Chapter 3
A REVIEW OF THE EMPIRICAL LITERATURE ON DETERMINANTS OF FDI

The theoretical literature has identified several determinants of FDI. These determinants include both firm-specific ownership advantages and country-specific locational attributes, which have been discussed in Chapter 2. The theoretical literature, however, usually does not distinguish between FDI in LDCs, and that in developed countries, in terms of determinants. Empirical research on determinants of FDI has sought to distinguish between FDI in developing and developed countries. Empirical studies pertaining to analysis of FDI flows in developing nations have identified determinants that are different from those for FDI in developed countries. It has been shown that the volumes of FDI as well as its sectoral (industrial) composition in developing countries depend not only on the degree of development in host countries, but also on various distinct country-specific characteristics.

This chapter attempts a select review of the empirical research on determinants of FDI with particular focus on developing countries. The focus of this chapter is on the role of host-country specific factors in explaining FDI inflows. The emphasis on review of host-country features is deliberate, since, the present research aims to identify the state and industry-specific determinants of FDI in India. A review of the main findings of the empirical research on host country determinants will help in identifying variables that need to be explored in the Indian context.
The chapter is set out in the following manner. Section 2 outlines the main approaches employed for identifying determinants of FDI by empirical literature. Section 3 enumerates the broad determinants of FDI identified by different empirical studies. Section 4 reflects upon the findings of some select studies that have attempted to ascertain determinants of FDI in India. Finally, section 5 summarises the main findings of the empirical research on determinants of FDI.

3.1 APPROACHES EMPLOYED BY EMPIRICAL RESEARCH FOR IDENTIFYING DETERMINANTS OF FDI

The following broad approaches have been adopted in empirical literature for identifying the determinants of FDI:

1. Aggregate macroeconomic approach.
3. Inter-temporal approach.
4. Survey appraisal approach.

**Aggregate macroeconomic approach**

The aggregate approach has been the most popular among empirical researchers and has been used extensively for identifying country-specific determinants of inward FDI. Studies based on this approach attempt to explain the pattern of FDI inflows across countries in terms of host-nation characteristics. The objective of these studies is to identify host-country features that are significant in determining investment locations by multinationals. The analyses are based on macroeconomic data relating to country-
specific features (e.g. market size, wage rates, exchange rates etc.) of various host nations. The findings of these studies throw light on structural characteristics and macroeconomic policies that influence FDI flows and hence are useful in terms of FDI policy formulation.

Micro-economic industry level approach

Several studies have attempted to identify determinants of FDI through a micro-economic approach. The thrust of these studies is usually on empirical analysis of determinants of FDI flows for specific industries of particular countries or regions. These are commonly referred to as inter-industry studies. These studies have analysed industry-specific variations in FDI inflows, as well as outflows, with respect to particular source countries. The disaggregated approach employed by these studies is useful in identifying the complexity of industry-specific features (e.g. nature of technology, product features, level of domestic competition etc.) impacting FDI inflows in different industries of specific host locations.

Inter-temporal approach

A third approach used in recognition of determinants of FDI comprises of inter-temporal studies. These studies explain variations in patterns of FDI inflows in a particular country over time, in terms of changes in the country-specific macroeconomic variables and national policy parameters. These studies are useful in identifying the

---


changing nature of host-country features affecting FDI flows into a country over time, thereby offering useful insights for evaluation of policies.

**Survey appraisal approach**

The survey appraisal approach does not employ tools of applied econometrics. Nevertheless, this has been a reasonably popular method for ascertaining determinants of FDI. The approach implies soliciting responses from foreign investors in various locations through questionnaires for identifying important host-country features. The thrust of these studies has been on identification of qualitative determinants (e.g. political instability, investment climates, efficiency of host country regulations etc.) that are otherwise difficult to quantify for empirical analysis.

3.2: **BROAD DETERMINANTS OF FDI IDENTIFIED BY EMPIRICAL RESEARCH**

The main determinants of FDI identified by empirical research can be broadly divided in the following categories:

1. Economic determinants.
2. Policy determinants.
3. Social, political and legal determinants.

**3.2.1 ECONOMIC DETERMINANTS**

Empirical research has pinpointed a variety of economic determinants as significant variables in impacting FDI inflows. These economic determinants can be broadly classified as follows.
Natural resources

Historically, availability of natural resources has been identified as one of the most significant determinants of FDI. Abundance of natural resources (e.g. mineral deposits, raw materials and agricultural products) has been assumed to be a key factor for attracting FDI in primary sector activities by offering the opportunity of vertical integration in host locations. Several empirical studies have corroborated the significance of natural resources in attracting inward FDI (Kumar, 1990; Lecraw, 1991; Owen, 1982; Dunning 1993). Among developing countries, availability of natural resources has been found to be a particularly significant factor for explaining incoming FDI in low-income countries of Africa (UNCTAD, 1999).

Host country market

The size of the host country domestic market, and its characteristics (e.g. average income levels, growth rates etc.), has been identified by empirical research as significant demand-side determinants of FDI. The size of the domestic market (usually measured by Gross Domestic Product (GDP), GDP per capita, growth in GDP, national income etc) which indicates the number of potential customers has been particularly important in this regard. Various empirical studies have highlighted the attraction of foreign firms for large markets given the opportunities that the former offers for

---

8 Deane (1970), Forsyth (1972), Rolfe et al (1993) and UNCTAD (1999) are relevant examples. However, these studies suffer from the inherent limitations of survey data analysis, particularly the sensitivity of the survey responses to the style and structure of the surveys. See Singh and Jun (1995).
exploitation of scale economies and consequent lower marginal costs of production, thereby making it a significant determinant of FDI\(^9\).

