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IMPACT OF GOVERNMENT POLICIES AND INVESTMENT AGREEMENTS ON FDI INFLOWS

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Foreword

FDI flows into India have grown rapidly since the liberalisation of the policy regime in the early nineties. Nevertheless they remain small when measured as a proportion of GDP or total investment. In other words they play a very small role in the development of our economy. This contrasts with the very important role that FDI has played in the economic development of other fast growing Asian economies such as ASEAN and China. What one may call the "FDI-Export" model has powered the high growth rates of Singapore, Thailand, Malaysia, Indonesia and China during the past two or three decades. The reasons for the very low rate of FDI in India compared to these countries is because of both external and internal reasons. Earlier papers by ICRIER staff have pointed to some of these reasons. The current paper identifies the causes more rigorously and provides empirical evidence to substantiate some of the hypothesis.

The paper demonstrates the important role of labour costs, labour productivity and educational attainment in attracting FDI into Asian countries. Infrastructure has often been mentioned as a factor in FDI. The present paper finds that the availability of electricity is indeed an important factor in FDI flows. It also confirms that FDI restrictions reduce FDI. The tariff-jumping hypothesis so popular among some economist is conclusively disproved for Asian economies, in that higher tariffs are found to have a negative (not positive) effect on FDI flows. The implications of these results for India are worth elaborating.

With labour costs in China rising with rising per capita income, India's labour costs will soon be lower than that of China. Labour productivity has an obvious link to capital intensity and labour discipline and a less direct one to education and managerial skills. Labour laws (such as those in India) that remove the incentive for work (or equivalently the dis-incentive to shirk) have a negative effect on labour productivity. Thus export linked FDI can be boosted tremendously if Special Export Zones are allowed to introduce and implement a more flexible labour regime. Secondary education, which is more important for FDI and growth in general, in India has not lagged too far behind some of the ASEAN countries, even though there is considerable room for improvement. Indian middle management and technical skills are widely recognised in the FDI fraternity and are a strong attraction for location of technologically more demanding operations. An elimination of remaining equity limits on FDI into real estate development, distribution, Telecom, Insurance Airlines etc. and a continuing reduction in Peak Tariff rates could give a tremendous boost to export oriented FDI into India.

The paper shows that FDI intentions as manifested in FDI approvals are not always influenced by the same factors that influence actual FDI inflows. Transport and communication infrastructure turns out to be a significant factor (not electricity) perhaps because the first contact with a new country is through these two modes. Loan costs also seem to be important in FDI approvals while having no effect on actual FDI. Labour costs loose their significance as signals while the importance of labour productivity and education is also lower in contracted than in actual FDI.

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Impact of Government Policies and Investment Agreements on FDI Inflows

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Abstract

The last two decades have witnessed an extensive growth in foreign direct investment (FDI) flows to developing countries. This has been accompanied by an increase in competition amongst the developing countries to attract FDI, resulting in higher investment incentives offered by the host governments and removal of restrictions on operations of foreign firms in their countries. This has also led to an ever-increasing number of bilateral investment treaties (BITs) and regional agreements on investments. In this scenario, the question addressed by the study is: How effective are these selective government policies and investment agreements in attracting FDI flows to developing countries and do FDI from developed and developing countries respond similarly to developing host countries' policies? To answer this, the study examines the impact of fiscal incentives offered, removal of restrictions and signing of bilateral and regional investment agreements with developed and developing countries on FDI inflows to developing countries, after controlling for the effect of economic fundamentals of the host countries.

The analysis is first undertaken for aggregate FDI inflows to fifteen developing countries of South, East and South East Asia for the period 1980-81 to 1999-2000. Separate analyses are then undertaken for FDI from developed and developing countries. The results based on random effects model show that fiscal incentives do not have any significant impact on aggregate FDI, but removal of restrictions attracts aggregate FDI. However, FDI from developed and developing countries are attracted to different selective policies. While lowering of restrictions attract FDI from developed countries, fiscal incentives and lower tariffs attract FDI from developing countries. Interestingly, BITs, which emphasize non-discriminatory treatment of FDI, are found to have a significant impact on aggregate FDI. But it is BITs with developed countries rather than developing countries that are found to have a significant impact on FDI inflows to developing countries.

I   Introduction

The ongoing process of integration of the world economy, which gained momentum since the beginning of the 1990s, has led to a significant change in the attitudes of the host countries with respect to inward foreign direct investment (FDI). FDI is no longer regarded with suspicion by the developing countries and controls and restrictions over the entry and operations of foreign firms are now being replaced by policies aimed at encouraging FDI inflows. Along with this, there has also emerged an extensive network of bilateral and regional investment agreements, which seek to promote and protect FDI coming from the partner countries. The main provisions of these agreements whether bilateral or regional, is linked with the gradual decrease or elimination of measures and restrictions on the entry and operations of foreign firms and application of positive standards of treatment with a view to eliminate discrimination against foreign enterprises.

Until recently, there was a strong consensus in the literature that multinational corporations (MNCs) invest in specific locations mainly because of strong economic fundamentals in the host countries for example, large market size, stable macro economic environment etc. (Dunning 1993, Globerman and Shapiro 1999, Shapiro and Globerman 2001). However, with the growing integration of the world markets and increased competition amongst the host countries to attract FDI, the host country's economic fundamentals may not be sufficient for inward FDI. Therefore it now becomes important to study afresh what determines inflow of FDI. In this regard, there is a need to focus on the role played by host government policies and investment agreements in attracting inward FDI.

Brewer (1993) discuses various types of government policies that can directly and indirectly affect FDI through their effects on market imperfections. It is argued that same government policy can increase and/or decrease market imperfections and thereby increase and/or decrease FDI inflows. Correspondingly, we find that the empirical evidence on the impact of selective government policies on FDI inflows is ambiguous. Grubert and Mutti (1991), Loree and Guisinger (1995), Taylor (2000) and Kumar (2002)

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find a positive effect of investment incentives and a negative impact of performance requirements imposed by the host governments on inward FDI flows. UNCTAD (1996) reports that incentives can have an effect on attracting FDI only at the margin, especially when one considers the type of incentive and the type of project. Several studies find that fiscal incentives do affect location decisions, especially for export oriented FDI, although other incentives seem to play a secondary role (Devereux and Griffith 1998; Hines 1996).

But some studies e.g., Contractor (1991) finds that policy changes have a weak influence on FDI inflows. Caves (1996) and Villela and Barreix (2002) conclude that incentives are generally ineffective once the role of fundamental determinants of FDI is taken into account. This view is also supported by Hoekman and Saggi (2000) who conclude that although useful for attracting certain types of FDI, incentives do not seem to work when applied at an economy wide level. In a recent paper, Nunnenkamp (2002) argues that little has changed since 1980s and traditional market related determinants are still dominant factors attracting FDI. Further, Blomstrom and Kokko (2002) have discussed whether FDI incentives are justified for the host economies given the fact that this entails a transfer of resources from host countries to foreign firms.

A subset of these studies have also tested the impact of openness to trade and regional agreements in trade on FDI inflows and found them to be important determinants e.g., Gastanaga, Nugent and Pashmova (1998), Taylor (2000), Chakrabarti (2001) and Asiedu (2002). Studies like Globerman and Shapiro (1999) find that Canada-U.S. Free Trade Agreement (CUFTA) and North American Free Trade Agreement (NAFTA) increased both inward and outward FDI. Blomstrom and Kokko (1997) separate the effects of regional trade agreements (RTA) along two dimensions, i.e., the indirect effect on FDI through trade liberalisation and the direct effects from changes in investment rules connected with the regional trade agreements. According to them lowering interregional tariffs can lead to expanded markets and increase FDI but lowering external tariffs can reduce FDI to the region if the FDI is tariff jumping.

The present study adds to the existing literature on determinants of FDI by empirically examining the response of FDI inflows to government policies (namely tariff policy and FDI policies like fiscal incentives offered and removal of restrictions) and to investment agreements made by the host developing countries, after controlling for the economic fundamentals of the host countries. It is the first attempt to test empirically the significance of bilateral investment treaties and regional investment agreements in attracting FDI flows to developing countries. It also investigates whether signing these agreements with developed countries and with developing countries have differential impact on FDI inflows.

Further, with the growth of FDI flows from the developing countries in the last two decades, there are reasons to believe that FDI from developed and developing countries may seek to fulfill different objectives and therefore may be attracted to different set of policies of the host governments. This has also been observed by Dunning (2002), who suggest that for FDI from large developing countries traditional economic variables remain more important. But, FDI from more advanced industrialized countries is increasingly seeking complementary knowledge intensive resources and capabilities, a supportive and transparent commercial, legal communications infrastructure, and government policies favorable to globalization, innovation and entrepreneurship. This, however, has not been empirically tested. The present study attempts to empirically examine the differential response of FDI from developed and developing countries to the host countries' selective FDI policies and investment agreements.

