1.1 INTRODUCTION:

The Indian economy gained fresh momentum with the liberalization ushered in by the government in 1991. The average GDP growth rate climbed to nearly 6% during the 1990s, compared to a tepid 4% for the first 40 years since independence. However, despite the gains made post-liberalization, India still has a long way to go. More than a quarter of its population still lives below the poverty line.

The spurt in the years immediately following liberalization appears to have slackened and GDP growth is reaching a plateau at 5-6%. The current developmental problem facing India is exacerbated by the changing demographic profile of the country. At current rates, anywhere between 19 and 37 million people will be unemployed by 2012, the largest chunk of which will be amongst the educated youth. Therefore, the need for strong, accelerated economic growth is now more acute than ever.

Despite the success of its IT services industry in global markets, India is perceived un-favorably on some dimensions by prospective customers. The principal shortcomings are perceptions of security risks, unreliability of Indian suppliers generally (other than IT perhaps), and lack of sound infrastructure (despite Significant improvements in telecom recently). Sources of information that Investors and foreign business executives usually rely on do not convey a favorable Impression of India. For most outsiders, India has an image of an exciting, but Dirty and unsafe country. Also, India needs to move faster from its present image of merely 'low cost' to become strong on other important dimensions of customer satisfaction such as quality and innovation. While several agencies are working to promote India; their
efforts are not coordinated. As a result, different images of India are projected and the fragmentation of resources across various initiatives leads to limited impact. As a part of Global economy; Capital goods and after sales services needs focus to enhance image of country.

In economics, Capital goods refer to real products that are use in the production of other products but are not incorporated into the new product. They are often called fixed human made means of production. Capital goods include factories, machineries, tools and other buildings. They are different from raw materials, which are used up in the production of goods.

Capital goods are different from financial capital. Whereas capital goods are real objects owned by individual, government, and other organization in order to get a positive return of some sort from production, financial capital refers to piece of paper (or other kinds of premises) that represents the claims on these types of goods and on the other sources of promised future incomes.

**Capital Goods Definition, Classification and selection.**

Definition: Goods used in the production of other goods such as industrial buildings, Machinery Equipment, as well as highways, residential; commercial, hotels; office buildings and government buildings. In aggregate, such goods are key determiners of country’s productive capacity. (Ref. Barons Educational Series, Inc. 2000.)

Capital Goods have been defined for the purpose of this study as:

"Any Product/ equipment of high value (More than 3.0 lakhs), durables (economic asset life 5 years), used as plant and machinery for agricultural, industrial, commercial (transportation etc.) purpose of production /service delivery purpose."
Researcher has considered “use base” classification of segment. The five representative segments identified are as follows.

1) Textile machinery
2) Machine tools
3) Electrical and power equipments which include Elevators, Boilers, Turbines, Diesel Engines, Transformers, Switchgears, Motors and Generators.
4) Earthmoving and construction Equipments
5) Process Plant Equipment, which includes Pressure vessels, Cooling Towers, Furnaces and Heat exchangers.

Here we have considered Traction Elevators under Capital Goods as a part of our research study.

1.2 SCENARIO OF CAPITAL GOODS INDUSTRY.

The trends Capital Goods sector reveals that its fortunes are inextricably linked with that of the overall Indian industry. High degree of correlation between the performances of the two sectors is further accentuated by high elasticity of Capital Goods industry to changes in industry growth. The Capital Goods value added contributes a fairly constant proportion (9-12 %) of the total manufacturing value added, thus establishing that manufacturing as the key end-user sector of Capital Goods drives the performance of the latter. Another key determinant of the demand for Capital Goods is the gross investment undertaken in the economy. The apparent consumption of Capital Goods constitutes a constant share (17-21%) of the total Gross Domestic Investment in the country. On the supply side the output of Capital Goods is determined by investments in Capital Goods sector and capacity utilization. The investments in the Capital Goods sector have declined with the decline in the relative profitability of the Capital Goods sector with respect to other sectors.
The export performance corroborates the inward focus of Capital Goods industry as less than one-tenth of its sales is directed to exports. Except for few segments within the Capital Goods sector, almost all of them have single digit exports as percentage of sales figures but future is promising due to change in government policies in line with liberalization and privatization and there are mergers, acquisitions and joint ventures in Capital Goods Sector.

