot & Schwienbacher, 2007). They can also attract other big players to the syndication when needed and thereby improve the investment performance especially in investments with higher risk and uncertainty (Hochberg et al., 2007; Piskorski, 2004). In addition, social status substantially increases the local firm's access to the deal flow. Access to the future promising deals and the partner's future reciprocity are among the reasons why the VC firms syndicate their investment (Lockett & Wright, 2001). From these perspectives, a local firm with high social status could be a desirable partner for the focal firms to syndicate with.

In sum, high social status increases a local firm's attractiveness from the focal VC firms' perspective. With high social status, the local partner does not just make them familiar with the host market (context-related attractiveness); it can also contribute to the actual business in the current investment (business-related attractiveness). Also, it can bring promising investment opportunities to the focal firms in the future. Hence, by increasing the local firm's attractiveness, social status of the local firm intensifies the

syndication likelihood between the local and focal firms. This holds true even after the focal firm reaches to a higher position in its host country network. What diminishes the focal firm's motivation is the fact that local firms may be only attractive from the context-related matters and after mastering the host country, the focal VC firms lose the context-related motivation for syndication. However, a local partner with high social status has also business-related attractiveness which adds to its values. Consequently, the impact of the local firm's social status would be as follow:

> *Proposition 3: Social status of the local firms will moderate the curvilinear relationship between the focal VC firm's social status in the host country and likelihood of its syndication with the local firms in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.*

Diversity of the local firms' network can also influence the syndication likelihood between them and the focal firms. Mariotti and Piscitell (1995) explained how investments in various locations within the borders of a single host country differ for the foreign investors. Their main argument is that investment in various geographical locations of a country requires gathering information and forecasts about the specific conditions of each location. In spatial economic systems, the quality information may not be equally available in various locations[1] (Friedmann, 1972). Compared to local firms, foreign investors have lower access to the information. Further, monitoring and controlling the investments in different locations are very costly especially in the case of greater spatial and cultural distances. However, there might be promising investment opportunities in different areas that lack of access to the information prevents the focal VC firms from becoming aware of them. In this case, having a local partner with a

[1] This is the idea of existing core and periphery areas in a country where core areas have accumulated advantages over time and thus, the high quality economic information is more available.

geographically diverse network can mitigate this disadvantage for the focal firms. Such partner is capable of connecting the focal VC firms to different regions in the host country and expanding their deal pool which in turn increases the likelihood of selecting more promising deals to invest in. Also, having local partners in different locations reduces the monitoring and controlling costs after the investment.

Another advantage of having a partner with diverse network is due to the fact that many of the VC firms are specialized in investing in particular industries (Barry, 1994; Norton & Tenenbaum, 1993). By focusing on some specific industries, VC firms are able to better understand the ventures' operation in those industries and concentrate more on developing required contacts (with customers, suppliers, and experts) in those specific industries (Bygrave, 1987). Hence, access to other VC firms that can complement their domain of specialty expands their investment options. Otherwise, focusing in some narrow investments may not bring them many investment opportunities since most of the industries are not mature in the emerging markets and the number of prospect ventures may not be noticeable in each individual industry (DeCastro & Uhlenbruck, 1997). Partner's network is one of the ways to gain that access. A local firm that has a diverse network consisting of other VC firms with different investment expertise in various industries is quite attractive to the focal VC firms from this perspective.

Overall, network diversity makes the local firm more than a simple provider of local market information or an alleviator of agency problem between the focal VC firm and the entrepreneurs (context-related attractiveness). Affiliated with such networks, a local firm can contribute to the focal VC firm's business in current and future investments and provide the focal firm with more investment opportunity. By and large,

network diversity adds to the local firm's attractiveness and functions similar to the local firm's social status whose positive impact on syndication likelihood sustains even in high levels of focal firm's host country social status. Accordingly, it is expected that:

> *Proposition 4: Network diversity of the local firms will moderate the curvilinear relationship between the focal VC firm's social status in the host country and the likelihood of its syndication with the local firms in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.*

One of the problems that firms face when they form alliances is the information asymmetry between alliance partners (Koza & Lewin, 1998). Cultural and institutional distances in international alliances make this problem worse between the local and foreign firms (Coval & Moskowitz, 2001). Similarly, the VC firms face an agency problem not only with the entrepreneur (venture) but also with their syndication partners (Sapienza & Gupta, 1994). The problem is more severe in emerging markets because business practices and norms are far different from those that the focal firms are accustomed to (Ahlstrom & Bruton, 2006; Hitt et al., 2000). In addition, weak institutions in emerging markets do not provide sufficient protection for the foreign investors (Ruhnka & Young, 1991). This gives rise to the problem of opportunistic behaviors by local partners that have information advantage over the focal firms. Further, collusion between the local VC firm and entrepreneurs is more likely when the focal firm partners with the local VC firms (Dessi, 2005).

As mentioned, density is the characteristic of the networks in which actors are highly interconnected (Coleman 1988, Houston et al., 2004). Ties among actors in dense networks are usually strong and actors have repeated interactions with each other (Lee, 2007). These frequent interactions strengthen the trust between actors (Coviello, 2006). Density also facilitates the circulation of information in the network (Phelps, 2010).

Thereby, it creates a non-contractual sanction against opportunistic behaviors. Actors know if they commit unethical actions in their relationships with another actor, others will soon find out and that may impede the future co-operations with the focal actor.

According to these implications of the dense networks and considering the potential lack of trust between the focal VC firms and local counterparts, syndicating with a partner that is affiliated with a dense network can mitigate the risk of the agency problems between them. Specially, when the focal firm has not developed its network in the host country and has high context-related motivations to syndicate with local firms. In that case, having a dense network adds to the local firm's attractiveness. Consequently, syndication between the local and focal firms becomes more likely. However, network density of the local partner is attractive up to the point that the focal VC firm does not have an established status in its host country network. After that point, as discussed, focal firms would lose its context-related motivations. Since the needs emerging from context-related factors are not strong any more the subsequent outcome which was syndication with local firms is less likely either. This takes us to the next proposition:

> *Proposition 5: When focal VC firm have low social status in host country, density of the local firms' network will increase the likelihood of syndication between focal and local firm.*

Syndication with VC firms from home/another developed country

When firms invest abroad especially in emerging countries, differences in business practices and institutional environments give rise to their perceived risk. In such situations, alliance is a common strategy to share the risk of investment with others (Lane & Beamish, 1990; Osborn & Hagedoorn, 1997; Parkhe, 1991). This assumption also holds for the VC firms (Wright et al., 2005). Among different choices that the focal VC firms have to syndicate and share the risk stemming from unfamiliarity with the local

market, there are other VC firms from home country or other developed markets operating in the host country.

In spite of all the benefits of partnering with the local firms including their providing the local market information and connections, such relationship also has some disadvantages and risks. Lack of familiarity and cultural distance between developed and emerging country firms can create distrust between them and jeopardize their co-operation (Baum, Cowan, & Jonard, 2010; Pothukuchi et al., 2002). In addition, there are critical differences between the VC firms from developed and emerging countries in the way that they manage their investments (Ahlstrom & Bruton, 2006; Pruthi, Wright, & Lockett, 2003). It includes the deal selection process and the sources that they use to evaluate the venture, monitoring venture's activities, and preferred exit methods. Further, the information asymmetry among the VC partners is more pronounced in cases that firms from two different backgrounds (i.e. developed and emerging markets) syndicate (Coval & Moskowitz, 2001). It makes the collaboration between the VC partners more difficult.

These disadvantages of partnering with the local firms despite their benefits, may lead the focal VC firms to share the general risk of investing abroad with other counterparts from home/another developed country with whom they have more in common. The similarity of investment philosophy and likelihood of more contacts between these firms can create trust between them (Gulati, 1995), and consequently increases the likelihood of syndication between them. For instance, Sapienza, Manigart, and Vermeir (1996) found that VC firms from the U.S. and U.K. to a great extend put similar efforts in value-adding activities. These similarities between the VC firms in

terms of managing the investment reduce the likely tensions between the partners and add to the likelihood of syndication success.

The underlying motivation for the focal firm to syndicate with other VC firms from home/another developed country is primarily the risk that managers perceive due to the lack of familiarity, contact, and experiences in the local market. Thus, as long as they have those motivations one can assume they form such syndications. However, as discussed earlier, social status with the advantages and benefits that bears, can significantly reduce the syndication motivations arising from the lack of familiarity and required connections in the local market. The impact of the social status on different types of motivation and attractiveness of the focal firm in relation to the VC firms from home/another developed country has been summarized in Figure 2.

[INSERT FIGURE 2.2 ABOUT HERE]

Overall, as long as the focal firm does not have an established network in the host country, managers are willing to syndicate with other VC firms from home/another developed country to mitigate and share the risk of investment in a new market. Then, reaching a high social status in the host country network and its benefits reduce their perceived risk of investment and consequently decrease their motivation for such syndications. Following proposition describes this relationship:

> *Proposition 6: There is a curvilinear relationship between focal VC firm's social status in the host country and likelihood of its syndication with other firms from home/another developed country operating in the host market. With increasing level of social status, the likelihood of syndication will first increase and then decrease.*

In the case of home country potential partners, since both parties in this relationship are form the same country, their home country network is very likely to impact their relationship in the host market. High social status in the home country (i.e. a

developed country) implies the quality and reliability of the focal firm in the eyes of the other home country VC firms (Guler & Guillén, 2010a). Affiliation with a high status firm will enhance the status of the potential partner in the home country network as well (Podolny, 2001). In addition, it increases the likelihood of investment success through the mechanisms that discussed in the previous section. However, it will be attractive to those home country VC firms whose social status is lower than that of the focal firm. By syndicating and affiliation with the high social status focal firm, not only they can enjoy its benefits in the host country but also they can use it as a trustworthiness signal in the home country for their future investments in the home market. Accordingly, home country social status of the focal firm adds to its attractiveness in relation to other VC firms from the home country operating in the host market.

As mentioned earlier, I consider the motivation and attractiveness of both parties in my analysis of the syndication likelihood between them. I already discussed the general motivation of the focal firm to syndicate with the home country VC firms as mitigating the risk of the investment. Home country counterparts are attractive choices because they share similar investment philosophy and therefore are more trustable. In such cases, home country social status of the focal firm increases the likelihood of syndication through adding to the attractiveness of the focal firm from other home country VC firms' perspective. In the cases of potential partners that are from another developed country, home country social status of the focal firm signals its capabilities and trustworthiness. Specially, because it has been achieved in a developed market where the VC industry is more mature and competition is more intense. It also brings the possibility of future investments in the focal firm's country. Thus, in general, a focal firm

with higher social status in the home network is more attractive than those that do not have this advantage.

However, similar to the argument made in the previous section, focal firms with high social status in the home country have higher absorptive capacity and more support from their home country network as a resource-endowed developed market compared to those with lower status because of their extensive experiences (Zahra & George, 2002). Thus, after reaching a high centrality in the host country network, their motivation is expected to decline more severely than that of the VC firms with lower home country social status and consequently the syndication likelihood will decrease more. Following proposition describes this moderation effect of the focal firms' home country social status:

> *Proposition 7a: If home country social status of the focal VC firm is higher than that of the potential partner from home country, it will amplify the curvilinear relationship between its social status in the host country and likelihood of their syndication in such way that the relationship on both sides of the curve becomes stronger.*

> *Proposition 7b: Home country social status of the focal VC firm will amplify the curvilinear relationship between its social status in the host country and likelihood of its syndication with firms from another developed country in such way that the relationship on both sides of the curve becomes stronger.*

Finally, the host country status of the potential partner can also add to its attractiveness. A VC firm from home/another developed country with a high social status in the host market can deliver similar values as the local counterparts do. In addition, syndication with such VC firms does not have the mentioned potential problems that partnership with the local firms may impose to the focal firm. Hence, higher social status of a VC firm from home/another developed country makes it an attractive syndication choice for the focal firm. Its attractiveness will not diminish even after the focal firm

masters the host market because of the values that a high status partner can creates beyond the context-related factors- mentioned in the previous section.

However, the focal firm also needs to be attractive to the potential partner with a high social status in the host market so that one can expect the matched motivation and attractiveness between the two firms lead them to syndicate. For the potential partners from the home country, the focal firm's high social status in the home country network can create that attractiveness. Although both firms are operating in a foreign market, but usually the international VC firms (from developed countries) handle more investments in their home market compared to those in other countries (Wright et al., 2005). Thus, having a partner that is well networked in the home country, not only the potential home country partner can enjoy its affiliation with the focal firm in the home country deals but also it assures the partner that the focal firm will use its home country network if needed in their joint investment in the emerging market.

If the potential partner is from another developed country and has a high status in the host market, then home country social status of the focal VC firm can better attract the potential partners that operate in the focal firm's home country. In that case, although the potential partner may not considerably benefit from the syndication with the focal firm in the host country since it already has an established status in that market, it can exploit their relationship in the focal firm's home country and count on the future reciprocation of the focal firm in its home country deals. Taken together, next two propositions explain this dynamic:

> *Proposition 8a: If the focal VC firm has higher home country social status than the partner from the home country, the host country social status of the partner will moderate the curvilinear relationship between the focal VC firm's social status in the host country and the likelihood of their syndication in such way that*

the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.

Proposition 8b: If (a) the focal VC firm has a high home country social status and (b) the developed country potential partner operates in the focal firm's home country, then the host country social status of the partner will moderate the curvilinear relationship between the focal VC firm's social status in the host country and likelihood of their syndication in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.

Syndication with VC firms from other countries

Another potential syndication partner for the focal developed country firms is firms from countries similar to the host market investing in the host country. The first question here would be what makes the firms from such countries an attractive syndication partner for the focal VC firms. Spatial and cultural proximity to the host country can make the other foreign VC firms attractive to the focal firms. Geographical distance increases the cost of investment for the VC firms (Aizenman & Kendall, 2008). Travel costs especially after investment to monitor the venture is an example of the costs increased by the geographical distance. Having a partner close to the venture can reduce these costs for the focal firm. Cultural proximity includes aspects such as similarity in language, legal and institutional systems and environment (Tykvová & Schertler, 2011).

As discussed, the major problem that the focal VC firms face when they invest in emerging markets is LOF which includes unfamiliarity with the local market, differences between business practices in the home and host countries due to different institutional environments, and difficulties in communication with the entrepreneurs because of the cultural distance. Similar to the local VC firms, a partner with more familiarity and cultural proximity to the host country can help the focal VC firms to overcome these challenges. On the other side, like the local firms, these foreign VC firms can also enjoy

the benefits of having a developed country VC partner to learn from, utilize their experience and resources to succeed in their joint investment, and become connected to their networks outside the host country. All of these opportunities make the focal firm attractive to the VC firms from countries similar to the host market.

However, according to the dual rationale that I have been following in previous sections, once the focal VC firms build their own network and make sure that they can successfully operate in the host country, they may establish local facilities to handle their investments (Guler & Guillén, 2010b; Klonowski, 2006). Meanwhile, they also learn how to operate in the host country and adapt to the new environment. As a result, I expect that their motivation will drop as soon as they get to a central position in the host country network. Although, they might be attractive to the other side, they do not have strong motivation for syndication and due to the priority of the motivation over the attractiveness, the likelihood of syndication between them is expected to have following relationship with host country social status of the focal firm:

> *Proposition 9: There is a curvilinear relationship between the focal VC firm's social status in the host country and the likelihood of its syndication with the firms from other countries close to the host market (spatially or culturally), operating in the host market. With increasing level of social status, the likelihood of syndication will first increase and then decrease.*

The focal VC firms' relationship with firms from countries similar to the host market to a great extent resembles their relationship with the local firms because they are presumed to deliver similar values to the focal firm. Also, they have evolved in similar environments (countries). Thus, mentioned problems of trust, differences in investment philosophy, and information asymmetry -that existed with local firms- are also in place with these firms. Thus, similarly, while home country social status of the focal firms makes them attractive at first and increases the syndication likelihood between them and

firms from similar countries to the host market, it again boosts the decrease in their willingness to syndication. Similar to the case of the local firms, I expect that:

> *Proposition 10: Home country social status of the focal VC firm will amplify the curvilinear relationship between its host country social status and the likelihood of its syndication with firms from other countries close to the host market (spatially or culturally) in such way that the relationship in both sides of the curve before and after the inflection point become stronger (curve becomes steeper).*

Similar to the argument made for the cases of syndication with the local firms, social status and network diversity of these potential partners in the host country make them more attractive to the focal VC firm even after the focal firm establishes its own network. The general reason that I mentioned for such expectation was the business-related values that such partners with such network features can deliver in addition to their context-related attractiveness. Thus, I expect the same impacts from host country social status and network diversity of the VC firms from similar countries to host market on their syndication likelihood with the focal VC firms as I did for the local firms. Hence, following relationships are expected:

> *Proposition 11: Host country social status of the VC firms from other countries close to the host market (spatially or culturally) will moderate the curvilinear relationship between the focal VC firm's social status in the host country and likelihood of their syndication in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.*

> *Proposition 12: Network diversity of the VC firms from other countries close to the host market (spatially or culturally) will moderate the curvilinear relationship between the focal VC firm's social status in the host country and likelihood of their syndication in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.*

I discussed earlier that network density of the partner can influence the focal firm's syndication decision up to the point that they perceive they master the local market and have connections required for success in the host country (relying on their social

status). The reason is that similar to my argument for the local counterparts, there may be distrust between the focal VC firm and firms from countries similar to the host country due to the information asymmetry that exists between local and non-local investors (Coval & Moskowitz, 2001). Plus, the lack of support for foreign investors from the weak institutional environment of the host country aggravates this problem (Ahlstrom & Bruton, 2006). Density of the partner's network functions as a safeguard against its opportunistic behaviors (Phelps, 2010). Thus, it can increase the level of trust between the focal VC firm and the partner and consequently makes the partner more attractive. However, it does not add to the business-related attractiveness of the partner and a partner even with a dense network remains to be attractive mostly from the context-related aspect. In this case, once the focal VC firm can rely on itself to gain the local market information and gets familiar with the business practices there, its motivation for syndication with such partner will fall. Accordingly, density influences the syndication likelihood before that point. Overall, I expect that:

> *Proposition 13: At lower level of the focal VC firm's host country social status, network density of the firms from other countries close to the host market (spatially or culturally) will increase the likelihood of the syndication between them and the focal VC firm.*

Presence of the focal VC firm in a potential partner's country may also impact the managers' decision regarding syndication with that firm. One of the general motivations of the VC firms for syndication is access to the future deal flow and the partner's future reciprocity (Lockett & Wright, 2001). VC firms invite others to their deal so that they do the same in the future. The fact that the focal VC firm has ongoing investments in a foreign VC firm's country makes that firm more attractive. The focal firm can benefit from establishing an inter-firm relationship (i.e., syndication) with such partner even in

the partner's home country. Relationships established in a network can be exploited even outside that network (Guler & Guillén, 2010a). Therefore, if the focal firm establishes a link with such partner, it can expect to benefit from that relationship even in the partner's home country in form of either assistance in its ongoing investments or invitation to future deals.

Altogether, such advantage adds to the partner's attractiveness and enhances the image of the partner in the focal firm's view from a syndication partner just to share the primary risk of the investment in the local market to a partner that can bring the focal firm other business-related advantages. In such cases, the attractiveness of the partner does not fade with focal firm's enhancing social status. It results in such moderation impact that the last proposition describes:

> *Proposition 14: The focal firm's presence in the home country of VC firms from other countries close to the host market (spatially or culturally) will moderate the curvilinear relationship between its social status in the host country and their syndication likelihood in such way that the positive relationship before inflection point becomes stronger and the negative relationship after inflection point becomes weaker.*

2.5 DISCUSSION AND CONCLUSION

This research extends previous studies on the VC firms' syndication including both parties' characteristics and desires in examining the syndication likelihood. I define two types of factors that influence the willingness-attractiveness for syndication formation: *context-related* and *business-related* factors. I discuss how interplay of these factors determines the likelihood of syndication between VC firms. More specifically, I address the impact of the network structure (social status) and network composition (density and diversity) on these factors and ultimately on the syndication likelihood. In addition to this theoretical contribution, this paper is a response to the call for more

research on the international VC firms (Guler & Guillén, 2010a, 2010b; Lu & Hwang, 2010; Wright et al., 2005). I specifically focus on the emerging market investments of developed country VC firms because of growing trend of such investments (Ahlstrom & Bruton, 2006).

I discuss how networks that have been identified to impact the performance (Hochberg et al., 2007), can also influence the syndication decision as an antecedent mechanism. Social status in the host country provides the information and connections that a VC firm needs to operate in the market, and reduces its motivation for syndication with others. I also discuss how social status in the home brings the developed country VC firms more access to the advanced resources available in such markets and indicates the quality of the firm. Consequently, the VC firms with such characteristics are more attractive to other counterparts. However, after reaching to such position in their network that enables them to do the business independently from the others, they lose syndication motivation more than those without such status in the home country. Moreover, the social status of a potential partner can also alter the decision of the focal firm towards syndication by adding to the partner's business-related attractiveness.

I also describe the advantages that partner's network can create and thereby increases to the partner's attractiveness. Density impedes opportunistic behaviors in the network. Hence, it makes the potential partner more attractive to the focal developed country VC firm before it establishes its network when it suffers from the lack of trust and familiarity with the local VC firms. On the other hand, a diverse network enables a potential partner to provide the focal VC firm with more than context-related benefits and

therefore adds to the partner's business-related attractiveness such that it will not diminish even after the focal firm's reaching a high status in the host country.

Following the same rationale, I examine the syndication between focal developed country VC firms and all possible potential partners by grouping them based on their similarities in terms of the values that they can deliver to the focal VC firm. From this perspective and to my knowledge, the conceptual framework that this study offers is among the most comprehensive ones available in the syndication literature. Although, there are several studies examining the syndication between VC firms, they have mostly examined the syndication behaviors of domestic firms or domestic and foreign VC firms (e.g. Brander et al., 2002; Bygrave, 1987; Kogut, Urso, & Walker, 2007; Lerner, 1994; Lu & Hwang, 2010).

