

# Venture Capital and Private Equity in India: Systems Analysis and Development Framework

By

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in Partial Fulfillment of the Requirements for the Degree of

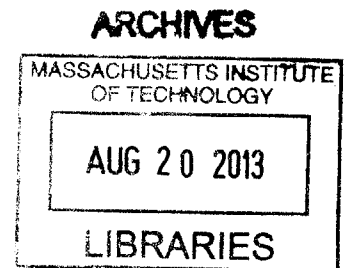
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## ABSTRACT

Venture Capital (VC) has been an important driver of innovation, entrepreneurship and economic growth in the U.S. and around the world for the past few decades. The astounding success of Venture Capital prompted various countries' attempts to emulate the U.S. model and create an indigenous venture capital industry. Several attempts are being pursued to emulate this success and create an indigenous Venture Capital industry in India. This thesis examines efforts to create a Venture Capital and Private Equity industry in India and the various factors that influence this process.

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MIT's System Design and Management (SDM) program provides a unique systems approach to designing and developing large-scale systems and solving complex challenges in product design, development and innovation. The last two years of my journey at MIT SDM not only gave me the ability to do that, but also enabled me to apply systems thinking to solve a multitude of business issues. This thesis is a result of such application.

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## **1. Introduction**

Venture Capital (VC) has been an important driver of innovation, entrepreneurship and economic growth in the U.S. and around the world for the past few decades. New technological innovations fueled by availability of capital and other resources were not only able to create substantial economic value, but also rewarded entrepreneurs handsomely and generated high returns for VC investors.

In addition to funding, Venture Capitalists play a critical role in nurturing fledgling innovative companies in communication, software and medical technology by providing contacts, advice and through operational expertise. Venture Capital has been identified as the key drivers of innovation and is largely credited with the success of entrepreneurial ventures.

In the eighties these efforts resulted in establishing giant companies such as Cisco, Intel, Microsoft, FedEx and Genentech. Between 1995-2009, professional Venture Capitalists have invested approximately \$430 billion in 20,000 companies. Some remarkable companies have been created during this period, including Yahoo, Google, Juniper Networks, Skype, eBay, and Facebook. There have also been some notable flops like Webvan, Pets.com and Segway<sup>1</sup>.

In the U.S. the government played a significant role in the development of venture capital. Factors such as sound monetary and fiscal policies ensuring relatively low inflation, favorable capital gains tax policy created a favorable macroeconomic environment. Open and vibrant capital markets and established stock markets provided exit strategies for venture capitalists and created an environment where both innovation and the financing of innovation could thrive. Government and industry sponsored research at universities, such as MIT and Stanford played a



critical role in innovation and helped creation of innovation eco-systems and entrepreneurial clusters in the Cambridge and Silicon Valley respectively

The astounding success of Venture Capital prompted various countries' attempts to emulate the U.S. model and create an indigenous venture capital industry. Most notable of these are the Israeli and Taiwanese venture capital industries. Both nations have similar characteristics in that, they have close relations with the U.S. and also have sizable number of their citizens living in the U.S. Despite the similarities, the nature and form of technological development and innovation in both countries differed significantly. In both countries, national governments played a significant role in establishing and nurturing venture capital industry and enabling innovation.

Several attempts are being pursued to emulate this success and create an indigenous Venture Capital industry in India. This thesis examines efforts to create a Venture Capital and Private Equity industry in India and the various factors that influence this process. We will also look at how the industry compares to those in more mature markets such as the US and Europe, and highlight the key areas to focus to ensure sustainable growth.

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<sup>1</sup> William A.Sahlman "Risk and Reward in Venture Capital"

## **2. VCPE in India**

The concept of Venture Capital (VC) and Private Equity (PE) is very recent in India as compared to other countries like USA, UK, Europe, Israel, Taiwan etc where it has been in existence for many years. In the absence of venture capital firms, individual investors and development financial institutions have played the role of venture capitalists in India. Entrepreneurs have largely depended upon private placements, public offerings and lending by financial institutions.

### **2.1. Phase 1: Early Stage**

The earliest discussion of venture capital in India came in 1973, when the government appointed a committee to examine the strategies for fostering small and medium-sized enterprises. The committee on “Development of Small and Medium Enterprises” highlighted the need to foster venture capital as a source of funding innovative ventures and new technologies.

In India, the development of venture capital industry as well as the information technology (IT) industry is intertwined with the liberalization of the country’s economy – a process which began in 1980s under the leadership of the then Prime Minister Rajiv Gandhi and gained significant momentum in 1991. The first formal venture capital organization began in the public sector in the 1980s. In 1984, The Industrial Credit and Investment Corporation of India (ICICI) decided to allocate funds for venture capital type activity<sup>4</sup>.

Later, a study was undertaken by the World Bank to examine the possibility of developing venture capital in the private sector, based on which the Government of India took a policy initiative and announced guidelines for venture capital funds (VCFs) in 1988.

However, these guidelines really were aimed at allowing state controlled banks or the financial institutions to establish VCFs or venture capital subsidiaries. The most important feature of the 1988 rules was that VCFs received the benefit of a relatively low capital gains tax rate and they were also allowed to exit investment at prices not subject to the control of the Ministry of Finance's Controller of Capital issues.

In 1988, the first venture capital organization, Technology Development and Information Company of India Ltd. (TDICI) was established as a joint venture between ICICI and the state-run mutual fund Unit Trust of India (UTI). TDICI has decided to run its operations from Bangalore, as Indian software firms such as Wipro, Infosys were based in Bangalore and also because of an earlier Indian government decision to establish Bangalore as the national center for high technology.

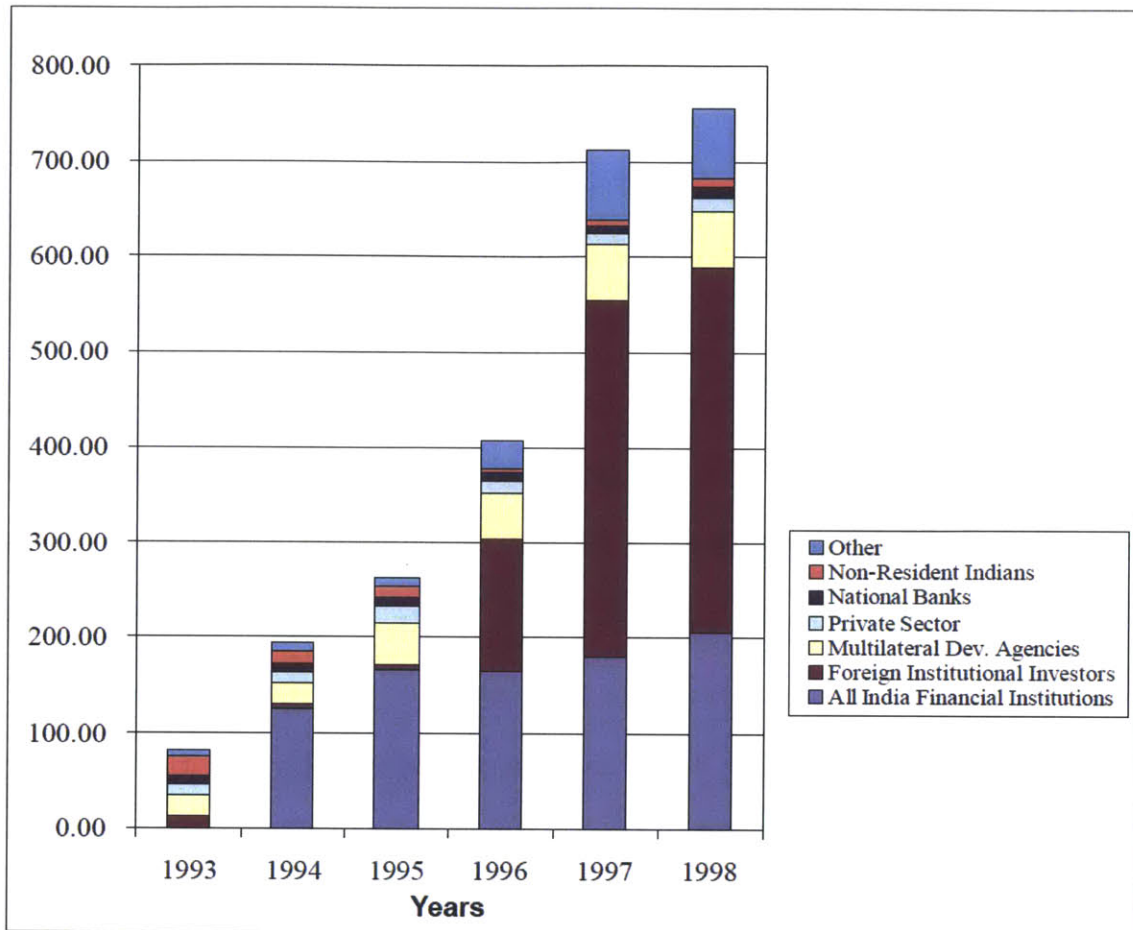
State governments have setup regional venture capital funds with the help from World Bank. A venture fund in Hyderabad was setup by Andhra Pradesh government as a subsidiary of AP Industrial Development Corporation (APIDC), followed by Gujarat Venture Finance Limited (GVFL) setup by Gujarat government. The only bank-operated venture capital fund, CanBank Venture Capital Fund (Canbank) was setup in Bangalore as a subsidiary of the nationalized Canara Bank. All of these firms had modest success. Due to the unfriendly Policy & Regulatory framework, there was no major VC activity until the mid 1990s.

## **2.2. Phase 2: Early Growth Stage**

The Information Technology (IT) revolution started in India after the financial reforms of 1991, although the seeds for this industry were sown in the early 1960s, when technical professionals from India sought jobs in Western countries<sup>3</sup>. Demand from the United States attracted a number of skilled science and engineering graduates to migrate to the U.S. and with the ‘microchip’ revolution in the US in the 1990s , the success of Indian entrepreneurs in Silicon Valley became more visible. This led to the notion in the U.S. that such innovation could be enabled in India and subsequently increased entrepreneurship and venture capital activity in India.

Non Resident Indians (NRIs) from Silicon Valley played an important role in this transformation. Noted NRI Vinod Khosla and successful Venture Capitalist Bill Draper made attempts to develop investment opportunities in technology businesses in India. These efforts lead to increased investments in India after 1995 by Foreign Institutional Investors (FIIs) and venture capital funds raised abroad, more often composed of NRI investors. Figure 1 clearly shows that after 1995 there is a significant increase in FII investments.

Figure 1: Capital under Management by the Indian Venture Capital Industry by year in U.S. \$ Millions



Source: Indian Venture Capital Association, various years.

