Seeking greener pastures: a theoretical and empirical investigation into the changing trend of foreign direct investment flows in response to institutional and strategic factors

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Abstract

A generic theoretical model is proposed that provides a holistic conceptualization of the phenomenon of changing trend of FDI flows. Integrating both institutional and strategic factors, a rationale for such a change is provided, and the circumstances under which future shifts might take place are identified. A collection of criteria and incentives that various host governments and their agencies must provide to attract FDI are outlined. Several propositions that lead to empirically testable hypotheses are developed from this model. Statistical evidence is then provided of a shift in FDI flows, and the change in their determinants, by empirically analyzing investment by US multinational enterprises into Western Europe and Asia over the 20-year period, 1981–2000.
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1. Introduction

Globalization is the mantra of a rapidly integrating world economy. International trade, which has increased phenomenally in the last few decades, is expected to grow much more rapidly. But the acceleration in foreign direct investment (FDI) flows has been even more spectacular, far outstripping both *world trade* and *world output.* Between 1984 and 1998 the worldwide flow of FDI increased by over 1000%, while *world trade* grew by 91%, and *world output* merely by 27% (WTO, 1998). Hence, this paper focuses only upon the *FDI flows,* the more significant component of globalization, and not on international trade.

Globalization of markets and production is being facilitated by the progressive liberalization of most economies, resulting in lower investment barriers. For instance, while between 1991 and 1996, over 100 countries made 599 changes to liberalize FDI regulations, during 1997 alone, 76 countries made 151 such regulatory changes (United Nations, 1998). Implicit in these statistics, and explicitly highlighted in the UN/WTO annual reports is the key role often played by governments, and institutions under their aegis, in attracting FDI. These reports also indicate that FDI is no longer flowing to the traditional destinations, and that its determinants and motive have changed. The changing trend of investments by multinational enterprises (MNEs) to new destinations, however, cannot entirely be explained by the liberalization measures undertaken by governments, or its institutions, like the *inward investment agencies* (IIAs) (Mudambi, 1999). Other factors also are obviously involved. FDI has seldom been envisioned holistically, since researchers have often taken different snapshots of the phenomenon, through respective theoretical lenses. Combining two or more perspectives can thus be useful, as this could yield a more realistic conceptualization, which offers better explanations for the changes in the determinants and destinations of FDI flows. However, the sheer complexity of the international business environment (IBE) does not allow a single model to fully incorporate all FDI factors through time, for all MNEs, and for all countries. Hence this study attempts to integrate only the macro-economic, institutional, and strategic aspects.

The issue of the level of analysis, however, needs to be addressed first. FDI is a firm level decision, one that evolves from the firm's idiosyncratic strategic objectives in the prevailing IBE. The levels of development in different countries, and their governments' policies, also differentially affect FDI decisions. But, FDI trends indicate that MNEs often invest in a particular country or region almost in droves, notwithstanding variations in individual investment decisions. There is also a *bandwagon effect* to exploit emerging markets, for reasons of oligopolistic rivalry (Knickerbocker, 1973). Such shifts in FDI flows over time could therefore be analyzed at a country level of analysis, since the determinants under investigation have a homogenous effect on all MNEs (Freeman, 1978). Our approach thus incorporates country-level data in the analyses.

The need to integrate institutions into theory, to facilitate designing of appropriate incentive structures, can hardly be over-emphasized. The foregoing statistics amply illustrate the success of various institutional measures in attracting FDI, and in enhancing such flows. But this paper argues that institutional support is merely one

element, howsoever significant, of the entire phenomenon. Strategic compulsions facing MNEs also need to be considered. Even with the best of incentives an IIA would fail to attract FDI if the country had poor infrastructure, and political/economic instability. Even if those were sound, but the country was neither a large market, nor a low-wage haven, then again investment incentives were unlikely to work. Many examples of under-developed and politically/economically unstable countries in Africa, Latin America, or Central Asia could be cited in this regard. Conversely, MNEs unencumbered by severe competitive pressures in the original FDI destinations might deem shifting future investments to less lucrative locations unnecessary, despite incentives. However, the same MNEs might readily move to an unattractive location, even without incentives, if their rivals were entering that market. Consequently, for a correct perspective of the phenomenon, its holistic conceptualization must integrate the host countries' macro-economic and institutional incentive aspects, along with the MNEs' strategy compulsions.

This paper, therefore, provides a rationale for the changing trend of FDI flows that integrates institutional and strategic factors. It amplifies the criteria for the incentives that governments must provide to attract FDI. Propositions, and empirically testable hypotheses, are developed from the model. The paper then provides statistical evidence of the changing trend of FDI flows by empirically analyzing US FDI into Western Europe and Asia over 20 years (1981–2000). Evidence of changes in determinants of US FDI flows is also provided. However, the institutional incentives posited in the generic model are not empirically tested, as that would require entirely different variables and statistical model. Given the vast scope, verification of the latter aspect is left to another paper. The contributions of this study, therefore, are (1) development of a generic model that provides a more realistic conceptualization of FDI by integrating both, the institutional and strategic factors; (2) based thereupon, providing a rationale for the shift in the trend of FDI flows; and (3) providing empirical evidence of the changing pattern of US FDI into Western Europe and Asia, and the changes in its determinants.