The impact of government policies and investment agreements on FDI inflows is estimated for fifteen developing countries of South, East and South East Asia for the period 1980-81 to 1999-2000. Further, FDI is disaggregated into FDI from developed and developing countries and their response to government policies and investment agreements is examined in the period 1986-1987 to 1996-1997. Random Effects Model and Fixed Effects Model have been estimated using panel data for the analyses.

The rest of the study is organised as follows: Section 2 examines the trends in FDI flows to developing countries of Asia. Section 3 presents the theoretical framework and

specifies the model to be estimated. Section 4 discusses the variables, data sources and expected relationships with the variables. Section 5 and 6 presents the results on determinants of aggregate FDI and determinants of FDI from developed and developing countries respectively. Section 7 summarizes and concludes.

II   Trends in FDI Flows to Developing Countries of Asia

The last two decades have witnessed a tremendous increase in global FDI flows. This has been accompanied by a slow shift in the pattern of FDI, which has gradually become more favourable to the developing countries. Table 1 presents the percentage of global FDI flows into developed and developing countries and from developed and developing countries in this period. We find that the share of developing countries in total inward FDI has increased steadily. The average annual percentage flow of FDI into developing countries rose from 25 percent in the 1980s to 30 percent in 1990s. This average would have been much higher in the 1990s but for the slow-down of the Asian economies after 1997. The average annual outflow of FDI from developing countries has almost doubled in the 1990s as compared to 1980s though an increasing proportion of FDI flows, i.e., around 88 percent still comes from the developed countries.

Amongst the developing regions, we find that the share of Asian developing countries in the global FDI flows has increased steadily in the last two decades.[1] The average annual inflow of FDI into Asia and Pacific increased to around 54 per cent in the 1980s to around 61% in the 1990s. But the distribution of FDI flows between Asia and Pacific is biased heavily towards the Asian countries. The average annual inflow into Asian countries in the 1980s was around 97 per cent, this further increased to around 99 percent in the 1990s. Within Asia, we find that on an average 72%of total FDI went to South, East and South East Asia in the 1980s and around 97% in the 1990s. We therefore analyse FDI flows into this region. Our sample includes the following countries namely, Bangladesh, China, China- Hong Kong, India, Korea, Malaysia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, China-Taiwan, Indonesia, Thailand and Viet Nam.

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[1]   UNCTAD 2003

Table 1:   Percentage of Global FDI Inflows and Outflows: 1980-2001

YEAR	FDI inflows into		FDI outflows from	
	Developed Countries	Developing Countries	Developed Countries	Developing Countries
1980	84.68	15.25	93.79	6.17
1981	66.04	33.91	96.08	3.92
1982	54.04	45.93	90.20	9.79
1983	65.40	34.53	95.39	4.60
1984	69.44	30.53	95.66	4.32
1985	74.13	25.82	93.15	6.85
1986	81.04	18.97	94.75	5.22
1987	83.37	16.62	95.20	4.80
1988	81.40	18.57	93.24	6.74
1989	84.49	15.26	92.82	7.18
Average	74.40	25.54	94.02	5.96
1990	81.16	18.53	92.82	7.16
1991	70.60	27.71	93.97	6.01
1992	62.67	34.60	87.43	12.53
1993	60.28	36.61	83.69	16.18
1994	55.71	41.86	83.35	16.48
1995	61.51	34.05	85.34	14.46
1996	56.95	39.54	84.15	15.52
1997	56.05	39.96	83.33	15.78
1998	69.73	27.02	92.29	7.35
1999	76.98	20.69	92.70	7.07
2000	82.27	15.95	92.16	7.55
2001	68.44	27.86	93.54	5.89
Average	66.86	30.36	87.79	11.00

Source: UNCTAD 2003. Total FDI flows are divided between developed countries, developing countries and Central and Eastern Europe

Within the Asian developing countries (Table 2), it is interesting to note that there has been a substantial change in the pattern of FDI inflow in the last two decades. China

has seen a substantial increase in its average share of total FDI inflow into this region in the 1990s. The average share of FDI inflow has also increased in the 1990s for countries like Bangladesh, India and Vietnam, though their overall share in the 1990s still remains very low. But the average share of Malaysia and Hong Kong has declined from around 15 to 8 per cent and 22 to 17 per cent respectively in the decade of the 1990s. Some fall is also seen in the average shares of Taiwan, Indonesia, Pakistan, Sri Lanka and Thailand during this period.

However, the average shares of these countries in total stock of FDI in this region, in the period 1980 to 2001, shows a very different picture. Hong Kong has received around 50 per cent of the total stock of FDI in these two decades. While 15 per cent of the total FDI stock has gone into China, followed by Indonesia at around 10 percent and Singapore at around 8 per cent. Thailand and Taiwan have received around 2 per cent of the total FDI stock and all others have received less than 1 per cent share in total FDI stock into this region.

Table 3 reports the average share of FDI inflows from developed and developing countries into the Asian developing countries in the period 1986-87 to 1996-97[2]. It is interesting to note that Singapore has received the largest share of FDI from the developed countries followed by Hong Kong, Korea and Indonesia. Countries like Taiwan, India, Thailand, Philippines, Malaysia and Pakistan have received more than 50 per cent of their FDI from the developed countries. The rest have a larger share of FDI from the developing countries. Interestingly, China and Vietnam have more than 60 per cent of FDI inflows from developing countries.

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[2]   These averages are based on FDI approvals and not actual inflows.

Table 2 : Average Share of Countries in Total FDI Inflows and Total FDI Stock in South, East and South East Asia: 1980 to 2001

	Average Share in Total FDI Inflow 1980-1990	Average Share in Total FDI inflow 1991-2001	Average Share in Total FDI Inward Stock 1980-2001
Bangladesh	0.04	0.08	0.05
China	16.46	40.62	15.35
China, Hong Kong	22.13	16.87	50.96
China, Taiwan	4.73	3.03	2.49
India	1.29	2.07	0.90
Indonesia	4.12	2.68	10.23
Korea	3.43	3.98	1.97
Malaysia	14.88	8.18	0.01
Nepal	0.0001	0.0001	0.00
Pakistan	1.11	0.77	0.68
Philippines	1.49	1.90	1.16
Singapore	23.83	11.82	8.49
Sri Lanka	0.62	0.25	0.24
Thailand	5.38	4.84	2.10
Vietnam	0.13	1.59	0.52
Others	0.36	1.32	4.84
Total South, East and South East Asia	100.00	100.00	100.00

Computed from UNCTAD 2003

Table 3 : Average Share of FDI Inflows from Developed and Developing Countries: 1986-87 to and 1996-97.

Country	FDI from Developed Countries	FDI from Developing Countries	Total
Bangladesh	36.02	63.98	100
China	23.64	76.36	100
China, Hong Kong	83.32	16.68	100
China, Taiwan	63.05	36.95	100
India	68.47	31.53	100
Indonesia	81.26	18.74	100
Korea, Rep.	86.50	13.50	100
Malaysia	57.55	42.45	100
Nepal	46.92	53.08	100
Pakistan	73.27	26.73	100
Philippines	72.41	27.59	100
Singapore	96.36	3.64	100
Sri Lanka	36.77	63.23	100
Thailand	63.72	36.28	100
Vietnam	33.51	66.49	100

Source: World Investment Directory, Vol VII-Part 1&2: Asia and the Pacific. The figures are based on Approvals for FDI.

III Theoretical Framework and Model Specification:

The emergence of FDI has been extensively explained in the literature by corresponding streams of thoughts. Early studies on FDI traced its roots to the international trade theory and identified comparative advantage of the host countries as the most important determinant of FDI. This view successfully explained "resource-seeking" FDI. However, since 1960s and 1970s the relative importance of this approach declined as it was unable to explain why countries chose FDI and not trade? Alternatively, market access was put forward as an explanation for FDI. The market imperfection hypothesis postulated that FDI is the direct result of an imperfect global market environment (Hymer 1976). This view successfully explained the "tariff-jumping" FDI, which was most prevalent in the import-substituting industrialisation wave of 1970s. However, with the rising integration of the world markets in the 1980s and 1990s there rose the need to explain FDI that occurred even with greater access to integrated markets. An alternative explanation came forth in the corresponding stream of thought that proposed internalisation theory (Rugman 1986). This theory explained FDI in terms of a need to internalise transaction costs so as to improve profitability and explained the emergence of "efficiency-seeking" FDI.