Finally, while this study focuses on the VC firms, the conceptual framework and propositions developed in this paper can be used in the international alliance literature as well. Investing in emerging markets has been a common trend in many industries (Barbopoulos, Marshall, MacInnes, & McColgan, 2013; Meyer & Nguyen, 2005) and alliances are one of the most common strategies for the foreign firms to overcome the difficulties of investing in such markets (Lane & Beamish, 1990; Osborn & Hagedoorn, 1997; Parkhe, 1991). This study offers a new insight (network perspective) to analyze the international alliances and expands the level of analysis from the firms to their networks.

Similar to any other conceptual studies, one of the first opportunities for future research is to examine the propositions developed in this study, using empirical design and data from the VC firms activities. Further, this study opens a new avenue to analysis of inter-organizational relationships by expanding the level of analysis from dyadic

relationships to the networks of the individual firms. The fact that in addition to the firms, their network can also impact their collaboration decision can be utilized not only in the VC literature but also in the alliance literature in general. Thus, future studies can adopt the logic introduced in this paper and apply it to the context of alliances in different industries. Whereas, I focus on the international VC firms in this article, examining the impact of the networks' structure and composition on domestic VC firms' syndication behavior in a single country or among the VC firms from different regions of a country can be plausible avenue for future research.

Networks –especially in industries with more interaction among the firms- can influence different functions of the firms (Gulati, 1998). In this study, I explored the impact of the VC firms' network on their syndication behavior. Future studies, can examine the effects of the similar network constructs on other major decisions that the VC firms make. For instance, studying following questions can enhance our understanding about how VC firms are influenced by their network: Do VC firms in more diverse networks invest in more variety of the ventures? How does a VC firm's network evolve? Considering the importance of the social status, what are the antecedents of the social status and what makes VC firms especially in international markets central?

Prior studies have claimed that too much diversity in a network may impede the firms from integrating the available knowledge into their internal reservoir and even sometimes may challenge the collaboration between firms because they may want to protect their unique resources (Swaminathan & Moorman, 2009). Also, a great extent of density may make the network a close circle without required interactions with outer world (Phelps, 2010). Considering that and the trade-off between the dense and diverse

networks –former strengthens the trust and collaboration and latter brings more opportunities- is there a point that VC firms can optimize their benefits from these different compositions?

Achieving and then maintaining a high social status in the network can also be costly. Social status is mainly obtained from previous partnerships with other actors in the network (Guler & Guillén, 2010a). In spite of all the benefits that inter-organizational collaborations provide a firm, working with other partners can always become difficult and impose different costs to the firm due to the problems such as lack of trust, opportunistic behaviors, and difference between different firm's practices (Hagedoorn, 2002; Nooteboom, 1999). Therefore, there is a trade-off between the costs of achieving and maintaining a high status and the advantages that the status creates for the firm. Future studies, can also examine this cost-benefit dynamic and explore different situations that benefits outweigh costs and vice versa.

This study also suggests that managers should consider more factors in the syndication decision making process. In addition to the potential partner per se, its network can also be a source of opportunity for the VC firms. Previous collaborations of the VC firms in different markets that constitute their network are to a considerable extent available now in different databases. Analyzing the potential partner's network and determining its different features can help managers to improve the partner selection process especially when they invest abroad and syndication decision is more difficult and critical due to the lack of familiarity with the local firms. However, in some cases, there might be a trade-off between the quality of a potential partner for a specific investment and its network features. In other words, while a VC firm may be qualified for

syndication in a specific venture, its network may not have the advantages that the focal firm seeks. Future research can assess where the optimal trade-off point lies.

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2.7 TABLES AND FIGURES

Table 2.1: Motivations to Form International Alliances

Study	Context	Motivations	
		Context-related	***Business-related***
Raveed & Renforth, 1983	US & Costa Rica	General knowledge of the local economy, politics, and customers, fast market entry, connection to the local networks, access to local markets, gaining political advantages, avoid political interventions	Access to resources, technology, and managerial capabilities
Beamish, 1987	US, UK, & Canada	Access to local market knowledge	Management
Yan & Gray, 1994	US & China	Providing local market knowledge and facilitating working with institutional and governmental agencies	Access to technology
Gillespie & Teegen, 1995	US & Mexico	Geographic market access, geographic market knowledge, access to customers, access to regulatory permits	Access to technology, product/service knowledge, new product and markets, and capital assets
Dacin et al., 1997	UK & Korea	Local market information	Complimentary capabilities, financial health, unique competencies, technological capabilities, special skills such as managerial skills
Hitt et al., 2000	US, France, & Canada and Mexico, Poland, & Romania	Access to local market knowledge	Complimentary resources, access to tangible (e.g. financial) and intangible (e.g. managerial skills), technological capabilities
Kotabe et al., 2000	Brazil, Chili, & Mexico	Access to foreign markets, and reducing the risk	Access to technological expertise, marketing expertise, financial resources
De Matros et al., 2001	US & Brazil	General knowledge of the market, customers, local networks, access to local markets, gaining political advantages	Access to resources, technology, and know-how
Dong & Glaister, 2006	China & Foreign partners	Market penetration, learning how to operate in China successfully, international expansion	Maintaining market position, technology exchange

Table 2.2: Application of Social Network Theory in The VC Studies

Author(s)	Unit of analysis	Network construct	Network as IV/DV	Context	Findings
Podolny (2001)	VC firm	Structural holes/status	IV	Domestic (US)	Value of structural holes increases with egocentric uncertainty/value of status increases with altercentric uncertainty
Sorenson & Stuart (2001)	VC firm	Network position	IV	Domestic (US)	Network position differentiate VC firms regarding spatially distant investments
Echols & Tsai (2005)	VC firm	Network embeddedness	IV	Domestic (US)	No significant relationship between embeddedness and number of successful IPOs
Abell & Nisar (2007)	VC firm	Network centrality	IV	Domestic (UK & Europe)	Positive relationship between centrality and exit rate of a VC firm's investments
Dimov et al. (2007)	VC firm	Status	IV	Local (US)	In high level of status, the negative relationship between financial expertise and proportion of lower stage investments is stronger
Hochberg et al. (2007)	Venture	Centrality	IV	Local (US)	Ventures backed with better networked VC firms have better performance
Kogut et al. (2007)	VC firm	Repeated ties	IV	Local (US)	Repeated ties increases the likelihood of syndication
Hopp (2008)	VC firm	Network position	DV	Local (Germany)	More interorganizational relationships leads to better network positions
Nahata (2008)	Venture	Strength of ties	IV	Local (US)	Strength of ties between VC firms lead to venture success
Sorenson & Stuart (2008)	VC firm	Network density	IV	Local (US)	Density increases the likelihood of forming distant ties
Walker (2008)	VC firm	Network structure	IV	Local (US)	Diffusion of information through network leads to repeated investments in an industry
Checkley et al. (2010)	VC firm	Network centrality	IV	Local (UK)	Centrality leads to greater share of investments exited through IPO
Guler & Guillén (2010a)	VC firm	Status	IV	International (US)	Home status leads to foreign expansion
Hochberg et al. (2010)	VC firm	Network density	IV	Local (US)	Density leads to fewer new entrants to the VC market
Hopp (2010a)	VC firm	Network expansion	DV	Local (Germany)	Fewer industry experiences leads to network expansion with new partners/more industry experience leads to network expansion with existing partners
Hopp (2010b)	VC firm	Network position	DV	Local (Germany)	Syndication leads to better network position
Keil et al. (2010)	VC firm	Network centrality	DV	Local (US)	Previous centrality leads to future centrality/resource endowment substitutes the impact of previous centrality
Meuleman et al. (2010)	VC firm	Network embeddedness	IV	Local (UK)	When the agency risk is low, network embeddedness is less important in partner selection
Hopp & Rieder (2011)	VC firm	Network expansion	DV	Local (Germany)	Industry concentration is negatively associated with network expansion

Figure 2.1: Focal VC Firm Motivation and Attractiveness for Syndication with Local Firms at Different Levels of Social Status

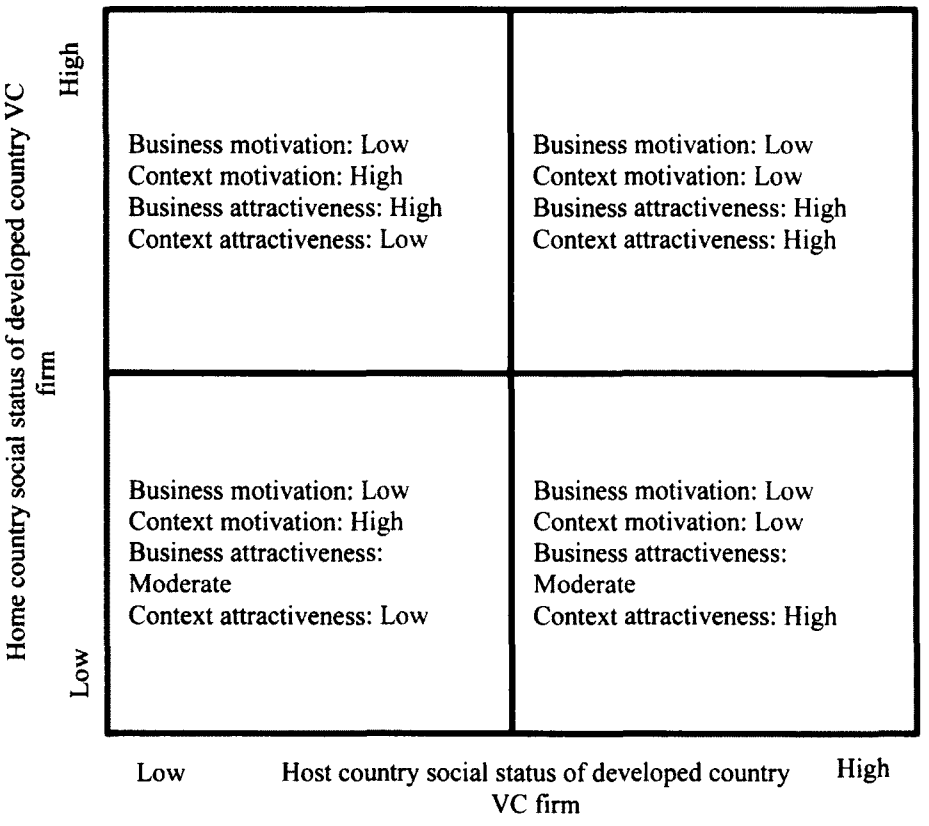
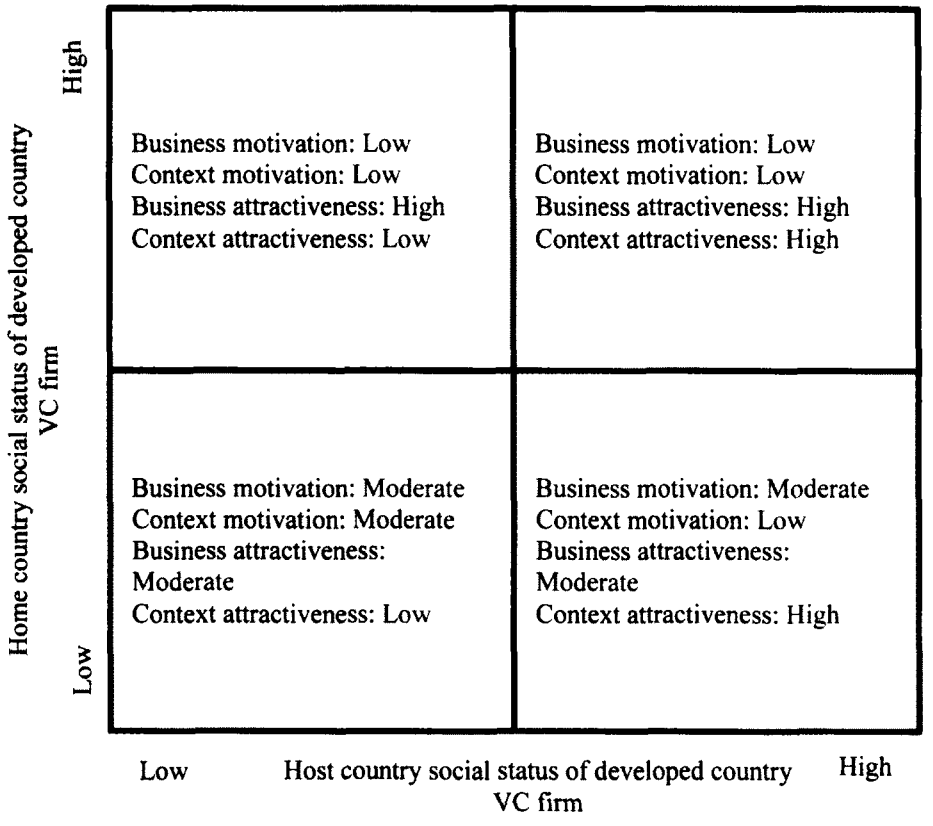


Figure 2.2: Focal VC Firm Motivation and Attractiveness for Syndication with VC Firms from Home/another Developed Country at Different Levels of Social Status



CHAPTER 3

ESSAY II: THE IMPACT OF SOCIAL STATUS ON INTERNATIONAL VENTURE CAPITAL FIRMS SYNDICATION AND ITS PERFORMANCE IMPLICATIONS: A SET THEORETIC PERSPECTIVE

3.1 ABSTRACT

Syndication of venture capital firms has been prolifically studied in the literature. However, there is inconsistency among motivations introduced by prior studies for syndication. There are two major tenets in the literature. According to some studies, syndication is almost always expected to add value to the investment. As such there is a "*natural proclivity*" towards syndication among venture capital firms. On the other hand, other studies discuss the problems associated with syndication and advocate a "*contingency approach*" towards syndication among venture capital firms. According to this perspective venture capital firms base their syndication decision on their own and the venture's characteristics and the fact that whether they are able to handle the investment alone. To disentangle this issue, I study first round investments of U.S. venture capital firms in China to explore the nature of syndication in international investments. The results lend more support to "natural proclivity" argument. Even highly capable venture capital firms tend to syndicate their investments. Performance implication of syndication and venues for future studies are discussed.

3.2 INTRODUCTION

Venture capital (VC) investments are made by professional investors in high-potential private companies with the goal to exit successfully from the venture (in the form of public offering or merger or acquisition) and earn a profit (Aizenman & Kendall, 2012; Brander, Amit, and Antweiler, 2002). In addition to providing the capital, VC firms add value to ventures through managerial inputs (Hellmann & Puri, 2000, 2002). The performance of VC firms in pioneer countries (such as United States) and their contribution in supporting innovative private firms, facilitating entrepreneurship, and consequently job creation and wealth distribution (Lerner & Tåg, 2013), have encouraged individuals and governments in other countries to pursue VC investments (Delloitte, 2006). It has also attracted the attention of scholars and led to the development of a vibrant stream of research on VC industry.

Prior studies on VC firms have examined their different micro and macro level impacts including economic growth and innovation (Hellman & Puri, 2000; Kortum & Lerner, 2000; Lerner, 2009; Lerner & Tåg, 2013), and performance of the investee ventures (Clarysse, Bobelyn, & del Palacio Aguirre, 2013; Rosenbusch, Brinckmann, & Müller, 2013; Vanacker, Collewaert, & Paeleman, 2013). Focusing on the VC firms, previous studies have examined issues such as: factors affecting decision making mechanisms in VC firms (Petkova, Wadhwa, Yao, & Jain, 2013), structure and governance of the VC firms (Sahlman, 1990), investment monitoring and staging by VC firms (Gompers, 1995), and factors influencing raising fund by VC firms (Gompers & Lerner, 1998).

From a strategic management perspective, one of the major decisions that VC firms engage in is syndication. Syndication is a strategic decision in which VC firms have to make a choice about whether to co-invest with other partner(s) and whom to partner with in a venture (Brander et al., 2002). Due to its central role in VC industry, prior research has studied different aspects of the syndication decision among VC firms (Jääskeläinen, 2012). Some issues that have been addressed in the literature are syndication motivations (Lockett & Wright, 2001; Manigart et al., 2006), VC firms' different strategic approaches to syndication (De Clercq & Dimov, 2010), structure and dynamics of the syndication (Guler, 2007; Tykvová, 2007; Wright & Lockett, 2003), and its performance implications (Brander et al., 2002; Fleming, 2004; Mason & Harrison, 2002).

There are several studies concentrating on cross country comparison of VC industry; however, to-date, VC firms' behaviors in international investment settings remains an under-researched area in the literature (e.g. Black & Gilson, 1998; Cumming, Fleming, & Schwienbacher, 2006; Jeng & Wells, 2000; Mäkelä & Maula, 2008; Manigart, 1994; Megginson, 2004). Despite the vast literature on VC firms' syndication, international activities of the VC firms in general, and their syndication behavior when they invest abroad specifically, are yet to be explored in the literature (Wright, Pruthi, & Lockett, 2005).

To address this gap and respond to the call for more research on the VC firms when they cross borders (Mäkelä & Maula, 2008; Wright et al., 2005), this study examines the factors that cause VC firms to syndicate their international investments. I particularly focus on the VC firms from developed countries investing in emerging

markets because despite the growth in such investments (Aizenman & Kendall, 2008), this phenomenon has remained under-studied. The primary question that this study seeks to answer is: *under what conditions do VC firms syndicate when they invest abroad?* I draw on prior studies to identify the VC firm and venture characteristics that influence the decision to syndicate. Including both the *characteristics of VC firms* (e.g., social status) and the *characteristics of ventures (*e.g., risk*)* allows to address the gap in the literature about the relative importance of these factors (Jääskeläinen, 2012). Specifically, I address the following questions in this study: What are the factors leading the VC firms to engage in syndication? How does the VC firms' social status in their home and host countries influence their syndication behavior? How does interplay between syndication with different partners and social status contribute to the investment performance?

I primarily use social network theory to disentangle different perspectives about the nature of the syndication. I examine whether the social status of the developed country VC firms in both home and host countries impacts their syndication decision in emerging markets. In essence, this study examines whether social status serves as a substitute for the need to syndicate (contingency perspective) or complements the benefits of the syndication (natural proclivity perspective). Thus, the objective of this paper is to explore whether syndication has an intrinsic value (Hochberg, Ljungqvist, & Lu, 2011; Lerner, 1994), or it is contingent in nature (Jääskeläinen, 2012). To strengthen and develop a more comprehensive line of arguments in support of my propositions, I also utilize insights from institutional and signaling theories.

In sum, the present study contributes to the literature in several ways. First, I address calls in the literature for more research on international VC firms (Mäkelä &

Maula, 2008; Wright et al., 2005) from a strategic management point of view. Second, I apply social network theory to explore the antecedents of the syndication decision. More specifically, I introduce VC firms' social status in both home and host countries as influential factors in syndication behavior in emerging markets. Third, I also address the debate in the literature about the nature of the syndication as an absolute or contingent strategic decision. Fourth, putting together the venture and VC firm's characteristics, this paper examines the relative importance of these factors in the syndication decision (Jääskeläinen, 20102). Fifth, as the methodological contribution, I use Fuzzy Set/Qualitative Comparative Analysis (FS/QCA) as my analytic technique. Grounded in the set theory, this approach results in configurations of causal conditions that lead to a specific outcome (Ragin, 2000). This is the first paper applying Fuzzy technique in the VC syndication literature. Considering the reliability of this method for combining qualitative and quantitative approaches, it is an appropriate technique similar studies in this research stream. Finally, I also examine the performance implication of syndication. Considering the stalled and fragmented literature on the contribution of the syndication in performance of the investment (Jääskeläinen, 20102), this study seeks to contribute to the development of a more comprehensive understanding of the relationship.

This essay is organized as follows. First, I describe the evidence of the VC firms internationalization. Next, I discuss different motives of the VC firms syndication. This discussion is followed by an analysis of contingencies impacting syndication decision and performance leading to the propositions. Next, I discuss the data, methodology and results. Finally, I discuss the implications of the results and directions for the future research.

3.3 THEORETICAL BACKGROUND AND PROPOSITION DEVELOPMENT

Internationalization of VC Firms

VC industry was originated in the United States (U.S.) in the mid-1940s. While VC industry has grown and flourished in the U.S. since then, it did not have much of a presence in other parts of the world untill the mid-1990s (Aizenman & Kendall, 2012). The late 1990s saw the international expansion of the U.S. VC industry to U.K. and other western countries, and the rise of domestic VC activities in other countries (Wright et al., 2005). The technology bubble centered in the U.S., at the time, attracted newly formed VC firms from other countries to the U.S. market (Aizenman & Kendall, 2012).

Since then, internationalization of VC firms – especially developed country VC firms' investment in less developed and emerging markets – has been increasing due to two factors: i) the saturation of developed markets, and ii) reforms undertaken by the emerging market governments making them more attractive for VC firms from developed countries (Gompers & Lerner, 1998). The ability of the developed country VC firms in bridging the ventures in countries with less developed financial markets to developed countries with more opportunities for successful exits (e.g. public offering) brings them more investment opportunities in such countries (Maula & Mäkelä, 2003). Further, the great impact of VC industry in the U.S. economic growth has encouraged governments in emerging and transitional economies to facilitate the inflow of VC funds to their countries (Wright, Lockett, & Pruthi, 2002).

VC firms' Syndication: Different Perspectives

Syndication has been defined as a situation in which two or more VC firms participate in a particular round of investment in a certain venture. However, the investment of different VC firms in a venture even in different rounds has also been considered syndication in the literature (Brander et al., 2002). Syndication has been identified as one of the most common strategies in VC industry (Lerner, 1994). Using different theoretical perspectives, prior studies have identified different motivations for VC firms' syndication (e.g. Bygrave, 1987; Lerner, 1994; Jääskeläinen, Maula, & Seppä, 2006).

Some studies have mentioned reasons other than the actual investee and VC firm, itself, for syndication. Access to deal flow is a common example. Based on this view, access to more potential deals is very important for VC firms (Lockett & Wright, 2001). Greater access to the deal flow brings them a variety of investment options from which they can select the most promising deals to invest in. According to this rationale, VC firms sometimes invite other counterparts to their investment in a venture hoping for their reciprocation in the future deals (Wright & Lockett, 2003).