2. Literature review

2.1. Theories explaining FDI

Trans-border movements of capital were initially seen only as portfolio investments and thus the theory of capital movements, and its models, were the earliest explanations for FDI (Iversen, 1935; Aliber, 1971). Hymer's (1960) path breaking contribution was the first explanation of FDI in the *industrial organization* tradition, as a means of transferring knowledge, and other intangible firm assets, to organize production abroad. Unlike portfolio investments, such transfers did not relinquish ownership or control. Almost contemporaneously, Vernon (1966), using the *product life cycle* concept, theorized that firms set up production facilities abroad for products that had already been standardized and matured in the home markets. These two seminal pieces spawned numerous contributions that sought to explain FDI and MNE

activities from the perspectives of different theoretical bases. Thus, while Caves (1971); Dunning (1958, 1980) and Teece (1981) saw FDI as a means of exploiting *ownership advantages*, it was seen as *risk diversification* by and in the *organizational assets and knowledge transfer* mode by Kogut (1983). Further, while Buckley and Casson (1976) and Hennart (1982) used *internalization* theory to explain the logic for internalizing transactions within the MNE, Knickerbocker (1973) described the *bandwagon effect* that induces MNEs to rush their own investments abroad as a strategic response to oligopolistic rivalry. The *Upsaala model* (Johanson & Vahlne, 1977) posits that MNEs initially make only small investments in geographically and culturally proximate countries. With more experience, larger investments are made in countries that are farther away on both counts.

Dunning, 1980, 1995), through the *eclectic paradigm* provides an *ownership, location* and *internalization* (OLI) advantages-based framework to analyze why and where would MNEs invest abroad. He classifies such investments as (natural) *resource seeking, market seeking, efficiency seeking* and *strategic asset seeking*. Subsequent theoretical developments sought to explain the dynamic evolution of *ownership* advantages, and how MNEs transferred them through FDI. These were the *resource-based approach* (Conner, 1991; Wernerfelt, 1984), the *evolutionary perspective* (Nelson & Winter, 1982; Teece, Pisano, & Shuen, 1997) and *organizational management approach* of Prahalad and Doz (1987) and Bartlett and Ghoshal (1989). The essence of these theories is that firm knowledge and skills constitute tacit ownership advantages that take time to evolve, and the MNEs, with their ability to devise and manage complex organizational structures, leverage these advantages through worldwide investments in order to sustain them. However, these theories provide only a generalized rationale for FDI without explaining regional variations. The latter are explored in various surveys and empirical studies, focusing upon different locations.

More pertinent to the theme of this paper, however, is the work of several scholars who link the motive and type of investment by MNEs, with the stage of economic development of respective host countries (Dunning, 1981, 1986; Ozawa, 1992, 1995; Tolentino, 1992; Narula, 1996; Dunning & Narula, 1996; Lall, 1995). This literature provides the theoretical underpinnings for both, the initial variations in the type and distribution of FDI among different host countries, and also subsequent changes in them, apace with the stage of their economic development. Conceptually, Dunning's *investment development path* and Ozawa's *stages of economic development* are quite close in their approach towards exploring this linkage. *Porter's diamond* framework is a somewhat similar approach, though its main aim is to explain the basis of the competitive evolution of national economies (Porter, 1990). These approaches describe how the motive/type of FDI, both inward and outward, changes according to the different stages of economic development of host countries. These, however, are not intended to explain the change in FDI trends on a regional clustering basis, pursuant to a combination of institutional and strategic factors in the existing/prospective FDI locations. The present study intends to complement these approaches by exploring the additional facets.

2.2. Empirical studies of FDI

Most empirical studies have concentrated upon the *ownership advantages* based FDI determinants. Thus *technological intensity* (Lall, 1980), *firm size* (Li & Guisinger, 1992), *capital intensity* (Pugel, 1981) and *product differentiation* (Caves, 1971) were the main variables found significant. However, this paper reviews only those prominent studies that investigated the *location advantages* based variables, since its aim is to identify the reasons for regional variations in FDI. Previous studies had found that *market size, market growth, barriers to trade, wages, production, transportation and other costs, political stability, psychic distance* and host government's *trade and taxation regulations* affected FDI location (Dunning, 1993), but methodologies and foci differed considerably. For instance, Root and Ahmed (1978) investigated *taxation and government policies*, using the statutory corporate tax rate to proxy the effects of fiscal policies on new investors. Nigh (1985), emphasized the positive effect of *political stability*, while Contractor (1991) investigated the consequences of *government policies*.

Using US Department of Commerce Benchmark Surveys (1977 and 1982) Loree and Guisinger (1995) examined the effects of *policy* and *non-policy variables* on location of new US FDI. They found significant positive effects for *investment incentives*, and negative effects for *performance requirements* and host country effective *tax rates*. Non-policy variables like *political stability, cultural distance, GDP per capita* and *infrastructure* were also significant. While investigating US FDI in OPEC nations, Olibe and Crumbley (1997) found that *government accounting and non-policy variables* were significant in attracting investment. Specifically, *government capital expenditure* was highly significant and positive, but *population* was not. Using agency theory, Mudambi (1999) examined how *principal-agent* considerations affected the role played by IIAs in attracting investment. The Reuber et al. (1973) study's detailed analysis of FDI volume and pattern found that FDI flows to the *developed* countries were much higher than to the *developing* countries. This imbalance is confirmed by the statistics on FDI into Western Europe and Asia, the two most attractive destinations for US FDI (UNCTAD, 1997).

3. Model development: factors contributing to the change in FDI trends

As the foregoing review indicates several studies had identified various determinants of initial FDI, but a comprehensive explanation as to why, where and when do those trends change subsequently, still eludes researchers. To address those questions this paper analyzes US FDI into Western Europe and Asia. These regions have been selected since USA is the largest source for FDI capital, and Western Europe and Asia, in that order, are the two largest recipients. Differentiating FDI on a geographical basis, however, can be misleading since some European countries, like Turkey or Greece, have development levels resembling Asian countries, while economies of Japan and Singapore may be closer to most European countries. Hence,

this study dichotomizes US FDI distribution across those regions between *developed* and *developing* countries, using the World Bank criterion.

