CHAPTER 2: REVIEW OF LITERATURE

2. FDI IN GENERAL

Empirical studies on FDI in transition economies in Central & Eastern Europe and East Asia (the former states of Soviet Union) suggest that foreign players are attracted to the countries with low labor cost, new markets and favorable FDI policies (Meyer, 1998, Cheng & Kwan, 2000 and Bevan & Estrin, 2000). FDI leads to transfer of numerous resources like knowledge, capital, marketing know-how, technology, management skills etc. to the host country (Balasubramanyam and Mahambre, 2003). Further FDI helps integrate the transition economies with the world economy and promotes private investment. Foreign Investors through their expertise and knowledge of international markets help promote exports from the transition economies (Meyer, 1998, Grima et al., 2005 and Nguyen and Xing, 2006). However, in addition to the benefits, foreign companies face many issues such as poor infrastructure, low-skilled labor, unstable institutional practices, bureaucratic incompetency etc. while investing in the transition economies (Meyer, 2001 and Bevan et al, 2004). Local players in the transition economies are short of knowledge and understanding of the market mechanisms and lack the expertise of identifying the right partners or competitors. All these disadvantages lead to an increment in production costs and transaction costs associated with monitoring and searching the right partners. Under the said circumstances foreign investors in transition economies have to work towards limiting the downsides so as to maximize the gains.

In this section we try to decipher the psychic of foreign investors and make an effort to answer following questions on FDI:
• What drives foreign firms to invest overseas?

• Why companies prefer FDI over other modes of investments such as licensing or exports?

• Which aspects influence the location decisions of foreign investors in overseas locations?

Early research on FDI has evaluated foreign investment as a monitory flow between nations (Aliber, 1970 & Batra and Hadar, 1979). Difference in the rates of return on capital stimulates the flow of capital parallel to disparity in the marginal productivity on capital employed. FDI serves as the global funds arbitrage wherein interest rate differential between strong currency and weak currency provide an opportunity to earn premium to foreign firms.

Most researchers opine that the first systematic attempt to explicate the motives driving internationalization of firms has been made in Hymer’s dissertation, which was published in the year 1976. His research on growth of US firms abroad, suggests that existence of unique benefits such as reduction in tariffs and transportation costs by producing abroad instead of exports is only the essential stipulation for foreign investors to invest abroad, but is not sufficient to justify the movement of firms abroad, as firms may give license to a foreign company to produce its product or it may even start a joint venture with a local player. Motivators for setting up a foreign subsidiary are known as “Internationalization Advantages”. Internationalization refers to “Opening up of a subsidiary of a multinational company in a foreign country, with full control on production process from raw materials to sales rather than the arm’s length agreement” (Navaretti and Venables, 2004). Companies operating in imperfect markets face information asymmetry arising out of monitoring the quality of intermediate goods and enforcing the contracts with local partners also referred as Transaction costs (Williamson, 1975). Hence, foreign companies prefer internationalization over joint ventures as it guarantees that
the final product of the company adheres to the quality standards set by the company in its home market.

Hymer (1976) in his thesis has found that in order to compete with local firms, foreign firms must possess certain advantages which may not be easily replicated by the incumbent local firms. Firm specific advantages include Intellectual Property Rights (IPR) and intangible assets such as tacit knowledge embodied in the human capital of the foreign firm. Such advantages give an upper hand to the foreign firms in new markets by creating a sort of monopoly situation. Further foreign firms lack the knowledge on local business environment and practices of the host country, which they have to acquire at a cost. In order to compensate for the information cost foreign firms must possess the above mentioned advantages in order to operate competitively abroad. Sharing of the intangible assets i.e. human capital such as engineering, management practices, financial and marketing expertise, with local joint venture partners is another major issue due to which foreign company’s do not prefer to enter foreign markets through a Joint Venture. As local partners may learn the technology and use it to their own benefit and at some stage in future become the competitors of the company. Additionally, they may spoil the repute of foreign firms by manufacturing low quality products. Relationship can further get affected due to deceptive intentions of local partners, for instance they may report the local market worst than the actual to rationalize their poor performance. These risks get eliminated if the company opens its own subsidiary in the foreign country. Therefore more foreign companies prefer to start a wholly-owned subsidiary rather than a knowledge sharing joint ventures with local partners, this is specially the case with high-technology industries (Kogut and Zander, 1993).

