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# VENTURE CAPITAL REFORMS FOR IT-SOFTWARE ENTREPRENEURS

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**Abstract** : This paper discusses the nature of venture capital financing in the high-tech era. In the era of information technology and software development the Indian economy is witnessing a tremendous growth in the IT-enabled services and software development with the intensification of venture capital investment activities in the process of effective deployment of intellectual capital and gearing up to face new challenges with sustainable entrepreneurship development. In India, the venture capital activities, in the process of development of technology-based entrepreneurship, have been initiated in recent times through some venture capital entities. Venture capital very well supports intellectual capitalism. Entrepreneurship development by means of effective venture capital investment activities is nothing new in the history of Indian economic development. In the pre-independence era in the history of Indian socio-economic development, managing agency system created traditional informal venture capitalism and entrepreneurship development in the traditional industrial sector.

Apart from the formal venture capital investments activities in recent times, traditional informal venture capital has been playing an important role in the economic development. The core focus of this paper is on the emerging structural aspects and regulatory framework for the venture capital entities.

**Key Words** : Formal Venture Capital, Informal Venture Capital, and Regulatory Framework.

## 1. Introduction

The present form of venture capital financing in India and other countries are following the path of the US, the leader in this field. The Indian venture capital investment activities have significantly changed since 1988, following the concepts of the US venture capital financing. At the end of 20th century, formal venture capital has emerged as new concept of institutionalisation of risk financing for the start-up ventures. Venture capital includes all private equity involving seed stage, start-up, buy-out, growth stage and mezzanine financing. Venture capital financing involves investments primarily based on creative and relatively new technology with unproven rack record, entailing high risk but having high potentiality. Venture fapital, which is invested in stocks, especially in new issues of a new corporation, is called risk capital. Degree of risk at different stages of venture development differs at a considerable extent. For the start-up high-tech ventures at the seed stage, venture capital is indispensable.

In India, the modern concept of venture capital financing has become significant in the era of IT-enabled services, software development and biotechnology. In fact, venture capital financing has already found a foothold into the new millennium. The structural aspects and regulatory framework for governing venture capital investment activities in the process of sustainable entrepreneurship development have become an emerging area of debate and discussion. The rest of the paper is organised to

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focus on the emerging area of debate and discussion. The rest of the paper is organised to focus on the emerging issue in nine sections. Section 2 states a brief history of entrepreneurship development in India by traditional informal venture capitalists; Section 3 discusses the role of formal venture capitalists as well as of the informal venture capitalists ; Section 4, discusses the possible ways in which "venture capital" can be interpreted ; Section 5 gives the structure of the venture capital organizations ; Section 6 reveals the venture capital structure, guidelines, and regulatory framework in the Indian scenario ; and Section 7 offers concluding observations and suggestions.

## 2. A brief history of entrepreneurship development in India

During the period (1820-1988), there was no formal concept of venture capital financing in the process of entrepreneurship development in the history of Indian economic development. But the origin of traditional informal venture capitalism can be traced back to pre-independence era when the British rules stepped on our soil. Prior to 1840s, there was no scene of industrial entrepreneurship development in India. Indian jute became the most significant industrial product in the 1840s. The jute was required for cheap bagging and wrapping commodities for transportation purposes. During 1840-1970 mechanical innovations created some industrial entrepreneurship based on jute and till 1870 Dundee mills had an almost monopoly regarding jute cloth trading. The expanding foreign demand augmented the importance of raw jute exports from Bengal. Simultaneously the domestic demand for jute cloth was also rising. The expanding opportunities in jute cloth trading attracted an English entrepreneur to set up a small jute-spinning mill in Calcutta in 1855. This entrepreneur's business activities attracted four other British trading enterprises, in Calcutta to set up integrated spinning and weaving mills during 1859-1866. Indian trading entrepreneurs were also attracted into this industry and this industry flourished to a great extent in the early 1870s. The jute industry was basically initiated, managed and controlled by Englishmen/Scots until World War I. A few firms were floated as sterling ventures. The sterling ventures companies got their initial risk capital in the United Kingdom but they offered block of shares to sell in India. Rupee companies tended to collect their initial risk capital in India.

In the early part of the 19th century the Indian cotton textile industry flourished despite foreign dominance. During the first half of the 19th century, Calcutta and Bombay were the hubs of entrepreneurship development in India. The Indian entrepreneurs were then engaged in the development of jute and textile industries. The absolute amount of risk capital need for these industries was mobilized through the ordinary network of personal and commercial relationships with the merchants and managing agents.

The Indian entrepreneurship development was basically based on tea plantation, collieries, jute pressing and clothing mills, oil mills, printing presses, indigo plantation, mica mines, cotton spinning and weaving, flour and rice mills, railway workshops, manganese mines, coffee plantations, etc. The European, Anglo-Indian and American

entrepreneurs were dominating over the Indian entrepreneurs in the process of industrial development in the pre-independence period. The Indian managing agents were dominating over the Europeans and Anglo Indians with respect to their managing and controlling capabilities. The enterprises, which were managed by the European and Anglo Indian managing agents, were 1467 in number. The enterprises, which were managed by the Indian managing agents, were 1694 in number.

The Parsis were very enterprising in their activities. The Parsis controlled a majority of Indian enterprises, particularly in cotton mills. The Parsis lead over the Vanis in the management of cotton mills was particularly due to their lead in general education, particularly in technical education over the other communities (Morris, 1979). Bombay got another extraordinary feat of entrepreneurship owing to Tatas in the development of the Tata Iron and Steel Company (TISCO) and in the promotion and management of the hydroelectric works to supply electric power at cheap rates. Indians were gradually attracted to enterprises, which the Europeans discarded as too risky, e.g., rice mills, oil mills, cotton and jute factories for pressing, ginning and weaving, small collieries and transportation by river and others.