However, the above theories were not able to explain why FDI chose to exploit relevant assets in some countries but not in others. In this regard, Dunning's eclectic approach to international production gave locational issues explicit importance by combining them with firm-specific advantages and transaction costs elements (Dunning, 1993). FDI according to Dunning emerges due to ownership, internalisation and locatonal advantages3. For our analysis of the cross-country pattern of FDI in Asian developing countries, we adopt Dunning's eclectic paradigm that emphasises the locational advantages in terms of economic conditions or fundamentals of the host countries relative to other countries as determinants of cross-country pattern of FDI.

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3 The development in different theories of FDI has been surveyed by Dunning (1999).

But, with the rising pressures of globalisation induced competitiveness, the locational advantages based on only the economic conditions may not be able to sustain their strength of attracting FDI. Possessing the principal determinants may not be sufficient for the host countries, as improving efficiency in international production becomes one of the major goals of FDI. This is made possible by the rising international division of labour and international production networks. Recently, studies have brought out the need for improving and sustaining locational advantages in the host countries by the active role played by the governments of the host countries. The focus therefore has now shifted to government policies in addition to economic conditions as a determinant of FDI.

In support to the above argument, Dunning (2002) suggests that for FDI from more advanced industrialised countries, government policies along with transparent governance and supportive infrastructure has become more important. However, FDI emerging from larger developing countries still seek traditional economic determinants, e.g., market size and income levels, skills, political and macroeconomic stability, etc. To explicitly capture the role played by the government policies in determining inflow of FDI we put forward the following model:

Model Specification

Government policies that may influence the inflow of FDI can be broadly categorised into three types. First, overall economic policy that increases locational advantages for FDI by improving the economic fundamentals of the host country; second, national FDI policy that reduces the transaction costs of foreign firms entering the economy; and third international FDI policy that deals with agreements (whether bilateral, regional or multilateral) on foreign investments. The overall economic policy works at the macro level and aims at improving the fundamentals of the economy like the market size, availability of skilled labour, infrastructure etc and thereby influence the attractiveness of the country to FDI inflows. The national FDI policy works at the domestic level and regulates entry and exit of FDI along with creation of incentives and restrictions on operations of foreign firms in different sectors of the economy. While, the

international FDI policy works at the international level and deals with agreements on the issue of treatment of FDI from a particular partner or region. These investment agreements may ensure FDI from a particular partner or from a particular region treatment under "most- favoured nation standard" and "national treatment standard".

Based on their susceptibility to change, the three categories of policies may impact FDI over different time periods. While overall economic policies may take a long time to change the economic conditions of the country e.g., market size, national FDI policy like fiscal incentives offered may have a more immediate effect. Signing of investment agreements to encourage FDI flows from a particular country or from within a region may have an impact both in the short-run as well as in the medium run. The focus of the study is on the national and the international FDI policy of the host governments in the developing countries after controlling for the economic fundamentals as alternative explanations. The model formulated for this purpose is as follows:

FDI = f [(Overall Economic Policy), (National FDI Policy, e.g., Tariff Policy, FDI Incentives and Removal of Restrictions on FDI), (International FDI Policy e.g., Bilateral Investment Agreements $_{dgc}$, Bilateral Investment Agreements $_{dc}$, and Regional Investment Agreements) }

where dgc stands for developing countries and dc for developed countries i.e., (Bilateral Investment Agreements)$_{dgc}$ stands for bilateral investment agreement with developing countries. The model is estimated for the period 1980-81 to 1999-2000. Impact of economic fundamentals is estimated with a lag of one period to avoid simultaneity with the dependent variable. A similar model is estimated for FDI from developed countries and FDI from developing countries for the period 1986-87 to 1996-97 based on FDI approvals. The impact of two regional investment agreements is examined, i.e., agreement reached among the APEC members, i.e., non-binding investment principles (NBIP) and investment area

agreement (AIA) reached by Association of Southeast Asian Nations (ASEAN). These are captured by a dummy variable for the country's membership of ASEAN and APEC. We now discuss in detail the methodology adopted and variables selected for the above-specified model along with the data source.

IV   Variables, Data Sources and Expected Relationships

IV.1   Overall Economic Policy

Economic Fundamentals as determinant of FDI

Overall economic policy helps in strengthening the fundamentals of the economy. There exists a vast literature that has analysed the impact of economic fundamentals on inflow of FDI. Drawing on this vast existing literature on the economic fundamentals we provide a list of variables used by the earlier studies and those that have been considered by us as determinants of inward FDI along with their expected signs (Table 4). Studies have found market variables, quality of human capital, macro economic stability, financial health and infrastructure availability in the economy to have a positive impact while cost variables (e.g., labour cost, energy cost) are expected to be negatively related to FDI inflows (UNCTC 1992). The definitions of the above variables along with their expected signs as inferred from the literature and the sources of data are reported in Table A.1 and Table A.2 respectively of the Appendix.

1.   Market Size

The most important of the economic fundamentals, as recognised in the literature, are the market-related variables that may affect market-seeking FDI. Here, there are two factors, i.e., current market size and potential market size. While a large market size generates scale economies, a growing market improves the prospects of market potential and thereby attracts FDI flows (Bhattacharya et al 1996, Chen and Khan 1997, Mbekeani 1997). We use Log of GDP and growth rate of GDP to capture the impact of this variable on FDI and expect this to have a positive impact on inward FDI.

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Table 4 :   Economic Determinants:

Determinants	Variables Used in he Literature	Empirical Studies	Variables Used in this Study	Expeced Signs
1. Current Market Size and Potential Market Size	1. Log GDP 2. Per Capita Income 3. GDP Growth Rate 4. Per Capita Growth rate	Root and Ahmed 1979, Bhattacharya et al 1996, Chen and Khan 1997	1. Log GDP 2. GDP Growth rate	+
2. Cost of Labour	1. Real Wage Rate	Woodward and Rolfe 1993	Real wage rate	_
3. Availability of Skilled Labour	1. Literacy Rates 2. Secondary Enrolment rate	Schneider and Frey 1985	Secondary Enrolment Rate, Productivity of Labour (GVA/Employee)	+
4. Cost of Capital	1. Local credit ratio 2. Log annual average lending rates	Bende Nende, et al 2000	Log annual average lending rates	?
5. Availability of Infrastructure	1. Ratio of Commerce, transport and communication to GDP 2. Energy production (equivalent tons of coal per 1000 population)	Bende-Nabende, et al 2000	1.Proportion of Electricity Consumed / GDP 2. Transport andCommunication/ GDP	+
6. Real exchange rate	1. Real exchange rate	Goldberg and Klein 1998, Trevino, et al 2002	Real exchange Rate	_
7. Exchange Rate Stability	1. Percentage Change in Annual Average Exchange Rate between Local Currency and US $ 2. Exchange Rate Volatility using Monthly Data	Froot and Stein 1991	Percentage Change in Annual Average Exchange Rate between Local Currency and US $	_
8. Rate of Inflation	Percentage Change in Consumer prices	Schneider and Frey 1985	-	_
9. Financial Health	1. Current Account Deficit 2. Ratio of External Debts to Exports	Schneider and Frey 1985	Ratio of External Debts to Exports	_
10. Overall Economic Stability that includes Political Stability	1. Credit Ratings 2. Budget Deficit/ GDP	Trevino, et al 2002	Budget Deficit / GDP	_

2.   Cost Factors

Factors that cause investment cost differentials across countries are categorised as cost factors. These include cost of labour, cost of capital and infrastructure costs. Cost factors may significantly influence the choice of an investment location for the resource-seeking and efficiency-seeking FDI. To capture cost of labour and availability of skilled labour we use real wage rates. We expect lower real wages in the host country to attract inward FDI. The availability of skilled labour is also captured by the variable secondary school enrolment rate and productivity of labour where productivity of labour is defined as value added per unit of labour.

The impact of cost of capital (i.e. lending interest rates) on FDI inflows is found to be ambigous in nature and statistically insignificant by many studies. On one hand, it can be argued that higher lending rates may have a positive impact on FDI inflows, i.e., higher the cost of capital in the host country the more capital is brought in by the foreign firms. Alternatively, it can argued that host country's cost of capital impacts directly on domestic consumption. Thus the lower the interest rates, the higher the domestic consumption and hence higher the FDI inflows (Bende Nende, et al 2000). We do not hypothesis any particular relationship between the two.

With regards to infrastructure costs, it is found that higher the availability of infrastructure lower is the infrastructure costs and higher is the ability of the host country to attract FDI. However, different studies have used different measures to capture availability and cost of infrastructure. Some of the variables used are land and property rents, fuel costs, index of infrastructure, transport costs and share of transport and communication to GDP. We use two variables i.e., transport and communication as a ratio of GDP and electricity consumed as a ratio of GDP across countries. Electricity consumed reflects both the availability and cost of electricity in the host countries.