**Business Environment**

1. **Labour:**
   Labour in the Indian Capital Goods sector is highly cost competitive, even after discounting a comparatively low labour productivity. The labour cost efficiency (which captures the cost and Productivity aspects of labour) for Indian Capital Goods sector is 1.32 times that of China’s and 1.38 times that of Taiwan’s. Among the reference set of countries only Korea (whose labour cost efficiency is 1.31 times that of India’s) outscores India on this count. But since the labour factor proportion is low (approximately 7 to 21 per cent) in the total factor usage, this does not translate into a significant relative advantage. Inflexible labour policies have also eroded this advantage partly.

   There is greater scope to change and amend Labour policies to take advantages of opportunities available in Capital Goods sector.

2. **Raw materials**

   The raw materials used are largely domestic in origin. With the dismantling of various price controls on key inputs, Indian Capital Goods manufacturers now procure raw materials at market prices, which move in line with international prices. The raw material price indices have risen faster than the machinery price index. It is difficult for the Indian Capital Goods manufacturers to pass on the rise in prices to the customers, thereby impacting their profitability. However the
rising cost of raw materials has prodded only a few Indian manufacturers to resort to value engineering techniques for efficient raw material usage and cost reduction. The quality of raw materials is also not up to the international standards in terms of dimensional tolerances and metallurgical properties, and this, in turn, affects the quality of the final product. As there is a big opportunity to work towards quality aspects of Materials and apply new concepts of materials management.

3. Working capital requirements

Indian Capital Goods manufacturers have working capital requirements as high as 45 per cent of net sales (against global benchmark of 15 per cent). High interest rate regime in India results in a substantial 7 to 8 per cent interest rate differential relative to the reference countries, amounting to 3.1 to 3.6 per cent capital cost disadvantage due to interest differential and 0.9 per cent due to higher working capital requirement. It is becoming increasingly difficult for the Indian Capital Goods sector to source capital. Total bank credit to engineering sector has steadily declined from 20.3 per cent (as share of total bank credit to all industrial sectors) in 1990 to 9.0 percent in 2000. This is largely a result of the shift from developmental banking to universal banking by financial institutions initially set up to provide finance at lower costs to industry. A caution here is Positive volatile capital market and uncertainty in FDI inflow.

4. Technological competitiveness

The technological competitiveness of the Indian Capital Goods sector is low. Indian Capital Goods firms present a full spectrum of technological capabilities - while there are few firms close to the international frontier in terms of product design capability and process technology, technological capabilities of most players are extremely limited. The advantage due to high availability of quality engineers and
scientists is lost, partly due to brain drain and partly due to stagnation of skill sets of scientists and engineers within India. India has a number of high quality R&D institutions, but the industry–institute interactions are low, thereby reducing the chances of creation of commercially viable technologies. Capital Goods sector has a comparative disadvantage with respect to both product and process technologies. In the case of the Indian Capital Goods manufacturers, the human resources devoted to design and engineering activity is about 20 to 25 per cent less than in other industrialized countries. Although Indian firms are capable of achieving high levels of precision, they are unable to produce high quality products due to lack of supporting process technologies such as precision measuring, material engineering and process control.

5. Image

Negative perceptions about "Made in India" image have damaged the ability of Indian Capital Goods manufacturers to compete at optimal capacity in world markets, while promoting their products abroad. This invariably results in price concessions by Indian manufacturers to offset product bias in export markets, thereby compounding cost disadvantage. So strong is the negative image that leading Indian Capital Goods exporters play down their "Made in India" identity as the association of 'country of origin' is more harmful than helpful. The problem has been further exacerbated by negative self-perception of Indian buyers and lack of strong "Buy Indian" sentiment. As such this attitude should be change with some action and image building exercises.