The local informal venture capitalists supplied the needed risk capital/venture capital. Indian entrepreneurs were more enterprise-oriented and were continually starting new industrial ventures in a small way. But most of the industrial ventures seemed to fail sooner or later owing to bad management and there was crisis of more and more venture capital. Commercial facilities were not satisfactorily adequate in India in the second half of the 19th century. Still the Bombay entrepreneurs were much more courageous to enter into the manufacturing activities compared to other native entrepreneurs including Bengal entrepreneurs. The native venture capitalists suffered from generalised discrimination by the European entrepreneurs and the European jute manufacturers who made both entry and survival for the Indian entrepreneurs next to impossible by combing as a group. Indians were structurally unable to co-operate in group efforts as Britons found it culturally easy to co-operate to bring the monopolistic agreements in the jute industry but failed in the cotton textile industry.

The different geographical location of the two industries is self-explanatory for the differences in behaviour. The cotton textile industry is spread all over India while jute industry was basically concentrated in Calcutta. The cultural discrimination against native entrepreneurs who sought to enter the industry was the unavoidable factor behind the gradual failures of the jute industry in India. Another most important factor was the rate of return that contributed much in the textile industry compared to jute industry. The Indian jute entrepreneurs were to bear extra risks and uncertainties, as the bulk of the jute industry's market was mainly overseas where the Indian merchants did not develop longterm expertise.

In spite of these constraints the Marwari entrepreneurs played the substantial role by expanding their risk capital investments to penetrate into the jute-manufacturing sector before 1914. The European risk capital investors had a tendency to make investments mainly in the export-oriented sectors while Indian risk

capital investors were inclined to make investments in domestic market-based enterprises. For obvious reasons the European investors always earned higher rate of return on their investments, which did not help much to grow the Indian economy with a desirable growth rate. The European investors could calculate better the opportunity costs compared to the Indian venture capitalists with regard to their risk capital investment.

Another important sector, Indian Railways where modern technology was primarily introduced by the European investors who had access to the Indian Railways shares from very beginning. There were a number of entrepreneurial ventures before 1870 for the Indian railways, which sought to produce iron on a large scale. The European entrepreneurs attempted to change the iron-making process without modernizing it at all. They were typically intended to sell the products in the overseas markets.

In 1874, the Bengal Iron Works Company came forward to design the plant in modern lines to take the advantage of high cost of imports and growing domestic demand. The venture was closed in 1879 owing to managerial inefficiencies. The Government of India bought the defunct enterprise and operated it as a public enterprise till 1889 when an etremely knowledgeable group of enterprising directors formed Bengal Iron and Steel Company known as (BISCO). The BISCO received a considerable support from the Indian Government ; nevertheless the BISCO had to close down within a very short period. After that, the success of Tata Iron and Steel Company (TISCO) was a tremendous entrepreneurial achievement. Tata is legendary amongst the Indian entrepreneurial magnets. Tatas invested $35000 as venture capital investment in the initial stage out of their own sources. The Tatas are ever respected as world famous entrepreneurs.

There was a need to create a supportive environment particularly where banking facilities were not at all adequate and capital markets were not active. Entrepreneurship in different industrial fields was felt necessary but industrial venture capital was not adequate. An entrepreneur had to mobilize resources from many sources and this depended largely on personal and intimate business connections. This was the reason for which ventures in the private sector had to make use of the localised capital and the majority of shares were always concentred in the hands of a very small number of people including the managing agents. In an enterprise where necessary venture capital need or tended to be in short supply, the managing agents had major responsibility to manage the needed capital. They were serving as traditional informal venture capital providers having some specific controlling interests. The managing agents, who were very achievement-oriented, had many business connections and market reputations for which could easily arrange the needed amount of venture capital in the case of urgency. The successful managing agents were acceptable to the banks and were able to offer guarantee on many occasions. The creditworthiness was the major asset of managing agents. The small business entrepreneurs had to manage their capital requirements out of their own sources.

The managing agents, besides the oligarchic attitude created traditional informal venture capitalism by mobilizing necessary amount of risk capital investments in different fields. But the managing agents could not launch ventures of unproven track records adopting new technology/untried production processes at that time. The managing agency system acted as a device to loot and plunder the shareholders' wealth (Morris, 1979). Still the entrepreneurship development was under the umbrella of managing agency system that was a unique technique for providing annuities for members of the extended family to whom a managing agent had a special obligation of used funds (Ray, 1994). It would be foolhardy to deny the important role of colonial managing agencies in shaping the process of industrialisation in India. The managing agents were venture capitalists in disguise of directors/managers. Of course, those venture capital investments were necessary at that period to accelerate the pace of economic development.

The form of venture capital investments in the era of managing agency system must not be confused with the modern concept of venture capital financing. The modern concept of venture capital financing in India and all over world is significant in the era of IT-enabled services, software development and in biotechnology. As noted earlier the US has achieved tremendous economic development through the venture capital investment activities in the knowledge-based industries.

Enthused by science and technology and the strident technocratic nationalism of Acharya Prafulla Chandra Ray, Bengal got a pioneering venture as "Bengal Chemicals", which was specializing in drugs and pharmacy products. Calcutta Chemicals was producing soap, toothpaste, and herbal cosmetics. Bengal Lamp was producing electric bulbs and Bengal Immunity was producing vaccines and other preventive medicines. Sir Jagadish Chandra Bose and Acharya Prafulla Chandra Ray founded Bengal Chemicals. A person no less than Sri Rajshekhar Bose managed its golden period of growth. Sri Kiran Shankar Roy, a wealthy Oxford-educated zamindar, set up Bengal Lamps. The Bengal Pottery Works owned by Sri Manindra Chandra Nundy, the Maharaja of Kasimbazar. Calcutta Chemicals was owned by two Bengali families, the Mitras and Dasguptas, who brought the new technology from England to produce cosmetics and soaps. In addition to these, there were many collieries in Bengal and tea gardens in Assam (Dooars) owned by Bengali Babus. The Dutta Family founded the Comilla Bank in East Bengal. So the Bengali financial entrepreneur had also made a modest attempt in banking and financial reforms. Bengali entrepreneurs had great interest in newspaper publishing. In 1910, the Sarkar family owned the Ananda Bazar Group and the Ghosh family owned the Amrita Bazar Patrika, Jugantar, and Basumati Groups. The British recognised these newspaper entrepreneurs as fountainheads of radical political thought.