Figure 1 Capital under Management by Indian VC Industry by year in U.S. \$Millions

(Source: Rafeeq Dossani, Indian Venture Capital Association)

### 2.3. Phase 3: Growth stage

In 1999, the Securities and Exchange Board of India (SEBI), setup a committee on VC, headed by K.B.Chandrasekhar, an Indian entrepreneur from Silicon Valley and other experts from India to provide a global perspective on Venture Capital. Based on recommendations of this

committee, guidelines for Overseas Venture Capital investments in India were withdrawn and later in September 2000, SEBI was made the nodal regulator for VCFs and provided a uniform, hassle free, single window regulatory framework with a focus towards increasing Venture Capital activity.

In July 2006, the 'Committee on Technology Innovation and Venture Capital' was constituted by the Planning Commission to examine issues related to technology innovation and policies for growth in venture capital activity in India. This is a very important report as it differentiated between 'Venture Capital' & 'Private Equity' and also summarizes the factors under which risk capital would flourish. The report stated "Venture capital funding is special; but it must be seen as part of a spectrum of funding that an enterprise may tap at different stages of its life cycle. An enterprise financed by a VC fund may have obtained some initial funding from family and friends or from an angel investor. It may at a later stage be financed by a private equity fund"<sup>2</sup>. The report further states "The effectiveness of a venture funding system depends on this entire range of options for capital finance. Thus without an adequate system of funding at the very early seed stage the deal flow for venture capital may be sparse. At the same time the availability of early stage venture funding will depend on the exit options made possible by strong private equity funds and a healthy stock market"<sup>2</sup>.

Dr.Rafiq Dossani of Stanford University and a member of the committee has compiled the history of the risk capital in India in his study "Accessing Early-Stage Risk Capital in India"<sup>5</sup>. This report gives a picture of Venture Capital and Private Equity operations in India in 2006. The study shows that the availability of capital sharply increased after 1998 following the general Internet bubble in the silicon valley and elsewhere. After the end of the Internet boom, the

activity reduced in early-stage financing and the activity shifted to development and Growth equity, signaling reduced risk appetite among institutional investors.

**Table 5 : Phases of Growth of Indian Risk Capital**

	<b>Phase I</b>	<b>Phase II</b>	<b>Phase III</b>	<b>Phase IV</b>
	<b>Pre-1995</b>	<b>1995-97</b>	<b>1998-2001</b>	<b>2002-2005</b>
<b>Total Funds: (\$ m)</b>	30	125	2847	5239
<b>Number of Funds</b>	8	20	50	75
<b>Primary Stages and Sectors</b>	Seed, Early-stage and Development – Diversified	Development – Diversified	Early-stage and Development – Telecom & IT	Growth/Maturity – Diversified
<b>Primary Sources of Funds</b>	World Bank, Government	Government	Overseas Institutional	Overseas Institutional
<b>Seed/early-stage (\$ m)</b>	5	15	657	250
<b>Number of Transactions</b>	10	20	273	58
<b>Development (\$ m)</b>	25	110	2168.1	3107
<b>Number of Transactions</b>	20	45	273	288
<b>Growth/maturity (\$ m)</b>			21.9	1882
<b>Number of Transactions</b>			2	100
<b>Total Number of Transactions</b>	30	65	548	446
<b>Average Investment (\$ m)</b>	1	2	5.20	11.75

*Sources: TSJ Media, IVCA publications and estimates (various years).*

Figure 2 Phase of Growth of Indian Risk Capital

(Source: Rafeeq Dossani, TSJ Media, IVCA publications and estimates)

The study by Dr. Dossani also suggests “India does not have networks as powerful as Silicon Valley or even China. Spin-offs from large firms and university research, for example, are rare. While the India-US (particularly Silicon Valley) corridor is growing, it does not yet match the China-US corridor, thanks in large part to the mediation provided by Taiwanese engineers and

capital, which is of longer standing and is even an important source of capital for Silicon Valley startups. China's location has made it a focal point for investment by firms in Japan and Korea, apart from Taiwan and Singapore. China's dense social networks and manufacturing relationships with engineers, entrepreneurs and VCs in Taiwan, Korea and Japan induces early-stage investment for onward supply to intermediate and final goods producers in East Asia. India, by contrast, though well-linked with Silicon Valley does not have multi-country supply-chain relationships with the rest of Asia.”

#### **2.4. Present & Future**

The Indian economy has been growing at the rate of 7%-8% a year, and the knowledge, technology and manufacturing sectors have been growing at a much faster pace. Venture Capital activity has also been increasing in sectors like IT-ITeS, health care, telecom, Biotech and Media and Entertainment. According to NASSCOM, there were 160 active VC funds operating in India by 2008. From the data presented in the Bain India private equity report, it can be seen that there has been renewed interest in investing in India with CAGR of 23% between 2004-2009 and CAGR of 111% between 2009-2010.



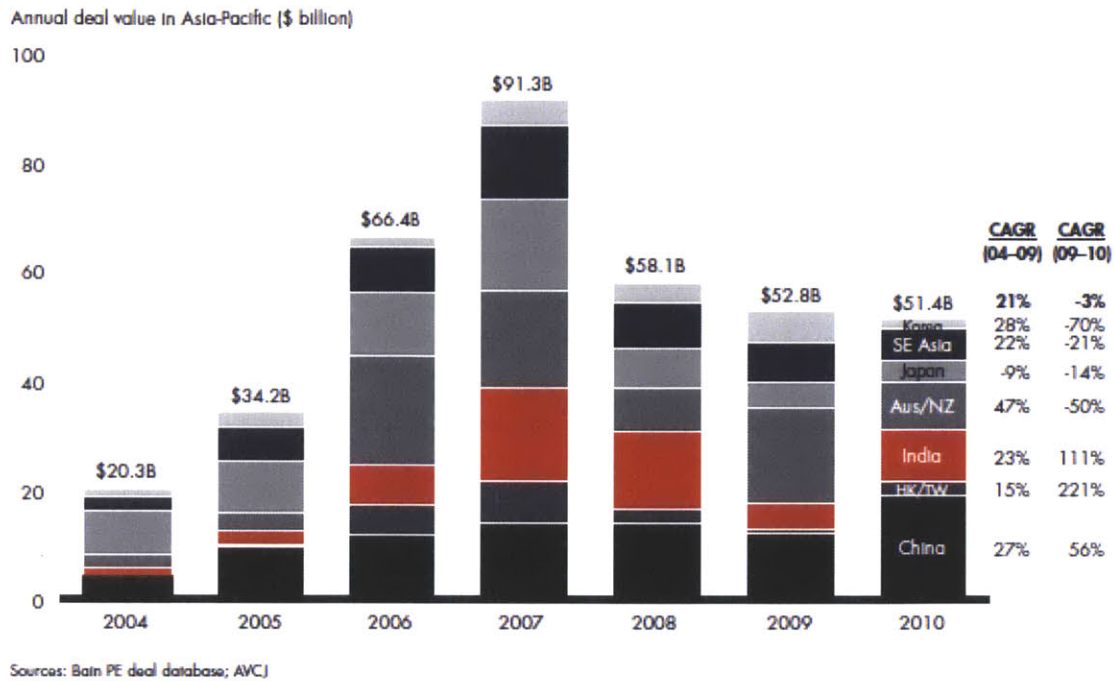


Figure 3 Deal Values in India during 2004-2010 (Source: Bain India Private Equity Report 2011)

VC & PE industry not only recovered from the 2008 financial meltdown, but there has also been a rebound in the activity. PE activity in India and other emerging markets also recovered along with the recovery in developed economies. According to Bain Private Equity report 2011 “With India’s growth pegged at around 8.7% over the past year on the back of increased consumer and public infrastructure spending, the confidence of global investors in India’s long-term prospects has strengthened. Including real estate, venture capital and PE investments in the infrastructure, deal values in the Asia-pacific markets rose to US\$51.4 billion in 2010, approximately 20 percent of which was invested across 380 deals in India”.

VC & PE industry has recorded impressive growth in India over the past decade and the projected economic growth of about 6% a year for the next five years presents tremendous opportunities

for growth in this sector. However, several factors are affecting this growth including regulatory, entrepreneurial activity and other macroeconomic factors that are essential prerequisites for the VCPE industry to fully realize its potential.

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<sup>2</sup>*Report of the committee on Technology Innovation and Venture Capital* Government of India Planning Commission New Delhi

<sup>3</sup>Vishal Kumar, 2011, “Software Industry in India: Product and Intellectual Property Focus”

<sup>4</sup>Source: Wikipedia

Accessed at [http://en.wikipedia.org/wiki/Indian\\_Venture\\_Capital\\_Association](http://en.wikipedia.org/wiki/Indian_Venture_Capital_Association) Last accessed 5/15/2012

<sup>5</sup>“Accessing Early-Stage Risk Capital in India” – Rafiq Dossani, Asawari Desai

### **3. Venture Capital Cycle**

Throughout the thesis we use the term “Venture Capital” and “Private Equity” interchangeably, to refer to the class of alternate investments that consists of Early Stage funds (Venture Capital), Growth Stage (Venture Capital & Private Equity) and buyout funds (Private Equity and LBO funds) .

In order to understand the VCPE industry features and the factors that affect its inception and growth, it is important to know what VCs & PE investors do.

#### **3.1. Fund Raising**

Before the Venture Capital firm invests money in a company, it needs to raise the capital. Investors in Private Equity funds include both institutional investors and active investors such as Pension Funds, Endowment Funds, Hedge Funds and Sovereign Wealth Funds, as well as individual investors or passive investors such as High Net worth Individuals and successful Entrepreneurs. Most of the funds have a long lifetime of 7 to 10 years with a specific focus area such an industry sector or geography.

The Private Equity industry is similar to other alternate investment industries such as Hedge Funds and Mutual Funds, in that money follows success, with the most successful firms able to generate larger funds. As Private Equity is a risky asset class, regulations in some countries, including India, restrict pension funds and mutual funds from having exposure to these risky bets. More recently, few private equity firms such as Blackstone group have also raised the money from public markets.

### **3.2. Generation of Deal Flow**

General Partners in a typical Venture Capital firms make two or more investments every year, and typically for every deal made, there are hundreds of potential deal opportunities that are screened. GPs and their reputation play a key role in generating such a huge amount of deal flow. Sources for deal generation are friends and family, contacts in industry from prior technical or managerial experience and professional contacts developed as a Venture Capitalist, including attorneys, students from business and engineering schools etc. The reputation of the GP as well as the firm also play a critical role, as VCs not only provide financial capital but also reputation capital.

