ABSTRACT

Venture Capital (VC) is regarded as one of the most powerful financial innovations of the 20th century (Schwienbacher, 2009). Venture Capitalists are financial intermediaries focused on funding projects in emerging high – technology realms. Some of the world's most visible companies today (Microsoft, Google, Apple, Sun Microsystems, HP, Facebook, and so on) have all been VC funded during their earlier stages. The Indian Venture Capital (VC) ecosystem has been rapidly evolving over the past decade. As of 2013, India ranks among the top five nations in terms of the deployment of global VC funds (Ernst and Young, 2014). Today, there are more than 350 VC funds operating in India (Securities and Exchange Board of India, 2012). About one-third of the top 500 companies in India today are VC funded (Bain Consulting, 2012). Thus, it can be said beyond doubt that VC has played a very important role in the promotion of entrepreneurial ventures in the Indian economy. Yet, there exists a limited understanding about the operations of the VC firms in India. The aim of this study was to fill this gap.

The VC firms (fund managers or the General Partners) typically raise funds from the fund providers (Limited Partners) and invest them in fledgling companies. Such investments are highly risky, and most of them fail entirely; however, the few large winners more than compensate for the failures (Dossena and Kenney, 2002). In return for investing, the VC firms receive a major equity stake in the firm and seats as the members of the board of directors. By active intervention and assistance, VC firms act to increase the chances of success of a new firm. The VC process is complete when the company is sold through either listing on the stock market or is acquired by another firm, or when the company fails (Dossani and Kenney, 2002). The funds raised via exits therein are then returned to the respective fund providers and the investment cycle starts all over again (Gompers and Lerner, 2004).

Since, nascent technologies, domains and business models and most importantly intangibility of assets are the mainstay of VC funded projects, it results in an extreme level of information asymmetry. Consequently, funding these projects warrants specialized risk assessment skills. In fact, VC firms are known to possess the forte in selecting and monitoring ventures with an extreme level of information asymmetry (Chan, 1983; Macintosh, 1994; Sahlman, 1990; Amit, et al., 1990, 1993, 1998). Information asymmetry results in two distinct kinds of risks – Adverse Selection and Agency problems. Adverse Selection risks are those resulting from hidden information (i.e. entrepreneurs possess certain information not known to the VCs). Agency risks are the ones emanating from hidden actions (i.e. entrepreneurs can take certain actions not observable by the VCs). As *niche* financial intermediaries, VC firms are known to be well-versed with strategies to tackle both of these. While Adverse selection is tackled by intensive proposal screening and due diligence, syndication of deals (co-investing with other VC firms) and specialization (by domain, funding size, stage of funding); agency risks are overcome by staging of investments, legal contracting and extensive monitoring of the investee firms (Gupta and Sapienza, 1992; Rosenstein et al., 1993; Barry, 1994; Lerner, 1994; Fried and Hisrich, 1994; Gompers and Lerner, 1999, Pruthi et al., 2003). Typically, the adverse selection risks are dominant during the investment phase while agency risks are prominent during the portfolio management and exit phases of the VC firm's lifecycle.

The aim of this study is two-fold. Accordingly, the analysis of the VC industry in India has been carried out at two distinct stages – macro and micro. We believe that, in order to appreciate the micro-level issues pertaining to this industry, we need to first gain an insight into its macro level aspects. Therefore, in the first stage, the macro ecosystem for VC operations is explored and analyzed. The focus here, is to gain an understanding about the principal components of the Indian VC ecosystem using the conventional Supply-Demand economic framework. In the second stage, we examine the micro-decision-making aspects of VC firms. Here, we probe in detail the strategic decision-making processes of the individual VC firms over their investment lifecycle using the theoretical lens of agency theory.

This study about VC firms is based on *Ex Post Facto* Exploratory research methods – using both secondary and primary data. The secondary data have been obtained from the Venture Intelligence database, the Securities and Exchange Board of India and the respective VC firm websites. Primary data were collected from 72 active VC firms from all major Indian cities (Bangalore, Chennai, Hyderabad, Mumbai, Pune, National Capital Region (NCR), and Kolkata) using the snow-ball sampling method. These 72 VC firms in our sample have contributed to more than 70% of the funded deals during the period between 2010 and 2014 (Venture Intelligence, 2014). The unit of analysis for this study is the individual VC firm. We have consciously covered diverse VC firm segments in this sample as classified by their – Funding stage focus (early vs. later), ownership type (foreign vs. domestic) and the VC firm's Top Management Team (TMT) Composition (*erstwhile* entrepreneurs vs. finance professionals). Studying each of these segments separately will enable us to assess the finer nuances in the strategic decision-making by the VC firms.