The Bengali entrepreneurs were very enterprising but gradually ruined due to their elite culture and babuanas. Their inept management, style of running business, squabbling and squandering between the family partners paved the way for entry of other community entrepreeurs. Most of the Bengali owned enterprises were specialized in technologically innovated products that demanded constant upgrading, modernisation and diversification.

The Bengali entrepreneurs owned the technology-based enterprises, which could grow as fast as expected but could not do so as all profits were virtually declared as dividends as a result of which the ploughing back of profits for the purpose of renovation and modernisation were almost nil. The other option of issuing fresh equity shares to the general public was rarely used out of fear that outsiders would come to control the economy. The expansion of the Bengali owned enterprises was only dependent on allowance of bank loans and debentures. However, every successive loan râised the debt-equity ratio. The banks refused further advances. Most of the Bengali owned enterprises faced severe capital crisis in 1930s when the equity values got reduced drastically.

An equally serious threat was created due to the emergence of multinational companies (MNCs), who generally opted for the important products, e.g., soap, pharmaceutical products, electric appliances, vaccines, toothpastes and many other new products of that period. The MNCs grew fast due to their high scale economics, low-cost technologies, greater amount of risk capital deployment, and large market development strategies. Lever Brothers, who had already captured a sizeable segment of the Indian soap market, was going further expansion. Bengal Lamps was being swamped. first by General Electric Company and then by Dutch-based Philips (India) Limited, Kolay and Sons had to compete with Britania Biscuit Company, Calcutta Chemicals was competing with Colgate Palmolive in the market of toothpaste.

Significantly, the Bengali entrepreneurs had very aptly taken up enterprising activities to introduce new products for untapped domestic market in the early part of the 19th Centuty. But most of the enterprises had to compete with the MNCs. The MNCs pumped a huge amount of venture capital/risk capital into the consumer goods marketing. An illustrative list of MNCs in India during the period (1908-48) represents for quick appraisal of inflow of foreign venture capital/risk capital funds in Table 1.

All these multinational companies invested Rs. 192.4 million venture capital/ risk capital funds to cater exclusively to the domestic market. The domestic market in India was really starved of consumable products. To satisfy the domestic market needs the entry of MNCs into the Indian product market was highly relevant from the standpoint of demand side as well as the supply side. India was then an abysmally pöor country that could hardly meet the domestic demand for essential goods. At that period the MNCs in India created their own marketing network.

By the mid 1950s the MNCs had entered almost all major industries, viz., chemicals, pharmaceuticals, baby foods, toothpaste, soap, cosmetics, cooking mediums, cigarettes, tea, coffee, petroleum products and its by-products, gases, engineering goods etc. etc. The MNCs were mainly the British. The profits of the British MNCs in India were 120% of the world average (Ray, 1994). The massive foreign venture capital investment activities made by the MNCs in India created novel marketing methods for the standardized consumer products. The Lever's experience regarding soap and toiletries was remarkable. Brook Bond did a sound

## TABLE 1

## The Inflow of Foreign Venture Capital/Risk Capital Funds in India (1908-48)

| Parent Company | Subsidiary Company | Year | Venture Capital Risk Capital (Rs. Lakh) | Activity |
|---|---|---|---|---|
| AEI | AEI (India) Limited | 1924 | 25 | Electrical Engineering |
| | AEI Manufacturing Co. Ltd. | 1939 | 25 | -do- |
| Alfred Herbert | Alfred Herbert India | 1919 | 25 | Machine Tool |
| Babcock & Wilcox | Babcock & Wilcox | 1947 | 25 | Boilers |
| Braithwaite | Braithwaite (India) Ltd. | 1930 | 39 | Mechanical Engineering |
| British Oxygen | Indian Oxygen | 1935 | 93 | Industrial Gas |
| Cadbury Fry | Cadbury (India) Ltd. | 1948 | 13 | Cocoa Products |
| Chloride | Chloride and Exide | 1947 | 15 | Batteries |
| Crompton Parkinson | Crompton Greaves | 1937 | 50 | Electrical Equipment |
| | Greaves Cotton | 1937 | 25 | Electrical Equipment |
| Dunlop Rubber | Dunlop (India) Ltd. | 1926 | 170 | Tyres |
| GEC | GEC (India) Ltd. | 1911 | 50 | Electrical Equipments |
| GKW | Guest Keen Williams | 1931 | 141 | Railway Equipments |
| Godfrey | Godfrey Philips (India) | 1936 | 70 | Tobacco |
| Goodlass Wail Ltd. | Goodlass Wall Ltd. | 1933 | 25 | Paints |
| ICI | Alkali & Chemical Corporation | 1937 | 93 | Chemicals |
| Imperial Tobacco | Imperial Tobacco | 1908 | 461 | Tobaco |
| J. Stone | J. Stone & Co. Ltd. | 1931 | 27 | Engineering |
| Jenson & Nicholson | Jenson & Nicholson Ltd. | 1922 | 33 | Paints |
| Metal Box | Metal Box (India) Ltd. | 1933 | 105 | Containers |
| Philips | Philips (India) Ltd. | 1931 | 35 | Electrical Equipments |
| Tuner Newall | Asbestos Cement Company | 1934 | 60 | Asbestos |
| Westing House Brake | Saxby & Farmer | 1923 | 25 | Railway Equipments |
| Unilever | Lever Brothers | 1931 | 88 | Soap |
| | Hindusthan Banaspati | 1934 | 105 | Vegetable Oil |
| Union Carbide | Union Carbide (India) | 1934 | 101 | Batteries |
| TOTAL | | | 1924 | — |

Source : Tomlinson. 1978

marketing structure in India. ICI recorded a spectacular success. Metal Box supplied containers to the three petroleum companies. During the 1950s the MNCs played a vital role in India. In fact, the three oil companies made huge profits to set up massive refineries in the 1950s, Shell and Esso at Trombay in 1954 and Caltax at Visakhapatnam in 1957.