As mentioned in the above section competitive advantages cropping out of “tacit knowledge”, which is embedded in the people as well the routine of the company, unlike machines cannot be easily replicated by other companies and hence help generate added value for the foreign firms. Markusen (1995) in his
study has pointed out that such “knowledge based- assets” as human capital can easily be transferred between various subsidies of a company at low costs. Further an engineer or a manager can visit multiple plant locations without incurring much additional cost for the firm, which in contrast is not possible in case of physical capital. Empirical research in the area suggests that more tacit the knowledge is, more is the firm’s preference towards setting up of a wholly owned subsidiary (Zander and Kogut, 1993). In transition economies the preferred route of entry is through a wholly owned subsidiary instead of a Joint Venture, as in these economies local firms are less experienced, the cost of acquiring information about the local partners is higher and the institutional framework is loose (Meyer, 2001).

Various researchers have attempted to analyze the reasons for growth of FDI inflows into India and argue that domestic demand, progressive economy, stable currency; favorable government policies towards FDI and availability of cheap and skilled workforce induce the MNCs to invest abroad (Peng et al., 2008). Radhakrishnan & Pardhan (2000) and Resende (2010) argue that the absolute size of domestic market, along with favorable FDI policies and stable macro-economic environment support FDI growth in India. Research of Rajan et al. (2008) reveals infrastructural growth to be a key diver for higher levels of FDI inflows into India, he further argues that in order to sustain economic growth specifically in energy and infrastructure sector, India needs to put in huge investments. Banga (2003) argues that the low labor cost, higher productivity of labor, consistent power supply, large market size and stable economy have lead to higher FDI inflows into India. Further, factors such as per capita GDP and export potential of a country have been considered as significant influencers along with variables like literacy rate, inflation rate; external debt and power consumption on FDI inflows (Bhati, 2006).

Empirical evidence on sectoral impact of FDI on the host country’s economy illustrate, that FDI inflows into manufacturing sector have positive impact, where as primary sector FDI inflows tend to cause negative impact on
the growth. In case of services sector the results are ambiguous and non-suggestive of the impact of FDI on the sector (Alfaro, 2003). Overall impact of FDI on post-reform India has been considered to be positive leading to the economic growth of the nation (Chakraborty & Nunnenkamp, 2008).

It has been observed that foreign investors influence multiple aspects of the transition process in developing economies through transfer of knowledge and technical expertise, generation of employment (Meyer, 1998; 2001). In the same manner the pace of transition process impacts the FDI inflows in transition economies. Foreign investors prefer to invest in countries with maximum growth and economic and institutional reforms, as these help reduce the transaction costs associated with investing abroad (Baniak et al., 2002). Since, the main focus of our study is to understand the spatial distribution of foreign firms and the factors influencing the same. We have studied the localization literatures on FDI in detail in the next section.

2.1. REVIEW OF LITERATURE ON LOCALIZATION

Previous section talked about the factors that motivate firms to invest abroad. In this section we study the choices that foreign firms have to make once they decide to enter the foreign markets and the factors which influence such choices. Once a company decides to invest abroad it has to make two-set of location based choices for its business:

i) Selection of the host country to invest in;

ii) Within the selected country, choose the best region to setup its manufacturing/ business facilities.

Therefore, it is of utmost importance to understand the location of Foreign Direct Investment (FDI) as firstly, the location choices of foreign firms may be considerably different from that of the domestic firms in the same industry and
hence factors motivating such decisions may be dissimilar for both domestic as well as foreign firms. For instance, uncertainties about the quality of a location and its subsequent cost of information search is much higher for a foreign firm vis-à-vis a domestic firm (Caves, 1974). Secondly, it has often been suggested that FDI is advantageous to the domestic firms, specifically in transition economies and enhances the welfare of the citizens by increasing the pace of economic growth of the host nation. The study on concentration of foreign firms in an area helps in collection of information regarding the local investment climate, either through the business relations or through the overall potential of the location.