6. Infrastructure

The quality of infrastructure (transport, communication and power) is poor, thus affecting competitive delivery schedules and increasing operating costs. The delivery time of locally made Capital Goods in
many cases is 1.5 to 2 times longer than in industrialized nations. Companies tend to lose orders on delivery schedules. Inland transport is slow, although the railroad density is among the highest in the world. The cost of electric power is comparable to that in other nations, but the reliability is poor. Many Indian Capital Goods firms have set up their own captive power plants to obviate the problem. This has added to the costs. Overall the infrastructure inadequacies are estimated to translate into 5 per cent cost disadvantage for Indian Capital Goods manufacturer's vis-à-vis foreign manufacturers.

7. Comparative Advantage

Indian Capital Goods industry derives some degree of comparative advantage from clusterization in certain segments like foundry; electronics etc., while engineering consulting services has exhibited competitive advantages relating to the accumulation of knowledge assets and advanced tools. However, in the larger frame of picture, ancillaries and supporting industries (for bought-outs like hydraulics etc.) are far from being competitive in terms of technical capability, quality and delivery. The industry is characterized by relative lack of sub-contracting arrangements, despite large scale SME presence in engineering sector, thus losing out on opportunities to exploit horizontal economies of scale or specialization. Here we can review the option of outsourcing in this sector.

Indian Capital Goods sector is strengthened by large home demand with high growth potential (on flip side even inducing inward orientation). At the same time, low degree of buyer sophistication neutralizes any accruing size advantage as the companies can get away with less than desirable quality, with little incentive to innovate.

8. Taxation
There is comparatively high incidence of indirect taxation (excise duty,octroi duty/entry tax, Merit duty, central sales tax, sales tax, service tax etc.) in the case of the Indian Capital Goods sector when compared to taxes faced by Capital Goods sectors of other nations. Imposition of surfeit of taxes on Capital Goods sector increases the final price to the end consumer, thereby stifling demand. The cost disadvantage due to indirect taxes to Indian Capital Goods manufacturers can be as high as 24 percent in certain cases. Combining above cost disadvantages with the high cost of finance and infrastructure inadequacies, the domestic Capital Goods producers suffer from an overall cost disadvantage up to 34 per cent against the imports.

Inversion of duty structure (higher import duty on select raw materials like copper, rubber components etc. compared to that of finished Capital goods import) results in a reduced effective protection rate for the electrical segment as a whole.

According to Mr. Nani Plakhiwala (Economist); Zero-duty imports for projects like refinery, fertilizer etc. puts the domestic Capital Goods industry at a clear disadvantage. The purchase preference in favor of public sector enterprises results in distortion of the market mechanism. It deprives the private sector firms of a level playing field and also erodes the profitability of the public sector enterprise.

The issue of second-hand machinery imports is like a double-edged sword. Although it enables end user industries to set up projects at lower costs, it puts the Capital Goods industry at a disadvantage. It has been seen that the domestic industry is losing its competitiveness to imports. This is further accentuated by the import of second hand goods.

Export transaction costs for Indian Capital Goods industry are among the highest in the world. Heavy transaction costs not only increase the price of the final export product, but also result in inordinate delays in
export fulfillment, thus affecting export competitiveness. According to available studies, total cost of transaction of engineering goods in India works to around 10 per cent of the total export earnings. It is further estimated that if the procedural complexities were eliminated, then the export sales of Indian Capital Goods is likely to go up significantly (by 28 per cent as per Exim Bank estimates). Ref. Exim bank journal 2003-04.

Indian Capital Goods industry also lags in strong institutional mechanisms for export credit and Promotion. Credit periods in international markets ranges from 90 to 360 days at interest terms varying from 0.25 to 4 per cent with 1 to 3 years moratorium. In India the interest rates vary from 6.5 to 10 per cent. The Export–Import Bank today raises money at commercial rates from the market and is unable to offer competitive rates. India thus lags significantly in competitive institutional mechanisms that can provide short term and long term financing for exports. Ref. www.ficci.com

9. Ownership Pattern

The ownership pattern in Indian Capital Goods Industry is marked by the dominance of Public Sector Enterprises (PSEs) in heavy engineering, machine tools, boiler manufacturing, while private firms prevail in industrial machinery segments such as cement, sugar and most other non-electrical machinery. The impending privatization of these large PSEs would radically change the industry structure. The firm structures and their ownership pattern at the end of the privatization process would significantly affect the development of this sector in the future.