On the other hand, some other studies have argued that syndication stems from the risk inherently involved in investing in the entrepreneurial ventures. According to this view – also called *risk sharing perspective* – VC firms syndicate their investment to reduce and share its risk (Lockett & Wright, 2001). The risk of the investment stems from two sources: unique risk which derives from a specific investment, and market risk which is associated with a wide span of variables in the market (Ruhnka & Young, 1991). VC firms may participate in multiple syndicates to diversify their investment portfolio and reduce the market risk (Wilson, 1968).

The unique risk associated with investment can be combined with the insights from resource based view (RBV) of the firm. From this perspective, there is either some specific risks associated with the specific venture or VC firms perceive that they lack required competencies to decide about selecting an investment and they syndicate to neutralize either of these specific risk factors (De Clercq & Dimov 2004; Lerner, 1994; Manigart et al. 2006). Therefore, syndication in this view, depends on the venture and VC firm's attributes (Brander et al., 2002; Dimov & Milanov, 2010; Hopp & Rieder, 2011; Jääskeläinen, 2012; Meuleman, Wright, Manigart, & Lockett, 2009).

One of the exclusive features of the VC investments is that they help the venture in their management, operation, and administration in addition to providing funds (Steier, 1998). Some examples of the value adding services that VC firms provide are: serving on the venture's board, providing strategic and managerial consults, supervising and monitoring their operation and performance, and connecting the potential customers and suppliers to the venture (Macmillan, Kulow, & Khoylian, 1989; Timmons & Bygrave, 1986). In essence, one motivation for the VC firms to syndicate may be bringing more VC firms to help in value adding process by creating a resource pool with other counterparts and using their expertise in managing the venture in a more productive way (Busenitza, Fiet, & Moesel, 2004; Sapienza, 1992).

In this study, I examine how different attributes of the venture riskiness and the VC firms capabilities configure together and result in syndication. Further, I explore which of these factors (venture riskiness or VC firms capabilities) are more influential in syndication decision, a question that remains unanswered in the literature.

Venture Characteristics and Syndication Decision

At the venture level, considering the risk perspective of syndication, there are some factors that may affect the syndication decision by increasing the investment risk perceived by the VC firms. The age of the venture is one of the factors that can determine the riskiness of the investment (Bygrave, 1987). The younger the venture the higher the risk perceived by the VC firms (Hopp & Rieder, 2011). That is because the failure rate among younger ventures is greater due to the liability of newness (Freeman, Carroll, & Hannan, 1983). Further, younger ventures have shorter or no track record that VC firms can use in their selection process as the basis of their evaluation. The stage of venture at the time of investment also has similar impact on the venture riskiness. At the investment time, a venture can be at different levels of development, such as: seed, startup, expansion, or bridge financing (Gompers, 1995). Ventures in early stages lack the proven track record and their products or services are far from commercialization, that makes them more risky investments for the VC firms (Gompers & Lerner, 2002). In such cases, VC firms have to rely on entrepreneurs' assertion and information. Thus, considering the VC firms' lack of insider information compared to the entrepreneurs, younger and earlier stage ventures bear a distinct type of risk for the VC firms. I call this type of risk which is directly related to the actual venture itself, "*information asymmetry risk*".

The type of the industry in which the venture operates can also imply the risk that venture bears. Investments in high-tech ventures assume much more uncertainty about the return and success than other industries (Carpenter & Petersen, 2002). The risk of commercializing the ideas or prototypes of high-tech ventures is high specifically in countries with weak institutional environment which lack copyright or other exclusive licensing supports (Ruhnka & Young, 1991). The intangibility and firm specificity of the

high-tech ventures also increases the risk of investment in such ventures and raises the information asymmetry between the VC firm and the entrepreneur (Carpenter & Petersen, 2002; Gompers, 1995). I call the risk arising from the nature of the venture's industry "*technical complexity risk*". Figure 1 illustrates the overall framework of the paper.

[INSERT FIGURE 3.1 ABOUT HERE]

When investing abroad, especially in emerging markets such as China, VC firms face even more of aforementioned risk in their investments. The sources of the information that VC firms use to evaluate the ventures and their reliability vary in different countries (Manigart et al., 1997; Manigart et al., 2000). This variation stems from the institutional environment of the countries. In developed countries such as U.S., due to the strong and reliable regulations, the VC firms have more confidence to rely on the information –especially financial information– expressed by the entrepreneurs (Manigart et al., 2000). However, because emerging markets lack such reliable institutions, the problem of information asymmetry between the foreign VC firms and the entrepreneurs is more pronounced and consequently obtaining accurate information about the entrepreneurs is more difficult (Lockett, Wright, Sapienza, & Pruthi, 2002). The weak institutional environment makes the information provided by the venture less reliable and requires the VC firms to engage in more due diligence and seek insider information (Lockett et al., 2002). Reliability of the information is even lower for the younger and lower stage ventures due to their short track record. The information gap as well as lower level of industrial and financial development of the emerging markets also aggravate the technical complexity risk in high-tech ventures.

VC Firms Characteristics and Syndication Decision

Social status and syndication

Networks of external contacts are one of the most important aspects of the organizational environment (Gulati, 1998) because firms do not operate in a vacuum without any interactions with others (Granovetter, 1985). Realizing the increasing importance of the networks in any businesses including VC industry, scholars have adopted social network perspective in the VC research. Some have examined the networks per se as the dependent variable of their research. For instance, some have focused on the structure of the VC firms' networks and the quality of their relationships (Bygrave, 1987, 1988). There are other studies that have treated the VC network as an exogenous phenomenon and explored the impact of the networks on different aspects of the VC firms operation. Hochberg et al. (2007) is an example of this stream. They examined the performance implication of the VC firms' network and found that "better-networked" VC firms outperform others significantly. Echols and Tsai (2005) and Abell and Nisar (2007) came up with the same positive effect of the network embeddedness of the VC firms on their performance.

One of the most common underlying rationales among all of the studies arguing for the positive impact of the networks on the VC firms performance is that networks are reservoirs of information, knowledge, and other resources (Powell, Koput, Smith-Doerr, & Owen-Smith, 1999). For instance, Echols and Tsai (2005) found that network embeddedness enhances the performance of the VC firms investing in niche markets because it facilitates obtaining reliable knowledge and information necessary for developing unique products in their investee ventures. Walker (2008) described how the VC firms syndication networks contributed in ecommerce industry evolution by diffusing

investment information among VC firms. Jääskeläinen et al. (2008) found a positive relationship between syndication and financial performance, relying on the role of syndication networks on enlarging the pool of investments for the VC firms.

Prior research on networks has identified different features of the networks that can determine the quality of the network's impacts on different actors: *network composition* and *network structure*. Network composition includes characteristics such as density and diversity (Coleman, 1988; Phelps, 2010) and network structure refers to the arrangement of different actors' relationship and standing inside the network (Guler & Guillen, 2010). Actor's social status in the network is one of the structural proxies frequently used in prior studies applying social network theory (Checkley et al. 2010; Hopp, 2008; Sorenson & Stuart, 2001). Also known as network centrality and network position, social status implies the extent to which the focal firm is involved and embedded in its network (Guler & Guillen, 2010). The focal firm's direct and indirect ties plus the level of embeddedness of those ties constitute the social status of the focal firm in the network (Ahuja, 2000; Bonacich, 1987; Houston et al., 2004).

Prior studies have shown the positive relationship between firm's social status in the syndication networks and its performance (Abell & Nisar, 2007; Freeman, 1999; Hochberg et al., 2007; Sorenson & Stuart, 2001). The underlying argument of establishing such positive link is the advantages that social status can provide the focal actor. Actors in central positions have superior access to the deal flow in the network and gain more capabilities in adding value to the venture (Jääskeläinen, 2012; Keil, Maula, & Wilson, 2010). Further, they enjoy favorable access to different resources flowing in the network such as information, financial, and human capital resources (Guler & Guillen,

2010; Podolny, 1993). Thus, social status is a reflection of the magnitude and quality of the resources that a firm has access to in its network (Hoang & Antocic, 2003). The more the firm is connected to others the more likely it is to obtain required resources from the network (Wang & Fang, 2012). Relying on these implications, I examine how social status in the home and host countries may impact developed country VC firms' syndication behavior.

Similar to other international firms, when VC firms invest abroad specially in emerging and less developed countries, weak institutional environment and lack of familiarity with local market increase the risk of their investments (Cumming, Schmidt, & Walz, 2010). As indicated by international alliance studies, the main motivation of developed country firms to ally with local counterparts in emerging markets is access to different regional markets, customer and market information, and dealing with institutional environment and governmental regulations (Dacin, Hitt, & Levitas, 1997; Dong & Glaister, 2006; Gillespie & Teegen, 1995; Yan & Gray, 1994). However, for local firms in emerging markets, alliances with developed country firms is an organizational learning context and a way to access resources and technologies that are scarce in local market (Hitt et al., 2000). Considering the similarities between syndication and alliances (Wright & Lockett, 2003), plus the long history and maturity of the VC industry in developed countries (e.g., U.S.) compared to emerging markets, it seems appropriate to hold the same the assumption for the international VC firms. Due to the differences between developed and emerging countries in terms of development and age of the VC industry (Wright et al., 2005), local VC firms in emerging markets are not expected to bring much value to the table in syndication with developed country firms

other than mitigating the *liability of foreignness* (LOF). Information asymmetry between local and non-local investors is even deeper when the cultural and spatial distances between home and host countries are greater (Coval & Moskowitz, 2001). Hence, in distant host countries, foreign VC firms have more information disadvantage which can be neutralized by partnering with local firms. However, research has shown that when the major value that local partner creates is providing the host country information and connections, foreign firms would lose motivation to partner with them as soon as they can establish goodwill with local government and other regulatory authorities and master the host market (Child, Faulkner, & Tallman, 2005). As discussed earlier, social status in the host country can bring this advantage to the developed country VC firms.

The central VC firms in the host country network have the most access to the deal flow information and other resources existing in the network including direct contacts with local government agencies and other VC firms that can act as the intermediaries (Hochberg et al., 2007). These intermediaries can provide the foreign VC firms with local and governmental connections necessary for successful operation particularly in emerging markets. Further, they can help the foreign VC firms to communicate with local entrepreneurs and evaluate the investment proposals more efficiently (Lu & Hwang, 2010). Taken together, I argue that advantages of a high social status in the host country network enable VC firms to cope with LOF by increasing their access to more resources, information, and connections. This decreases the perceived venture-specific risk by VC firms. According to international alliance literature, once firms recognize that they can accomplish their investments alone, they do not tend to share the return on investment with a partner that cannot bring a noticeable value to the alliance (Brander, Amit, &

Antweiler, 2002). Further, the contingency view of syndication claims that syndication is to compensate for the focal firm's lack of required resources and capabilities and to mitigate the risk of investment (Bygrave, 1987). Consequently, based on this view, one can argue that the host country status reduces the motivation of syndication by decreasing the perceived information asymmetry risk as the motivation of syndication.

I use signaling theory to describe the alternative effect of the social status on syndication according to the natural proclivity perspective of syndication. Signaling theory is a suitable perspective when analyzing the relationship between two parties in the presence of the information asymmetry (Spence, 2002). It highlights the impacts of the signals sent and received by each party on their decisions regarding different relationships that they may have (Connelly, Certo, Ireland, & Reutzel, 2011). The information asymmetry among the partners is an important and common challenge in the international alliances making it difficult to find out the true quality of a partner (Hamel, 199; Zacharakis, 1997). Thus, anything that contributes to reduction of information asymmetry can increase the likelihood of forming and lasting the alliances. Networks consist of different actors interacting with each other. For that, they can frequently serve for sending and receiving different signals by actors. Firms sometimes enter networks and alliances just to signal the quality of their resource endowments (Marciukaityte, Roskelley, & Wang, 2009). The central network position resulting from previous alliances has been identified as a proxy of quality and trustworthiness of the firm (Podolny, 2001). It positively impacts the perceptions of the other firms in the network about capabilities and performance of the focal firm (Guler & Guillen, 2010).

Further, high status VC firms in their network can bring other important players to their investments which increases the likelihood of venture's success, especially in the VC investments characterized by high risk and uncertainty (Gompers & Lerner, 2000; Hochberg et al., 2007; Piskorski, 2004). Based on these advantages, the VC firms central in their networks are able to close the deal with the entrepreneurs with more favorable conditions (Guler & Guillen, 2010). Difficulty of obtaining a high social status in a foreign country (host country) with completely different institutional infrastructure and business environment makes the central foreign VC firm even more attractive to other counterparts as a signal of its quality and capabilities (Baum, Cowan, & Jonard, 2010). That can lead other VC firms to propose more attractive syndication offers and enhance the syndication likelihood between them and the focal VC firm. Combining these arguments with the perspective that advocate natural proclivity towards syndication, one can alternatively expect that a higher social status in the host country would increase the likelihood of syndication for foreign VC firms. Thus, two competing propositions can be stated as following based on these different perspectives:

> *Proposition 1a: The combination of low host country social status and high information asymmetry risk is associated with syndication of developed country VC firms in their emerging market investments, but the combination of high host country social status and high/low information asymmetry risk will not be associated with syndication.*
>
> *Proposition 1b: At high levels of the host country social status, the developed country VC firms tend to syndicate independently of the information asymmetry risk in their investments in emerging markets.*

As discussed earlier, another factor that may lead VC firms to syndicate is the technical complexity. Operating in high-tech industries increases the uncertainty and information asymmetry between the venture and VC firm (Gompers, 1995). It also

requires more resources and connections to succeed in these industries (Kakati, 2003). International alliance literature has found that developed country firms are usually responsible for providing advanced resources, experiences, and technologies in alliances between developed and emerging market firms (Dacin et al., 1997; Dong & Glaister, 2006; Gillespie & Teegen, 1995; Yan & Gray, 1994). The reason is the technology gap between emerging and developed countries (Svetlicic & Rojec, 1994). Whereas developed country firms have access to sophisticated resources and technologies (which are sometimes country-specific), firms in emerging markets are less resource-endowed due to the young age of many industries (Hitt et al., 2000), including VC industry in those countries (Wright et al. 2005). That is why in the investments in high-tech industries, the developed country firms can contribute more.

According to implications of the high social status described earlier, for the developed country firms, the position in their home country network shows the level of their access to the advanced resources available in their country and industry. Further, the developed country VC firms have the advantage of providing more exit options for high-tech firms. A well-established financial market (including stock market) is necessary for VC firms to lead a venture towards a successful exit, especially for the high-tech industries (Black & Gilson, 1998). Efficient financial market in developed countries such as the U.S. gives the international VC firms from these countries the option to exit the venture in their home market through initial public offering (IPO) (Wright et al., 2005). Further, existence of more high-tech incumbent firms in developed markets increases the chance of the VC firms from these markets to exit their emerging market investments through mergers and acquisitions in their home country. A high social status in the home

country intensifies all of these advantages for a developed country VC firm. The previous experiences of investing in the home country and the connections that a VC firm with a high social status has in its developed home market increase the likelihood of its high-tech investments success in an emerging country.

According to the contingency view of syndication, VC firms' characteristics can influence the decision to syndicate. Combining this perspective with the advantages of the high social status in the home country, a central network position can reduce the developed country VC firms' motivation for syndications which are due to the technical complexity risks. Network centrality in the home country (as a developed country) can provide the values that the VC firms seek when they partner with other firms in under the condition of the high technical complexity risks.

Alternatively, if according to the natural proclivity perspective, one can argue that the home country social status may even intensify the likelihood of syndication rather than substituting it. Similar to the argument made for the host country network, centrality in a developed home country (e.g. U.S.) makes the focal VC firm more popular and visible to other VC firms. Further, the VC firm's reputation makes it easier for the firm to benefit from others' tangible and intangible resources even without syndicating with them (Guler & Guillen, 2010) since they would hope for focal firm's reciprocation in the future. This makes the VC firms with higher social status more desirable partners (Stuart, Hoang, & Hybels, 1999). Similar to the entrepreneurs who may agree on a discount to a high status investor (Hsu, 2004), desirability of the high status VC firm can have the same impact on the other VC firms and result in offering more attractive syndication proposals. Thus according to this alternative perspective, it can be expected that the home

country status can increase the syndication likelihood reaching us to such competing propositions as:

> *Proposition 2a: The combination of developed country VC firms' low home country social status and high technical complexity risk is associated with syndication in their emerging market investments but high home country social status is NOT associated with syndication even in presence of high technical complexity risk.*
>
> *Proposition 2b: At the high level of home country social status, the developed country VC firms tend to syndicate independently from the technical complexity risk in their emerging market investments.*

Performance Implication

The value of any strategic decision is evident by its performance implication (Venkatraman & Ramanujam, 1986). As a critical strategic decision, the effect of the syndication on performance has been extensively examined in the VC literature. Among those that have argued for a positive impact, there are different perspectives why syndication leads to the superior performance. Some have argued that syndicated deals perform better because of the value added by other VC firms involved in the deal (Brander et al., 2002). Another explanation is derived from improved selection hypothesis which refers to the fact that syndication leads to better performance because it improves the selection process and results in selecting more promising ventures to invest in (Hege et al., 2009). According to this view, second opinion resulting from syndication, improves the due-diligence process in the deal selection and consequently by selecting better ventures, the ultimate performance of the investment will be guaranteed.

Further, prior studies have also claimed that the positive impact of the syndication on the investment performance is due to the pool of corporate contacts (Giot & Schwienbacher, 2007). In the syndicated deals, involvement of several VC firms expands

the pool of corporate contacts necessary to find a buyer to acquire the venture. Pooling required resources such as specific knowledge and expertise required in the venture's industry is another explanation mentioned in the literature for the positive relationship between syndication and the deal performance (De Clercq & Dimov, 2008). This includes the VC partners' capabilities in participating in the post investment activities such as providing managerial consultations (Jääskeläinen et al., 2008), and in monitoring the venture after initial investment (Kotha, 2008).

Increased legitimacy of the venture is another mechanism through which syndication may enhance the performance. According to this perspective, the reputational capital of the venture is increased by the number of the VC firms investing in it (Megginson & Weiss, 1991). This affiliation with multiple VC firms enhances the legitimacy of the venture which in turn increases the likelihood of success (Higgins & Gulati 2003). Further, the fact that multiple VC firms have invested in a venture certifies the quality and accuracy of the price during the exit period and increases the return of investment by reducing the discount resulting from the information asymmetry between buyers and venture (Jääskeläinen, 2012).

Despite the fact that several studies have found a positive relationship between syndication and investment performance, there are also some studies that have come up with different results. Guler (2007) revealed the coercive pressure existing in the syndications that can lead the VC firms to end up with loss. Although, the focal VC firm may realize that the decision to invest in a venture has been problematic, other co-investors may exert coercive pressure on the focal firm to continue with the status quo by imposing contractual sanctions. This can cause the focal VC firm to end up with more

losses which could be prevented. Fleming (2004) also found a negative relationship between syndication and performance of the investments made by Australian VC firms. He stated one plausible explanation can be the fact that sometimes VC firms syndicate just to "window dress" their investment portfolio and to show an exit record. Similar to this study, Mason and Harrison (2002) found no significant relationship between syndication in an investment and the performance of the venture. In sum, the literature on performance impact of the syndication remains inconclusive about the nature of the impact and the contingencies that can determine how syndication influences performance.

International investments which are the setting of this study are more susceptible for the disadvantageous syndications. High information asymmetry between firms from distant cultures and different institutional environments makes the cooperation among them more difficult (Coval & Moskowitz, 2001). Further, VC firms from different countries operate and manage their investments in different ways and through different philosophies (Brophy & Guthner, 1988; Mason & Harrison, 2002). This can also impede an efficient cooperation among partners from different backgrounds in an international market and consequently reduce the likelihood of high performance.

When investing abroad, the nationality of a potential partner can imply advantages as well as disadvantages and potential problems that may occur in syndicating with that partner. Local firms can provide local market information and connections and thereby mitigate the LOF for the foreign VC firms (Lu & Hwang, 2010). They can also function as a communication channel between the foreign VC firms and the local entrepreneurs in the cases where information asymmetry risk exits. Therefore, partnership

with them would be valuable since both of the mentioned problems (LOF and information asymmetry between VC firms and entrepreneurs) have been identified as failure factors in the international investments (Gompers, 1995; Zaheer, 1995). However, due to the differences in investment philosophy including different ways of selection, screening, and exit preferences (Mayer, Schoors, & Yafeh, 2005), VC firms from different backgrounds may not get along well together. Further, the relationship between the co-investors in a syndicated investment is also subject to information asymmetry among them (Lerner, 1994). The information asymmetry between local and non-local investors is aggravated by higher cultural and spatial distances between the home and host country (Coval & Moskowitz, 2001). This means that in the distant host countries, the foreign VC firms have more information disadvantage compared with the local VC firms which also creates higher level of distrust among them (Baum et al., 2010).

I discussed earlier how the type of the industry can impose risk to the VC firms. The capabilities of the VC firms in supporting the high-tech ventures may be different depending on their country of origin. VC firms from developed counties have longer record and more experiences in investing and dealing with ventures in the high-tech industries. For instance, the political economy of the U.S. has encouraged the VC firms to invest in the high-tech industries such as biotechnology and telecommunication since early 1980s (Casper, Lehrer, & Soskice, 1999). That has evolved those industries and empowered the VC firms in investing in such high risk ventures. However, it has not been the case in most of the emerging markets due to the governmental policies (Wright et al., 2005).

In addition to the higher capability of the developed country VC firms in managing the investments in high-tech industries (Black & Gilson, 1998), they have greater access to the advanced resources required in these industries. The advances of the high-tech industries in developed countries make tangible and intangible resources necessary for the new ventures' success more accessible for the VC firms (Guler & Guillen, 2010). Access to the advanced resources creates competitive advantage for the VC firms from developed countries and enhances the likelihood of success in their high-tech investments (de Jong, Phan, & van Ees, 2011). The developed country VC firms also provide more exit options for high-tech ventures. A well-established financial market (including stock market) is necessary for the VC firms to lead a venture towards a successful exit, especially for the high-tech industries (Black & Gilson, 1998). Having efficient financial market in the home country, the VC firms from developed economies also enjoy the option of exiting their ventures in their home country market through IPOs (Wright et al., 2005). Further, existence of more high-tech incumbent firms in the developed markets increases the chance of the VC firms from these markets to exit their investments made in emerging countries through mergers and acquisitions in their home country. Despite the mentioned advantages that another developed country firms can bring to the deal and consequently contribute to the performance of the venture, co-operation problems are still likely to exist even in syndications among the VC firms from the same country (Lockett & Wright, 2001).

