FOREIGN DIRECT INVESTMENT: ANTECEDENTS AND CONSEQUENCES

BY

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DEDICATION

To my parents, brother and friends.
Abstract

This research project deals with foreign direct investment (FDI) trying to identify its antecedents and its consequences. The project starts by a historical review and an examination of past studies to situate the study better. A rather new statistical technique (Recursive System) was used to try and find the statistically significant variables affecting FDI. The researcher reached interesting results in his study by finding that political stability and government incentives together affect positively FDI and both of them affect economic performance independently and via FDI.
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CHAPTER I

INTRODUCTION

Historical Background

Historically, from the end of the last century to the 1950s, the bulk of the world's stock of foreign direct investment (FDI) was concentrated in resource-based activities. Such investments typically emanated from the firms of a small number of developed countries, who controlled plantations and other primary commodity production in less developed regions. From these sites they supplied raw materials for home country production markets. The backward vertical integration of these early multinationals was often associated with political or colonial ties at a national level; for instance, US firms favored investment in Latin America, while British, French and European firms invested heavily in Africa and Asia. At this stage there was also some investment in the services in the less developed counties, which supported this same process of largely dependent development. It is hardly surprising that the service sector which attracted the greatest international direct investment was trade. The trading companies
helped to facilitate the development of production and markets in the host region, and indeed their involvement generally predated the activities of the resource-based firms. The other major service provided by foreign firms was the creation of transport and communication systems, and particularly the establishment of railway networks. There was, however, much less foreign direct investment in manufacturing in these regions. Foreign firms extracted raw materials for consuming or processing in Europe or North America, rather than manufacturing final products for export to developed countries or the much smaller local markets. Most international direct investment in manufacturing was directed (and still is in a large part) to other industrialized or industrializing countries. Because such investments were mainly of an import substituting kind, they were not associated with the same level of trading company investment as applied in the less developed countries. Although foreign firms did play a role in building the infrastructure of the developed nations, their contribution tended to be steadily phased out as locally owned service firms took over in the course of development. In the post-war period the manufacturing multinational firm came into its own, displacing the dominant position of the source-based firms. With the growth of US owned foreign affiliate production in Europe leading the way, the level of foreign direct investment in manufacturing activities in the developed countries quickly surpassed the level of resource-based investment located in developing countries. As a consequence, the share of foreign direct investment directed to developing regions progressively declined. While less than 35% of the total world stock of foreign direct investment in 1939 was directed to the industrialized countries, by the mid-1970s this had risen to around 75%. It has remained at about that level ever since that time (Dunning and Cantwell, 1987). However, in the last
fifteen or twenty years further important changes in the geographical and industrial composition of international direct investment have under way. Investment in services has begun to grow faster than investment in manufacturing, especially in the industrialized countries. Between 1975 and 1982 the share of the stock of investment in the developed areas in agriculture, mining and oil extraction retrograded and the share of manufacturing slipped even more, but the share of services rose drastically. Meanwhile manufacturing investment grew most rapidly in a particular group of developing countries, the newly industrializing countries (NICs). In Asia and Latin America (but not yet in Africa) the local affiliates of manufacturing multinationals now account for the leading share of direct investment, having overtaken the stock of investment held in foreign owned extractive ventures. For this reason, investment in the more sophisticated types of service activity which are most reliant on new technologies has been growing fastest, in the industrialized world. Meanwhile, the more traditional types of service activity such as trade and construction have been spreading most rapidly in the developing countries, in association with the export oriented investments in manufacture and resource development. This provides an illustration of an international division of labor principle (Hymer 1975) and (Cohen 1975). During the 80s and 90s foreign direct investment has grown into huge proportions more than doubling in the 80s but grew a little slower during the 90s especially in 91, 92 and that was mostly due to the world wide depression. Foreign direct investment (FDI) therefore, has emerged as a potentially strategic force integrating national economies, particularly those of the developed countries. It has been noticed that gains from FDI occur in the same manner as gains from trade i.e., comparative advantage through cross country specialization, economies of scale and greater competition. Since
it is an important vehicle for the diffusion of technical change, FDI may well change the structure of trade by changing the comparative advantage of host country economies. As part of this process, FDI may expand the amount of cross-country intra firm trade. This dynamic process may also require substantial changes in existing policies and may eventually lead to a certain convergence in public policies across countries. Moreover, the effectiveness of some traditional public policy instruments, including trade and exchange-rate policies, may change, while the need for formulating new policies is likely to increase.

From the paragraph above we can notice that a theory of foreign direct investment is required to explain all these processes. As we noticed then, FDI is a distinctive feature of the multinational enterprise. Hence a theory of FDI is also a theory of TNCs as principal actors in the world economy. FDI is not simply an international transfer of capital it is the extension of an enterprise into host countries involving flows of capital, technology, and entrepreneurial skills that will be combined with local factors in the production of goods and services for the local and the export market under the control of the investing parent firm. This last idea raises many questions to be answered by the theory explaining FDI but this is not in the scope of this study. The researcher noticed also that these ideas raised different questions but on the country level to identify the policy issues that a country will undertake in order to attract the FDI which most countries are competing for. Therefore, a theory of FDI should mainly encompass government regulations and incentives dealing with the encouragement of FDI, its regulation, control or may be its prevention in certain aspects of an economy. This view has its roots in the late 70s and early 80s where most governments started welcoming FDI but most of them also
regulated it to different extents depending on the sort of FDI as many of them believed that not all sorts of FDI are desirable because many industries should in a sense be reserved for national investment alone. Governments by so doing seek to maximize their net benefits and their country's and for that matter protect their National Security.