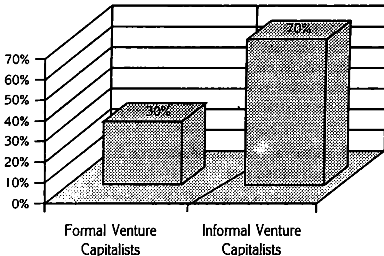
Given such a rich diversity of activities in the industrial fields, the MNCs and managing agency system had played a definite key role to boost up the entrepreneurial spirit in India with the deployment of venture capital/risk capital. The role of informal venture capitalists was astounding in India. During 1950-88, there were financial reforms through the leading financial institutions and development banks (viz., IDBI, ICICI, UTI, SFCs, and others). The manufacturing, agricultural, and other industrial activities were flourished in a major way. Indian industrial enterprises have utilized four basic factors of production (e.g., land, labour, capital and organisation) optimally to maximize domestic customers' satisfaction and national economic progress. Capital, raw materials, land and labour are not the only factors of production to accelerate the pace of economic development. A more critical and crucial factor the domination of information technology. Information Technology (IT) related software development is the engine that presently drives the economies of nations. The hardware industry needs to develop, marrying with IT. The economic strength now primarily lies in technological innovations. Countries with obsolete technology and obsolescent production cannot gear up to accept the global competitive challenges.

Modern technology is absolutely knowledge-based. Knowledge capital[1] is the key to success. This is an era of knowledge capitalism, which is very much compatible with venture capitalism. Knowledge capitalism is functionally dependent on the availability of knowledge workers[2], while venture capitalism rests on the availability of venture capitalists. Venture capitalists are broadly classified into two distinct groups. The first group comprises the formal venture capitalists (i.e., institutionalised venture capital funds). The second group comprises the informal venture capitalists (i.e., non-institutionalised venture capital funds). The informal venture capitalists are called "angel investors"[3]. Venture capitalists often relate to the story of Christopher Columbus. The modern venture capital began in the post World War II. The founder of American Research and Development Corporation (ARD), formed in 1946, was General Georges Doroit, a French-born military man and professor of Harvard Business School who is called as "the father of venture capital". The first orgins of modern venture capital in India can be traced to the setting up of a Technology Development Fund (TDF) in 1987-88.

The role of informal venture capitalists is significant in the era of information technology. The risky start-up ventures with innovative technology cannot start operations even at the seed stage without having venture capital finance from the angel investors.

## CHART 1

## DECOMPOSITION OF VENTURE CAPITALISTS




Source : Field Survey, 2000-2001

In the new millennium, the IT and biotechnology will be able to contribute a meaningful discourse in the need of venture capitalists' appearance. Of course, venture capital financing in India is neither novel nor new. This sort of risk financing has existed for decades in Indian entrepreneurship development. But the forms of venture capital financing are being changed since 1988 in the light of the US venture capital concept.

### 3. The Role of Formal and Informal Venture Capitalists

Most new start-up risky ventures with innovative technology lack assets that differentiate them from their competitors. They take business risks but do not really earn profit. They merely provide a wage to their proprietors who have taken up business risks by their own means. The profitability of their ventures is difficult to estimate; small ventures often keep untidy financial records. But the capacity of small ventures to finance high rates of growth through the internally generated funds suggests that their profit margins were significantly positive (Bhide, 2000). Financing of new ventures in the process of entrepreneurship development can be managed from personal sources, wealthy individuals (angel investors), equity sources, internally generated funds, private placement of equities, and initial public offerings (IPOs). Equity is capital invested in venture by its owners, which is at "risk" on a perpetual basis. It creates no obligation on behalf of entrepreneur to repay investors. But raising equity means sharing of ownership. The informal venture capitalists seldom engage in stringent deals/complex investment analysis while the formal venture capitalists cannot come forward without stringent done deals. At the seed stage and start-up stage the risky ventures can seldom score the pass mark to obtain formal venture capital finance. The formal venture capitalists' funding

supports are only made available through the stringent done deals (i.e., pricing a deal for a judicious investment decision). The formal venture capitalists have standard terms for providing finance to enterprises (Verma, 1997). The terms and conditions differ in accordance with the stages of development for which venture capital finance is sought. So, there is always a negotiation between an entrepreneur and formal venture capitalist for each deal strategically. The formal venture capitalists lay emphasis on the choice of an appropriate capital structure, which depends on a number of factors such as the nature of business, regularity of revenue earnings, new business mission, new entrepreneurial capability, new management team, etc.

The formal venture capitalists lay emphasis on the following elements, which are significant for each pricing deal.

1. Compound current revenue level = $R(1 + g)^n$
2. Post-tax return for n years = $R(1 + g)^n (\alpha)$
3. ** Market Valuation of the enterprise/company = $R(1 + g)^n (\alpha)(\beta)$ at the time of exit.
4. Present Value Factor = $(1 + d)^n$
5. $*V = \frac{R(1+g)^n(\alpha)(\beta)}{(1+d)^n}$
6. $M = \frac{(1+g)^n(\alpha)(\beta)}{(1+d)^n}$
7. $*V = (R)(M)$

Where, g stands for growth rate;

n stands for number of years between initial investment and exit date;

$\alpha$ stands for expected profit margin (post-tax) percentage at the exit date;

$\beta$ stands for expected price-earning ratio at the exit date ;

d stands for appropriate discount rate for venture capital investment and undertaking risk;

R stands for current revenue level ;

*V stands for present value of the enterprise/company;

M stands for revenue multiplier.