In sum, in terms of the impact of the syndication on investment performance there are different opinions in the literature: First, syndication bears an intrinsic value regardless of the capabilities of the single focal VC firm in managing the investment

alone. From this perspective, syndication contributes to the performance because it always enhances the legitimacy of the venture and helps the VC firms to gain more return at the time of exit from the venture by assuring the buyers (in stock market or in a merger and acquisition) about the reliability and accuracy of the suggested price. In this case, capabilities of the VC firm can complement the positive effect of the syndication on performance. Thus, despite the advantages that social status provides the VC firm it may not substitute for the positive effect of syndication. However, one can expect syndications formed by VC firms with higher social status will perform even better compared to those by VC firms with lower social status. This is because of the extra advantages that social status provides the VC firms.

Second, syndication is positively related to performance because it compensates for what a VC firm may lack to succeed in an investment. This can be in form of the capability in selection decision or tangible and intangible resources that the venture requires after the initial investment. In syndication with different partners in an international investment, partners from different countries may have different functionality in terms of the value that they create and the contribution that they have in the investment performance. Local partners and those that have more similarity and proximity to the host country can help the performance of the developed country VC firm's investment when the information asymmetry risk is high. They can communicate more efficiently with the entrepreneurs. Also, they can provide more reliable evaluation of the information provided by the entrepreneurs. Other VC firms from home or other developed countries can mitigate the technical complexity risk which consequently leads to a superior performance. In the investments made in high-tech industries, developed

country partners can bring more advanced resources, connect the venture with their advanced market at home, and provide more exit options for the venture. Finally, the third perspective maintains that syndication with other counterparts can even be detrimental to the investment and hurt the performance due to the co-operational and agency problems between the VC partners and the potential differences among them with regard to their investment philosophy.

Combination of the second and third perspectives on the syndication-performance relationship suggests that the positive effect of syndication is contingent upon the contextual conditions and the VC firm's characteristics. In other words, syndication has its own costs and is advantageous when the focal VC firm does not possess the required resources and capabilities for venture's success. If this perspective bears more credibility, then it can be expected that some of the VC firm's characteristics substitute the need for syndication. The social status with its mentioned implications can provide the advantages that syndication is supposed to deliver to the VC firm. The host country social status can mitigate the information asymmetry risk. Hence, it can substitute for the syndications made to solve this problem. The focal VC firms syndicate with other developed country firms because they have access to the valuable resources and connections that are available in developed countries and scares in the emerging markets. However, the focal VC firm's home country social status increases its access to advanced resources, information, and knowledge available in home country. Accordingly, it may deliver the same positive contributions that syndication with other developed country firms does to the investment performance.

Taken together, the above arguments lead to the following propositions regarding the performance effect of the developed country VC firms' syndication in different venture conditions (information asymmetry/technical complexity risk), by different partners (local/other developed country VC firms), and in different levels of the social status (high-low/home country-host country):

Proposition 4a: Syndication is a necessary condition for the developed country VC firms to achieve superior performance in their emerging market investments.

Proposition 4b: For the developed country VC firms, either syndication or lack of syndication may be associated with high performance in their emerging market investments. High social status in the host country will substitute for syndication due to the information asymmetry risk for high performing VC firms. Similarly, high social status in the home country will substitute for syndication due the technical complexity risk.

3.4 METHODOLOGY

Sample and Data

The context of this study is the international VC firms from developed countries investing in emerging/less developed markets. Since the U.S. is the dominant player in the international VC market, I chose U.S. VC firms as the sample of the developed country firms. The U.S. VC industry has the greatest share in the international VC investments (Aizenman & Kendall, 2008). Furthermore, China has become the largest net importer of the VC funds (Wang & Wang, 2011). Hence, for this study, I draw the sample from the investments made by U.S. VC firms in China.

I used the VentureXpert database to compile data for the U.S. VC firms' investment in China. This database is a property of Venture Economics, a division of Thomson Financial. Venture Economics gathers quarterly reports from the VC firms and other major investors about their portfolio and provides data on their investments.

VentureXpert provides daily information regarding the VC firms' investments from 1960 to date. This database has been extensively used by the prior studies on the VC industry (Dimov, D., & Milanov, H. 2010; Guler & Guillen, 2010; Hochberg et al., 2007, 2010; Megginson & Weiss, 1991; Sahlman, 1990; Shane & Stuart, 2001).

The initial sample consisted of 257 first round investments made by the U.S. VC firms during 1995 to 2005. I choose first round investments because the goal is to examine the impact of the interplay between different risk factors and social status on the U.S. VC firms' syndication decision. By focusing on the first round investments, I control for the factors beyond the U.S. VC firms' control that influence their decision to syndicate. Including investments in which the U.S. VC firms had joined in later rounds creates a sample bias because by accepting to join in a later round of investment, VC firms have automatically entered into a syndication and have not had the option to invest alone in the venture[1]. I selected 1995 as starting year for collecting data because the database's coverage for earlier years is poor and there are few investments by the U.S. VC firms in China before 1995. Prior studies have considered different time lags of four to six years to examine the performance of the VC firms' investment (Gompers & Lerner, 2000a, 200b; Hochberg et al., 2007, 2010; Mason & Harrison, 2002). Further, a survey on the VC firms' executives by Macmillan, Siegel, and Narasimha (1985) found that the most of them expected to earn a substantial return from their investments between 5 to 10 years after the initial investment. Taken together, I measure the performance eight years after the initial investment. Hence, I included performance data for 2013. After deleting

[1] This theoretical sampling, to just include the initial investments, has used by prior studies (Cumming, 2008; De Clercq & Dimov, 2008; Giot & Schwienbacher, 2007).

the observations with missing data, the final sample consists of 212 investments made by 111 different U.S. VC firms involving 154 Chinese ventures.

Measurement

Dependent variable. There are two dependent variables associated with the propositions in this study. For propositions 1 to 3, the dependent variable is *syndication decision*. I use a binary variable for syndication, which is equal to 1 for cases in which the U.S. VC firm has at least one other co-investor at the first round of investment and 0 if the VC firm has invested alone in the first round. For proposition 4, the dependent variable is the investment performance. Following prior studies (Dai, Jo, & Kassicieh, 2012; Gompers & Lerner, 2000; Hochberg et al., 2007, 2010; Jääskeläinen et al., 2006), performance of the investment is based on whether the venture successfully exited through an IPO or Merger and Acquisition (M&A). Performance of the VC firms' investment can also be measured by return on investment. However, there are some problems associated with this measure: first, the data related to VC firms' actual profit is not available. Second, service nature of this industry makes it difficult for an outsider to assess the performance based on such data even it available (Jääskeläinen et al., 2006). In other words, in addition to the money that VC firms invest in a venture they spend a lot of their time (one of their most important assets) which cannot be monetized to accurately calculate their profit. In this case, using the exit information can be a reliable measure since a successful exit can fairly represent an acceptable return on investment for VC firms (Hochberg et al., 2007). Thus, performance variable in my analysis would be equal to 1 if venture has been able to exit through IPO or M&A by 2013 and 0 otherwise. As mentioned, to avoid any biases in the sample, the way that performance is measured

allows VC firms to exit the venture within an eight year period, which is even slightly more than the time considered by prior studies (e.g. Gompers & Lerner, 2000a, 200b; Hochberg et al., 2007, 2010; Mason & Harrison, 2002).

Causal conditions. I examine the impact of two groups of variables on syndication decision: *VC firm* and *venture characteristics*. From the venture perspective, I measure the *information asymmetry* and *technical complexity* risks. Following prior studies to measure the information asymmetry risk, I use two proxies: venture age and venture stage at the time of investment. Age of the venture has been identified to influence the perceived risk by VC firms (Hopp & Rieder, 2011). The younger the venture is the shorter its track record would be. Thus, VC firms have to rely more on what entrepreneur claims (Bygrave, 1987). The gap between the VC firm and the entrepreneur in terms of access to the accurate information about the venture's business increases the information asymmetry problem. VentureXpert provides this information for most of the cases. For the cases that data was not available through the VentureXpert dataset, I retrieved the information through companies' websites. I measured the age of the venture based on the number of months that they have been in the business since inception up to the first round of investment.

Ventures can be in different stages at the time of investment. The development stage of the venture can range from seed, start-up, and early stage to later stage, expansion, and acquisition (Sahlman, 1990). Ventures in earlier stages lack the history to prove their legitimacy and sometimes their products and services are far from the commercialization (Gompers & Lerner, 2002). This imposes a risk to the VC firms intending to invest in the venture. VentureXpert database also provides the stage of the

venture at the time of investment which has been used by prior studies (e.g. Dimov, Shepherd, & Sutcliffe, 2007). I coded the stage variable as 1 if the venture is in seed, start-up, or early stages and 0 for later stages that are considered less risky. The industry membership of the venture is used to determine *technical complexity risk*. VentureXpert classifies the ventures based on the SIC and NAIC codes. Based on that information, it also categorizes the ventures into "high-tech" and "non-high-tech" industries. Some examples of high-tech industries are Biotechnology, Semiconductor, and Medical industries. Retail, Fabric Manufacturing, and Food industries are examples of the industries categorized as "non-high-tech". Technical complexity is coded 1 for the "high technology" ventures and 0 otherwise.

In terms of the VC firms' characteristics, the main constructs are the home and host country social status. Following prior studies, I used Bonacich's (1987) eigenvector centrality to measure social status (Dimov et al., 2007; Guler & Guillen, 2010; Podolny, 2001; Sorenson & Stuart, 2001). The advantage of this measure is that it not only considers the ties formed by the focal actor but also takes into account the social status of the actors to which the focal actor is connected (Guler & Guillen, 2010; Jensen, 2003). To capture the previous social status of the VC firm on its current syndication decisions in year t, I measured the centrality based on the information for years (t - 1), (t - 2), and (t - 3). The data on the inter-firm links of the VC firm i in the home and host countries was used to calculate the centrality score for the home and host country social status respectively. The centrality score for the VC firm i in year t was calculated as follow:

$$C_i = \alpha \sum B_{ij} C_j$$

Where α is the reciprocal of an eigenvalue and B is the adjacency matrix indicating the existing ties between VC firms *i* and *j*. In this setting, the centrality of the VC firm *i* is a function of the centrality of the other VC firms with which it is connected. For the VC firms that did not have any relationship with others, I assigned 0 for the centrality measure.

I also put the VC firm's age in the model as a proxy of its general experience in the VC industry. This measure has been used before in the literature and indicates the accumulated capabilities of the VC firm in managing the investments (Abell & Nisar, 2007; Lee & Wahal, 2004; Nahata, 2008; Wang & Wang, 2011). Prior experiences of the VC firm in handling different investments can make the firm capable of managing standalone investments in the future and consequently influence their syndication decision. Prior investments of the focal VC firm in the host country may also create special expertise and skills required for success in that specific context[1]. Thus, I defined a variable called '*prior deals*' that captures past experience. It is measured by the number of deals prior to the investment date in which the focal VC firm has invested[2].

Analytical Technique

To address the research questions and test the credibility of the propositions, I employ fuzzy-set qualitative comparative analysis (fsQCA). The premise of fsQCA is that causality in the social sciences has a conjunctural nature often times (Ragin, 2008). In essence, combination of multiple conditions leads to an outcome in most cases (Crilly, Zollo, & Hansen, 2012). Built on this rationale, fsQCA allows scholars to explore certain configurations of causal conditions leading to an outcome variable (Ragin, Drass, &

[1] This can be regardless of whether prior investments have been in collaboration with others (enhancing the social status) or have been made alone by the focal firm.
[2] It includes both standalone and syndicated investments.

Davey, 2006; Ragin, 2000). Using Boolean algebra, it handles the causal complexities by describing the cases (i.e. investments) as configurations of different causal conditions rather than focusing on each individual independent variable's impact on the outcome (Fiss, 2011). This is the main advantage of fsQCA making it different from other techniques such as regression (Ragin, 2008). Different cases can have different membership associations (full member, partial member, or full non-member) to each causal condition (Fiss, 2011). Thus, the membership does not have to be binary allowing for more meaningful grouping (Crilly et al., 2012).

The fsQCA is not based on the normal distribution assumption which makes it more capable of handling the samples with small size, outliers and without normal distribution (Fiss, 2011). Another advantage of fsQCA which makes it even more appropriate for this study is that it allows for testing of equifinality (Ragin, 2008). Based on how causal conditions combine in different cases, fsQCA can result in different configurations of causal conditions represented by the cases that lead to high or low level of outcome variable (Fiss, Cambre, & Marx, 2013). While initially, fsQCA was used for small samples, recently researchers have adopted it for large samples similar to one used this paper (Greckhamer, Misangyi, & Fiss, 2013).

Consistency and Frequency Thresholds

In my analysis, I only included configurations that had at least two representative cases. This decision was made due to my relatively large sample (212 observations) and to avoid potential outliers or one-time occurrences of a configuration. This criterion is also aligned with previous studies utilizing FsQCA with large samples (e.g. Garcia-Castro, Aguilera, & Ariño, 2013). According to Ragin (2008), frequency threshold should

be determined such that at least 75 percent of the cases are used in the analysis in order to insure that the sample's integrity is not damaged or skewed by excluding important data points. A cutoff point of two retained 89 percent of the sample for my further analysis. Next step of the analysis is to calculate whether the outcome is sufficiently exhibited in remaining configurations. In FsQCA, a consistency score is utilized to in order to make this decision. The consistency score measures the extent to which membership in a given configuration is indeed a subset of membership in the outcome. A coverage score is also used to describe the relevance of a condition or a set of conditions to a particular outcome. There are two major formulas for calculating fuzzy consistency and coverage statistics of the causal conditions (X) for the outcome (Y) as follows (Ragin, 2008: 134):

$$\text{Consistency } (X_i \leq Y_i) = \Sigma[\min(X_i, Y_i)] / \Sigma(X_i)$$

$$\text{Coverage } (X_i \leq Y_i) = \Sigma[\min(X_i, Y_i)] / \Sigma(Y_i)$$

According to Ragin et al. (2006), minimum recommended consistency threshold is 0.75. I follow Bell, Filatotchev, & Aguilera, R. (2013) and use 0.80 as the consistency threshold, which is above the recommended minimum.

Calibration

The first step in performing fsQCA is calibrating the raw data to membership scores [0,1]. A value of 0 indicates complete non-membership and 1 shows the full membership. Although relying on the existing theory and scholarly expertise is the preferable approach in calibration, this might not be always possible. In many cases, calibration must be done according to the way that data structures. In instances of continuous data that does not cluster, a continuous calibration technique can be applied. Since major variables of my study exhibited such structure (i.e. centrality scores, age,

etc.), fsQCA calibration function was utilized. I specified a full membership point, a crossover point above which a condition is determined to be mostly a member and a complete non-membership point. To choose these three points, I followed Fiss (2011) recommendation and procedure in selecting the 75th percentile for each variable as the full membership threshold, the mean of each condition as the crossover point, and the 25th percentile as the complete non-membership point.

3.5 RESULTS

To test the propositions, I conducted two sufficiency tests. The results of the sufficiency test for propositions 1a, 1b, 2a, and 2b are illustrated in Table 1. For this first set of propositions, the outcome condition is syndication. There are five configurations presented in Table 1 which are all sufficient for forming syndication between focal VC firms and other counterparts. Since the sample to a great extent represents the population of the US VC firms in China, the results in this table are based on the complex solutions. The complex solutions (comparing with the parsimonious and intermediate ones) are the most complicated solutions where there is no simplifying assumption based on different counterfactuals[1]. In fact, these solutions only report the patterns in the data (extracted from the actual VC firms activities) and does not include any mathematical simplifications. In the table, I denote the general presence of a causal condition with the black circles ("●") indicating high level of that condition and conversely the general

[1] There are two types of counterfactuals that fsQCA procedure applies to simplify the complex configurations between causal conditions: easy and difficult. Fiss (2011) defines these two types of counterfactuals as follow: "Easy counterfactuals refer to situations in which a redundant causal condition is added to a set of causal conditions that by themselves already lead to the outcome in question. In contrast, "difficult" counterfactuals refer to situations in which a condition is removed from a set of causal conditions leading to an outcome on the assumption that this condition is redundant." Based on the inclusion of these counterfactuals, the fsQCA generates three types of solutions: 1) parsimonious which includes both easy and difficult counterfactuals 2) intermediate which only includes easy counterfactuals 3) complex which includes neither easy nor difficult simplifying assumptions.

absence of a causal condition (or low level of the condition) is indicated with circles with a cross-out ("⊗"). Blank spaces in a solution are "*don't care*" situations where the causal condition may be either present or absent (high or low level of the condition may exist).

[INSERT TABLE 3.1 ABOUT HERE]

Configurations presented in the Table 1 demonstrated the consistency of 0.80 and the coverage of 0.40. The consistency statistics imply the extent to which cases (i.e. investments made by the VC firms in the Chinese ventures) that assemble these causal conditions experience the outcome (i.e. syndication between focal VC firms and other counterparts). One of the best analogies to the consistency statistics would be the t-score for the coefficients in OLS regression. The coverage statistics imply the empirical relevance and importance of the solutions (configurations) which is roughly analogous to the r-squared in the regression (Schneider & Wagemann, 2012). In other words, it shows the extent to which the presented solutions are inclusive regarding the subsample of the syndicated deals.

Raw coverage scores in the table show the portion of the syndication decision that is contained in the indicated configuration, and unique coverage shows the portion of the syndication decision that is exclusively covered by the indicated configuration and no others. Since syndication is a strategic decision that can be influenced by several factors, the coverage score obtained here is consistent with other previous studies (e.g. Crilly, 2010; Fiss, 2011; García-Castro et al., 2013). In sum, the results describe that considered venture and VC firms characteristics together explain syndication decision by the VC firms in their investments.

Propositions 1a and 1b are competing arguments. In essence, the major question here is whether social status in the home and host countries (considering their practical implications) could compensate for the syndication stemming from technical and information asymmetry risk factors. In other words, the question is whether VC firms with high social status in the home (host) country do not syndicate their investment even if there is a technical (information asymmetry) risk involved because the advantages of social status make them so confident that they would prefer avoid problems of partnering with other firms or sharing a potential profit with them. In solutions 1, 2, and 5 in Table 1, information asymmetry exists since at least the venture is always in the primary stage of development. However, at the same time, VC firms also have high host country status. This means that at least, social status in the host country do not compensate for the information asymmetry risk factor. In solutions 3 and 4, information asymmetry is considerably low (both age and stage of the venture are high) and the VC firms with both high host status (C3) and low host country status (C4) have preferred to syndicate even in the low level of the information asymmetry. In sum, these results (particularly solution 4) support the first part of the proposition 1a that asserts the combination of low host country social status and high information asymmetry is associated with syndication. However, the overall solution lends more support to the proposition 1b that claims at high level of the host country social status, VC firms still engage in syndication regardless of information asymmetry evident by solutions 1, 2, 3, and 5.

Propositions 2a and 2b state competing arguments about the relationship between the home country social status and technical complexity. As Table 1 shows, all five solutions include ventures in high-tech industries. Thus, technical complexity is always

present in the solutions and because of that there is no configuration with low technical complexity and high home country social status to examine how the focal VC firms decide about syndication in such situations. Solutions 2 and 4 support the first part of the proposition 2a that states the combination of low home country social status and high technical complexity is associated with syndication. However, the second part of the proposition (high home country social status is not associated with syndication even at the presence of the high technical complexity) is not supported. Overall, these solutions give overall support to proposition 2b that claims VC firms with high home country social status tend to syndicate regardless of the technical complexity.

Second set of the propositions (3a and 3b) discuss the performance implication of the syndication and social status. To test these propositions, I conducted another sufficiency analysis with performance being the outcome condition. I also added two new causal conditions: 1) Chinese and Chinese-similar partners indicating partnering with local VC firms or VC firms from countries culturally and spatially close to China (i.e. Taiwan and Hong Kong) 2) US and US-similar partners including other developed countries (i.e. UK, Germany, Japan, South Korea, and Israel) . These conditions not only capture the syndication but also the type of partner with which the focal VC firms have syndicated in different situations. Table 2 demonstrates the results for the performance analysis.

[INSERT TABLE 3.2 ABOUT HERE]

Overall, sufficiency analysis resulted in two major solutions. The overall solution consistency is 0.91 and the overall solution coverage is 0.20 which is acceptable considering the fact that there are many other factors influencing the investment

performance (i.e. IPO or M&A). The major competing arguments stated in propositions 3a and 3b are whether the syndication is highly associated with performance of the investment in a way that we will find high performers to be mostly syndicated ones or VC firms can achieve high performance if they have the required competencies (i.e. the home and host social status and experiences) based on the investee conditions (i.e. the information asymmetry and technical complexity factors). As demonstrated in Table 2, both solutions include partnering with both groups of partners: local/similar to local and US/other developed country partners. To gain more specific insights about the impact of the syndication on performance compared to that of VC firms internal competencies (following the discussion in the second set of propositions) and also to clarify which sets of conditions (venture or VC firms) more significantly determine the syndication decision (following the discussion in the first set of propositions), I further conducted necessity test.

Necessity Analysis

Necessity test is to further analyze the causal conditions in order to determine whether each set (venture vs. VC firms characteristics) are necessary for syndication and whether syndication is a necessary condition for performance. Necessity measures the degree to which an outcome is a subset of a given causal condition (Ragin, 2006). A causal condition is "almost always necessary" for an outcome if its consistency is greater than 0.90 (Schneider, Schulze-Bentrop, & Paunescu, 2010). First, to examine which set of variables are more influential to syndication decision, I conducted a necessity test for the venture stage, venture age, and venture industry versus the VC firms' home and host social status, age, and prior experience in the host country. Table 3 demonstrates the

result of this test. As shown in this table, the VC firms characteristics do not reach to the 0.90 threshold of consistency which is required for necessity test. The venture characteristics have a consistency score of 0.91 which make them a necessary condition for the syndication. Also, the coverage score for the venture traits is 0.66 which shows these results cover the syndicated cases to a great extent. In sum, it is fair to argue that the venture characteristics are more important in syndication decision than the VC firms capabilities and competencies.