### **3.3. Due-diligence**

Venture Capital firms typically use a framework that has a set of investment criteria to evaluate potential investment proposals. The investment criteria may include industry sector (Technology, Internet, Healthcare, Biotech etc.), geographical area (East Coast, West Coast, New York City, Israel, China, India, etc.), size/stage of the deal (Early stage or Growth Stage, Funding size \$1MM - \$20MM, etc.). Due-diligence involves evaluation of market opportunity for the products, technology based on which products are made, marketing, distribution and sales channels (sometimes interviewing customers) and ability of the management team to execute on the plan. These sets of fundamental criteria help the firm assess the attractiveness of the investment opportunity and identify potential risk factors. This part of the due-diligence is conducted by Investment Associates and used to decide if the deal requires further attention.

### **3.4. Valuation & Deal-Structure**

Valuing the investment opportunity (i.e. price per share multiplied by total number of shares outstanding) and structuring the investment terms is the most important stage in the overall venture capital investment process. VCs arrive at a valuation based on their due-diligence process which includes assessment of technology, market size, product penetration rate and management capability and based on the Internal Rate of Return (IRR) required to justify the investment. Often times the assessment of VCs and Entrepreneurs do not match and, deal structure including valuation, employee stock option pool, liquidation preference, anti-dilution provision, etc. are some of the most important negotiating points.

### **3.5. Add Value**

The most important contribution Venture Capitalists do post financing is to build great companies out of their portfolio of companies. One critical area of VCs help is deploying the capital, planning and helping in raising additional rounds of financing, either through participation or by identifying and bringing in other investors. The second important area is helping the company develop a strategic focus and helping implementation of the strategy. Monitoring management performance, identifying the human capital requirements in marketing, sales and provide a rich pool of candidates from their own networks is another important area of VC involvement.

### **3.6. Exit deals**

The process of taking portfolio companies public is very important for both the entrepreneurial firms as well as for investors. There are two avenues to liquidate the investments and exit the

deal: initial public offering (IPO) or sale of the company to a strategic investor. IPO offers the opportunity for investors to exit part of or full investment, and also provides the company to raise additional capital that may be required to sustain growth. Multiple factors affect the IPO decision such as strength of company products, market penetration and also based on market conditions. Sometimes the exit opportunity is created when a large company wants to acquire the entrepreneurial firm for its technology or for entering a new market or for synergies.

VCs help the portfolio companies go public, by determining the opportunity-based market conditions and bringing in Investment bankers interested in the company to complete an Initial Public Offering (IPO).

## 4. VCPE Industry Factor Analysis

The following causal model for VCPE industry behavior has been developed based on publicly available information, books and other relevant literature.

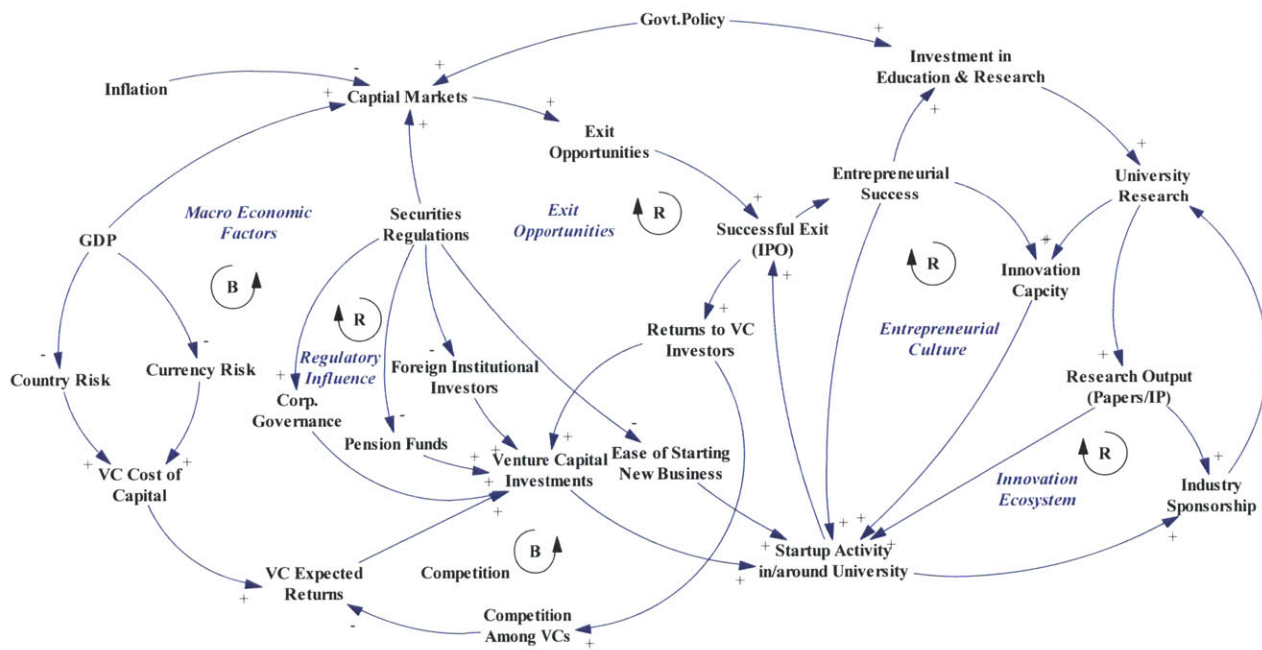


Figure 4 System Dynamics model for VCPE Industry





list some of the most important, the U.S. government generally flowed sound monetary and fiscal policies ensuring relatively low inflation; as a result, the financial environment and currency were stable. U.S. tax policy, though it changed repeatedly, has been favorable to capital gains, and several decreases in capital gains taxes may have had some positive effect on the availability of venture capital (Gompers 1994). The stock market, which has been the exit strategy of choice for venture capitalists, has been strictly regulated and characterized by increasing openness. This has created a general macroeconomic environment of financial stability and openness for investors, thereby reducing the external risks of investing in high-risk firms. Put differently, an extra set of environmental risks stemming from government action was minimized- a sharp contrast to most developing nations during the last 50 years”.

The recent increase in VCPE activity in developing countries is also closely related to the economic reforms in these countries since the 1990s as these countries embraced capitalist economies based on open market policies. World bank and International Monetary Fund (IMF) have been playing a greater role in developing entrepreneurship in the developing countries through the financial reforms.

## 4.2. Exit Opportunities

As mentioned in section 3.6, the two ways Venture Capitalists exit their investments in an entrepreneurial firm are by sale to a strategic or financial buyer or through an Initial Public Offering (IPO). Even though multiple exit options exist, it has been often noted in several studies on Venture Capital and Private Equity, that the process of going public is the most rewarding exit opportunity.

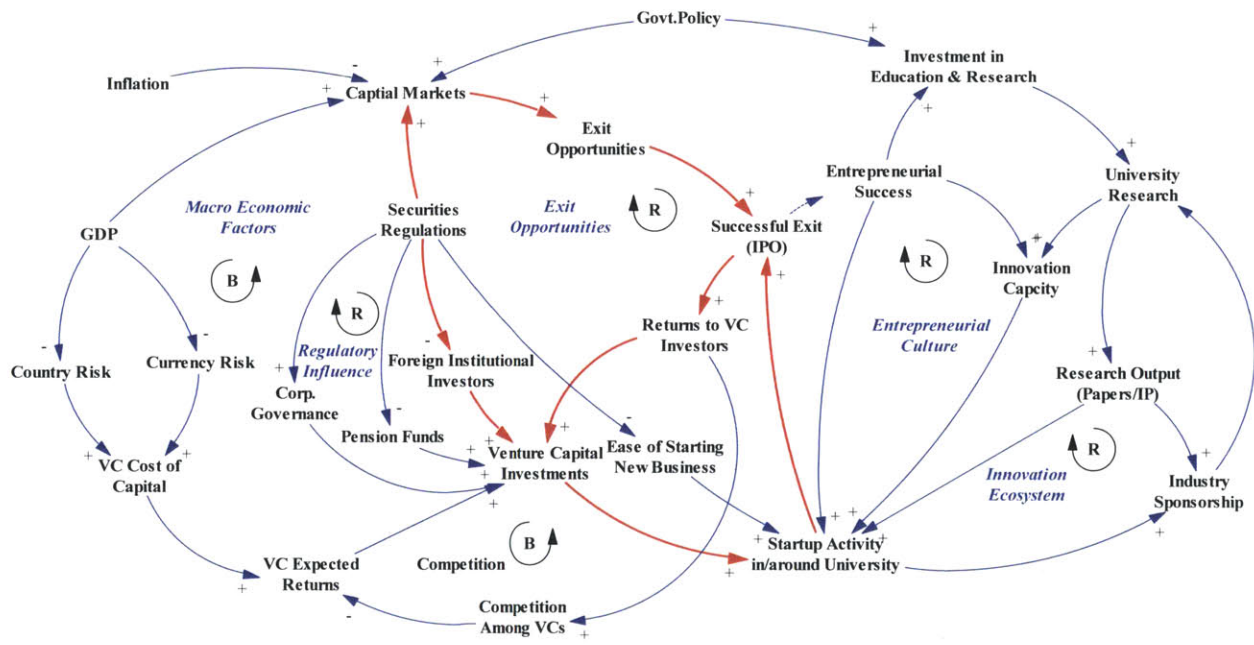


Figure 6 Exit Opportunities Loop

William Sahlman<sup>1</sup> notes that: “One clear pattern over the past 30 years has been that the greatest returns on individual ventures have come when those companies have been able to go public”. He further notes that “Typically, though not always, returns are lower when strategic or financial buyers acquire portfolio companies. To illustrate, the average post-IPO valuation applied to venture backed firms over the period from 1995-2009 has been 3.65 times the average valuation

in merger and acquisition transactions of venture backed companies”. Based on the collected data he observes that, “In a sample of 100 realized venture capital payoffs (from 1983 to 2009), the average payoff for investments that went public was 9.4 (median of 8.0), as compared to 2.9 (median of 0.9) for companies sold to strategic buyers (not liquidated)”.

A well developed capital market is essential to take a private company public. Black and Gilson<sup>2</sup> argue “a well developed stock market that permits venture capitalists to exit through an Initial Public Offering (IPO) is critical to the existence of a vibrant venture capital market”. Although portfolio firms from other countries opportunities to go public on NASDAQ have increased, as North American venture capital organizations are actively making investments in developed countries, there seems to be a strong relation between the domestic capital markets and the growth of venture capital activity in that country.

In the United States, during the past two decades, the fund raising by Venture Capitalists closely followed the boom and bust in the stock market. This pattern can be clearly seen very recently in the mid 1990s, leading up to the Internet IPO boom of 1999-2000, which was followed by the record-breaking fundraising by VCs, specifically targeted towards this sector.