Due to this huge upsurge in FDI in the last two decades many studies have been undertaken to try and explain this phenomenon depending on the models that were derived from different past theories. All those theories and all the models derived from them predict that the 90s will be the decade of the FDI as they predict that FDI will go on increasing throughout this decade even though it will fluctuate depending on the status of the world economy. Drawing on the relevant literature it was found that most of the studies failed really to depict high correlation between what they defined as dependent and independent variables. Therefore, this following study as it comes in the mid of the 90s it will in a way assess the predictions of the past theories and try to rectify the views or in way reverse the trend of what has always been the case to study. Previous studies that dealt with FDI as a function of government regulations and incentives failed really to find good results; however, this failure is due to many reasons mostly the lack of credible and enough data. In this case, many evidence pushed this researcher to believe that it is the other way round and it is suspected that in fact government incentives and regulations and economic performance are themselves function of FDI which itself is a function of other variables suspected to be mainly the size of the market (GNP, POPULATION, GNP PER CAPITA, and other related variables), development of the economy (HUMAN FACTORS, PRODUCTION
FACILITIES,...), and its proximity to a member of the triad of FDI (USA, EC, JAPAN).

**Need for the Study**

Given the state of the knowledge and the large number of variables in addition to their various effects it became imperative to understand the causal interrelationships between the different variables. It is in fact this situation that gave the urge to conduct such a study to be able to shed a brighter light on what really affects FDI and what is affected by it. Therefore, a study like the one suggested here is recommended by experts in this area especially after the recent crisis in the Eurodollar market. Lately, the US Dollar depreciated against the major currencies, but mainly against the Japanese Yen. Many experts believed that this depreciation's goal is to boost American exports to the world in order to reach a balance of trade surplus. Yet this conviction is not shared by all the experts. In fact as we all know the gains from FDI occur in the same manner as the gains from trade but the major difference is that to increase exports we need a weaker currency so that our goods would seem cheaper while to increase FDI we need a stronger currency in order to be able to acquire assets or invest in a foreign country with the least possible available funds. Kenneth A. Froot and Jeremy Stein (1991) suggested that, if US firms are cash constrained, a depreciation of the Dollar relative to the Yen leads to an increase of Japanese FDI to the US. In a recent article that appeared in the Newsweek magazine of January 30 it was published that: "Japanese companies may be induced to move more facilities abroad - a move supported by the Japanese Ministry of International Trade and Industry. The Kobe quake served as an object lesson in the danger of concentrating manufacturing in one place. Even the efficient just-in-
time manufacturing process pioneered by Japanese companies - a widely copied system in which components makers deliver parts as they are needed - now needs restudy, says a senior MITI official." In fact all Toyota's 12 assembly lines were shut down not because they were damaged by the quake but because their radio and brakes suppliers were. Given the Kobe earthquake and its resulting rigid and inelastic Japanese production system and given the recent $20 billion loan to Mexico from the United States, different situations imposed themselves. First, the US was running a Trade surplus due to its trade with Mexico even without depreciating its currency if it has not been for the last Peso crisis that forced the Dollar to realign in the same manner European currencies do to preserve the EMS but for that sake to preserve NAFTA. Second, after the American loan to Mexico, US companies would be in a very sensitive position as they will not be able to borrow from the banks to invest and in this way the boom that was forecast for this year would be dampened. Third, Japan's only way out after the Kobe quake is to invest outside to be able to meet its commitments. All of these reasons create a very delicate situation in which foreign direct investment from Japan to the US and Mexico would be the only solution. Even though this is a special kind of situation for FDI, yet it brings to the light this issue again with a definite need to establish a certain pattern and a certain relation between its causes and its effects or in other words between the antecedents and the consequences of FDI.

**Purpose of the Study**

The researcher has two major purposes for this study. First, to test whether and to what extent the different variables used affect FDI.
In other words to test which are the statistically significant variables explaining FDI. Second, to direct the attention to the recursive system and its use as a causal method for analyzing the proposed model and the relationships between the chosen significant variables.

**Research Questions**

In the realm of his study the researcher will be answering many purely statistical questions about the population and the sample studied. The three major research questions are:

- What are the major characteristics of the major sample of the study?
- What is the relative importance of the variables leading to FDI?
- What are the direct and the indirect effects for the hypothetical FDI causal model?