[INSERT TABLE 3.3 ABOUT HERE]

I did a similar test to examine whether the syndication is a necessary condition for performance. For this test, I conduct the necessity test for two causal conditions that I added in my performance analysis: Chinese/Chinese-similar partners and US/US-similar partners. According to the results demonstrated in Table 4, syndicating with either group of partners is not a necessary condition for high performance. However, lack of the partners is a necessary condition for low performance. This roughly means although syndication does not guarantee the performance of investment, investing alone would significantly decrease the likelihood of success in emerging markets (i.e. China).

[INSERT TABLE 3.4 ABOUT HERE]

3.6 DISCUSSION AND CONCLUSION

The major goal of this study is to clarify the nature of the syndication among VC firms especially in their international investments. More specifically, I seek to explore whether syndication has more of a contingency nature and it depends on the venture and VC firms attributes or VC firms have a natural tendency towards syndication regardless of specific conditions that they face in each particular investment and their own

capabilities. Considering the implications of the social status and what it takes for a VC firm (in terms of capabilities) to reach to a high social status, firms with high status are among the bests in terms of having experience of successfully managing an investment and having access to resources and connections required for success when investing in an entrepreneurial venture. I introduce the home country social status of developed country VC firms as a proxy of having access to advanced resources, technologies, and human capital required in high-tech investments. Further, status in the host country is introduced as a sign of foreign VC firms' familiarity with the host country and capability of handling the investments in a quite different institutional and business setting.

Therefore, if syndication is contingent upon the problems stemming from the venture itself which are aggravated due to the underdeveloped institutional infrastructure of emerging markets and unfamiliarity of the VC firms with such markets, then high status in the host country can mitigate such problems and need for syndication. In other words, one could expect to see some cases where VC firms with high social status in the host country have preferred to invest alone and skip the discussed problems associated with syndication. The same logic applies to the risks associated with high-tech investments and advantages of having a high status in the home country (i.e. a developed country) which can mitigate such perceived risks and ultimately reduce the motivation for syndication for the VC firms.

My fsQCA analysis revealed five different solutions. Each solution consists of a configuration of the VC firms and venture attributes that are associated with syndication in the investment cases. Solutions 1, 3, and 5 are cases in which the VC firms have high social status in both home and host country. Among these configurations, there are cases

where the information asymmetry is low (C1) and the VC firms with high home country status have still preferred to syndicate. In other words, it seems that high level of social status in home does not substitute for the need for syndication. This situation is similar for home country social status and technical complexity risk. However, as Table 1 shows, technical complexity is present in all of the configurations. Thus, I cannot make any assertion about the cases where technical complexity is low. In other words, high-tech industry is a core causal condition for syndication. In general, these results lend more support to the view that VC firms tend to syndicate their foreign investments in emerging markets even when they seem to be capable of handling the investment alone. However, I, by any means, do not assert that this is a completely generalizable argument for the VC investments considering the sample being limited to the US VC firms' investments in China.

Another important question that this study seeks to answer is "which one is more influential in syndication decision: venture or VC firms attributes?" To answer this question, I conducted a necessity test to pit the venture and VC firms attributes against each other in terms of their importance in syndication. The results show that while the venture attributes (riskiness) are necessary condition for syndication, the VC firms characteristics (including status in the home and host countries, prior experience in the host country, and age) are not necessary conditions for syndication. Further, I tested whether lack of these characteristics (which imply their capabilities) in the VC firms is a necessary condition for syndication. Results demonstrated a negative answer to this question. In other words, lack of internal capabilities does not necessarily lead the VC firms to syndicate their investment. However, as solution 4 (C4) shows, even VC firms

without any of aforementioned attributes could also join syndicated deals which is worthy of research in the future to explore the motivations of other VC firms co-investing with such counterparts.

Performance of the investment is the next part of this study. In fact, the major question for this section is whether syndication can, most of the time, help the performance or considering the potential problems of partnership, the VC firms with high capability and experience can successfully exit the investment without syndication with others. The sufficiency analysis revealed two major solutions for high performing cases in both of which the VC firms had syndicated with developed country and local/close to local partners. However, the coverage score of 20% is not considerable enough to make any strong argument based on the result which is predictable since there are a lot of different internal and external factors influencing the IPO process. What can be interpreted from the results regarding the performance analysis is that investing in the ventures in more advanced stages, and partnering with VC firms from developed countries (which can bring business-specific resources and experiences to the deal) and local/close to local firms (which can mitigate the information asymmetry) are associated with superior performance. Further, the analysis did not generate any solutions in which VC firms with high capabilities (i.e. high status in home and host countries) could achieve high performance without syndication.

Further, I also conducted a necessity test to explore whether syndication is a necessary condition to achieve high performance. According to the results, syndication is not a necessary condition for high performance. However, interestingly, the absence of syndication is a necessary condition for poor performance. In other words, while

syndication does not guarantee the performance of investment, deciding not to partner with other firms can significantly reduce the likelihood of success in emerging market investments made by the developed country VC firms.

Theoretical Implications

Syndication is a common strategy in managing the investments in the VC industry which makes this industry highly social and interactive (Lerner, 1990; Guler & Guillen, 2010). However, previous studies have mentioned different motivations for syndication as well as difficulties and problems associated with syndication. Some of these arguments seem to treat syndication mostly as a strategy that regardless of the investee and investor characteristics has some inherent advantages. Access to deal flow, future reciprocation, increased legitimacy of the venture, enhanced perceived accuracy of pricing at time of exit, and diversification of the investment portfolio by the VC firms to reduce the overall risk are examples of syndication motivations that can exist regardless of the VC firms and venture characteristics (Higgins & Gulati 2003; Jääskeläinen, 2012; Lockett & Wright, 2001; Megginson & Weiss 1991; Wilson, 1968; Wright & Lockett, 2003). I called this approach "natural proclivity" towards syndication.

On the other hand, there are other studies that have linked syndication to the attributes of the venture (mainly riskiness) and VC firms capabilities to select the investee, manage the investment, and add value to the venture to make a successful exit from it (Brander et al., 2002; Dimov & Milanov, 2010; Hopp & Rieder, 2011; Jääskeläinen, 2012; Meuleman, Wright, Manigart, & Lockett, 2009). I called this perspective "contingency approach" towards syndication.

Considering the nature of the VC industry (a social industry) and significantly positive influence of the VC firms' status on the process and outcome of their investments evident in previous studies (Abell & Nisar, 2007; Echols & Tsai, 2005; Guler & Guillen, 2010; Hochberg et al., 2007; Jääskeläinen et al., 2008), and the advantages of social status in the inter-firm networks in general (Gulati, 1998; Powell et al., 1999), I introduced the social status as a proxy of the VC firms competencies and capabilities and I coupled it with the general and host country experiences to pit these two approaches against each other. In essence, if the contingency approach has more merit that natural proclivity, then one could expect to see configurations in which VC firms capabilities have enabled them to deal with the riskiness of the venture leading them to invest alone. However, my results show that VC firms' capability is associated with syndication even when the risk of the investment is not high.

Although I am very cautious in generalizing my results due to the sample limitation (US VC firms' investments in China) and my coverage score (40%), my results lend more support to the natural proclivity approach. Internal competencies, proved by high status, which makes VC firms capable of handling their investments (even risky ones) more effectively does not impact their motivation for syndication. Therefore, the real incentive from syndication may come from the sources discussed earlier in natural proclivity approach (e.g. deal flow, reciprocation, portfolio diversification, venture legitimacy). Further, since the context of this study is the international investments, another viable reason for syndication for the foreign VC firms may come from after investment and monitoring activities which are difficult for them especially those that do not have local offices and employees.

The results of necessity test take us even further and show that the main driver of syndication decision is the venture characteristics as oppose to the VC firms attributes. Thus, scholars who believe in a contingency nature for syndication are encouraged to explore more venture-related factors that can impact the VC firms' perceived need for syndication. For instance, prior experience and characteristics of the founder entrepreneurs and current managers (if different from founders) are viable venues for future research as they have been proved to impact the performance of the venture (e.g. Cooper, Gimeno-Gascon, & Woo, 1994; Stuart & Abetti, 1990).

In sum, although social status has been recognized by prior studies to be highly advantageous for the VC firms but according the results of this study, it cannot substitute the advantages that syndication provides in spite of the potential conflicts and problems present in a partnership. The social status makes firms more attractive to get into better deals and partner with more qualified partners but does not reduce their motivation for syndication.

In terms of the performance implication, both solutions generated from the analysis include syndication. To have a closer look at the syndication phenomenon and its performance implication, I divided the partners into two major categories: 1) local partner and those that are from countries spatially and culturally close to China (i.e. Taiwan and Hong Kong) 2) US partners and those from other developed countries. The reason behind this classification is that these different types of partners can deliver different values to the deal. While local/close to local partners can mitigate the information asymmetry and LOF because of their cultural proximity and local connections, the latter could help the focal firms with technical complexity of the venture because they have more experiences

in VC investments and they have access to more advanced resources through their home country required in high-tech ventures.

Interestingly, the results revealed that VC firms can achieve superior performance in their investment regardless of their social status in both home and host countries and their general and host country experiences. However, both solutions include partners from both groups. Since the coverage score is 20%, I am again very cautious about making any strong argument. But, at the very least, in this sample having partners from both host country/close to host country and home/other developed countries is associated with high performance. The necessity test revealed even more interesting results: having either of these groups of partner is not a necessary condition for achieving high performance in the sample but lack of syndication with them is a necessary condition for low performance. In other words, syndication does not guarantee the performance but lack of it may significantly hurt the performance. This result may be the greatest take away for the practitioners. To achieve success in emerging market investments, VC firms need to partner with others (from host and other developed countries) with potential to add exclusive values to the venture. Thus, stand-alone international investments have a higher likelihood of failure. However, to increase the likelihood of success managers have to be very delicate about the partners that they choose to work with.

For the scholars, the theoretical take away is that despite the similarities between syndication in the VC industry and alliances in other industries, certain norms of alliances may not exactly apply in the VC firms syndication context. The international alliance literature introduces the inter-firm alliance as an entry mode into an international market to mitigate the LOF. Prior studies on international alliances argue that as soon as foreign

firms from developed countries can stand on their own feet and grow their own roots in the host country, they will not need local partners and they lose their motivation to form alliance with such counterparts (Child et al., 2005). However, it may not hold for the VC firms. As my results show, VC firms with highly established network and high general and host country experiences still tend to syndicate and that can help them in their performance. Scholars in the VC industry field are encouraged to explore the phenomenon of the partnership and syndication more delicately in the VC industry. For instance, the fact that syndication is not a necessary condition for performance but lack of syndication is significantly associated with failure gives legitimacy to the arguments in the literature discussing the potential problems in syndication such as coercive pressures and different investment philosophy among VC firms (Fleming, 2004; Guler, 2007). Future studies can explore more about the factors which can create a sustaonable fit between partners. Also, potential detrimental problems that VC firms may encounter in their syndications are worthwhile to study particularly using primary data from the actual managers involved in the international deals.

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3.8 TABLES AND FIGURES

Figure 3.1: Theoretical Framework

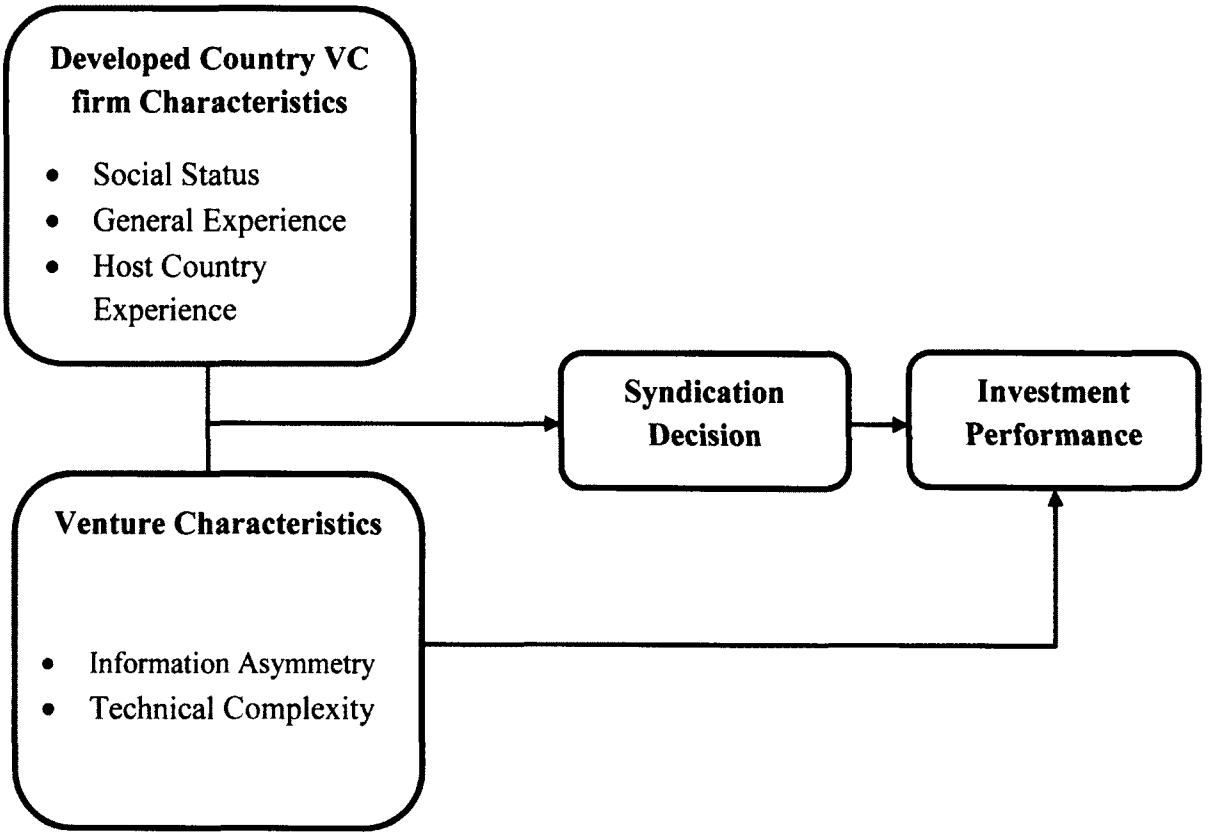

Table 3.1: Sufficiency Test for Syndication

Causal Conditions	Syndication				
	C1	C2	C3	C4	C5
Venture Stage	●	●	⊗	⊗	
Venture Age			⊗	⊗	⊗
High-Tech Industry	●	●	●	●	●
VC Firm Age		⊗		⊗	⊗
VC Firm Prior Deals in China	●	⊗	⊗	⊗	⊗
VC Firm Home Country Status	●	⊗	●	⊗	●
VC Firm Host Country Status	●	●	●	⊗	●
Consistency	0.86	0.80	0.81	0.76	0.79
Raw Coverage	0.10	0.08	0.09	0.21	0.14
Unique Coverage	0.05	0.03	0.02	0.16	0.00
Overall solution consistency	0.80				
Overall solution coverage	0.40				

Table 3.2: Sufficiency Test for Performance

Causal Conditions	High Performance	
	C1	C2
Venture Stage	●	●
High-Tech Industry	●	●
Venture Age		
VC Firm Prior Deals in China	●	⊗
VC Firm Home Country Status	●	⊗
VC Firm Host Country Status	●	⊗
Developed Country Partner	●	●
Local/Similar to Local Partner	●	●
Consistency	0.89	0.91
Raw Coverage	0.08	0.16
Unique Coverage	0.04	0.12
Overall solution consistency	0.91	
Overall solution coverage	0.20	

Table 3.3: Necessity Test for Syndication

Presence (or High Levels) of	**Necessary for Syndication**	
	Consistency	*Coverage*
Venture Stage (low) OR High-Tech Venture OR Venture Age (Low)	0.91	0.66
VC Firm Home Status OR Host Status OR Age OR Host Experience	0.51	0.63
	Necessary for the absence of Syndication	
VC Firm Home Status OR Host Status OR Age OR Host Experience	0.53	0.37

Note: "OR" in this table is a logical or which implies the presence of each individual causal condition or a combination of some of the causal conditions. Low levels of venture stage and age have been considered here as a proxy of venture riskiness which may lead to syndication.

Table 3.4: Necessity Test for Performance

Presence of (or High Levels)	**Necessary for High Performance**		**Necessary for Low Performance**	
	Consistency	*Coverage*	*Consistency*	*Coverage*
Developed Country Partner OR Local/Similar to Local Partner	0.77	0.36	0.71	0.64
Absence of (or Low Levels)				
Developed Country Partner OR Local/Similar to Local Partner	0.50	0.23	0.90	0.77

CHAPTER 4

ESSAY III: VENTURE CAPITAL FIRMS CROSS-BORDER SYNDICATION AND PERFORMANCE: DOES HOST COUNTRY MATTER?

4.1 ABSTRACT

Venture capital investments have become an increasingly international phenomenon. However, the process of the venture capital firms' investments overseas remains under-studied. Identifying the factors at different levels that impact the investment behavior of the venture capital firms can significantly contribute to this research stream and shed light on the internationalization process of venture capital firms. Thus, I aim to fill this gap by examining the role of the host country as determinant of the syndication decision and performance of the foreign venture capital firms. As the first step in this stream, I ask the question whether and to what extent the host country explain the variation in the syndication and performance of the foreign venture capital firms. I investigate these issues by studying the international expansion of the US venture capital firms into 53 different countries in 2005. The results indicate that the host country effect significantly explains a partial variation in both syndication and performance. The fine-grained findings and implications for future studies are discussed.

4.2 INTRODUCTION

Venture Capital (VC) investment has become an international phenomenon in recent years (Bottazzi, Da Rin, & Hellmann, 2004; Gompers & Lerner, 2003; Wright, Pruthi, & Lockett, 2005), and cross border investments by VC firms have become increasingly common (Mäkelä & Maula, 2006). Such investments are defined as "investments made by venture capital investors in portfolio companies located in other countries than the country from which the investment is managed" (Mäkelä & Maula, 2008: 237). The significant contribution of VC investments in supporting entrepreneurship and innovation has made them an important driver of economic development and their internationalization worthy of research for scholars (Guler & Guillén, 2010a).

Despite the increasing trend of VC firms' internationalization, literature on international VC investments is in the early stages of development (Mäkelä & Maula, 2008). For the most part, prior literature is two-fold: first, there are several studies undertaking cross-country comparisons of the VC industry within various countries (e.g., Jeng & Wells, 2000; Li & Zahra, 2012; Manigart et al., 2000, 2002). Second, there are other studies focusing on the drivers of international VC investments (e.g., Guler & Guillén, 2010a; Hall & Tu, 2003; Maula & Mäkelä, 2003). While these studies help us understand the variations of VC practices across different countries and determinants of cross country investments, they do not provide a clear understanding of the actual process of cross border investments by VC firms. Thus, international activities undertaken by VC firms and factors influencing those activities remain under-researched (Meuleman & Wright, 2011).

Syndication is one of the most important strategic decisions among VC firms (Lerner, 1994). It occurs when two or more VC firms jointly finance a particular venture (Brander, Amit, & Antweiler, 2002). However, similar to other VC activities, the majority of prior studies' focus has been on syndication among domestic firms (Bygrave, 1987; Brander et al., 2002; Hochberg, Ljungqvist, & Lu, 2007; Lerner, 1994; Manigart et al., 2006), and there are very few studies looking at crossborder syndications and factors influencing them (e.g., Mäkelä & Maula, 2006; Meuleman & Wright, 2011). The strategic importance of syndication in VC firms' success in their investments (Brander et al., 2002; Walske, Zacharakis, & Smith-Doerr, 2007), in addition to VC firms' undeniable role in entrepreneurship, innovation, and supporting internationalizing ventures in any country they invest (Hursti & Maula 2007; Mäkelä & Maula, 2008), evoke more scholarly attention to the phenomenon of cross border syndication.

Prior studies have mentioned risks associated with a specific venture as one of the factors leading VC firms to syndicate with other counterparts to share the risk and increase the likelihood of success (Brander et al., 2002; Lerner, 1994; Lockett & Wright, 2001). In addition to the venture itself, VC firms encounter other risk factors when investing abroad. Investing in other countries is often problematic due to cultural, institutional, and special distances (Mäkelä & Maula, 2008). It creates market level risk and uncertainty for VC firms (Ruhnka & Young, 1991), which is also aggravated by liability of foreignness (LOF) that VC firms experience particularly when they are new in the host country (Lu & Hwang, 2010). Cultural and institutional distances create substantial information asymmetry between foreign VC firms and local entrepreneurs

(Wright et al., 2005), which increases the investment risk and reinforces the risk sharing motivation behind syndication.

One solution to mitigate LOF is partnering with local firms and learning how to do the business in the host country (Zaheer, 1995). However, that can also be problematic. The same factors that create information asymmetry between VC firms and entrepreneurs and hence, stimulate them to syndicate (i.e., cultural and institutional distances), also make it difficult and risky for them to partner with local firms. Having different cultural norms and institutional practices creates barriers against cooperation among firms from distant countries and accordingly may lower the performance of inter-firm cooperation (Michailova & Ang, 2008; Hitt, Tyler, Hardee, & Park, 1995; Rao & Schmidt, 1998; Sirmon & Lane, 2004). To develop a clear understanding of this dilemma and open plausible venues for future research on cross border syndication, the first step would be to examine whether and how host country characteristics influence VC firms' syndication behavior in their cross border investments. In other words, how much of the variation in syndication decision is explained by host country factors as opposed to venture and VC firms attributes (e.g., venture riskiness and VC firm's capabilities).

To answer this question, I conduct a variance decomposition analysis on U.S. VC firms' investments in 53 countries during 2005. As explained, the primary research question of this study is: does host country influence international VC firms' decision to form syndication? If yes, how much is that impact compared to venture and VC firm's characteristics. To create a deeper understanding, I conduct separate analyses to compare the influence of host country on syndication formation between foreign-local VC firms and foreign-other home country VC firms. Such analysis can contribute to the

aforementioned dilemma where from one side, differences between home and host country drive foreign VC firms to syndicate with local firms and on the other side, the same factors hinder successful cooperation between them and local VC firms. I examine whether partnering with home country firms with more similarity and familiarity is the solution to this dilemma. In other words, whether host country explains more variance in syndicating with home country counterparts compared to that with local firms.

