Democratic and Popular Republic of Algeria
Minister of Higher Education and Scientific Research
University of Abou Bakr Belkaid-Tlemcen
Business and Management Science Faculty

Thesis sbmitted in partial fulfillement of the requirements
for the degree of Magister in Management international des entreprises
Option : Finance internationale

Theme:

The Impact of the Exchange Rate Behaviour on Foreign Direct Investment

(Empirical Evidence on Emerging Markets)

Presnted by:
Mr Mostéfaoui Sofiane

Under the supervision of professor:
BENHABIB Abderrezak

Examining board:

- President: **Pr BEN BOUZIANE**
- Supervisor: **Pr BENHABIB**
- Examiner: **Pr DERBAL**
- Examiner: **Dr MALIKI**

2009/2010

To

My

beloved parents

Larbi and Fatima

Brother Nasreddine

Zohir

Sister Mokhtaria

Chiraz

Acknowledgment

Many people have contributed to make this field study possible. Firstly, I want to show my gratitude and appreciation to dear supervisor **Professor Benhabib Abederrezak** who has supported and motivated me throughout the study by his precious and rare instructions.

I also want to thank dear professors: Benbouziane Mohamed, Samir Bettahar for their useful guidance and valuable advice.

My warmest thanks go to the English teachers:

My cousin Mostéfaoui Aziz Doctor of English Language, Miss Berrezoug Hana for their excellence linguistic assistance and for giving me the opportunity and the confidence to write in English.

The latest thanks go out to various people whose direct or indirect support has helped me to produce this study, so Thanks very much.

Summary

Introduction

In an old tale , six blind men have come into contact with an elephant for the first time . They are curious to know what is it like . The first blind man touches its side and says an elephant is like a hard wall . The second puts his hand on the trunk and disagrees , saying an elephant resembles a giant snake .The third blind man touches its tail and compares the animal to a fuzzy piece of rope . The fourth feels the legs and says the elephant is like four tree trunks . The fifth touches the ear and describes it as soft carpet .The last blind man touches the tusk and proclaims an elephant to be sharp like a spear . Confused that they all had come to radically different conclusions , they seek a wise man to ask which one of them has it right .He tells them that they are all right . The reason , he explains , is that each of you has 'seen' only one part of the elephant .To ascertain the truth , you must see the whole animal .

Open trade, competitiveness and emergence of global markets for standardized consumer products are the commercial reality which has driven the world business with high magnitude of change in the economy and consumer culture . Technology, by accelerating communication, transport and travel drives the world toward a converging commonality.

Well-managed companies have moved from emphasis on customizing items to offering globally standardized products that are advanced , functional , reliable and low priced .They benefit from enormous economies of production scale , distribution , marketing and management. Such dynamism in the business and related activities portrays the functional concepts of globalization .While sometimes globalization is endorsed as primarily a synonym for global business , it deepens and broadens linkages of national economies into a worldwide market for goods , services and especially capitals as a major characteristic .

Foreign Direct Investment (FDI) has been considered as striking feature of increased international economic integration which all countries are actively seeking to attract it for the expected favorable income from capital inflows, advanced technology, management skills and market know-how. As a result, national governments are lively

looking for a better understanding of its determinants, impacts and implications.

FDI's rapid growth has raised a number of policy issues and significant attempts to explain its trends . By 2006, inflows of FDI reached more than 1.3$ trillion approaching level similar to the record level observed in 2000 of 1.4$ trillion [1] , with more than half of these flows received by businesses in developing countries . One of the many influences on FDI activity is the behavior of the exchange rate . Exchange rates, defined as the domestic currency price of a foreign currency, matter both in terms of their levels and their volatility . Exchange rate can influence both the total amount of foreign direct investment and its distribution across a range of countries.

When a currency depreciates, meaning that its value declines relative to the value of another currency, this exchange rate movement has two potential implications for FDI. First, it reduces that's country wages and production costs relative to those of its foreign counterparts. In fact , the country experiencing real currency depreciation has enhanced "locational advantage" or attractiveness as a location for receiving productive capacity investments . By this relative wage channel, the exchange rate depreciation improves the overall rate of return to foreigners contemplating an overseas investment project in this country[2] .

In addition to this argument, volatility of exchange rate also matters for FDI activity. Theoretical arguments for volatility effects are broadly divided into production flexibility arguments and risk aversion arguments.[3] In the production flexibility argument, the important presumption is that producers can adjust their use of a variable factor following the realization of a stochastic input into profits. Without this variable factor , i.e. under a productive structure with fixed instead of variable factors , the potentially desirable effects on profits of price variability are diminished[4] . By the production flexibility argument , more

---

[1] See World Investment Prospects Survey 2007-2009 , p07.

[2] The exchange rate level effects on FDI through this channel rely on a number of basic considerations. First, the exchange rate movements need to be associated with change in relative production costs across countries .Second, the importance of the "relative wage "channel may be diminished if the exchange rate movements are anticipated.

[3] For more details see second chapter : Exchange rates and Foreign Direct Investment , p68.

[4] Aizenman nicely demonstrated that the extent to which exchange rate variability influences foreign investments hinges on the sunk costs in capacity ,i.e. the extent of investment irreversibilities , for more detail see Aizenman ,J in Exchange Rate Flexibility , Volatility and Patterns of Domestic and Foreign Direct Investment , p890-922.

volatility is associated with more FDI *ex ante* , and more potential for excess capacity and production shifting *ex post* after exchange rates are observed .

The alternative approach linking exchange rate variability and investment relies on risk aversion approach .According to this argument, the investors require compensation for risks that exchange rate movements introduce additional risk into the returns on investment. Higher exchange rate variability lowers the certainty equivalent expected exchange rate level[5]. If exchange rates are highly volatile, the expected values of investment projects are reduced, and FDI is reduced accordingly .