The Indian Capital Goods sector at present is concentrated in terms of output shares. In most product groups, there are a few companies at the top of the pyramid, generally large Public Sector Enterprises (PSEs) that BHEL, CCI etc, followed by a middle layer of companies
comprising large private companies like Finolex, and Multi-National Companies (MNCs) Otis, Kone, Schindler etc operating in India and a large number of small units at the bottom. Although the last decade has seen the decline in PSE’s market share, the dominance of PSEs is partly maintained through preferential policies like purchase preference. This results in sub-optimal market functioning, leading to less innovation and thereby low competitiveness.

10. **Width of products**

Indian Capital Goods sector is characterized by a large width of products (almost all major Capital Goods are domestically manufactured) - a legacy of import-substitution policy. This is reflected in the import and export weights calculated for the various reference and benchmark countries. The import weight is defined as the ratio of imports to domestic consumption and the export weight as the ratio of exports to total domestic production. Low values for both weights would indicate an inward oriented economy focused on catering only to its demand through domestic production. In the case of India, the import weight works to 21 percent, while the export weight is 7 percent. A case in point is the vibrant German Capital Goods sector, which has an import weight of 32 percent and export weight of 41 percent with a self-sufficiency of 115 percent. Even nations with advanced Capital Goods sector do not produce the entire range of Capital Goods, but instead focus on select segments or sub segments. The Indian Capital Goods sector, on the other hand, lacks sufficient depth largely due to low demand sophistication of the Indian market, thus, resulting in comparatively low competitiveness.

11. **Marketing strategies**

Indian firms, in general, lack export thrust in their marketing strategies. The emergence of global market, through lowering of tariff barriers, has led to blurring of margins between domestic and export markets.
Worldwide Capital Goods firms are increasingly becoming global in operations. Very few Indian firms have a global mindset. The focus is largely on the domestic market; exports gain importance only in case of fall in domestic demand.

The limited presence of Indian Capital Goods firms in the value chain leads to diminished cost and differentiation advantage. An emerging trend amongst Capital Goods companies around the world is the transformation of these engineering companies to a more service based organization. Some large international firms earn a substantial proportion of their revenue from services through significant investment in downstream activities.

Indian firms invest less in marketing activities and have low customer orientation. Very little effort is expended on branding. Investments in marketing, increased customer orientation and branding could act as entry barriers for foreign firms into the Indian market. The trend internationally has been towards adopting a solutions approach to selling. Indian firms continue to adopt a product-oriented approach towards their customers.

12. Quality

Most Indian manufacturers define quality of Capital Goods largely by performance parameters and dimensional accuracy, and not in terms of aesthetics or finish of the goods. Most Indian Capital Goods are functionally at par with equipment made elsewhere in the world, but they rank poorly as far as finish is concerned. This has adversely impacted the competitiveness of the Indian Capital Goods in a discriminating and sophisticated export market.

Firm level innovation is very low in India. Indian Capital Goods firms source technology, but very few of them improve upon it. The research spending as a percentage of sales amongst Indian Capital Goods are
low when compared to the R&D spends of companies in Taiwan and Korea.

13. Operational efficiencies

Indian Capital Goods firm operational efficiencies are comparatively low. Very few Indian firms use technology to make their business processes like procurement, distribution, marketing and servicing more efficient. Also the use of techno-managerial processes like JIT, TQM, TPM etc. are limited to large firms only.


Indian Capital goods industry is at crossroad today. It faces great challenges, as well as great opportunities. India today has the potential to emerge as a global player, but is not in a position to turn this potential into reality. Key and timely decisions need to be taken to set it going on the path to growth and global growth and global competitiveness. The need of the hour is to enable radical and discontinuous growth, to bring India on par with other key developing and even developed economies. Otherwise, there is grave danger of India getting marginalized in the world market, despite its huge potential.