**Problems**

The main problem that faces this study is the same one that most of the studies examining this phenomenon has faced i.e. the lack of sufficient and reliable data. The dilemma of cross sectional v/s time series is again confronted by the researcher. Another important problem is the lack of the existence of a theory or model that does explain this view or give design of such a model. For this matter the researcher will be constrained and will try to build his own model based on a thorough review of literature of past studies, on upcoming phenomenon and on logical basis coupled with the availability of data for some key variables.
CHAPTER II

REVIEW OF LITERATURE

Recently, the role of FDI has received considerable attention especially by the United Nations and that can be noticed by their multiple publications concerning this subject like the UNCTC of 1990, 1991, 1992 and the UNCTD 1993 and 1994. In these studies the UN tries to explain and forecast FDI and other regional flows like aids from its agencies and the world bank to different parts of the globe. For so doing the UN uses traditional regression techniques but they try to identify the biggest number of possible variables as they are best suited to gather enough data for any variable. However, they were not able to find conclusive results about the link between the relaxation of public policy and the increase in FDI but they were able to conclude that some variables like performance-requirements had higher impact than any other variable defined. Moreover, they were able to recognize some countries for which the model could work for instance Korea and they also found out that political risk had a rather big influence in addition to that a lag of one year is needed between the announcements of policy
changes and the increase in investment flows. Some studies have traced the historical development of FDI like studies done by De Anne Julius in which she tries to identify the reasons for and the consequences of the substantial increase in FDI among only the largest home and host countries (France, Germany, Japan, United Kingdom and United States) and the public policy aspects of this phenomenon. Using historical data for these five countries, Julius correlated percentage change in FDI flows to those of gross national product (GNP) and found a substantial response. Using this relationship and some simplifying assumptions, FDI flows among these countries were projected to grow substantially by 1995. Julius argued that traditional exchange-rate-policy will be less effective because most trade and technology transfer will be increasingly channeled through the cross-border organizational structures of transnational corporations (TNCs) that are partly immune to traditional policies. However, this study only focuses on the major developed countries that are already the biggest home and host countries of FDI. But it is as much important to examine the flow of FDI to other developing and underdeveloped countries and in the same manner examine the trend that will be existing if any. It is also important to examine if the flows will change directions completely and if they will continue to accelerate or will they decelerate in the 90s. What can be considered to be a very interesting insight in this matter is the contribution of FDI in many aspects of production and recently in services to a changing international division of labor world wide and its effect on the change of government policies concerning the educational process internally for that matter (Cantwell). Due to the expansion of trade under the new GATT agreement more integration and interlinkages between world markets will take place and hence higher TNCs' activities will take place (Ohmae 1985; Ostry 1990, 1992).
Therefore, it is crucial to try and forecast and later on examine which regions will be the major recipients of FDI flows and which regions will be left out. To analyze the movement of FDI, use is often made of an eclectic analytical framework (Dunning, 1988). In this approach, FDI decisions are influenced by three factors or advantages. First, firms acquire or create assets to give them an advantage over local firms in the host country. Second, a firm may choose a different location to overcome trade restrictions, differences in factor cost or host government policies. The third, factor in the internalization process by which firms keep their foreign ownership advantages under their own control, rather than utilizing licensing and other arrangements. In this process, two sets of factors are intertwined to influence a firm's decision to produce a particular commodity in a specific country. One set of factors is external to the firm and another is internal. The external factors may include interaction of host country characteristics, such as factor price, size of market, availability of certain resources and factor intensities, which may explain the desirability of producing a product in a particular country. The set of factors internal to the firm help determine the ownership of production. These internal factors may depend on the advantages attributable to the home countries of TNCs, the industries to which they belong and those attributable to individual firm-specific characteristics that differentiate them from other firms in their own countries and industries.

Concerns about the control of key resources, such as technological know-how and high transaction cost in regulating and enforcing contracts, particularly in the case of intangible assets, are often given as motivations for direct control through the establishment of foreign affiliates in host countries. Under those broad categories, many specific
motivations are often mentioned, such as the use of research and development to establish a competitive advantage in foreign markets and to tap the talent of skilled labor, particularly that of the scientific community in the host country. Another factor that may influence FDI inflows is the host country's relative costs such as its wage rate and unit-labor cost. The size and the rate of growth of the host country's economy are also important factors influencing FDI inflows. Export orientation of the host economy, import substitution opportunities and transportation costs are suggested as reasons why firms may undertake investment in other countries. Exploiting potential advantages of economies of scale, particularly when the scale benefits are reaped in the home country, are possible motivations for locating production in other countries. It is also argued that firm size and concentration in an industry serve to increase the propensity to invest abroad. Large firms may raise capital at favorable rates and transfer it to their foreign affiliates through FDI or local borrowing. Natural resource availability is another factor that may motivate FDI flows. Finally, in order to avoid tariffs and protection in host countries, some firms are motivated to "jump tariffs" by establishing affiliates there.

In an empirical study on the location of overseas production by the US TNCs, Irving B. Kravis and Robert E. Lipsey (1982) tested two opposing hypotheses. One is the "market scanning hypothesis", which suggests that TNCs use their superior knowledge to locate their activities in countries where they have market or cost advantages. The other hypothesis is to view these firms as "market makers". Their large size, managerial and commercial strength and superior financial and capital resources permit them to develop new markets for their products. Kravis and Lipsey examined an array of forces both external and
internal to the firm to identify the determinants of the location of production by US TNCs. They found that proximity to the US (e.g. Canada and Mexico), the use of English as the major language (e.g. Australia, Canada, and the UK) and the size of the host country's market appeared to explain the rankings of countries where FDI by the US firms is likely to take place. A large local market provides an opportunity to meet entry costs and, once an affiliate is established, a large market provides the opportunities to attain economies of scale that will be conducive to selling both in the internal market or for purposes of re-export. Factors such as labor costs, productivity and capital costs also tended to influence the decision of the US firms to locate their production abroad. Kravis and Lipsey also found that a high propensity to trade and a high degree of openness of an economy were important in the decision to locate affiliates in foreign countries. Whether these factors also influence the decisions of TNCs of other countries to locate affiliates abroad is yet to be explored. However, the rise of the three major clusters of trade and investment - the US cluster (the Western Hemisphere), the EC cluster (Western Europe, Eastern Europe and potentially the former Union of Soviet Socialist Republic) and the Japanese cluster (Japan and East, South and South-East Asian countries) - provides some intuitive possibility that the forces of economies of scale, nearness to a core country and, possibly, cultural and linguistic ties may have played a role (UNCTC, 1991).