Externalities emerging out of foreign agglomeration are extremely important for International investors in making their investment decisions (Mariotti & Piscitello, 1995 and Guimaraes et al, 2000). Existing literature in the area of the impact of agglomeration economies on firm location decisions is vast and spans into three areas of economics namely urban economics, new economic geography and international economics. We evaluate the literatures germane to our study focusing on localization theory, theory of relative advantages, information cost view and institution based approach.

In theoretical context the concept of agglomeration economies was first introduced by Marshall in the 1920’s, as a means to explain the spatial concentration of industries. According to him, agglomeration expectedly leads to generation of economies which are external to a firm but internal to a geographic area or location. These external economies may come out of:

1) Technological spillovers,
2) Availability of pool of skilled labor, and
3) Pool of specialized intermediate input at lower cost and in greater variety
Subsequent researches like Goldstein and Gronberg (1984), David and Rosenbloom (1990), Helsley and Strange (1990) and Glaeser et al. (1992) have developed formal models to analyze and extend Marshall’s concept of agglomeration. David and Rosenbloom (1990) have stated that with clustering of firms in a region the possibility of worker being unemployed for a long time reduces, which subsequently benefits the industries by increasing the supply of expert employees; carpet manufacturing in Dalton is a popular example of this scenario (Krugman, 1991).

Head et al. (1995) have defined industry localization as geographic concentration of firms in the same industry. One of the factors influencing concentration is externalities emerging out of agglomeration. As per Krugman (1991), the notion of technological spillovers is general and vague, but still the most recurrently mentioned source of agglomeration. Meaningful information can flow between adjacent firms through designers, engineers and managers. For foreign investors information spillovers may happen through flow of experience-based knowledge (Head et al., 1995).

Crespo and Fontoura (2007) have identified that FDI spillovers are dependent upon multiple factors, prominent ones being the absorption capacity of domestic firms as well as the technological gap and export capacity of the region. Authors like Krugman (1991) and Saxenian (1994) have illustrated Silicon Valley of California and Route 128 of Boston in the USA to demonstrate that the most obvious reason for firms to agglomerate has been externalities emerging out of technological spillovers. However, compared to the impact of pool of labor or suppliers of intermediate goods it’s difficult to measure the impact of technological spillovers on agglomeration as its impact

13 Research of Rivera & Batiz (1988) provides a good foundation on external economies emerging out of urban agglomeration in services sector.
is invisible. It is therefore difficult to state the relative importance of technology and pool of labor in creation of industrial clusters. Combination of factors like economies of scale and reduced transportation costs motivate the suppliers of intermediate goods to co-locate (Krugman, 1991). Agglomeration of the suppliers makes industrial centers more efficient and productive and hence, provides them an added advantage over other smaller business centers. This further motivates the newer firms in the same industry to concentrate at one location. Krugman (1991) states that a past accident makes a firm locate in a particular location, which later due to advantages arising out of clustering allows this accident to impact the long-run spatial distribution of an industry.

On the empirical side, the studies of Henderson (1986) and Ciccone and Hall (1996) prove that positive externalities emerging out of geographical concentration of firms within an industry help enhance firm productivity. However, the intensity of agglomeration differs considerably across industries and so does the probability of an industry to co-locate with other industries (Ellison and Glaeser, 1997). Jaffe et al. (1993) has found that knowledge spillovers are highly concentrated spatially and that domestic firms located in a clusters gain substantially from the foreign firms located in the same cluster, both within the industry as well as across industries.

However, much of the prior research on agglomeration is rudimentary and generally suffers from one or more series of downsides, for instance, most researchers have used total manufacturing employment as a proxy for agglomeration economies, which at least in part should be industry specific instead (Woodward, 1992 and Wheeler and Mody, 1992). This raises questions on the accuracy of their estimates. Most studies have not made suitable distinction between industry level agglomerations and endowment effects, further leading to biased results on the impact of agglomeration externalities. However, Head et al. (1995 & 1999) in their study have done away with these
errors. The traditional theories suggest that firms cluster in regions rich in factor endowments. However, it must also be taken into account that the cost savings associated with selection of an endowment rich location vanish as number of firm’s increase. Beyond a point with the increment in the number of firms, the location becomes less appealing to the investors as this increases competition for scarce resources between firms and hence, increases the input cost.