While most empirical studies have focused on the effect of the absolute size of the market on FDI inflows, some studies have employed variables that capture the relative market sizes of host countries. In this regard, it has been argued that there is an ideal 'optimal' market size as far as the foreign investor's perspective is concerned, particularly with respect to exploitation of scale economies. Attractiveness of individual country markets increase, the closer their markets get to this ideal size (Narula and Wakelin, 1995).

Market size has been established as a significant determinant of FDI for both developed as well as developing host country markets. Several empirical studies assessing the role of host-country characteristics in influencing FDI in developing nations have found market size to be a positively significant determinant (Petrochilas, 1989; Root & Ahmad, 1979; Agarwal, 1980; Schneider & Fray, 1985; Torrisi, 1985; Wheeler & Mody, 1992; Tsai, 1994; Shamsuddin, 1994; Loree & Guisinger, 1995; Bevan and Estrin, 2001; Taylor, 2000; Chakraborti, 2001). Moreover, market-related variables (e.g. growth in GDP) have been found to be more significant in explaining inter-country variations in FDI flows between developing nations, as compared to developed host countries (UNCTAD, 1999). The former have continued to exert considerable influence on incoming FDI even after significant global integration of production and marketing techniques across nations (UNCTAD, 1999; Nunnenkamp, 2002).

Some empirical studies, however, have arrived at different conclusions regarding market size. The latter has been unable to explain incoming Japanese FDI in machinery industries in some developing host nations (Urata and Kawai, 1999). The authors explain the apparently surprising result by suggesting that FDI in these cases has been largely export-oriented and not targeted at local markets. The statistical insignificance of large host country market sizes for export-oriented FDI in developing countries has also been vindicated elsewhere (Lipsey, 1999). It is, however, mentionable that for export-oriented FDI in manufacturing, market-size has also been found significant, presumably because large markets lead to lower costs through economies of scale (Kravis and Lipsey, 1982).

Trade-related features

Empirical research has devoted considerable attention to trade-related features of host nations for determining their impacts upon FDI. Two main features have been studied in this regard. These are:

a. Trade restrictions.

b. Exports.

Trade restrictions

The theoretical literature on determinants of FDI indicates that trade restrictions, in the form of high tariff barriers, can induce FDI of the ‘tariff-jumping’ variety. Several empirical studies have attempted to ascertain the impact of such barriers on FDI. Empirical research has indeed found evidence of tariff barriers being positively correlated to subsidiary production in foreign locations (Horst, 1972a; Jud, 1973; Hufbauer, 1975; Dunning, 1977a). There is also, however, evidence of tariff rates being
statistically insignificant for incoming FDI (Scaperlanda and Mauer, 1969; Horst 1972b\(^{10}\)). Some recent empirical studies, however, point out that FDI flows are, in fact, motivated by high tariffs (Gastanaga, Nugent and Pashamova, 1998). The empirical evidence on significance of non-tariff barriers to trade, as determinants of FDI, has largely yielded negative results. While tariff barriers have been mostly found to have positive effect on incoming FDI, non-tariff barriers to trade in host countries, have been found to encourage foreign firms to license production vis-à-vis FDI (Parry, 1976).

It is mentionable in this context that while the relatively earlier empirical literature devoted considerable attention to ‘tariff-jumping’ FDI, more recent studies have pointed to the gradually diminishing significance of tariff barriers as determinants of FDI (Loree and Guisinger, 1995), given the rapid liberalisation of trade policies, and concomitant scaling down of trade barriers by most economies during the last two decades of the previous century. We have discussed this issue further in the analysis of ‘openness’ as a determinant of FDI later in this chapter.

**Exports**

There is some ambiguity regarding the direction of causality between exports and FDI in empirical literature. This ambiguity relates to whether FDI flows are attracted by economies that are already export-oriented (i.e. exports precede FDI flows) or whether FDI causes exports to increase (i.e. FDI precedes exports) (Singh and Jun, 1995). Certain studies conclude that exports are correlated with FDI (Westphal et al, 1979) due to the disproportionate representation of foreign firms in export sectors. However, other

\(^{10}\) Horst reached different conclusions regarding significance of tariff barriers in two separate studies. He found tariff rates in Canada and UK to be significantly related to share of exports in total US sales in
studies indicate that findings like the former do not negate the overall contribution of foreign firms to exports (Chen, 1994).

Among developing countries, however, exports, particularly manufacturing exports, are seen to be a crucial determinant for economies receiving relatively higher FDI (Narula and Wakelin, 1995; Singh and Jun, 1995). For developing economies of East and South East Asia, elasticity of FDI with respect to aggregate demand for exports was found to be more than that for domestic demand (Lucas, 1993). Given the heavy export-orientation of East Asian economies, the correlation of exports with FDI can be perceived to be more relevant for export-oriented FDI, rather than domestic market-oriented flows.

**Macroeconomic features**

Among macroeconomic features of host nations, three factors have been studied at length for ascertaining their significance as determinants of FDI. These are:

1. Host country inflation rates.
2. Host country exchange rates.
3. Volume of past FDI (agglomeration) in host nations.

**Inflation rates**

Variations in host country inflation rates directly impact returns on capital by affecting real rates of interest. Countries with high inflation rates, therefore, are likely to send discouraging signals to foreign investors. Inability to ensure price stability is also a reflection of the relatively inefficient monetary policies being pursued by host nations.

---

those markets. See Horst (1972a). However, in a separate firm level study he found no significant relationship between tariffs and industries attracting FDI. See Horst, (1972b).
For empirical assessment, GDP deflators of host nations have usually been employed for studying inflation rates. With respect to developing nations in particular, higher rates of inflation have been found to be negative and significant determinant of FDI (Schneider and Fray, 1985; Hyun and Whitemore, 1989). The discouraging effect of high inflation on FDI has also been empirically established for developed host nations (Sayek, 2000). However, there are also studies that have found variations in inflation rate to be only weakly significant for FDI in developing nations (Addison and Heshmati, 2003).