Aside from the numerous studies of firms' decisions regarding ownership, location and internalization - the elements of the eclectic framework of FDI decisions - there are several macroeconomics factors that affect the long-run trend of FDI. The growth of cross-country ownership may be closely connected to the expansion of international
trade. The continued integration of the world's economies enhance an environment of cross-country ownership through mergers and acquisitions and, often through the flow of FDI. Growing similarity of national markets and improved information technology, as well as its rapid transfer, particularly among OECD countries, are also forces that promote long-term cross-country ownership (Krugman and Graham, 1992).

While these factors may affect the trend towards cross-country ownership, they do not explain the surge of FDI during the 1984-1989 period. Some additional factors suggested as explanatory variables for the surge of FDI during this period are fluctuations in the relative cost of capital, particularly exchange rates, changes in taxation and changes in trade policies. Kenneth A. Froot and Jeremy Stein (1991) suggested that, if US firms are cash constrained, a depreciation of the dollar relative to, for example, the yen, leads to an increase of Japanese FDI to the US. The high saving rate in a particular country (e.g. Japan) may also influence FDI via the cost of capital. There is also some evidence that shifts in the US tax laws in the 1980s first acted to discourage foreign ownership and, after 1986, to encourage it. Finally, actual or prospective changes in trade policy may have a strong influence on FDI inflows. Some FDI is aimed at avoiding actual or forestalling prospective trade barriers in the form of tariffs and other controls. Such considerations may have motivated some Japanese investment in the US, as well as some Japanese and US investments in the EC.

Other Studies done by (Graham and Krugman, 1991) concentrated on FDI to the US and tried to find a pattern as the US has become the major host country for FDI in addition of it being the major home
country. In their argumentation and by trying to find common characteristics they try to pinpoint that the flows of FDI coming from Japan are not to alarm the US as they are still in the boundaries of reality and not as some researchers show them to be flooding the US.

Another study by the UNCTC under the title "The triade in foreign direct investment" tries to show clearly that most of the FDI flows are from the three major regions in the world the US, EC, and Japan and they too are the major host countries with the exception of Japan which in fact is now relaxing its regulations against incoming investments especially after the GATT agreement and the liberalization of trade. The Euromoney and in its special issue of September 1993 deals with the issue of FDI and tries to assess each country's eligibility for such flows emphasizing mainly privatization efforts, the liberalization of the exchange rate, convertibility of currencies, ownership of resources and changes in taxation policies. It was also able to devise indexes for political risk, economic risk, and economic performance that proved to be of significant importance. Other OECD and World Bank publications give figures of regional flows and aids to different countries in order to motivate the developed countries by pushing them to invest in the developing and the less developed ones.

Many other publications dealt with this issue but on various levels especially books, periodicals, and UNDP publications. The UNDP publications are mainly used to extract needful data in the regression and the recursive system that might be used by any researcher in the statistical and econometric part of his project. Periodicals, are mainly used to extract data and keep the researcher in touch with the latest development of his subject the issues closely related to his subject like
for instance in this case. A Businessweek article dealt with the availability of world capital and the issue of competitiveness and distribution of this capital. The last source of information or part of the literature is books. As FDI, as a major economic subject, has been rising in importance since the 1970s more and more theoretical books are dealing with this subject and are assigning chapters to deal with this phenomenon. Therefore, embryonic theoretical models are being derived in order to be used and tested in empirical studies but those propositions have not yet been expressed in the form of a fully structured model allowing predictions of future location and growth of FDI and the activities of TNCs.

Finally, it was noticed that all the studies reviewed agreed that the 90s will be the decade of FDI and predicted that it will go on increasing throughout this decade. Even though, recent studies do agree with this view they tend to rightly believe that FDI flows will fluctuate depending on the world economic situation like it was observed in the start of the 90s due to the worldwide depression that was taking place at the time.
CHAPTER III

PROCEDURES AND METHODOLOGY

This chapter is going to identify the statistical model that is going to be used in addition to the tests that are going to be performed and define the selected variables introduced in the model prescribed. The problems facing the researcher in his study will also be identified in addition to the methods used to deal with them.

Variables and their Measurements

Starting from a relatively large number of variables the researcher is constrained to delete the ones that do not have sufficient data or the ones that cannot be quantified. Yet, the researcher is left with a sufficient number of variables to be able to test the proposed model, knowing that many of these variables will be rejected from the model to be left with only the most significant ones that are listed below:
Foreign Direct Investment

It is the major variable of the study. It consists of the flows of capital to a certain nation as compiled by the Balance of Payment. The inward flows to a nation are registered as a lump sum with no details about the country of origin. This variable was originally very skewed to a degree that would have prevented the study from giving reliable results. The researcher was therefore constrained to normalize the data before proceeding to any analysis. Another problem with the data was the existence of some negative values. The researcher, therefore, proceeded to normalize the data, after adding an amount bigger than the largest negative value in absolute terms to each and every entry. The log of all the values were taken ending up with a very normal data. Originally the skewness of the data was in the order of 3 and it ended up in the proximity of .3 a very reasonable value that allows the researcher to proceed with the analysis.

