1

Introduction

Preamble

Venture capital (VC) is regarded as one of the most important financial innovations of the twentieth century. It has emerged as an important source of funding in modern times in particular, because it finances those companies that might not have received funding otherwise (Schwienbacher 2009). It has played a key role in the emergence of new economy industries, resulting in high economic growth (Dossani and Kenney 2002). Some of the world's most visible companies today, such as Intel, Apple, Yahoo, Google, Sun Microsystems, Facebook, or Cisco, would not have probably existed without VC support (Gompers and Lerner 1999). VC has been extremely successful in contributing to the development of innovation, and converting innovation into profitable technologies (Schwienbacher 2009). VC-led innovations are also known to have significant spillover effects on the rest of the economy (Van Pottelsberghe and Romain 2004). In fact, the aggregate impact of the companies funded by VC has been found to be far more important than the size of the VC market itself (Schwienbacher 2009). VC has had a significantly positive impact on short-term as well as long-term employment (Wasmer and Weil 2000).

VC as a source of financial intermediation primarily evolved in the United States. Among others, the advancements in the electronics industry and computer technology in the Silicon Valley are believed to have been the major catalysts contributing to the formalization of the VC industry there (Gompers and Lerner 2004). Later, in the 1990s, the VC industry spread to other parts of the world – Europe, Israel, Taiwan, and the other emerging economies in Asia. In India, VC as a source of funding to be reckoned with emerged only during 2006–7 onwards (Bain Consulting 2012).

Despite its late beginnings, the growth trajectory of the Indian VC industry has been particularly steep. As of the present time, there are more than 900 VC firms operating in India (Venture Intelligence 2019). India has emerged among the most favoured destinations for the allocation of global VC funds, and in 2019

ranked fourth in terms of global VC investments, after US, UK, and China (Ernst and Young 2014). VC has funded more than 10,000 deals since 2005 (Venture Intelligence 2019), and almost all unicorns operating in India as of 2019 have been VC funded (Bain Consulting 2012). Several multinational corporations (MNCs) such as Intel, Qualcomm, SAP, Cisco, and Cipla have set up India-focused funds (Planning Commission 2012). Microsoft, Google, Bosch, Merck, Airbus, and Amazon have set up their own business accelerators to leverage the innovative technologies developed by the Indian start-ups. Moreover, the effort of transnational corporate houses have been supplemented by other Indian industrial conglomerates as well. Accordingly, many domestic business groups such as Reliance, Tata, the Aditya Birla group, TVS, Godrej, Patni, Wipro, and Infosys have established their own asset management arms. The VC backed ventures are known to lead the non-VC backed ones in all the major parameters of economic performance – sales, profitability, wages, exports, foreign exchange earnings, and research and development (R&D) investments (India Venture Capital Association 2011). It has been estimated that venture capitalists in India have the potential to create 2,500 successful new ventures over the next decade (Planning Commission 2012). These ventures are, in turn, expected to create 40 million jobs and generate USD 200 billion in revenues.

It can thus be said beyond doubt that VC has played a very important role in the promotion of entrepreneurial ventures in the Indian economy. Yet it is still not clear how the Indian VC firms operate, and what specific roles they play in supporting as well as growing new ventures in the economy. It is in this context that it is important to take up this study.

Definitions and Concepts

At the outset, it is important to define the major concepts that have been used in this empirical study. This section briefly explains some such concepts that have been extensively used here.

What Is Venture Capital (VC)?

Venture capitalists (VCs) are financial intermediaries between investors and entrepreneurs. However, unlike other conventional financial mediators (namely banks and stock markets), VCs primarily focus on funding newly emerging products, services, technologies, and business models that are potentially ineligible for financing by the traditional sources. The peculiar profile of the VC-funded projects (namely emerging domains, nascent technologies, unstructured business and revenue models, intangible assets, absence of cash flow) give rise to

significant informational asymmetries between the investors and the investee firms (Sahlman 1990; Amit, Glosten, and Muller 1990, 1993; Amit, Brander, and Zott, 1998). Consequently, the presence of such high level of information asymmetry often makes it difficult for these start-ups to raise loan financing from banks. Moreover, the presence of a low equity base and the absence of cash flow make it unsustainable for them to support debt finance from banks. Also, most banks are known to be risk averse and unlikely to lend in the absence of tangible collateral. This is exactly the opposite of what is needed for funding start-ups, especially in the technology domains.