3.   Real Exchange Rates

There is mixed evidence on the impact of depreciation of real exchange rate in the host country on FDI inflows. Foreign investors may gain or lose from a devalued exchange rate. They may gain due to larger buying power in host countries. Also they can produce more cheaply and therefore export more easily. This may therefore attract resource seeking and efficiency seeking FDI. However, foreign firms may not enter if they believe that depreciation may continue after they enter a country as this would imply costs to be too high to justify their investments (Trevino, et al 2002). We expect devalued exchange rate to encourage inflow of FDI in the host countries, as this would reduce the cost of investment to the foreign firms.

4.   Macro Economic Stability

FDI faces variability of basic macroeconomic variables (inflation, budget deficit, balance of payments, etc.) across countries. Volatility of macroeconomic policy creates both problems and opportunities for international firms, requiring them to manage the risk inherent in volatile countries, but also presenting the opportunity of moving production to lower cost facilities. A particular kind of macroeconomic instability is that of exchange rate volatility. If exchange-rate changes merely offset price movements so that real purchasing power parity is maintained, the exchange-rate movements would have little real effects. Nevertheless, there is empirical evidence to indicate that purchasing power parity does not hold for all time periods and thus exchange-rate changes can affect the competitiveness of plants in different countries. We expect high volatility of the exchange rate of the currency in the host country to discourage investment by foreign firms as it increases uncertainty regarding the future economic and business prospects of the host country. To capture the volatility in exchange rates which may negatively affect FDI inflows we use the percentage change in annual average exchange rate between local currency and one US $.

5.   Rate of Inflation

Low inflation rate is taken to be a sign of internal economic stability in the host country. High inflation indicates inability of the government to balance its budget, and failure of the central bank to conduct appropriate monetary policy (Schneider and Frey, 1985). Due to high correlation between inflation rate in the economy and extent of budget deficit we do not use this variable explicitly in the study.

6.   Overall Economic Stability

The financial health of the host economy is captured by ratio of external debts to exports. It is expected that lower this ratio higher is the probability of economic stability in the country. Studies have used country credit ratings given by various institutions as an indicator of overall economic stability that includes political and macro economic stability. However, there arises the question of subjectivity in these ratings since it is found that the ranking of countries based on these ratings differ across estimates provided by different agencies. To avoid the problem of subjectivity we prefer to use budget deficit as a ratio of GDP in the host countries as an indicator of overall economic stability. A large and continuous deficit in budget in an economy may reflect higher chances of economic instability in the host country therefore we expect it to have a negative impact on FDI inflows.

We thus control for the market variables (i.e., market size and potential market size), cost variables (i.e., cost of labour in terms of efficiency wages and cost of capital), skill availability (i.e., education), macro-economic stability (i.e., real exchange rate and exchange rate stability), financial health (i.e., budget deficit and level of external debt) and infrastructure availability (i.e., transport and communication and electricity consumed) in the economy.

IV.2   *National FDI policy*

The national FDI policies followed by the host country governments to encourage FDI into different sectors have assumed greater importance in the current liberalised regime. However as observed by Globerman and Shapiro (1999) it is difficult to statistically examine the impact of FDI–specific policies like incentives offered and removal of restrictions on the operations of foreign firms, since they are hard to isolate from other factors, "often because they are more implicit than explicit". Another of the difficulties in empirically examining the impact of these policies is the difficulty in quantifying these policies.

Studies that have empirically tested for the impact of government policies on FDI flows are generally based on benchmark surveys at a point of time (Kumar 2002, Loree and Guisinger 1995) or they observe the impact for a particular country over a period of time. Though these kinds of studies give an insight into what determines the pattern of FDI flows at a particular point in time, they do not capture the influence of change in the FDI policies in a particular country and its comparative attractiveness to inward FDI into that region overtime.

FDI may flow into a country not only because now the host country provides certain investment incentives but also because these incentives when compared to the incentives provided by other competing host countries appear to be more attractive. Also, an important fact that needs to be addressed is that though when considered individually different incentives offered by a host country may have significant influence on FDI, but when considered as a package, i.e., when all incentives offered by one host country are compared to those offered by other host country these incentives may lose their significance.

In an attempt to address the above issues and to quantify policies that are not captured by proxy variables and make them comparable across countries the methodology adopted is to allot scores to different countries for the policies offered by them overtime. These scores range from 0 to 2, where a zero score is allotted to a country

at a time when no incentives are offered by it. The score 1 or 2 is allotted for different incentives offered depending upon how conducive they are in attracting FDI. For example, in case of tax holidays offered, a score is given to a country for the period depending on number of years for which tax holidays are offered. A zero score is alloted if no tax holidays are offered. A country gets a score of 1 if the tax holidays are offered for a period of less than five years. A score of 2 is assigned if tax holidays are offered for a period more than five years.

Different scores with respect to different incentives have been allotted and their influence on FDI flows is empirically tested. But along with this the impact of composite score for incentives allotted to each country, i.e., a sum of all the scores allotted to it in a particular year for different incentives, is also examined. The influence of combined score on FDI flows allows us to see how important is the influence of the entire package of incentives offered by the host country. A similar exercise is undertaken with respect to removal of restrictions. The selective polices and their expected impact is now discussed:

Tariff Policies

Following Mundell (1957) it was long thought that FDI substitutes trade. This proposition was challenged by Agmon (1979) and subsequently a number of studies emphasised potential complementarities between FDI and trade4. Earlier literature suggests that FDI and trade are either substitute (in the case of tariff-hopping investment) or complementary to each other (in the case of intra firm trade). However, the relationship between FDI and trade has become far more complex in the WTO regime wherein several developing countries have initiated import liberalisation process that has drastically reduced trading costs and encouraged international vertical integration and intra industry trade.

With the decline in the barriers to trade and increase in the importance of networks, foreign investors find barriers to entry and less competitive environments less appealing. In more recent studies, it has been found that foreign investment is deterred by

high tariffs or non-tariff barriers on imported inputs and is attracted to more open economies. In reviewing cross-country regressions on the determinants of FDI, Charkrabarti (2001) argues that after market size, openness to trade has been the most reliable indicator of the attractiveness of a location for FDI. We therefore expect higher openness to trade to attract higher FDI inflows.

Studies have used the ratio of sum of exports and imports to GDP as an indicator of openness to trade. We however use average tariff rates (TARIFF) across countries since this is an exogenous variable. The sources of average tariff rates for the countries in the sample are UNCTAD's Trains database and WTO's Trade Policy Reviews and Integrated Data Base (IDB).

Investment Incentives

There are two main categories of FDI incentives offered by developing countries to attract FDI inflows. First is fiscal incentives, i.e., policies that are designed to reduce tax burden of a firm; and second is financial incentives, i.e., direct contributions to the firm from the government (including direct capital subsidies or subsidised loans). Fiscal incentives include tax concessions in the form of reduction of the standard corporate income-tax rate; tax holidays; accelerated depreciation allowances on capital taxes; exemption from import duties; and duty drawbacks on exports. Financial incentives include grants; subsidised loans and loan guarantees; publicly funded venture capital participating in investment involving high commercial risks; and government insurance at preferential rates.

These incentives are widespread as almost all countries in the sample have incentive schemes. Fiscal incentives are however preferred by the developing countries, partly because these can be easily granted without incurring any financial costs at the

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[4] This literature has been summarised by Ethier (1994, 1996) and Markusen (1995).

time of their provision[5]. The study therefore focuses on the fiscal incentives offered. The incentives covered by the study are the following:

a) Tax Holidays ($TAXH_{it}$): A zero score is allotted to a country i, in period t, if no tax holidays are declared. If tax holidays are declared for five or more years a score of two is allotted and if it is less than five years a score of one is allotted.

b) Tax concessions in number of industries ($TAXCON_{it}$): A zero score is allotted to a country i, in period t, if tax incentives are declared for no industries. If tax incentives are declared for restricted number of industries then a score of one is allotted and if it is declared for all industries a score of two is allotted.

c) Repatriation of profits and dividends ($REMITS_{it}$): A score of zero is allotted to a country for the period when approvals are required to repatriate remittances, one if some restrictions are imposed and two if no permission is required.

The role of incentives in attracting FDI has been questioned on theoretical as well as empirical grounds as discussed earlier. The results with respect to impact of incentives offered by host countries to inward FDI are ambiguous in nature. Several studies with respect to incentives find that fiscal incentives do affect location decisions, especially for export oriented FDI, although other incentives seem to play a secondary role. However, fiscal incentives appear unimportant for FDI that is geared primarily towards the domestic market; instead such FDI appears more sensitive to the extent to which it will benefit from import protection. However, as discussed earlier, incentives must be viewed as a package and this requires a more nuanced view.