Incentives

The data of this variable were compiled by the Euromoney. The variable is an index derived by the Euromoney. Every country has different kinds of incentives offered to investing countries. Compiling these incentives the authors of the article gave scores for each and every policy encouraging inward foreign investment. The major incentives named were privatization, tax holidays, concessions on import and export duties, insurance programs, training grants, major projects, ownership of resources and of production facilities in addition to different specific incentives given by individual countries. For every policy used and to the extent that this policy is used a score is assigned. These scores are then aggregated for each country giving the final score.
which is suspected to be positively related to foreign direct investment. The results are reported to a maximum score of 30.

**Political Risk**

Compiled also by the Euromoney, this index is contrary to what someone might think. The higher the score the better is the result. It was compiled with the intention to assign the highest score to the politically safest countries. The figures presented are the result of a poll of political risk analysts, risk insurance brokers and bank credit officers. It shows the possibility of a certain country to meet external debt coupled with a score of political stability and security. A score of 25 indicates zero political risk, while a score of 0 indicates maximum risk.

**Economic Performance**

It is an index compiled of different economic figures by Euromoney that explains or assesses the economic performance of a certain economy like the current GNP, the growth rate of GDP, inflation, economic forecast, GDP per capita and different indexes. The score is compiled on 25 and is directly related to FDI. It is used in this model as the final purpose or in other words the dependent variable.

**Other Variables**

There were other variables that were suspected to be a function of, or affect FDI in a certain matter but were however rejected during the study. Of these variables we list:

Population, Administration, Regulations, HDI, Resource Availability,...
Population and Sample

The population of the study consists of the 173 countries appearing in the UNDP report. However, available data did not exist for all the countries for all the variables chosen. The researcher was therefore constrained to use as a sample the countries that have available data although this sample may seem somehow biased towards the developed countries given that most countries having available data belong to this cluster. After screening the researcher ends up with 60 countries to be used as a sample for this study, the list of which is shown on page 25.

Cross-Sectional v/s Time-Series

The choice between using a time series or a cross-sectional analysis is a difficult one. This can be done more effectively if a regression is done on a separate country. The problem remains that there are as many independent variables as the number of years covered but the study leading to biased results. This problem however was partly solved in this study by the use of scores summarizing different related variables. Hiding in that manner the distinct effect of each variable independently. Another problem is that flows of FDI to a country are rather unstable from one year to the next. This may be due to randomness or what is called "Cross-Sectional effect" (UNCTC 91), where a sub-set of transnational corporations has alternative country locations from which they could choose. On a cross-sectional basis the number of cases is probably greater than the number of variables so that the analysis is not hampered by the fear of lack of significance of
important variables. On the other hand, a drawback is the inability to delineate whether significant variables were significant because of time series effects, or because of cross sectional effects. In most cases, there is not much choice; data availability dictates the test design.

**The Model and the Use of Recursive System**

In this study the researcher wants to test the use of recursive systems as an analysis tool that can explain the fluctuations in FDI by finding the reasons and the consequences of it. In this system that will be detailed in the next chapter the independent variables, incentives and political risk affect FDI directly and affect economic performance via FDI which in itself affects economic performance independently of its predecessors. The researcher reaches interesting results due to this method and believes its use will increase in the future. Different statistical techniques will be used as percentage, frequency, mean, standard deviation,... to analyze the values of the data used.

**Selecting and Lagging the Independent Variables**

After carefully analyzing all the variables only the significant ones were chosen to explain the variations in FDI. Some special considerations had to be taken. It was obvious that investor reaction to announced policy changes, or to economic and political changes, in a country will not be instantaneous. Changes in investment flows, if any, will take some time to be seen. The question to be asked then is: how much time do investors need to react for policy changes? - To this question the researcher relied on past experience of the UN experts who
faced this problem. In the UNCTC 91 the experts argued that one or two years lag was the best with a preference to use a one year lag, which led the researcher to do so. Incentives and political risk variables were the values of 1992 while the values of the FDI and economic performance were those of 1993. In this way the researcher was assured to respect the chronological order of occurrence of things.
CHAPTER IV

FINDINGS OF THE STUDY

In this chapter the statistical model will be laid out to be tested and the results will be analyzed. The two research questions asked in chapter one will be answered to the best of the researchers' ability given the statistical results obtained. Each set of data will be analyzed and tested for relevance and reliability in addition to a descriptive table and chart.