INDIA’S capital goods sector is undergoing a transformation, from a protected environment, to one of open trade and global competition. Despite progressive liberalization of policies over the last decade, the sector’s performance has not been in proportion to the potential. Slow pace of reforms, mismatch between policy intent and implementation and inadequate development of key enablers like infrastructure, utilities, R&D and labour have combined to keep India lagging behind most other developing economies in industrial and manufacturing growth. As the world is moving towards more open and free trade,
India needs strong policy decisions and effective implementation to emerge as a strong global economy.

The major contributor to India’s economy today is the Service sector, followed by Industry. Nearly 75% of India’s GDP comes from these two sectors of this, services constitute 45% and industry, 30%, of which manufacturing accounts for 19%. Manufacturing is a key building block of the economy, since growth in this sector will have a complementary effect on the services sector as well. For example, an increase in the demand for elevators, cars etc. will also lead to demand for related services like software and design services (for manufacturers) and financing, repair and maintenance services (for consumers). Growth in production of capital goods, textiles, etc., (manufacturing) will also aid growth in retailing (services). Therefore, any future growth in the Indian economy will greatly depend upon growth in capital goods manufacturing.

Government policy in India, from Independence till 1991, was focused primarily on protecting the domestic industry and limiting private sector monopoly. During this period, India manufacturers were shielded from global competition and as a result, performance levels in India considerably lagged global benchmarks. While the economy has been opened up to global competition over the last decade, manufacturing in India is still a long way behind global standards in key areas like quality, productivity and process efficiencies. Further, in terms of infrastructure development, literacy rates and standard of living, India still lags behind not only the developed countries, but also developing countries like Thailand and Malaysia.

Global competition is intensifying, and no country or market is insulated from this phenomenon. Reduction in trade barriers and improvement in information technology and communication now allow companies to source products and services from the cheapest and most efficient sources across the globe. The Indian software industry has seized the
opportunity and grown tremendously over the last 5 years; however, Indian capital goods industry is yet to realize its potential in the global market.

India is today a strong regional power, which has the potential to become a significant global power in the future. On the one hand, there is an opportunity to leverage India's strategic location, engineering and design skills and workforce to emerge as a global hub for capital goods and services. On the other hand, India faces stiff competition from China and other South East Asian countries, which enjoy most of the advantages of India, and also have healthier economies. These developments have place Indian Capital Goods Industry at crossroads today. Several key questions need to be answered:

- What are the key opportunities for India in the global market?
- What are the essential key features of Indian capital goods Industry?
- Does Indian capital goods industry have a comparative advantage in the global arena? If so, how can India pro-actively leverage this advantage?
- What are the policies required and how quickly and effectively can we implement them?

India is currently at the labour intensive, low-end capital goods manufacturing position catering primarily to repetitive manufacturing, with marginal participation in the high value added activities such as concept development, R&D and design. Its comparative advantage also lies primarily in availability of raw material and low cost of labor. While it is not unrealistic to aspire for India to move up the value chain and the continuum, given the large pool of engineers, for achieving radical or discontinuous growth there is a need to leapfrog over the normal evolution cycles, to get directly to high-end manufacturing and related services.
Therefore, propelling India along the path to becoming a global capital goods hub through radical growth would require:

1. Identification of specific industries and sectors, where India can provide a comparative advantage, and putting them on the ‘fast track’. By achieving radical growth in these industries, the economy as a whole can grow faster than the normal growth path.

2. Putting in place basic requirements like infrastructure, financing and rational tax structure through policy initiatives, so that:
   a) The capabilities of the capital goods industry as a whole can be brought on par with world standards.
   b) India's large labor force is leveraged effectively by enabling small and labor intensive industries to become more competitive.

15. Limitations

a. India does not aggressively promote innovation, which is the key to manufacturing capital goods growth in the world markets. There is very low emphasis on promoting innovation, either in education or in business. School curricula focus heavily on classroom teaching and do not promote innovative teaching methods to kindle creative thinking and working. Even so, the percentage of scientists and engineers in the population is also lower in India compared to countries like China. (Ref. figure no. - 1.1)
b. Indian business gives relatively low importance to developing capabilities in indigenous innovation and development. Indian automotive companies for example, spend just about 0.8% of their turnover on R&D, as compared to 3% to 6% for countries like Japan and Germany respectively (Refer figure no. 1.2).
INDIAN MANUFACTURING LAGS BEHIND OTHER KEY DEVELOPING ECONOMIES IN ASIA

Manufacturing plays a significant role in the economy. In less developed countries, the focus is more on agriculture and fulfilling of basic necessities. As countries become more prosperous, consumers spend more on value-added goods and services and the role of manufacturing and services in the country's economy increases. In highly developed countries, services will be the dominant sector, since much of manufacturing in these countries is outsourced.