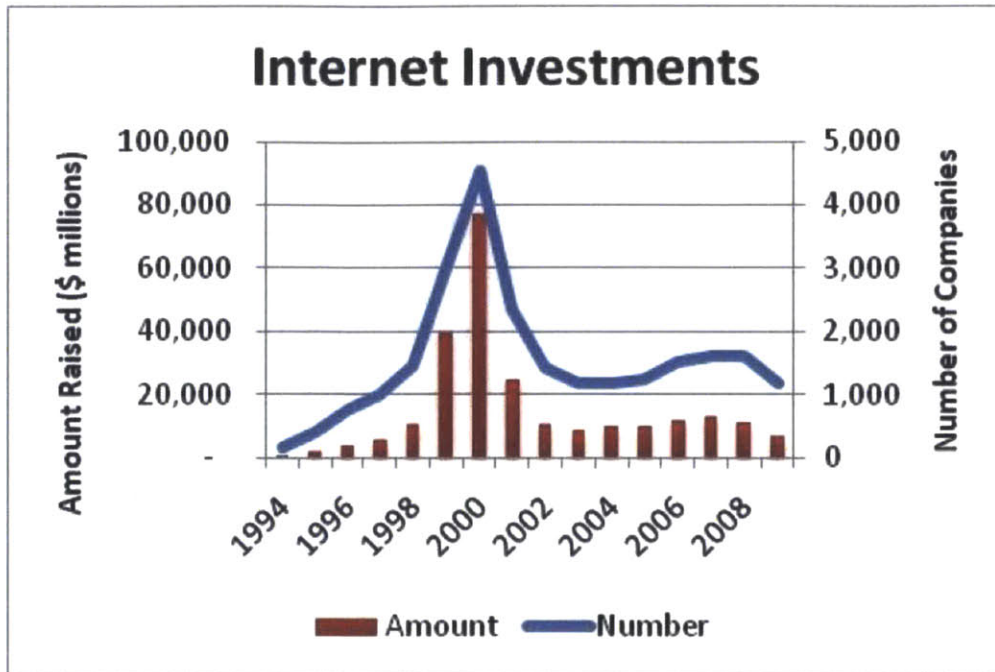


Figure 7 Investment in Internet Companies 1994-2009 (Source: William Sahlman<sup>1</sup>)



Certain environments contain an array of factors which enhance the motives to start a business and enable its success. These set of factors are referred to as *entrepreneurial ecosystem*. Silicon Valley in California and Cambridge (Kendall/MIT) area in Massachusetts are two great examples that have become the “gold standard” in entrepreneurship ecosystems. Both these ecosystems offer all the factors mentioned above that are required for entrepreneurial success, including technology, availability of financial and human capital, a number of incubators and startup accelerators, and innovative culture.

Both the Silicon Valley and Cambridge entrepreneurial ecosystems evolved over a long period and under unique sets of circumstances. Daniel Isenberg<sup>3</sup> states about the Silicon valley that “Its (Silicon Valley’s) ecosystem evolved under a unique set of circumstances: a strong local aerospace industry, the open California culture, Stanford University’s supportive relationships with industry, a mother lode of invention from Fairchild Semiconductor, a liberal immigration policy toward doctoral student, and pure luck, among other things. All those factors set off a chaotic evolution that defies definitive determination of cause and effect”.

Similarly the Cambridge area ecosystem evolved with the strong presence of MIT and its research, innovations and inventions arising out of its research facilities, MITs extensive entrepreneurial resources and a strong culture of the Institute supporting entrepreneurship enabled creation of hundreds of Technology, Internet and Bio-tech companies and established the Cambridge area ecosystem.

Venture Capital firms, similar to the entrepreneurial ventures they finance, have also followed the same pattern and evolved in two distinct ecosystems. The first Venture Capital ecosystem is located in Menlo Park, California, right in the heart of Silicon Valley. Andrew Metric<sup>4</sup> mentions

about the agglomeration of VC activity in Menlo Park and notes that, “Menlo Park is the center of the VC universe, with about 60 VC firms, more than 80% of which – including all eight on our list-have their offices on one street: Sand Hill Road”. Metric goes on to say that “the agglomeration of VC activity demonstrates a phenomenon that economists call “local network effects”, where firms in the same industry co-locate to take advantage of (and thus add to) the benefits of that local human capital and other shared resources”. Metric points to similar local network effects in the East coast United States in Waltham, Massachusetts, “which lies within the second-largest VC agglomeration in the world: the Route 128 corridor around Boston”. This demonstrates that the local network effects remain an important factor and limit the Venture Economic activity to few regions.

#### 4.4. Government Policies

As mentioned in section 4.2, venture capitalists liquidate their positions in a portfolio company by selling to a strategic or financial investor or through an IPO. Availability of exit options plays a critical role in development of venture capital as a institution, and government policies and regulations on have a strong impact on both source of investments and exits.

Entrepreneurship or the presence of an entrepreneurial ecosystem is a prerequisite for venture capital. For the last three decades, information technology, internet and bio-technology and more recently energy and health care have been providing a constant stream of innovations and rewarding both entrepreneurs and venture capitalists who invested in those ventures.

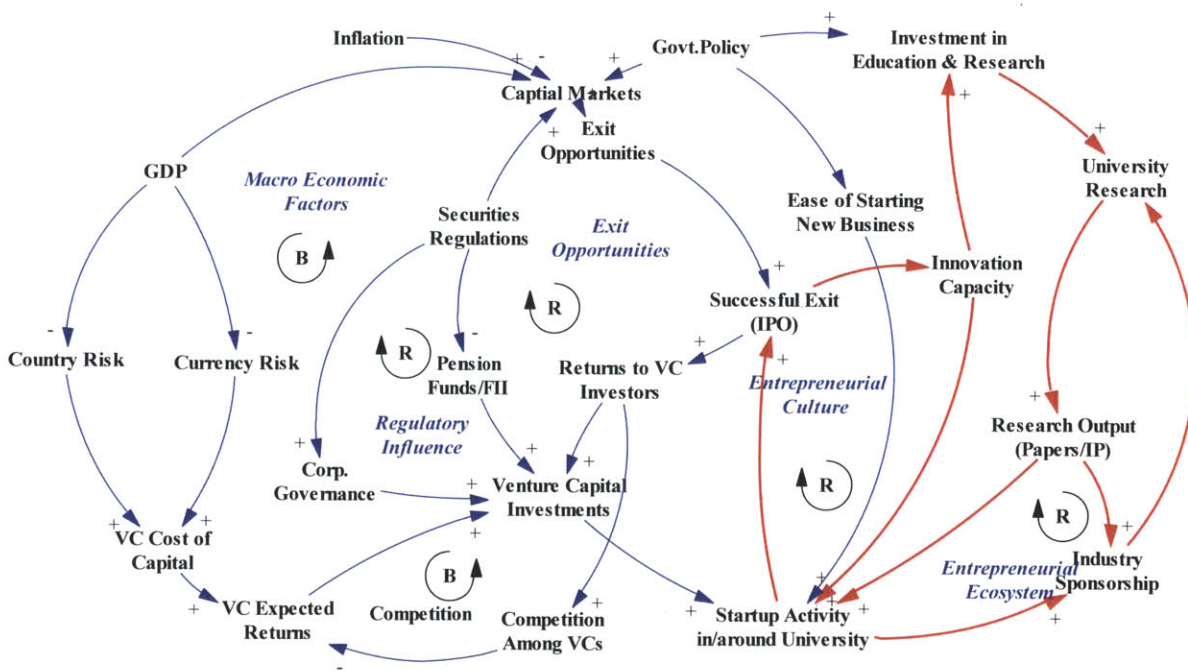


Figure 9 Government Policies Loop

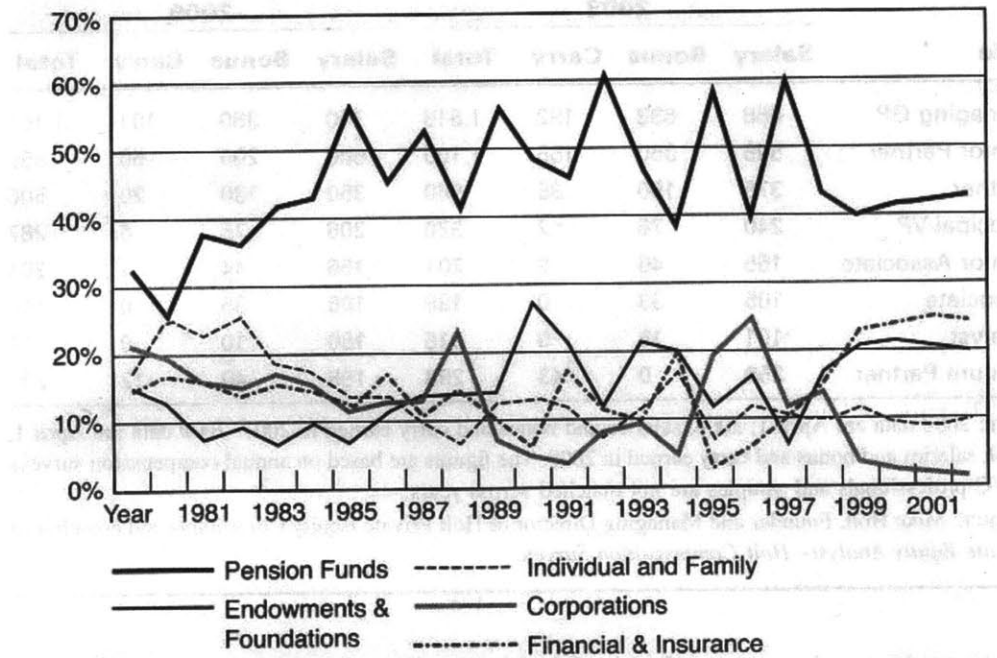


In the U.S, the government's policy of willingness to invest heavily in university-based research has yielded positive results. The result of these policies has been creation of human capital in the form of engineers and scientists and also innovations and scientific breakthroughs that aided formation of firms funded by venture capitalists.

One of the first steps toward a professionally managed private equity and venture capital industry was the passage of the Small Business Investment Act of 1958 authorizing the formation of Small Business Investment Companies as a vehicle to provide long-term funding for growth-oriented small businesses. This provided the ability to tap into federal funds that served as a significant source of capital to invest in entrepreneurial companies and formed as the basis for future venture capital funds<sup>5</sup>.

In 1980s the U.S. Congress loosened pension fund guidelines and allowed pension plans to invest in high-risk ventures or venture capital funds. The rapid growth of VC activity in the 1980s is attributed to the entry of pension funds as limited partners. Based on the data provided by National Venture Capital Association (NVCA) Metrick notes that, "Since 1980, pension plans- including those of State governments, Private companies, and Non-profit organizations have provided 44 percent of the committed capital in the VC industry". In addition to pension funds, several other investor groups have played an important role in the development of VC industry.