The involvement of formal venture capitalists' funds is determined in the light of funds requirements, availability of exit routes and required ownership. The required ownership is computed as follows.

Minimum required formal venture capitalists' share in ownership

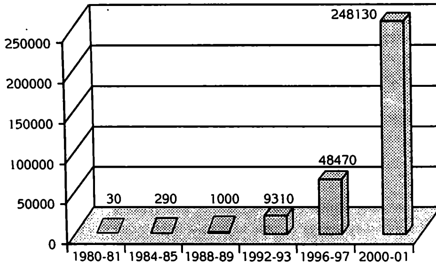
$$= \frac{\text{Required venture capital}}{\text{*PV of the enterprise/Company}}$$

The key considerations, on the basis of government guidelines, to sanction venture capital for any project are new technology, new entrepreneur, and entirely new project using technology by the first generation entrepreneur. In India, the project appraisal is done very carefully with respect to entrepreneurial capability, genius and resourcefulness, the technical skills and managerial traits of the entrepreneur. The professional experts are engaged in the process of appraisal of entrepreneurial projects through a stringent screening and techno-economic evaluation.

The informal venture capitalists do not pay much emphasis on such due diligence rather they always assume high volume of business risks by providing venture capital finance at the seed stage, start-up stage and also in the expansion stage. They always prefer to take high n-achievers having creative ideas involving with unpredictable risks and uncertainties. Most of the newly formed hi-tech ventures obtain their venture capital financing from the informal venture capitalists. The angel investors represent the largest primary source of venture capital finance for both seed and start-up hi-tech ventures.

Indian software entrepreneurs are raising funds from venture capital and angel investors. It is a great achievement on the part of Indian software entrepreneurs who are reaping increasing levels of venture capital in the US, with $2.85 billion already raised over the past 15 months. At the same time fund managers here have begun to scour start-ups in India. The rising trend shows that the Indian tech talents stand in the global market particularly in IT-related software development activities. Global angel investors are attracted towards the Indian software talents. After the achievement in risky ventures, the formal venture capitalists actually take courage to make venture capital investments. Most of the formal venture capital investments are post start-up financing. So, the informal venture capitalists/angel investors come forward to give birth to the high value adding ventures. The formal venture capitalists are only fund providers only at the matured stage for venture development. Before giving birth to any risky hi-tech venture to lay emphasis on due diligence is killing of foetus in the womb. Due diligence refers to the process of meticulous investigation regarding the merits of a prospective entrepreneur (viz., qualification, genius and resourcefulness of new hi-tech entrepreneurs, the size, growth of venture, methods of marketing, market potential, existing competition, the soundness of technologies, the management team and others). Informal venture capitalists as well as formal venture capitalists have taken up India as hub of venture capital investments in the IT-software sector. Bar chart 2 represents the software export growth.

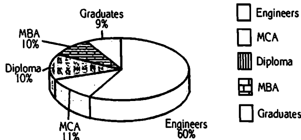
## CHART 2
## INDIAN SOFTWARE EXPORT (Rs. million)




Source : Author's compilation of Dataquest data series and DoE Reports

Indian software export grew at a faster rate, which attracted the prospective venture capitalists' investments in the IT-software development sector. The venture capitalists are toasted as the funding fathers of India's remarkable entrepreneurial revolution owing to the real potential available in technology and knowledge capital. The Indian knowledge workers who have a strong academic base, continuously create the knowledge capital. It is shown in chart 3.

## CHART 3
## ACADEMIC BASE OF INDIAN KNOWLEDGE WORKERS




Source : Field survey by the anther, 2000-2001

The global need is to accelerate on the knowledge-driven industries like info-tech, healthcare, entertainment and services. During 2000-01 twenty-one venture capitalists from abroad have invested $2188 million in IT-software development sector in India. It is expected that Indian software export will be growing faster than the past years.

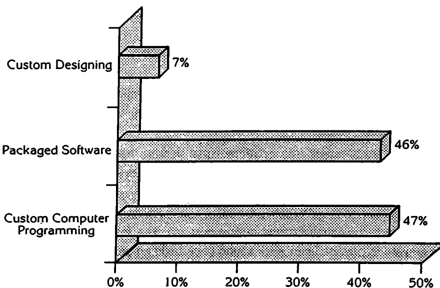
The organizational structure of the computer software industry is dominated by private limited companies. More than 70% of the Indian software enterprises are

backed by the informal venture capitalists'/angel investors' finance. Private equity is a major component of capital structure of Indian software enterprises at the seed and start-up stage. Thirty-five leading Indian software enterprises have already listed their 110.78 million ordinary shares @Rs. 10/- each through initial public offerings (IPOs) during the last eleven years [i.e., 1990-91 to 2000-01].

The Indian IT-software development sector is creating employment opportunities for 10 million knowledge workers by 2005. The angel investors/informal venture capitalists are playing a key role to boost up the strength of the computer software industry, which can be estimated by its contribution to employment growth for knowledge workers in India. Chart 4 represents employment of knowledge workers in core software industry in India.

## CHART 4

## EMPLOYMENT OF KNOWLEDGE WORKERS IN CORE SOFTWARE INDUSTRY IN INDIA




Source : Author's compilation from Dataquests Survey Reports and Heeks' estimate, 1996

The major source of employment of knowledge workers in the software industry is related to custom computer programming, which accounts for about 47% of total industry employment. Total employment of knowledge workers in custom computer programming in Indian software industry is 1.85 lakh. The next most significant source of employment of knowledge workers in the software industry is packaged software, which accounts for about 46% of total industry employment [i.e., 0.28 lakh]. However, this estimate attempts to give an idea about employment in the mid 1990s. An estimated national employment of knowledge workers in the software industry was 3.94 lakh in 1990-91.