To start with, we analyze the Supply (Ss) and the Demand (Dd) components of the Indian VC ecosystem. There are two principal players on the Supply side – Fund Providers (Limited Partners) and Fund Managers (General Partners – VC firms). Similarly, the Dd side of the VC ecosystem comprises fledgling start-ups. On the Ss side, our aim was to understand the underlying factors that influenced the quantum of aggregate fund-raising and the determinants of the fund-raising potential of the individual VC firms (fund managers). On the Dd side, our aim was to probe the underlying factors contributing to the emergence of To start with, we analyze the geographic high-tech start-up clusters. This analysis performed using various statistical techniques (viz. Ordinary Least Squares Regression, Exploratory Factor Analysis and Panel Data Regression) revealed several interesting findings. On the Supply side, we could identify the distinct 'pull' and 'push' factors that had contributed to the emergence of the Indian VC industry. While *pull* factors related to the emergence of India as an attractive investment destination, the *push* factors were the ones that diverted these funds to India due to the waning of other profitable avenues for investment in the developed economies. Moreover, we found that the past performance and reputation of the individual VC fund managers as proxied by their historically funded deals and successful exits determined their fund-raising potential. Most importantly, foreign funds had been the engine of growth for the Indian VC industry. Moreover, unlike the other economies, the Indian stock markets had failed to play any significant role (rather proved to be a significant impediment) in the rise of this industry.

On the Dd side, we found that the start-ups in India were not geographically widespread, but rather had emerged in the form of geographic clusters. A study of this cluster formation revealed that VC certainly was an important driver that had provided a boost to the new economy high-tech start-ups. However, along with it, other factors such as the presence of a *minimum critical mass* (of relevant businesses and human capital) and *relevant infrastructure* for high-tech start-ups (tele-density and incubators) had played a significant role as well. Quite strikingly, we found that core parameters about the local economy such as the SDP growth and physical infrastructure did not seem to have any impact on the emergence of start-ups. However, this does not belittle their importance but rather regards them as minimum given parameters that nevertheless need to be in place for the emergence of vibrant high-tech clusters.

After analyzing the macro aspects, we probed the micro decision-making strategies of the individual VC firms. Here, we systematically researched the three distinct phases in the VC lifecycle – investments, involvement in portfolio companies and exits. Our aim here was to understand the manner in which the VC firms addressed the information asymmetry risks during each stage of their lifecycle. To start with, we analyzed the investment stage. Since tangible historical performance data on fledgling companies was hard to come by, the VC firms were known to extensively rely on tacit signals in their risk assessment of the prospective companies while making investment decisions (Ruhnka and Young, 1991). Further, our conjecture was that the nature of such signals used by the VC firms were unlikely to be uniform but would significantly vary based on the distinct VC firm segment characteristics. Accordingly, we first quantified such 'signals' by subjecting our questionnaire data to the Exploratory Factor Analysis (EFA) procedure. Later, we analyzed how these signals differed across the diverse VC firm segments based on MANOVA analysis. In particular three distinct categories of VC firm segments were analyzed – funding stage focus (early vs. later), ownership type (foreign vs. domestic) and VC firm TMT composition (*erstwhile* entrepreneurs vs. finance professionals).