**COMMITTED CAPITAL BY LIMITED PARTNER TYPE**



SOURCE: National Venture Capital Association Yearbooks.

Figure 10 Committed Capital by Limited Partner Type (Source: Metrick, NVCA)

The above exhibit shows the fraction of newly committed capital from different groups in the US. It can be clearly seen that pension funds have provided the largest % of committed capital, followed by Financial institutions, which includes commercial banks, investment banks, insurance companies and mutual funds. Endowments from private universities and charitable foundations have also contributed large amounts of funds to this industry.

Government policies in Taiwan and Israel lead to creation of successful domestic venture capital environments similar to U.S. style venture capital. Both countries have a sizeable number of citizens living in the U.S. who helped in transferring of entrepreneurship and venture capital industries to these countries. The Israeli government played a key role in encouraging venture

capital by creating a government-funded organization, Yozma, and providing \$100 million funding, to encourage venture capital in Israel. This fund attracted outside capital, mostly from the U.S., and the establishment of these funds spurred entrepreneurship activity already in place, in the form of military research, university research and existing firms.

In Taiwan, the government passed legislation in 1983 to enable venture capital industry growth by providing attractive tax incentives (20%) to individuals willing to invest in professional venture capital firms. The first wave of venture capital firms were mostly led by Taiwanese citizens who were successful in Silicon Valley. These venture capital funds invested both domestically as well as in Silicon Valley, and soon established a bi-national investment activity. In absence of world-class research facilities, the Taiwanese focused on product manufacturing assembly markets such as PCs and Notebooks and transformed these industries and products into commodities.

## 4.5. National Culture

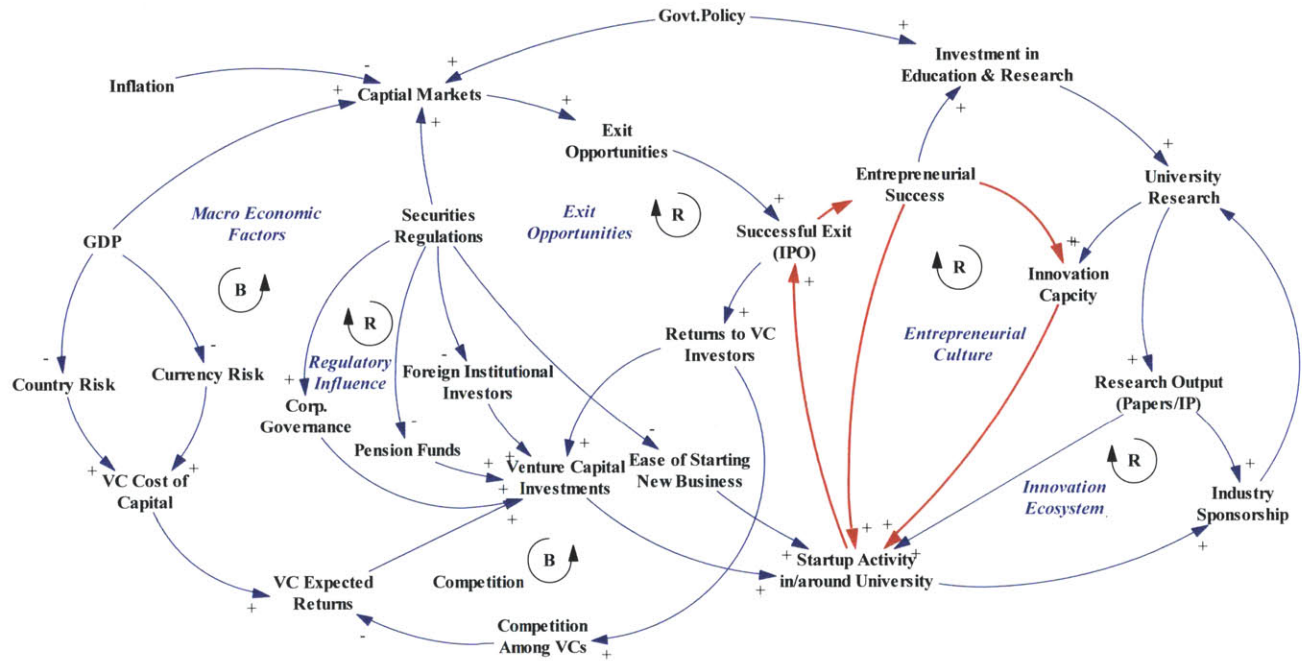


Figure 11 National Culture Loop

It has been widely agreed that the key requirement for a Venture Capitalist industry to exist and thrive is availability of high-growth entrepreneurial ventures to invest in. Cultural attitudes of a region or nation are also known to have an effect in the entrepreneurship in that region or country. Differences in attitudes toward risk, the stigma of failure, individual expression, and self-confidence may also explain the pattern of entrepreneurship across countries.

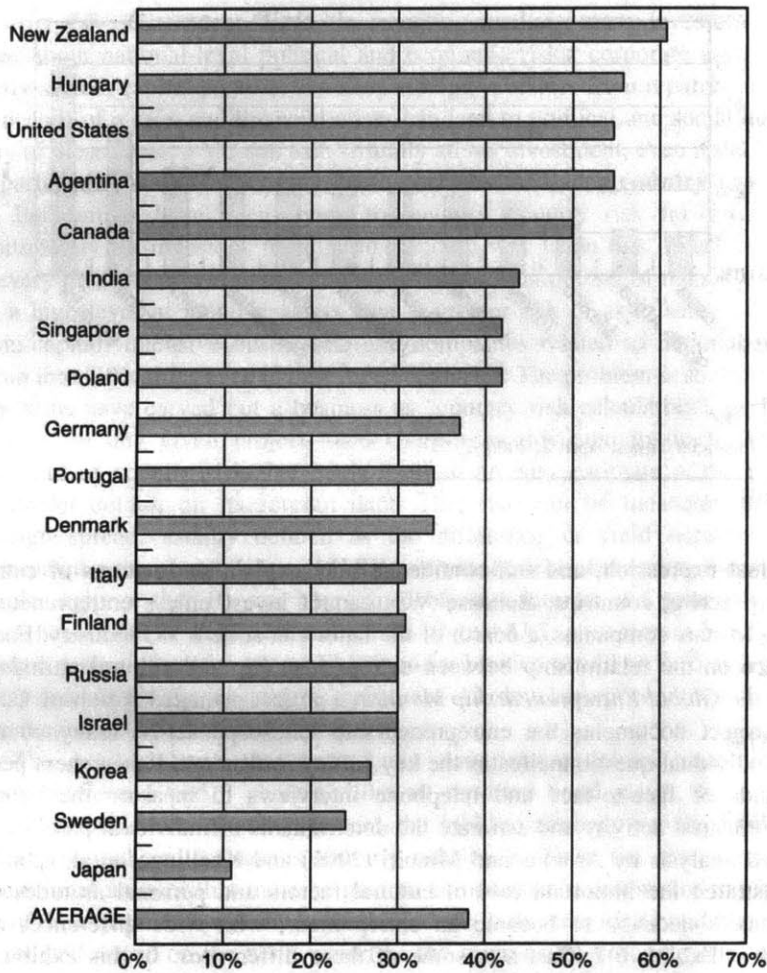
Philip Koellinger<sup>6</sup> collected a large sample of data from a survey conducted in 18 countries to study what variables have a significant impact on an individual's decision to start a business. From the data it can be seen that New Zealand and Japan are at the extremes of the sample, with

New Zealanders expressing extreme levels of self-confidence and Japanese expressing the lowest levels of self-confidence.

Through the data he demonstrated the important role of cultural factors and personal attitudes on individual's decision to become an entrepreneur, with wide differences across countries. In Killinger's words "We find strong evidence that subjective, and often biased, perceptions have a crucial impact on new business creation across all countries in our sample. Our findings are consistent with the idea that individuals rely significantly on their perceptions rather than on objective probabilities, evaluate their businesses prospects by taking an overconfident "inside view" of their situation, and, as a result, overestimate their likelihood of success".

The success of the current generation of entrepreneurs around the world is changing the attitudes that discouraged entrepreneurship. Successful entrepreneurs are being admired around the world and such admiration encourages entrepreneurship activities. Venture capital can only exist in those markets where entrepreneurship is valued and encouraged.

**ENTREPRENEURIAL SELF-CONFIDENCE IN 18 COUNTRIES**



SOURCE: Koellinger et al. (2007).

Figure 12 Entrepreneurial Self-confidence in 18 countries (Source: Metrick<sup>4</sup>, Kollinger<sup>6</sup>)

<sup>1</sup>William A. Sahlman, 2010, "Risk Reward in Venture Capital", Harvard Business School Publishing.

<sup>2</sup>Bernard S. Black and Ronald J. Gilson, 1997, "Venture Capital and the structure of Capital markets – Banks versus stock markets"

<sup>3</sup>Daniel J. Isenberg, 2010, HBR article, "How to start an entrepreneurial revolution"

<sup>4</sup>Andrew Metrick & Ayako Yasuda, "Venture Capital and the Finance of Innovation" 2<sup>nd</sup> edition

<sup>5</sup>Source: Wikipedia. Accessed at

[http://en.wikipedia.org/wiki/Small\\_Business\\_Investment\\_Act\\_of\\_1958](http://en.wikipedia.org/wiki/Small_Business_Investment_Act_of_1958) on May 22, 2012

<sup>6</sup>Koellinger Philip, Maria Minniti, and Christian Schade, 2007 "I think I can, I think I can: Overconfidence and entrepreneurial behavior", *Journal of Economic Psychology*

## **5. Developing VCPE industry in India**

In the U.S., Venture Capital and Private Equity has emerged into a powerful institution for driving entrepreneurship activity. In the last three decades it played large role in shaping the economic landscape of the country through job creation, enabling innovation and created successful companies across multiple sectors.

There have been several studies on the emergence of this industry in the U.S., the factors that affect developing this industry and the role of Government in promoting this industry. Several countries attempted to emulate this success by creating an indigenous venture capital industry and driving entrepreneurship, but only few have been successful. Taiwan and Israel are two great examples of this success, in that both countries were successful in adopting and developing U.S style venture capital industries.

Venture Capital industry in India has come a long way from 1970s. Through this thesis, we aim to understand the reasons that enabled this growth and analyze the important factors that need to be addressed to sustain the growth of this institution in India.

### **5.1. Macro-economic Factors**

As mentioned in section 4.1, “a stable economy: low inflation, high growth, and reliable currency and interest rates all boost demand for venture capital”. Economic liberalization of 1991 opened India’s financial markets and made them more accessible to other emerging economies like China. The stock market remains volatile due to the situations in Europe and the Rupee has lost over 20% of its value so far this year. It remains to be seen, however whether this



slide will continue or if Indian government and Reserve Bank of India (RBI) would take steps to ensure stability in Rupee.