3.1. Build-up of competitive intensity

US MNEs have made large investments into Western Europe since the 1950s. The principal determinants were lucrative market, liberal host government policies, technological infrastructure, skilled labor and cultural proximity (Reuber et al., 1973). Oligopolistic rivalry and a bandwagon effect caused more investments to pour in, including investments from Japan and some newly industrialized countries (UNCTAD, 1997). The ensuing build-up of intense competitive pressure reduced profit margins, which compelled MNEs to shift manufacturing operations to countries with lower factor costs and wages. The low-cost production advantages of Asian countries contributed to the restructuring of FDI capital. US MNEs started making investments into countries like Singapore, Hong Kong, South Korea, Taiwan, Thailand, Malaysia, and the Philippines to produce for their global market from there, and exploit scale economies. Thus, while reinvested profits and some fresh investments continued into Western Europe in the knowledge-based and technology intensive sectors, MNEs started making *efficiency seeking* investments into Asia.

3.2. Market seeking investments

A fresh wave of FDI has been witnessed since the early 1990s into populous Asian countries like China, India, and Indonesia, mainly to gain access to their gigantic markets. Host governments often permit market access only as a *quid pro quo* for obtaining capital and technology through FDI on favorable terms. However, in addition to the large market size of these countries, they also had lower wages and factor costs, and hence MNE investments there were both, of the *market seeking* as well as *efficiency seeking* variety.

3.3. Oligopolistic rivalry

The rush by MNEs to make investments into the developing countries' markets is also impelled by oligopolistic rivalry. Large global players cannot afford to cede emerging markets to their competitors by default, and thus follow their rivals into them. Just as originally these MNEs followed each other into the developed countries' markets, a similar bandwagon effect (Knickerbocker, 1973) has ensued now wherein they have had to follow their rivals into the developing countries' markets. Notwithstanding these compulsions, this shift might not have taken place if those host governments had also not liberalized their economies, and opened them up for FDI (UNCTAD, 1997).

3.4. Push and pull factors

The discussion thus far has identified several reasons that acted as push factors to impel MNEs to make new investments into the developing countries, to exploit

their low wage advantages, and to capture emerging markets. The developing countries, on the other hand, were also concurrently taking various institutional measures for attracting FDI through liberalization, infrastructure improvement, human capital development and investment incentives. All such measures serve to pull in investments, and hence the push and pull factors have to be viewed in tandem. These factors are depicted in Fig. 1.

3.5. Liberal and conducive environment for investment

MNE capital investments into Asia were thus made possible by the widespread trend towards liberalization, almost concurrently with the build-up of intense competitive pressures in Western Europe (UNCTAD, 1997). The host country's political and economic system, and its government's policies have always been considered important in assessing its investment environment. Dunning's (1993, p. 271) adaptation of the ESP (Environments-Systems-Policies) paradigm (Koopman & Montias, 1971) is one of the more prominent attempts to formally integrate those elements into theory. Dunning (1993, p. 603) also highlights four main factors that drive and restructure international business activity: (1) technological advances, (2) pace and structure of economic development, (3) attitude of governments towards the limits of their economic boundaries, and (4) new organizational forms, and new methods of organizing economic activity. In all these, the direct as well as the implicit role of the government is important as several studies show. While technology transfer to the host country, and her economic growth are important consequences of FDI (Borensztein, De Gregorio & Lee, 1998), development of human capital and technological infrastructure are vital prerequisites, and hence antecedents for FDI (Noorbakhsh & Paloni, 2001; Narula & Wakelin, 1998). In the development of both these, Asian governments have played a major role (UNCTAD, 1997). IB literature also shows how the earlier hostility towards MNEs, exhibited by the governments of most developing countries (Vernon, 1973), has now given way to those very

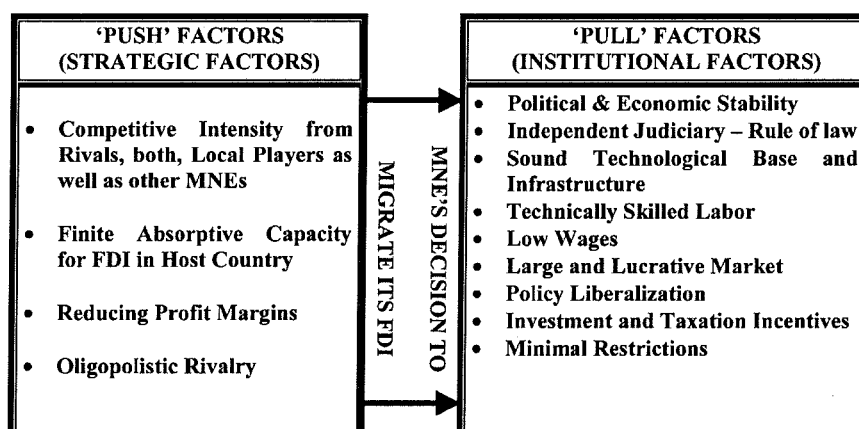| **'PUSH' FACTORS** **(STRATEGIC FACTORS)**		**'PULL' FACTORS** **(INSTITUTIONAL FACTORS)**
• Competitive Intensity from Rivals, both, Local Players as well as other MNEs • Finite Absorptive Capacity for FDI in Host Country • Reducing Profit Margins • Oligopolistic Rivalry	MIGRATE ITS FDI MNE'S DECISION TO	• Political & Economic Stability • Independent Judiciary – Rule of law • Sound Technological Base and Infrastructure • Technically Skilled Labor • Low Wages • Large and Lucrative Market • Policy Liberalization • Investment and Taxation Incentives • Minimal Restrictions

Fig. 1. Role of push and pull factors in explaining shift of FDI trends.

governments setting up agencies like the IIAs for offering incentives (Dicken & Tickell, 1992; Mudambi, 1999). The improved political and economic environment in the Asian region thus acted as the pull component for attracting US FDI. As for the effect of cultural differences on the FDI environment, although psychic distance has been pertinent so far in FDI decisions (Hofstede, 1983; Johanson & Vahlne, 1977), its significance might progressively reduce with increasing globalization. Hence, despite being culturally distant, US MNEs nonetheless made investments in Asia, once Western Europe, the culturally proximate destination got saturated, and competitive pressures increased there.