Undoubtedly, the importance of syndication is due to its role in the performance of VC firm's investments (Brander et al., 2002; Lerner, 1994). Therefore, it is critical to investigate whether host country also plays a significant role influencing the performance of foreign VC firms' investments. Accordingly, I examine the amount of variance in investment performance explained by host country. To provide a more fine-grained picture, I further examine whether the variance explained by host country is different between syndicated and stand-alone investments. Further, to examine whether having different partners (from host versus home country) contributes differently in various countries, I investigate and compare the variation of performance explained by host country when foreign VC firms syndicate with local versus other home country firms.

By focusing on international investments, this study contributes to the VC literature in several ways. First, the process of VC firms' internationalization and more importantly the ways they manage their international investments has been neglected in the literature (see Jääskeläinen, 2012; Wright et al., 2005). This study provides insights into this phenomenon by focusing on syndication behavior of international VC firms in various countries. Considering the infancy of literature on cross border syndication (Mäkelä & Maula, 2006; Meuleman & Wright, 2011), this study attempts to investigate

to what extent host country matters in syndication formation. This can clarify whether investment context is worthy of research for future studies on VC firms syndication.

Second, by providing more fine-grained results comparing the impact of host country on syndication with local versus home country firms, the present study seeks to contribute in resolving the dilemma of syndication with local firms in distant markets. In essence, unfamiliarity with host country leads foreign VC firms to partner with local firms to mitigate LOF and information asymmetry with entrepreneurs (Lu & Hwang, 2010). Nevertheless, due to the same rationale, such partnerships might be problematic (Hitt et al., 1995). Thus, does it motivate foreign VC firms to partner with other firms from home country to share the investment risk and lower the risks associated with partnering with a local partner? My analysis reveals whether the host country explains more of syndication with local or home country firms and helps to answer this question. Results of such analysis provide the domain where there is more merit for future studies to focus.

Finally, by examining the share of host country in explaining the variation in performance of foreign VC firms' investments, first, I answer the question whether the host country has a significant influence on performance. If yes, it makes it very relevant and worthwhile for future research to explore specific country level factors that creates such influence. Second, by breaking the analysis down to the performance of different investments regarding the syndication status (syndicated versus stand alone and syndicated only with local firms), I provide researchers a more comprehensive picture helping them identify where to focus and what to explore in future studies. For

practitioners, such results provide insights on to what extent they have to adjust their syndication strategies investing in different countries.

CROSS BORDER VC FIRMS SYNDICATION

Due to its frequency and popularity in the VC industry, syndication has become one of the defining characteristics of this industry and drawn much attention among scholars in this research stream (Jääskeläinen, 2012). Syndication arises when VC firms jointly invest in a venture (Brander et al., 2002). The decision to syndicate an investment is a multilevel phenomenon that depends on different factors. Prior studies have focused on exploring factors from two different levels – venture and VC firms – as drivers of syndication among VC firms.

According to Jääskeläinen (2012), antecedents for syndication related to VC firms can be categorized into two major groups. First, there are functional antecedents which are related to the actual intermediary role of VC firms and how they perform that role. VC firms' role in their relationship with entrepreneurial ventures in which they invest goes beyond solely providing money. They also undertake several value-adding activities (e.g., administrative, managerial, and marketing) to help the venture grow (Cumming, Fleming, & Suchard, 2005). Thus, one of the common underlying motivations for VC firms to form syndication is to share resources and skills to improve those activities (Brander et al., 2002; Lerner, 1994). Additionally, syndication with other VC firms enhances prescreening and evaluating investment proposals that VC firms receive and helps to select the best and the most promising ventures (Wright & Lockett, 2003). That is because VC firms tend to specialize in their operation in terms of the industry they invest in, the stage of the venture, and the location or geographical region of the deals

(Lockett & Wright, 2001). Therefore, they can benefit from others' opinions when there is an appealing opportunity out of their domain of expertise.

Second, VC firms sometimes engage in syndication due to strategic motives. Window dressing is one of the common strategic motives. In this case, VC firms join a syndication to enjoy the benefits of being associated with an event (e.g., successful exit of the venture) to improve the external perceptions about them (Lerner, 1994). They can also attract attention and enhance their social status among other peers via affiliation with other high-status VC firms in a syndicated deal (Guler & Guillén, 2010b; Podolny, 2001). Thus, such incentives can exist independently regardless of the venture characteristics.

At the venture level, there are also some attributes that create the motivation for VC firms to form syndication. Jääskeläinen (2012: 448) briefly describes those characteristics:

> "Depending on the resources of the VC firm, it may need to: (1) resort to evaluations of other VCs to ensure a robust selection; (2) access the expertise and contacts of other VCs in order to augment its own resources to ensure sufficient contributions to the development of the venture; and (3) limit its exposure to the venture-specific financial risk by reducing its share of the required investments."

Further, information asymmetry between entrepreneurs and VC firms also creates risk which leads VC firms to enter syndication in order to share that risk. Information asymmetry stems from the fact that the entrepreneur is more informed about the nature of her business and risks and uncertainties involved (Cumming & Johan, 2008; Kaplan & Stromberg, 2004).

As briefly explained, prior studies have explored factors driving the syndication decision among VC firms at venture and VC firm levels. However, this stream neglects the increasing trend of internationalization of VC investments (Wright et al., 2005). With

growing VC firms' cross border investments, the magnitude and likelihood of collaboration between firms from different countries is increasing (Meuleman & Wright, 2011). Investing in a foreign country and partnering with firms from other countries bring country level factors to the forefront. However, by neglecting cross border syndications, prior studies do not provide much insight about the potential impact that host country may have on syndication behavior of the firms and have mostly focused on syndication among local VC firms (Brander et al., 2002; Hochberg et al., 2007; Lerner, 1994). Even those that have looked at cross border syndications do not discuss whether host country impacts the decision to form syndication in general nor whether more specifically it influences the likelihood of syndication of foreign firms with local versus home country counterparts. For instance, Mäkelä and Maula (2006) explored the factors that can influence VC firms' commitment to the investment portfolio when they are engaged in international syndications. In another study, Mäkelä and Maula (2008) examined how having a local investor helps entrepreneurs attract other foreign investors and benefit from such syndications. Finally in a recent study, Jääskeläinen and Maula (2014) investigated the role of cross border syndications and indirect ties with foreign investors on preferred type and location of exit of the venture.

While all of these studies enhance our understanding of VC firms' international investments from different perspectives, they do not answer the basic question that I aim to address in this study: does host country impact the syndication decision of international VC firms in general? If yes, does it impact such decisions differently with respect to the type of partner (i.e., local versus home country partners)? Further, does host

country play a significant role in international VC firms' achieving successful exit from their investments? If yes, would such a role vary for syndicated investments?

Answering these questions sheds light on potential venues for future research and determines where future studies examining cross border VC investments and particularly cross border syndications need to focus. In the following, I first explain why one can potentially argue that country level factors can influence the syndication pattern of international VC firms and develop some testable hypotheses accordingly. Then, relying on the data from cross border investments of the U.S. VC firms in 53 countries, I present my empirical investigation answering the research questions and testing the hypotheses.

4.3 THEORETICAL BACKGROUND

Host country and Syndication Formation

VC investments are subject to two types of risks: venture risk and market risk (Lockett & Wright, 2001). Venture risks are those directly associated with a specific venture in which a VC firm invests. I briefly described how specific requirements of an investment may impose non-systematic risks to the investors (i.e., VC firms). Additionally, context of the investment (i.e., host country) can also significantly impact the risks and uncertainties associated with VC investments. According to Wright and Robbie (1998), VC investment activities usually include the following steps after fund raising: access to deal flow and receiving investment proposals, selecting the most promising and relevant deals, structuring the deal, monitoring and value adding activities, and finally exiting the venture as an Initial Public Offering (IPO) or merger and acquisition (M&A). Macro country level factors such as institutional environment can

closely impact each of these activities and alter the risk of investment at each stage and consequently influence the likelihood of syndication for foreign VC firms.

The first requirement in VC investments is for the VC firm to have access to deal flow. Having access to more investment deals provides VC firms with the opportunity to select from a wider variety of ventures and invest in the most promising ones considering the qualifications of both VC firm and venture (Lockett & Wright, 2001). Having contacts and relationships in the local market is extremely important at this stage since VC firms "cultivate a deal flow based on networks of contacts and relationships" (Sahlman, 1990: 500). Similar to any other international firms, foreign VC firms initially suffer from liability of outsidership (LOO). That is defined as the lack of position in a relevant network and due to the relationship based nature of the VC industry can be indeed "the root of uncertainty" (Johanson & Vahlne, 2009: 1411). Thus, international VC firms in a foreign country face the risk of missing a great part of deal flow. One of the common strategies to deal with LOO is developing a local network and improving the firm's position in that network (Johanson & Vahlne, 2009). Syndication is the common way to achieve this goal. Due to reciprocation, syndication assures VC firms that they will have access to future deals even if they are not the originator (Bovaird, 1990). According to Manigart et al. (2006: 134), "having a strong syndication network increases the status and visibility of a VC firm, increasing its likelihood of being invited into a syndicate network."

After receiving investment proposals, the next step for VC firms is to screen the investment opportunities and select the most promising ones to invest in. The major problem at this stage is the information asymmetry between entrepreneurs and investors

which creates agency problems because entrepreneurs are more informed about the venture and its state than VC firms are (Kaplan & Stromberg, 2004; Sahlman, 1990; Trester, 1998). Information asymmetry and consequent agency problems are likely to be systematically different and exacerbated in different countries given institutional, cultural, and geographical differences that exist among countries (Wright et al., 2005).

Cultural distance between foreign VC firms and entrepreneurs in emerging markets aggravates the information asymmetry problem which commonly exists between these two parties in VC investments (Wright et al., 2005). Further, weak institutional environment and investor protection in emerging markets reduce the reliability of information provided by the entrepreneurs (Pruthi, Wright, & Lockett, 2003; Manigart et al., 1997; Manigart et al., 2000), which in turn increases the risk of the VC firm's investment and evokes more due diligence in deal selection (Lockett, Wright, Sapienza, & Pruthi, 2002). Investor protection laws' availability and more importantly enforcement vary to a great extent among different countries (Bruton, Ahlstrom, & Wan, 2003). That changes the reliability of the information available to VC firms through the entrepreneurs in each country and determines the severity of information asymmetry and agency problem (Ahlstrom & Bruton, 2006; Hitt et al., 2000). Cultural differences and dissimilarities in business practices and norms (normative and cognitive pillars of the institutional environment) also hinder effective communication and trust formation between foreign investors and local entrepreneurs and hence are an important part of VC firms' perceived risk associated with their investment (Bruton, Fried, & Manigart, 2005).

Syndication has been recognized as one of VC firms' common strategies to deal with information asymmetry and making better informed decisions at the selection stage.

With syndication, VC firms benefit from having other partners' opinion on the investment, improving their due diligence, and exploring hidden problems that otherwise they would have neglected on their own (Lerner, 1994; Lockett, Wright, Sapienza, & Pruthi, 2002).

Post-investment value adding activities in addition to close monitoring distinguish VC firms from other investors such as banks in the sense that they have a more hands-on approach helping entrepreneurial ventures grow and ultimately prepare them for a successful exit (Sapenza, 1992). These activities include sharing their expertise with entrepreneurs in different areas such as finance, marketing, strategic planning, and administrative processes (Cumming et al., 2005). They also introduce customers and resources owners to the venture and help them in both resource and customer acquisition (Busenitz, Fiet, & Moesel, 2004). VC firms actively monitor their portfolio companies – their internal processes and operating performance. That is so vital and important that VC firms devote a significant proportion of their time – as much as half of their operating time - to monitoring activities (Barry, 1994; Gorman & Sahlman, 1989). Despite their importance, monitoring and value adding activities become problematic when VC firms invest abroad.

Spatial, cultural, and institutional distances make such activities more difficult to perform for foreign VC firms. Due to the nature of VC investments and their vital role in the investments' success, monitoring and value adding activities require substantial time and effort from VC firms (Gorman & Sahlman, 1989). Accordingly, geographic distance remains a substantial determinant of costs and feasibility of VC firms active and close monitoring and value adding activities (Cumming & Dai, 2010). Further, VC firms from

different countries develop their own style of monitoring and value adding activities that are accustomed to their culture (Pruthi et al., 2003). When investing abroad, those styles may not entirely fit the host country's culture and business norms which govern the relationship between entrepreneurs and investors (Bruton & Ahlstrom, 2003). Such misfit can seriously endanger the success of the investment considering the vital role of such activities. As such, depending on the host country's different characteristics, VC firms may encounter significant risks in their post-investment plans. Again, one common remedy to such problems is partnering with other firms. Syndication provides the opportunity to benefit from a partner's cultural and spatial proximity in communicating with local entrepreneurs (Dai, Jo, & Kassicieh, 2012). Plus, having other partners on a deal, VC firms have the opportunity to share the time-consuming tasks of monitoring and pool required resources for the venture's success which in turn mitigates the aforementioned risks.

Finally, prior studies have mentioned providing more options and adding to a venture's legitimacy at the time of exit as another incentive for syndication among VC firms. Joining an investment, each partner brings its own contacts and reputation that increases the likelihood of exit for the venture (Megginson & Weiss, 1991). The fact that a venture has been able to attract multiple investors signals the quality of the company and enhances its legitimacy in the eyes of potential buyers (Higgins & Gulati, 2003). Further, according to Jääskeläinen (2012: 452), "the syndicates provide increased reputational capital which helps to certify the quality and correctness of the pricing during the exit process, thus reducing the discount resulting from asymmetric information and enhancing the returns on the investment". The major exit options for VC firms are

stock market (i.e., IPO) and M&A (Cumming, 2008; Cumming & MacIntosh, 2003a). Particularly, a well-developed financial market and IPO are among the strongest factors increasing the likelihood of VC investments in each country (Black & Gilson, 1998). Thus, the ability of a VC partner to contribute to a successful exit of a venture is partially a function of its country's stock market quality. Nonetheless, countries vary in terms of development of their financial markets and different industries where there are opportunities for M&A as an exit vehicle for VC investments (Jeng & Wells, 2000). That systematically alters the incentives of foreign VC firms for syndication due to their plan for exit (type and location) according to the host country's conditions and the capability of potential partners in adding value which partially stems from their country of origin where they have the most activities.

In sum, from these arguments, it is evident that country can play a significant role in altering foreign VC firms' incentives for syndication. Host country where international VC firms invest can impact different stages of the VC firms' investment cycle. Country level factors at each stage interact with underlying motives of syndication and consequently can alter the likelihood of syndication for foreign VC firms. Thus, I argue:

> ***Hypothesis 1:*** *International VC firms' decision to form syndication varies systematically with differences in host country characteristics.*

Host country and Type of Partner

VC firms form syndication and select the appropriate partners corresponding to specific needs and motivations (Brander et al., 2002). As discussed, in the context of international investments, there are country level factors beyond the specific investment posing risk to foreign VC firms and impacting their decision to form syndication. Here, I

argue that in addition to the general decision to form syndication, host country characteristics also influence the type of partner VC firms select to syndicate with.

Similar to any other firms when investing abroad, VC firms face liability of foreignness (LOF) (Lu & Hwang, 2010). Regardless of their capabilities and successful experiences, international VC firms do not initially possess local knowledge and information (Hall & Tu, 2003). They also lack local connections which is a significant weakness given that the of VC industry is heavily network based and dependent on inter-firm links (Guler & Guillén, 2010b). As described in the previous section, these disadvantages can cause problems at different stages of investments and ultimately hurt the performance of the investment for foreign VC firms.

The international business literature suggests that there are two common strategies that multinational firms can apply to mitigate LOF: first, they can utilize firm-specific advantages that they have grown in their home country to succeed in international operation consistent with the resource-based view (Barney, 1991; Miller & Parkhe, 2002). However, this strategy might be problematic due to differences in business norms and practices as well as institutional environment across different countries (Lockett & Wright, 2002). The second approach is to learn and mimic successful practices in the local market (Lu & Beamish, 2001), which can be achieved through partnering with local firms. Domestic firms are the best source for foreign investors to learn and follow best practices in local market and gain access to local knowledge and connect to local authorities (Hitt et al., 2000; Yan & Gray, 1994). This is also a relevant strategy for VC firms given the similarity between syndication in the VC industry and alliance and joint venture in other industries (Wright & Lockett, 2003).

Thus, the level of institutional and cultural distances between host and home countries determines the magnitude of LOF that foreign firms experience. In the context of VC firms' investment, the LOF particularly rises from information asymmetry between foreign investors and entrepreneurs (Lu & Hwang, 2010; Wright, Lockett, & Pruthi, 2002). That is because foreign VC firms lack in-depth knowledge related to the local market and their local network is weak compared to domestic peers (Eriksson, Johanson, Majkard, & Sharma, 1997; Li, Lin, & Arya, 2008). Having a domestic partner can tremendously help alleviate the communication barriers between foreign investors and local entrepreneurs (Bruton, Ahlstrom, & Yeh, 2004). Accordingly, I argue that since country level factors directly influence perceived LOF by foreign investors, it will consequently impact their motives to partner with local partners as well. Therefore:

> ***Hypothesis 2a:*** *International VC firms' decision to form syndication with domestic firms in the host country varies systematically with differences in host country characteristics.*

Despite the role that domestic VC firms can play in alleviating the information asymmetry between foreign VC firms and local entrepreneurs, their relationship with foreign firms can be problematic. The same information asymmetry problem may arise in syndication between foreign and domestic VC firms (Portesa & Rey, 2005; Sahlman, 1990). That increases the risk of exploitation of such asymmetric information by domestic VC firms (Lockett & Wright, 2001). As Bell, Filatotchev, and Rasheed (2012: 112) mention, such problems can "diminish the commitment of venture capitalists in foreign markets".

Further, another motivation for VC firms to form syndications is access to future deals with partners' reciprocation (Lerner, 1990). According to Tykvováa and Schertler

(2011), cross border investments are also subject to this argument. In other words, syndicating with local firms, foreign VC firms can enhance their access to local deal flow. However, Lu and Hwang (2010) found that compared to domestic firms, foreign VC firms receive fewer investment offers from their local network. They argue that is because ties between foreign and local VC firms are mostly weak compared to that between local investors. Weak tie and subsequent lack of mutual trust make introducing deals to foreign VC firms risky for domestic firms because "gains from a successful deal only signal goodwill but the loss from a failed deal may be the end of the relationship due to the lack of mutual trust" (Lu & Hwang, 2010: 85). Therefore, the fact that local partners may not function well with respect to introducing new deals and connecting foreign VC firms to local deal flow reduce the attractiveness of forming such syndications for foreign investors.

Moreover, standard and preferred practices that VC firms usually develop at the home country can be different across countries (Wright et al. 2005). The way that VC firms structure their deals, manage their investment, and perform in different stages of the investment cycle constitutes an investment philosophy for them which can be different across countries according to different business and institutional norms (MacMillan, Kulow, & Khoylian, 1989; Norton & Tenenbaum, 1993). For instance, Wright et al. (2002) found that foreign VC firms perform significantly different from domestic firms in India in terms of their emphasis on product market factors and accountants' reports and use of information and its type in assessing risk of investment. In another study on India, Pruthi et al. (2003) also addressed differences between foreign and domestic firms in their monitoring activities.

In sum, information asymmetry and differences between foreign and domestic VC firms make the syndication among them susceptible to conflicts which could reduce the attractiveness of using this strategy for foreign VC firms to alleviate LOF that they face in their international investments. Indeed, such differences arise from country level factors that influence business practices of VC firms and shape the institutional environment of each country.

I argue that since syndication with domestic firms may be subject to such risks and difficulties (depending on the country of investment), VC firms may turn to other firms from their own home country to share the risk of international investment, pool resources, and benefit from their opinions in selection and management of those investments. Alliance with firms from the same country removes the problems that are due to cultural and institutional distances and brings more familiarity which in turn enhances the trust between partners, an essential ingredient for success in any inter-firm collaboration (Baum, Cowan, & Jonard, 2010). Additionally, VC firms from the same country share similar investment philosophies to a great extent which reduce the likelihood of operational conflict between partners managing investments overseas (Ahlstrom & Bruton, 2006; Pruthi et al., 2003). Thus:

> ***Hypothesis 2b:*** *International VC firms' decision to form syndication with home country firms varies systematically with differences in host country characteristics.*

Host Country and Investment Performance

The VC firms' decision to invest in a venture is significantly driven by the exit potential of the venture (Cumming, 2008). Common forms of exit from an investment are offering venture's share in stock market (IPO) or selling the venture to an incumbent firm

in the form of M&A (Amit, Brander, & Zott, 1998; Wright & Robbie, 1998). My primary question in this section is whether country level factors can impact the international VC investments' performance. Here, I describe the major requirements for VC firms to be successful in their investments and explain how host country can influence those factors.

One of the major vehicles for VC firms to successfully exit from their investments and make profit is offering the venture's shares in stock market in the form of IPO. Compared to M&A and company buy-backs[1], IPOs have higher return and as such are more attractive for VC firms (Black & Gilson, 1998). In fact, VC firms might offer their high quality ventures in public offering to obtain reputation and that is why exits through IPO are more profitable (Amit et al., 1998; Megginson, 2004). However, the availability and accessibility of such an exit route depends directly on the vitality and development level of the stock market in each country (Black & Gilson, 1998). Jeng and Wells (2000) compared VC activities in 21 countries and found that efficiency of stock market and particularly IPO varies in different countries and that it is the most influential factor determining the level of VC funding. Similarly, Rin, Nicodano, and Sembenelli (2006: 1700) argue that "the existence of viable exit markets for venture investments also increases the expected return to investors and entrepreneurs". Subsequently, they found that countries are different with regard to "policies which result in the creation of stock markets suitable for listing entrepreneurial companies" and that directly impacts VC activities across different countries.

[1] Buy-back refers to situations that VC firm sells its stock in the company back to entrepreneurs and managers of the venture (Cumming & MacIntosh, 2003).