India being a developing economy, the importance of manufacturing cannot be under-emphasized. Indian manufacturing constitutes nearly one fifth of the economy. It employs nearly 1.8 million people in the organized sector alone, and contributes more than 75% of India’s exports.

Thus the manufacturing sector has a significant role to play in India’s prosperity and growth. India’s manufacturing sector has been growing steadily over the years. Manufacturing value added grew at a rate of 7.4% during the period 1980-90. From $29.8 billion in 1980, the Gross Value Added (GVA) had increased to $72.8 billion in 1995. In the process, the share of manufacturing in India’s GDP had gone up from 16% to 19%. (Refer figure no. 1.3)
However, when compared to other key developing countries, India's performance is quite low. For example, against growth rate of 7.4 for India, GVA growth rate of China was 10.7%, that of Korea 12.1%, and other ASIAN countries, 7.5%. The comparative value of GVA for China was $369 billion (nearly 5 times of India) and Brazil was $179 billion. Even as a percentage of GDP, Indian manufacturing, at 19%, falls far below China (37%), Brazil (23%) and other SE Asian countries (ranging from 22% to 34%)

1.3 DEVELOPMENT OF INDIAN MANUFACTURING OVER THE YEARS

Growth

In spite of odds, India's manufacturing sector has been registering healthy growth right from the 1950s to the present till today as
compared to the developing nations. In fact, growth in manufacturing has consistently outstripped the overall growth in GDP, indicating the increasing significance of manufacturing in the overall economy.

Manufacturing growth started accelerating in the 1980s and got a further fillip in the 1990s. Several reasons are cited for this – investment in public infrastructure, gradual reduction in government controls and higher inflow of private investment in the 1990s being the key ones.

Manufacturing growth has not always led to a corresponding growth in employment generation. The 1980s can be called the period of “jobless growth”, since the high manufacturing growth rate of 7.4% during the decade translated in to just 4,84,000 additional jobs in the registered manufacturing sector (in a total labour force of nearly 8 million factory workers). The key reason for low employment increase was the adoption of capital intensive production techniques by manufacturers. In the 1990s, the increase in investments and the getting up of more small and medium sized factories led to resurgence in employment generation – nearly 1.8 million new jobs were created in the registered manufacturing sector during this decade. However, some studies have found that in the unregistered manufacturing sector, growth was actually negative during the mid 1080s to 1990s. Given that 80% of manufacturing employment is in this sector, this trend is significant.

In the later part of the 1990s, manufacturing growth has declined marginally. Form a growth of 7% in 1998, the growth rate dropped to 6.4% in 2000. This may be a reflection of the overall slowdown in the economy- in fact, despite the slowdown; manufacturing growth continues to be higher than the growth in GDP.

In terms of employment, the manufacturing sector employed nearly 30.5 million people in 1999, out of which the majority (nearly 78%) were in small scale industries, khadi and village industries.
1.4 SCENARIO OF CONSTRUCTION INDUSTRY:

a. There are two underlying themes that permeate the modern building industry. The first is that construction per se is technologically rooted in man's historical appropriation of nature. The second is that the present-day notion of construction as an economic sector is an outgrowth of the development of market-based construction. Both of these themes are inexorably woven into the everyday pace and rhythm of construction.

In the first respect, builders and craftsperson still confront the age-old problems posed in the aboriginal search for dwellings. Issues of ventilation, illumination, and structural support, which challenged their historical predecessors, are confronted daily by engineers, architects, and tradespersons. Cave dwellers would no more be apt to build a wintry fire.