Although the fundamentals of Indian economy are sound, the growth has slowed down and economy is showing signs of strain. Economic growth rates are projected at around 7% for the 2011-12 fiscal year<sup>11</sup>, slowest pace since the 2008 financial crisis and a sharp decline from the prior year's 8.4% growth rate, and inflation is high at around 7.3%. The Euro zone crisis, Rising inflation, governments expansion agenda and pressures to balance budget, risk the projected growth rate. Uncertainty in and global outlook combined with the domestic conditions could lead to investor worries and slow the fund raising and overall investments.

## **5.2. Regulations and tax laws**

For Venture Capital industry to thrive, it must operate in a well functioning business and regulatory environment. Without the proper framework conditions, potential entrepreneurs will not start companies, and Venture Capitalists do not have opportunities to invest in. In the U.S. Venture Capital industry growth was fuelled by the competitive business environment, well developed financial markets, flexible labor policies and government support of R&D.

### **5.2.1. Dividend Distribution Tax**

In Indian the restrictions on venture capital and private equity extend beyond the framework of corporate law. Corporations paying dividends must pay a 15 per cent dividend distribution tax and income from dividends is tax free in the hands of investor<sup>9</sup>. However, trusts granting dividends are exempt from dividend tax. Further dividends from domestic companies are tax-

exempt, and dividend from foreign companies are taxable in hands of investor. Such restrictions should be removed so that domestic and international PE firms are on a more level playing field.

PE and VC funds in India face several challenges due to the onerous tax laws. PE investors pay higher tax compared to investors trading in publicly listed company pay. Tax pass-through laws are inconsistent and vary by sectors. Addressing these issues will improve PE and VC investor confidence and promote their investments.

### **5.2.2. FDI in Venture Capital Funds**

The Securities & Exchange Board of India (SEBI) regulates the Venture Capital and Private Equity firms in India. Most of the venture funds are setup as trusts or companies. Most of the VC funds are floated as trusts to save on the dividend distribution tax explained in the section above. However, there is an issue of control in terms of operating as trusts.

A foreign venture capital firm looking to invest in India could do so in two ways, Foreign Direct Investment (FDI) and Venture Capital. The rules regulating both kinds of investments differ in terms of investment policies, fund raising, the limits imposed by law on the prices at which a VC investor can invest in and exit investments. According to Bain report, it would be useful if “foreign capital whose sole purpose is to invest in domestic venture capital funds would be eligible to be granted registration by the SEBI”

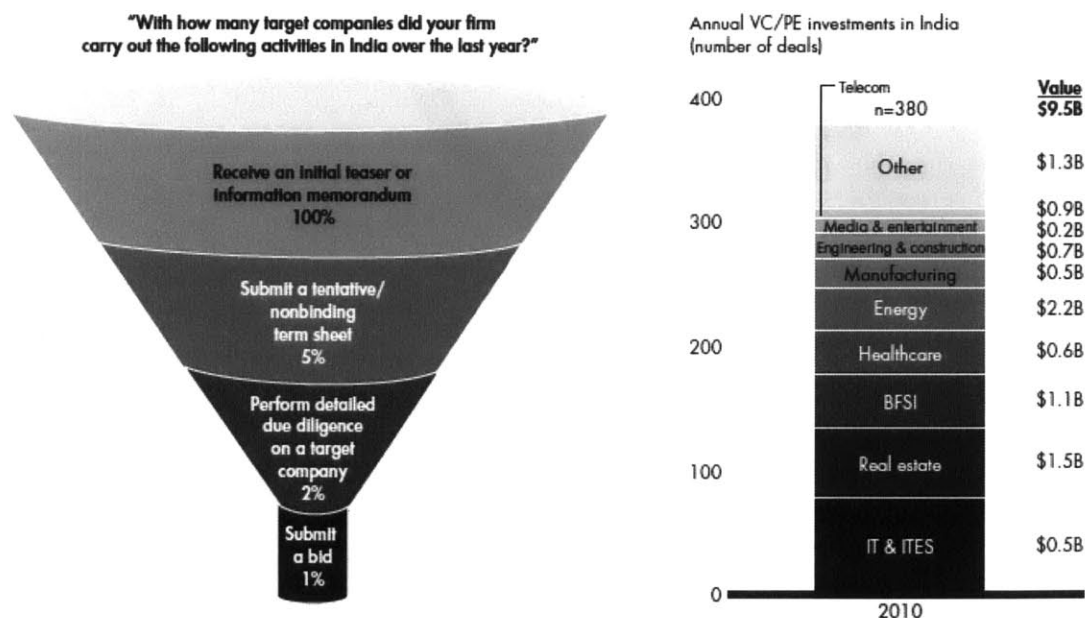
### **5.2.3. Insider Trading laws**

A critical aspect of the Venture Capital cycle is the due-diligence process during which the VC or PE investors works with the target company, obtains their financial records and other material

information which may be unavailable to the general public to get to a valuation and justify their investment.

According to Bain report, “any material information a target company shares with the prospective PE or VC fund but fails to disclose to all other shareholders is considered a breach of insider trading laws. That obligation effectively renders a serious due-diligence process difficult. It effectively requires PE funds to engage a wide network of experts and to rely on secondary research and extensive surveys before finalizing the investment recommendation”

These additional requirements make the due-diligence process more time consuming and expensive. Relaxing these requirements will aid in faster investment decisions, and make the due-diligence process smooth and fast.



Note: “Other” includes consumer products, hotel & resorts, retail, shipping & logistics, textiles, education and other services  
 Source: Bain IVCA VC/PE research survey 2011 (n=50)

Figure 13 Deals closed vs. Companies attracting PE interest (Source: Bain report)

### 5.3. Entrepreneurial Ecosystem

Venture Capital industry is driven by a continuous stream of investment opportunities promising rapid growth and success, that generate significant returns on the investment. Innovation and Entrepreneurship create these opportunities, build sustainable development and generate economic growth. A well developed Entrepreneurial Ecosystem is a requirement for building and sustaining the Venture Capital industry.

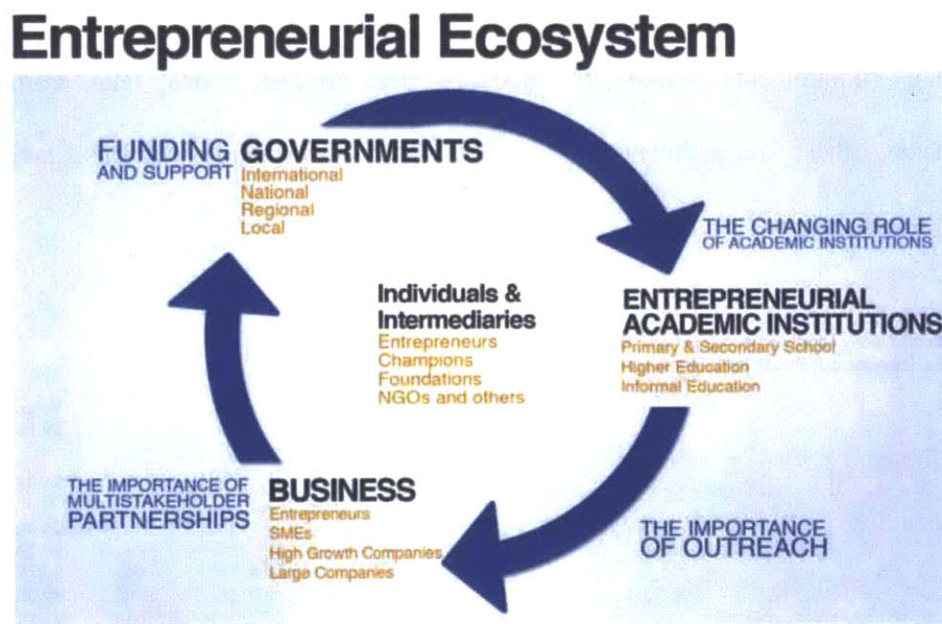


Figure 14 Entrepreneurial Ecosystem (Source: World Economic Forum Report<sup>7</sup>)

Governments around the world have recognized that Entrepreneurship as the major driver of innovation, competitiveness and economic growth. There is tremendous focus in both emerging and developed countries to build entrepreneurial ecosystems to nurture and sustain entrepreneurship.

Creating a knowledge based economy or boosting the technology entrepreneurship cannot happen overnight. As illustrated in the above figure, multi stakeholder partnership is critical for

the evolution of Entrepreneurial Ecosystems. It requires massive, generations long investments in education and research facilities to develop the ability to generate world class innovations.

### **5.3.1. Entrepreneurship Education**

Countries can reinvigorate entrepreneurship through entrepreneurship education. According to The World Economic Forum report, “Entrepreneurship education can help promote an entrepreneurial and innovative culture by changing mindsets and providing the necessary skills. Schools systems have traditionally focused on providing basic skills and ensuring students can secure future jobs – not on teaching students to become entrepreneurs. Meanwhile globalization, the rapid development of technology and the lower cost of travel have changed the nature of work. It is no longer enough to train students for a career. Schools and universities must prepare students to work in a dynamic, rapidly changing entrepreneurial and global environment. Entrepreneurship is critical for understanding and operating in the current and future global economy”

Most of the universities in the U.S. have entrepreneurship as part of their Engineering and Business curriculum. MIT Sloan School of Management offers several courses that blend both theory and practice of Entrepreneurship. Courses like Entrepreneurship Lab and Global Entrepreneurship lab, place student teams with real world companies from around the world, and the students get to work with real problems faced by these companies, from inception, go to market strategy to pricing and branding.

Indian universities should also prepare their students entrepreneurship careers by offering similar courses and engaging students with real-world issues in starting and running a new company.

Such training not only prepares students for their professional careers, but also aids in personal development for creating an entrepreneurial society through leadership development, practical skills and team work.

### **5.3.2. Entrepreneurship Activities**

In U.S. institutions like MIT have a number of campus organizations that support innovation, creation of technology and Entrepreneurship. Martin Trust Center for MIT Entrepreneurship, MIT Legatum center for Development & Entrepreneurship, Deshpande center for Technological Innovation and MIT-Lemelson program are some of the organizations that visibly support innovation and entrepreneurship. All of these institutions are open to students campus wide and recruit students from several disciplines.

A article on MIT Technology review<sup>8</sup> summarizes activities at MIT entrepreneurship ecosystem. “Over the last decade, dozens of organizations, courses, awards, and seminars have sprung up at the Institute, turning what was often a serendipitous route to the marketplace into a more formalized process. Today MIT offers support to everyone from high-school students to retired alumni on everything from developing ideas to preparing for an initial public offering, in cities as far flung as Boston and Dubai”.