**Exchange rates**

FDI decisions are seen to be influenced much more by changes in exchange rates, rather than the differences between exchange rate levels of various countries\(^{11}\). Empirical research has established a negative correlation between volatilities in real exchange rate and FDI (Mody & Srinivasan, 1991; Cushman, 1988; Goldberg and Klein, 1998; Nakamura and Oyama, 1998; Urata and Kawai, 1999). While for developed economies like the US, adverse currency movements were found to be negatively significant for incoming FDI (Caves, 1989; Froot and Stein, 1991), similar conclusions have been reached for developing host nations (Summary & Summary, 1995). Among developing nations, FDI in middle-income economies of South and East Asia, was found negatively related to higher risks of currency depreciation (Lucas, 1993).

\(^{11}\) Differences in exchange rate levels have been found insignificant as determinants of FDI in various empirical studies. See Ramstetter (1991). Exchange rate levels have been found significant only with respect to the timing of entry of foreign firms. See Kogut and Chang (1996).
Volume of past FDI

Presence of multinationals in a particular host country, and the volume of past FDI, has been assumed to have a positive effect on incoming FDI in host nations. The importance of past FDI stock as a determinant of incoming FDI arises principally from the positive demonstration effects, which such stocks have, on investment decisions of foreign investors (Chen Chunlai, 1997). Larger presence of foreign investors in host economies, and past FDI, improves investor confidence regarding the location. Agglomeration is expected to lower the cost of entry of new investors by dissipating knowledge about local conditions. Empirical evidence has been positive in this regard, particularly for developing host nations (Urata and Kawai, 1999; Lipsey, 1999). Initial investment made in a host country is seen to have paved the way for more sequential investment (Yu, 1990; Kogut and Chang, 1996).

Real economy features

Real sector parameters like labour costs, quality of infrastructure services etc. have been assumed to be important country-specific features that exert significant influence upon overseas investment decisions of multinational firms. Some of the important factors that have been studied in this regard are:

1. Labour costs.
2. Industrial relations.
3. Infrastructure.
4. Human capital.
Labour costs

Theoretical research on FDI has identified cost of production as an important variable in influencing choice of investment locations. The cost of labour in host nations is of particular importance in this regard. It has been argued that much of the overseas investment in developing nations has been encouraged on account of the possibility of lowering costs of production due to availability of cheap labour. Though there have been attempts to empirically estimate the relationship between inward FDI and unit cost of labour (Culem, 1988), lack of adequate data on labour costs in host nations, particularly wage rates, has been a major constraint. Empirical research, therefore, has largely relied upon use of various proxies for labour cost. Estimates of labour productivity (value added per worker) have been frequently used in determining the significance of labour costs.

A large number of empirical studies have identified high labour costs as a negatively significant determinant for FDI. Some of these relate specifically to developed host countries (Head, Ries and Swansson, 1995). At the same time, empirical research on developing countries has pointed to differentials in labour costs between home and host nations as a significant factor in encouraging FDI (Hirsch, 1976; Flamm, 1984; Schneider & Frey, 1985; Summary & Summary, 1985; Culem, 1988; Wheeler & Mody, 1992; Moore, 1993; Lucas, 1993). Certain studies also indicate that as far as developing countries are concerned, foreign investors from developed countries prefer locations having more domiciled and cheaper labour forces, than their ‘home’ countries (London & Ross, 1995, Urata and Kawai, 1999). Similar conclusions have been reached with respect to transition host economies (Bevan and Estrin, 2001), for whom, wage
inflation, unaccompanied by rises in productivity, has been found to dampen inflows of FDI. Wage cost advantages have been identified as an important motivation behind the attempts of developed country firms to integrate developing countries in their global production networks (Austin, 1990; Rolfe & White, 1992; Koechlin, 1992). In this regard, multinational production inclined towards export-oriented activities in developing host nations, has been found to depend significantly upon availability of low-cost labour (Kumar, 1994a). Differences between wage costs in the host economy vis-à-vis neighbouring countries has been found to have positive and significant impact on export-oriented FDI in China (Guha and Ray, 2001).

The assertion of absolute low wages as a positive and significant determinant of FDI, however, requires to be interpreted with caution. There is contrary empirical evidence suggesting that low wages have insignificant impact in attracting FDI (Swedenborg, 1979; Owen, 1982; Kravis and Lipsey, 1982; Gupta, 1983; Wei, 1995). Rather than absolute real wages, whose low levels might reflect low levels of labour productivity, productivity-adjusted real wages are more relevant determinants of FDI. However, the strength of host country labour costs in eventually encouraging or discouraging inward FDI has been found to depend upon the relative importance of other locational factors, and the nature of activity being pursued by the foreign firm.

**Industrial relations**

While availability of cheap labour helps in lowering costs of production for foreign firms, the quality of industrial relations in host countries also influences production costs. The number of workdays lost reflects the quality of industrial relations in a country. The volume of work days lost has been found to be particularly significant for
developing countries receiving low-FDI (Singh and Jun, 1995). Similar results were also obtained for inward FDI in select Asian and Pacific developing countries (Rana, 1988; Lucas, 1993).

**Infrastructure**

Presence of sound infrastructure facilities (efficient banking, financial, insurance, telecommunications, electricity and transportation networks) enables efficient production and distribution of goods and services by lowering production and transaction costs. Availability of timely and quality infrastructure services have been identified as important locational attributes for attracting FDI (Root and Ahmad, 1978). Infrastructure has also been identified as a particularly significant determinant for developing host nations (Wheeler & Mody, 1992; Urata and Kawai, 1999, Rahman, 2003). Poor infrastructure has been found to be an important deterrent for FDI, particularly in low-income countries, due to higher transaction costs (Collier, 1998). The contribution of services to overall GDP has often been employed as a proxy variable for quantifying infrastructure.