The total global construction output is over $3000 billion. Though India's share is a miniscule 1.77% of the global output, the construction industry is the lifeline of India. If India is shining today, it's largely due to the employment generated by the infrastructure projects. Given the forward and backward linkages of the construction material industry with the building materials sector and real estate development, it's hardly surprising that about 40% of the outlay of fund in the national plan is marked for housing and infrastructure, second only to agriculture. However, the construction sector is not as organized or structured as other sectors.

b. Relation of construction industry to elevator industry.

It is not difficult to get a sense of the fragmentation of the construction industry. Multimillion-rupee structures are erected by large-volume contractors only a few yards from small-scale projects that are handled by one- or two-person shops. What is unique is that the two are
participants within the same industry. How they coexist and compete is to a large extent shaped by the structure of the construction industry.

In 1992, the Census of Construction Industries reported that there were nearly 2 million businesses operating in the construction industry. The fact that 1.3 million of these firms, proprietorships, and partnerships were without payrolls reflects the tremendous diversity in markets.

c. Construction Statistics

The construction industry presents somewhat of a statistical quandary. The problem lies in the comparability of inputs and outputs, due to the nature of the industry. Building projects are rarely similar, while virtually identical undertakings are practically nonexistent. Factors from soil type, to weather, to code requirements help ensure that comparability becomes a project unto itself.

The proverbial apples versus oranges issue is for the construction analyst a problem of sheetrock versus plaster, fiber-optic cable versus copper wire, or polyvinyl chloride pipe versus copper tubing. As product development, legal restrictions, and consumer demand change, so does the final outcome of a construction project? Thus the challenge is not merely to develop reasonable weights and measures, but to determine a consistent database for any analysis.

d. Determinants of Construction Investment

The boom -- bust nature of the construction industry is well known to all the participants -- investors, employers, and workers. The feast or famine mentality that has historically shaped much of the thinking and planning has largely been determined by the activity in those sectors that demand construction services. As a precursor to an overall economic upswing, rapid construction expansion is often the norm as industries "tool up" for a projected rise in business activity. Its downside is the seemingly instantaneous closing of the investment spigot as
overextended construction firms are soon caught with unjustifiable payrolls, inventories, and overhead.

A variety of factors can be identified as contributing to the specific characteristics of investment in this industry. Investment volatility stems from the notion of a derived demand for construction contracts.

e. Trends and Directions in the Construction Industry with respect to elevator industry

Fundamental change in the construction industry is seldom sweeping. It is often slow-paced and years can pass before practices become standardized across the national market. In part, the plethora of localized markets with their own traditions, codes, and special requirements have served to create conservatism in construction methods.

There are, however, a number of new directions within the industry that represent deviations from this traditional history. Technological advances, shifts in firm structure, and a changing work force composition are elements that may alter the face (if not the entire corpus) of the industry. It is worth examining each of these facets with respect to the industry's needs and the dynamics of the wider macroeconomic system.

The boom-bust nature of the industry is accepted as a natural aspect of life in the building trades. The instability this creates among the labor force and contracting firms is a well-documented fact. The quickness with which a union hiring hall bench can be cleared and the modern overbuilding of commercial space in the late 1990s both reflect tendencies in market-based construction that have carried over since the nineteenth century.

Construction industry witnessed a growth rate of 32 per cent in top line while bottom line grew at 128 per cent in the first quarter of FY05.
Industry leaders like Larsen & Turbo, HCC, IVRCL, Nagarjuna Construction, Gammon India, etc, witnessed the largest growth in their top lines. Larsen & Toubro's top line grew by 64.50 per cent and bottom line by 26.13 per cent in the June '04 quarter on a YoY basis. Having total orders of Rs 16 581 crore as on June 30, 2004, the engineering major is expecting 25 per cent growth in FY05. Getting better recognition in the international market, Indian companies are getting more and more projects abroad. Recently, L&T bagged an order worth Rs 240 crore (approx) in the United Arab Emirates to develop a platform in an oil field in the Gulf. The work is to be completed in 18 months. L&T has a strong order booking of over Rs 17000 crore.