The results obtained from this analysis of the strategies based on the latent signals revealed several interesting findings. To start with, we found that the VC firms in India rarely relied on *Domain Specialization* as a strategy, mainly owing to the limited depth of the local market for VC deals. The only exception here were the VC firms whose TMTs comprised *erstwhile* founders. Given their own past entrepreneurial expertise in (mainly) high-tech domains, such firms extensively specialized in early-stage investments in high-tech realms. Moreover, unlike the western world, *co-investment with other VC firms (syndication)* was not very a commonly used strategy. Even where used, the intention was merely to enhance the deal size rather than reduce the underlying information asymmetry. Among, the various VC firm segments, only the foreign VC firms were found to extensively rely on *syndication*. In fact, co-investing with the other VC firms and recruiting professionals of Indian origin to head their TMTs were distinct strategies that were deployed by them in order to overcome the information asymmetry arising due to the cultural differences between their countries origin and destination of investments. Moreover, the foreign VC firms also invested in growth and later stage firms since the same were regarded to be informationally more transparent as compared to their early-stage counterparts. Besides, by investing in the growth-stage ventures, they could best leverage their *niche* skills viz. scaling up businesses and granting access to international markets (Devigne et al., 2013).

Further, we found, that certain *institutional* factors played a major role in guiding the VC firms' decisions. In particular, the latter stayed away from investing in *family-owned businesses* since these were believed to be associated with significant corporate governance issues. They also preferred backing only *first-generation entrepreneurs* as they were found to be more receptive to the feedback from the VC professionals. Most importantly, given their past experiences with tackling corruption and other bureaucratic hurdles (in terms of securing permits and licenses), most of the VC firm segments preferred investing in businesses warranting a *limited interface with the government authorities.*

Next, we analyzed the involvement by the VC firms in their portfolio companies. In general, the VC involvement in the investee firm was warranted by the underlying agency risks. Greater the magnitude of the latter, more the involvement of the VC firm (Gorman and Sahlman, 1989; Sapienza, 1992; Gompers and Lerner, 2004). To test this conjecture, to start with, we computed the *VC Involvement Indices* in order to measure the intensity of VC involvement in six distinct domains of the investee firm (Human Resources, Business Operations, Marketing and Business Development, Financial Activities, Strategy and Crisis Management). Further, we classified the VC firms in our sample into three distinct clusters (based on these *indices* of the intensity of involvement) – 'Most Intensely Involved', 'Moderately Involved' and 'Least Intensely Involved' using the *K-Means* clustering algorithm. The results obtained from profiling these clusters indeed revealed that the overall intensity of VC involvement was directly related to the magnitude of agency risks.

Accordingly, the 'Most Intensely Involved' cluster revealed a very high concentration of early stage and high-tech focused VC firms. The high intensity of involvement therein was clearly warranted by the relatively higher levels of information asymmetry that these investee ventures entailed. On the contrary, VC firms with a later-stage focus in their investments and the ones focused on investing in conventional domains were found to be least involved in their funded companies - again owing to the relatively low levels of agency risks. Quite interestingly, the VC firms belonging to the *moderately involved* cluster ranked the highest in terms of the success rate of the funded ventures (i.e. they had witnessed highest number of successful exits historically). We found this result particularly remarkable since it revealed how the magnitude of VC participation and resultant value-add ultimately translated to venture success. Moreover, this finding revealed that the relationship between the intensity of VC intervention and performance of the investee firm was not linear. Over intervention by the VC firm could potentially result in VC – entrepreneur conflicts, while too little intervention could lead to negligible value-add. Thus, an intervention in moderation and that too only in specific chosen aspects of the venture was found to constitute a significant value-addition from the point of view of the investee firm translating to successful exits.

At last, we probed the exit decisions of the VC firms. Our primary conjecture in this regard was that ventures wherein the buyers were better able to resolve the underlying information asymmetries resulted in higher valuations and consequently more *successful* exits. To start with, we categorized the exits via the Initial Public offer (IPO) and Merger and Acquisitions (M&A) routes as *successful* (since only the information pertaining to these exit routes was available to us). The proportion of *successful* exits for each VC firm was computed by taking

the ratio of *successful* exits to the aggregate deals funded by them. The logistic regression procedure was then used to arrive at the likelihood of *successful* exits. The results clearly revealed the relationship between the underlying information asymmetry and the likelihood of 'success'.

To start with, we found that *syndication* (co-investment) significantly enhanced the chances of successful exits. In our opinion, the pooling of the financial and non-financial resources (during co-investment) and its resultant synergies contributed to reducing the magnitude of both - adverse selection and agency risks. Further, it was found that the early-stage investments were associated with lower successes – primarily attributed to the information asymmetries therein, that could not be resolved appropriately. On the contrary, although the investments in high technology domains entailed higher information asymmetry; they still witnessed a higher success rate. This was more or less in tandem with what has been observed the world-over wherein the IPO investors and larger corporates (resulting in M& A deals) have shown a greater appetite for technology firms. Finally, we found that the local VC-entrepreneurial ecosystem had a significant role to play in enhancing the chances of successful exits.

Accordingly, VC firms based out of Bangalore (with one of the strongest ecosystems) had experienced substantially higher proportion of successful exits. The findings from this study have significant policy implications. Some of them are particularly revealing. To start with, we found that the low depth of the market for viable VC deals was an area of major concern for all the VC firm segments. The lack of market depth potentially results in too much money chasing too few deals. Consequently, it leads to a significant over-valuation of the available deals. It has been widely believed in the VC community that currently E-commerce is a highly over-valued sector in India owing to the same reason (VC Circle, 2014). Over-valuation results in high entry level prices and consequently translates into a lower rate of return. Although, the government has made a few efforts to enhance the deal flow (e.g. by facilitating the establishment of more academic incubators), these measures are clearly insufficient. In fact, barring a few, most academic incubators in India are not 'truly' functional i.e. they provide just physical infrastructure but not the other relevant facilities such as access to networks and VC firms (Maita et al., 2008). Another, such channel of viable deals is the university spin-offs (i.e. commercialized version of academic research). However, currently the number of such spin-offs in India is rather limited owing to the stand-offs between the university set-ups and the VC firms (Planning Commission, 2012).

Another important finding is that, although VC is available in India in abundance, a relatively smaller proportion of it is being currently directed into early-stage ventures. In fact, it is such ventures (belonging to the *niche* technology domains) that are responsible for the creation of disruptive innovations. Often, such innovations have *public goods* characteristics wherein the costs are private but the returns public. Naturally, private funds are not too eager to participate in their funding. We envisage a major role for government VC funds in this regard which can step in and bridge the void left by the private VC funds.

Our finding regarding the VC firms shunning businesses with a high government interface is particularly revealing. A lot needs to change here, particularly in the context of facilitating the procedures. Specific problem areas need to be identified and processes for improving the customer experience established. Currently, to start a company it takes on an average just 3 to 6 days in Singapore and the UK but more than 25 days in India (World Bank, 2015). Although, many measures have been proposed in this regard viz. single window clearance, yet the ground reality is quite different.

The most significant policy change is warranted in the arena of facilitating exits of VC-funded companies via the IPO route. Till very recently, it was extremely difficult for the technology focused companies to get listed on the Indian stock exchanges (BSE and NSE). Often these businesses were *top line* based and not *bottom-line* based and hence did not have a historical track record of profitability – which was one of the pre-conditions for listing (SEBI, 2015). Only recently (June 2015), SEBI has proposed setting up of Alternative Capital Raising platforms in this regard.

Our study has interesting managerial implications as well. We found that the VC firms from our sample were hesitant to invest in family owned businesses. Although, on the negative side these could be potentially associated with significant agency risks, on the positive side, it needs to be accepted that such businesses are likely to possess a superior understanding about the local market conditions. Besides, such entrepreneurs are likely to be better networked informally. They are possibly more adept at the informal procedures of navigating the domestic markets. This can be a valuable experience, particularly for some of the foreign VC firms that have only limited ground-level networks in India. Instead of building their networks from the scratch, they can simply piggy-back on such networks. Keeping this in mind, instead of shunning the family owned businesses right away, it might be important to assess if the agency risks could be resolved by putting in place appropriate contracting frameworks.

We also found that the *Moderately Involved* VC firm cluster exhibited the highest proportion of successful exits. From this it may be inferred that it necessary that the VC firms probably should not over-do their 'monitoring' role. It must be understood that there exists a thin dividing line between *intervention* and *interference.* While the former results in value-add, the latter can be a nuisance parameter. Entrepreneurs despise over-interference from their investors. Thus, it is important that the VC firms respect the entrepreneurial sentiments and do not over-step into their territory resulting in conflicts that might ultimately impact venture success. Since successful exits are critical for both the parties, it is important that a healthy distance is maintained between the two.