Overall, the current state of knowledge is that there is an emerging consensus that FDI is a common method of engaging in international business and it has been one of the most dynamic components of the world economy in recent decades. For that the search of policies and measures aiming to attract this kind of investment is a crucial and vital thought. In this study, the impact of this variable on FDI is examined through its: depreciation, appreciation and volatility in order to be aware of how should this macroeconomic variable be a factor of FDI attraction.

This study is conducted with the following broad and narrow objectives:

Broad:

To examine how should FDI be attracted by the exchange rate behavior.

Narrow:

To highlight the increasing importance and beneficial scope of foreign direct investment decision.

To explore and identify the main channels by which FDI boosts economic development.

To find out the challenges and obstacles confronted by developing countries especially vis-a-vis this phenomenon considered as main driver of economic development in world today.

[5] See Cushman, D .O in Exchange Rate Uncertainty and Foreign Investment in the United States, p322-334.

Research questions:

The study attempts to analyze the behavior of the exchange rate on FDI conducted by the following research issue:

How does the exchange rate fluctuation affect really FDI flows?

Hypotheses:

In line with the issue, the following hypotheses are presented:

1. An expected devaluation of local currency (host country currency) lowers FDI inwards.
2. FDI rises when devaluation occurs.
3. Exchange rate volatility discourages FDI.

Method and structure of research:

This thesis deals with the issue through both the theoretical and empirical study. The theoretical one focuses on foreign direct investment by stressing on its various definitions, determinants, valuations and different effects.

The impact of the exchange rate behavior is dealt through a survey comprising the models used, the theories adopted and the major findings.

The empirical study held on US FDI flows to a sample of 16 emerging markets using panel data for the period 1994-2006. Three variables are utilized to capture separate exchange rate effects. The bilateral exchange rate to the US $ captures the value of local currency (a higher value implies a cheaper currency). Changes in real effective exchange rate index (REER) for expected changes in the exchange rate: an increasing (decreasing) REER is interpreted as devaluation (appreciation) being expected. The transitory component of bilateral exchange rates is a proxy for volatility of local currency. The empirical study supports the "Chakrabati" and "Scholnick" hypothesis claiming that, *ceteris paribus,* there is a negative relationship between the expectation of local currency depreciation and FDI flows while cheaper local currency (devaluation) attracts FDI as volatile exchange rates discourages FDI.

Research difficulties:

The main problems of this study are enrolled on two major points:

1. The rarity of the Arabic and French literature survey in this field.

2. Learning and writing in English language is not an easy task.

Chapter I :

Foreign Direct Investment

Foreign direct investment ***(FDI)*** *is considered as one of the forces for globalization fostering the economic interdependence among countries . The importance and rapid increase of* ***FDI*** *flows has generated a considerable debate about its conceptual ground and several empirical studies surrounding on its determinants , incentives and implications to both home and host countries .*

In this chapter, the following ideas are analyzed :

1- *Definitions of* ***FDI*** .
2- *Theories of* ***FDI*** .
3- *Components and valuations of* ***FDI*** .
4- *Effects of* ***FDI*** .

I- Definitions and Concepts:

I-1. Main concepts and definitions of FDI:

Foreign direct investment is a category of investment that reflects the objective of establishing a lasting interest by a resident enterprise in one economy *(direct investor)* in an enterprise *(direct investment enterprise)* that is resident in an economy other than of direct investor[1].

From this definition, the following ones can be suggested:

Foreign Direct Investment enterprise[2]:

FDI enterprise is an *incorporated* or *corporated* enterprise (including a branch) resident in one economy which an investor resident in another economy owns either directly or indirectly 10% or more of its voting power. This *ownership share* of voting power is regarded as the necessary evidence that the investor has sufficient influence on the *firm's management* and makes a relationship between the direct investor and direct investment enterprise.

Foreign Direct Investor[3]:

Foreign Direct Investor is an *entity* (institutional unit) resident in one economy that has acquired directly or indirectly at least 10% of the voting power of an enterprise resident in another economy. A direct investor could be classified to any sector of the economy and may be one of the following forms:

(i) An individual.
(ii) A group of related individuals.
(iii) An incorporated or unincorporated enterprise.
(iv) A public or private enterprise.
(v) A group of related enterprises.
(vi) A government body.
(vii) An estate, trust or other social organization.
(viii) Any combinations of the above.

---

[1] About the branch establishments as a main feature of FDI see the survey study of Nirmal Kumar Chandra on FDI and domestic economy: neolibiralism in China, p3195-3212.

[2] See John B .Cullen and K .Praveen in International Business: Strategy and Multinational Company, p118.

[3] See Peijie Wang ,The Economics of Foreign Exchange and Global Finance , p396.

I-1.1. Some theoretical definitions:

Another definition known as the **IMF / OECD** *benchmark definition*[4] , it considers **FDI** as an *international venture*[5] in which an investor residing in the home country acquires a *long term influence in the management* of an affiliate firm in the host economy .

BOP *(balance of payment)* Manuel[6] defines **FDI** as investments made to acquire a lasting interest by a resident entity in an enterprise located in another economy.

Hymer (1960)[7] saw **FDI** as a mean of *transferring knowledge* and other firm *assets* both *tangible* and *tacit* in order to organize production abroad.

Caves (1971) and ***Dunning*** (1958)[8] saw **FDI** as a way of *exploiting ownership advantage.*

Vernon (1966) [9]used *the product life cycle* concept to theorize that firms set up production facilities abroad for products that have been already *standardized* and *mature* in the home market .

Rugman (1979)[10] saw **FDI** as a way of *risk diversification.*

Dunning (1983)[11] based his **FDI** definition on the **OLI** acronym (ownership, location and internalization) to analyze why and where **MNEs** invest abroad.