3.6. Institutional measures for attracting FDI

Most of the institutional measures identified by previous studies (Dunning, 1993; Woodward & Rolfe, 1993; Mudambi, 1995) can be categorized under the following three approaches: (1) at the macro level, liberalizing the general environment for trade and investment; (2) incentives targeted to attract FDI into specific industries/sectors of the host country; and (3) project-specific incentives negotiated with individual MNEs. The sum and substance of such studies, and World Bank reports is that the government must provide, what can be characterized as a *basket of pre-requisites*, in order to attract FDI. The foremost elements of this *basket* are a stable political and economic environment and the rule of law. An open economy, sound infrastructure and technological base, labor with high educational and technical skills, low wages, stable currency, investment-friendly policies, low tariffs, and taxation incentives are some other criteria contributing to the host country's attractiveness (UNCTAD, 1997). Preconditions, like restrictions on investment limits, majority control, profit repatriation, technology transfer, local content or export requirements, have to be minimal. Most of the institutional pre-requisites that provide the required 'enabling environment', especially those from the first level, have been examined in literature through the lens of macro institutional economics (North, 1991). Such measures take long to fructify, and are incremental and path-dependent, being rooted in the cultural and institutional heritage of the host country. At the next level are incentives or measures directed at attracting FDI into specific industries or sectors of the economy. Finally, there are project-specific incentives that are negotiated with individual MNEs. Measures in the latter two categories might be taken either by the government itself, or by its IIAs. These have been examined in literature mostly through the transaction cost perspective (Williamson, 1985).

3.7. Trade-offs

The foregoing pre-requisites might appear too stringent to be met in totality. Consequently, while formulating strategy MNEs have to resort to trade-offs, based on the relative overall merits of different FDI destinations. For instance, while psychic distance, poorer infrastructure, lower purchasing power, and relative economic/political fragility militate against investments in *developing* countries, wage advantages and the promise of large markets often override those concerns.

The strategic compulsion of MNEs to follow their rivals into the emerging markets makes such trade-offs even more imperative.

3.8. Regional clustering and agglomeration advantages

The notions of the *investment development path* (Dunning, 1981), and *stages of development* (Ozawa, 1992) explain how both, the pattern of inward/outward FDI, as well as its motivation, change according to the stage of development of the host country. For instance, a country in Stage 1 (*pre-take-off* stage) attracts FDI in primary product and labor-intensive manufacturing sectors, while the one in Stage 2 (*take-off* stage) attracts it in medium/large, capital-intensive infrastructure sectors. Hence, these approaches focus only on the dyadic linkage between each MNE's motive of FDI, and the corresponding host country's stage of development. However, as relevant UN reports and independent surveys indicate such FDI flows generally move on a regional basis. Such regional clustering, and en masse shifts in FDI, has several advantages. Countries within a region are linked not just geographically and culturally, they are also generally similar in their political and economic systems, and development levels. Often they are a part of a regional economic grouping, and hence in adopting FDI-attracting policy changes, there is often a *bandwagon effect* among them. Benefits of a geographically and culturally unified market, common communication infrastructure, similar trade and investment policies, relatively barrier-less intra-regional trade, and agglomeration advantages, therefore, often induce MNEs to evaluate prospective FDI destinations on a regional, rather than a single country basis. FDI into different regions like Western Europe (EU), East Asia (ASEAN), South Asia (SAARC), Eastern Europe, Latin America (e.g. MERCOSUR) and Africa (PTA) etc. has followed the same pattern in order to exploit agglomeration advantages, facilitated by regional economic integration and an international division of labor (Dunning, 1993). Investments by US MNEs into Western Europe from the 1950s, and the shifting trend of their investments into Asia since the 1980s, likewise have also moved on a regional basis. The same pattern is likely to be replicated in other regions too, as competitive pressures intensify yet again even in the new FDI locations, while concurrently institutional measures and liberalization present other new clusters of favorable FDI locations.

3.9. Generic model

A generic descriptive model for the changing trend of FDI capital is now proposed; incorporating both, firm strategy factors as well as institutional measures. It postulates that MNEs, after analyzing all FDI determinants, opt for the most optimal location. A bandwagon effect induces other MNEs also to make investments, so as not to cede those markets to their rivals. Due to the proliferation of such investments, and the finite absorptive capacity of the host economies, intense competitive pressures build up among rival MNEs and local players, which reduce profit margins. To remain competitive, MNEs are compelled to look elsewhere for wage and factor cost reductions. Consequently, they restructure their FDI by making efficiency and market

seeking investments into new markets. This shift generally is made to countries within a regional economic grouping. This cycle is likely to repeat when intense competitive pressures build up even in the new location, and concurrently other regions too liberalize their economies. This is so because with increased economic development, wage levels would rise even in the developing countries, and also with improved technological skills, FDI in such countries might now be graduating into value-addition activities from merely labor-intensive activities. Fig. 2 presents a stylized depiction of the generic model.

From the following propositions, four research hypotheses are derived for testing.

Proposition 1. *MNEs restructure their investments by making new ' efficiency seeking' and 'market seeking' investments into the developing countries, due to intense competitive pressures reducing profit margins in the original FDI destinations.*

Proposition 2. *MNEs prefer to move their new investments to developing countries within a regional economic grouping than to isolated countries.*

Proposition 3. *The choice of the new FDI destinations is based on wage / cost advantages, and large market size.*

Proposition 4. *The new FDI destinations need to provide an acceptable 'basket of pre-requisites' that guarantees a healthy business and investment environment.*

Proposition 5. *MNE investments into a new region exhibit a bandwagon effect due to oligopolistic rivalry.*

Proposition 6. *A bandwagon effect is also witnessed among developing countries in the region in adopting institutional and liberalization measures for attracting FDI.*

Proposition 7. *All other factors remaining equal, cultural distance considerations will progressively diminish in importance in MNEs' FDI decisions.*

4. Method

4.1. Research hypotheses

Several aspects of the proposed model can be empirically tested. However, due to vast scope this study confines itself to a test of only the following key issues, leaving other aspects to a later study. (1) Is there a statistically significant pattern to the changes in FDI flows? (2) Have the traditional determinants of FDI now changed? (3) Is the size and affluence of the potential market a significant determinant of the change in trend? (4) Is cultural proximity to the investing country still a significant determinant of the FDI destination?