After compiling the available data from the different sources like the Euromoney, the Balance of Payments, the IFS and the National accounts the researcher ended up with only 60 available entries which all the variables had in common. All the variables showed normal features except the FDI, which was seriously skewed and had to be normalized in addition to that some variables were negative. A constant, bigger than the largest negative number was added to all the values and then their log was taken in order to be able to normalize the data. The set obtained was normal and therefore reliable.
### Table -1-

The selected sample of countries by Political Risk, Government Incentives, FDI and Economic Performance.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>POLY</th>
<th>GVT INC</th>
<th>FDI</th>
<th>ZFDI</th>
<th>ECO PERF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGENTINA</td>
<td>13.95</td>
<td>8</td>
<td>6305</td>
<td>3.81</td>
<td>14.25</td>
</tr>
<tr>
<td>AUSTRALIA</td>
<td>22.38</td>
<td>12</td>
<td>2708</td>
<td>3.45</td>
<td>21.26</td>
</tr>
<tr>
<td>AUSTRIA</td>
<td>24.08</td>
<td>6</td>
<td>770</td>
<td>2.93</td>
<td>22.44</td>
</tr>
<tr>
<td>BAHAMAS</td>
<td>17.4</td>
<td>6</td>
<td>-24.1</td>
<td>1.75</td>
<td>15.8</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>23.13</td>
<td>12</td>
<td>10650</td>
<td>4.03</td>
<td>20.64</td>
</tr>
<tr>
<td>BELIZE</td>
<td>12.08</td>
<td>16</td>
<td>1130</td>
<td>3.08</td>
<td>12.57</td>
</tr>
<tr>
<td>BRAZIL</td>
<td>11.55</td>
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<td>802</td>
<td>2.95</td>
<td>12.5</td>
</tr>
<tr>
<td>BULGARIA</td>
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<td>14</td>
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</tr>
<tr>
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</tr>
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<td>17.15</td>
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<td>3749</td>
<td>3.58</td>
<td>18.38</td>
</tr>
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<td>16</td>
<td>139.2</td>
<td>2.34</td>
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</tr>
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<td>1.5</td>
<td>1.91</td>
<td>9.93</td>
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<tr>
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<td>22.78</td>
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<tr>
<td>MAURITIUS</td>
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<td>20</td>
<td>7.7</td>
<td>1.94</td>
<td>12.5</td>
</tr>
<tr>
<td>MEXICO</td>
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<td>12</td>
<td>4901</td>
<td>3.70</td>
<td>15.51</td>
</tr>
<tr>
<td>NETHERLANDS</td>
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<td>8</td>
<td>5696</td>
<td>3.76</td>
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<tr>
<td>NORWAY</td>
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<td>346</td>
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</tr>
<tr>
<td>PANAMA</td>
<td>11.43</td>
<td>14</td>
<td>-41.2</td>
<td>1.59</td>
<td>10.07</td>
</tr>
<tr>
<td>PARAGUAY</td>
<td>11.38</td>
<td>12</td>
<td>150</td>
<td>2.36</td>
<td>13.4</td>
</tr>
<tr>
<td>PERU</td>
<td>9.73</td>
<td>18</td>
<td>349</td>
<td>2.63</td>
<td>11.99</td>
</tr>
</tbody>
</table>
**Table -2-**

A tabular representation of the descriptive statistics for the sample selected of 60 countries.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>POLY</th>
<th>GVT INC</th>
<th>FDI</th>
<th>ZFDI</th>
<th>ECO PERF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>16.20983</td>
<td>13.5</td>
<td>2321.948</td>
<td>2.789401</td>
<td>15.9531667</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.728293</td>
<td>0.5155766</td>
<td>572.1806</td>
<td>0.102934</td>
<td>0.59796177</td>
</tr>
<tr>
<td>Median</td>
<td>14.59</td>
<td>13</td>
<td>574</td>
<td>2.815394</td>
<td>15.105</td>
</tr>
<tr>
<td>Mode</td>
<td>24.08</td>
<td>12</td>
<td>#N/A</td>
<td>#N/A</td>
<td>14.25</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.641333</td>
<td>3.993639</td>
<td>4432.092</td>
<td>0.797321</td>
<td>4.63179194</td>
</tr>
<tr>
<td>Variance</td>
<td>31.82464</td>
<td>15.949153</td>
<td>19643438</td>
<td>0.63572</td>
<td>21.4534966</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-1.46083</td>
<td>-0.594229</td>
<td>9.897501</td>
<td>1.166276</td>
<td>-1.3062228</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.187863</td>
<td>0.1197441</td>
<td>3.03674</td>
<td>-0.3771</td>
<td>0.23472102</td>
</tr>
<tr>
<td>Range</td>
<td>17.47</td>
<td>16</td>
<td>21449</td>
<td>4.331427</td>
<td>16.82</td>
</tr>
<tr>
<td>Minimum</td>
<td>7.53</td>
<td>6</td>
<td>-79</td>
<td>0</td>
<td>8.18</td>
</tr>
<tr>
<td>Maximum</td>
<td>25</td>
<td>22</td>
<td>21370</td>
<td>4.331427</td>
<td>25</td>
</tr>
<tr>
<td>Sum</td>
<td>972.59</td>
<td>810</td>
<td>139316.9</td>
<td>167.3641</td>
<td>957.19</td>
</tr>
<tr>
<td>Count</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>
Figure 1: A graphical representation of Political Risk for the selected sample of 60 countries.

Figure 2: A graphical representation of government incentives for the selected sample of 60 countries.
Figure -3-
A graphical representation of FDI for the selected sample of 60 countries.

Figure -4-
A graphical representation of normal FDI for the selected sample of 60 countries.
Decomposing the relationship between variables into direct and indirect effects

Table -3- shows the simple relation coefficients between the variables. To analyze the simple relationships between the variables

Table -3-
A matrix of the correlation coefficients between the selected variables for the study.