Owing to the underlying information asymmetry, investments in VC-funded businesses are deemed to be extremely risky. To overcome these risks, VC is not merely a financing arrangement but rather an overall partnership with the investee firm wherein the VCs get involved in all aspects of the venture, namely hiring critical human resources, business development, marketing, planning, and strategy. The Planning Commission (2005) defines VC as 'a special kind of financing arrangement; wherein the provision of finance is customized to the needs of the receiver and the skills of the provider and requires close, ongoing face-to-face interaction, i.e., it is not an arms-length transaction with standardized templates for contracts and lender-borrower relationships'.

Thus, VCs essentially invest their funds in start-ups for which they obtain an equity position in the company. However, unlike public equity, these shares are highly illiquid, and thus the VCs need to hold them for several years prior to selling them. Moreover, there exists no ready market for disposing these shares. Furthermore, since most of the investee companies do not generate positive cash flows during the initial years, they do not pay out dividends as well. In fact, the VCs themselves need to create appropriate opportunities for exiting these investments at a suitable time (Schwienbacher 2009).

Stages in VC Financing

The VCs may choose to provide funding for certain selective stages in a venture's lifecycle, or alternatively provide funding throughout. VC funding is often a relay race, with different VCs specializing in diverse stages of investment. Stage specialization is necessitated by the fact that the *niche* risks encountered by each firm are distinctly different for each subsequent stage. The Planning Commission (2005) identifies the following stages of development of investee firms, during which the VCs generally provide capital:

Seed financing: to the technologist/entrepreneur to prove a concept;
Start-up financing: for product development and initial marketing to a few customers;

First stage financing: to initiate commercial production and marketing;
Second stage financing: for expansion to scale;
Later stage financing: for expansion of an enterprise that is already profitable;
Bridge/Mezzanine financing: as a preparation for going public or for buyout/takeover.

Financing at a very early stage is, however, seldom provided by venture funds, and it often comes from friends and family. It also comes from angel investors who may comprise either private individuals, trusts, or even official agencies that provide low-cost seed capital. Of late, in India, several business incubators have been established within the academic set-ups of universities and research institutes with an aim of providing seed-financing and mentoring nascent ventures (Planning Commission 2012). Later stage funding usually comes from the private equity (PE) firms.[1]

The VC Cycle

At this point, it is important to understand the modalities of VC. For this, we need to first understand the VC set-up. The VC set-up is made up of three entities – the limited partners or LPs (providers of funds), the general partners or GPs (investors of funds), and the investee companies. Usually, LPs refer to the group of institutional investors such as pension funds and insurance companies, or other entities such as foundations, corporations, and individual angel investors. The GPs are the fund managers, comprising finance professionals or erstwhile entrepreneurs. The investee companies are the seekers of capital (fledging firms) with ventures in domains that are mostly ineligible for funding from conventional sources. The VC cycle depicting the flow of funds between various entities in the VC set-up has been shown in Figure 1.1.

The GPs, as fund managers, set up an asset management company that pools capital from the LPs having surplus deployable funds and distributes it among seekers of capital, namely entrepreneurs. Most of these funds are close-ended ones, usually having a lifetime of ten years. The entire lifecycle, from fund-raising to exits (from investee companies), must be completed within this period, and the funds returned to the respective LPs (Gompers and Lerner 2004).

The GPs seek their return through capital appreciation on their investments. However, unlike stock market investors, they cannot sell off their portfolio at any

[1] In India there are no formal definitions of VC and PE, although generally it is agreed that investments lower than USD 5 million in companies less than five years old fall under the purview of VC and everything else be classified as PE.

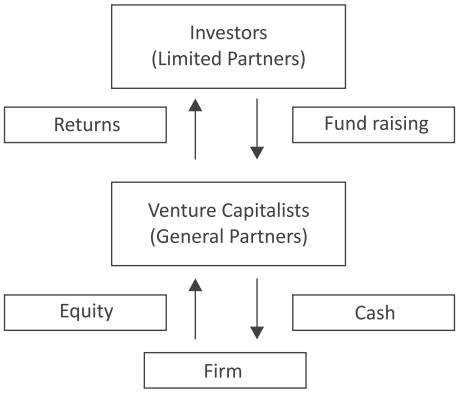

Figure 1.1 The venture capital cycle

Source: Gompers and Lerner (2004).

point of time in the open market, as a readily available market for VC investments most often does not exist. In fact, the VCs need to create liquidation opportunities for their investments when they mature. For their investments, the GPs are usually paid a fixed management fee annually for managing the VC funds. Over and above that, they have a variable component in terms of a specified proportion of the fund's profits. The fixed portion is usually about 1.5 to 3 per cent of the committed capital, or the net asset value and the variable proportion is usually about 20 per cent of the fund profits (Gompers and Lerner 2004). Generally, VC firms look for a return of five to ten times the original investment, but the absolute level of returns depends on several factors, such as the industry and market structure, the stage of investment, and the investment horizon.