Hypothesis 1. *The mix of determinants of US FDI into various countries of Western Europe and Asia during the period under analysis would be different from the traditional mix of determinants, as represented by the aggregate stock of US FDI in those countries.*

Hypothesis 2. *US FDI would exhibit a significant shift into developing countries, relative to that to the developed countries, across Western Europe and Asia.*
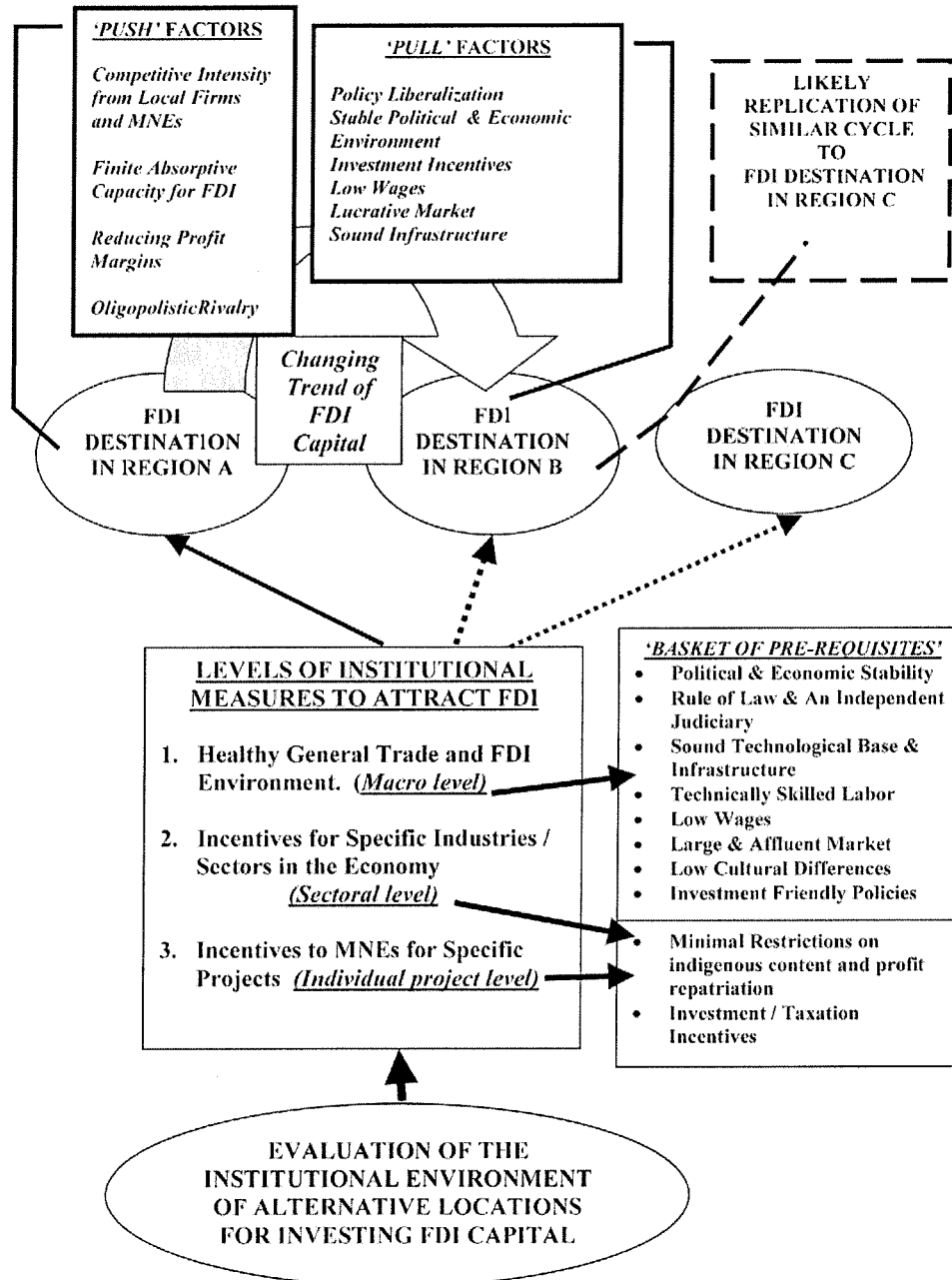
'PUSH' FACTORS

Competitive Intensity
from Local Firms
and MNEs

Finite Absorptive
Capacity for FDI

Reducing Profit
Margins

OligopolisticRivalry

'PULL' FACTORS

Policy Liberalization
Stable Political & Economic
Environment
Investment Incentives
Low Wages
Lucrative Market
Sound Infrastructure

LIKELY
REPLICATION OF
SIMILAR CYCLE
TO
FDI DESTINATION
IN REGION C

Changing
Trend of
FDI
Capital

FDI
DESTINATION
IN REGION A

FDI
DESTINATION
IN REGION B

FDI
DESTINATION
IN REGION C

LEVELS OF INSTITUTIONAL
MEASURES TO ATTRACT FDI

1. **Healthy General Trade and FDI**
    Environment. (*Macro level*)

2. **Incentives for Specific Industries /**
    Sectors in the Economy
    (*Sectoral level*)

3. **Incentives to MNEs for Specific**
    Projects (*Individual project level*)

'BASKET OF PRE-REQUISITES'
- Political & Economic Stability
- Rule of Law & An Independent Judiciary
- Sound Technological Base & Infrastructure
- Technically Skilled Labor
- Low Wages
- Large & Affluent Market
- Low Cultural Differences
- Investment Friendly Policies

- Minimal Restrictions on indigenous content and profit repatriation
- Investment / Taxation Incentives

EVALUATION OF THE
INSTITUTIONAL ENVIRONMENT
OF ALTERNATIVE LOCATIONS
FOR INVESTING FDI CAPITAL

Fig. 2.   Descriptive model of shift in FDI to competing regional destinations.