<table>
<thead>
<tr>
<th></th>
<th>Econ Perf</th>
<th>Poly</th>
<th>Gvt Inc</th>
<th>ZFDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ Perf</td>
<td>1.0</td>
<td>.956</td>
<td>-.172</td>
<td>.694</td>
</tr>
<tr>
<td>Poly</td>
<td>.956</td>
<td>1.0</td>
<td>-.304</td>
<td>.629</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.010</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Gvt Inc</td>
<td>-.172</td>
<td>-.304</td>
<td>1.0</td>
<td>-.123</td>
</tr>
<tr>
<td></td>
<td>.097</td>
<td>.010</td>
<td>.176</td>
<td></td>
</tr>
<tr>
<td>ZFDI</td>
<td>.694</td>
<td>.629</td>
<td>-.123</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.176</td>
<td></td>
</tr>
</tbody>
</table>
the researcher formulated the following hypothetical recursive system:

\[ Z_1 = R_1 \]
\[ Z_2 = P_2 Z_1 + R_2 \]
\[ Z_3 = P_31 Z_1 + P_32 Z_2 + R_3 \]
\[ Z_4 = P_41 Z_1 + P_42 Z_2 + P_43 Z_3 + R_4 \]

Table -4- below shows the regression output using SPSS.

**Table -4-**

A table showing the regression output.

**The Multiple Regression results**

The dependent variable: **Econ Perf**

Independent variables: **ZFDI**  
**Gvt Inc**  
**Poly**

The variables were entered in a stepwise manner by the computer like they are posted above.

**Multiple R**: 0.96984  
**R Square**: 0.94059  
**Adj. R Square**: 0.93735  
**Std Error**: 1.16894

The analysis of variance:

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>3</td>
<td>1189.863</td>
<td>396.62</td>
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<tr>
<td>Residual</td>
<td>55</td>
<td>75.15325</td>
<td>1.3664</td>
</tr>
</tbody>
</table>

\[ F = 290.26224 \]

**Signif F**: 0.0000

**Variables in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly</td>
<td>0.74223</td>
<td>0.363</td>
<td>0.904</td>
<td>20.439</td>
<td>0.000</td>
</tr>
<tr>
<td>Gvt Inc</td>
<td>0.14113</td>
<td>0.406</td>
<td>0.120</td>
<td>3.475</td>
<td>0.001</td>
</tr>
<tr>
<td>ZFDI</td>
<td>0.75581</td>
<td>0.228</td>
<td>0.140</td>
<td>3.307</td>
<td>0.001</td>
</tr>
<tr>
<td>(constant)</td>
<td>0.00500</td>
<td>0.849</td>
<td>0.006</td>
<td>0.995</td>
<td></td>
</tr>
</tbody>
</table>
After a careful analysis of the regression output the researcher is able to derive the true relations between the variables to correct the values obtained in the correlation table. The Recursive System therefore, becomes as following:

- Political Risk = is an exogenous variable (Z1)
- GVT Incentives = -0.304 Pol. Risk + error term
- FDI = 0.651 Pol. Risk + 0.074 GVT Inc. + error term
- Econ. Perform. = 0.904 Pol Risk + 0.12 GVT Inc. + 0.14 FDI + error term

The recursive system explaining the path analysis of this study will be shown hereafter with all the conclusions following it. The values reported between brackets and bold are the true relations between the variables while the other values are the simple spurious relations between the variables taken individually.

Figure -6-
A hypothetical recursive system.
A study of figure -6- above reveals the following implications:

First, the relationship between the two independent variables government incentives and political stability is negative as it might be suspected. It would be obvious to notice that as a government enjoys more political stability it will be less induced to offer incentives to attract FDI as its market will be attractive enough without them. This relation is of no special implication to us since both variables are independent.

Second, the simple relation between government incentives and FDI which is suspected to be positive gives a negative value contradicting therefore, the suspicions and jeopardizing the whole study. However, when the variable is studied in the system and holding the effect of other variables constant to depict its true effect, the variable depicts a positive value proving the original belief and hence gives a firm support to economic reforms, privatization and tax reforms as the major government incentives used to attract FDI. The same interrelation takes place between government incentives and economic performance, starting with a negative relation the researcher ends up with a positive one.

Third, despite the high R coefficient between FDI and Economic performance the true relation is relatively low proving that although FDI does affect Economic performance, yet it is not the only variable that does. The relation received gives the true value of the effect of FDI as a percentage on the change in Economic Performance.
Fourth, the political stability variable proved to be the most important factor affecting FDI flows and affecting Economic Performance via FDI and independently. If the researcher is to assess the two independent variables, Incentives and Political Stability the first would be described as the necessary condition while the second as the sufficient one. As it would be necessary to have some incentives in order to invest in a country yet this reason is not sufficient if this investment proved to be too risky due to an unstable political environment. Given the same incentives an investor would choose the most stable market and given the same political stability he would choose the country offering the better incentives. This is one of the reasons why the developed countries are the major recipient countries in addition to being the major home countries of FDI since they offer the safest investment environment. This statement strong as it is assumes equal treatment of all the countries with no bias and preferential behavior towards any one nation or a group of nations. It also assumes the existence of the micro and macroeconomics unquantifiable variables setting a relatively favourable investment climate and that will be discussed under the Recommendations section of chapter V.
CHAPTER V

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

After the review of past literature this study started with a rather large number of variables that was reduced by the use of different indexes replacing a number of related variables. Later on in the study, while performing the regression analysis the statistical technique rejected most of the remaining variables keeping only the statistically significant ones, which is the purpose of our study i.e to identify the statistically significant variables affecting FDI. However, the researcher still believes that in many instances there are other givens that govern the division of the available capital than the incentives given or the stability reigning in the country. Proving this belief is the recent $20 billion bail out of Mexico by the USA on one side. On the other side it is no secret by now that despite the widespread liberalization of FDI policies by most African governments during the
80's, inflows did not increase until now. Singapore alone may be
receives as much FDI as most of the African Sub-Saharan countries.