Researchers like Couglin et al. (1991) and Mariotti and Piscitello (1995) have studied the localization objectives of green-field as well as other forms of FDI like joint venture and mergers and acquisitions together. However, combining these different forms of investments in location study is not the correct approach, as firms entering through green-field investment route have much more freedom in determination of the location of their plants vis-à-vis firms entering through other routes. Empirical studies have made a demarcation between foreign and host country agglomeration and tried to understand the relative importance of both in location decisions of the Foreign Investors. Crozet et al., 2004 have studied the location choices of foreign firms in France and found that nearness helps foreign investors understand the business environment of the host country and allows them to use the expertise of the incumbent investors. Mariotti and Piscitello (1995) in their study on location decisions of foreign firms in Italy have concluded that by locating near large firms, new foreign firms can get access to significant and cost-free information on business prospects.

Though, there are very few studies on the impact of agglomeration economies on location choices of foreign firms in the developing nations, mainly due the non-availability of firm level data. The few studies conducted on transition economies include works of Boudier-Bensabaa (2005) on Hungary, Head and Ries (1996) & Cheng and Kwan (2000) on China using
firm level dataset; Meyer and Nguyen (2005) and Dinh (2009) on Vietnam using provincial and firm level dataset. The empirical results of these studies are consistent with the findings on the developed nations. Cieslik and Ryan (2004) have studied the location determinants of Japanese firms in Poland and focused on the impact of Special Economies Zones on location decisions. Studies on industrial location in India suggest that metropolitan cities in India attract the bulk of FDI (Morris, 2004). Jongsoo (2004) in his study on Indian industrial clusters has concluded that clusters are playing an important role in economic activity of the country and the key to promoting FDI to India lies in technologically-driven industries and products. In addition to agglomeration externalities other factors influencing location decisions are mentioned in the sections to follow.

2.2. THEORY OF RELATIVE ADVANTAGE

This theory was developed by Heckscher and Ohlin from Ricardo’s theory of comparative advantages (Krugman and Obstfeld, 1997). It explains that international trade takes place on an assumption of perfect competition wherein, some factors of production are static and consumer preferences and production functions are identical. The underlying assertion is that nations should focus in producing and exporting products which exploit its resources as well as cheap factors of production and should import the rest of the products which use its scare resources. This theory advocates that location of international production is based on the relative advantages associated with the cost of factors. Works of researchers like Caves (1974) and Dunning (1993) suggest that factor endowments such as size of market, low production costs and tax policies help attract FDI to a location. Brainard (1997) has further suggested that FDI takes place where endowments such as low transportation cost, nearness to consumers and low trade barriers prevail over the advantages of scale economies. Ireland has become the Celtic Tiger of Europe not only
because it has the lowest tax rates in entire Europe, but also because it has cheap and highly skilled English speaking labor (Navaretti and Venables, 2004).

Studies on FDI in developing nations reveal similar results as that of developed nations. Large market size has made South Africa more attractive to foreign investors vis-à-vis other locations (Jenkins and Thomas, 2002). Large population, cheap and educated work-force and political stability have made Vietnam a preferred location for Foreign Investors (Mirza and Giroud, 2004). Regional studies on FDI in China suggest that regions with larger market size, better infrastructure conditions, lower wage rates and tax rates attract more FDI (Cheng and Kwan, 2000 and Zhou et al., 2002). Sinha (2007) in his study has compared FDI in India and China and has suggested that FDI in India has grown due to factors like human capital, size of market, market growth rate and political stability. Basu et al. (2007) has concluded that India is not only cost effective but also a hot destination for R & D activities. The study has further suggested that R & D is a significant determinant of FDI inflows to various industries in India and has shown a strong negative influence of high corporate tax on FDI.