Along with infrastructure, some empirical studies have also tried to determine the significance of quality of life (measured by per capita energy consumption) and the adequacy of the health care systems (number of population covered by per physician) in influencing FDI. Both of these have been found to be significant determinants (Levis, 1979). A clean environment underscoring a higher quality of life has also been expected to have a positive effect on incoming FDI. However, empirical evidence in this regard has not been conclusive (Smarzynska and Wei, 2001). The extent of urbanisation (number of cities having populations beyond a certain level) in host countries has also
been found to exert a positive influence on incoming FDI, presumably because urban centres offer greater infrastructural facilities to foreign subsidiaries (Root and Ahmad, 1979; Dunning 1981).

**Human capital**

The availability of human capital in a country (usually measured by host country literacy rates) has been found to positively influence FDI inflows (Dunning, 1981; Schneider and Fray, 1985) since it ensures supply of skilled labour to foreign firms. More recent empirical research has also pointed to the significance of human capital as a crucial determinant of FDI, particularly in terms of availability of local skills, which complements ownership attributes of multinationals, and hence acts as a ‘pull’ factor for FDI (Noorbaksh, Paloni and Youssef, 2001; Nunnenkamp, 2002). The results imply that as FDI becomes more skill and efficiency oriented, foreign firms place greater weightage on availability of skilled work forces, thereby making existence of highly educated population an increasingly significant determinant of FDI (Mody and Srinivasan, 1998; Globerman and Shapiro, 2002).

Investment in human capital facilitates the growth of a productivity-enhancing labour force. Empirical research has pointed out that efforts to provide better education and training, which is essentially aimed at growth of human capital, not only improves the economic growth effects of FDI in developing countries, but also encourages higher FDI inflows (Borensztein, Gregorio and Lee, 1995; Nunnenkamp, 2002). However, there are some contradictory findings for developing countries in this regard. Some empirical studies have indicated that depending on the industries concerned, multinationals would be keener on presence of low-skilled, low-cost labour, rather than
a highly educated and skilled labour force in developing countries (Urata and Kawai, 1999). It has also been suggested that the bulk of FDI in low-income countries is more inclined towards exploitation of natural resources and large markets, thereby making human capital a relatively less significant determinant (Narula and Wakelin, 1995).

3.2.2 POLICY DETERMINANTS
The host country policy determinants investigated by empirical research for their influence on FDI can be broadly divided in the following five categories:

1. Openness of host economies.
2. Host country tax rates.
3. Incentives offered by host countries for attracting FDI.
4. Intellectual property rights in host countries.
5. Bilateral investment treaties and regional investment frameworks.

Openness
Openness to trade (commonly measured as the ratio of the sum of exports and imports to GDP; the size of the export sector has also been taken as an indicator of openness), or trade intensity, has been found to have a positive impact on FDI inflows (Narula and Wakelin, 1995; Caves, 1996; Chakrabarti, 2001; Kerr and Monsingh, 2001; Asiedu, 2002). More 'open' developing economies have been generally found to be more successful in attracting FDI, thereby pointing to the importance of adopting outward-oriented policies (Hein, 1992; Dollar, 1992; Lucas, 1993; Singh and Jun, 1995; Lehmaan, 1999).
As a host-country policy characteristic, however, there are two distinct views regarding the effect of openness on FDI inflows. For countries receiving FDI inflow of the ‘tariff-jumping’ variety, which is induced by high trade barriers, openness is likely to have a negative effect on FDI. On the other hand, if a higher degree of openness is taken to indicate greater economic linkages of the host country with the rest of the world, as well as a more liberalized trade regime, then openness is likely to encourage more ‘export-oriented’ FDI (Chen Chunlai, 1997).

Results regarding the relationship between FDI and openness, therefore, need to be interpreted with some caution. In this regard, it has been suggested that the commonly used measure for openness (i.e., exports plus imports to GDP) suffers from large country bias (Nunnenkamp, 2002). A different measure of openness, the extent by which government policy discourages imports, has been found to be positively related to inward FDI (Taylor, 2000). For developing countries, this particular measure of openness has been found significant in explaining manufacturing sector FDI, indicating entry of export-oriented FDI in manufacturing activities. For FDI in non-traded services, however, the measure has been found insignificant (Taylor, 2000; Nunnenkamp, 2002).

**Host country tax rates**

Empirical research has pointed to the possibility of higher income tax rates in host countries reducing corporate profits and thereby discouraging FDI (Hartman, 1981, 1984; Boskin & Gale, 1986). The importance of prevailing income tax rates in influencing inward FDI in both developed and developing host nations has been corroborated by several other studies (Jun, 1989; Lizonda, 1990; Brewer 1991;
Gerlowski, Fung & Ford, 1994; Hines, 1996; Cassou, 1997; Wei, 1997a). Not all studies, however, arrive at similar conclusions. For a select sample of developing countries in Asia, host country income tax rates have been found to be statistically insignificant for inward FDI from developed nations (Lipsey, 1999).  

**Incentives**

Different host nations offer a variety of incentives for attracting FDI. These incentives are mostly fiscal in nature and usually intend to channelise FDI into activities that are considered more desirable from national interests (e.g. technology-intensive areas). Different fiscal incentives offered by host countries to foreign investors include tax holidays, concessional rates of income taxes on project earnings, exemption from import duties on imported material used in the project, and duty drawbacks on exports (Banga, 2003). There are also examples of financial incentives like subsidised loans and guarantees on loans, government insurance at preferential rates etc (Banga, 2003). The use of such incentives has proliferated in recent times (UNCTAD, 1998). Greater integration of world markets is likely to have made such incentives an important determinant of FDI (Kokko, 2002).