Collaboration across the campus is another important factor that helps in building Entrepreneurship. Some of the top business schools such as Sloan, HBS and Wharton are established along well-respected universities, which offer degrees in multiple disciplines. At MIT, entrepreneurship center at Sloan and those from rest of MIT officially interact with each other. MIT 100K event, and various entrepreneurship focused clubs provide a comfortable setting and encourage scientists from MIT Engineering and business students from Sloan school

to interact with each other in intimate setting. Most of the ideas presented during these events have gone on to become great companies.

Although some of the educational institutions like IIMs and IITs offer similar opportunities, there aren't significant efforts to have industry interaction, collaboration between engineers and business students. Such interactions prepare students to work in a dynamic, rapidly changing entrepreneurial and global environment. Indian educational institutions should work with their more experienced counterparts in the U.S. and introduce similar efforts, either with government or industry sponsorship, which will allow creation of technology clusters and entrepreneurship ecosystems.

### **5.3.3. Non Resident Indians**

In the 1960s and 1970s bright, well-educated Indian engineers had limited opportunities. Most of the technology based companies were owned and operated by government and were bogged down in bureaucracy, and other options were confined to few conglomerates. This and many other reasons prompted these well qualified engineers to attend U.S. universities and many have decided to remain in the U.S. and secured employment in research organizations and private enterprise.

Over time, several entrepreneurs emerged from this group, notably Kanwal Rekhi, Vinod Khosala, Yogen Dalal and Suhas Patil etc. who have gone on to starting their own companies in Information Technology sector and become hugely successful. Their entrepreneurial spirit and success has motivated the next generation of NRIs in the silicon valley, and this success has led to creation of several other entrepreneurial ventures.

These NRs became a potential source of knowledge, connections and even capital. The constant flow of engineers from India to U.S. has ensured that these connections remain in place and the best practices from Silicon valley are immediately transferred to India. Both domestic and international VC and PE firms setting up operations in India are bringing veteran experience with them. General Partners of Indian origin in US and General Partners in larger foreign firms are setting up their own firms, and even domestic conglomerates and banks have setup venture and private equity funds. The years of deep relationships between NRIs and their home country are yielding fruitful business partnerships and contributing to India's economic growth.

#### **5.3.4. Cultural Aspects**

The low exposure to entrepreneurship, combined with the lack of role models and the repercussions for failure, made barriers to entrepreneurship entry significantly higher in India than North America. However, the success of NRI entrepreneurs in Silicon Valley and domestic entrepreneurs has established role models such as Desh Deshpande, Vinod Khosla, Dhirubhai Ambani and Narayan Murthy. Increased access to capital, through banks and venture capital funds has reduced the need to depend on family money for entrepreneurial activities.

Private Equity investments face a different cultural barriers. PE investments focus on more traditional industries such as manufacturing, operations and infrastructure, all of which are considered more traditional businesses or family operated businesses, some of which are wary of PE investors investing in their companies and playing an active role in day to day operations. This attitude seems to be changing as evidenced by the increase in PE investment in the country over the years. Developing relations and trust between investors and entrepreneurs is a key area that would contribute to both success of entrepreneurs and growth of companies. PE investors



bring not only capital, but also years of experience in operations, network of suppliers, customers and other relations, financial management, further rounds of fund raising and strategic oversight. They also bring best practices from U.S. and other countries in corporate governance which will help strengthen the corporate governance of their portfolio companies.

Increased collaboration and trust between VC and PE investors and Entrepreneurs will aid in value creation and ultimately success to the entrepreneurial firm.

## **5.4. Industry Sectors**

### **5.4.1. Information Technology Industry**

Information Technology industry in the U.S. and Israel offered abundant opportunities which resulted in the growth of VC industry in these countries.

Starting in mid 1980s, Indian government began to liberalize the software industry by encouraging exports in this sector. Exploiting the global shortage of software programmers and the low wages, the Indian software industry grew at a rapid pace, attracted a large number of skilled engineers and resulted in outstanding success stories like Infosys, Wipro and Satyam. By the year 2000, Indian IT firms built global reputation and listed on the U.S. NASDAQ, however, this did not result in the growth in software product sector which accounts for highest margins.

Vishal Kumar\* examined the issue of product and IP focus in this thesis. He attributes the lack of product focus to various business, cultural, educational and infrastructural factors and notes that the fast growing Venture Capital industry will help promote product building focus among Indian IT firms. He goes on to say “Since such (VC) companies employ professionals who

generally have years of experience in identifying high potential companies, it can be concluded that a worthy early stage (not seed stage though) product company stands a good chance to meet its capital requirements”.

#### **5.4.2. Manufacturing**

Continued margin pressure on manufacturers in developed countries, availability of low wage skilled labor, increase in domestic demand as a result of economic development and government support to support manufacturing are driving the growth of manufacturing sector in India.

The potential of Indian manufacturing was first highlighted in a 2005 Confederation of Indian Industry (CII)-McKinsey report<sup>5</sup> titled, "Made in India." According to the report, "In the past, India did not tap into its manufacturing exports potential to the fullest. Going forward, however, Made in India could become the next big manufacturing exports story." The McKinsey report predicted that the global trend to manufacture and source products in low-cost countries is likely to gather strength over the next ten years, “particularly in the skill-intensive industries where India has a significant competitive advantage”. The report projects that, “If India were to take advantage of this trend, manufacturing exports from India could increase from US\$40 billion in 2002 to approximately US\$300 billion by 2015 leading to a share of approximately 3.5 per cent in world manufacturing trade”.

India has several advantages in skill intensive industries such as auto components, toys, clothing and pharmaceuticals. In addition to low wages, availability of skilled engineering labor and established raw materials and suppliers will be key in ensuring this growth. The report noted four barriers that need to be removed to fuel the export led growth.

1. Stimulate domestic demand by reducing indirect taxes and import duties
2. Debottleneck ports and accelerate power reforms
3. Encourage development of several manufacturing clusters
4. Accelerate labor reforms and facilitate skill development

Indian government has taken several steps to help grow the manufacturing sector. The government has issued the new “Consolidated Foreign Direct Investment Policy”, which came into effect April 1, 2010. The government is also planning to set up National Manufacturing Investment Zones (NMIZs). Main objectives of these NMIZs are<sup>6</sup>

- To increase sector growth to 12-14% over the medium term and increase the share of manufacturing sector in GDP to 25% by 2022
- Increase employment with an aim to create 100 million additional jobs by 2025
- To enhance global competitiveness of the sector through policy support
- To promote investments in the manufacturing sector and make the country a hub for both domestic and international markets

In addition to the policy changes, the manufacturing firms also need to upgrade their facilities, adopt manufacturing best practices from global leaders, and expand their focus from domestic markets to global markets. Private equity firms can enable this change by bringing “smart capital”, i.e. bring their operational expertise, financial and strategic planning to help the companies get export focus and grow globally. PE firms can tap into their networks and bring skilled people to India to strengthen the design and innovation skills of domestic companies,

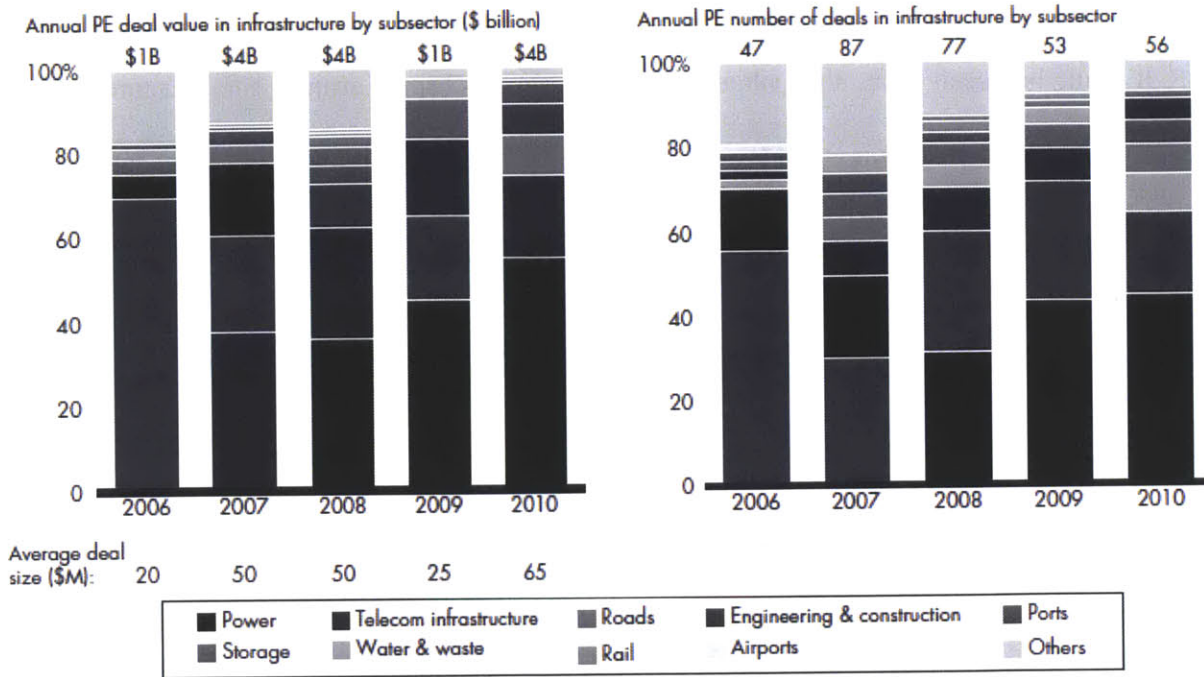
advise management in organization and growing the talent pool, identify and finance acquisitions to build a global footprint.

### **5.4.3. Infrastructure**

India is a large country and the explosive growth in Information Technology sector brought with it infrastructure development to some regions (cities) like Bangalore, Delhi and Hyderabad, but rest of the country still lags in development. Most of the regions in India lacking basic infrastructure facilities such as roads, power and water which are critical to economic development. Although the list of problems is endless it also presents lot of advantages. Infrastructure projects have massive capital requirements, in the order of billions of dollars and Private Equity with its long time horizons is well suited to these investments.

Speaking at the World Economic Forum in Davos, Montek Singh Ahluwalia<sup>2</sup>, Deputy Chairman of the Indian planning commission has said in January 2011, “India will double its investments in infrastructure to \$1 trillion during the 11th Five Year Plan that begins 2012, with half of that expected from the private sector”. The key policy maker said the private sector investment so envisaged includes capital inflow from overseas.