The impact of incentives on inward FDI flows is expected to be positive. But, it is interesting to see whether FDI from developing countries and from developed countries respond in a similar way to the investment incentives offered to the foreign firms in the developing countries.

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[5] Bora (2002) in a study of 71 developing countries concludes that fiscal incentives are the most popular, accounting for 19 out of 29 most frequently used incentives.

Removal of Restrictions

Various forms of restrictions were applied to FDI in the developing countries in the pre-liberalised era. These relate to admission and establishment, ownership and control, and other operational measures. Admission and establishment restrictions included closing certain sectors, industries or activities to FDI; screening, authorisation and registration of investment and minimum capital requirements. Ownership and control restrictions existed in various forms. For example, allowing only a fixed percentage of foreign-owned capital in an enterprise; compulsory joint ventures; mandatory transfer of ownership to local private firms, usually over a period of time; and restrictions on reimbursement of capital upon liquidation. Even after entry, foreign firms could face certain restrictions on their operations, such as restrictions on employment of foreign key personnel; and performance requirements such as sourcing or local content requirements, training requirements and export targets.

However, in the WTO regime, due to the enforcement of TRIMS (Trade Related Investment Measures) many of these restrictions have now been withdrawn and the types of restrictions relating to FDI have been greatly liberalised in a large number of countries in Asia. Many of them now do not require investment approvals or licensing except for few sectors that are closed to FDI (mainly for security reasons). The impact of the removal of the following restrictions is studied here. For this purpose the following variables are constructed:

a) Access to industries ($ACCESS_{it}$): a score of zero is allotted to a country i in year t if there exists restricted entry to foreign firms in a number of industries. The score of one or two is allotted depending upon whether the entry is restricted or free (excluding defence).

b) Foreign ownership restrictions ($OWNERSHIP_{it}$): a score of zero is allotted to a country i in year t if there exists high restrictions on foreign ownership, i.e., foreign firms are not allowed high equity ownership. The score of one or two is allotted depending upon whether the ceiling to foreign ownership is limited or no restriction exists.

c) Ease of entry (ENTRY $_{it}$): a score of zero is allotted to a country i in year t if there exists restricted entry to foreign firms in terms of approvals or licensing required by them. The score of one or two is allotted depending upon whether the entry is made easier by reducing administrative procedures or by giving free access to foreign firms and no approvals are required.

d) Performance requirements (PERFOMANCE $_{it}$): A score of zero is allotted if many performance requirements exist. A score of one is allotted if the number and degree of performance requirements are reduced and a score of two is allotted if no performance requirements exist.

The impact of combined score for incentives, i.e., a sum of scores given for incentives and a combined score for removal of restrictions on inward FDI flows is examined. It is expected that a higher score will be associated with higher inflow of FDI. The analysis is also undertaken separately for FDI from developed and developing countries.

Information on policies with respect to incentives and restrictions on FDI for each country in the sample have been collected from Economic and Social Survey of Asia and the Pacific, United Nations (various issues), Asian Development Outlook and Country Economic Review, Asian Development Bank (various issues) and Country Reports on Economic Policy and Trade Practice, released by the Bureau of Economic and Business Affairs, U.S. Department of State.

IV.3   *International FDI Policy*

Bilateral Investment Treaties

In contrast to the number of trading agreements, there are very few investment agreements that exist. However, there has been a substantial increase in number of bilateral investment treaties (BITs) that have been signed and brought to force in the last two decades and particularly in the 1990s[6]. In general, BITs deal exclusively with

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[6]   According to UNCTAD (1999) by the end of 1998 more than 1,700 BITs were concluded and nearly four fifths of them after 1990.

investments and lay down specific standards of investment protection and transfer of funds. They contain provisions for the settlement of disputes both between the treaty partners and between investors and the host state. BITs also cover a number of other areas, in particular, non-discrimination in the treatment, and in some cases the entry of foreign-controlled enterprises, and other related fields. An important characteristic of BITs is a considerable uniformity in the broad principles underlying the agreements (UNCTAD 1999), coupled with numerous variations in the specific formulations employed. BITs generally recognise the effect of national law on FDI and accept the right of governments to regulate entry of FDI. By providing protection, BITs are expected to promote FDI.

BITs were initially addressed exclusively between developed and developing countries. A major reason for this being that developed countries were the major source of investments. However, the decade of 1990 has witnessed an increasing number of BITs between developing countries themselves. The study examines empirically the impact of total number of BITs signed by a country in a particular year on FDI flows. The impact of number of BITs with developed countries and with developing countries on inward FDI is examined separately. Further, the impact of BITs on FDI from developed countries and from developing countries is examined. Table 5 shows the total number of BITs concluded in selected developing countries in different years ranging from 1980 to January 2000. We find that not only has the total number of BITs increased exponentially in the 1990s, but countries like China, Indonesia, Malaysia, Philippines and Vietnam have signed a large number of bilateral investment treaties in the period between 1995 to 2000. The number of BITs with developing countries has also increased overtime (Table 6) and has almost doubled in the period between 1995 to 2000. However, the number of BITs with developed countries has not increased at the same rate.

Table 5 :   Number of Bilateral Investment Treaties

Country	1980	1985	1990	1995	2000
Bangladesh	1	1	8	8	12
China	0	7	22	57	70
Hong Kong, China	0	0	0	6	14
Taiwan, China	0	0	1	9	11
India	0	0	0	1	13
Indonesia	7	7	8	19	30
Korea, Rep.	0	0	0	0	0
Malaysia	5	6	13	22	32
Nepal	0	1	2	3	3
Pakistan	2	4	7	10	15
Philippines	1	2	3	9	21
Singapore	6	6	9	13	19
Sri Lanka	4	13	16	17	20
Thailand	3	4	6	12	19
Vietnam	0	0	0	17	25
Total	29	51	95	203	304

Source: UNCTAD 2001
Year of Entry into force of the Treaty has been considered.

Table 6:   Number of Bilateral Investment Treaties with Developed and Developing Countries

	1980		1985		1990		1995		2000	
Country	DC	DGC	DC	DGC	DC	DGC	DC	DGC	DC	DGC
Bangladesh	1	0	1	0	6	2	6	2	7	5
China	0	0	6	1	15	7	35	22	38	32
Hong Kong	0	0	0	0	0	0	6	0	10	4
India	0	0	0	0	0	0	1	0	8	5
Indonesia	7	0	7	0	8	0	13	6	15	15
Korea, Rep.	0	0	0	0	0	0	0	0	0	0
Malaysia	5	0	5	1	10	3	12	10	13	19
Nepal	0	0	1	0	2	0	3	0	3	0
Pakistan	2	0	4	0	6	1	8	2	11	4
Philippines	1	0	2	0	3	0	5	4	13	8
Singapore	5	1	5	1	6	3	8	5	9	10
Sri Lanka	2	2	11	2	14	2	15	2	15	5
Taiwan, China	0	0	0	0	1	0	1	8	1	10
Thailand	3	0	4	0	4	2	6	6	8	11
Vietnam	0	0	0	0	0	0	10	7	13	12
Total	26	3	46	5	75	20	129	74	164	140

Source: UNCTAD 2001, Based on Author's estimates
DC stands for Developed Country.
DGC stands for Developing country.

Regional Investment Agreements

With regards to the regional investment agreements, we find that following the negotiations on TRIMS in the Uruguay Round of multilateral trade negotiations under the GATT (WTO), which reached an agreement on prohibiting trade related investment measures, some of the regional trade bodies have also taken the initiative to improve the investment environment to make it more conducive to free flow of FDI. One such agreement reached is among the APEC members, i.e., non-binding investment principles (NBIP) in 1994. A similar agreement is also reached by Association of Southeast Asian Nations (ASEAN) in 1999. ASEAN Investment Area (AIA) has been signed by all the member countries under which member countries are committed to open up industries and grant national treatment to all ASEAN investors immediately, except in some industries of national interest. The study examines the impact of these two regional investment agreements on FDI inflows into developing countries and expects them to have a positive impact. A dummy variable is used to capture the impact.