Hypothesis 3. *Size of the potential market would be a significant determinant for the increase in US FDI into Western Europe and Asia.*

Hypothesis 4. *Cultural distance from USA would no longer be a significant determinant for US FDI into Western Europe and Asia.*

4.2. Sample and data

Data were examined for the 20-year period, 1981–2000, for 18 West European and 12 Asian countries into which US FDI had been made. To avoid sample selection bias all countries were included, except for the 'others' category, which had insignificant investments. FDI data were obtained from the Annual reports of Bureau of Economic Analysis, US Department of Commerce (BEA, 1999), and the Statistical Abstract of USA. Demographic and economic data were obtained from the annual World Bank Reports (World Development Indicators CD-ROM, UNCTAD, 1997). The Country Risk Ratings published by the Association for Investment Management and Research were from the Financial Analysts Journal (Research, 1996). Cultural distance measures are those that were developed by Hofstede (1980).

4.3. Measures

- **Investment Flow (Invflow).** Main dependent variable. It represents annual country-wise inflow of US FDI (millions of US$), net of outflows and re-invested earnings.
- **Investment Stock (Invstk).** Country-wise aggregate value of US FDI at year-end (MN of US$). Used as dependent variable in the first, and as control variable in other models, to proxy for the historical position of US investments in respective countries.
- **Dummy Region (dregion).** This is a dichotomous dummy variable taking the value of one when the country is from West Europe and zero when it is from Asia.
- **Dummy Development (ddevp).** Created to obviate confounding of the different development levels of countries within and across the two regions. It takes the value of one for developed countries, and zero for developing countries.
- **Population (pop).** Country-wise, year-end population, in millions, to denote market size as one of the determinants for FDI. It has been lagged by one year since FDI decisions are likely to be based on the population data of the previous year.
- **GNP.** Country-wise, year-end Gross National Product in billions of US$ to depict the affluence of the focal market. Has also been lagged by one year for same reason.
- **Country Risk (Crisk).** A composite variable based on the country risk ratings, covering the economic, financial and political risks on a 100-point scale. A higher score indicates greater stability/confidence level, and low scores indicate vice versa.
- **Cultural Differences.** Previous studies, using a composite measure of Hofstede's (1983) cultural difference attributes, provided conflicting results about culture's relevance. This paper uses the attributes separately, to discern their differential

effect without confounding each other. The variables depict the distance from USA on power distance, masculinity, uncertainty avoidance, and individualism.
- **Time (t).** It represents time periods from 1981–2000, with t denoting the year 1981.

4.4. Model and analyses

Step-wise, multiple OLS regression models were used to test the hypotheses. In *Model 1* country-wise aggregate US **investment stock** is the dependent variable. The coefficients of the independent variables thus signify the historical determinants of US FDI. *Model 2* includes annual US **investment flows** as the dependent variable, with **investment stock** as a control variable. The coefficients of this model, therefore, depict the determinants of US FDI **flows**, duly controlling for the US **investment stock**. By comparing the variable coefficients of *Models 1 and 2* the changes in the determinants of US FDI **flows** during the 20-year period are revealed. Similar comparisons test the hypothesized elements of respective hypotheses.

Models 3 and 4 are intended to further confirm the changing trend of US FDI **flows** through the methodology of two 3-year snapshots, at the beginning (1981–83), and the end (1998–2000) of the period. Both have **investment flows** as the dependent variable.

5. Results

Table 1 presents the descriptive statistics. Though data were collected for 30 countries over 20 years, one year's observations were lost to obtain lagged variables, and

Table 1
Descriptive statistics

Variables	N	Min	Max	Mean	S.D.
Time	532	0.00	19.00	9.50	5.19
Investment stock (mn of $)	532	49.00	213070.00	10348.91	20767.28
Investment flow (mn of $)	532	−2412.00	36552.00	1077.41	3177.13
Dummy region	532	0.00	1.00	0.60	0.49
Dummy development	532	0.00	1.00	0.70	0.46
Country risk	532	62.50	89.00	80.26	6.42
Population (lagged) (mn)	532	0.38	1250.00	102.89	252.27
GNP (lagged)(bn of US $)	532	8800.00	5480000.00	521068.66	926831.69
Individuality distance/USA	532	2.00	77.00	37.81	22.87
Power distance from USA	532	2.00	74.00	24.06	17.82
Masculinity distance/USA	532	2.00	57.00	21.64	16.88
Uncertainty avoidance/USA	532	2.00	69.00	24.01	19.40

some more due to missing data for Luxembourg and Taiwan. Table 2 presents the correlations matrix, Table 3 the regression results, and Table 4 a summary of the tests.

6. Discussion

The summary of the tests of all hypotheses tabulated in Table 4 provides ample empirical evidence of the main contention of this study that there is a significant shift of US FDI from the culturally proximate, developed countries of Western Europe, to the developing countries in Asia.