### 2.3. INSTITUTIONS-BASED APPROACH

Recent, focus on FDI in transition economies, which have very different institutional practices from that of the developed nations has led to the surfacing of institutional-based view of firm location strategies (Peng, 2002 & 2003). North (1990) has differentiated formal institutions consisting of regulations and laws from informal institutions embedded in traditions, ethnicity and way of life of a nation. Government practices as well as informal institutions of a nation impact the strategies of foreign investors (Oliver, 1997 and Peng, 2000) and hence influence the firm’s performance (Scott, 1995). Mudambi and Navarra (2002) in their research suggest that institutional
practices represent immobile factors in globalization and are important location-based endowments. The basic task of the institutions is to decrease the information as well as transaction costs by removing uncertainty (Hoskisson et al., 2000). Findings of empirical research in the area suggest that institutional practices impact strategies of the firms in terms of choice of entry mode, enormity of investment, location decisions and probability of firms’ survival in the long-run (Henisz, 2000).

In transition economies local partners lack knowledge and experience about market mechanisms, which leads to increase in searching as well as negotiating costs of foreign players. Firms in general are risk averse and prefer to locate in regions with least psychic distance between the institutional practices of the host as well as the foreign nations (Dunning and Lundan, 2008). Studies of Meyer (1998 & 2001) suggest that foreign investors chose to invest in economies which have made maximum progress in putting their institutional practices closest to those of developed nations. Foreign investors specifically value factors like low corruption rate (Lipsey, 1999), progress in capital market, proprietary rights and labor market reforms (Hoskisson et al., 2000) in location decisions. Most successful countries in attracting FDI in Eastern and Central European countries have been the ones most advanced in the transition process, namely Poland, Hungary and Czech Republic (Holland and Pain, 1998 and Resmini, 2000).

Till date, very few studies have been conducted on the influence of institutional practices on transitional economies mainly due to the lack of data. Meyer and Nguyen (2005) have suggested that foreign firms in Vietnam choose to locate in provinces with more developed market supporting institutions. Satoru (1994) in his study on Taiwan has concluded that government’s liberalization policies have been a relevant determinant of FDI. Zhou et al. (2002) have found that development of SEZs and tax incentives influence the location choices of Japanese firms in China. Afees (2002) in his
study on Nigeria has pointed out that inflation rate, debt burden and exchange rate significantly affect the FDI inflows in a country.

Study of Aggarwal (2007) on India reveal that presence of Export Processing Zones (EPZs) is a significant pull factor in attracting export oriented FDI, infrastructure, large market size, lower labor cost and regional development are another important factors in magnetizing FDI to India. Empirical studies of Gastanaga et al. (1998) and Chakrabarti (2001) on India have revealed positive impact of trade openness on FDI location determination and foreign investment inflows. Bajpai and Sachs (1999) and Sachs et al. (2001) in their study on FDI in India have revealed that restricted FDI, high tariffs on imports, high exit barriers for firms, stringent labor laws, poor quality of infrastructure, centralized decision making process and limited scale of Export Processing Zones (EPZs) make India an unattractive investment destination for foreign firms vis-à-vis countries like China. To operate efficiently, foreign companies must possess sufficient information on domestic markets and chose to locate in regions with transparent business information.

### 2.4. INFORMATION COST ADVANTAGE

Information is divided into publicly-held and privately-held information. Publically-held information deals with information on size of market, economic growth, infrastructure conditions and government policies towards FDI and is easier to access in urban areas and large places. Compared to publically-held information, it’s difficult to access privately-held information which includes information on prospective local partners and actual implementation of FDI policies at the regional level. This information can only be obtained through personal network developed through firm clustering.

Most foreign investors lack information on crucial factors like host country’s factor and product market conditions as well as the socio-political
environment (Figueiredo et al., 2002 and He, 2002), due to which foreign companies always have to pay much higher cost for getting access to such information (Arrow, 1972). Therefore, foreign investors prefer to locate in regions with easy access to business information. This has further been validated by Nayak (2004) in his study on Canadian firms in India. The study concludes that Canadians do not prefer India as a destination for investment due to lack of information on investment opportunities in the country.