## 4. Venture Capital Interpreted :

Venture capital is patient money, which is invested at the seed stage[4] and start-up stage to give birth to the hi-tech entrepreneurial ventures and inclubating new and innovative ideas. Venture capital financing is distinguished from other traditional sources of finance in the modern era on the basis of the following characteristics:

- *Industry is basically technology and knowledge-based.*
- *Unproven technology involves high-risk but highly potential.*
- *The entrepreneur is talented but inexperienced and first-generation drive.*
- *Investment carries high-risk-high-profitability.*
- *Probability of high-loss at the seed and start-up stage is assumed.*

The formal venture capitalists are very shy to accept these characteristics of a new hi-tech entrepreneur while the angel investors are gallant. The venture capital is also interpreted as follows.

1. (a) Venture capital investments are made in an enterprise/company, which has a mission to run the business activities with the innovative technologies/ideas having some inevitable market risk/business risks but high potential to grow.

(b) The business entity has accepted this mission to accelerate the pace for sustainable high-tech entrepreneurship development.

2. At the seed stage when ideas are to be incubated, the entrepreneur needs incubating venture capital fund supports.

3. At the start-up stage when ideas are fertilized and identified with a definite path to grow with certain revenue level, the entrepreneurial venture needs to have venture capitalists' finance.

4. At the expansion stage, the entrepreneurial venture needs venture capitalists' finance to go ahead with diversification of products/services and creation of markets.

5. At the mezzanine[5] state of affairs, the enterprise/firm/company has grown sufficiently and matured enough to go to public for initial public offerings through any regulated stock exchange for equity finance raising purpose. The formal venture capitalists come forward to provide finance for sound book building process. At this stage, the risk of financing is relatively low.

6. At the turnaround stage, the enterprise/firm/company indeed gets formally venture capital finance in need.

7. In cases of management-buy-outs (MBOs) the venture capitalists' finance becomes indispensable to meet the buy-out obligations in accordance with the market-capitalized value. The market-capitalized value depends on the pricing deal/ stringent done deal.

Venture capital investments in hi-tech entrepreneurial ventures that are trying a new idea, new production process, involves different risk perceptions. In the pre-independence era India did not have such hi-risk-hi-tech entrepreneurial ventures that got formal venture capital finance. In the post-independence era Indian hi-tech entrepreneurial talents have attracted many foreign angle investors. Venture capital is an important source of equity for start-up ventures. Venture capitalists generally:

- *finance new and rapidly growing ventures*
- *purchase equity securities*
- *assist in the development of new products or services.*
- *tadd value to the enterprise through active participation in need.*
- *take higher risk with the expectation of higher value-addition and rewards*
- *have a long-term orientation like a patient bird.*

Typically first generation tech-entrepreneurs start such high-risk ventures with the anticipation of high returns. Such tech-entrepreneurs generally do not have major collateral to offer as security; hence banks/financial institutions are averse to funding them. The informal venture capitalists'/angel investors' funding in the equity of the newly set up enterprise or a combination of debt and equity is the most preferred route.

## 5. The Structure of Venture Capital Organization

The flow of formal venture capital finance needs structured venture capital organizations (VCOs). The structure of VCOs is essentially based on the following.

- *Tax transparency must be given for the investors and investee companies.*
- *Limited liability must be ensured for the investors.*
- *Simple operational bodies of venture capital funds (VCFs) are essential.*
- *The investors must be given tax-friendly environment.*
- *Double-taxation on the basis of two-layers of taxation must be avoided.*
- *The 'carried interest' structure incorporated within the fund must be avoided.*
- *The 'carried interest' structure incorporated within the fund must be given tax-exemption in order to provide incentive fund managers.*

The carried interest. which gives venture capitalists a share of the profits but not of the losses, creates and inestment incentive in excessively risky projects (Bhide, 2000). In India, double layers of taxation prevail at present. In the US and the UK two types of tax effcient structures are practised over the years for the emergence of the venture capital industry. The first type is based on a tax, which is leviable only on the investors (to whom profits are distributed). The second type of taxation involves a limited partnership under which investors are taxed on their share of profits irrespective of the facts of distribution. The VCOs are generally structured in the following forms.

- *A Limited Partnership;*
- *An Offshore Company;*
- *An Offshore Unit Trust;*
- *A Small Business Investment Company (SBIC);*
- *An Investment Trust;*
- *An Investment Company S-Corporation;*
- *An Investment Company C-Corporation;*
- *Direct Investment Plan or A Bare Trust.*

In the venture capital industry "limited partnership" was formed in 1958 that brought about a tremendous success in the US economy. During 1980-90, 80% of the capital committed to venture capital funds went to limited partnership in the US (Gompers

& Lerner, 1999). The limited partnership is the most favoured form of structuring of a venture capital organisation in the US. Th limited partnership in the process of structuring the VCOs in the UK was introduced in May 1987. A limited partnership is attractive in the formation of VCOs because its limited liability feature lures the investors to come forwarded to invest in hi-tech-hi-risk-hi-profit ventures but they do not like to participate in the operation of the fund's business. A limited partnership acts as an engine of the venture capital industry in the US.

An investment company, the S-corporation, having the similar features of a corporation such as limited liability, is treated like a partnership for tax purpose in the US. The limited partnership and S-corporation are most favoured forms for venture capital financing activities in the US due to tax transparency. The profits and losses are directly transferred to the shareholders and chargeable to tax at the shareholders' level. The members of the S-corporation have limited liability and enjoy tax incentives (Ramesh and Gupta, 1995). In addition to the VCOs structured as a limited partnership there may be another entity called the "service corporation" (Gompers, 1994).

The US-based limited partnership structure of venture capital fund includes limited partners who use to provide 99% of capital. They get 80% of profits. The individual fund managers are generally general partners who provide 1% of capital. They get 20% of profits. If there is Service Corporation in the formation of limited partnership structure of VCF, the service corporation gets service fee. In the absence of Service Corporation, the general partners are allowed to get the service fee. The limited partnership enjoys the greatest advantage of tax incentives. The partners get profits transferred in their hands. At the partner's level tax are levied while in the case of a corporate body, the profits are taxed at first at the corporate level and then the distributed profits shall be taxed again at the shareholders' level. In the US, limited partnership firm becomes a tax-exempt entity. Pension funds are completely tax free. The corporate body as the vehicle for a venture capital organisation does not provide adequate tax-friendly investment opportunities for the shareholders.