Kogut (1983)[12] saw **FDI** as an *organizational assets* and knowledge *transfer.*

---

[4] See Report of the Committee on Compilation of Foreign Direct Investment in India: Balance Of Payment Manual, p03-04-05.

[5] For more details see Michael Du Pont in Foreign Direct Investments : a case study of China and Poland about the Chinese international ventures, p118-119-120-121, Adj.Prof.Marting Haemmig in The case for international venture firms, p01-07,Jianfa Shen ,Kwan-Yiu Wong ,Kim Yee Chu , Zhiqiang Feng in The spatial dynamics of foreign investment in the Pearl River Delta , South China , p312.

[6] Balance of Payment Manual, p41.

[7] 5ee D Sethi, SE Guisinger, SE Phelan and DM Berg in Trends in Foreign Direct Investment Flows: a theoretical and empirical analysis, p316.

[8] To more understanding of the ownership paradigm see John H. Dunning and Sarianna M.Lundan in Multinatinational enterprises and the global economy, p95-102.

[9] For more detail see Loannis Komninos in Product Life Cycle Theory Management , p4-18 , John .B.Cullen and K .Praveen in International Business , p106-107-108-109.

[10] For more detail about how can the international diversification offers to a multinational firm significant risk reduction advantages see Alan M. Rugman in Risk Reduction By International Diversification , p75-80.

[11] The ownership and location specific variables are significant keys explaining the industrial pattern and the geographical distribution of the firms as the more the ownership specific advantages possessed by an enterprise, the greater the inducement to internalize and the wider the attraction of foreign base will be, for more detail see John H. Dunning, Toward an eclectic theory of international production: some empirical tests, p09-31.

Krugman Obstfield [13](2000) defined **FDI** as an international *capital flow* from a firm in one economy which creates a *subsidiary* in another country or allows a firm to obtain a *controlling interest* in a foreign firm.

FDI is defined as:

(i) Establishing a new company or branch of a foreign company (*Greenfield investment*[14]).

(ii) *Share acquisitions*[15] either by capital markets where the foreigner owns 10% or more of the shares as a *voting power*, these shares have the following assets forms :

(1)*Assets acquired from abroad by foreign investor* :

- Capital in cash in the form of convertible currency bought and sold by the central bank.
- Stocks and bonds of foreign companies (other than government bonds).
- Machinery and equipment.
- Industrial and intellectual property rights.

(2)*Assets produced in the host country:*

-Reinvested earning, revenues, financial claims or any other investment related rights or financial value.

-Commercial rights for the exploration and extraction of natural resources .

---

[12] To understand the organizational assets FDI definition which based on the international activities coordination of the multinational and why they invest abroad see Bruce Kogut in International business : the new bottom line , p152-163 and how can this coordination benefits multinationals to operate in a high flexibility degree in the uncertainty case see Bruce Kogut and Nalin Kutalitaka in Operating Flexibility , Global Manufacturing and the Option Value of a Multinational Network , p123-137. For the firm's transferring knowledge see Bruce Kogut and Udo Zander in Knowledge of the firm , combinative capabilities and replication of technology , p383-396 , how this knowledge be transferred (the knowledge process transfer) see Jack Baranson in Technology transfer through the international firm , p 435-440 and Transfer of technical knowledge by international corporations to developing economies , p259-267.

[13] See Paul R. Krugman and Maurice Obstfeld in International Economics : theory and practice , p 169-171-172.

[14] For more detail about Greenfield investment mode over the acquisition process see Thomas Muller in Analysing Modes of Foreign Entry : Green field investment versus Acquisition , p01-19 and Holger Gorg in Analysing Foreign Market Entry : The Choice Between Greenfield investment and Acquisitions , p01-27.

[15] To understand the firm's shares acquisition motives and how to increase operating efficiency process within financial market see Stanley B .Block and Geoffrey A. Hirt in Foundations of Financial Management, p567-609.

I-2. History of FDI:

FDI's history can be analyzed through three distinguished stages:

First stage: *Nineteenth century to the interwar period of the twentieth century:*[16]

This period was characterized by the *British financing* of the economic development processes of other countries which took the form of lending (ownership *financial assets*).

Godley 1999 analyses the kinds of **FDI** in Britain prior to **1890** which were primarily in the *consumer goods,* but they mostly failed due to the narrow focus and the perspective just on how to access British market .One exception was the *Singer manufacturer Company* which emerged as a modern **MNE.**

From 1890 ***Godley*** showed that investments in Britain were driven entirely to the *manufacturing sector*s which were registered an unprecedented bulk.

Second stage: *Interwar period to 1980*[17]*:*

In this period Britain lost its status as a major *world creditor*, ceded the place to the **USA** which emerged as an economic and financial power.

After Second World War, **FDI** started to grow for two reasons:

1. Technological: improvement in transport and communications (exercising *control* from a distance).
2. The need of European and Japan countries for **US** capital to finance reconstruction following the damage inflicted by the war.

---

[16] Cases of Foreign investment in British manufacturing and the pioneering entrants characteristic by sectors are showed in detail study of Andrew C. Godley in Pioneering Foreign Direct Investment in British Manufacturing , p 394 -429 , and The Market Share of Foreign Multinationals in British Retailing : 1850-1962 , p 41-47.

[17] For deep understanding of the US post war economy and the various implications of new deal which enhanced the prosperity and investments forms see report of President Harry S. Truman in We Must Build a New World , A Far better world , one in which the external dignity of man is respected , p 258-257 , and Imaad A. Moosa in Foreign Direct Investment : theory , evidence and practice , p 16-17 , the idea saying that US is the best soil to do business in the world and the statistics related to FDI in US from 1950 is tackled by President George W .Bush in The US Litigation environment and Foreign Direct Investment , p01-16.