V   Empirical Results: Determinants of Aggregate FDI

In order to estimate the impact of national and international FDI policy on FDI inflows, after controlling for the economic fundamentals, random effects as well as fixed effects models have been estimated. However, the analysis is based on random effects model since it is found to be more suitable by the Hausman Statistic[7]. The estimations have been undertaken at two levels. First, using data for fifteen developing countries of South, East and South East Asia for the period 1980-81 to 1999-2000, an attempt is made to control for the economic fundamentals of the host country and analyse the impact of national FDI policy and international FDI policy on FDI inflows. To avoid the problem of simultaneity between the explanatory variables and the dependent variable (i.e., Log FDI), economic fundamentals are lagged by one year. At the second level, the impact of national FDI policy and bilateral investment agreements on FDI from developed and developing countries is analysed by using a panel data for ten developing countries for

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[7]   It should be noted that in most of the cases the results do not differ qualitatively between Fixed Effects model and Random Effects Model.

the period 1986-1987 to 1996-1997[8]. The analysis is based on FDI approvals. To test the applicability of the model we compare the models with aggregate FDI as dependent variable, using data for actual FDI inflows and FDI approvals. List wise deletion is undertaken in the case of missing data. All results presented are corrected for auto-correlation and hetroscedasicity.

To test the significance of economic fundamentals on FDI inflows, the model is first estimated with only economic fundamentals. The results of the impact of fundamentals of the economy are reported in column 1 of Table 7. A number of equations are presented which include policy variables as determinants[9].

Most of the variables reported in column 1 of Table 7 have the expected signs and are consistent with the literature. FDI is found to be attracted to large market size; low labour cost; availability of high skill levels, captured by secondary enrolment ratio in the economy and high productivity of labour; lower external debt reflecting the financial health of the economy; and higher availability of electricity in the economy. However, cost of capital reflected by domestic lending rates, macro economic stability captured by exchange rate stability and budget deficit to GDP ratio are not found to be significant. Recent econometric studies emphasize that there has been a shift in the relative importance of the determinants of foreign investment decisions, i.e., away from fundamentals towards FDI policies that aim at attracting higher FDI flows in particular sectors. These studies suggest that effects of FDI incentives, in particular fiscal incentives, and other domestic FDI policies of the government have become more important[10]. One of the most discussed FDI policy of the host government has been with respect to the openness of the economy. We use the average tariff rates fixed by the host governments to determine the extent of openness of the economy.

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[8]   The choice of the period and countries depended on the availability of data. The countries chosen are a
       subset of countries in the earlier analysis. The analysis is based on FDI approvals because of lack of
       data on actual FDI inflows from developed and developing countries.
[8]   It is found that the overall explanatory power of the corresponding OLS models improve as policy
       variables are included

[10]   UNCTAD 1996

Our results show that Tariff rates have a significant negative impact on FDI inflows (reported in column 2). This result is found to be robust in the sense that inclusion and exclusion of other variables do not affect its significance and sign. The result is as expected and corroborates the results of the earlier of studies e.g., Charkrabarti (2001) who finds that openness to trade attracts FDI after controlling for other factors. The result therefore suggests that in this period FDI that is attracted to developing Asian countries is not 'tariff-jumping" in nature and countries with high average tariffs may be at a disadvantage as compared to countries with lower average tariffs in attracting FDI.

We study the impact of incentives offered as a package by the host countries and removal of restrictions on the operation of foreign firms separately. This is done on the presumption that these two may have separate effects on inward FDI. More than the fiscal incentives offered what may be of more importance to the foreign firms is the removal of restrictions on entry, ownership, access to industries, etc. Our results show that though incentives have a positive impact on inward FDI they are not significant determinants of FDI. Various studies show that incentives play a minor role in attracting FDI[11] once the impact of economic fundamentals are controlled for. An argument put forward to explain this is that most countries eventually offer identical or similar incentives as competition for external resources intensifies. As a result, investors become less sensitive to these measures in their decisions to locate their investments.

However, the results show that removal of restrictions has a significant positive impact on FDI inflows into developing countries. This result is supported by the results arrived at by a growing body of literature that documents the difficulty that foreign firms face in establishing their operations in developing countries (e.g., Djankov and others 2002; Emery and others 2000). Djankov and others (2002) suggest that stricter regulation of entry is correlated with more corruption and a larger informal economy and therefore restrictions on entry may have a negative impact on FDI inflows. Also, it has been found

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[11] Caves (1996) and Villela and Barreix (2002)

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that healthy economies have a high "churn rate" of firms, and research demonstrates a strong positive link between entry and exit (Love 1996)[12]. The results arrived at by Friedman and others (2000) also suggest that very often it is the arbitrary array of obstacles to starting and running business that are the more significant barriers to foreign investors.

Table 7 : Impact of Selective Government Policies and Investment Agreements on Aggregate FDI: Dependent Variable: Log of Aggregate FDI Inflows

Explanatory variables	1	2	3	4	5
MKTSIZE	0.48***	0.37***	0.34**	0.37**	0.44**
	(2.78)	(2.14)	(2.02)	(2.17)	(2.62)
GRTHMKT	-0.002	0.004	0.001	0.005	0.003
	(-0.45)	(0.65)	(0.17)	(0.07)	(0.49)
COSTLB	-0.04***	-0.03***	-0.02**	-0.02***	-0.03***
	(-4.61)	(-3.34)	(-1.83)	(-2.82)	(-3.07)
PDTYLB	0.03***	0.03***	0.02**	0.02***	0.03***
	(4.69)	(4.03)	(2.09)	(3.26)	(3.54)
EDU	0.07***	0.06***	0.04***	0.05***	0.06***
	(7.97)	(5.18)	(3.51)	(4.01)	(4.39)
EXRATE	-0.004	-0.006	-0.001	-0.007	-0.003
	(-0.03)	(-0.43)	(-0.86)	(-0.53)	(-0.27)
EXTDEBT	-0.30***	-0.22***	-0.21**	-0.20**	-0.21**
	(-3.43)	(-2.54)	(-2.07)	(-2.14)	(-2.27)
T&C	-0.47	-0.24	0.13	0.04	0.21
	(-0.30)	(-0.16)	(0.09)	(0.03)	(0.15)
ELECT	0.001***	0.001***	0.001***	0.001***	0.001***
	(5.96)	(6.06)	(4.67)	(4.68)	(3.66)
LDRATE	0.0001	0.0002	0.0009	0.0001	0.0002
	(0.59)	(0.90)	(0.28)	(0.57)	(0.03)
EXVOLATILITY	-0.003	-0.006	-0.008	-0.009	-0.003
	(-1.00)	(-0.43)	(-0.11)	(-0.12)	(-0.54)
BUDGETDEF	-0.002	-0.005	-0.003	-0.005	-0.009
	(-0.35)	(-0.78)	(-0.66)	(-0.05)	(-0.39)
TARIFF		-0.03***	-0.01***	-0.02**	-0.01**
		(-3.03)	(-3.51)	(-2.16)	(-2.48)
REST		0.13***	0.11***	0.10***	0.09***
		(4.00)	(3.38)	(3.17)	(2.91)
INCENTIVES		0.25	0.43	0.40	0.45
		(0.16)	(0.27)	(0.28)	(0.60)
APEC			0.59**		-
			(2.39)		
ASEAN			-0.83		
			(-0.66)		
BIT				0.09***	
				(2.76)	

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[12]   Entry barriers can also become exit barriers (World Bank 2003).

BITDC				-	0.11***
					(4.04)
BITDVGC				-	0.006
					(0.30)
CONSTANT	1.91**	2.81**	3.59**	2.84**	3.43**
	(2.11)	(2.15)	(2.51)	(2.08)	(2.50)
Adjusted R-squared (OLS)	0.51	0.55	0.53	0.56	0.57
Observations	270	255	255	255	255
Hausman	33.59*	3.28	3.28	3.21	1.88

Notes: 1.Results of Random Effects Model are presented. 2. Autocorrelation and Hetroscedasticity are corrected for 3.List wise deletion is made for missing values. 4.Hausman test supports random effect model. Figures in parenthesis are t-statistic. *** denotes significance at 1%, ** at 5% and * at 10%

Very recently, a new strand of literature has emerged that examines the impact of regional trading agreements on FDI flows (Binh and Haughton 2002, Worth 2002). Most of these studies argue that the determinants of FDI and trade are similar and therefore what determines trade also determines FDI. However, these studies have exclusively focussed on the impact of trade agreements on FDI. With regards to regional investment agreements, results show that the impact varies across different agreements. APEC membership has a significant impact on FDI inflows but ASEAN membership does not influence inflow of FDI. The results are however expected since ASEAN agreement, i.e., AIA is still new and may have an effect with a lag. There exist several multilateral agreements that include clauses on incentives and investment rules but their coverage remain limited. For instance, WTO regulates FDI incentives in its agreements on Subsidies and Countervailing Measures (SCMs) and Trade-Related Investment Measures (TRIMS), but these agreements leave much discretion to national decision-makers, and apply only to 'specific subsidies' that are directed to individual enterprises[13].