Empirical findings support the arguments that information costs do impact the location decisions of firms both at macro as well as micro level. He (2002) in his study on China has found that foreign firms prefer places which minimize their information cost e.g. costal and urban areas, as flow of information is faster there, further clustering also helps reduce the information cost. Similar results have been revealed in findings of Mariotti and Piscitello (1995) on Italy and Guimaraes et al. (2000) and Figueiredo et al. (2002) in Portugal. Goldar (2007) has revealed that in India the inter-state and inter-city distribution of foreign companies is more or less the same as that of domestic firms. However, the number of foreign firms in the city is positively related to the size of the city, its civic amenities, size of the largest city in the state and the investment climate of the state.

Dunning (1977) in his OLI Framework has integrated various premises on FDI and has suggested that FDI takes place if below mentioned three factors are met concurrently:

- **Ownership Specific Advantages:** These are the specific tangible and intangible asset endowments, which give a firm competitive advantage over local competition. Tangible assets include capital and manpower and intangible assets can be tacit knowledge, brand name, and technology.

- **Location Advantages:** Host country’s providing endowments such as low factor cost, nearness to markets, supporting legal and socio-political
environment are more successful in attracting FDI vis-à-vis other nations.

- **Internationalization:** Only through internationalization can firms exploit the firm specific as well as location specific advantages without losing its tacit knowledge.

However the impact of FDI on transition economies like India is yet not clear as there’s little evidence on economy-wide influence. FDI equity inflows into India are highly concentrated with Maharashtra accounting for 46% of the total foreign investment followed with Gujarat at 15% & Delhi at 7.7% (Moriss, 2004). This indicates that the geographic flow of FDI in the country is highly skewed in favor of large cities. Further, the study suggests that regions gain vast advantages by attracting FDI especially in services and high-technology driven industries. While examining the sensitivity of FDI towards labor market conditions, Aggarwal (2007) has revealed that labor market rigidity and cost of labor are more relevant determinants of FDI in export oriented FDI. Additionally regional development and infrastructural growth help attract more FDI.

The review of literature on FDI in foregoing sectors has helped us explore the motives driving firms to invest abroad, reasons for preferring FDI over other modes of investment such as licensing and exports and the factors impacting localization decisions of the foreign firms in developed as well as transition economies and more specifically in India.
2.5. NEED FOR THE PRESENT STUDY AND ITS OBJECTIVES

The economic and political transition process in India provides an excellent set up to study the location choices of Foreign Investment. The sudden opening up of Indian economy in 1991 for increased imports and foreign investments provides for quasi-experimental setting for understanding the motives driving the influx of foreign capital in the nation. Since the year 2002, 100% FDI through automatic route has been allowed in Indian automobile sector, which has lent complete freedom to foreign automobile investors in determination of their plant location in India, compared to the sectors with FDI restrictions. Further, the nature of foreign investment in automobile sector in terms of clusters into India, has originated under substantially different conditions than that of the domestic clusters. For instance, transportation cost endowments were substantially important some 50-60 years back, the time when many domestic industries were developed, but were considered less relevant in the 1980s and 1990s when majority foreign companies entered India.

Automobile FDI inflows into India have been highly scattered and different states of the country have been performing significantly different in terms of foreign capital inflows as mentioned in Chapter: 1 of the study. This high concentration of FDI in few regions of the country may heighten the regional disparity in the development process (Radhakrishnan & Pradhan, 2000). We exploit these facts in our empirical study by separating agglomeration and state-specific endowment effects.

In particular, we consider only the location of “first plant” as a geographical unit of observation in India, which corresponds with Marshall’s concept of agglomeration. Only the “first plant” location and not the subsequent plant
locations have been used, as the factors motivating the location of “first plant” tend to be different from the location motivators for the subsequent plants. Through this study we also address the downsides identified in previous researches. We have used Dynamic Liner Programming Regression, controlling for unobserved location features by including cluster specific fixed effects, hereby, addressing the issue of separating state-specific endowment effects from externalities emerging out of agglomeration economies. To the best of our knowledge, none of the past studies have addressed these issues simultaneously.