By **1960** appeared various factor giving rise to a reversal of **FDI** trend growth as: resistance of several host countries to the **US** *ownership* and *control* of local industry leading to a slowdown of outflows from **USA**. Another factor arose when some host countries started to initiate **FDI** in **USA** leading to decline the net outflows from the **USA.**

In 1970, Britain emerged as a major player in **FDI**'s game as a result of *North Sea Oil* surplus and the abolition of *foreign exchange control* in **1979.**

Third stage: *1980 to 1999* [18]

The 1980 witnessed two major changes:

The first was that the **US** became a *net debtor* country and *major recipient* of **FDI** with a negative net international investment *position.* The prime reasons for this were the low *saving rate* in the **US** economy leading to impossibility to finance budget deficit and exhibited a great need to foreign capitals (**Japan, Germany**), don't forget the *Appreciation* of the **US** dollar in the second half of **1980** and the *restrictive policy trade* adopted by the **USA.**

Other major change was the emergence of Japan as an important *supplier* of **FDI** to **US** and Europe taking the *cheap labor costs* as a major motivation[19].

The surge of **FDI** in general was attributed to the business globalization and the emergence of "*managed trade*"[20]suggested that **FDI** benefits both **MNE** and host countries, that's why a great tolerance towards **FDI** was flourished.

The period 1990-1992 [21]registered a fall of **FDI** flows but a strong rebound took place, this was due to the following reasons:

1. The emergence of smaller firms as *multinationals.*

---

[18] The competitiveness of US and the FDI trends from 1980 are clearly shown in Assessing Trends and Policies of Foreign Direct Investment in the United States, US department of commerce working paper, p01-12.

[19] The approaches of Japanese FDI bulk in 1980 especially in the US are analyzed by Young Kwan Yoon in the political economy of transition : Japanese Foreign Direct Investment in the 1980s , p01-27 and John A. Tatom in Currency Appreciation and Deindustrialization : A European Perspective , p01-42 .

[20] For more details about managed trade see Joshua Aizenman , FDI as a commitment mechanism in the presence of managed trade , NBER Working Paper Series , p01 -28.

[21] The factors driving the growth of FDI in this period and after are vividly analyzed with statistics in John H. Dunning : Multinational enterprises and global economy , p 17-18-19-20-21-22-23 (FDI general trends) .

2. *The diversity* of **FDI** sectors (the increasing share of service sector)[22].
3. The rise of countries interconnected in FDI's game (both host and home).
4. The recognition of **FDI**'s benefits as an important driver to economic growth, that's why several countries created *incentives* through *deregulation* and *privatization processes*.
5. the emergence of M&A[23] as the driving force behind **FDI**.

In 1998, the number of treatises avoiding double taxation reached 1871[24]

In 1999, some changes were introduced to host governments strengthening the trend toward *liberalization, protection* and *promotion* of **FDI**[25].

[22] To bridge briefly the scope of FDI services see Claudia M. Buch and Alexander Liponner in FDI versus cross border financial services : the case of german banks (FDI in financial sector : which banks expand abroad and which form of entry mode they choose) , p1-52 , and about the analysis of FDI services based on degrees of service sector openness estimation see Joseph Francois ,Bernard Hoeckman and Julia Woerz in Does Gravity Apply to Intangibles ? Trade and FDI in services, p1-15 , How is relevant theory of FDI from FDI service theory and how can we distinguish the discrepancies between service trade and service FDI approaches see Rashmi Banga in Trade and Foreign Direct Investment in Services : A Review , p01-46.

[23] A very enjoyable chapter handles the historical background of ACER corporation pursuing an evolving internalization process becoming now a Dragon Multinational merits to be read in Dragon Multinational : A New Model for Global Growth of John A. Mathews , p55-80 , to know how do we make the best from the M&A Tsunami see Merger & Acquisition Magazine of Boardroom Briefing , p04-46 , for factors driving M&A flows see the empirical study of Julian Di Giovanni in What Drives Capital Flows ? The Case of Cross Border M&A Activity and Financial Deepening, p01-47.

[24] See Imad A. Moosa in Foreign Direct Investment: theory, evidence and practice , p18.

[25] See UNCTAD World Investment Report 2006 FDI from Developing and Transition Economies: implication for development, p 13-17.

I-3. Types of FDI:

In this field, it's distinguished between the *investor perspective* and the *host country*'s one.

From the *investor perspective*, **FDI** can be classified to: *vertical*, *horizontal* and *conglomerate* **FDI**[26].

1. Vertical **FDI**:

The theory of Vertical **FDI** finds its origins with **Helpman** (1984) [27]supported by **Hekcher Ohlin** model [28]showing that *differences in production* stages especially in their factor intensities in one hand and *differences in factor endowment* between countries in the other lead to *vertical disintegration by firms* . In vertical **FDI,** we find *one or more stages* of *production* outside the market where the final goods are sold. This type is driven by *cost saving* motives and is supposed to involve an element of *complementary* between the firms domestic and foreign operations .Vertical **FDI** may be *backward* (exploiting raw materials purpose) or forward (acquisition of distribution outlets : marketing approach).

2. Horizontal **FDI**[29]:

Is undertaken to exploit certain *oligopolistic* or *monopolistic* [30] advantages (patents for example), it's thereby a production expansion to produce a similar product abroad as in the home country. This type is

---

[26] This FDI classification was adopted by Caves R.E in International Corporations: The Industrial Economics of Foreign Investment, p01-27.

[27] About the implications of circumstances in which corporations find it more profitable to be multinational and the interactions of simultaneous existence of intersectoral trade , intra-industry trade and intrafirm trade see Elhanan Helpman in A Simple Theory of International Trade with Multinational Corporations , p451-471.