M&A[1] which refers to selling a startup company to an incumbent firm is another popular exit vehicle for VC firms (Jeng & Well, 2000). Thus, M&A requires incumbent firms that are willing to invest in products and services that entrepreneurial ventures have to offer. Availability of such incumbent firms also varies across countries (Pruthi et al., 2003), because it requires an active industry in which the venture operates and countries are different in terms of different industries' activities and development stage (Hitt et al., 2000; Wright et al 2002).

Further, institutional environment may cause inconsistencies in VC investments across countries. Formal institutions are important in the VC industry because they reflect factors such as transaction costs and level of property right protection in a country (Li & Zahra, 2012). High transaction costs necessitate well-specified contracts between VC firms and entrepreneurs (Sahlman, 1990). However, it is almost insurmountable to include all contingencies in a contract particularly when one side is an entrepreneurial venture which by nature bears high risk, uncertainty, and ambiguity (Hellman & Puri, 2000). Plus, effective enforcement of contracts is highly correlated with the strength of the legal system which is an important element of formal institutions in any country (Bergara, Henisz, & Spiller, 1998). That also in turn impacts the performance of VC investments. For instance, Cumming, Fleming, and Schwienbacher (2006) studied VC firms' exits in 12 countries and found that IPOs are more likely in countries with a higher Legality index. A weak legal system and consequently high transaction cost and asymmetric information lead to opportunistic behavior and conflict between VC firms and entrepreneurs and that can reduce the likelihood of success (Sahlman, 1990).

[1] It is also known as trade sale (Jeng & Well, 2000).

Property right protection is also highly influential in VC firms' performance. Since VC firms often invest in innovative and high-tech ventures (see Florida & Kenney, 1988), lack of property right protection can significantly damage the performance of such ventures and thus, they might not survive long enough for a successful exit. Prior studies have shown that countries significantly vary in terms of having and more importantly enforcing effective property right protection laws (Cumming et al., 2006; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000).

Finally, high information asymmetry, a byproduct of a weak institutional environment, can significantly affect VC firms' ability to exit. In such an environment, relatively uninformed individual investors are reluctant to buy a venture's shares in the stock market and the situation might be the same with regard to potential acquirer companies (Amit et al., 1998).

In sum, my argument here is that countries are different regarding availability and viability of stuck market and IPOs, potential acquirer companies, institutional environment and its elements including information availability and costliness, legal system, and property right protection. These factors are crucial for VC firms to be able to lead their investment to a successful exit. Thus, when VC firms invest overseas, their performance is at least partially dependent on the characteristics of the host country. As such, I argue:

> ***Hypothesis 3:*** *International VC firms' performance in their international investments varies systematically with differences in host country characteristics.*

Local Partners and Investment Performance

I discussed the advantages of syndicating with local firms; particularly, when host country is distant spatially, institutionally, or culturally. Similar to any other industries,

firms in the VC industry suffer from LOF when investing abroad (Lu & Hwang, 2010). One way to overcome the LOF that they face is partnering with local firms because they are familiar with the market and business norms (Meuleman & Wright, 2011). Partnering with local firms can help foreign VC firms and enhance the likelihood of success in their investments. Local firms can make tangible and intangible resources in the host country more accessible and help foreign VC firms prevent idiosyncrasies that they may particularly face due to an unreliable institutional environment (Bruton et al., 2005). Additionally, local VC firms can reduce information asymmetry that exists between entrepreneurs and investors which is much more pronounced for foreign firms (Bruton et al., 2004). Reduced information asymmetry leads to fewer opportunistic behaviors and higher collaboration among entrepreneurs and investors which directly relates to a venture's performance and eventually the VC firms' investment performance (Sahlman, 1990). Further, local direct ties "serve as a channel for the transfer of rich information, reducing the problems of investor quality assessment, and consequently facilitate IPO exits" (Jääskeläinen & Maula, 2014: 704).

Thus, with contributions that a local partner might have on a deal, one can argue that syndications with local partners are more likely to succeed for foreign VC firms. However, there is another side to this story. Countries are different in terms of their institutional, legal and cultural environment and as a result their common corporate governance systems (Moerland, 1995; La Porta et al., 2000). That implies differences in business norms and conduct in various countries (Wright et al., 2002). With regard to venture capital, prior studies have underlined differences among VC industries across differing countries (Manigart, 1994; Sapienza et al., 1996). VC firms have different

approaches to the investment cycle and different preferences as to how manage their investments (Li & Zahra, 2012; Pruthi et al., 2003; Wright et al., 2001). The same information asymmetry between investors and entrepreneurs also exists between foreign and domestic VC firms (Lu & Hwang, 2010; Wright et al., 2005).

Further and even more closely related to the actual performance, prior studies have illustrated differences among firms from different countries with respect to their preferred method of exit, timing and duration of exit stage, and partial or full exit from the venture (Cumming et al., 2006; Cumming & MacIntosh, 2003a; Jääskeläinen & Maula, 2014; Megginson, 2004; Schwienbacher, 2002). Such differences hold even between seemingly very similar countries such as the United States and Canada (Cumming & MacIntosh, 2003b).

By and large, there are significant differences among VC firms from different countries which can directly influence the performance of an investment where VC firms from various countries have co-invested together (i.e., syndication). That is the case when VC firms syndicate with domestic counterparts depending on the extent to which their countries are different. Given these arguments, I maintain that the performance of syndicated deals between foreign and domestic firms is a function of similarity between countries and therefore varies systematically for VC firms investments across different countries. Thus:

> ***Hypothesis 4:*** *International VC firms' performance in their international investments which are syndicated with domestic VC firms in the host country varies systematically with differences in host country characteristics.*

4.4 METHODOLOGY

Sample

The sample was drawn from the VentureXpert module in Thompson One Bankers database. VentureXpert provides daily VC investments information from 1960 up to the current time. Since VentureXpert provides rich and reliable data, it has been extensively used by prior studies in the VC literature (e.g., Dimov & Milanov, 2010; Guler & Guillén, 2010; Hochberg et al., 2007, 2010; Megginson & Weiss, 1991; Sahlman, 1990; Shane & Stuart, 2001; Yang, Narayanan, & De Carolis, 2014). To design the study and compile the sample I focused on first round investments of VC firms from the United States in ventures around the world in 2005 for several reasons. My final sample comprises 490 observations which include investments of 235 US VC firms in 406 companies within 53 different countries. Table 1 shows the list of countries that have been included in the sample.

[INSERT TABLE 4.1 ABOUT HERE]

First, I selected US VC firms because the United States is the largest, oldest and originator of VC investments (Zacharakis, McMullen, & Shepherd, 2007). Because of that, US VC firms were also pioneers in crossing borders and investing in ventures in other countries (Wright et al., 2005). Thus, choosing US VC firms as the foreign VC investors made the sample more inclusive in terms of the number of countries included. Second, narrowing the sample to firms from a single home country (i.e., United States), I control for potential differences that VC firms across different countries have with respect to activities and preferences in investment cycle (Li & Zahra, 2012; Pruthi et al., 2003; Wright et al., 2001; Wright et al., 2005). Third, focusing on first round investment[1] is an appropriate sampling strategy for my study because subsequent rounds are

[1] First round of investment is when the fund is initially infused to the venture by VC firms and then if the venture achieves some certain development millstones, VC firms may continue the funding in subsequent rounds (Gompers, 1995).

qualitatively different from the first round and there are various other factors that can impact the VC firms' decision about syndication (Dimov & Milanov, 2010). In other words, first round investments reflect the VC firms' perception and consequently investment strategy more accurately. Plus, when a US VC firm joins a follow-on investment, it is already a part of syndication. Thus, including follow-on investments would skew the sample towards more syndicated deals.

Finally, I collected investment data for year 2005 because I also examine the performance implications of cross border investments. According to previous studies, the average time that it takes for successful VC firms to exit their investments is between five to ten years (Black & Gilson 1998; Dai et al., 2012; Macmillan, Siegel, & Narasimha, 1985; Sahlman, 1990). I considered eight years as approximately the average and measured the performance of the investment in 2013.

Measurement

I have two dependent variables in my study. For the first two hypotheses, I examine the impact of host country characteristics on the international VC firms' syndication decision. I define syndication as when there are two or more VC firms that sharing the round of investment (Brander et al., 2002; Jääskeläinen, 2012; Lerner, 1994; Lockett & Wright, 2001; Manigart et al., 2006; Meuleman & Wright, 2011). Thus, in my analysis of the first hypotheses, I have a dichotomous dependent variable which is one if the deal was syndicated and zero otherwise. For hypothesis 2a and 2b, the syndication variable is one if there is at least one firm from host country or focal firms' home country in the deal respectively and is zero otherwise.

For hypotheses 3 and 4, the dependent variable is the performance of the US VC firms' investment (i.e., venture). There are two ways of measuring the VC firms' performance: first, return on investment can be straightforwardly used to determine the performance. Second, VC firm's performance also can be examined through the venture's exit; that is, an investment is considered successful if VC firm has been able to exit the venture through common vehicles such as IPO or M&A (Bygrave & Timmons, 1992). Using return on investment to measure the performance for VC firms is problematic because most of the VC firms are private companies and access to their sensitive information such as their accurate profit is difficult for outsiders (Jääskeläinen, Maula, & Seppä, 2006). Plus, even if the information is available, it is hard to determine how much each VC firm has contributed in a syndication with respect to their time and other intangible resources to come up with an accurate return on their investment (De Clercq & Dimov, 2010). Further, VC firms most often realize the largest return when they exit the venture through IPO or acquisition (Bygrave & Timmons, 1992). Thus, following previous studies (e.g., Dai et al., 2012; Gompers & Lerner, 2000; Hochberg et al., 2007, 2010; Jääskeläinen et al., 2006), I measure the investment performance via VC firms success in venture's exit. Accordingly, I coded the performance variable one if the venture had gone public or had been acquired by another firm by 2013 and zero otherwise.

Analytical Approach and Estimation Procedure

I adopted hierarchical linear modeling (HLM) as the primary technique to test my hypotheses. This technique was first introduced by McNamara, Deephouse, and Luce (2003) to the strategy literature and since then has been increasingly used to analyze

multi-level nested data (e.g., Castellaneta & Gottschalg, 2014; Jansen, Simsek, & Cao, 2012; Nielsen & Nielsen, 2013; Short, Ketchen, Palmer, & Hult, 2007; Spencer & Gomez, 2011). HLM allows for simultaneous calculation and separation of variance–covariance components at different levels without direct measurement of variables associated with each level (Bryk & Raudenbush, 1992; Hofmann & Gavin, 1997). My data meets the basic HLM requirement which is that observations at a lower level must be nested in a higher level. In my sample, US VC firms' investments (i.e., ventures) are nested within their country of origin and may exhibit significant within-country homogeneity. Thus, HLM controlling for within-group effect, is well-suited for my analysis (Short et al., 2007).

There are other variance decomposition methods in the literature which are not necessarily inferior to HLM (e.g., Ayyagari, Kunt, & Maksimovic, 2008; Bali, Demirtas, & Tehranian, 2008; Campbell, 1991; Chen, 2010). However, HLM provides direct estimation of variance that each level in a multi-level data structure accounts for (Arcenaux & Nickerson, 2009), and that is the aim of my study. Accordingly, Primo, Jacobsmeier, and Milyo (2007: 452) maintain that the procedures of estimation in HLM "allow the researcher to estimate how much each level of analysis is contributing to explanation in the model, and how much each level is contributing to the error. In other words, the researcher can assess whether the explanation is primarily macro-level or individual-level." Therefore, given the aim of my study and the nested structure of the data without specific predictors, HLM is appropriate to decompose variance across different levels (i.e., venture and country) (Short et al., 2007).

In sum, I utilized two-level modeling with the HLM 7.01 software (Raudenbush et al., 2011), to examine how much of the variance in syndication decision (i.e., H1and H2) and performance of investment (i.e., H3 and H4) is accounted for by venture/VC firm and host country. In the unconditional model, namely one with no specified predictors, each level's constant is decomposed into a fixed portion and a variance component as follows:

Level-1 Model (for H1):

$$\text{Prob}(\text{Syndication}_{ij}=1|\beta_j) = \pi_{ij}$$
$$\log[\pi_{ij}/(1 - \pi_{ij})] = \eta_{ij}$$
$$\eta_{ij} = \beta_{0j}$$

Level-2 Model (for H1):

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

where β_{0j} is the intercept for the jth country, and $\log (\pi_{ij}/(1 - \pi_{ij}))$ is the mathematical function that links the expected value of the dichotomous outcome Syndication_{ij} to the predicted values for variate η_{ij} (McCullagh & Nelder, 1989). I selected the *logit* link function, which is the natural logarithm (i.e., log) of the odds that Syndication = 1 (π_{ij}) versus Syndication = 0 (i.e., solo-investment: $(1 - \pi_{ij})$). There are other choices available but the *logit* is the most common function for dichotomous outcomes (Heck et al., 2014). η_{ij} represents the predicted values of the transformed continuous outcome (i.e., in my analysis, the natural logarithm of the odds Syndication = 1) resulting from the multiple regression equation, which in the first model only consists of the intercept (Heck et al., 2014).

The level two model indicates that there are two parameters to estimate: the intercept (γ_{00}) and the between-organization variability, or deviation, from the intercept (u_{0j}). The estimated intercept is considered a fixed component, and the between-group variation in intercepts is considered the random effect.

I used a similar model for the other hypotheses. The only difference is in the dependent variable which is the likelihood of syndicating with domestic VC firms (for H2a), the likelihood of syndicating with other US VC firms (for H2b), and the likelihood of success or achieving high performance (For H3 and H4). Therefore, interpretation of elements in the model should be adjusted according to the dependent variable of any particular model corresponding to each hypothesis. Since that is the only difference I do not explain other models to avoid redundancy.

4.5 RESULTS

In the first hypothesis, I argue that the US VC firms' decision to form syndication varies systematically with the host country characteristics in which they invest. To test this hypothesis, I look at variance in syndication formation by US VC firms investing in different countries (i.e., 53 different countries) and examine whether a significant proportion of that variance is explained by host country which is at level two in my HLM analysis. If there is significant variation in syndication formation at level two, that would lend support to my argument in hypothesis 1 (Bryk & Raudenbush, 1992; Short et al., 2007). My dependent variable here is a binary variable which is 1 if US VC firms have syndicated the investment and 0 otherwise and I use the full sample to test hypothesis 1.

Since the dependent variable (i.e syndication decision) is a binary variable, I run the HLM analysis using the Bernoulli distribution. In this case, there is no variance component estimated at level 1. That is due to constraints of logistic regression which makes it impossible to estimate both the coefficients and the error variance (Hedeker, 2007). Thus, in logistic regression models the error variance at level 1 is always fixed to the same number which according to Heck, Thomas, and Tabata (2012) is:

$\pi^2 / 3 = 3.29$

Then, the variance explained by level 2 is calculated by the following formula (Anderson, Kim, & Keller, 2013):

$$ICC^1 = \frac{Variance\ Component\ at\ level\ 2}{(Variance\ Component\ at\ level\ 2 + (\frac{\pi^2}{3}))}$$

I used the same procedure for the other hypotheses to calculate the variance explained by host country. For hypothesis 2, the dependent variable is whether US VC firms have at least one local VC firm (H2a) or US VC firm (H2b) syndicated on the deal and I used the full sample in my analysis. Table 2 reveals the variance component and percentage of variance explained by host country for each form of syndication. Results show that all variance components are statistically significant. Host country significantly explains variation in syndication formation. In general, country effect accounts for 14% of the variance in syndication formation by US VC firms. Interestingly, host country characteristics account significantly greater for syndication with other US VC firms (38%) compared to syndication with domestic firms (10%).

[INSERT TABLE 4.2 ABOUT HERE]

Hypotheses 3 and 4 are articulated towards US VC firms' performance. Therefore, the dependent variable for these two hypotheses is a dichotomous variable which is 1 if the venture has gone public or was acquired by 2013 and 0 otherwise. There is a major difference in testing hypothesis 4. Since this hypothesis is formulated to examine the variance of US VC firms' performance when there is a domestic firm involved in the syndication, I used a sub-sample of all investments by US VC firms that

[1] ICC is "a measure of within-cluster homogeneity and equals the proportion of variance due to between-cluster differences" (Anderson et al., 2013: 494).

had been syndicated with at least one domestic partner. This sub-sample consists of 92 observations in 19 countries. Table 3 shows the countries included in this sample.

[INSERT TABLE 4.3 ABOUT HERE]

The same procedure is used to calculate the variance in performance as it was for Hypotheses 1 and 2. Table 4 shows the results for performance of the US VC firms' investments. Country effect significantly explains variation of the US VC firms' performance and accounts for 16% of the variation. However, it is not significant in the analysis in the sub-sample of syndicated deals with domestic firms (variance component is almost 0). Accordingly, one can argue that performance of syndicated deals with domestic firms is not systematically different across different countries. However, another plausible explanation can be drawn from methodological factors and the fact that the sample size for this sub-sample is not large enough (92 observations) to create required power and thus, this test might suffer from type II error (Bryk, & Raudenbush, 1992; Hofmann, 1997).

[INSERT TABLE 4.4 ABOUT HERE]

Robustness Tests and Supplemental Analysis

I conducted several robustness and additional tests to examine the stability of the results and present some other related findings. For the first two hypotheses, first, I ran the same analysis for a sub-sample of the data. I extracted all syndicated deals and created a sub-sample. Then I analyzed this sub-sample to examine the effect of the host country on syndication with domestic firms and other US firms. I found that host country is similarly a significant predictor of syndicating with domestic and other VC firms. For syndication with domestic firms, country effect accounts for 24% of variation which is

significantly stronger that the effect in the full sample (10%). For syndication with other US firms, country effect accounts for 29% of variation.

Second, instead of using syndication as a dichotomous dependent variable, I used the number of partners as the dependent variable in an additional test. I found similar results to my original analysis for syndication with other US firms: country effect accounted for 37% of variation in the number of US partners in deals. However, it is not significant at 0.05 level for syndication with domestic firms. That combined with my original analysis implies that country characteristics only explain variation of the actual decision to partner with domestic firms and they do not explain the number of domestic firms that US VC firms partner with once they make their decision.

I used the sub-sample of syndicated deals to examine the robustness of the original results for performance in hypothesis 3. This sub-sample includes 221 observations (investments) in 33 countries. Host country effect significantly accounts for 16% of variance in US VC firms performance in their overseas investments which is identical to what I found for the full sample (16%). For Hypotheses 4, I organized a sub-sample of deals that had been syndicated merely with domestic firms. In other words, this sub-sample consists of co-investments between US VC firms and domestic VC firms in each host country and there is no other partner in the deals. I did so because I believe the fact that host country was not a significant predictor in performance of syndicated deals with domestic firms in my original analysis could partially be due to other partners in the deals (e.g., from US). Having other partners, particularly from home or other developed countries with more similarity to US VC firms, may help them neutralize host country impacts on performance that I discussed in hypothesis 4. Results from analyzing this sub-

sample show that host country effect is significant at 0.10 level and accounts for 26% of variation in performance of US VC firms' co-investments with only domestic firms. Table 5 summarizes the results of the robustness tests.

[INSERT TABLE 4.5 ABOUT HERE]

Moreover, I analyzed the variation of performance in a sub-sample of stand-alone investments to examine whether country effect significantly explains any variance of the performance when VC firms had not syndicated their investments. This sub-sample includes 207 investments made by 112 VC firms in 45 countries. Result revealed that host country does not have any significant explanatory effect on the performance of stand-alone investments. Interestingly, in this sub-sample only 25 (12%) investments led to high performance (IPO or M&A).

Finally, I retested the hypotheses after taking the countries dominating the number of observations out of the sample. UK, Canada, and China were the ones with the highest number of observations with 87, 65, and 62 observations respectively. This new analysis yielded in the same results for the most part with regard to supporting the hypotheses.

4.6 DISCUSSION AND IMPLICATIONS

This study seeks to extend previous research on the VC industry by studying the internationalization process of VC firms. Despite the plethora of studies on VC firms' domestic activities and cross country comparison of VC industry, the actual internationalization of VC firms and the phenomenon of cross-border syndication remain neglected (Meuleman & Wright, 2011; Wright et al., 2005). My overarching research question in this study was *whether host country characteristics impact syndication behavior and performance of international VC firms*. Asking this question, I take an

important step towards opening the black box of the internationalization process of VC firms. In doing so, I am able to specify the relative importance of country determinants of cross-border syndication formation and its performance and open viable venues for future research.

Utilizing two-level HLM analysis of 490 observations which include investments of 235 US VC firms in 406 companies within 53 countries, I found that country has a significant impact on the syndication decision and performance of VC firms. Several interesting findings emerge from my analyses which I believe have important implications for VC research.

First, prior studies focusing on domestic behavior of VC firms have argued that syndication is a common practice among VC firms particularly in the United States (Jääskeläinen, 2012; Jääskeläinen et al., 2006), that is the research context in this study. Interestingly, my empirical results reveal that differences among the countries where VC firms invest induce these firms to alter their syndication strategy. Thus, when investing abroad, VC firms change their commonly practiced strategies. This finding reinforces the need for research to find specific factors that make VC firms change their strategies and practices.

Second, I found that the impact of the host country varies for syndication with domestic firms versus firms from the focal firms' home country. Interestingly, host country effect is greater for the latter. I believe that this finding sheds light on the **paradox of information asymmetry**. As I explained before, syndication can be a response to the risks arisen by information asymmetry between focal foreign VC firms and entrepreneurs in the host country depending on the extent to which the host country

is culturally and institutionally distant (i.e. underdeveloped) from their home country (Lu & Hwang, 2010; Wright et al., 2005). It becomes a paradox when one enters the potential information asymmetry between foreign and domestic VC firms into the equation (Michailova & Ang, 2008; Hitt et al., 1995; Rao & Schmidt, 1998). The info asymmetry may increase the likelihood of opportunistic behavior from domestic firms and likely hurt the performance of VC firms (Dimov & De Clercq, 2006; Manolova, Manev, & Gyoshev, 2010). Thus, the question becomes which risk VC firms are more willing to take: risk of partnering with local firms or dealing with local entrepreneurs independently?