Historical Evolution of Venture Capital

VC as a source of financial intermediation has always existed in the world in some form or the other. The decision by Spain's Ferdinand and Isabella to finance Christopher Columbus's voyage of exploration can be considered one of the earliest and the most profitable investments in the history of VC (Megginson 2004). The funding of the East India Company by the merchants in Great Britain could be stated as another such historical example (Brenner 2003).

However, in its current form, VC has been a predominantly American financial innovation (Megginson 2004). Prior to World War II, the source of risk capital for entrepreneurs was either the government (or government-sponsored institutions) or informal investors. However, after World War II, a set of financial intermediaries in the form of VCs emerged on the scene, whose sole activity was investing in

fledgling firms that could potentially achieve a rapid growth with a concomitant capital appreciation (Dossani and Kenney 2002).

Since, the VC industry first emerged in the US and then spread to rest of the world, it is important to understand the underlying conditions that led to its emergence there, and the factors which have contributed to its sustained growth since then. In general, there are three factors that may be considered vital to the success of the VC industry, namely a conducive entrepreneurial climate, a robust exit scenario, and a supportive policy regime.

The US as an economy scores high on each of the three prerequisites of the success of the VC industry. To start with, the US government invested heavily in university-based research from its early days. On the one hand, such cash flows into the top engineering universities (Stanford, Berkeley, the Massachusetts Institute of Technology [MIT], and many others) allowed for rapid research improvements in semiconductors and their applications (in computers, radios, phones, and televisions), and on the other, public funding provided a buffer against failure, which encouraged these universities to undertake further riskier research projects (Anjum 2014). These universities, in turn, provided a steady supply of technology entrepreneurs to the Silicon Valley (Dossani and Kenney 2002). In fact, some of the most well-known VC-funded companies on the planet such as Microsoft, HP, Google, Sun Microsystems, Cisco, Oracle, Intel, and Facebook are known to have been originated by the alumni of such illustrious universities located in the vicinity of the Silicon Valley.

The Silicon Valley is not just a stand-alone hub of entrepreneurs, but rather an entire ecosystem constituting VCs, law and accounting firms, and universities and research centers. As such, job mobility was one of the most significant attributes of the technology professionals in the Silicon Valley, resulting in a constant reshuffling of talent and ideas. This constant churn of knowledge led to a quick failure of obsolete ideas, followed by the rapid emergence of better ones. Such a process, akin to the Schumpeterian *creative destruction* has, over time, contributed to an increasing pool of technology entrepreneurs, which has, in turn, been the key contributor for the success of the VC industry in the US.

After the VC industry became institutionalized in the US, it began to emerge in Europe. Initial VC activity occurred in the late 1970s in the UK and the early 1980s in continental Europe. The VC managers from the US who had moved to Europe in search of profitable investment opportunities were instrumental in setting up the initial VC firms there. In its earlier days, the European VC industry was heavily dominated by banks and corporations; however, over time, the US VC firms started playing a dominant role in this market. In general, compared to the US, the European VC industry is regarded to be more conservative and risk-averse, with a

much lower focus on early-stage deals and technology-sector investments (rather, consumer industry and energy sectors are more prominent there). Of late, Europe has become a major hub for start-ups in the CleanTech and FinTech space – a majority of which are VC funded.

VC in Asia

After the development of the VC industry in the US and its spread to Europe, the industry gradually emerged in Asia during the mid to late 1980s. Among the Asian economies, Israel, China, and India present compelling case studies. China, India, and Israel rank the highest among the Asian economies (in fourth, fifth, and sixth positions respectively) in terms of worldwide deployment of VC funds (Ernst and Young 2014). Moreover, Tel Aviv, Beijing, and Bengaluru are reckoned among the top ten start-up capitals of the world (Anjum 2014).