Empirical research has produced mixed results regarding the success of incentives in attracting FDI. Some studies indicate that fiscal incentives implying imposition of lower

---

12 Host country tax rates have usually been considered as exogenous variables in choice of investment locations of foreign firms. Accordingly, high tax rates in host nations have been considered as deterrents for incoming FDI. An alternative explanation suggests that these tax rates could also be endogenous, reflecting attractiveness of concerned host nations, and their efforts to extract rents from multinationals for using the former's resources. This explanation has also been offered for explaining the insignificance of tax rates. See Lipsey (1999). Similar views have also been expressed in other empirical studies. See Lucas (1990).

13 Incentives are measurable economic advantages afforded to specific enterprises or category of enterprises by a government for encouraging them to behave in a certain manner. Incentives include
taxes on earnings of foreign firms are positively correlated to inward FDI in both
developed (Yamada & Yamada, 1996) and developing (Ermisch & Huff, 1999)countries. There is also some empirical support in favour of fiscal incentives
A considerable body of empirical literature, however, has thrown up contradictory
evidence in this regard. Fiscal incentives aimed at attracting foreign investors have been
found to insignificant by many studies.\textsuperscript{14} The effect of liberal investment policies were
found to be much less significant for attracting inward FDI as compared to factors like
market size (Contractor, 1990; Wheeler and Mody, 1992). However, if the overall
perspective of the location decision has been broadly decided (e.g. the multinational
firm has decided to invest in a country with a large market size), then country-specific
incentives are found significant in determining the eventual location of investment
(Dunning, 1998; Mytelka, 1998).

\textbf{Intellectual Property Rights}

Prevalence of strong patent laws in host nations protecting proprietary rights of owning
firms over technical know-how, prevent the dissipation of benefits realisable from
ownership advantages of firms. Strong intellectual property regimes, therefore, are
expected to encourage incoming FDI. The empirical literature on FDI, however, is yet
to unambiguously ascertain the significance of the strength of intellectual property
rights in host nations on incoming FDI. Some empirical studies have found the impact
of intellectual property rights to be insignificant in this regard (Bosworth, 1980;

\begin{flushright}
measures for increasing the rate of return of a particular DI undertaking, or reducing (redistributing) its
costs or risks. See UNCTAD (1999)
\end{flushright}
Frischtak, 1989; Ferrantino, 1993; Kondo, 1994). The distribution of location of R&D activities by multinational firms also could not be explained by variations in inter-country intellectual property regimes (Kumar, 1996). There has, however, been instance of empirical studies pointing at weak patent laws as a deterrent for incoming FDI (Mansfield, 1994). Codifiability of technology in the product or service concerned, measured in terms of number of patents granted by host nations for the concerned technology, however, has been found to be significant in determining the choice between licensing and FDI on part of foreign firms (Kogut and Zander, 1993; Arora and Fosfuri, 2000).

**Bilateral investment treaties and regional integration frameworks**

Bilateral investment treaties (BITs) aim to promote mutual investment flows. Most of these treaties are between developed and developing nations. The incidence of bilateral treaties rose sharply during the decade of the 1990s. These treaties strengthen the bilateral protection available to foreign investors and establish dispute settlement mechanisms. The role of these treaties in enhancing FDI, however, has been found to be largely limited (UNCTAD, 1999). However, there is evidence of FDI flows into developing countries being positively influenced by BITs with developed countries.

Regional integration frameworks are policy-induced integration initiatives adopted by national country governments. Though these arrangements entail a considerable degree of integration between participating member states, explicit FDI provisions might not

---

15 Around three-fourth of the total bilateral treaties in existence at the end of 1997 (roughly 1,500 in number) came into force during the 1990s. See UNCTAD (1999).
necessarily figure in the arrangements. However, regional integration does impact upon
the size of the market, and can, thereby, influence incoming FDI in the region.
Like bilateral treaties, empirically, these arrangements too have not been found to be
particularly significant in enhancing incoming FDI for individual countries
(Scaperlanda and Mauer, 1969; Bachtler and Clement, 1990).\textsuperscript{17} FDI inflows in specific
host countries (e.g. in Mexico after the formation of the North American Free Trade
Association (NAFTA)) have been found to be more significantly determined by pure
economic factors (e.g. market size) rather than the regional association, even if the latter
have explicit FDI provisions (Blomstrom and Kokko, 1997).\textsuperscript{18} Similar conclusions have
been reached with respect to impact of accession agreements announced for transition
economies in Europe (Bevan and Estrin, 2001).

3.2.3 SOCIAL, POLITICAL AND LEGAL DETERMINANTS
The empirical literature on determinants of FDI has reviewed the role of social, political
and legal features of host nations fairly exhaustively. A wide variety of factors have
been studied in this regard. Some of the more extensively investigated features are:
1. Geographical distance.
2. Cultural differences.
3. Political risk and instability.
4. Governance and regulation.

\textsuperscript{16} An empirical analysis of 133 countries involving 200 bilateral investment treaties found their role to be
at best 'minor and secondary' in explaining cross-country FDI flows. See UNCTAD (1998)
\textsuperscript{17} One of the reasons behind the estimated insignificance of these frameworks in increasing FDI could be
the persistence of social and cultural barriers. Removal of trade and investment barriers through regional
integration doesn’t obliterate cultural and other barriers to investment. See Motta and Norman (1996).
**Geographical distance**

The role of geographical distance between source and host countries as a determinant of FDI is directly related to the level of transport costs. If the host country market was being serviced through exports earlier, and FDI substitutes exports due to high transport costs, then distance can be a positively significant determinant of FDI. However, if FDI is export-oriented, with much of the production targeted for the home country and other countries with similar tastes and preferences, then distance can negatively impact FDI. Besides, higher the distance, i.e. more remote the location, the greater is the expenditure on local information-gathering on part of foreign firms, thereby acting as a discouragement to overseas investment.