With aggregate **investment stock** of US FDI in Western Europe and Asia as the dependent variable, *Model 1* reflects the historical position and traditional determinants of those investments. The signs and significance level of coefficients show that historically more US FDI has gone into Western European countries (high GNPs and low populations than Asian countries, and also lower *country risk)*. Cultural proximity to USA did matter, with all four attributes being negative and significant at the 0.001 level. Thus all traditional determinants found significant in previous studies stand confirmed in this model too. *Model 2,* with **investment flows** as the dependent variable, aims at ascertaining changes in the traditional determinants. A comparison of the coefficients of *Models 1 and 2* confirms those changes. They show that now more US FDI **flows** to the high population, low-GNP, culturally distant *developing* countries. **Hypothesis 1 is thus supported. It is further supported** since coefficients in *Models 3 and 4*—the three year snapshots of US FDI at the beginning and the end of the 20-year period—also show a reversal in signs and significance level.

Hypothesis 2 (about US FDI now flowing to *developing* countries) finds support only by implication since *dummy development* is not significant, except in *Model 1*. However, by comparing the signs and significance levels of the *population* and *GNP* variables in all models, one can infer that US FDI is now flowing to *developing* countries, which typically have high populations and low-GNPs. **Hence, Hypothesis 2 is also supported, though only by inference.**

Hypothesis 3 (about the size of the potential market) also finds support since it shows the reversal of the trend of US FDI, which is now flowing to *high population* countries, signifying large size of potential market, rather than to *low population (developed)* countries, as was in evidence during the earlier period.

Hypothesis 4 (about culture no longer being a determinant of US FDI) finds support in all models. As previous studies were conflicting about culture's relevance, we did not use a composite measure to avoid confounding the attributes. *Model 2* brings out a differential effect in the significance levels of attributes. *Masculinity* and *individualism* are now positive, thus showing that US FDI was now flowing to countries that were actually distant from USA on those two attributes. However, it supports the hypothesis only partially, since only two of the four attributes are not significant. However, in *Model 3* all four cultural distance attributes are negative and significant at 0.001 level, signifying that cultural proximity was an important

Table 2
Correlations matrix

	INVSTK	t	ddevp	crisk	Pop(Mn)	GMP(Bn)	dregion	MASCUSA	UNCTYUSA	PDUSA	INDVMUSA	INVFLOW
INVSTK	1.00											
t	0.276**	1.00										
ddevp	0.260**	0.000	1.00									
crisk	0.160**	0.000	0.585**	1.00								
Pop(Mn)	-0.091*	0.029	-0.486**	-0.279**	1.00							
GNP(Bn)	0.360*	0.083	0.214**	0.203**	0.051	1.00						
dregion	0.210**	0.000	0.653**	0.187**	-0.386**	-0.042	1.00					
MASCUSA	-0.144**	0.006	0.127**	0.406**	-0.168**	-0.002	0.100*	1.00				
UNCTYUSA	-0.108*	-0.005	0.031	-0.019	-0.101*	0.269**	0.151**	0.025	1.00			
PDUSA	-0.293**	0.007	-0.512**	-0.255**	0.061	-0.261**	-0.606**	0.002	0.047	1.00		
INDVMUSA	-0.362**	-0.007	-0.629**	-0.502**	0.315**	-0.123**	-0.532**	-0.221**	0.119**	0.301**	1.00	
INVFLOW	0.883**	0.261**	0.169**	0.096*	-0.055	0.171**	0.151**	-0.086*	-0.124**	-202**	-0.268**	1.00

**. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed)

Table 3
Results of regression analyses

Independent variables	Model 1 ←	Model 2 Dependent	Model 3 Variables	Model 4 →
	Investment stock (1981–2000)	Investment flow (1981–2000)	Investment flow (1981–83)	Investment flow (1998–2000)
(Intercept)	12693.9 ***	−6109.81	531.572	155.32
	(3300.8)	(3252.89)	(530.09)	(4522.09)
Time	1059.5 ***	1.14	−299.36	295.97
	(151.6)	(13.09)	(220.10)	(497.21)
Population (lagged)	−8.458 **	0.587 *	−0.25 +	0.76
	(3.667)	(0.304)	(0.17)	(1.13)
GNP (lagged)	7.635E-03 ***	−6.4E-04***	1.77E-04***	−6.93e-04 **
	(0.001)	(0.00)	(0.00)	(0.00)
Dummy region	-7.186E-02	–	–	–
	(0.228)			
Dummy development	6779.847 ***	322.06	7.07	−276.56
	(2340.01)	(305.18)	(124.7)	(956.6)
Country risk	−0.020	−15.26	1.19	−4.93
	(−0.038)	(14.66)	(7.32)	(59.88)
Masculinity/USA	−2.93.59 ***	16.35 ***	−7.87 ***	24.56
	(49.01)	(4.39)	(2.24)	(17.78)
Uncertainty/USA	−315.64 ***	1.76	−8.06 ***	−7.91
	(46.88)	(4.72)	(2.01)	(17.5)
Power distance/USA	−241.96 ***	5.05	−4.95 **	−11.02
	(53.4)	(4.49)	(2.7)	(18.22)
Individualism/USA	−311.99 ***	11.35 *	−7.16 ***	−71.96
	(56.56)	(4.96)	(5.46)	(38.54)
Investment stock (control variable)	–	1779.45 ***	537.61***	0.165 ***
		(203.92)	(133.36)	(0.01)
R²	0.335	0.812	0.299	0.861
N	504	504	84	84

Standard errors are in parentheses. Levels of Significance: + $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$: *** $p \leq 0.001$

determinant during 1981–83, while in *Model 4* (1998–2000) all four are non-significant, which confirms that cultural distance is no longer an important determinant for US FDI. **Models 3 and 4 thus provide robust support to Hypothesis 4.**

In all models the control variable, investment stock, is positive and significant, being the strongest predictor of new flows. An aspect that needs highlighting is that, since large US investments have been made for many years into Western Europe, the magnitude of their un-repatriated and reinvested profits far exceeds the fresh investment flows into developing countries. For instance, the stock of US FDI in UK at the end of 1998 was US$ 178,648 million, while the inflow, mainly reinvested