[28] The relationship between initial factor endowments differences and trade patterns in the steady state and how can this difference leads to an integration into a world trading system see Kazumishi Iwaza , Toru Kikuchi and Koji Shimomura in A Dynamic Chamberlin-Heckscher-Ohlin Model with Endogenous Time Preferences : A Note , p01-27 , to describe both the effects of a country 's factor endowments on the commodity composition of its trade and the effects of trade related changes in good prices on factor prices see Adrian Wood in A Practical Hecksher Dhlin model , p01-26.
The Vertical entry mode is supported in an empirical study on relatively skilled labor and capital scarce country Mexico (correlation between skill differences and FDI) of Andreas Waldkirch in Vertical FDI: A Host Country Perspective, p1-35.

[29] For more detail about the importance of Horizontal Merger, complexities and motivations of this entry mode kind see Milford B. Green and Robert G. Gromley in The Horizontal Merger: its motives and spatial employment impact , p358-370.

[30] To grasp how the oligopoly advantage is a prime causal factor behind foreign direct investment (exchange of threat) see Edward M. Graham in Oligopolistic imitation , Theories of Foreign Direct Investment and European Direct investment in the United States , p01-78 , the nice story of Knickerbocker about the oligopolistic reaction is discussed to show why and when firms follow rivals in foreign market see Keith Head , Thierry Mayer and John Ries in revisiting Oligopolistic reaction : Are FDI Decision Strategic Complements ? , p01-24. The monopolistic reaction affects the probability of firm's exit as this latter decreases with its current size, For more detail see José Mata and Pedro Portugal in The Survival of new Domestic and Foreign Owned Firms , p 326-327 , how do the firms maximize profits under monopolistic competition see Stephen Enke in Profit Maximization Under Monopolistic Competition , p 317-326.

driven by *market seeking motives*[31] and could be expected to involve *substitution* between the MNE's foreign and domestic activities.

3. *Conglomerate* **FDI**: involves both *vertical* and *horizontal* **FDI.**

Another classification approach:

From **Chen** and **Ku** (2000),[32] **FDI** can be classified to:

1. *Expansionary* **FDI:** seeks to exploit **FSA** *(firm specific advantages).*
2. *Defensive* **FDI**: seeks cheap labor in the host country.

From the host *country perspective*, **FDI** is classified to:

1. *Import substituting* **FDI**: indicates the production of goods *previously imported* by the host country, this type is determined by: the host country market, transportation costs and trade barriers.
2. *Export increasing* **FDI**: this type looks for *sources of inputs* (raw material for example) and it's interpreted by the host country as a factor to increase their exports of raw materials to the investing country.
3. *Government initiated* **FDI**: this type is enhanced when the government offers *incentives* to foreign investors in order to eliminate balance of trade deficit for example (*both economical and political approach*).

Another classification: ***Kojima***'s view (1973, 1975, 1985): [33]

FDI may be:

1. *Trade oriented* **FDI**: generates excess demand of imports and excess supply of exports.
2. *Anti – trade oriented* **FDI**: has an *adverse* effect on the original terms of trade.

---

[31] See Kee Hwee Wee in Outward Foreign Direct Investment by Enterprise From Thailand, p 01-28.

[32] See Chen, T.J and Ku, Y .H in The Effect of Foreign Direct Investment on Firms Growth: The Case of Taiwan's Manufacturers, p153-172.

[33] See Kojima, K In A Macroeconomic Approach To Foreign Direct Investment, p1-12, International Trade and Foreign Direct Investment: Substitutes or Complements? , p01-12.

The conducive factors to horizontal **FDI**[34]:

1. Bigger market size of the host country.
2. Smaller plant–level fixed cost (smaller plant level scale economies).
3. Larger trade costs.

The conducive factor to vertical **FDI**[35]:

1. Differences in production factors endowment as to minimize costs.

Another approach **FDI** *types classification:*

FDI may be classified to: [36]

1. Natural resource seeking **FDI.**

2. Market seeking **FDI.**

3. Efficiency seeking **FDI.**

4. Strategic asset seeking **FDI.**

[34] See Kazuhiko Yokota and Akinori Tomohara In A Decomposition of Factors Influencing Horizontal and Vertical FDI : A Separate analysis , p01-21.

[35] The Same, p01-21.

[36] For more details see: John H. Dunning in Multinational Enterprises and The Global Economy, p 64-78, an empirical analysis on Canadian Industry level data showing the FDI motivation s and its relationship with domestic capital formation concluded that FDI is primarily motivated by market access and factor price differences and on the role of intra firm trade, for more detail see Walid Hejazi and P .Pauly in Motivation for FDI and Domestic Capital Formation, p282-289.

These types are shown schematically in the table below:

FDI types	Definitions
FDI resource seeking	FDI resource seeking tries to utilize a specific country's comparative advantage (raw materials, cheap labor cost).
FDI market seeking	**FDI** market seeking tries to satisfy foreign market demands via local production or by expanding to market outside its home market. . The important factors of market seeking strategy are : 1. Market size. 2. Market growth.
FDI efficiency seeking	**FDI** efficiency seeking tries to rationalize the structure of production units by integrating assets, production and markets: specialization, production and geographical processes (Dunning 1995).
FDI strategic asset seeking	FDI strategic asset seeking tries to protect or increase its existing ownership advantages and /or reduce those of its competitors (Dunning 2000).

Table: FDI types and definitions.

Source: compilation of the student.

***FDI** Classification based on its determinants is schematically revealed in the table below:*

Economic conditions	• Markets	Size, income levels, urbanization, stability and growth prospects; access to regional markets, distribution and demand patterns.
	• Resources	Natural resources, location.
	• Competitiveness	Labour availability, cost, skills, trainability, managerial technical skills; access to inputs; physical infrastructure, supplier base, technology support.
Host country policies	• Macro policies	Management of crucial macro variables, ease of remittance, access to foreign exchange.
	• Private sector	Promotion of private ownership, clear and stable policies; easy entry/exit policies, efficient financial markets, other support.
	• Trade and industry	Trade strategy, regional integration and access to markets, ownership controls, competition policies; support for SMEs.
	• FDI policies	Ease of entry, ownership, incentives, access to inputs, transparent and stable policies.
MNE strategies	• Risk perception	Perceptions of country risk, based on political factors, macro management, labour markets, policy stability.
	• Location, sourcing, integration transfer.	Company strategies on location, sourcing of products/inputs, integration of affiliates, strategic alliances, training, technology

Table: FDI classification based on its determinants.