1.5 About Pune and it's Real Estate Snapshot

Pune city, the Punyanagroi, popularly known as the Queen of the Deccan, vibrant with the population of about 40.5 lakhs and has a spread of over 138 sq. kms. With a green cover of 40%, it is naturally one of the most legend cities of India. Because of an enormous growth of industries & trade, and its near vicinity to Mumbai, it has acquired great socio economics, scientific and political significances. It is apparently the second most important city in Maharashtra and has earned a reputation, as a prominent educational center in our country. There are more than 100 biomedical organizations in and around Pune. After independence, it has developed into an industrial city and in the 21st century, it is also emerging as an IT hub. A glorious past, envitable present and promising future.

The history of Pune is both illustrious and romantic. The city has developed at the confluence of two rivers Mula and Mutha, considering it to be scared place, hence the name Pune derived from Punya. It is known for its historical, culture and social importance. Rashtrakootas have been found to be the earliest rulers of the city. Pune has played a leadership role in various aspects of Indian hoi story. The greatest
Maratha Emperor Chhatrapati Shivaji built his empire from here. Later
the Peshwas made Pune their headquarters. It has witnessed great
social and political movements of transformations through the history of
India. It has given remarkable personalities like Lokmanya Bal
Gangadhar Tilak, Gopal Krishna Gokhle, Veer Savarkar,
Balgandharva, Thirka Tabala Nawaz, Dada Vasawani, Sant
Gyaneswar Maharaj, Mharshi Karve, Sant Tukaram, Jyothirao Phule,
and Namdeo.

Pune is considered the cultural capital of Maharashtra. Great artists
especially of Hindustani Classical music have found Pune to be
benevolent city to live in. Pune is the home of the legendary Pandit Bhim
Sen Joshi, others notables are Lata Mangeshkar, Asha Bhosle, V.
Shantaram. It has beautiful modern theatres, well known among them
is the Balgandharva Kala Mandir. The city has great institutions like
Agarkar Research Institute, Bhandarkar Institute of Oriental Studies, C-
DAC, Gokhle Institute, of Economics, Hindustan Antibiotics,
Information Technology Park, Inter University center for Astronomy and
Astrophysics, National AIDS Research Institute, National Center for
Cell Culture Science, National Chemical Laboratory, National Defense
Academy, national Institute of Naturopathy, National Institute of
Virology, Serum Institute of India, and Universities like University of
Pune, Bharati Vidyapeeth (Deemed University), D. Y. Patil (Deemed
University) Armed Medical Collage, B.J. Medical Collage, and many
public and private engineering, Medical, Pharmaceutical and Para-
Medical Collages, are some of the well known organizations. It has
been a great seat of learning and so it has been affectionately called
the Oxford of the East, due to these many reputed institutions. During
the monsoon, Pune city attracts people from Mumbai, and many others
parts of the country to its Turf Club.

Famous historical places are: Aga Khan Place, Kelkar Museum,,
Parvati Hill, Pataleswar Cave on Junglee Maharaj Road, Shaninwada
PUNE Real Estate Snapshot: (Ref. www.credai.com, year 2000-04)

- Indian real estate market estimated at Rs 80,000 crore.
- Size of Pune market estimated around Rs 4,000 crore.
- There are 20,000 builders across the country.
- Pune has around 800 builders.
- Of this, 170 builders are members of PBAP.

1.6 Conclusion
The trends indicate a gradual shift in growth, within the registered sector, from low value added; labor-intensive industries to high value added, capital intensive ones. However, the bulk of employment continues to be in the former. There is also a clear dichotomy between registered and unregistered manufacturing in terms of growth rate and labor force. While the registered sector has cornered most of the investment and value add, the unregistered sector contains most of labor pool, which is a key competitive advantage for India.

In order to leverage labor resources effectively, any policy aimed at future growth in Indian capital goods industry has to focus on improving competitiveness of labor-intensive industries in the registered sector, as well as the unregistered sector.

The economic analysis of the construction industry through its historical roots, applicable theoretical paradigms, and current events has uncovered a number of recurring themes. Derived demand, productivity, and the social relations of the building industry are issues that provide a basis on which to draw some conclusions about the present status of the industry and its future development.
1.7 REFERENCE:


