THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN BRAZIL

TAHA ALI MOHAMMED ESKANDER

COLLEGE OF BUSINESS

UNIVERSITI UTARA MALAYSIA

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BY

TAHA ALI MOHAMMED ESKANDER

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Abstract:

Brazil has been one of the significant recipients of foreign direct investment (FDI) among the newly emerging markets of global economy over the last 20 years, and has recorded rapid and sustained growth rates in a number of different industrial sectors. Indeed, FDI plays a significant role in the Brazilian economy. Brazil has been pursuing different foreign investment policies at different times depending on the development objectives and economic situation in the country. The present study has focussed on to empirically examine the influence of macroeconomic variables on Foreign Direct Investment in the Brazilian economy. The chosen macroeconomic variables are Gross Domestic Product (GDP), GDP per Capita (GDPPC), GDP growth rate(GDPGR), Trade ratio(TR), Exchange rate(ER), Inflation (INF) and rate of interest (Ri) as major determining factors. Regression method is applied to assess the functional relationship among these variables. The study is confined to the period of 20 years over 1990-2009 in Brazil. The findings of this study show that there is a strong positive relationship between Ex Rate, GDP, GDPPC and TR to the flow of FDI in the Brazilian economy. However, negative association between GDPGR, INF and Ri to FDI.

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LIST OF ABBREVIATIONS

FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GDPPP	Gross Domestic Product Per Capita
GDPGR	Gross Domestic Product Growth Rate
TR	Trade ratio
ER	Exchange Rate
INF	Inflation
Ri	Rate of interest
BRL	Brazilian Real
APR	Annual Percentage Rate
BRIC	Brazil, Russia, India and China

CHAPTER ONE: BACKGROUND OF THE STUDY

1.1 Introduction

Foreign Direct Investment is largely viewed as a major stimulus to economic growth in developing countries. It is a device to deal with major growth obstacles such shortages of financial resources, technology and skills. As such, FDI flow has captured centre of attention for policy makers in developing countries including Brazil. FDI technically refers to investment made to acquire a lasting management interest (usually at least 10 % of voting stock) and acquiring at least 10% of equity share in an enterprise operating in a country other than the home country of the investor. FDI can take the form of either "green field" investment (also called "mortar and brick" investment) or merger and acquisition (M&A), depending on whether the investment involves mainly newly created assets or just a transfer of management functions from local to foreign firms.

1.2 Definition of FDI

Foreign direct investment, in essence, is simply investment that crosses over international boundaries. This kind of investment, however, is more complicated in practice. Before proceeding further into this paper it is worthwhile to have clear idea about the basic definitions of what constitutes foreign direct investment and its related jargon.

Foreign Direct Investment (FDI) is the act of a company located in one country acquiring controlling equity of another company or entity located in a second country. The United Nations Conference on Trade and Development's (UNCTAD)

World Investment Report defines FDI as:

> *an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy in an enterprise resident in an economy other than that of the foreign direct investor. FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy (UNCTAD, 2005).*

Another definition of FDI according the Economic Cooperation and Development (OECD, 2005) is as follows:

"Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy („direct investor") in an entity resident in an economy other than that of the investor („direct investment enterprise").

The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated"

The definition used for foreign direct investors (outward investment for a reporting country)

"An individual, an incorporated or unincorporated public or private enterprise, a government, a group of related individuals, or a group of related incorporated and/or unincorporated enterprises which has a direct investment enterprise operating in a country other than the country or countries of residence of the foreign direct investor or investors".

And a direct investment enterprise (inward investment for reporting country) According to the OECD is:

"An incorporated or unincorporated enterprise in which a foreign investor owns 10 per cent or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise"(OECD,2005).

According to Jansen and Stokman (2004), it is possible in the short run to become more sensitive to economic fluctuations taking place overseas as the inward and outward FDI positions increase, especially for the home economy.

Foreign direct investment or FDI is one of a multinational enterprise's many activities. A multinational enterprise provides intra-firm connections that unifies on a regular basis for different sorts of internal and external organizational relationship. FDI is an investment made by multinational business enterprises in foreign countries to control assets and manage production activities in those countries". The initial investment can be the purchase of an existing firm (by acquisition or by merger) as well as the foundation of a new legal entity (e.g. building a factory) in the foreign country.

FDIs require a business relationship between a parent company and its foreign subsidiary. Foreign direct business relationships give rise to multinational corporations. The investing firm may also qualify for an FDI if it owns voting power in a business enterprise operating in a foreign country.

There is increasing recognition that understanding the forces of economic globalization requires looking first at foreign direct investment (FDI) by multinational corporations (MNCs): that is, when a firm based in one country locates or acquires production facilities in other countries. While real world GDP grew at a 2.5 percent annual rate and real world exports grew by 5.6 percent annually from 1986 through 1999, United Nations data show that real world FDI inflows grew by 17.7 percent over this same period! Additionally, MNCs mediate most world trade flows.

When looking at the flows of inward Foreign Direct Investment (FDI) in the current era of 21st centuries it can be seen that it brings about a diversity of new capital and technological know-how, thereby benefiting the recipients. Especially for less developed countries and emerging market countries these developments have been an important driver for their economic growth and transformation into a solid market economy (OECD, 2006).

Brazil, one of the countries that stand out in the spectrum of emerging markets attracting large amounts of FDI in recent years, is clearly not an exception to this. For example, in 2009, APEX, the government-led investment promotion agency, worked with a budget of more than US$ 260 million, and devoted close to US$ 30

million just in missions and workshops taking place in 13 "priority markets". However, although there have been increasing efforts in analyzing what kind of organizational features make for a more successful investment facilitation strategy (UNCTAD 2009a; Ortega and Griffin 2009), According to the FDI UNCTAD's, 2008, Brazil was the fourth developing country in FDI inflow during 2007, next to China, Hong Kong (China), and Russia. This is not really a surprising assessment, considering the country's large population and the relatively stable macroeconomic conditions that had emerged in recent years. Clearly, in order to sustain economic growth over the next several years Brazil depends crucially on FDI.

Economic growth has important implications for the welfare of individuals. According to Barro and Sala-i-Martin (1995), aggregate growth is probably the single most important factor affecting individual levels of income. Understanding the determinant of aggregate economic growth is the key to understanding how to increase the standards of living of individuals in the world.

FDI is done by Multinational Enterprises (MNEs) whom are also defined as firms that own a significant equity share (typically 50% or more) of another company (subsidiary or affiliate) operating in a foreign country. FDI can have an impact on many aspects of a host country's economy such as output, the balance of payments, and market structure.

However, it is believed that bridging the gap in technology between the foreign country and the host country is the main effect of FDI, which in turn improves the productivity and growth of the host country.

FDI is intended to augment the production capacity of the host country, and take entrepreneurial risks for profits. Comparative location advantages mainly direct the investors in their choice of destination albeit other factors are now assuming importance.

FDI has certain advantages and disadvantages for the home and the host country, the main advantages for the home countries are access to new markets and increased cost efficiency. The latter may be realized through lower wage costs and input costs. FDI also has advantages for the host country. FDI is not as liquid and tradable as for instance portfolio investment, making FDI flows more stable. This makes FDI especially attractive for emerging economies, because it reduces speculation risk (Onen, 2008). FDI also leads to disadvantages. Borensztein et all (1995) argues that domestic companies have better access to the home markets and have an informational advantage over foreign companies. A foreign company that enters a new market has to create other synergies in order to compensate for the informational and other disadvantages to be able to compete with the domestic company.

It is one of key policies of Brazil government is to welcome foreign investment projects that add to resources and potential of the country, engage in new activities and generally promote the development of the economy that is, projects that involve transfer of technology, creation of skilled jobs and contribution of capital.

1.3 Brazil: A Major Emerging Market

Emerging markets that are more volatile than those in North America or Western Europe are now attracting considerable FDI. Over the last 20 years, there has been an almost tenfold increase in FDI in emerging markets. Brazil is one of the stellar performers among them. Foreign investment began to gain importance in Brazil in the late 19th century, especially through British investments in services such as railroad and maritime transportation. Later, the state took over the provision of many public services following unilateral government decisions or negotiation with foreign investors, and FDI only regained prominence after the Second World War, though without a marked bias from any particular country.

The crisis of the 1980s practically wiped Brazil off the FDI map. On average, the annual net inflow of FDI to the country dropped from US$ 2.3 billion between 1971 and 1981 to a mere US$ 357 million from 1982 to 1991. However, the 1990s, especially since the middle of the decade, marked Brazil's return as a relevant destination of FDI among developing countries. Brazil received about US$ 2 billion a year in FDI between 1990 and 1995, which corresponded to 0.9% of the world's FDI flow and to 2.7% of the flow to developing countries.

The FDI destined for Brazil in 1996 was five times higher than the annual average for the first half of the decade. That inflow to Brazil continued to grow until 2000, when it totalled US$ 32.8 billion. Even though it subsequently fell, foreign investment in Brazil in 2001 (US$ 21 billion) already amounted to 3% of the world total and 11% of that received by developing countries, and has since then recovered back to a record US$ 45

billion in 2008. And while the recent global economic financial and economic crisis has led to a contraction of about 50% in global FDI flows in the first half of 2009, Brazil was precisely one of the emerging markets where that drop was smallest (of about only 25%, compared to 49% globally and more than 30% on average in Latin America, see Kekic 2009).

Brazil holds a portfolio of diversified interests in geographical terms, but there seems to be, at least since the mid-1990s, a marked concentration from the advanced industrial economies. According to 1995 data on FDI stock, the US consolidated itself as Brazil's leading investor over the years, accounting for 28% of the total FDI stock, followed by Germany (10.8%), Japan (9.6%) and Switzerland (6.6%). At the time, the European Union as a whole was responsible for about one third of total stock. In 2001, a mere eleven countries accounted for about 90% of foreign investment in Brazil: the US continued to predominate with 25%, followed by Spain with 15%, France with 11%, Netherlands with 10%, Portugal with 9%, Germany with 6% and Japan with 5%, while Canada, Italy, Luxembourg and the United Kingdom had a 2% share.

That overall share has since dwindled a little, dropping to 75% in 2005, but has remained mostly stable until today. Even a case like Mexico, which was the origin of 8% of all foreign investment in Brazil in 2005, has since then dropped to lower shares, reaching no more than 0.5% in 2008. Thus, from a purely descriptive point of view, it seems clear that the lion share of FDI inflows remain solidly the responsibility of firms from low-risk countries.

1.4 Problem Statement

Foreign Direct Investment (FDI) is capital provided by a foreign direct investor, either directly or through other related enterprises, where the foreign investor is directly involved in the management of the enterprise. Until the1980s, most developing countries viewed FDI with great weariness. In recent years, however FDI restrictions have been significantly reduced. Most countries offer incentives to attract FDI, such as tax concessions, tax holidays, accelerated depreciation on plants and machinery, export subsidies and import entitlements etc.

A good investment climate is an essential issue for the private sector and therefore the economic development depends mostly on the investment climate, which also helps create more job opportunities and alleviate poverty. So examining investment limitations and obstacles is very important, as it provides useful information for decision makers and the government about the policies that should be taken or corrected, and the issues that should be tackled.

There are a number of economic and political conditions, policies and institutions that impact the investor's trust and persuade him to shift into another country. This issue is exacerbated by many objective, psychological, legislative, political, economic, and social factors. The practical experience in most developing countries proves that providing the good investment climate necessarily ensures a successful investment. The matter is concerned with the investor's efforts and the goals set before him to achieve with the pervasive climate in any country.

For Brazil, FDI is strongly promoted to help achieve its sustainable economic growth, improve employment conditions, accelerate modernization in

industrialization programme and raise living standards of its society. In the present era of globalization and liberalization, trade and investment activities are expanding rapidly, which leads to increasing multilateral relationships between Brazil and other countries regardless of their stage of development.

Therefore, this study has focused examining the FDI issues and the determinants of FDI inflow in Brazil. It tested the relationship between FDI inflow as dependent variable and independent variables of GDP, exchange rate and export over the period 1980-2009.

1.5 Research Questions

This study aims to answer the following pertinent questions:

1) Is there a positive relationship between GDP growth ratios, trade ratio- the degree of opennen with FDI inflow in Brazil?
2) Are the influencing independent variables significant in a affecting the dependent variable?

1.6 Objective of Study

This study aims to:

1) Assess the association between degree of opennen -trade ratio and FDI in the development trend of Brazil.
2) Assess the association between exchange rate and FDI.
3) Assess the association between GDP growth rate and FDI.

4) How some suggestions and leners for the consideration of the palling-makers for attracting more FDI.

1.7 Scope of The Study

The present study focused on examining the influence of determinants of FDI in the developing economy such as Brazil and tested the empirical relationship between the independent variables and dependent variable in the country during the period of 1990-2009.

1.8 Organization of Study

The present study comprised five chapters. The current (first) chapter initiates the study with introduction and background of FDI in Brazil. The second chapter wades into the researches that have been done in the past in related to FDI inflow and its determinants. Third chapter pertains to the research design and the hypothesis in paving the data of the present study. Furthermore, explains the data collection. Chapter four focuses on results and findings of the research study. Finally, chapter fifth narrates the conclusion.

CHAPTER TWO: LITERATURE REVIEW

2.1 Towards Theoretical Underpinning

In the existing literature, various theories are developed by economists to explain the existence and expansion of FDI in open economies. It is, however, worthwhile to review broadly some of these theories and explanation for providing theoretical underpinning to the present study as under.

In the theory of location, Dunning (1993) and Vernon (1974) explained locational decisions and activities of multinational enterprises (MNEs) from the aspects of production cost and market size of the host countries. The expansion of foreign firms in the host countries is commonly in response to the calculations of labour cost, transport cost, tax rates and other costs. In searching for profits and risk reduction, MNEs' production activities are diversified with emphasis on industrial innovation in existing markets. Firms, in deciding whether to become a multinational corporation, compare the costs of going abroad and potential benefits. Indeed, the willingness and ability to undertake FDI by the firm can be explained in different theoretical frameworks.

By and large, Dunning's eclectic approach OLI paradigm ("O" – ownership, "L" – location, "I" internalization) introduced in 1958 and further developed in the '70s up until today recognised as the major FDI explanation theory. According to the theory, the decision about geographical diversification of production is mostly dependant on

the possible advantages that the certain ownership, location and internalization can offer, specifically:

("O" - if the ownership of a product, a production process, patents, commercial secrets, human capital, a superior quality reputation, or superior management increases investor's competitiveness then he will invest;

("L" – if the foreign location of production is more profitable because of customs barriers (transportation costs, customs duties), host country's cheaper productive factors, access to markets;

("I" – if the investor wants to internalize the location or ownership advantages rather than to exploit this advantage by licensing or cooperating.

Indeed, several researchers used the OLI concept in order to examine the problem of FDI determinants. Bevan and Estrin (2000) studied FDI flows from 18 market economies to 11 transition economies in the eclectic empirical framework. Following Caves (1982) they have empirically tested the hypothesis that the decision about FDI is basically derived on the consideration of expected profitability and hence depends on the following primary factors of host and home countries: market size (especially of the host country), inputs costs (resources and labor), economic and political risk of the investment.

Dunning's eclectic theory (1981, 1988) explains three factors that cause differences between countries in their international investment involvement and structures. First, capability to possess specific ownership advantages by the MNEs. The possession enables the enterprises of one nationality to compete with those of other nationalities in the host countries. Second the capability of the enterprises to internalise these

specific advantages. The internalisation is done either through extension of existing value-added chains of production or establishing new ones. Lastly, it is profitable for the enterprises to locate any part of their production facilities in their own country or a host country.

Referring to the theory of comparative advantage, Kojima (1978: 103-118) identified the characteristics of two different models of FDI, namely, trade-oriented investment model and the anti-trade-oriented investment. In the first model, trade is promoted when business decision-making in investment is subject to the comparative profit rates, which correspond to the comparative costs. The second model has its course place when the comparative profit rates contradict comparative costs due to existing monopolistic elements in industries. Kojima (1975) used different terms to explain the models of FDI, arguing that FDI works either as a complement to international trade (trade-creating type) or as a substitute for it (trade-destroying type). The trade-creating type of FDI is a complement to commodity trade and it creates a harmonious trade with the host country. It relates to the first model of FDI. Apparently, the trade-destroying type of FDI is a substitute for commodity trade, which relates to the second model of FDI.

2.2 Towards Country Case Study of Determinants

Regarding country case study, it's worthwhile to mention the FDI inflows to Latin America gradually increased toward a more rapid development since the 'petrodollars' boom fizzled near the end of the 1970's (Boeker 1993). In the last 10 years, Latin America has benefited from these inflows particularly to its

natural resource sectors on the back of a commodity boom. Increased stabilization amongst political and economic conditions and continuous, although wavering, growth in Latin America has provided investors with decreased risk and higher return rates than has previously existed (Birch 2001; Grosse 2001). The healthy growth rate for Latin America in 2005-2006 of 4.5%, although far below their emerging market counterparts experiencing 8.8% growth in Asia (World Bank 2006), provides investors with reason to invest. This supportive backdrop aligned with sound macroeconomic policies, including liberalized markets and more transparent financial flows (IADB 2006), has lead to policy makers capitalizing on the unique opportunity to attract more FDI to the region. Strengthened regional currencies, improved balance sheets of both sovereigns and corporate, and debt reduction have all added to the attraction of permanent investment forms in Latin America (World Bank 2006).

Strategic asset-seeking investments are by no means new, and its importance, specially for late industrializing countries, have been highlighted by earlier studies (Dunning *et al.*, 1997); indeed, the search for strategic assets has been always addressed as one of the main drivers of internationalization (Dunning, 1993 and 1998; Narula, 19966; Li, 2007; UNCTAD, 2005). However, the asset-seeking FDI from emerging countries is somewhat of a different sort of investments (Moon and Roehl, 2001). Moreover, the novelty in the present days is the speed and strength with which firms have been resorting to this type of investment, at much earlier stages than has been predicted by the seminal International Business theory (Dunning and Narula, 1006; Narula, 1996; Tolentino, 1993), eventually breaking a new ground in this theory and putting in question the traditional ones.

Other theories such as the product cycle theory of Vernon (1966, 1979), industrial organization theory of Hymer (1960/1976) and Caves (1971), internalization theory of Buckley and Casson (2000, 1976), internationalization process approach of Bell and Young (1998) and Johanson and Wiedersheim-Paul (1975), and risk diversification theory of Agmond and Lessard (1977) and Grubel (1968) are provided in the area of FDI too. For empirical studies, all the theories help identify many determining factors that influence FDI in host countries.

On the issues of analyzing the determinants of FDI, in their empirical analysis of Japanese direct investment flows in the individual countries of the European Community (EC) and in the United States, Barrel and Pain (1999) selected labour cost, anti-dumping cases, interest rates, exports and two dummy variables for accession of Spain and Portugal into the EC (set to zero before 1986 and unity thereafter) and for membership of the Exchange Rate Mechanism (ERM) of the European Monetary System as determining factors. Their results suggest that anti-dumping cases, labour costs and interest rates have influenced Japanese direct investment in the host countries. Barrel and Pain (1996) selected market size, as measured by Gross National Product (GNP), labour cost and capital cost and found them as important factors in the decision of US companies to invest abroad.

In their analysis of the determinants of FDI in China, Liu et al. (1997) selected nine variables namely, wage, GDP, exchange rates, exports, imports, interest rates, country risk, total cultural difference between China and the home country, and the geographic distance between China and the home country. Their estimation results

indicate that inward FDI was determined by most of their selected variables (except interest rate, country risk and total cultural difference). Wang and Swain (1997) selected factors to explain inflow of FDI in Hungary and China that included market size, as measured by GDP, cost of capital, labour cost, tariff barriers, exchange rates, import volumes, economic growth, productivity (only for China) and political stability. They found that market size, growth rate, cost of capital and political stability were the main determinants of FDI in Hungary while market size, labour cost, exchange rates, cost of capital and political stability were the main determinants of FDI in China.

By employing the production function, there are some studies use a range of methodologies; e.g Granger causality test, panel data estimation, and error correction model. We review the most recent studies linking FDI and economic growth. Marwah and Takavoli (2004) examined the effect of FDI and imports on economic growth in four Asean countries. The elasticity of the estimated production function of FDI was found to be significant in explaining the economic growth of all the four countries. Estimated foreign capital elasticity was found to be 0.086 while import contributed 0.443 to growth in the case of Malaysia. Clearly, they conclude that both FDI and imports had a significant impact on growth.

Recent study by Li and Liu (2005), on the other hand, uses the panel data of 84 countries to investigate the influence of FDI on growth. The study found a significant relationship between FDI and economic growth. Additionally, a stronger relationship was extracted when FDI interacted with human capital. This is because stronger human capital poses better absorptive capacities due to the complementary nature of

the FDI and the human capital, most importantly for the developing countries. In contrast, there have been several studies indicating a negative or no relationship between FDI and growth. Akinlo (2004) investigated the impact of FDI on economic growth in Nigeria using the ECM showed an insignificant negative influence of FDI on growth. The author further argued that extractive FDI might not extract significant impact on growth compared to the FDI in manufacturing sector. Additionally, FDI may influence growth negatively once there is an evidence of the foreign investors transferring profits, or other investment gains to their home country. Other noteworthy studies examining the influences of FDI employs the Granger causality test (Knoldy, 1995; Nair – Reichert and Weinhold, 2001) but the results vary according to country, method used and time frame under study.

In recent years, there have been a large volume of studies focusing on the factors that influence flow of foreign capital into industrialized and emerging markets. While some studies focused on socio-political factors, such as the opacity index of recipient countries (Hooper and Kim, 2007), others related transparency and institutional factors to FDI. For instance, Egger and Winner (2005) showed a positive relation between corruption and FDI in a sample of 73 developed and underdeveloped nations from 1995 through 1999. Asiedu (2001) found that the determinants of FDI are not the same in different world regions. By comparing the FDI flows into developing countries in Sub-Saharan Africa, she found factors such as return on capital and better infrastructure to have a positive effect on FDI in developing countries, while they had no significant effect in other African countries. Similarly, greater openness to trade had a greater impact on FDI into developing economies than it did in Africa.

The economy's openness is viewed as another significant determinant widely claimed to be critical in influencing the FDI flows into a developing country. For example, Nonnemberg et al. (2004), Sahoo (2006), and Botric et al. (2006) found that openness variable is parallel with the inflows of FDI and exerted positive influence on the FDI. The degree of openness, which reflects the willingness of country to accept foreign investment, has proved to be important in attracting capital (Nonnemberg et al. 2004) for traditional determinant, infrastructure has been suggested as playing a significant role in effort to attract FDI inflow. Kravis and lipesy, (1982), Culem (1988), Edwards (1990), Pistoresi (2000) and Ang (2008), inter alia, reported similar evidence.

Another group of studies pertained to identify variables related to market size and dynamics, such as GDP, exports, phone density index, and country risk (Moosa and Cardak, 2006), taking into consideration the direct impact on recipient countries or the indirect impact on countries that, in principle, compete for FDI volume (Garcia-Herrero and Santabá rbara, 2007). Studies along similar lines, Frenkel et al. (2004) went on to included factors relating to both the investing countries and target countries in order to identify the determinants of wealthy countries' FDI in emerging markets. Hsiao and Hsiao (2006), using data from 1984 to 2004, tested the causality between GDP and exports for Taiwan, South Korea, China, Malaysia, Singapore, Hong Kong, the Philippines, and Thailand and the FDI received by these countries.

Combining both the above-stated lines of research, Bengoa and Sanches-Robles (2003) use panel data from 18 Latin American economies from 1970 to 1999 to show that

economic freedom is a determining factor of FDI to the recipient countries and that economic growth is also directly influenced by FDI. Trevino and Mixon (2004) compared the macroeconomic and institutional differences between Latin American countries to explain multi-national corporation's FDI in these countries from 1988 through 1999 and identified a dominance of the effects of the institutional environment on FDI in Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela.

The Brazilian case presents itself as having different drivers to the internationalization of firms – much of which can possibly be explained by the competitive advantages that the country owns in natural resources, but also due to its t industrialization trajectory (inward looking, import substituting) and also a diverging mode to open up the economy in the 1990s (Narula, 2002). What remains to be investigated is whether firms in this country are going beyond their historical competitive advantages and searching for other competitive assets that will increase their performance both domestically and internationally.

On the other hand, the evidence on the effect of real exchange rate, whether in the short run or long run has been consistently mixed. Based on the currency area hypothesis, the assumption is that firms would not invest in countries with weaker currencies. Aliber (1970) has observed that capital market bias arises because income streams from countries with weaker currencies are associated with an exchange rate risk, and therefore, an income stream is capitalized at a higher rate by the market when it is owned by a weaker currency firm. Evidence to this, caves (1988), Froot and stein (1991), Blonigen (1995), Blonigen and Feenstra (1996) and Ang (2008)

observed a negative correlation between a country's exchange rate and FDI while Edwards (1990) and Hasan (2007) reported a positive relationship.

Similarly Ricci (2006) demonstrated that for small countries or currency areas, exchange rate volatility has a long-run negative effect on net inward FDI flows. Similar evidence was reported by Kozo and Shujiro, (2004) who claimed that a depreciation of the currency of the host country attracted FDI while high volatility of the exchange rate discouraged FDI. However, Barrel et al. (2003) found that increased exchange rate correlation would divert the FDI of United State from a larger market to a smaller market. This is because as exchange rate correlation converges towards one; exchange rate risk diversification becomes a weaker determinant of location at same time as other factors like rate of return become more relevant. Although Lui et al. (2006) found that weaker domestic currency will attract more inward FDI because it reduces the funding costs in source country, they do not accept the conjecture that sharp depreciation can bring benefits from FDI if this also leads to higher exchange rate volatility. They concluded that exchange rate volatility in general has strong negative effects on FDI. Nevertheless, Sader (1991) and Tuman and Emmert (1999) observed that exchange rate has an insignificant effect on FDI in a share regression.

In view of the above narrated literature review, By understanding such as exercise in tracing the influence of major determinants of FDI in Brazil, the present study seeks to recognise Brazilian investments along the wave of emerging markets FDI, pointing out their differences and similarities, as well contributing to the warm

hearted discussion about whether emerging FDI differs from traditional investments (Matthews, 2006; Dunning, 2006; Narula, 2006).

As such, follow an attempt is made to explain consents some of the major determinants of FDI, for the sauce of analysis and understanding.

2.3 On GDP, GDP Per Capita and GDP Growth Rate as Major Determinants

Economic growth is measured by GDP per capita growth. When foreign businesses look to invest, they undeniably inspect how economic growth is in the country. Economic growth indicates that businesses in the country are doing well, and is a place businessmen may invest or start a business.

Galego et al (2004) have found the host country's per capita GDP and openness to affect bilateral foreign investment flows positively. As long as any negative influence revealed distance and relative labor force compensate investment. The research covered fourteen investing countries and twenty-seven destination countries from West and East Europe over a time period of seven years (1994-2000).

In addition to traditional GDP, destination and compensation level, the degree of freedom variable was introduced by Hryniuk (2003) in his study of Belarusian FDI determinants. Landsbury et al. (1996) and Holland and Pain (1998) focused on the business environment and the privatization process as primary determinants of FDI in CEECs. Nunnenkamp (2002) in his comprehensive overview of the FDI determinants' studies for developing countries highlighted the so called traditional driven factors, such as population of the host countries, GDP per capita, its growth

rate, administrative barriers, entry restrictions and risk factors. However, the researchers also investigate the importance of other, non-traditional FDI determinants. They asserts that today such factors as the availability of local skills (human capital formation) and trade openness (revealed to be important for the manufacturing sector) can enter the class of major traditional FDI driven factor. Furthermore, the researchers agree with Kokko (2002) on the issue that today incentives, rather than determinants, can be increasingly important FDI driving factor.

There has been much research done with the goal of examining the effects foreign direct investment has on a host country.

Fedderke and Romm (2006) have conducted similar research to what is examined in this study, except they observed South Africa as opposed to China. They used data from 1956-2003, and find that growths in market size as well as integration into the world economy are both important factors for determining levels of FDI into South Africa.

Shah'abadie and Mahmudie (2006), find that domestic investment and economic growth, as well as human capital, are key factors in determining FDI. They state that, "The results of the studies approved that FDI depends on...domestic investment...economic growth...and human capital," and these factors "...have a direct and positive impact on FDI in Iran." Their study focuses on Iran, using data from 1959-2003.

Important obstacles in the econometric identification of FDI determinants are dealt

with in studies such as Li and Liu (2005), which employs panel data from 84 countries for the period 1970-1999 and applies simple and simultaneous equation techniques to reveal evidence of an endogenous relationship between FDI and economic growth from the mid-1980s onwards. This study shows that the endogenous nature of FDI and economic growth should always be kept in view, as FDI tends to cause growth in the host country market, which in turn becomes more attractive to FDI as the internal market grows. Russ (2007) shows that, when exchange rate and projected sales for the recipient country are jointly determined by macroeconomic variables, FDI regressions to exchange rates and exchange rate volatility are subject to bias. The company's response to interest rate volatility would differ, depending up on whether volatility is the result of disturbances in the company's home country or the FDI recipient.

In contrast to the large number of comparative studies of FDI recipient countries, studies such as the one by Sun et al. (2002) focus on internal determinants of a specific country to identify the determinants of FDI. In that study, the spatial and temporal variation in the determinants of FDI across several regions of China were investigated, and the findings revealed a negative effect of FDI flows and accumulated FDI on domestic investment.

Haussmann and Fernandez-Arias (2000), however, challenged the view showing evidence that poor-performers, in terms of lower GDP per capita and more macroeconomic stability, tend to attract more FDI. They also find that countries with poorer institutions tend to attract more FDI as a share of total private capital flows. Another variable for which there is clearly no consensus is human capital. While it

generally helps increase the marginal productivity of capital, this might not be the case in low-skill labour intensive countries where FDI is mostly attracted by low salaries (Chantasasawat et al., 2003).

Uppenberg and Riess (2004), present a dilemma regarding FDI and domestic economic growth, which they refer to as the growth-FDI nexus. They state that "...while a strong positive correlation between inward FDI and economic growth exists...it is not clear whether the causality runs from FDI to growth or vice versa...and growth-enhancing policies in general are more promising than specific support for FDI." They are able to conclude that economic growth in general is a more important determinant of FDI than specific policy strategies attempting to boost FDI. While their study examines Europe, their findings regarding the growth-FDI nexus are vital. Uppenberg and Riess are able to confirm empirically that domestic economic growth is a key variable in determining factors influencing FDI inflows into a country.

Several macroeconomic conditions are expected to affect FDI. GDP per capita represents wealthier nations equalized by size of population. As Grosse (1997) and Jensen (2006) demonstrate countries with higher per capita GDP are expected to promote future MNC involvement, as growth is more sustainable. Economic growth rates are expected to demonstrate to investors the potential for higher return values on investments (Cho 2003) and are associated with higher levels of FDI (Biglaiser and DeRouen 2006; Birch 1991; Brewer 1993; Tuman and Emmert 2004; Gastanaga, Nugent and Pashamova 1998).

The so-called BRIC countries are the exception to the majority of developing nations. Referring to Brazil, Russia, India, and China, the collective term "BRIC" was coined in 2003 by economists at Goldman Sachs, who projected that the BRIC countries would overtake half of the G6 countries in regards to gross domestic product (GDP) by 2050 (Bird and Cahoy, 2007: 400). As of January 2010, the BRICs have only exceeded expectations, currently accounting for over 43 percent of the world's GDP, a number greater than the United States and Europe combined (Hasenclever and Paranhos, 1). The global financial crisis finally put to rest the idea of Brazil as the "eternal country of the future," a tag given by writer Stefan Zweig in the mid-twentieth century. The country presently has a growth rate consistently averaging around 4-5 percent and an extremely diversified economy that has proven more resilient than most to the recession (the drop in foreign direct investment in Brazil was only 25 percent compared to 49 percent globally) (Purushothaman, 2005: 8). With such emerging economies, the BRIC nations carry a weight in the international arena previously unbeknownst to developing nations. In large part, the BRICs do not have the same worries as other developing nations in regards to FDI and, since the liberalization of their economies in the mid-1990s; they have shown resistance to pressures from developed nations that had once crippled them.

Gone are the days when the simple inclusion of the developing nations in international institutions was enough. Despite specific and diversified domestic agendas, the BRICs are united in their quest for a reshaping of these institutions that will better account for the interests of developing nations. For the most part, they do not want to overthrow the current transnational systems of governance, but simply desire a more prevalent role within them that would allow these countries to make

certain policies more consistent with their own development course (de Almeida, 2009).

Ang (2008) finds that real GDP is found to have a significant positive impact on FDI inflows, and there is evidence that growth rate of GDP exerts a small positive impact on inward FDI. Ang's findings are significant because this paper uses GDP per capita growth as a variable for determining if domestic economic growth has an effect on FDI inflows into China.

While JožeMencinger has done research conducted on eight transition countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia) in the period 1994-2001 and he found a negative correlation between real GDP growth and FDI inflow. These two studies were opposite each other.Billington (1999); Cheng & Kwan (2000), have found that the market size, expressed by real GDP or GDP per capita is found mostly to have a significant positive impact on FDI.

2.4 View on Trade Ratio as a Degree of Openness

Whilst access to specific markets - judged by their size and growth - is important, domestic market factors are predictably much less relevant in export-oriented foreign firms. A range of surveys suggests a widespread perception that `open' economies encourage more foreign investment. One indicator of openness is the relative size of the export sector. Singh and Jun's 1995 study indicates that exports, particularly manufacturing exports, are a significant determinant of FDI flows and that tests show that there is strong evidence that exports precede FDI flows. China, in particular, has

attracted much foreign investment into the export sector.

In the sphere of trade, export and FDI have a causality relationship. Singh and Jun (1995) found that Singapore is a country different from other five countries in which trade policy had no significant effect on the inward FDI flows. Furthermore, Zhang and Ow (1996) concluded that ASEAN'S direct investments in China shows complementarily to trade, which corresponds with its comparative advantage. Moreover, by examining the relationship between exports and FDI using a two country model, Jorge (1985) found FDI to be a substitute for exports. However, this finding depends on the relative cost of different sectors. Foreign country sectors with higher production costs would increase imports while lower production costs would increase exports.

Bevan and Estrin, (2000) approximated the liberality of the trade regime and as part of the potential export propensity of the multinational company in the host country by the openness of its economy. They took imports from the EU-15 as they considered export to be the subject to both domestic and EU-15 trade policy regulations. Furthermore, export can correlate with the announcement of the EU accession variable.

And, there are many studies conducted on the influences of inflation on FDI. Literature on FDI and trade has mainly concentrated on export-substituting or export-complementary nature of foreign direct investment (FDI). However, the relationship between FDI and trade has become more complex in the current regime wherein several developing countries have initiated import liberalization and entered into

trading arrangements.

Binh and Haughton, 2002; Worth, 2002), Banga (2004), show that countries with a higher level of international trade attract more FDI. The reason is when these countries import a lot of goods and services it means there is a good purchasing power. Eaton and Tamura, 1994, conducted in GANA, found that import and export affect FDI inflow. Also, Grosse and Trevino, 1996 found the same result beside to tariff barriers.

FDI represents control of production as well as a flow of capital, and it is influenced by other factors as well. In the traditional trade approach, trade and FDI might be seen as substitutes, but as other factors affect FDI, such as technology and firm-specific assets, they may also be complements (Markusen, 1984 and 1995). Examples of firm-specific assets are brand names (acquired through advertising) or firm specific knowledge (acquired through R&D).

Leichenko and Erickson (1997) consider the effects of FDI on the foreign trade of U.S. regions. Their study examines the relationship between manufacturing export performance and foreign direct investment in manufacturing industries across U.S. states for the period from 1980 through 1991. In their model, state export levels are determined by state levels of FDI and other explanatory variables.

Also for study of Dueñas-Capara (2006) determines the firm-level characteristics affecting the export performance of firms in three main manufacturing sectors in

the Philippines. The new econometric model tested for foreign affiliation and found that, among other factors, it has the most influence on a firm's export capacity.

Rodríguez and Pallas (2008) utilize a panel data to examine the determinants of FDI in Spain for the period 1993-2002. Rodríguez and Pallas (2008) consider that human capital and the export potential of the sector are the most important determinants.

2.5 Towards Exchange Rate's Significance

Contributions to this literature include Froot and Stein (1991), Blonigen (1997), Klein and Rosengren (1994), Guo and Trivedi (2002) and Kiyota and Urata (2004). Theoretical considerations based on the relative wealth and relative labor cost effects suggest that a stronger US dollar may deter FDI into the US. Dixit (1989) further develops the concept of hysteresis by applying the theory of option pricing from financial economics to analyze investment under uncertainty. Dixit shows that greater price volatility leads to a wider range of prices in which inactive firms do not enter and active firms do not exit.

Maniam (2007) used an OLS estimator to analyse the determinants of FDI in Latin America for the period 1975 to 2003. The author concluded that FDI has increased rapidly in Latin America. According to Maniam (2007:13) there are relationships between the economic variables and investors expectations, latter on the host countries need to develop better their strategies. Jeon and Rhee (2008) analyse the

determinants of Korea's FDI from the US for the period 1980- 2001. The authors conclude that Korea's FDI inflows from the US have a significant association with real exchanges rates, relative wages costs and interest rate differentials using a pooled OLS estimation.

Another studies on the relationship between exchange rate on the one hand, and FDI, on the other, for SSA countries[1] are very scanty. Mowatt and Zulu (1999) in a study of the South African investment in the Southern and Eastern African region, identified exchange rate as one of the major barriers to FDI in Zimbabwe, Botswana and Mozambique.

Similarly, in a survey of the southern African countries, Jenkins and Thomas (2002) found that about 25 per cent of the total firms surveyed identified exchange rate risk as an important determinant of FDI in the sub-region.

An attempt was made by Bleaney and Greenaway (2001) to examine the impact of the level and volatility of real effective exchange rate on investment and growth for fourteen SSA countries. The study found that exchange rate volatility has a strong negative effect on investment. However, the focus of the study was on total investment, not FDI. In a recent series of country-specific studies commissioned by the African Economic Research Consortium (AERC), although Ajayi (2004), Khan and Bamou (2005) and Mwega and Ngugi (2005) recognised the possible effect of exchange rate volatility on FDI, they did not explicitly examine the relationship empirically.

Froot& Stein (1991) ;Erdal&Tatoglu (2002); Kerr & Peter ()2001; Love &Lage-Hidalgo (2000) have found that exchange rate movements can influence FDI by affecting the currency cost of acquiring an asset abroad, that's because a decrease in domestic currency value against foreign currency value or depreciation of domestic exchange rate will make it less expensive for a foreign investor to invest in the domestic country as the cost of acquiring asset becomes cheaper. Thus, depreciation of exchange rate of a country will make inflows of FDI in that country rise.

Joseph D. ALBA, Peiming WANG and Donghyun PARK, the data of the period (1980-1990), in their regression results suggest a positive significant impact of the exchange rate level on the rate of FDI.

2.6 Views on Inflation

The rate of inflation (INFLATION) acts as a proxy for the level of economic stability, considering that one of the classic symptoms of loss of fiscal or monetary control is unbridled inflation. Considering that investors prefer to invest in more stable economies, that reflect a lesser degree of uncertainty, it is reasonable to expect that inflation would have a negative effect on direct investment.

From the MNE's viewpoint, high inflation creates uncertainty regarding the net present value of a costly, long-term investment. For these reasons, companies may avoid making investments in countries with high inflation. Studies published before Latin American countries made significant reforms (Schneider & Frey, 1985) as well as those published after reforms were enacted (Trevino et al., 2002) confirmed that

companies invested less in developing countries with high inflation rates. By and large, some research on macroeconomic policy has shown that increased inflation results in lower levels of FDI and that, historically in Latin America, inflationary problems have led to financial collapse and capital flight (Fraga 2004).

2.7 Towards Interest Rate as an Influencing Variable

Returns measured as the real interest rate, is a proxy for the expected risk free return to foreign investment as well as the cost to domestic capital in the case of a joint domestic and foreign investment. Risk measured as the interest rate spread has a negative effect. The return, inflation and risk factors might covariate in their impacts on inflow of FDI. The common trend in FDI varies greatly by economic region. Indebtedness has negative impacts on foreign direct investment. This is to be expected for the reasons that potential foreign investors steer clear of countries with high debt, fearing both macroeconomic instability and devaluation.

On another hand, the FDI theory suggests that real interest rate differential between host and source countries may have a positive impact on inward FDI. This is because foreign investors who raise relatively cheap fund in the source country have higher competitiveness over rivals in the host country. Gross and Trevino (1996) emphasized that the relatively high real interest rate in the host country has a positive impact on inward FDI. However, the direction of the impact could be in reverse if the foreign investors depend on the host country's capital markets in raising FDI fund.

By and large, interest rate is measuring of the cost of capital. A higher interest rate implies more costly investment. Therefore, the higher interest rate, the more is likely to defer FDI and the relationship between FDI and interest rate is expected to be negative. Love and lage-hidalgo (2000) and Erdal and Tatoglu (2002), among others, find that an increase in the interest rate leads to a decrease in FDI.

2.8 Concluding Remarks

In view of the plethora of available literature, we have resorted to a selective approach in picking up certain major relevant ideas in the above section of literature review. It, however, found that there is no updated study on Brazil can be traced. Hence, this situation made this study of significance value since it attempted to conduct a fresh study related to the Brazilian economic situation.

CHAPTER THREE: RESEARCH DESIGN

3.1 Introduction

As mentioned at the beginning, this study is towards examining the influence of the determinants of FDI in the Brazil and test the empirical relationship between foreign direct investment (FDI) and macroeconomic factors, such as gross domestic product (GDP), GDP per capita, GDP growth rate, the degree of opennen- trade ratio, exchange rate, inflation rate and rate of interest. Accordingly, the current chapter is about the hypotheses which constructed in the association between FDI and macroeconomic factors. Furthermore, in this chapter, the methodology to assess this relationship is explained and figured. Consequently, the research framework is illustrated at the beginning of present chapter.

3.2 Research Framework

The present study broadly aims to test the influences of macroeconomic factors on FDI inflows. However, the macroeconomic variables in the host country have the most impact on the multinationals MNCs. Therefore, the international businesses should assess the economic situations before making a decision.

The following is the theoretical framework which illustrates the variables which are included in this study to identify their influences on FDI inflows in Brazil.

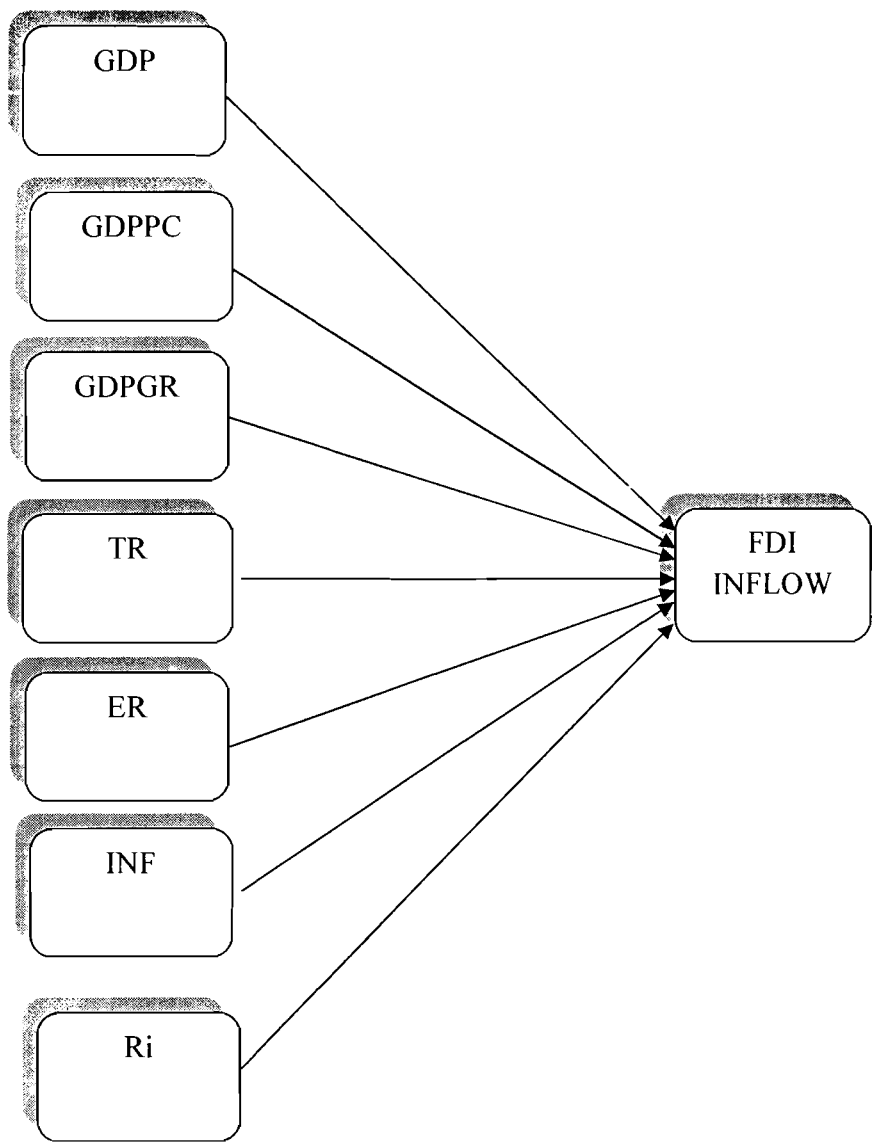

Figure 3.1: Theoretical Framework

3.3 Hypotheses Development

The investigation is confined to certain major hypotheses pertaining to empirical relationship narrated below

3.3.1 Gross Domestic Product (GDP) and FDI

According to the extended Gravity Model, GDP is incorporated into the model as an explanation of the economic size of countries in many studies (see Martinez-Zarzoso, 2003; Martinez-Zarzoso and Nowak-Lehmann, 2004; Pelletiere and Reinert, 2004).

Pelletiere and Reinert (2004) found a high level of income in the host country indicates a high level of production, which increases the availability of investment. In contrast,

Martinez-Zarzoso (2003) and Martinez-Zarzoso and Nowak-Lehmann (2004) discovered a high level of income in home countries suggested a higher amount of source of funds to invest overseas. GDP, GDP per capita, or the GDP growth rate is the national income indicator of the size of economies, which is related to total of production, consumption, and distribution of goods and services of a country, as identified by Gopinath and Echeverria (2004). GDP also measures the level of the country's economic development and domestic market opportunities for investors.

By and large, It is widely recognized that foreign direct investment (FDI) produces economic benefits to the recipient countries by providing capital, foreign exchange, technology, competition and by enhancing access to foreign markets (e.g., Brooks and Sumulong, 2003; World Caves 1974, UNCTAD 1991, Romer 1993, Bank 1999, Crespo and Fontura, 2007). It is argued that FDI can also enhance domestic investment and innovation (Brooks and Sumulong, 2003).

Empirically, the positive effect of host country economic growth on FDI inflow has been confirmed by various studies (see Veugelers, 1991; Barrell and Pain, 1996; Grosse and Trevino, 1996; Taylor and Sarno, 1999; Trevino et al., 2002). The effects of FDI on subsequent economic growth has been shown to be both positive (Dunning, 1993; Borensztein et al., 1998; De Mello, 1999; Ericsson and Irandoust, 2000; Trevino and Upadhyaya, 2003) and negative (Moran, 1998). Generally, the positive GDP effects of FDI have been more likely when FDI is drawn into competitive markets.

According to the above our hypothesis will be:

H1: There is a positive relationship between GDP and FDI inflow in Brazil.

3.3.2 Gross Domestic Product per Capita (GDP Per Capita) and FDI

The variable per capita GDP was included because richer countries appear to trade largest, because they liberalize more as they develop. As a consequence, the coefficient of per capita GDP is also expected to be positive. It seems reasonable to assume that FDI would be greater for wealthier economies. Economically developed countries with wealthier domestic markets are able to generate more capital for risky investments, are endowed with greater resources and capacities and thus more apt to internationalize. We, as a result, expect the wealth of the domestic market to affect the amount of manufacturing investments abroad (Vernon, 1966). A find confirmed by Tallman's (1988) study of FDI inflows in the United States (albeit Grosse and Trevino 1996 find no effects of GDP *per capita*). GDP *per capita* is used as a proxy for the wealth of a country.

UNCTAD (1998, 2000) emphasizes that some of the foreign investors invest to developing countries, mainly to serve the host countries' market. Domestic market size and market potentials might be the major determinants in attracting such a type of foreign investors. Empirical literature often found the size of the market and the market potentiality, typically proxied by the level of GDP and GDP growth rate, significantly affect FDI inflow (e.g., Bandera and White, 1968; Schmitz and Bieri, 1972; Root and Ahmed, 1979; Torrisi, 1985; Schneider and Frey, 1985; Petrochilas, 1989; Wheeler and Mody, 1992; Jun and Singh, 1996; Nunnenkamp and Spatz, 2002). Thus, it is reasonable to postulate the following hypothesis:

H2: There is a positive relationship between GDP per capita and FDI inflow.

3.3.3 Gross Domestic Product Growth Rate (GDPGR) and FDI

The relationships between FDI and GDP growth rate have been widely discussed in recent years. Some studies have shown that FDI is a causal factor in growth in developing countries, particularly when a certain minimum threshold for human capital and/or trade openness is met in the recipient countries (Borenzstein, de Gregorio and Lee, 1998; Zhan, 2001; Blonigen and Wang, 2005). In contrast, Carkovic and Levine (2005), using new econometric techniques, find no evidence of a positive impact of FDI on GDP growth rate, while Calderón, Loayza and Serven (2004) find that the causal relationship goes in the other direction: GDP growth rate leads to FDI.

Mencinger (2003), who studied the transition economies of Eastern Europe, concludes that FDI had a negative impact on GDP growth rate, attributing this finding to the prevalence of merger-and-acquisition FDI in that region. Other studies show more varied evidence. For example, Chowdhury and Mavrotas (2005) find a bidirectional causal relationship between FDI and GDP growth rate in the cases of Thailand and Malaysia, but conclude that in Chile the direction of causality is from GDP growth rate to FDI.

By and large, working with data from several Latin American countries, Cuadros, Orts and Alguacil (2004) find that FDI has had a positive effect on GDP growth rate only in Mexico. Basu, Chakraborty and Reagle (2003) conclude

that in more open economies the relationship between FDI and GDP growth rate is bidirectional, but that in more closed economies it is unidirectional: from GDP growth rate to FDI. Choe (2003) also finds evidence of a bidirectional correlation between FDI and GDP growth rate, and points out that the strongest effects run from GDP growth rate to FDI. To empirically examine the role of FDI on economic growth, it is reasonable to postulate the following hypothesis:

H3: There is a positive relationship between GDP growth rate and FDI.

3.3.4 Trade Ratio (TR) and FDI

Trade flows (sum of exports and imports of the host country) are expected to have a positive effect on the FDI, which suggests that trade and FDI of MNCs in Latin America are based on complementary strategies. In terms of trade and trade openness influences on the FDI inflows, several studies have pointed out, that there is a negative correlation between trade and FDI, which characterize a tariff-jumping strategy of MNCs in LDCs (Belderbos, 1997; Blonigen, 2002). However, there is also evidence that FDI and trade are not substitutes, but tend to be complementary.

The Government of Brazil offers a variety of tax, tariff, and financing incentives to encourage production for export and the use of Brazilian-made inputs in domestic production. For example, Brazil's National Bank for Economic and

Social Development (BNDES) provides long-term financing to Brazilian industries through several different programs. The interest rates charged on this financing are linked to international rates and are generally lower than the interest rates on alternative domestic financing. One BNDES program, FINAME, provides capital financing to Brazilian companies for, among other things, expansion and modernization projects as well as acquisition or leasing of new machinery and equipment.

The trade openness of host countries is a critical policy indicator that influences both FDI and trade. Openness of a country to outside investments and trade is likely to have a positive effect on U.S. FDI in processed food. A country that is more open is often forced to improve institutions and infrastructure and is likely to be less corrupt (Ades and Di Tella 1999). Trade liberalization sometimes includes investment liberalization and increased investment opportunities. In addition, Resmini (2000), studying manufacturing investment in Central and Eastern Europe, finds that these largely vertical FDI flows, benefit from increasing openness, as might be expected in a sector for which international trade flows in intermediate and capital goods are important. Singh and Jun (1995) also find that export orientation is very important in attracting FDI, and link this to the rising complementary of trade and FDI flows.

International trade and foreign investment are often viewed as complementary (Balassa, 1985). Following the results of previous studies, we expect higher exports to Brazil to be linked to higher levels of FDI.

H4: There is a positive relationship between Trade ratio and FDI in Brazil.

3.3.5 Exchange Rate (ER) and FDI

The impact of trade and foreign exchange policy was examined, among others, by Cushman (1985), Froot and Stein (1991), Hufbauer et al. (1994), and Goldberg and Kolstad (1995). Hufbauer et al. (1994) show that the size and openness of the host country are important determinants of FDI flows from the United States and Japan. The relationship between FDI flows and exchange rate was examined by Froot and Stein (1991) who found that FDI inflows are negatively correlated with the value of the dollar. This implies that a depreciated currency can stimulate in buying control of productive corporate assets. Cushman (1985) focused on the effects of real exchange rate risk and expectations on FDI. The results show significant reductions in US direct investment associated with increases in the current real value of foreign exchange, and very strong reductions associated with the expected appreciation of real foreign exchange. Goldberg and Kolstad (1995) explore the implications of short-term exchange rate variability on FDI flows and support the hypothesis that volatility contributes to the internationalization of production.

The relationship between FDI flow and the exchange rate of the host country's currency rate is widely studied. Depreciation in the host country's currency vis-à -vis other countries should increase the FDI inflow as foreign currency denominated assets become cheaper (Scott-Green and Clegg, 1999).

Loree and Guisinger (1995) suggest that the effect of policies on FDI may differ between developing and developed countries. Finally, Castanaga et al (1998) found that exchange rate distortions in the host country do not have a negative effect on FDI flows while growth expectations exert a positive effect and corruption a negative one. Hence, it's worthwhile to mention the following hypotheses:

H5: There is a relationship between exchange rate and FDI inflow in Brazil.

3.3.6 Inflation Rate (INF) and FDI

Inflation rate is considered a proxy for the quality of macroeconomic management. A high inflation rate indicates high economic tension in a country, and reflects the inability or unwillingness of the government to conduct a stable economic policy. It can be argued that if foreign investors are risk-averse (or even risk-neutral), a higher inflation rate may lead to a reduction in FDI in the host country, because investors will not risk profits expected from investment. As long as there is uncertainty, foreign investors will demand a high price to cover their exposure to inflation risks, and this, in turn, will decrease the volume of investment. Thus, to encourage investment, the stability of the inflation rate is important.

By and large, other studies said; the inflation rate is used to measure the level of economic stability. The higher inflation rate and its persistence over several years indicate a macroeconomic instability. Thus, a negative correlation is expected between inflation and FDI (Sun et al, 2002, Naudé and Krugell, 2007).

H6: There is a relationship between inflation and FDI in Brazil.

3.3.7 Interest Rate (Ri) and FDI

It is the bank rate charged on the short- and medium-term borrowing of the private sector. Interest rates can be decreased or increased by monetary policy of the government to control inflation in an economy. To obtain the annual interest rate in real terms, annual data of the inflation rate of the country were used.

In order to keep inflation under control, during the years 2000-2007, Brazilian economic authorities have maintained a policy of elevated interest rates to finance consumption. Although this has had a positive effect on the stabilization of the economy, one possible negative consequence concerns the impact of high-interest rates on retail sales. This impact could be transmitted to FDI, mainly for companies already established in Brazil. As well as If we take real interest rate as a measure of economic policy credibility – and that tends to be the case in most emerging markets - the higher the real interest rate in the host country, the greater the probability of policy changes. Then, in the latter case, a negative relationship between this variable and foreign capital stock scan to be reasoned. Based on this logic, we propose as follows:

H7: There is a relationship between interest rate and FDI in Brazil.

3.4 Defining the Variables

The variables in this study divided into two categories as the following:

3.4.1 Independent Variables

It consists some of macroeconomic factors. A brief description about the macroeconomic variables as the following:

1. GDP:

Like the other previous studies, the GDP in this study is real GDP. Therefore, real GDP is an inflation-adjusted measure that reflects the value of all goods and services produced in a given year, expressed in base-year prices. It often referred to as "constant-price", "inflation-corrected" GDP or "constant dollar GDP".

In addition, it's the monetary value of all the finished services and goods produced within a country's borders in a specific time period, though Gross domestic product is usually calculated on an annual basis. It includes all of public and private consumption, investment, government outlays and exports fewer

imports who occur within a defined territory. GDP is related to national accounts, a subject in macroeconomics.

2. GDP Per Capita:

A measure of the total output of a country that takes the gross domestic product (GDP) and divides it by the number of people in the country, the per capita GDP is especially useful when comparing one country to another because it shows the relative performance of the countries. A rise in per capita GDP signals growth in the economy and tends to translate as an increase in productivity. As well as (GDP) is one of the primary indicators of a country's economic performance. It is calculated by either adding up everyone's income during the period or by adding the value of all final goods and services produced in the country during the year. Per capita GDP is sometimes used as an indicator of standard of living as well, with higher per capita GDP being interpreted as having a higher standard of living.

3. GDP Growth Rate:

The GDP growth rate is driven by retail expenditures, government spending, exports and inventory levels. Rises in imports will negatively affect GDP growth.

The GDP growth rate is the most important indicator of economic health. If GDP is growing, so will increase business, jobs and personal income. If GDP is

slowing down, then businesses will hold off investing in new purchases and hiring new employees, waiting to see if the economy will improve. This, in turn, can easily further depress GDP and consumers have less money to spend on purchases. If the GDP growth rate actually turns negative, then the U.S. economy is heading towards a recession.

4. Trade Ratio:

The balance of trade (or *net exports*, sometimes symbolized as *NX*) is the difference between the monetary value of exports and imports of output in an economy over a certain period. It is the relationship between a nation's imports and exports. A positive balance is known as a trade surplus if it consists of exporting more than is imported; a negative balance is referred to as a trade deficit or, informally, a trade gap. The balance of trade is sometimes divided into a goods and a services balance.

Any commodity or good transported from one country to another country in a legitimate fashion, typically for use in trade. International trade is an exchange of capital, goods, and services across international borders or territories.

Trade has lower risk but higher liquidity problems compared with FDI, but Guerin (2006) argued that the developed countries (such as US, Japan, and UK, which are the major FDI in Thailand) may prefer FDI to trade when access to larger markets is the key motivation.

5. Exchange Rate:

It is a rate at which one currency may be converted into another. The exchange rate is used when simply converting one currency to another (such as for the purposes of travel to another country), or Exchange rate is defined as the domestic currency price of one unit of foreign exchange. Under flexible exchange rates, there are changes in the price of foreign exchange referred to as currency depreciation or appreciation. A currency depreciates when it becomes less expensive in terms of foreign currencies. For instance, if the exchange rate of the US dollar changes from BRL1.70 Per US dollar to BRL1.20 Per US dollar, the US dollar is depreciating.

In international trade, the real depreciation makes exports from the host country cheaper. This attracts home country firms to increase their investments in the host country and export their products back to their home country and to the world.

In fact, exchange rate can produce two different and opposite effects over FDI. In the long run, as a consequence of turning the assets cheaper, the currency depreciation implies growth of FDI (Scott-Green and Clegg, 1999). However, in the short run the currency depreciation, standing for risk perception, should impact negatively.

In general the higher the ratio of Brazilian's currency/US$ exchange rate to the home country currency/US$ exchange rate, will be higher inward FDI in Brazil.

In this study, the domestic currency (Brazilian Real (BRL)) is pegged with U.S. dollar.

6. Inflation Rate:

In economics, inflation is a rise in the general level of prices of goods and services in an economy over a period of time. When the general price level rises, each unit of currency buys fewer goods and services. Consequently, inflation also reflects erosion in the purchasing power of money – a loss of real value in the internal medium of exchange and unit of account in the economy. A chief measure of price inflation is the inflation rate, the annualized percentage change in a general price index (normally the Consumer Price Index) over time.

Inflation's effects on an economy are various and can be simultaneously positive and negative. Negative effects of inflation include a decrease in the real value of money and other monetary items over time. Uncertainty over future inflation may discourage investment and savings, and high inflation may lead to shortages of goods if consumers begin hoarding out of concern that prices will increase in the future. Positive effects include ensuring central banks can adjust nominal interest rates (intended to mitigate recessions), and encouraging investment in non-monetary capital projects.

Economists generally agree that high rates of inflation and hyperinflation are caused by an excessive growth of the money supply. Views on which factors

determine low to moderate rates of inflation are more varied. Low or moderate inflation may be attributed to fluctuations in real demand for goods and services, or changes in available supplies such as during scarcities, as well as to growth in the money supply. However, the consensus view is that a long sustained period of inflation is caused by money supply growing faster than the rate of economic growth.

7. Interest Rate:

The rate charged by lenders, expressed as a percentage of the principal, to borrowers for the use of assets. Interest rates typically are quoted on an annualized basis known as the annual percentage rate (APR). The assets borrowed could include cash, consumer goods, and large assets such as a vehicle or building. Interest is essentially a rental, or leasing charge, to the borrower for the asset's use. In the case of a large asset such as a vehicle or building, the interest rate sometimes is called the lease rate. When one opens a bank account, one basically is lending the bank his or her money. In return, the investor charges the bank interest, which is what the bank pays the investor.

3.4.2 Dependent Variable

The dependent variable is Foreign Direct Investment FDI. Foreign direct investment is that investment, which is made to serve the business interests of the investor in a company, which is in a different nation distinct from the investor's country of origin.

Foreign investment refers to long term participation by home country into other countries. It usually involves participation in joint-venture, management, expertise and transfer of technology.

Foreign direct investment is measured as a percentage of a country's total GDP using the World Banks' World Development Indicators (World Bank 2006). This measure equalizes larger countries that make up nearly two-thirds of the regions total foreign direct investment (Chan and Mason 1992; Oneal 2001; Li and Resnick 2003).

3.5 Regression Equation towards Estimation

In this research, the method to empirically test the association between the independent variables (GDP, exchange rate, GDPGR, GDPPC, TR, inflation and rate of interest) and dependent variable (FDI) is the REGRESSION. The model that will explain the impact of independent variables is as the following:

FDI t = b0 + b1 (GDP)t + b2 (EXR)t + b3 (GDPGR)t + b4 (GDPPC)t + b5 (TR)t + b6 (INF)t + b7 (Ri)t + □

Where:

α = constant

GDP = Gross Domestic Product

EXR = Exchange Rate

GDPGR = Annual growth rate of GDP

GDPPC = Gross Domestic Product per capital

TR = Trade (% of GDP)

INF = inflation

Ri = rate of interest

□ = Random Error

3.6 Data Collection

The data in this study have been collected from authentic sources such as DataStream, UNCTAD and other past studies of reputation. It covers the period from 1990- 2009 in Brazil.

3.7 Summing up

In present chapter, the hypotheses have been explained and the research framework has been illustrated. The definition of variables, the data and the method of analysis and the model have been spelt out.

CHAPTER FOUR: ANALYSIS OF FDI DETERMINANTS IN BRAZIL

4.1 Descriptive Static

In an empirical study such as the present attempt, in performing the multivariate data analysis, creating a table of means and standard deviations has been considered as the initial step in the process. It is so because these scores may have a significant influence on the results of regression analysis and can thus be a cause for concern (Genser et Al., 2007). The following table shows the means, and standard deviations computed for all the included variables.

(Table 4.1) Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Ri	20	8.60	28.80	19.0920	5.09535
ExRate	20	.00	3.08	1.5070	1.02243
GDP	20	4.275	10.606	7.844	3.52174E5
GDPPC	20	.09	16414.27	7.19843	5246.80593
GDPGR	20	-30.00	33.00	7.6500	16.19381
TR	20	14.00	29.00	20.8500	5.55617
INF	20	1.00	854.63	80.0965	213.64566
FDI	20	988.80	45058.16	1.69414	12949.59767
Valid N (listwise)	20				

The mean value of the independent variable (RI) is 19.09 which result indicates that the (Ri) was high as the minimum value was 8.60 while the maximum was 28.80.

The mean value of the independent variable (EX-Rate) is 1.50 which result indicates that the (Ex-Rate) was moderate as the minimum value was 0.00 while the maximum was 3.8.

The mean value of the independent variable (GDP) is 7844 which result indicates that the (GDP) was moderate as the minimum value was 4275 while the maximum was 10606.

The mean value of the independent variable (GDPPC) is 7198 which result indicates that the (GDPPC) was moderate as the minimum value was 0.09 while the maximum was 16414.

The mean value of the independent variable (GDPGR) is 7.6 which result indicates that the (GDPGR) was low as the minimum value was -30 while the maximum was 33.

The mean value of the independent variable (TR) is 20.85 which result indicates that the (TR) was high as the minimum value was 14 while the maximum was 29.

The mean value of the independent variable (INF) is 80.09 which result indicates that the (INF) was low as the minimum value was 1 while the maximum was 864.56.

4.2 Correlation

One of the bi-variate measures of association that can be used for the purposes of measuring a relationship between two variables is Correlation (Zikmund, 2000). When using correlation, one has to be aware of certain shortcomings present when applying it in practice. One of these shortcomings lies in the fact that correlation operates in a symmetrical fashion, and thus does not provide the researcher with any evidence about the cause-effect directional flow. When working with a set of variables where the dependent variable can be affected by a number of other variables, one must be aware of the fact that any covariance these attributes share with the given independent variable in a correlation may be falsely attributed to that independent variable. Another thing to remember is that correlation usually understates the relationship between two variables, which are correlated in a non-linear relationship. Measurement errors attenuate correlation to the extent of the error caused in measurements, including the use of sub interval data or artificial truncation of the range of the data.

Pearson has come up with a correlation matrix which is capable of indicating the direction, strength and significance of the bi-variate relationship between the variables studied.

The scale model suggested by Zikmund (2000) has been used in this study to describe the relationship between the independent variables and the dependent variables, the association measurements are described as: 0.7 and above – very strong relationship, 0.50 to 0.69 – strong relationship, 0.30 to 0.49 – moderate relationship, 0.10 to 0.29 – weak relationships, and 0.00 to 0.09 – very weak relationship.

(Table 4.2) Correlations

		ExRate	GDP	GDPPC	GDPGR	TR	INF	Ri	FDI
ExRate	Pearson Correlation	1	.291	.777**	.055	.897**	-.498*	-.205	.542*
	Sig. (2-tailed)		.214	.000	.819	.000	.025	.387	.013
	N	20	20	20	20	20	20	20	20
GDP	Pearson Correlation	.291	1	.819**	.324	.405	-.331	-.534*	.684**
	Sig. (2-tailed)	.214		.000	.163	.076	.154	.015	.001
	N	20	20	20	20	20	20	20	20
GDPPC	Pearson Correlation	.777**	.819**	1	.245	.823**	-.467*	-.531*	.753**
	Sig. (2-tailed)	.000	.000		.298	.000	.038	.016	.000
	N	20	20	20	20	20	20	20	20
GDPGR	Pearson Correlation	.055	.324	.245	1	.195	-.214	-.308	-.088
	Sig. (2-tailed)	.819	.163	.298		.409	.365	.187	.713
	N	20	20	20	20	20	20	20	20
TR	Pearson Correlation	.897**	.405	.823**	.195	1	-.358	-.502*	.563**
	Sig. (2-tailed)	.000	.076	.000	.409		.121	.024	.010
	N	20	20	20	20	20	20	20	20
INF	Pearson Correlation	-.498*	-.331	-.467*	-.214	-.358	1	.006	-.421
	Sig. (2-tailed)	.025	.154	.038	.365	.121		.980	.064
	N	20	20	20	20	20	20	20	20
Ri	Pearson Correlation	-.205	-.534*	-.531*	-.308	-.502*	.006	1	-.266
	Sig. (2-tailed)	.387	.015	.016	.187	.024	.980		.257
	N	20	20	20	20	20	20	20	20
FDI	Pearson Correlation	.542*	.684**	.753**	-.088	.563**	-.421	-.266	1
	Sig. (2-tailed)	.013	.001	.000	.713	.010	.064	.257	
	N	20	20	20	20	20	20	20	20

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

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

The above Table presents the results of the correlation analysis carried out to determine the relationship between the dependent variable and the independent variables. From the results shown in Table above, It can be seen that:

ExRate, GDP, GDPPC and TR **have** all **been positive significantly** correlated to the FDI INFLOW, when the other variables have no correlation with the other.

According to (Zikmund, 2000), the Pearson Correlation Coefficients of **0.542, 0.682, 0.753** and **0.563** represent the relationship among variables. Correlation Table shows the results of the hypothesis testing of **Ex Rate, GDP, GDPPC** and **TR**. All the hypotheses much the latter variables are accepted as there is a positive correlation between the independent variables and dependent variable.

4.3 Results of Regression Estimation

The relationship between the dependent variable and the independent variables is presented in this section. The relationships between the variables were analyzed using multiple regressions.

Multiple regressions are the most common and widely used to method to analyze the relationship between a single continuous dependent variable and multiple continuous or categorical independent variables (Genser et al., 2007).

(Table 4.3) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.869[a]	.755	.612	8064.15675

a. Predictors: (Constant), Ri, INF, GDPGR, ExRate, GDP, TR, GDPPC

(Table 4.4) ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.406E9	7	3.437E8	5.285	.006[a]
	Residual	7.804E8	12	6.503E7		
	Total	3.186E9	19			

a. Predictors: (Constant), Ri, INF, GDPGR, ExRate, GDP, TR, GDPPC

b. Dependent Variable: FDI

(Table 4.5) Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-60377.066	38229.134		-1.579	.140
	ExRate	5536.721	14831.058	.437	.373	.715
	GDP	.059	.049	1.597	1.198	.254
	GDPPC	-3.577	5.312	-1.449	-.673	.514
	GDPGR	**-324.022**	**131.536**	**-.405**	**-2.463**	**.030**
	TR	1990.914	1304.181	.854	1.527	.153
	INF	-8.123	11.643	-.134	-.698	.499
	Ri	537.804	654.128	.212	.822	.427

a. Dependent Variable: FDI

The R^2 value was found to be 0.755 (model summary table) indicating that 75.5% of the variance in dependent FDI is explained by the selected independent variables.

The result from the (ANOVA table) indicates that the model fit is statistically significant with a p-Value = 0.006 (< 0.05).

According to the results shown in coefficients table, the relationship between the variables is given by the linear equation.

FDI = - 324,022* GDPGR

The following figure is a histogram of the residuals with a normal curve superimposed. The residuals look close to normal.

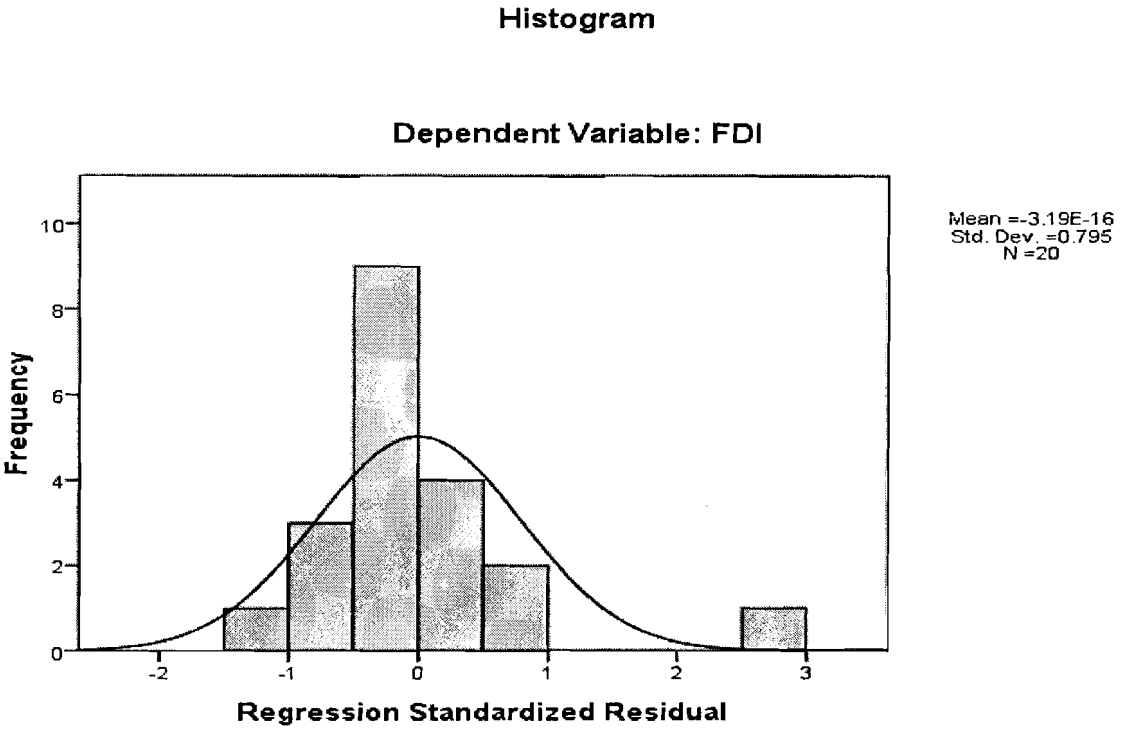

Figure 4.1

In the figure above is a plot of the residuals versus predicted FDI. The pattern show here indicates no problems with the assumption that the residuals are normally distributed at each level of FDI and constant in variance across levels of FDI.

4.5 The Comparison between Argentina, Mexico and Brazil for FDI Inflow

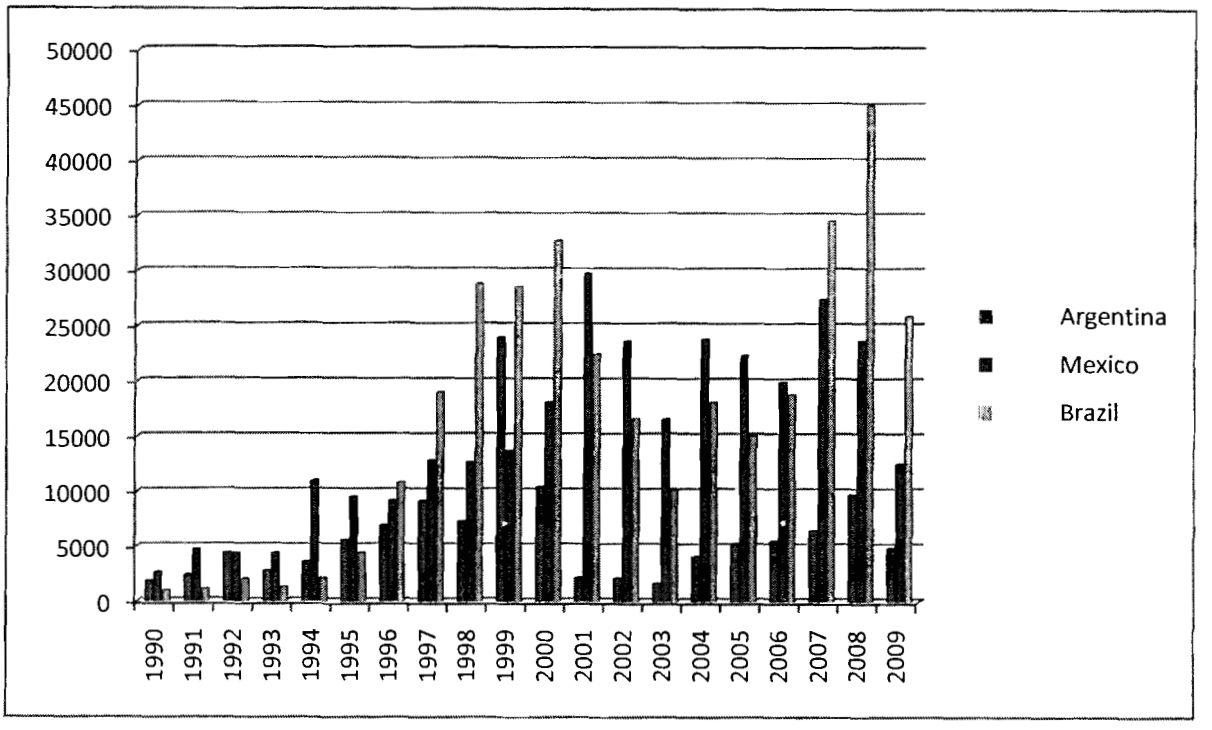

Figure 4.2

From the figure , it can be see that the highest values was presented by brazil in 2008 with value of approximately 45000 whereas the lowest value it was in 1990 with value less than 5000 in the three countries.

From the period of 1990 to 1995 Mexico showed the dominant exchanging followed by Argentina in the second position, when Brazil showed the dominant in tow periods ranging from 1996 to 2000 and 2007 to 2009

From 2001 until 2006, it's remarked that Mexico was the dominant followed by Brazil in the second position.

4.6 Summary

This chapter presented the results of the data analysis carried out to determine the relationship between the independent variables and the dependant variable. Data had been collected from DataStream, UNCTAD and other past studies. It covers the period from 1990- 2009 in Brazil.

The relationship between the independent variables and dependant variable has been tested using correlation analysis. The results of the Pearson's correlation analysis showed a positive correlation between the independent variables and the dependant variable confirming the hypotheses developed in Chapter 3. Thus it was concluded that there were strong positive relationship between Ex Rate, GDP, GDPPC and TR with the dependent variables FDI

CHAPTER FIVE: SUMMING UP

5.1 Research Discussion

Brazil is recognized as the upcoming newly emerging market in the global economy. As such, growth of Brazilian economy is vitally important to retain her image in the BRIC economy in the global race. The policy-makers of Brazil have to keep on attracting the FDI inflows as an engine of growth and prosperity of the country. Then, the policy-makers of Brazil have to always keep an eye on the significance of GDP growth, GDP per capita, utilizing income gravity and growing trade ratio as well as exchange rate stability in their current and future decisions to ensure the continuing the FDI inflows in the country.

5.2 Concluding Remarks

FDI can play the important role in industrial advancement and economic growth in the developing countries. Although most of the developing countries have been taking measures to attract FDI, such as by offering incentive packages and liberalizing the trade regimes, only a few countries are successful in attracting a FDI. By and large, this thesis presented the results of the research carried out to determine the factors that empirically test the relationship between foreign direct investment (FDI) and macroeconomic factors from the secondary data and reports in Brazil from 1990 until 2009. By setting up a model to underline the FDI determinants in developing economies especially in Brazil, the result viewed EX Rate, a trade ratio; GDP and GDP per capita were statistically significant and presented a positive relation to the dependent variable (FDI). In contrast with previous findings, we found that GDP, GDPPC, EX Rate and Trade ratio does play an important role in attracting foreign investment to this country.

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Table A1: Macroeconomic Variable of Brazil

year	Ex Rate	Export	GDP	FDI inflow	Import	GDPPC	GDPGR	TR	INF	Ri	
1990	0.001	35175.8	478574.7	988.8	29443.36	0.086	7%	14%	4,118.41 %		116.5
1991	0.001	34939.4	445271.1	1102.2	29580.1	0.442	-7%	14%	492.28 %		186.33
1992	0.002	39881	426528.7	2061	29951.8	4.619	-4%	16%	854.63 %		1803.4
1993	0.032	42519.8	478620.1	1290.9	36395	99.971	12%	16%	1,638.74 %		3101.64
1994	0.639	48453.1	596471.6	2149.9	45625.98	2437.7	25%	16%	2,951.63 %		14440.99
1995	0.918	52641.3	768951.3	4405.122	66677	4441.9	29%	16%	147.98 %		85.73
1996	1.005	52401.7	839683.6	10791.687	68677.88	5231.52	9%	14%	16.01 %	27.4	29.18
1997	1.078	58983.3	871200.6	18992.9343	78316.36	5734.2	4%	16%	6.97 %	24.8	20.99
1998	1.161	58770.9	843827.6	28855.6099	75993.52	5890.3	-3%	16%	3.21 %	28.8	27.25
1999	1.814	55201.8	587122.1	28578.4296	64804.84	6310.93	-30%	20%	4.86 %	25.6	41.93
2000	1.829	64617.25	644728.9	32779.2397	73970.77	6886.29	10%	21%	7.06 %	17.4	18.49
2001	2.35	67608.56	554187.3	22457.3534	74096.6	7491.2	-14%	26%	6.83 %	17.3	15.83
2002	2.92	69990.06	506040.5	16590.2042	63070.41	8378.1	-9%	26%	8.43 %	19.2	18.47
2003	3.077	83650.2	552384	10143.5247	65028.95	9497.7	9%	27%	14.78 %	23.4	26.32
2004	2.925	109261.4	663732.9	18145.8835	82312.78	10691.89	20%	29%	6.60 %	16.3	16.1
2005	2.434	134576.5	882043.9	15066.2917	100035.4	11658.1	33%	27%	6.88 %	19.1	19.24
2006	2.175	157269.4	1089398	18822.208	122622.5	12769.07	24%	26%	4.20 %	15.1	16.45
2007	1.947	184603.3	1334121	34584.901	160763.1	14183.12	22%	26%	3.64 %	11.8	12.68
2008	1.834	228392.5	1595498	45058.1563	225730.2	15847.46	20%	28%	5.67 %	12.5	11.18
2009	1.999	180723.3	1530580	25948.58	176768.8	16414.27	-4%	23%	4.90 %	8.6	11.16
											8.65

Source
Central Bank of Brasil and authors' calculations.
International Monetary Fund (IMF), International Financial Statistics
UNCTAD

Table A2: Comparison Data

Inward and outward foreign direct investment flows, annual, 1970-2009											
UNCTAD, UNCTADstat											
SERIES	Foreign direct investment flows	DIRECTION	Direct investment in reporting economy (FDI Inward)	MEASURE	US Dollars at current prices and current exchange rates in millions						
YEAR	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
ECONOMY											
Argentina	1836	2439	4430.978	2793.085	3634.932	5609.423	6948.537	9160.272	7290.657	23987.7	10418.31
Mexico	2633.238	4761.498	4392.799	4388.801	10972.5	9526.3	9185.451	12829.56	12656.28	13728.23	18098.18
Brazil	988.8	1102.2	2061	1290.9	2149.9	4405.122	10791.69	18992.93	28855.61	28578.43	32779.24
World	207697.2	154009	165972.6	223454.4	256111.9	342544.2	388998.2	486476.2	707185.2	1087500	1401466

Inward and outward foreign direct investment flows, annual, 1970-2009									
UNCTAD, UNCTADstat									
SERIES									
YEAR	2001	2002	2003	2004	2005	2006	2007	2008	2009
ECONOMY									
Argentina	2166.137	2148.908	1652.011	4124.705	5265.263	5537.348	6473.158	9725.553	4894.506
Mexico	29774.17	23636.24	16578.61	23810.51	22351.48	19946.34	27440.19	23682.51	12522.26
Brazil	22457.35	16590.2	10143.52	18145.88	15066.29	18822.21	34584.9	45058.16	25948.58
World	825280.3	628114.1	565739	732396.6	985795.6	1459133	2099973	1770873	1114189

Source:

UNCTAD