Source: Joon Wang Cho, Foreign Direct Investment: determinants, trends inflows and promotion policies, p 100.

***FDI** may be also classified as follow:*

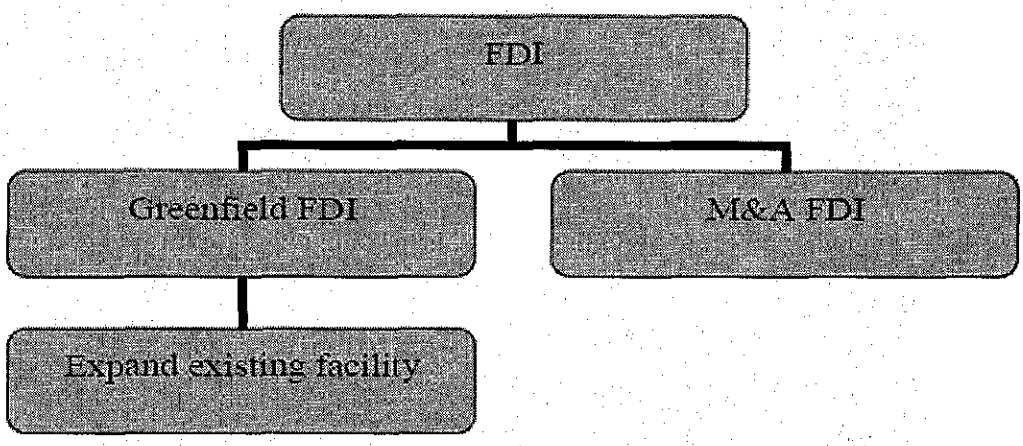


Exhibit: FDI Types

Source: Peijie Wang, The Economics of Foreign Exchange and Global Finance, p412.

***FDI** may be classified on factors impacting its trend as the exhibit shows:*

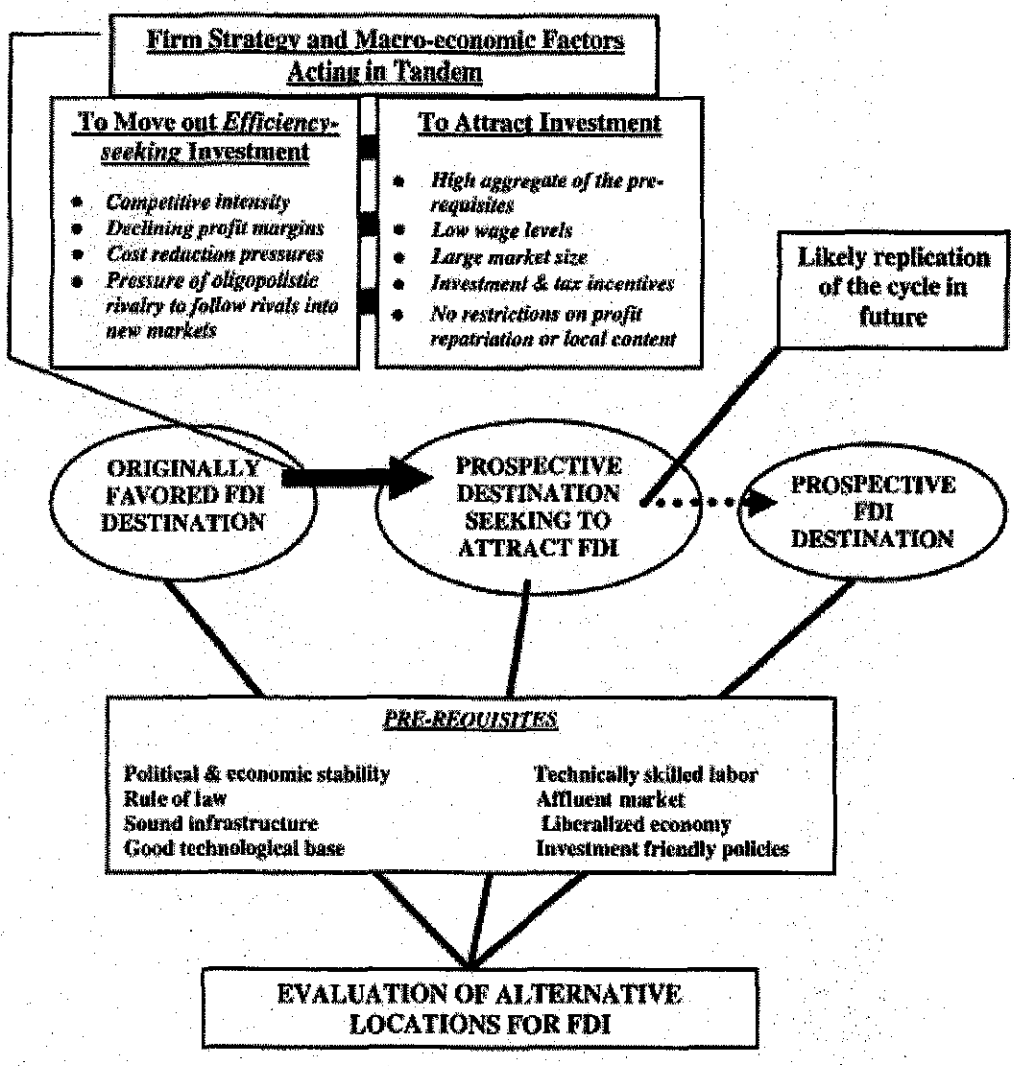


Exhibit: FDI Classification on trend factors.