Among these, Israel's story is particularly intriguing. Senor and Singer (2009) have investigated the trillion-dollar question: 'How is it that Israel – a country of 7.1 million people, surrounded by enemies, in a constant state of war since its founding, with no natural resources – produces more start-up companies than large, peaceful and stable nations like Japan, India, Korea, China, Canada and UK?' According to the authors, the most significant contributing factor for this phenomenon is the presence of a resilient entrepreneurial culture. Israel specializes in high-growth technology entrepreneurship aimed at commercializing radically innovative ideas. Culturally too, there is a lot of social prestige associated with entrepreneurship, and that prompts many young Israelis to launch high-technology start-ups. Moreover, a business failure is not perceived as a stigma; rather, it counts as an important *experience* on the curriculum vitae (Senor and Singer 2009).

The Israeli government created a government-funded organization, Yozma (meaning initiative), in the early 1990s. Yozma essentially was a fund-of-funds, which received USD 100 million from the government. It invested USD 8 million in ten funds, which had to be augmented with USD 12 million each from foreign VC firms. These sibling funds have formed the backbone of the Israeli VC industry (Dossani and Kenney 2002). After this initial thrust from the government, public support became less significant (by the late 1990s) and the institution of VC became self-sustainable based on private sources of funds alone. These ten Yozma funds created between 1992 and 1997 were later bought out or privatized, and today manage nearly USD 3 billion of capital and support hundreds of new Israeli companies (Senor and Singer 2009).

Right from their inception, exits had never been a bottleneck for VC-funded Israeli start-ups. They were never constrained to list on the Tel Aviv stock market

alone, and as such, have been listing on the National Association of Securities Dealers Automated Quotations (NASDAQ) since the 1980s (Dossani and Kenney 2002). As a nation, Israel has more start-ups listed on NASDAQ than those from Europe, Korea, Japan, Singapore, China, and India combined (Senor and Singer 2009). Acquisitions by larger companies in the US is another prominent channel of exiting the VC-funded companies in Israel. In fact, this is the key reason that explains why, despite its innovation-focused entrepreneurship, Israel does not have big brands (Anjum 2014).

Among the worldwide historical origins of VC, China's story is particularly interesting since China is primarily a communist country while VC may be regarded a through-and-through capitalist innovation. However, over time, China has emerged as the topmost destination for VC investments in Asia (Ernst and Young 2014). More intriguing is the part that this feat has been attained in a matter of just one decade (Anjum 2014). To get an insight into this conundrum, we feel that it is important to study the origins and growth of the Chinese VC industry.

Historically, the emergence of VC in China may be attributed to both *pull* and *push* forces. While *pull* forces are the ones arising from the attractiveness of China as the prominent investment destination, *push* forces are the ones that direct more capital to China – mainly owing to its better performance in sheer relative terms. Prima facie, it appears that at least initially it was the push factors that played an important role in the Chinese context (Dauterive and Fok 2004). In the years following the dotcom bust in the US, the VCs there were reluctant to support technology firms in the Silicon Valley, and instead, looked eastwards for other profitable destinations. China, with its robust growth rates, availability of talent pool, and increasing openness to trade was seen as a potentially viable opportunity then. This also corresponded with the accession of China to the World Trade Organization (WTO) in 2001. In fact, this was viewed as a signal that China was soon going to be an integral participant in the global marketplace in the twenty-first century.

Although initially it was the *push* forces that dominated, the *pull* factors soon took over, guided by a number of positives that worked in China's favour. Compared to America (with 254 million internet users), China has over 632 million internet users (that is, over 44 per cent of the Chinese population), and as of 2013, there were about 700 million active smartphones in China (TechCrunch 2014). Thus, it should not be surprising that most Chinese start-ups are based in the mobile-led technologies and Internet-led consumer businesses (Anjum 2014). The talent pool available in China has been one of the most important factors that has worked in China's favour.

Figure 1.2 shows a map representing the ranking of global cities by the number of VC-funded companies hosted by them.