Result shows that host country explains more variation in syndication with home country partners compared to that with domestic firms. This might be a plausible strategy for foreign VC firms facing the mentioned dilemma: syndicating with other home country partners. VC firms from the same country have much more in common with respect to philosophy and activities during the investment cycle (Brander et al., 2002; Guler & Guillén, 2010; Sorenson & Stuart, 2008). Therefore, partnering with home country firms might be a viable strategy to mitigate the risk of overseas investments. Home country partners can enhance the focal firms' due diligence in selecting domestic partners, monitoring their activities, and weigh their interests against potential conflicting interests of domestic partners (Lerner, 1994). Nevertheless, my analysis is not specific enough to make any strong assertion. Thus, more research on this topic is warranted. For instance, future studies can explore specific variables at the country level that determine foreign VC firms' decision to syndicate with home country partners. In other words, under what conditions do foreign VC firms prefer to partner with their home country firms instead of

domestic firms? Which one is more influential: formal or informal institutions? Do they substitute home country partners with domestic partners or do they use home country partners as a complementary strategy to alleviate the risk of partnering with domestic firms? Answering this last question specifically helps untangle the dilemma of information asymmetry between foreign firms and both domestic entrepreneurs and VC firms. When facing such a dilemma, do foreign VC firms prefer not to syndicate with domestic firms or as suggested, do they use other strategies to handle this double-edged sword situation?

My further analysis revealed that when replacing the likelihood of syndication with the number of partners as dependent variable, country effect is not significant for domestic partners. That combined with my results from the original analysis (with likelihood as dependent variable) implies host country does not influence the number of domestic partners. In other words, host country merely explains a part of variation in the decision as to foreign VC firms either partner with domestic firms or not and once foreign VC firms decide to syndicate with domestic firms, the host country does not explain any variation in the number of domestic partners. This finding might to some extent challenge the notion that the likelihood of opportunistic behaviors such as free-riding[1] increases with a larger number of partners (Dimov & De Clercq, 2006; Hochberg et al., 2010). At least, the VC firms' perception regarding this argument does not systematically vary with differences in the countries in which they invest. Future studies can more closely focus on this topic and examine whether the number of partners influence detrimental behaviors such as free-riding differently in different countries.

[1] Dimov and De Clercq (2006: 219) define a VC firms' free-riding as "to trade off its own effort with the potential effort undertaken by the others".

Third, I also examined whether the performance of foreign VC firms investments varies due to the host country characteristics. According to the results, host country accounts for 16% of variance in VC firms' performance. In articulating my argument for hypothesis 3, I introduced some plausible explanations such as differences among countries in availability of a well-developed financial market, development of various industries, and formal institutions (e.g., property right protection). My arguments are based on prior studies on domestic VC investments across different countries. My findings acknowledge my underlying assumption. However, future studies can examine whether and to what extent these factors influence the performance of foreign VC firms compared to domestic investments. Exploring other influential factors is also warranted.

Although I did not find support for the hypothesis that performance of syndicated deals in which there is at least one domestic firm, systematically varies across countries, my supplemental analysis revealed interesting results. I limited the sample to those deals that US VC firms had syndicated only with domestic firms and conducted an additional analysis. I found that country effect accounts for 26% of variation of performance in that sub-sample. This finding intrigues some important questions that future studies are encouraged to investigate: first, while I found there is variation in performance of deals that are syndicated by US VC firms only with domestic counterparts, the type of my analysis and the focus of my study do not allow me to further examine the nature of variation; that is, what are the characteristics of countries where foreign VC firms performance is lower when they only syndicate with domestic firms? According to insights from international alliance and VC literature, one can argue that the more distant the home and host countries, the greater dissimilarities between foreign and domestic VC

firms. Consequently, potential dissimilarities lead to lack of trust and professional common ground and negatively impact the performance of the investment (Baum et al., 2010; Lu & Hwang, 2010; Pruthi et al., 2003; Wright et al., 2002). However, it needs to be empirically investigated before I can make any strong assertion. Second, as mentioned, when I include deals that US VC firms have both domestic and other partners (i.e., from home country and other developed countries) simultaneously, the variation of performance across countries disappears. One tenable argument could be having other partners protects US VC firms against the information asymmetry between them and domestic firms via enhanced due diligence and monitoring activities. Plus, having other partners with similar investment philosophy (e.g., from home country) makes the US VC firms' position stronger against domestic partners and enable them to exercise more control to resolve the possible discrepancies stemming from differences in their investment approaches by providing them with the power of final say (Utset, 2002). Qualitative studies (e.g., case studies) and those utilizing primary data can help validate the legitimacy of these arguments and explore other possible explanations.

Finally, I did not find any country level variations in the performance of stand-alone investments. While it might be due to the methodological artifacts (i.e., sample size), this finding can reinforce the notion that host country characteristics are more influential in foreign VC firms' performance when they engage in syndication particularly with domestic firms. Future studies can first confirm my finding in more rigorous way (i.e., with a larger sample of international stand-alone investments). Second, they can explore the processes by which the host country influences the foreign VC firms' performance. On one hand, there are some host country attributes such as

development of the financial market and availability of different exit options that more directly influence the later stages of the investment cycle such as exit (Black & Gilson, 1998; Jeng & Well, 2000). On the other hand, there are other attributes such as formal and informal institutions including business norms and legal system and protection that can impact the venture from very early stages of investment (Cumming et al., 2006). Future studies can examine the relative importance of these different characteristics and provide more fine-grained implication for both scholars and practitioners.

Limitations

Although I believe this study helps open potential research venues in nascent stream of VC firms internationalization, it is not without limitations. First, my results do not provide detailed information of the processes as to how the host country impacts VC firms syndication behavior and performance. As the first step in this research stream, I show that host country matters and VC firms adjust their activities that used to be perceived as standard procedures in domestic investments (Jääskeläinen, 2012; Jääskeläinen et al., 2006), when they cross the borders. I believe that VC research can strongly benefit from more detailed studies introducing different influential factors at the country level and their relative importance.

There are some limitations in my sample that can be addressed by future studies validating my results. First, to effectively analyze the performance of VC investments, I limited my sample to 2005 cross border investments. Country effect may vary over time with foreign VC firms becoming more experienced in the host country. Thus, longitudinal studies can examine whether the nature and strength of the host country effect are different over time. Second, to control for differences among VC firms from

different countries in managing their investments (MacMillan et al., 1989; Norton & Tenenbaum, 1993; Pruthi et al., 2003; Wright et al., 2005), I limit my sample to US VC firms. Although United States is the largest exporter of VC funds (Wang & Wang, 2011), which makes the sample more conclusive, the impact of the host country might be different on firms from different countries with different homegrown characteristics (Lu & Hwang, 2010). Thus, examining the host country effect on foreign VC firms' behavior from other countries and comparing the results might yield to significant implications for both researchers and managers. Finally, to avoid sample bias towards syndicated deals, I focused on first round investments. However, there are significant differences between early-stage investments (i.e., the context of this study), and later-stage private equity investments (e.g., buy-out investments) (Meuleman & Wright, 2011). As such, the magnitude, likelihood, and nature of the host country effect might be different on investments at various stages which is a fruitful venue for future investigation.

Despite these limitations, this study offers new theoretical insights to VC researchers. Specifically, this is one of the early steps identifying the relative importance of the host country, and shows that it accounts for variance in VC firms' cross-border syndication and performance. This study is an attempt to move the literature forward in a more systematic fashion on identifying the specific country level determinants of VC firms' strategic behavior and performance within the global market. As I decompose the variance of this important strategic decision, the study provides insights that the host country matters in both *the process of VC firms' internationalization* and *the performance of investments that they undertake* across different countries. As such, I hope that my

study spurs more productive and convergent research looking into the internationalization of VC firms.

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4.8 TABLES AND FIGURES

Table 4.1: List of the Countries Hosting US VC Firms' Investments

Angola	Croatia	Italy	Portugal
Australia	Czech Republic	Japan	Romania
Austria	Denmark	Lithuania	Russia
Bangladesh	Egypt	Luxembourg	Singapore
Belgium	Finland	Malaysia	South Africa
Bermuda	France	Mexico	South Korea
Brazil	Germany	Morocco	Spain
Bulgaria	Greece	Netherlands	Sweden
Cameroon	Hong Kong	New Zealand	Switzerland
Canada	Hungary	Nigeria	Taiwan
Cayman Islands	India	Norway	Thailand
Chile	Ireland	Peru	Ukraine
China	Israel	Poland	United Kingdom
Congo			

Table 4.2: Variance Decomposition Results for Syndication Decision

	Syndication (H1)			Syndication with domestic firms (H2a)			Syndication
Level	**Variance Component**	**p value**	**Percentage of total**	**Variance Component**	**p value**	**Percentage of total**	**Variance Component**
Country (Level 2)	0.55009	0.001	14	0.37125	0.043	10	2.03733
Investment (Level 1)	3.29	N/A	86	3.29	N/A	90	3.29
Total	3.84009	N/A	100	3.66125	N/A	100	5.32733

Table 4.3: List of the Countries in the Sub-Sample of Syndicated Deals with Domestic VC Firms

Australia	Germany	Norway
Austria	Israel	Portugal
Brazil	India	Russia
Canada	Ireland	South Korea
China	Italy	Spain
Denmark	Japan	United Kingdom
France	Nigeria	

Table 4.4: Variance Decomposition Results for Performance

	Performance (H3)			Performance of Syndicated deals with domestic firms (H4)		
Level	**Variance Component**	**p value**	**Percentage of total**	**Variance Component**	**p value**	**Percentage of total**
Country (Level 2)	0.63667	0.017	16	0.00005	0.387	0
Investment (Level 1)	3.29	N/A	84	3.29	N/A	100
Total	3.92667	N/A	100	3.29	N/A	100

Table 4.5: Results for Robustness Tests

	Syndication with domestic firms (sub-sample of syndicated deals only)			Syndication with US firms (sub-sample of syndicated deals only)		
Level	**Variance Component**	**p value**	**Percentage of total**	**Variance Component**	**p value**	**Percentage of total**
Country (Level 2)	1.04952	<0.001	24	1.34577	<0.001	29
Investment (Level 1)	3.29	N/A	76	3.29	N/A	71
Total	3.92667	N/A	100	4.63577	N/A	100
	Syndication with domestic firms (number of domestic partners as DV)			**Syndication with US firms (number of US partners as DV)**		
Country (Level 2)	0.02411	0.075	0	0.32124	<0.001	37
Investment (Level 1)	0.41902	N/A	100	0.54778	N/A	63
Total	0.44313	N/A	100	0.86902	N/A	100
	Performance (sub-sample of syndicated deals only)					
	Variance Component		**p value**		**Percentage of total**	
Country (Level 2)	0.61794		0.028		16	
Investment (Level 1)	3.29		N/A		84	
Total	3.90794		N/A		100	
	Performance of Syndicated deals with domestic firms (sub-sample of syndicated deals with domestic firms only)					
	Variance Component		**p value**		**Percentage of total**	
Country (Level 2)	1.34157		0.084		26	
Investment (Level 1)	3.29		N/A		74	
Total	4.63157		N/A		100	

CHAPTER 5

CONCLUSION

The main purpose of Essay I was to develop a theoretical framework explaining the antecedent role of the network characteristics of a) foreign VC firms and b) their potential partners, on their syndication behavior. I identified two factors that influence the focal firms' willingness/attractiveness for syndication formation: *context-related* and *business-related* factors. I discussed how interplay of these factors determines the likelihood of syndication between VC firms. As the major theoretical contribution, I addressed the impact of the network structure (social status) and composition (density and diversity) on these factors and ultimately on the syndication likelihood.

In addition to the theoretical contributions, this dissertation is, and so is the Essay I, a response to the call for more research on the international VC firms and the process of managing international VC investments. I specifically focused on the expansion of developed country VC firms into emerging markets because of growing trend of such investments. I classified the prospect partners available to the developed country VC firms into three groups based on different values that they can deliver: domestic firms, firms from the home country/other developed countries, and firms from other countries.

In general, the theoretical framework suggests that there is a curvilinear relationship between the developed country VC firms' social status and the likelihood of their syndication with potential partners. However, the advantages that a partner's network has to offer due to the attributes such as density and diversity can change that dynamic by making the partner more attractive in the eyes of the focal firm. Density reduces the likelihood of opportunistic behaviors in the network. Hence, it makes the

potential partner more attractive to the focal developed country VC firm before it establishes its network and when it suffers from the lack of trust and familiarity with the local VC firms. On the other hand, a diverse network enables a potential partner to provide the focal firm with more than context-related benefits and therefore adds to the partner's business-related attractiveness such that it will not diminish even after the focal firm's reaching a high status in the host country.

This framework suggests that the level of analysis should be expanded from firms to include their network as well. Networks have important resources and advantages to offer. Thus, in addition to the resources and capabilities that a potential partner itself has, its network of connections might offer extra advantages. That can heavily influence the dynamic of the relationship between VC firms. Therefore, scholars are encouraged to include different network characteristics when investigating the inter-firm relationship between VC firms.

For managers, the framework of this study points to the need to consider more factors in their decision making process with regard to syndication. In addition to the potential partner per se, its network can also be a source of opportunity for the VC firms. Previous collaborations of the VC firms in different markets that constitute their network are to a considerable extent available in different databases. Managers can use those records to analyze the potential partner's network and determine its different features to improve the partner selection process especially when they invest abroad and syndication decision is more difficult and critical due to the lack of familiarity with the partners.

In Essay II, the major goal was to clarify the nature of the syndication among VC firms particularly in their international investments. More specifically, I sought to explore

whether syndication is contingent upon the venture and VC firms attributes or VC firms have a natural tendency toward syndication regardless of specific conditions that they face in each particular investment as well as their own capabilities. To answer this question, I developed competing propositions pitting VC firms' capability (measure through their social status at home and host country and their general and host country-specific experiences) against venture riskiness (information asymmetry and technical complexity). The purpose was to examine whether highly capable VC firms can handle the ventures (even risky ones) without syndicating with others (contingency approach to syndication) or even those VC firms would prefer to syndicate due to other advantages that syndication has to offer (natural proclivity approach to syndication).

I tested the propositions in a sample of US VC firms' investments in China through a fuzzy set qualitative comparative analysis (fsQCA) which is a new technique in the VC literature. Results provide more support for the natural proclivity approach. In other words, I found that even firms with high status and rich experiences had preferred syndication over investing alone. That confirms broader advantages that inter-firm links have for the VC firms and the fact that high level of social status and prior experiences do not substitute for the need for syndication.

Another goal of this study was to examine the relative importance of the venture and VC firms attributes in the syndication decision. Results show that while the venture attributes (riskiness) are necessary condition for syndication, the VC firm's characteristics (including status in the home and host countries, prior experience in the host country, and age) are not necessary conditions for syndication. Further, I tested whether the lack of these characteristics (which imply their capabilities) in the VC firms

is a necessary condition for syndication. Results demonstrated a negative answer to this question. In other words, lack of internal capabilities does not necessarily lead the VC firms to syndicate their investment.

Further, I examined the performance implications of syndication. Whether syndication is almost always a positive contributor to the performance or VC firms can rely on their own capabilities and achieve superior performance was the major question in this section. The sufficiency test revealed two major solutions for the high performing cases in both of which the VC firms had syndicated with developed country and local/similar to local partners. However, due to the low coverage score any strong argument based on the result is warned. At the same time, the low coverage is understandable due to many different internal and external factors influencing the exit of the venture particularly through the IPO process. The overall findings imply that investing in ventures in more advanced stages, and partnering with VC firms from developed countries (which can bring business-specific resources and experiences to the deal) and local/similar to local firms (which can mitigate the information asymmetry) are associated with superior performance.

Further, I also conducted a necessity test to explore whether syndication is a necessary condition to achieve superior performance. Results indicate that syndication is not a necessary condition for high performance. However, interestingly, the absence of syndication is a necessary condition for poor performance. In other words, while syndication does not guarantee the performance of investment, deciding not to partner with other firms can significantly reduce the likelihood of developed country firms to succeed their emerging market investments.

These findings shed more light on the nature of syndication in the VC industry. According to the results of my analysis, future studies are encouraged to explore additional broad advantages that syndication creates as they seem to be more attractive for VC firms. Also the fact that syndication does not necessarily lead to superior performance and at the same time the lack of it hurts the performance opens an interesting venue for future studies. Exploring specific factors that distinguish effective and detrimental syndications particularly in the context of cross-border syndications is warranted.

For managers, my findings indicate that to achieve superior performance in their emerging market investments, they need to partner with others (from host and other developed countries) who are potentially able to add exclusive values to the venture. Stand-alone international investments have a higher likelihood of failure. However, to increase the likelihood of success managers have to be very cautious in the partner selection process and perform an efficient due diligence before entering into a syndication with other firms.

Finally, Essay III seeks to answer the question whether host country characteristics impact syndication behavior and performance of the international VC firms. Asking this question is an important step toward opening the black box of the internationalization process of the VC firms. In doing so, the relative importance that country factors have in determining the formation of cross-border syndications and performance of the international investments is specified. That opens viable venues for future research.

Results reveal that differences among the countries where VC firms invest make these firms alter their strategies and namely syndication as one of the major ones. Thus, when investing abroad, VC firms change their commonly practiced strategies. This finding reinforces the need for research to find specific factors that make the VC firms change their strategies and practices. Further, I found that the impact of the host country varies for syndication with domestic firms versus firms from the focal firms' home country. Interestingly, the host country effect is greater for the latter. I believe that this finding sheds light on what I call the *paradox of information asymmetry*. Syndication can be a response to the risks arisen by information asymmetry between the focal foreign VC firms and entrepreneurs in the host country depending on the extent to which the host country is culturally and institutionally distant (i.e. underdeveloped) from their home country. It becomes a paradox when one enters the potential information asymmetry between foreign and domestic VC firms into the equation. That may increase the likelihood of opportunistic behavior from domestic firms. Thus, the question becomes whether the foreign VC firms are more willing to take the risk of partnering with local firms or that of dealing with local entrepreneurs independently.

Result shows that host country explains more variation in syndication with home country partners compared to that with domestic firms. This might be a plausible strategy for the foreign VC firms facing the mentioned dilemma: syndicating with other home country partners. Nevertheless, my analysis is not specific enough to make any strong assertion. Thus, more research on this topic is warranted. For instance, future studies can explore specific variables at the country level that determine the foreign VC firms' decision to syndicate with home country partners. In other words, under what conditions

do foreign VC firms prefer to partner with their home country firms instead of domestic firms? Do they substitute home country partners with domestic partners or do they use home country partners as a complementary strategy to alleviate the risk of partnering with domestic firms? Answering this last question specifically helps untangle the dilemma of information asymmetry between foreign firms and both domestic entrepreneurs and VC firms.

I also examined whether the performance of foreign VC firms investments varies due to the host country characteristics. According to the results, host country accounts for a significant proportion of variance in the VC firms performance. Further, the host country effect is significantly greater for the deals that the foreign VC firms syndicate merely with the domestic firms. One plausible reason for this finding is when the foreign VC firms have other partners beside the domestic ones, they would have a stronger negotiation power against domestic firms and that alleviates the potential problems that they might encounter in their relationship with domestic firms.

Finally, I did not find any country level variations in the performance of stand-alone investments. This finding might be due to the fact that the host country manifests its impact through the inter-firm relationships rather than directly impacting the investment performance (e.g., because it lacks an active stock market). Nonetheless, since I do not directly address this issue, future studies are highly encouraged to examine this argument. Future studies can explore the processes through which the host country influences the foreign VC firms' performance. On one hand, there are some host country attributes such as development of the financial market and availability of different exit options that more directly influence the later stages of the investment cycle such as exit.

On the other hand, there are other attributes such as formal and informal institutions including business norms and legal system and protection that can impact the venture from very early stages of investment. Future studies can examine the relative importance of these different characteristics and provide more fine-grained implication for both scholars and practitioners.

Despite its limitations, this dissertation offers some new theoretical insights to the nascent literature on international VC firms. Specifically, this is one of the early attempts identifying the important factors at different levels (i.e., venture, VC firm, and host country) that influence the strategic behavior and performance of the VC firms when they cross the borders. This study aims to move the literature forward in a more systematic fashion to focus on the most influential factors and open the black box of the VC firms' internationalization. As such, I hope that this dissertation spurs more productive and convergent research looking into this phenomenon.

VITA

AMIR PEZESHKAN
Old Dominion University, Strome College of Business, Department of Management,
Constant Hall 2160, Norfolk, VA 23529

Education:

2011-2015: **Ph.D.** in Business Administration, Old Dominion University, Norfolk, VA
Concentration: Strategic Management and International Business
2005-2009: **M.B.A.** in Strategic Management, MAU, Tehran, Iran
2000-2005: **B.S.** in Accounting, UES, Tehran, Iran

Publications:

- Smith, A. & **Pezeshkan, A.** 2013. Which businesses actually help the global poor? *South Asian Journal of Global Business Research*, 2(1): 43-58.
- Akhavan, P. & **Pezeshkan, A.** 2013. Knowledge management critical failure factors: a multi-case study. VINE: The Journal of Information and Knowledge Management Systems, 44(1): 22-41.
- Akhavan, P., Shirazi, H., Sabzaligol, A., & **Pezeshkan, A.** 2013. A Framework for Organizational Knowledge Assessment by Combining BSC and EFQM: A Case of Beasat Industry Complex, Iran. IUP Journal of Knowledge Management, 11(2): 7-18.
- Akhavan, P., & **Pezeshkan, A.** 2013. Developing a knowledge map-driven framework for human resources strategy formulation: A knowledge-based IT company case study in Iran. Journal of Knowledge based Innovation in China, 5(3): 234-261.
- Akhavan, P. & **Pezeshkan, A.** 2012. Developing a human resource strategy framework: A Knowledge oriented approach. Management Research in Iran, 15(1): 1-29.*
- **Pezeshkan, A.** & Akhavan, P. 2009. A framework for assessing the organizational knowledge. Tadbir Journal of Management, 209: 49-57.*
- **Pezeshkan, A.** & Hosnavi, R. 2007. Social capital: Concept and role in development. Journal of Future Management, 17: 35-48.

Business and Other Experience:

2014: **Adjunct Professor**, Department of Management, Old Dominion University
2011-2014: **Graduate Research Assistant,** Department of Management, Old Dominion University
2005-2011: **Co-Founder and Chief of the Board,** BAP Co.
2004-2005: **Project Manager,** Farsana Co.