Source: Deepak Sethi, S.E Guisinger, S.E.Phelan and D.M.Berg in Trends in Foreign Direct Investment Flows: A Theoretical and Empirical Analysis, p 320.

I-4. The multinational enterprises:

Simply speaking: firms become multinationals when they undertake **FDI**.

The multinational companies are major signs of the economic globalization[37], where production activities are carried out by these firms both at home and abroad by establishing a presence in foreign countries via: *subsidiaries*[38], *associates*[39] and *branches*[40] Instead of *carrying one flag,* these MNCs have *many flags* and *many homes*.

MNE in a strictly legal sense can be defined as a collection of *corporate entities*, each having its *juridical identity* and *national origin*, but each in some way connected by a system of *centralized management* and *control* normally exercised from the primary seat of *ownership*.

Several criteria are joined for assessing the degree or intensity of an enterprise's multi- or *transnationality*, these include:

1. The number or size of foreign affiliates[41] or associates companies it owns or exercises control over.
2. The number of countries in which it owns or in some way controls value added activities such as mines, implantations, banks and so on.
3. The proportion of its global assets, revenue, income or employment accounted for by its foreign affiliates.
4. The degree in which its management or ownership is *internationalized.*
5. The extent in which it's higher value activities (research and development for example) are internationalized; we speak about the quality or depth of foreign production and the degree of new knowledge creation.

---

[37] See John Mathew, Dragon Multinationals: a new model for global growth, p25.

[38] A subsidiary is an incorporated enterprise in the host country in which another entity directly owns more than a half of a shareholder's voting power and has the right to appoint or remove a majority of the members of the administrative, management or the supervisory body.

[39] An associate is an incorporate enterprise in the host country in which an investor owns a total of at least 10% but not more than a half, of the shareholder's voting power.

[40] A branch is a wholly or jointly – owned unincorporated enterprise in the host country which takes the form of permanent office of the foreign investor or an unincorporated partnership or a joint venture. A branch may also refers to land, structures, immovable equipments and mobile equipment (oil drilling and ships) operating in the country other than the investor's country.

[41] UNCTAD (1999) lists that multinationals comprise over 500000 foreign affiliates established by some 60000 parent firms.

6. The extent and the pattern of the systematic advantages arising from its governance of, and influence over a network of economic activities located in different countries.
7. The responsibility's extent for the creation and usage of institutions and assets (the devolution degree of decision making as financial and marketing issues to foreign affiliates).

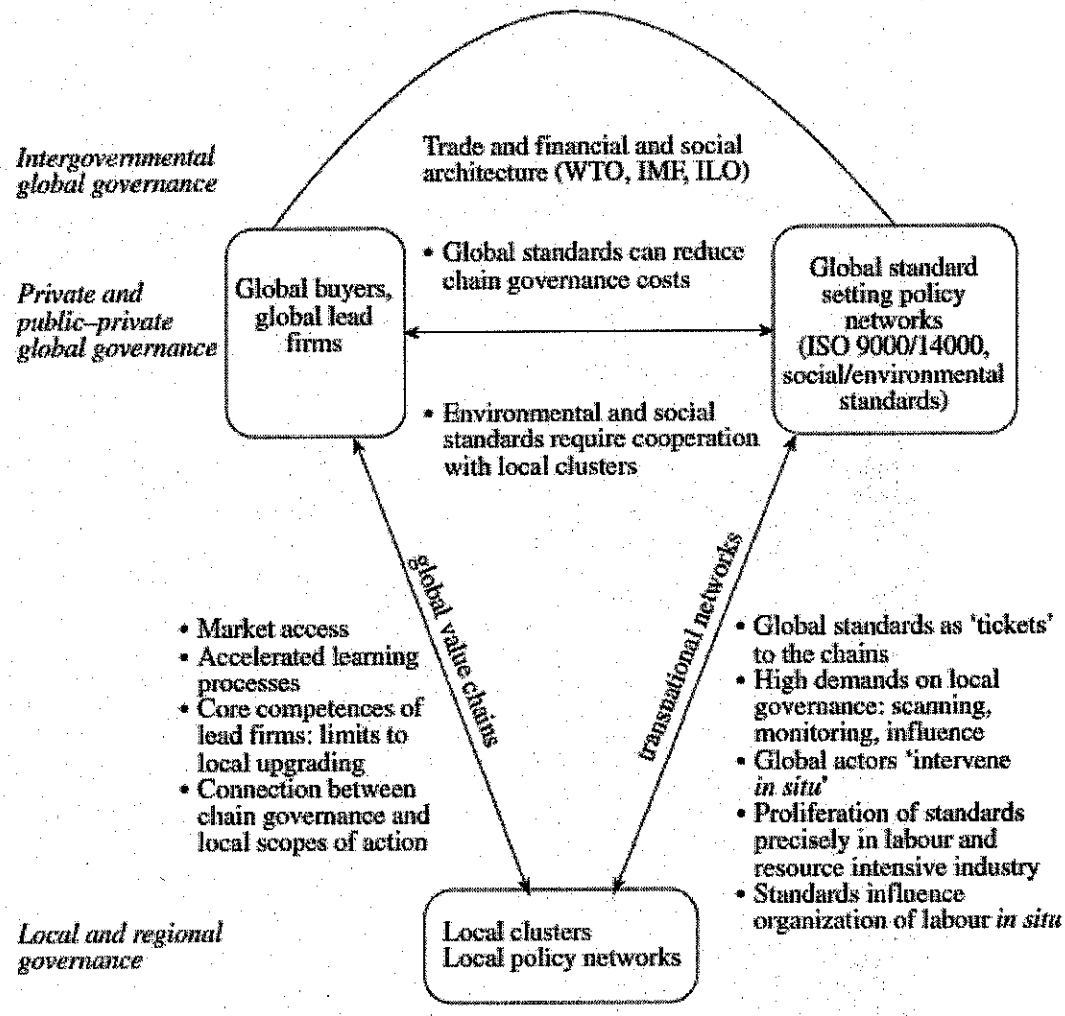


Exhibit: The World Economy Triangle.