Table 4
Tests of hypotheses

Hypothesis	Key variables	Model 1	Model 2	Model 3	Model 4	Remarks
1	Population	(−) **	(+) *	(−) +	(+) +	Supported
	GNP	(+) ***	(−) ***	(+) ***	(−) **	
	Dummy development	(+) ***	N.S.	N.S.	N.S.	
	Masculinity	(−) ***	(+) ***	(−) ***	N.S.	
	Uncertainty	(−) ***	N.S.	(−) ***	N.S.	
	Power Distance	(−) ***	N.S.	(−) ***	N.S.	
	Individualism	(−) ***	(+) *	(−) ***	N.S.	
	Investment stock (control)	–	(+) ***	(+) ***	(+) ***	
2	Population	(+) ***	N.S.	(−) +	(+) +	Supported
	GNP	(−) **	(+) *	(+) ***	(−) **	
	Dummy development	(+) ***	(−) ***	N.S.	N.S.	
3	Population	(−) **	(+) *	(−) *	(+) +	Supported
	GNP	(+) ***	(−) ***	(+) ***	(−) **	
4	Masculinity	(−) ***	(+) ***	(−) ***	N.S.	Supported
	Uncertainty	(−) ***	N.S.	(−) ***	N.S.	
	Power Distance	(−) ***	N.S.	(−) **	N.S.	
	Individualism	(−) ***	(+) *	(−) ***	N.S.	

Levels of significance: $+ p \leq 0.10$; $* p \leq 0.05$; $** p \leq 0.01$; $*** p \leq 0.001$

profits, was US$ 34,428 million. Contrast this with a flow of only US$ 288 million and US$ 384 million into India and Indonesia, respectively, in the same year. Hence, the impression about huge US investments being made into developing countries is inaccurate. However, although the flows to developing countries are small by volume, in percentage terms they are increasing. Concurrently, there is a deceleration of FDI into the developed countries. The pie charts in Fig. 3 provide the correct perspective of the relative magnitudes of US FDI stocks and flows into the developed and developing countries in 1994, as an example.

Net FDI flow has several components like re-invested profits of previous investments, fresh inflows and also divestments. To get a clearer picture of net investment flows it would be better to analyze these components separately. Since the aggregated data from the Bureau of Economic Analysis do not contain those details, firm level data collection is more relevant. That would also enable identification of the individual motives of different MNEs while making investments.

7. Conclusions and avenues for future research

This study presents a generic model that integrates institutional and strategic factors into theory, and argues that those two aspects need to be considered in tandem to explain the change in trend of FDI flows. Foremost, as the institutional economics perspective suggests, governments have to provide a trade-and-investment-friendly environment and sound infrastructure. Measures by governments or their agencies
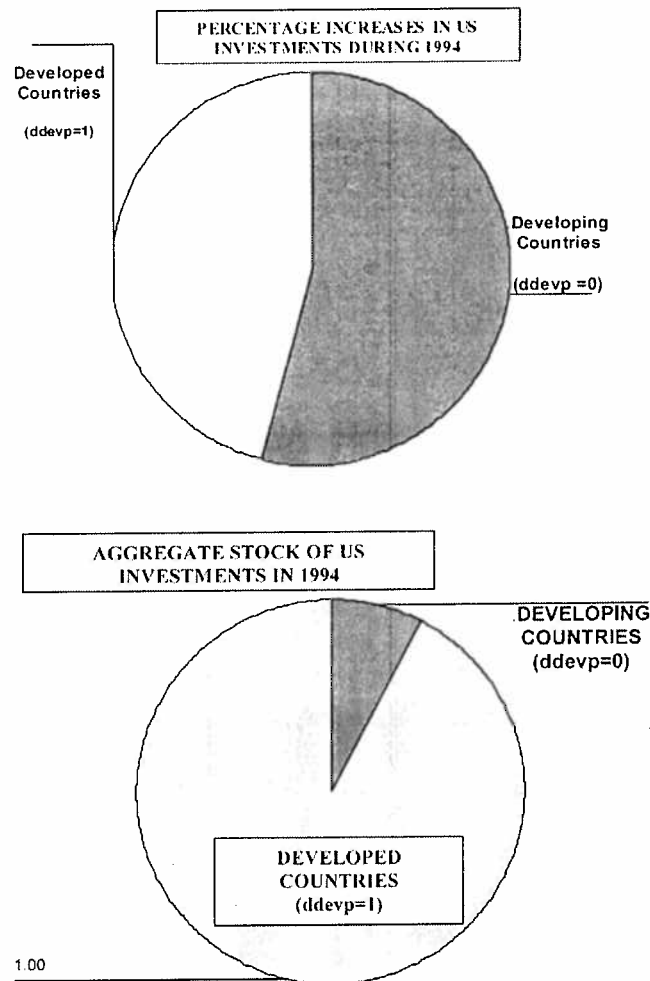
Fig. 3.   Comparison of increase of US FDI flows and its aggregate stock in 1994.

might also be directed at specific industry segments. At the lowest tier are the incentives directly negotiated with MNEs for specific projects. However, such incentives, representing the *pull* factors, can be effective only if concurrently the *push* factors of increasing competitive intensity and oligopolistic rivalry are also at work. The two together induce MNEs to restructure FDI, by making new *efficiency* and *market* seeking investments into developing countries. Such a move to 'greener pastures' takes place on a regional, rather than on an individual country basis, for agglomeration benefits. The study then provided empirical evidence of such a change, showing how over the 20-year period 1981–2000, the trend of US FDI has shifted from the *developed* countries of Western Europe, to the *developing* countries of Asia. Future research now needs to analyze further the institutional measures, and the precise

contents of the *basket of pre-requisites*. This could be done for different industries or sectors, since each MNE would have an idiosyncratic set of requirements.

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