Though as yet there does not exist any multilateral agreement on investment there has been an influx of bilateral agreements on investment that emphasize on the treatment of foreign firms by the host countries. To capture the impact of BITs on FDI inflows two equations are estimated, one using total number of BITs signed by the host country and second BITs signed with developing and developed source countries of FDI. An interesting

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[13] SCM agreement prohibits subsidies that are contingent on export performance and use local inputs, and restricts the use of firm-specific subsidies exceeding 15 percent of total investment cost.

result that emerges is that BITs has a significant positive impact on FDI inflows but it is BITs with developed countries that has a significant influence

on aggregate FDI inflows. BITs with developing countries do not have a significant impact on FDI inflow. There are two possible explanations for this result. First, since FDI from developed countries comprises more than 60 percent of aggregate FDI therefore it is possible that BITs with developing countries may not show significance. Second, it is possible that determinants of FDI may differ between developed and developing countries and issues with respect to treatment of foreign firms in the host countries may not be important for FDI from developing countries. To test this further we now analyse the determinants of FDI from developed and developing countries separately.

VI   Empirical Results: Determinants of FDI from Developed and Developing Countries

To estimate the impact on FDI from developed and developing countries we use ten years data on FDI approvals from developed and developing countries into developing countries. However, we first examine whether determinants of FDI approvals differ from determinants of actual FDI inflows.

Table 8 presents the determinants of actual and approved FDI. We find that growth in the size of the host markets is a significant determinant of FDI at the stage when approvals are being sought. It therefore acts as a signal of market potential to the foreign investors, however, it is the existing size of the market not the potential growth that determines the actual inflow of FDI. Cost of labour and electricity does not have a significant impact on FDI approvals though better transport and communication play a more significant role in attracting FDI approvals. This indicates that seeking approvals for undertaking investments i.e., in the first stage of undertaking investments it is the cost of transport and communication that influences cross country location of FDI, however in the second stage, when actual investments are undertaken what influences more is the costs of labour and energy availability. With respect to all other variables we find that the determinants of actual and approved FDI to have a similar impact. Impact of Tariff rates on FDI inflows loses

significance when we consider a shorter period of analysis, i.e., ten years as compared to twenty years.

Table 8 :   Impact of Economic Fundamentals and Government Policies on Actual and Approved FDI: Random Effects Model (1987-1997)

Explanatory variables	FDI-Actual	FDI-Approvals
MKTSIZE	1.40***	3.46***
	(4.57)	(6.56)
GRTHMKT	0.07*	0.09***
	(1.80)	(3.61)
COSTLB	-0.21**	-0.10
	(-1.90)	-(0.90)
LBPDTY	0.02	0.02
	(1.08)	(0.22)
EDU	0.01	0.01
	(0.74)	(0.94)
EXRATE	-0.02***	- 0.03***
	(-2.77)	(-5.48)
EXTDEBT	-0.06	-0.02
	-0.60)	(-0.46)
T&C	1.03*	1.72**
	(1.79)	(2.24)
ELECT	0.001***	0.007
	(4.70)	(0.18)
LDRATE	-0.002*	-0.001**
	(-1.80)	(-2.25)
BUDGETDEF	-0.001	-0.005
	(-0.62)	(-0.88)
EXVOLATILITY	--0.31	0.17
	(-1.55)	(-0.52)
TARIFF	-0.01	-0.12
	(-1.23)	(-1.25)
REST	0.20***	0.85***
	(4.06)	(2.03)
INCENTIVES	0.16	0.32
	(1.33)	(1.51)
CONSTANT	-84.06***	-32.86***
	(-6.39)	(-4.28)
Observations	150	150
Hausman	1.89	1.44

Notes: 1.Results of Random Effects Model are presented. 2. Autocorrelation and Hetroscedasticity are corrected for. 3.Hausman test supports random effect model. Figures in parenthesis are t-statistic. *** denotes significance at 1%, ** at 5% and *

The results for the determinants of FDI from developed and developing countries are reported in Table 9. Focussing first on only the fundamentals of the economy as the determinants of FDI from developed countries (FDIDC) and FDI from developing countries (FDIDGC), we find that though economic fundamentals are significant determinants of FDI from both developed and developing countries but the importance of the variables differ between the two groups.

Large market size is found to be an important determinant for FDI from developed as well as developing countries. Apart from the market variables, what attract FDI from developed countries are higher education levels, better transport and communication and lower domestic lending rates in the host countries. But, we find that cost factors are more important determinants for FDI from developing countries e.g., it is not the availability of skilled labour (in terms of higher secondary enrollment rate or higher labour productivity) but lower cost of labour along with undervalued exchange rates that are significant determinants. Lower cost of capital, in terms of lower lending rate, attracts FDI from both developed and developing countries. But low capital cost may lead to higher investments and consumption and therefore larger markets. Although transport and communication is important determinant for FDI from both developed and developing countries we find that lower budget deficit is more important for FDI from developing countries.

On the whole, the results indicate that cost factors play a more dominant role in attracting FDI from developing countries and therefore FDI from developing countries can be explained better by the internalisation theory that explains FDI to be based on lowering of international cost of production. However, large market size, availability of infrastructure and skilled labour in the host country attracts FDI from developed countries therefore locational advantages explains better the cross-country pattern of FDI from developed countries.

Table 9 :   Impact of Government Policies and Bilateral Investment Agreements on FDI Approvals from Developed and Developing Countries: Random Effects Model

Explanatory variables	FDI-Developed Countries	FDI-Developing Countries	FDI-Developed Countries	FDI-Developing Countries
MKTSIZE	2.50***	2.29***	2.37***	3.21***
	(5.78)	(5.55)	(5.13)	(6.55)
GRTHMKT	0.02	0.06**	0.25	0.08**
	(0.77)	(1.91)	(0.73)	(2.33)
COSTLB	-0.008	-0.03**	-0.009	-0.08*
	(-0.56)	(-2.10)	(-0.59)	(-1.84)
PDTYLB	0.03**	0.009	0.02*	0.008
	(1.89)	(0.57)	(1.69)	(0.47)
EDU	0.02**	0.07	0.003	0.01
	(2.13)	(0.42)	(0.09)	(0.84)
EXRATE	-0.001	-0.003***	-0.001	-0.003***
	(-1.63)	(-3.99)	(-2.03)	(-4.17)
EXTDEBT	-0.85	-0.16**	-0.08	-0.11
	(-0.99)	(-1.88)	(-1.01)	(-1.26)
T&C	32.61***	25.57**	32.90***	29.68**
	(2.65)	(2.09)	(2.72)	(2.42)
ELECT	0.0002	0.0002	0.0003	0.0008
	(0.71)	(0.66)	(0.68)	(0.02)
LDRATE	-0.001***	-0.0007**	-0.001***	-0.007**
	(-2.90)	(-2.00)	(-2.99)	(-2.08)
EXVOLATILITY	-0.03	-0.005	-0.01	-0.02
	(-0.88)	(-1.10)	(-1.00)	(-1.20)
BUDGETDEF	-0.002	-0.06**	-0.002	-0.06*
	(-0.93)	(-2.18)	(-0.86)	(1.82)
TARIFF	-0.001	-0.008**	-0.002	-0.008**
	(-0.22)	(-1.90)	(-0.27)	(-1.99)
REST	0.32***	0.13	0.18***	-0.42
	(4.83)	(-0.79)	(2.73)	(0.20)
INCENTIVES	-0.14	0.32**	-0.15	0.30***
	(-0.85)	(2.68)	(-0.90)	(4.14)
BITDC			0.17**	
			(2.12)	
BITDVGC				0.11
				(0.47)
CONSTANT	-60.80***	-55.76***	-57.59***	-81.17
	(-5.64)	(-5.41)	(-4.93)	(-3.47)
Adjusted R-squared (OLS)	0.64	0.65	0.65	0.69
Observations	150	150	150	150
Hausman)	2.37		1.88	

Notes: 1.Results of Random Effects Model are presented. 2. Results are corrected for Autocorrelation and Hetroscedasticity 3.List wise deletion is made for missing values. 4.Hausman test supports random effect model. Figures in parenthesis are t-statistic. *** denotes significance at 1%, ** at 5% and * at 10%.

Along with the significance of fundamentals as determinants of FDI, we find that national as well as international FDI policies of the host governments also have differential impact on FDI flows from developed and developing countries. Policies with respect to trade barriers, i.e., low tariff rates encourage FDIDGC but are not found to be significant for the FDIDC. Fiscal incentives offered by the host countries attract FDIDGC but are not important for developed countries. What appears to be more important to the FDIDC is the removal of restrictions on their operations. These result also supports the results arrived above that emphasise the importance of cost factors for FDI from developing countries.

With respect to the impact of international FDI policy we find that the impact of BITs on FDIDC is very significant. Non-discriminatory treatment of foreign firms and removal of restrictions on their operations appears to be a significant determinant of FDI from developed countries into developing countries. However, BITs does not appear as a significant determinant of FDI from developing countries.