Empirical studies indicate that geographical proximity between home and host nations has direct impact on FDI in host nations (Terpstra and Yu, 1988; Yu, 1990, Koechlin, 1992; Gross and Trevino, 1994; Bevan and Estrin, 2001). This finding, however, requires cautious interpretation, since, in recent times, the remarkable advent in information and communications technology has helped in overcoming the costs of doing business in distant locations. However, despite these advancements, there is evidence of distance acting as a negatively significant determinant for domestic market-oriented FDI in manufacturing industries, while no such findings are reported for export-oriented FDI (Lipsey, 1999).

**Cultural differences**

Potential foreign investors are expected to avoid locations having wide linguistic and cultural differences, as compared to their ‘home’ nations, and choose host countries that

---

18 There is, however, some evidence of FDI having increased in Namibia and Botswana after their
are closer to their own cultures and customs (Davidson, 1980; Mikalak, 1992; Koechlin, 1992; Grosse and Trevino, 1994). The obvious reluctance on part of foreign investors in operating in more ‘alien’ conditions arises from the various costs involved in doing so, like spending more on training personnel for adapting to unfamiliar conditions, deploying greater resources on collecting information regarding local market tastes and preferences etc. Empirical studies indicate that considerable cultural differences might force multinationals to undervalue their potential investments in foreign locations (Root, 1990).

**Political instability**

Investigation of the role of political instability in host countries as a determinant of FDI has figured prominently in empirical research on developing countries. The relative lack of interest in studying this factor for FDI in developed nations can be traced to the greater convergence between economic structures, and the increasing commonality of policies between advanced nations, which, arguably, has reduced the importance of political instability in determining FDI between developed countries.

FDI inflows into developing countries have been found to be negatively affected by political instability (Agarwal, 1980; Edwards, 1990; Lizonda, 1990; Summary & Summary, 1995). Country-specific risks arising from political and macroeconomic uncertainties have also been found significant in explaining FDI in LDCs (Lehmann, 1999, Urata and Kawai, 1999). In these nations, frequent changes in government leadership (Root and Ahmad, 1979), incidence of political strikes and riots (Schneider and Fray, 1985) and occurrence of persistent political conflicts (Nigh, 1985) were found integration with Southern African Customs Union (SACU). See UNCTAD (1998).
significant deterrents for foreign investors. Interestingly, a political risk index was found to be statistically significant for developing countries receiving comparatively higher FDI inflows compared to those with lower inflows (Singh and Jun, 1995). Similarly, risk of operations, which relates to difficulties involved in doing business in a particular country, and includes a variety of factors like political stability, attitude towards foreign investors, enforceability of contracts etc. has also been found to have a higher correlation in relatively high FDI-recipient developing countries (Koechlin, 1992; Singh and Jun, 1995).

Some empirical studies, however, have arrived at conclusions contrary to those mentioned above. These have pointed to the relative insignificance of political risk in foreign investment decisions (Bennett and Green, 1972; Levis, 1979, Wheeler and Mody, 1992). On the whole, results obtained by empirical literature seem to indicate that while inter-country political developments are significant for inward FDI into developed nations, for developing countries, intra-country events assume greater importance (Nigh, 1985). There is evidence of 'positive' events (e.g. hosting of important sporting events like the Olympic games) being positively related to FDI in developing countries, as compared to ‘negative’ events (imposition of martial law, presence of dictatorial regimes etc.), which adversely affect FDI (Lucas, 1993).

**Governance and regulation**

Several empirical studies have pointed out that national political systems encouraging property rights and civil liberties for foreign capital play favourable roles in attracting FDI (Schollhammer and Nigh, 1984; Nigh, 1985; Schneider and Fray, 1985). Governance infrastructure, indicating the political, legal and institutional environment
of host countries, and the efficiency of public institutions and policies, has been found to be an important determinant of FDI inflows (Globerman and Shapiro, 2002). Administrative bottlenecks in host countries have also been found to discourage FDI in developing countries (Nunnenkamp, 2002). The overall investment climate, which reflects upon the institutional efficiency of host countries, and is usually measured by credit ratings of nations, has also been found to be positively correlated to FDI (Schneider and Fray, 1985, Rana, 1988, Bevan and Estrin, 2001). In this regard, past behaviour towards FDI, in terms of pro and anti-foreign investment policies followed by host nations, also appear to affect FDI (Lipsey, 1999).

The role of corruption in the context of governance can hardly be overlooked. Empirically, corruption has been found to be a significant determinant of FDI in low-income countries and transition economies (Smarczynska and Wei, 2000).

A list of various determinants and the proxies used for estimating them in different empirical studies is given in Appendix 1.

3.3 DETERMINANTS OF FDI IN INDIA: SOME SELECT STUDIES

The empirical literature on FDI in India has largely focused upon the impact of FDI upon the host economy. Several aggregate studies on determinants of FDI have included India in the sample group of countries. But studies of host-country features determining FDI exclusively in India have been much limited in comparison. One of the reasons behind this paucity of research could be the restrictive FDI policy followed by India till the 1990s, which had severely reduced the scope of FDI in the country's growth and development. The progressive liberalisation of the FDI policy in the 1990s
has generated greater interest among researchers regarding the impact of FDI on the Indian economy, as well as the determinants of FDI in India. Despite policy liberalisation and significant reforms in various sectors, India’s success in attracting FDI has been limited compared to China and some other developing economies, particularly those in East Asia. It is, however, mentionable that there is no evidence of a positive relationship between market reforms and FDI inflows in developing economies (Easterly, 2001).