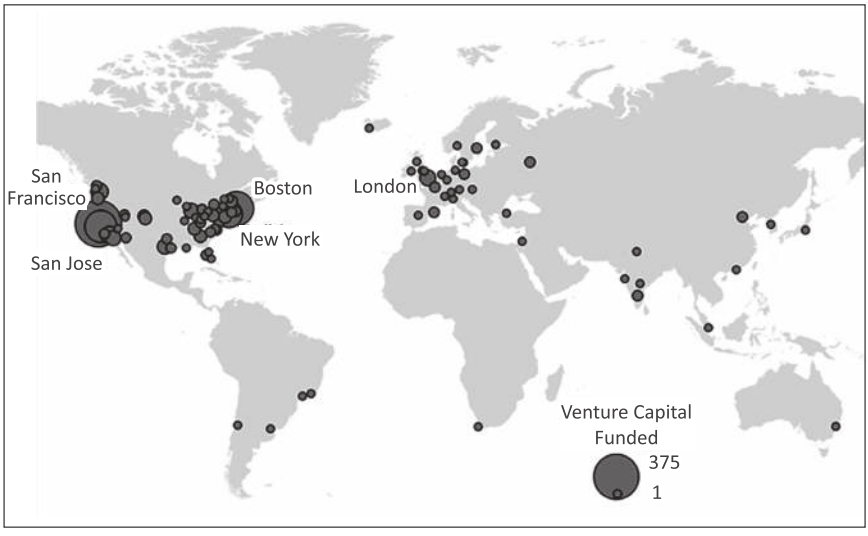

Figure 1.2 Global concentration of VC funded companies
Source: SeedTable.com (2013).

In Figure 1.2, the bigger the size of the dot, the greater is the concentration of VC-funded companies. Quite naturally, San Francisco, San Jose, Boston, and New York have the highest concentrations. Among other cities, London now ranks at the very top tier of VC-funded start-up cities, while Toronto and Vancouver in Canada; Berlin, Paris, Amsterdam, Dublin, Madrid, and Barcelona in Europe; Tel Aviv in the Middle East; Bangalore, New Delhi, and Mumbai in India; Beijing and Shanghai in China; Singapore and Sydney in the Asia Pacific region; and Buenos Aires and Rio de Janeiro in South America – each has significant clusters of start-up activity (SeedTable 2013).

To summarize, we have observed that the world over, there have been three essential prerequisites contributing to the origin and sustained development of the VC industry, namely positive entrepreneurial climate (including entrepreneurial-VC ecosystem), ease of exit from VC-funded companies (particularly in terms of exiting via the initial public offering [IPO] route), and regulatory policies that facilitate the supply and the demand sides of the VC markets. Across all countries, the government has invariably played a significant role in nurturing the VC industry, – although the nature of its intervention varies with the stage of development. During the initial phases, the government's role is more direct (in terms of making seed-capital available), while at the later stages it is more facilitative in nature (establishing conducive environment for VC investments).

Venture Capital in India

Having discussed at length the progress of VC across the world, it is now time to discuss its evolution in India. We start this section by providing a background of the Indian socio-political and economic scenario that prompted the emergence of VC. This is followed by a discussion about evolution of the VC industry in India and the relevant policies impacting the same. Finally, we throw light on the current state of VC in the Indian economy and highlight the major challenges ahead.

Since Independence, democratic polity and a socialistic ideology have been the cornerstones of the Indian economy. Although, historically, India has had a rich culture of private enterprise, the idea of 'building business to sell' was still a relatively new concept. In fact, most of the older businesses were built with the purpose of bequeathing them to the next generation (Planning Commission 2012).

In the early years, despite facing severe resource constraints, the Indian government had exhibited the vision to invest in education, which resulted in the establishment of prestigious engineering and business schools in the form of Indian Institutes of Technology (wherein the curriculum was modelled on the lines of the prestigious MIT in the US) and Indian Institutes of Management. The main aim of these institutions was to make India self-reliant in terms of technical and managerial skills (Dossani and Kenney 2002). However, job opportunities in India failed to keep pace with the quantum of technical personnel graduating out of these schools, and soon many students were obligated to migrate overseas in search of better employment opportunities. Those who stayed in India were employed in either government jobs, large conglomerates, or family businesses. Thus, a large pool of capable engineers and scientists were available in India who were substantially underpaid (Dossani and Kenney 2002).

India's financial system was quite sophisticated compared to the other emerging economies of that period (Dossani and Kenney 2002). Historically, the country had a deep network of banks – most of them state-controlled. However, a large section of these bank managers were not proficient finance professionals; rather, they were civil servants with a background in bureaucracy. This culminated in a risk-averse lending culture within the banking system.

Socially, there was a large stigma associated with business failure, which deterred educated professionals from taking on risks by starting new ventures. Moreover, with the guarantee of lifetime employment provided by the government-owned organizations, such risks were further deemed unnecessary. To add to that, most financial intermediaries were either hesitant or were legally prohibited from providing capital to the fledgling entrepreneurial firms – particularly those that were technology based (Dossani and Kenney 2002). To sum up, despite having a talented pool of technology personnel and a robust financial system, technology