VII   Summary and Conclusions

The study provides empirical evidence on the impact of government policies and bilateral and regional investment agreements on FDI inflows into fifteen developing countries of South, East and South East Asia, for the period 1980-81 to 1999-2000, after controlling for the impact of economic fundamentals of the host country. The impact is also analysed separately for FDI coming from developed and developing countries into ten developing countries of this region for the period 1986-87 to 1996-97. Panel data analysis is undertaken and results of random effect model are discussed.

The major results arrived at by the study are:

(a) Economic fundamentals, namely, large market size; low labour cost (in terms of real wages); availability of high skill levels (captured by secondary enrolment ratio and productivity of labour); lower external debt; and extent of electricity consumed in the economy are found to be significant determinants of aggregate FDI.

(b) After controlling for the effect of economic fundamentals, FDI policies are found to be important determinants of FDI inflows. Results show that lower tariff rates attract FDI inflows. However, fiscal incentives offered by the host governments are found to be less significant as compared to removal of restrictions in attracting FDI inflows.

(c) Bilateral investment treaties (BITs) which emphasise on non-discriminatory treatment of FDI, play an important role in attracting FDI inflows into developing countries. However, bilateral investment agreements with developed countries and developing countries may have differential impact. Results show that BITs with developed countries have a stronger and more significant impact on FDI inflows as compared to BITs with developing countries. With respect to regional investment agreements we find that different regional investment agreements have different impact. While APEC is found to have a significant positive impact on FDI inflows ASEAN is not found to affect FDI inflow. However, it is noted that regional agreements may be still too new to show an impact in the period studied.

(d) The results of the analysis with respect to FDI from developed and developing countries show that economic fundamentals differ in terms of their significance in attracting FDI from developed countries and developing countries. FDI from developed countries are attracted to large market size, higher education levels, higher productivity of labour, better transport and communication and lower domestic lending rates, while cost factors play a more significant role in attracting FDI from developing countries. The determinants found significant are large market size, potential market size, lower labour cost, devaluation of exchange

rate, better transport and communication, lower lending rates and lower budget deficit.

(e) The impact of FDI policies also differs on FDI from developed and developing countries. Lower tariff rates are significant determinants of FDI from developing countries but do not attract FDI from developed countries. Fiscal incentives are found to attract FDI from developing countries but it is removal of restrictions on their operations that attract FDI from developed countries. This is corroborated by the results with respect to BITs. BITs with developed countries are found to attract FDI from developed countries but BITs with developing countries is not found to be a significant determinant of FDI from developing countries.

The above results of the study highlight the importance of government policies in attracting FDI inflows into developing countries. They show that apart from the economic fundamentals of the economy, which may attract FDI inflows, FDI policies of the host governments and investment agreements also play an important role. Within the national FDI policies adopted by the government, it is the removal of restrictions on the operations of foreign firms in the host country that matter the most, especially to FDI coming from the developed countries. Bilateral investment agreements that focus on the non-discrimination in the treatment of foreign firms, lay specific standards of investment protection and contain provisions for the settlement of disputes, have an important impact on FDI inflows. BITs and regional investment agreements can therefore form an important policy instrument for attracting FDI inflows into developing countries.

Given the fact that FDI from developed and developing countries are attracted to different polices of the host governments, the question that arises is should the host governments in developing countries aim at attracting FDI from the developed countries and formulate their policies accordingly like signing investment agreements with developed countries or should they concentrate on policies like fiscal incentives to attract FDI from developing countries? The answer to this question is however beyond the scope of this study and is also country specific in nature since FDI from developed and developing countries constitute different shares in total FDI inflows in a particular

country. But what comes out clearly from the analysis is that policies with respect to cost factors, e.g., lower tariff rates, tax concessions, tax holidays etc. play an important role in attracting FDI from the developing countries but these policies may not attract FDI from developed countries. What matters more to FDI coming from developed countries are the policies that facilitate business of foreign firms in the host country.

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ANNEXURE

Table A. 1: Variables and Definitions

Variables	Abbreviation	Definition
1. Log of FDI		Log of Foreign Direct Investment Inflows
2. Market Size	MKTSIZE	Log of real gross domestic product
3. Potential Market Size	GRTHMKT	Growth rate of real GDP
4. Efficiency Wage Rate	EFFWAGE	Labour Cost / Labour Productivity
5. Education	EDU	Log of secondary enrolment ratio
6. Real exchange Rate	EXRATE	Real effective exchange rates
7. Financial Health:	EXTDEBT	Ratio of external Debts toexports
8. Budget Deficit	BUDDEF	Budget Deficit / GDP
9. Transport and Commu	T&C	Transport & Communication/ GDP
10. Electricity Consumed	ELECT	Electricity Consumed/GDP
11. Lending Rate	LDRATE	Real domestic interest rates
12. Exchange rate Volatility	EXGVOL	Percentage Change in Annual exchange rate between local currency and one US $

Table A. 2: Variables and Data Sources of Economic Fundamentals

Variables	Source
1. FDI	World Investment Directory, United Nations, Vol VII, Part I&II: Asia and the Pacific and UNCTAD' s Division on Investment, Technology and Enterprise Development compiles world wide statistics on foreign direct investment (FDI).
2. Market Size	Key Indicators of developing Asian and Pacific Countries, ADB, Various issues
3. Potential Market Size	Key Indicators of developing Asian and Pacific Countries, ADB, Various issues
4. Labour Costs:	ILO, Geneva, Yearbook of Labour Statistics, various issues, UNIDO CD-ROM versions of UNIDO's Industrial Statistics Database at the 3 and 4 digit level of the ISIC classifications.and ASI, GOI for wages in India.
5. Labour Productivity	UNIDO CD-ROM versions of UNIDO's Industrial Statistics Database at the 3 and 4 digit level of the ISIC classifications
6. Efficiency wage	Computed
7. Education	UNESCO
8. Real exchange rate	International Financial Statistics, IMF, various issues
9. Financial Health:	International Financial Statistics, IMF, various issues
10. MacroEconomic Stability,	International Financial Statistics, IMF, various issues
11. Transport and Communication	World Tables, World Bank and World Development Indicators, World Bank
12. Electricity 13. Consumed	Key Indicators of developing Asian and Pacific Countries, ADB, Various issues
14. Lending Rate	Global Development Finance & World Development Indicators.
15. Electricity Consumed	Key Indicators of developing Asian and Pacific Countries, ADB, Various issues

Notes:1. Gross enrollment ratio, secondary level is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the secondary level of education. Data for Taiwan for some of the variables has been collected from Taiwan Statistical Databook (CEPD) various issues. Data Source: United Nations Educational Scientific, and Cultural Organization (UNESCO) Institute for Statistics. 2002. *World Education Indicators* . Paris.

Table A. 3: Correlation Between Economic Fundamentals

	LOGFDI	MKTSIZE	GDPGRTH	EFFWG	EDU	EXRATE	EXTDEBT	TC
LOGFDI	1.00	0.41	0.33	0.26	0.49	0.04	-0.79	-0.08
MKTSIZE	0.41	1.00	0.21	0.23	0.01	0.14	-0.07	-0.37
GDPGRTH	0.33	0.21	1.00	0.08	-0.03	0.15	-0.32	-0.19
EFFWG	0.26	0.23	0.08	1.00	0.08	-0.13	-0.13	0.02
EDU	0.49	0.01	-0.03	0.08	1.00	0.18	-0.57	0.08
EXRATE	0.04	0.14	0.15	-0.13	0.18	1.00	-0.01	-0.13
EXTDEBT	-0.79	-0.07	-0.32	-0.13	-0.57	-0.01	1.00	0.04
TC	-0.08	0.37	-0.19	0.02	0.08	-0.13	0.04	1.00
	LOGFDI	MKTSIZE	GDPGRTH	EFFWG	EDU	EXRATE	EXTDEBT	TC
ELECT	0.17	0.37	0.07	0.18	0.11	-0.07	-0.31	0.25
LDRATE	-0.08	-0.02	-0.12	-0.21	-0.27	0.16	0.18	0.16
BDGETDEF	-0.44	0.17	0.14	-0.04	0.30	0.06	-0.45	-0.10
EXGVOL	0.05	0.04	0.08	-0.05	-0.08	-0.21	-0.07	-0.01
	ELECT	LDRATE	BDGETDEF	EXGVOL				
ELECT	1.00	-0.01	0.15	0.00				
LDRATE	-0.01	1.00	0.14	-0.14				
BDGETDEF	0.15	0.14	1.00	0.02				
EXGVOL	0.00	-0.14	0.02	1.00				