In the UK, the general partners in a limited partnership have unlimited liability, which is the major disadvantage. The partners are chargeable to tax on gains as and when the investments are disposed off. The fund managers are generally compensated in two ways e.g., in the form of annual management fee and carried interest (Ramesh and Gupta, 1995). An Investment Trust is a public company. In UK, this type of trust has been constituted to run the venture capital investment activities. The shares of the trust are hopefully listed in the stock exchange. The trust enjoys tax transparency regarding its chargeable gains. In UK, VCOs in the form of bare trusts are functioning for approved business expansion schemes since 1983.

Banks under the Small Business Investment Act, 1958 in the US, have set up the SBICs. In the US, the SBICs have been constituted to boost-up banks' participation in the venture capital investment activities for small businesses. Creation of the SBICs and new ventures has become a potential force for the economic development in the US. In 1981, there were only 5, 81, 661 new businesses incorporated in the US. That has gone up to 7,41,657 in 1994 (Gompers, 1999). Gompers has observed

that during the 1980s firms with fewer than 500 employees created 322 innovations annually for each million employes while large companies contributed only 225 innovations per million employees. The small firms are much more innovative and enterprising than the large firms in the US. Venture capital financing made by SBICs is the most significant vehicle for small young entrepreneurs. In the US, it is observed that most of the successful ventures have received venture capital finance at their seed and start-up stage, which could accelerate the pace to tremendous economic progress through technological innovations and also created employment opportunities. The US model of venture capital financing activities specially meant for small business entrepreneurs has become a hallmark in the global arena.

## 6. Venture Capital Structure, Guidelines, and Regulatory Framework in Indian Secnario

In the US, the venture capital network is organised by limited partnership in a major way. In India, the existing laws do not allow to the formation of limited partnership for venture capital organization. The formal venture capital industry is still very shy of being organized enough to gear up and face the new global challenges in the innovative fields of information technology related software development as well as in the healthcare and biotechnology. Of course, a few venture capital organizations (VCOs) are engaged in the venture capital investment activities, which are structured as an investment company, a division of financial institution/bank; a scheme of the Unit Trust of India (UTI); a Unit Trust; Unit Trust of India Software Fund. These structural forms for the emerging venture capital financing in India are not adequate to boost up the tech-entrepreneurship development. Investment company is governed just like a corporate body having shareholders who have limited liability to the extent of their shareholdings. The term "venture capital company" is defined to mean a company, which has made investments by way of acquiring equity shares of venture capital undertakings in accordance with the prescribed guidelines of the Securities and Exchange Board of India (SEBI), 1996. The term "venture capital undertaking" is defined to mean a domestic company whose shares are not listed in a registered stock exchange in India and which is engaged in manufacture or production of articles or things (including computer software) as may be notified by the Central Government. The Finance Act, 1997 has made an amendment (w.e.f. the assessment year 1998-99) to wider the definition of venture capital undertaking to bring within its scope and undertaking engaged in the business of generation and distribution of electricity or any other form of power or engaged in the business of providing telecommunication services. The Finance (no. 2) Act, 1998 has included (from the assessment year 1999-2000 the business of developing, maintaining and operating any infrastructure facility in the aforesaid definition. For this purpose, "infrastructure facility" shall mean road, highways, bridge, airport, post rail systems, water supply, irrigation projects, sanitation and sewerage systems or any other public facility of a similar nature as may be notified by the Board in this behalf in Official Gazette and which fulfils the conditions specified in section 80-IA. The Indus Venture Fund has been constructed in India as a Unit Trust under the Indian Trust Act, 1882. In the Indian venture capital industry the UTI has become a popular name having three

venture capital unit schemes e.g., VECAUS-I, VECAUS-II, and VECAUS-III. These venture capital funds have been structured as schemes of the Unit Trust of India, which is exempt from tax under the UTI Act. All the venture capital funds have been floated under the umbrella of the UTI enjoy the benefits of tax exemption. All these floated venture capital funds have been subscribed by the UTI, domestic corporate bodies, and international organizations. The Technology Development and Information Company of India Limited (TDICI) and Risk Capital and Technology Finance Corporation Limited (RCTC) are the fund managers of these UTI funds. The Industrial Development Bank of India (IDBI) has constituted separate venture capital divisions. Small Industries Development Bank of India (SIDBI) has a separate venture capital division. These separate venture capital divisions of Indian lead banks/financial institutions sanction necessary funds to the needs of various virgin fields of venturing in India.

Significantly, it is observed that so far as the regulatory framework vis-a-vis guidelines for venture capital industry in India is concerned the restricted definition of venture capital is being followed in India for the purpose of tax concessions. The guidelines issued by the Central Government on November 25, 1988 and released by the office of the Controller of Capital issues, Department of Company Affairs suggested that the venture capital financing should confine to the enterprises fulfilling the following conditions (Pandey, 1996).