With respect to determinants of FDI, India’s large and growing market has been mentioned as a major attraction for foreign firms (Nagaraj, 2003) with the latter heavily inclined towards gaining market access in the Indian economy (Anand and Delios, 1996). Export-oriented FDI has been much lower in India, as against domestic market-oriented FDI (China has attracted significant volumes of export-oriented FDI; Guha and Ray, 2001), though, of late, there appears to be greater realisation of the cost advantages India offers in export-oriented manufacturing (Nagaraj, 2003). The increase in the country’s FDI stock in the 1990s has been attributed to the desire of foreign firms to extend managerial control, which was facilitated by removal of restrictions on equity holding (Nagaraj, 2003). Relatively lower disposable incomes have been cited as a deterrent for FDI (Nagaraj, 2003), along with rigid industrial labour laws, bureaucratic delays, and lack of adequate infrastructure (Sachs and Bajpai, 2001). India’s inability to develop adequate export infrastructure vis-à-vis countries like China affected the inflow of export-oriented FDI (Nagaraj, 2003). Besides, in physical infrastructure like electricity generation, foreign firms apparently have not had distinct cost advantages over their domestic counterparts, which have also held back FDI (Nagaraj, 2003).
An empirical exercise pertaining to FDI inflows from six source countries (Germany, Japan, Sweden, Switzerland, UK and the US) into India, has attempted to study the determinants of FDI inflows in the Indian economy over the period 1992-1999 (Venkataramany, 2002). The study has taken into consideration particular industries like engineering, ferrous and non-ferrous sectors, chemicals, pharmaceuticals, tea, trading textiles and rubber etc. and has attempted to identify determinants on an industry-specific basis. The major findings of the study are as follows:

1. The simple Ordinary Least Squares (OLS) estimations for the entire sample found changes in GDP and domestic interest rates on term deposits to be highly significant and positive for inward FDI. Inflation rates, and commercial interest rates, were also highly significant, and negative in influencing FDI.

2. With respect to industries, the results were similar. In addition, changes in volume of imports were found to be a significant variable.

3. With respect to source-countries, in addition to the variables mentioned in 1 and 2 above, profits after tax and terms of trade were found positively significant. Interestingly, changes in volume of exports were found to be insignificant in all three analyses.

An empirical study attempting to identify the factors guiding entry choices of foreign firms (joint ventures vis-à-vis licensing), also throws some light on the likely determinants of FDI in India (Eapen and Hennart, 2002). On the basis of primary data for a sample of 126 Indian firms (75 firms being local partners in joint ventures with foreign firms and 51 licensees of foreign firms) covering more than 20 manufacturing
industries (e.g. industrial and commercial machinery, chemicals and allied products, electronics and electrical equipment, transportation etc.), various parameters were estimated for ascertaining their significance in deciding the choice between joint ventures and licensing. The findings of the study are as follows:

1. With respect to the technology for the product concerned, prior transfers of similar technology were positively significant for joint ventures. The extent of foreign help required by Indian firms for implementing the transferred know-how, which is an indicator of the technological ability of Indian firms, was also positively significant. Joint venture decisions were also positively influenced by the Indian firm’s possession of relevant product-related skills.

2. Patenting of the foreign technology in India, age of the technology concerned, and scale of investment required for producing and selling the product were found insignificant.

The choice of entry mode has also been studied in the context of 49 select manufacturing industries in India for the year 1980-81 (Kumar, 1987). The findings revealed that FDI was concentrated more in industries that were advertising and skill-intensive. On the other hand, licensing was seen to occur in industries where the technical know-how could be incorporated in plant and machinery, or technology transfers involving less complex machinery. The restrictive import substitution policies pursued by India were found to be an important motivation behind establishment of direct production facilities in the country – thereby pointing towards the greater incidence of the ‘tariff-jumping’ variety of FDI in India. The restrictive policies
followed by India were, in fact, argued to have favoured licensing in India, compared to FDI, thereby affecting the balance between FDI and licensing in India (Kumar, 1995a). A study based on the survey appraisal approach (Gupta and Mehra, 1995) for a sample of 74 Indian firms having financial collaborations with US companies, and 30 US multinationals, found low wages to be the most important determinant of US FDI in Indian engineering industry. Large size of the domestic market was found to be the most important factor influencing US FDI in consumer goods industries, while availability of cheap skilled labour and market size were found positively significant for FDI in electronics and chemicals industries. High corporate tax rates and inefficient financial markets were identified as deterrents for incoming FDI. The study, however, relates to the period 1991-1994, after which, corporate income tax rates in India have reduced significantly. The study also points to relatively higher rates of return on investment vis-à-vis several other East Asian economies (e.g. Indonesia, Thailand, Korea, and China) as a positively encouraging factor for FDI in India.

The stark contrast between India and China with respect to their respective performances in attracting FDI has generated considerable research interest. Expatriate FDI is seen to have played a major role in augmenting China’s FDI stock. The determinants governing the inflow and spatial distribution of expatriate and non-expatriate investment in China and India have been studied at length (Guha and Ray, 2001). Low wage costs and domestic market size have been found positively significant for expatriate investment in India. The wage differential and market size (estimated by lagged GDP and rate of growth of GDP) were found significant for non-expatriate
investment too. However, the study clearly indicates that FDI in India has not been ‘export-oriented’.

One of the more recent empirical studies on the presence of FDI in the Indian manufacturing sector finds corroborates the finding that FDI has not been attracted to export-oriented industries (Banga, 2003a). Based on results arrived after estimating panel data for 74 manufacturing industries, the study, however, concludes that FDI has had a significant impact upon export-intensities of non-traditional industries and therefore, has resulted in diversification of India’s exports.

3.4: A SUMMARY OF MAIN FINDINGS

In this section, we highlight the main conclusions emerging from our review of empirical literature on determinants of FDI.

Economic determinants

Among economic determinants, size of host country markets has been identified as a significant factor influencing FDI. However, it has also been pointed out that while market size is a significant variable for ‘domestic market-oriented’ FDI, its importance may reduce for ‘export-oriented’ FDI (Lucas, 1993). In a similar vein, ‘tariff-jumping’ FDI has been found to respond positively to high tariff walls, though recent empirical research points to the growing insignificance of this factor in explaining cross-country distribution of FDI, given the widespread dismantling of tariffs. ‘Export-oriented’ FDI in developing countries has been found to be positively associated with exports of host nations. Exchange rate volatilities are found to discourage FDI flows. Availability of cheap labour has been widely found to be a positively significant determinant of FDI in
developing countries, along with infrastructure, technological capabilities in host nations and availability of human capital in the form of skilled workers. The quality of industrial relations in terms of workdays lost has also been found to be a significant determinant, in addition to agglomeration.