These countries are characterized by small markets, low growth
rates, poor infrastructure, huge debts and no technological abilities in
addition to a poorly skilled labor-market and extreme living conditions.
With all the above arguments it is unlikely that any of those countries
attracts substantial FDI inflows even with the most attractive incentives
and economic reforms. They are therefore doomed in a sense to survive
on the assistance plans of the UN the IDA and the World Bank in order
to be able to attain a point of self-sustained growth which would be the
stepping platform towards the start of FDI inflows. In other words, only
those who help themselves will be helped.

Literacy and Human development are two important factors
encouraging firms to invest in certain countries. A TNC seeking to
establish a production facility in a certain area or country seeks
profitability, meaning productivity. The TNCs also pay normally a
higher wage than do local firms and hence require higher productivity
and better trained workers since the technology they bring is superior
to or different than the one already existing in the country. Therefore, a
national policy aiming at developing the human resources renders the
country more attractive to foreign investors. The scope of these policies
varies from elementary education to specially designed training
programs to fit specific TNCs.
RECOMMENDATIONS

In addition to the political and economic stability and the liberalization measures (incentives) found to favor investment flows significantly by this study, there are other important policies which if implemented favor the investment climate. The existence of a legal framework for business activities and a legal order providing stability. An effective and efficient administration is needed to implement the legal system with as little friction as possible. More FDI means more trade and more technology and a reliable infrastructure is needed in order to support the investors. Other important aspects for an attractive market is the establishment of a sound macroeconomics framework and the upgrading of the country's human resources already stated above.

These objectives are not easy to achieve. As they cannot be implemented immediately they require assistance. This assistance can be in the form of grants or loans by the already stated UN ODA and World Bank associations or by entering in bilateral or multilateral agreements with a strong leading country or a cluster of countries. This was the case for the EC, NAFTA and South-East Asia. It is argued that as these clusters tend to enlarge as the FDI flows tend to grow especially as they result in the abolition of market distortions due to the elimination of custom tariffs and duties. As a later step to attract more FDI, the liberalization of economic activity through the privatization of national utilities and other incentives would serve the cause.

From another perspective it is noticed that until now no complete FDI theory exits that is able to predict in an exact manner where will FDI flow in the future and why. The researcher believes that this is due
to the inter linkage of micro and macroeconomics variables in a very peculiar manner. In fact the end product of this inter linkage is neither micro nor macroeconomics but somewhere in between. The existence of the huge TNCs which are supposed to belong to the microeconomics analysis as industrial organizations is now itself affecting the policies of different governments. The point reached now is that FDI is no longer an end by itself but rather a means. FDI is no longer a dependent variable but rather a process. As it is affected by certain variables it affects in its turn other variables that in the process of things lead to affect FDI again. This is the case of many economic variables that are interrelated in the same market. That is why the researcher believes that the use of the recursive system for the path analysis of FDI was significant for this study and might be of importance in the future for other related studies. As it was observed in the project, FDI was affected by incentives and political stability and it affected economic performance which might in its turn affect FDI. Other countries, or by the same token other TNCs, seeing the positive performance of a certain country would be induced to monitor this country closely and examine the trend of its performance. If the results are deemed to be satisfactory they might invest in that country in their turn. This means that economic performance might affect FDI but it needs a long chain of events to do so.

It remains to assert again that a theory studying FDI should look on both sides of the coin; the microeconomics side and the macroeconomics one since there exists a peculiar way in which these variables are interlinked. We have already noticed that the gains from FDI occur in the same manner as the gains from trade. In this manner the researcher thinks that it would be advantageous to try and base the
model of study of FDI on the already existing trade model trying to implement the different theories of trade on FDI. In this manner both the micro and macroeconomics considerations might be respected. It might therefore, put each variable in its right context. Another important point that can be taken into consideration in explaining the flows of FDI is the differentiation between what a TNC views as an opportunity and what government policies aim at. In different instances there might exist a preferential treatment between TNCs when a government policy is involved due to some special considerations existing between the home country of the TNC and the host country receiving the FDI. These special considerations are mainly those microeconomics non quantifiable variables mentioned earlier like language, social links, culture, closeness to the home country, but more importantly political ties and considerations leading to implicit bi-lateral agreements. Even though, these considerations might affect a TNC's policy yet the original aim of a TNC is either profit or market share. The better prepared multinational should be able to seize the opportunity that offers itself if no government incentives or preferential treatment might hamper the market mechanism.

The researcher believes that it was necessary for him to share his worries and views hoping that they might help in shedding a light on future research and hoping that his modest contribution was of value to the theory of FDI, and that future better endowed researchers be able to establish a theory capable of explaining FDI, its flows and its fluctuations satisfactorily.
REFERENCES

Euromoney supplements, special IMF/World Bank issue, September 93-94, February 94.