- *Size : Total investment is not exceeding Rs. : 100 million;*
- *Technology : New or relatively untried or very closely held or being taken from pilot to the stage of customisation or incorporating some significant product improvement over the existing ones in India;*
- *Entrepreneur : Relatively inexperienced, new, professionally or technically qualified persons with inadequate resources or backing to finance the venture. However, all these conditions shall not apply if the financial assistance is provided for the revival packages to the sick industrial enterprises. Venture capital excludes financing of enterprises engaged in trading, broking, investment or financial services etc.*

This section aims to give a bird's eye view of the various guidelines a venture fund has to adhere to in India under :

- *The Indian Trust Act, 1882 or the Company Act, 1956 depending on whether the fund is constituted as a trust or a company.*
- *The Foreign Investment Promotion Board (FIPB) and the Reserve Bank of India (RBI) are the appropriate authorities to regulate the foreign venture capital funds/offshore Funds.*
- *The Central Board of Direct Taxes (CBDT) governs the taxation issues on capital gains or proceeds from venture capital funding activities.*
- *The Securities and Exchange Board of India (SEBI) regulates the venture capital funding activities in India under the Regulatory Framework, 1996.*
- *The Department of Electronics forms time to time various taskforces and standing committees under the directives of Government of India, Ministry of Finance.*
- *The National Association of Software and Computers (NASSCOM) keep overall track records regarding growth and future prospects of the industry.*

## SEBI Committee [headed by Mr. K. B. Chandrashekar] Report :

In the absence of an organised venture capital market till almost 1988, individual investors and development financial institutions have hitherto played the role of venture capitalists in India. In 1973, a committee on Development of Small and Medium Enterprises highlighted the need to foster venture capital as a source of funding new tech entrepreneurs. Thereafter, some public sector funds were set up but the venture capital investment activity did not gather momentum as the thrust was on high-technology projects funded on purely financial rather than a holistic basis. Later, the World Bank, conducted a study to examine the possibility of developing venture capital in the private sector. Based on the study report of the World Bank, the Government of India took a policy initiative and announced guidelines for venture capital funds (VCFs) in India in 1988. These guidelines restricted setting up of VCFs by the banks or the financial institutions only. Thereafter, the Government of India issued guidelines in September 1995 for overseas investment in venture capital in India. The CBDT and RBI were given powers to regulate the foreign venture capital investments in India. In order to develop the India capital markets, the Securities and Exchange Board of India (SEBI) framed the SEBI (Venture Capital Funds) Regulations, 1996.

The first phase of venture capital reforms as suggested by the SEBI Committee headed by K.B. Chandrashekar has witnessed tremendous achievement. Most of the recommendations of the committee have been accepted. Venture capital investors were active during most part of 2000 in not only raissing funds but also in making investments. Now the time has come to review what should be done to maintain the continuous flow of venture capital in the development sustainable entrepreneurship in India. There are 70 venture capital funds in India, which are actively operating with their focus on effective tech-entrepreneurship development in India particularly in the knowledge-based industries. The total cumulative assets under management would be over $5 billion at the end of 2000 with investments in IT and non-IT sector around $1 billion. This is an increase of over 100% over 1999. Especially in the information technology sector there is a flurry with over 2500 new IT firms being set up in 2000.

## 7. Concluding obervations and suggestions

It is observed that the tech-entrepreneurs particularly in the IT-related software development activities are high-risk takers and high-achievers. It has been already proved in the US, UK, and other countries that India has huge potential in the IT sector. The foreign venture capitalists are coming India to invest in the IT-related software development activities with most enthusiasm. Indian formal venture capital industry has to develop fast by changing the mindset of the fund managers who are custodian of financial resources in the lead banks/financial institutions in India.

Early stage projects are not getting adequate venture capital finance owing to lack of collateral security specific asset base of the start-up tech-ventures. The lead banks/financial institutions take initiative to invest only in successful expanding ventures as the bankers have little practical technical knowledge. The

tech-entrepreneurs are not getting adequate formal venture capital funding support rather the angel investors take initiative to invest in high-profit-high-risk projects.

With the formation of IT ministry, Government of India has taken a major step towards promoting the domestic industry and achieving the full potential of the India IT entrepreneurs. Constraints have been comprehensively identified and steps taken to overcome them by improving IT-friendly infrastructure and also to provide tax incentives. Venture capital has been the main source of finance for software industry around the world. However, majority of the software units in India is in the small and medium enterprise sector and there is a critical shortage of formal venture capital finance. In order to alleviate the situation and to promote India IT-related software industry, the Government of India has set up a National Task Force on IT and Software Development to examine the feasibility of accelerating the growth of software industry. Norms for the operations of venture capital funds have also been liberalized to boost the industry. The Government of India is also actively providing fiscal incentives and liberalizing norms for Foreign Direct Investment (FDI) and raising capital abroad. Recently, The Ministry of Information Technology, Government of India, has set up an IT Committee comprising Non Resident Indian (NRI) professionals from the United States to seek expertise and advice and also to step up US investments in the IT-related software sector of India.

To accelerate the pace of economic growth it can be humbly suggested that the Government of India and the State Governments must change the mindset to promote the growth of human resource development in the IT sector with the aim of creating quality-based education, which will add the pool of knowledge workers. The knowledge workers have brain capital that is most compatible with the venture capital activity. So, intellectual capital/brain capital can be able to accelerate economic growth with an appropriate dose of formal as well as informal venture capital investment in India is rich in today's knowledge economy because she has the second largest English-speaking scientific professionals in the world. It is knowledge industry that will help to accelerate a sustained rate of growth and the policy makers are now aware of this fact.

## NOTES

[1] Knowledge capital means brain capital by which knowledge workers continually expand their capacity to create the results they truly desire, to nurture new and innovative ideas, and it is a way of behaving, indeed, a way of being an essential factor of a learning organization (Nonaka, 1991).

[2] Knowledge creating companies where inventing new knowledge is not a specialized activity rather it is a way of behaving, indeed, a way of being, in which every one is a knowledge worker (Nonaka, 1991).

Leadership, in the global competition, needs all important knowledge areas : technology, marketing, organization, management, training and firm control of "brain capital" (Drucker, 1992).

[3] Angel investors are the business magnets (viz., leading doctors, professors, lawyers, and others) who come forward to make investments for the start-up ventures at seed stage with innovative technology (Gompers, 1994). Angels are high net worth individuals who provide seed money.

[4] Small amount of venture capital provided to the entrepreneur for concept/new idea testing and to customize that idea is called seed capital.

[5] Financing an enterprise just before its initial public offerings (IPOs) is called venture capital financing at mezzanine stage.

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