Policy Determinants

The role of 'openness' and outward-orientation of host economies as a determinant of FDI has been an extensively researched issue. 'Openness' has been generally found to be successful in attracting FDI in developing countries. Among other policy determinants studied, there is, however, limited empirical support in favour of host country tax rates, investment initiatives and bilateral/regional arrangements, as determinants of FDI. Results have broadly been inconclusive regarding these determinants. There is also lack of concrete evidence regarding the role of intellectual property rights in influencing FDI inflows.

Social, political and legal determinants

There is empirical evidence in favour of geographical distance or remoteness of investment destinations from source countries, to be a positively significant determinant for market-oriented FDI. Similarly, cultural differences have also been found to influence FDI decisions. For developing countries, political instability has been found to affect entry decisions of investors.

On the whole, we find that the present body of empirical literature, till now, has failed to arrive at a broad consensus regarding several location-specific features of FDI. This is partly attributable to the lack of reliable and accurate data on FDI inflows, as well for the location-specific variables. Besides, most of the studies on determinants have relied
upon the aggregate approach. These studies usually pool a cross-section of countries together for assessing country-specific determinants. Unfortunately, the implicit assumption behind these cross-sectional studies is that the relationship between the dependent (FDI inflows) and independent (various host-country features) variables is in equilibrium at a point of time. These analyses, therefore, are static in nature, and are incapable of capturing the dynamic causalities between dependent and independent variables.

**Determinants of FDI in India**

Most of the empirical studies for India point to the positive significance of the size of the domestic market in attracting FDI inflows. FDI in India appears to be mostly domestic market-oriented, and not export-oriented, unlike China. There is also evidence of FDI concentrating in advertisement and skill-intensive industries. While low wages, availability of skilled labour, and relatively higher returns to capital are found positively significant for FDI in manufacturing, poor infrastructure, high corporate tax rates, and underdeveloped financial markets are found to be deterrents to FDI flows in India.
Appendix 1

A Select Review of the Various Host-Country Determinants Studied by Empirical Research on FDI and their Proxies

1. **Natural resources**
   a. Share of primary commodity exports in total exports (Narula and Wakelin, 1995).

2. **Market size**
   a. GNP (Barrell and Pain, 1996)
   b. Lagged GNP (Bandera and White, 1968; Schmitz and Bieri, 1972; Lunn, 1980; Culem, 1988)
   d. GDP\(^{19}\) (Veugelers, 1991; Alam, 1992; Nakamura and Oyama, 1998; Lipsey, 1999; Bevan and Estrin, 2000).
   e. Per capita GDP (Lorce and Guisinger, 1995; Singh and Jun, 1995; Lipsey, 1999).
   f. Purchasing power parity adjusted GDP (Urata and Kawai, 1999).
   h. Lagged GDP (Guha and Ray, 2001)
   i. Normalised aggregate consumption expenditures vis-à-vis an 'ideal' market size (Narula and Wakelin, 1995)

3. **Openness**
   a. Sum of exports and imports over population (Narula and Wakelin, 1995).
   b. Share of imports from select trade partners in total country imports (Bevan and Estrin, 2000).
   c. Sum of exports and imports as percentage of GDP (Chakraborti, 2001; Kerr and Monsingh, 2001; Asiedu, 2002).
   d. Import tariffs (Gustanga, Nugent and Pashamova, 1998).
   e. Degree by which government policy discourages imports (Taylor, 2000).

4. **Exchange rate**
   a. Annual average exchange rate vis-à-vis dollar (Kerr and Monsingh, 2001)

5. **Technological capability**
   a. Ratio of patents to total number of students at the tertiary level (Narula and Wakelin, 1995).

6. **Human capital**
   a. Proportion of scientists and engineers in total employment (Papanastassiou and Pearce; 1990)
   b. Skilled employment ratio (ratio of salaried employees to production workers) (Dunning, 1980)
   c. Total enrolment of students at the tertiary level to total population (Narula and Wakelin, 1995)
   d. Host country literacy rate (Dunning, 1981).
   e. Secondary education enrolment ratio (Urata and Kawai, 1999).
   f. Human development index (Globerman and Shapiro, 2002).

7. **Labour costs**
   a. Average hourly compensations in host countries (Dunning, 1977a).

---

\(^{19}\) Both real and nominal GDPs have been used in empirical literature.
b. Unit labour costs in manufacturing relative to those in a benchmark country (e.g. US) (Narula and Wakelin, 1997).
c. Average weekly earnings (Kerr and Monsingh, 1998).
d. Real earnings index (Singh and Jun, 1995).

8. Industrial relations
a. Number of workdays lost (Kobrin, 1981; Singh and Jun, 1995).

9. Tax rates
a. Marginal ratio of direct tax to total tax revenue (Kerr and Monsingh, 1998).
b. Revenues accruing to government as taxes on international trade and transactions (Singh and Jun, 1995).
c. Sum of income and other taxes as percentage of sales (Lipsey, 1999).

10. Geographical distance
a. Measured in terms of aerial distance recorded as the inverse coding of the actual distance between the capital city (or the largest city) of the host country and a representative US city (Yu, 1990).
b. Shipping distance from the sources (Lipsey, 1999).

11. Political risk
a. A political risk index developed by Business Environment Risk Index (Singh and Jun, 1995). The index ranges from 0 (prohibitive risk) to 100 (complete stability).

12. Country risk
a. Proxied by information available to firms at the time of making investment decisions through credit ratings of host nations (Bevan and Estrin, 2001).

13. Agglomeration
a. Number of cumulative FDI cases (Urata and Kawai, 1999).