According a Bain & Company report<sup>3</sup> “over the last five years, PE funds have invested approximately US \$13 billion, equivalent to one-fourth of the total capital flows to India, into the infrastructure sector. Since 2006, annual PE investments in infrastructure has grown fourfold, from about US \$1 billion to US \$4 billion in 2010, when it rebounded to 2007 levels.



Note: ~10% of deal values were undisclosed; average deal size calculated using deals with disclosed values from Bain PE deal database; "telecom infrastructure" excludes services; "roads" includes Bridges and MRTS; "others" includes oil & gas, mining & minerals and other shipping & logistics  
Source: Bain PE deal database

Figure 15 PE investments in infrastructure (Source: Bain report and IVCA)

The figure above shows that the subsectors attracting PE interest is also broadening and evolving. According to Bain, “ In 2006, PE interest was largely concentrated in the engineering and construction space. Over the past three years, the power sector has attracted the most interest from PE investors, increasing to 47 percent of total PE infrastructure investment between 2008 and 2010. Telecom has become the next biggest target for PE investment, attracting US \$1.5 billion over the same period. Opportunities in road construction are drawing investor interest due to changes by the National Highways Authority of India (NHAI) in model concession agreements that haven speeded up the awards process. However, the total number of deals has barely increased over 2009, primarily owing to the lack of a strong project pipeline. Subsectors like water and waste management and storage have also seen a few small deals”.

The exhibit below shows the various infrastructure sectors and the target investments in those areas. It can be seen that the infrastructure investments span major infrastructure sectors including Aviation, Irrigation, Ports, Telecom, Highway, Railways, Power and other investments.

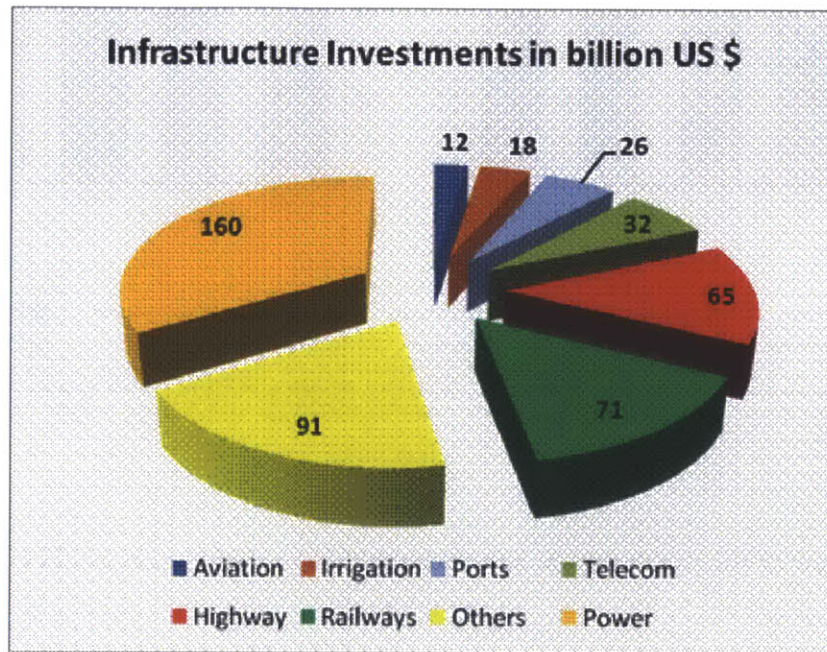


Figure 16 Investment Opportunities In Indian Infrastructure (Source: India Infra Guru<sup>3</sup>)

PE investors can play a key role in the development of infrastructure in India, while benefitting from their investments. Infrastructure is and will continue to be a sector which will provide enormous opportunities for PE investors in the coming years.

<sup>1</sup>Vishal Kumar, 2011, “Software Industry in India: Product and Intellectual Property Focus”

<sup>2</sup>January 2011, Economic Times. Accessed at [http://articles.economictimes.indiatimes.com/2011-01-28/news/28431941\\_1\\_inclusive-growth-private-sector-india-targets](http://articles.economictimes.indiatimes.com/2011-01-28/news/28431941_1_inclusive-growth-private-sector-india-targets) in May 2012

<sup>3</sup>Bain & Company and IVCA, India Private Equity Report 2011

<sup>4</sup>Indian Infra Guru report, Accessed at <http://www.indiafraguru.com/> in May 2012

<sup>5</sup>Made in India, The next big manufacturing export story, CII-McKinsey report 2005, Accessed at [http://www.mckinsey.com/locations/india/mckinseyonindia/pdf/Made\\_in\\_India.pdf](http://www.mckinsey.com/locations/india/mckinseyonindia/pdf/Made_in_India.pdf)

<sup>6</sup>An approach to National Manufacturing Plan (in India), Accessed at <http://mines.nic.in/writereaddata%5CContentlinks%5Ce4620570302247dc82ab0bf8399781b4.pdf>

<sup>7</sup>World Economic Forum Report “Educating the Next Wave of Entrepreneurs”- A Report of the Global Education Initiative, April 2009

<sup>9</sup>Dividend Distribution Tax. Accessed at [http://en.wikipedia.org/wiki/Dividend\\_distribution\\_tax](http://en.wikipedia.org/wiki/Dividend_distribution_tax)

<http://headstart.in/2011/01/17/investing-in-an-indian-startup-fdi-or-vc-which-is-the-better-route/>

[http://en.wikipedia.org/wiki/Economy\\_of\\_India](http://en.wikipedia.org/wiki/Economy_of_India)

## **6. Conclusion**

In the introduction, we mentioned how Venture Capital has been the main driver of innovation, entrepreneurship and economic growth in the U.S. and their role in creating remarkable companies during the last three decades. In the case of U.S., government played both a direct and indirect role in developing this institution with its policies and regulations and investments in science and research. We also mentioned how Israel and Taiwan were able to emulate the U.S. model their own way, and the attempts in India to create an indigenous Venture Capital industry.

Chapter 2 explains the history of Venture Capital and Private Equity industry in India and the Government efforts to emulate the U.S. model. Development of the Venture Capital industry in India was aided by the development of the software industry in India and the economic reforms of the 1990s. We looked at how venture capital organizations started off in the public sector financial institutions and also examined efforts undertaken by state governments. Success of Non Resident Indians (NRIs) in the Silicon Valley gave a thrust to development of this institution, and the various committees setup by government helped shape the regulations and policies. These efforts, aided by 7-8% GDP growth rate, led to the evolution of venture capital industry in India with approximately US\$10 billion invested across 380 deals in 2010.

In Chapter 3, we looked at the Venture Capital investment cycle including fund raising, deal flow generation, due diligence, valuation and structuring deals; creating value to the portfolio companies, and finally the process of exit, to understand how the industry operates and to explore what factors affect each of these stages. Chapter 4 explains the behavior of VCPE industry with the help of System Dynamics loops. Through these loops, we observe the various factors that affect the behavior and growth. We discussed various factors such as Macro-



economic factors, Exit opportunities, the Entrepreneurial ecosystem, Various Government policies and National culture that may be crucial in the evolution of VCPE industry.

The VCPE industry in India has come a long way in the past three decades. But encouraging the growth of this industry will require further actions. In Chapter 5, we analyze the important factors that need to be addressed to sustain the growth of this institution in India. The growth engine in India seems to have faltered, with the projected growth rate around 7% for 2011-12 fiscal year, and inflation is high at 7.3%. “A stable economy: low inflation, high growth, and reliable currency and interest rates all boost demand for venture capital”. Indian government is taking several actions to stabilize the economy and spur growth, but exogenous factors such as the Eurozone crisis could affect the fund raising and FDI flow.

Regulations on setting up of Venture Capital firms are still complex and need to be further amended to make it easier to setup VCPE funds and also to execute fundraising efforts. SEBI needs to take actions to allow FDI flows into venture capital industry to make this a seamless process. Current insider trading laws make the due-diligence process more time consuming and expensive. Relaxing these requirements will facilitate faster investment decisions, and make the due-diligence process smooth and fast.

Entrepreneurial ecosystems provide a continuous stream of investment opportunities, promising rapid growth and success, that generate significant returns on investment and attract Venture Capital investments. Institutions like MIT embed entrepreneurship in both Engineering and Business curricula. Courses and projects with real companies around the world help student teams to learn to work with real problems faced by companies and prepare them for entrepreneurial careers. We find a need for including entrepreneurship education in Indian

institutions, which will help promote innovation culture by training and by providing necessary skills to succeed as an entrepreneur. The skills gained through these courses also aids in personal development for creating an entrepreneurial society through leadership development, practical skills and teamwork.

Indian educational institutions, like their counterparts in the U.S., also need to setup campus organizations to support innovation, technology creation and entrepreneurship, and to encourage participation of students from several disciplines such as engineering, science and business across campus. There is a need to have events similar to the MIT 100k competition that encourage engineering and business students across the campus to collaborate in hands-on project teams. There is a need for Indian institutions to work with their more experienced counterparts in the U.S. to learn and introduce similar efforts, either in government or industry partnerships.

Similar to Israel and Taiwan, India also has a sizable number of their citizens in the U.S., enabling success of NRIs in the U.S. Over time, several prominent entrepreneurs have emerged from this group who have gone on to starting their own companies in the IT sector, becoming hugely successful. The years of deep relationships between NRIs and their home country are yielding fruitful business partnerships and contributing to India's economic growth.

Cultural aspects play a critical role in development of Entrepreneurship and VCPE industries. The success of NRIs as entrepreneurs in Silicon Valley and India has established role models. NRIs should play a bigger role as a potential source of knowledge, connections and capital to transform the culture. Developing relations and trust between investors and entrepreneurs is a key area that would contribute to both success of entrepreneurs and growth of companies

The Information Technology sector has offered abundant opportunities for Venture Capitalists in the past two decades. The VCPE industry in India is maturing with lot of free capital available to be deployed. Manufacturing and Infrastructure offer attractive investment opportunities. Government policies such as “Consolidated Foreign Direct Investment Policy” and setting up of “National Manufacturing and Investment Zones” (NMIZs) are expected to create tremendous opportunities for PE investors. There is much bigger role for PE firms to play by “smart capital”; i.e., not only as the providers of capital, but also by bringing skilled people to strengthen the design and innovation skills of domestic companies, providing advice management in organization, strategy and acquisitions.

India is planning to double investments in infrastructure to U.S\$1 trillion during the 11<sup>th</sup> Five Year plan that begins in 2012, and expects half the investment to come from the private sector. PE investors can play a key role in the development of infrastructure in India, while benefitting from their investments.

The Indian Venture Capital and Private Equity industry has experienced remarkable growth in the past decade and contributed to the development of Indian economy. There are enormous opportunities for investments and growth. Government policies, removal of regulatory and cultural barriers and creation of entrepreneurial ecosystems will play a major role in ensuring the growth and realizing the potential.