Further, the location of FDI in transition economies—such as India—is a seriously understudied research area. Transition economies differ from developed countries, for instance, in transition economies availability of supplier/ vendor hub for intermediate goods, low information cost and better bureaucratic practices may be relatively more important for investors’ location choices. Transition economies, with large market and low input cost, are likely to attract market-seeking foreign investment. Since market size is critical for the performance of market-seeking FDI, we would expect these conditions to be relatively more important determinants of FDI location in transition economies than in, say, developed countries, which may have other comparative advantages. Thus, our study may provide useful guidance for the design of effective regional policies aimed at attracting FDI to the transition economies.

First, FDI distribution within national borders may play an important role in influencing regional economic disparities. Thus, identification of the sub-national determinants of the FDI distribution represents an important step towards the design of regional policies that can effectively address regional inequalities. Second, the location decisions of foreign firms may differ significantly from their domestic counterparts, and, consequently, the location
determinants or their effects may differ between foreign and domestic investors and need to be investigated separately. For example, uncertainty with regards to the quality of location and subsequent information and search costs are much higher for foreign investors compared to the domestic investors (Caves, 1998). Existing concentration of foreign firms facilitates the gathering of information on the local environment, either via business relationships or with the location potential that it demonstrates. Therefore, the economies emerging out of foreign agglomeration may be very important for international investors vis-à-vis the domestic investors (Mariotti and Piscitello, 1995 and Figueiredo et al., 2002). More generally, a number of studies have found that foreign companies value various location factors different than the domestic firms (Glickman and Woodward, 1988 and 1989).

Specifically, traditional trade theory suggests that firms in a given industry cluster in regions with favorable factor endowments for that industry. However, firm-specific cost savings associated with choosing an endowment-rich location diminishes with the increase in number of firms. As firms congregate, the location becomes less appealing since competition for a scarce input among users bids up the prices of the inputs (Head, Ries, 1996 and Swenson 1995).

Most clusters originated a long time ago, manufacturing clusters in India originally developed during the 19th and 20th century. At a time when proximity to resource rich locations was very important (as, at that time, transportation costs were an important cost factor in production) and, therefore, arguably, firms of a particular industry clustered in locations that provided the relevant resources. The geographical distribution of the domestic establishments in a particular industry should therefore incorporate all the relevant information on the abundance of endowments and the intensity of resource-use in that industry. Consequently, a significant and positive coefficient on the foreign agglomeration variable, after controlling for the
domestic pattern, should provide strong evidence for the existence of agglomeration economies. In order to test the impact of agglomeration variables on investment decisions of foreign automobile firms in India, after controlling for domestic patterns the study has made use of both the secondary as well as the primary data. The analysis, based on the secondary data, covers the issues of:

- Spatial spread of Foreign as well as Indian automobile and auto-ancillary firms in India and its reasons and
- Factors impacting firm agglomeration.

The study based on the primary data has specifically focused on following areas:

- Impact of agglomeration externalities of Foreign as well as Indian automobile and auto-component manufacturing firms in India on location decisions of new foreign automobile firms established between the years 2002 to 2012;
- The relationship between the quality of the investment climate and foreign investment inflows in automobile and auto-ancillary sector.
- Establish the relative importance of factor endowments, information cost, agglomeration externalities, infrastructure related endowments, institutional practices and export potential of a region; as determinants of the location of “first-plant” of foreign automobile & auto-ancillary firms in India.
- Pin-point aspects of the investment climate which, make most difference to foreign automobile and auto-ancillary investors in India.

The questionnaire (please see Annexure: 1) has been designed in line with the 12 pillars defined in the Global Competitive Index, 2009-10 as well as the literatures mentioned in section: 2 of the study. Using the questionnaire-cum-
interview method, we have tried to gauge the relative importance of below mentioned 8 factors on the investment and location decisions of the “first-plant” of foreign automobile and auto-component manufacturing firms in India:

i) Institutional Practices

Government’s attitude towards markets and the efficiency of its operations are very important. Excessive bureaucracy and red tape, overregulation, corruption, dishonesty in dealing with public contracts, lack of transparency and trustworthiness, and the political dependence of the judicial system impose significant economic costs to businesses and slow the process of economic development.

ii) Infrastructure

A well-developed transport and communication infrastructure network is a prerequisite for the ability of less-developed countries to connect to core economic activities and basic services. Effective modes of transport of goods, people, and services—such as quality roads, railroads, ports, and air transport, enables entrepreneurs to get their goods and services to the market in a secure and timely manner, and facilitate the movement of workers to the most suitable jobs. Economies also depend on electricity supply that is free of interruptions and shortages so that businesses and factories can work unimpeded. Finally, a solid and extensive telecommunications network allows for a rapid and free flow of information, which increases overall economic efficiency by helping to ensure that businesses can communicate, and that decisions made by economic actors take into account all the available relevant information.
iii) Health and Primary Education

Poor health leads to significant costs to business, as sick workers are often absent or operate at lower levels of efficiency. Investment in the provision of health services is thus critical for economic, as well as moral, considerations. In addition to health, this aspect takes into account the quantity and quality of basic education received by the population, which is increasingly important in today’s economy. Basic education increases the efficiency of each and every individual worker.

iv) Market Efficiency

Healthy market competition, both domestic and foreign, is important in driving market efficiency and thus business productivity, by ensuring that the most efficient firms, producing goods demanded by the market, are those that thrive. The best possible environment for the exchange of goods requires a minimum of impediments to business activity through government intervention. For example, competitiveness is hindered by burdensome taxes and by restrictive and discriminatory rules on foreign direct investment (FDI), which limit foreign ownership as well as international trade.

v) Labor Market Efficiency

Labor markets must have the flexibility to shift workers from one economic activity to another rapidly and at low cost, and to allow for wage fluctuations without much social disruption. Efficient labor markets must also ensure a clear relationship between worker incentives and their efforts, as well as the best use of available talent, which includes equity in the business environment between women and men.
vi) Financial Market Sophistication

Economies require sophisticated financial markets that can make capital available for private-sector investment from such sources as loans from a sound banking sector, well-regulated securities exchanges, venture capital, and other financial products.

vii) Market Share

The size of the market affects productivity because large markets allow firms to exploit economies of scale. Exports can be thought of as a substitute for domestic demand in determining the size of the market of the firms in an economy.

viii) Business Sophistication and Agglomeration

Business sophistication concerns the quality of a country’s overall business networks as well as the quality of individual firms’ operations and strategies. When companies and suppliers from a particular sector are interconnected in geographically proximate groups (“clusters”), efficiency is heightened, greater opportunities of innovation are created, and barriers to entry of new firms are reduced. Individual firms’ operations and strategies (branding, marketing, the presence of a value chain, and the production of unique and sophisticated products) lead to sophisticated and modern business processes.

The questionnaire is divided into 2 sub-sections. Section: 1 deals with the motivators that have lead to plant location decisions and Section: 2 pertains to the firm’s satisfaction at the time of entry as well as the current satisfaction with the location of its “first-plant” in India. Most of the survey is opinion based, wherein respondents have been asked to give their opinions on a Likert
scale rank of 1 to 5 on the basis of the relative importance their company has attached to each one of the above mentioned eight variables in the determination of “first-plant” location in India.

2.6. HYPOTHESES OF THE STUDY

In order to fulfill the objectives of the study we have attempted to test the following hypothesis, using both the primary as well as the secondary data:

- **Hypothesis 1:** Higher the number of already established Indian automobile and auto-ancillary manufacturing firms in a region, higher is the likelihood of investment by new foreign automobile and auto-ancillary manufacturing firms in that region.

- **Hypothesis 2:** Higher the number of foreign automobile and auto-ancillary manufacturing firms already established in a region, higher is the likelihood of investment by new foreign automobile and auto-ancillary manufacturing firms in that region.

- **Hypothesis 3:** Foreign Investors prefer to locate in regions with superior factor endowments

- **Hypothesis 4:** Foreign Investors prefer to locate in regions where information about local markets and required documents to operate the business are transparent and easy to access.

- **Hypothesis 5:** Regions with superior infrastructure facilities in terms of connectivity, industrial zones and consistent power & water supply are more likely to receive foreign investment.
• **Hypothesis 6**: Regions with superior market-supporting institutions are more likely to receive foreign investment.

• **Hypothesis 7**: Foreign Investors prefer to locate in regions with high exports potential and incentives on exports and imports.