Source: Hubert Schmitz, Local Enterprise and The Global Economy, p 23.

This exhibit shows clearly that **MNEs** are the predominant player in the world economy by their strong controlling power over both global value chains and transnational networks.

Parker (1974)[42] classified **613** largest **MNE** into three distinguished categories according to three economic criteria: *size, geographical spread* and the extent of foreign involvement of the firm to:

MPE2 which represents firms with more than five foreign subsidiaries or more than 15 per cent of total sales realized abroad.

MPE1represents firms that have 2-5 subsidiaries or 5-15 percent of sales produced abroad (these kinds of firms are less globally oriented comparing with the first one).

Not **MPE** which represents the rest of the firms.

Dorrenbacher (2000) proposes **MNCs** classification based on the following indicators:

1. *Structural indicators:* including the number of countries where the firm is active, the number of foreign subsidiaries, the number of stock market where the firm's shares are listed and the number of employees.
2. *Performance indicators:* foreign sales and operating incomes of foreign subsidiaries.
3. *Attitudinal indicators:* include management style and international experience of top management.

We can find in the literature other classifications based on other indicators as: the *transnationality index of **UNCTAD***[43], the *transnational spread index of **Iettio-Gillies*** (1998)[44] , *the degree of internationalization scales Sullivan (1994)*[45] ...

---

[42] See Imad Moosa in Foreign Direct investment: theory, evidence and practice, p07 , the typology of MNEs is more significant to reduce the complexity of multinational organizational management and to denote properly different kinds of MNEs : Polycentric ,Geocentric , Ethnocentric ... for more understanding see Anne Will Harzing in An Empirical Analysis and the extension of the Batelett and Goshal typology of Multinational Companies , p 101-120.

[43] The transnationality index is based on three ratios: foreign sales to total sales, foreign assets to, total assets, foreign employment to total employment, for more understanding see John H Dunning, The multinational enterprises and the global economy, p 61.

[44] This index is calculated by multiplying the average of the ratios used in the transnationality index by the number of foreign countries in which the firm is active.

[45] This indicator is based on the ration of foreign sales on total sales, foreign assets to total assets, the number of foreign subsidiaries to total subsidiaries, the international experience of top managers, the dispersion of international operations.

I-4.1 The main characteristics of MNE:

The **MNCs** are recognized by some major salient features such as:

1. The **MNCs** predominance in certain *monopolistic* and *oligopolistic* industries (take into account the *marketing and technology importance).*
2. The advance of **MNCs** techniques of production[46] which is catered to consumers with relatively *high incomes* and *sophisticated tastes.*
3. The organizational evolution of **MNCs** leading to *centralization* of functions as finance, marketing and research.
4. The increasing implication of **MNCs** on social political power in developed and developing countries.

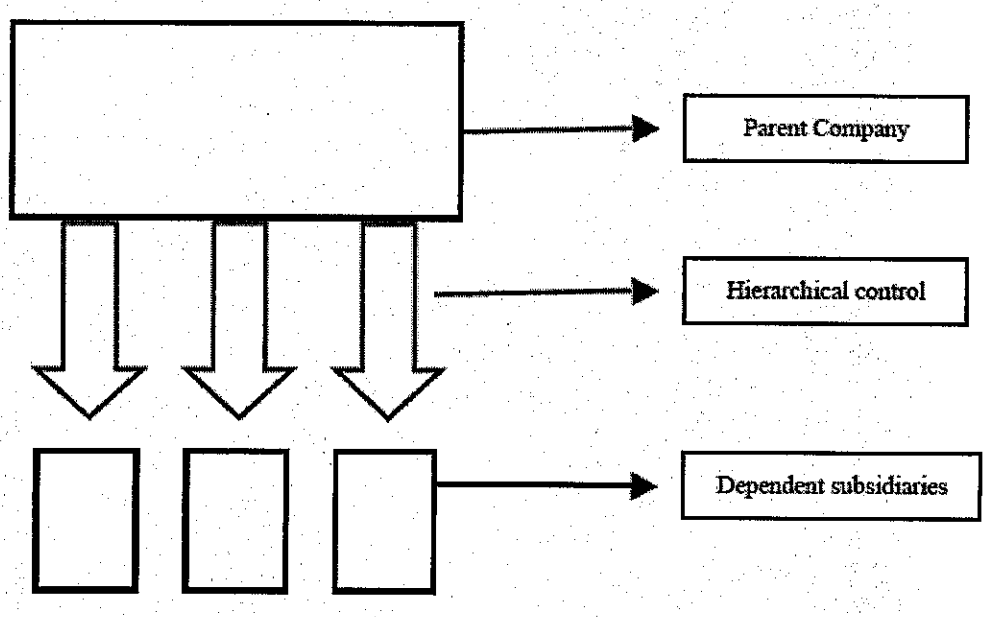


Exhibit: Simple MNE Hierarchy Structure.

Source: Muzaffer Eroglu, Multinational Enterprises and Tort Liabilities (an interdisciplinary and comparative examination), p46.

[46] Grubaugh (1987) used an econometric model supporting the importance of R&D as a firm's probability to become an MNC.

II. Theories of Foreign Direct Investment:

The growing importance of **FDI** leads to a sizeable body of literature dealing with various dimensions of the trends and determinants of **FDI** flows.

Theories of **FDI** can be evaluated in terms of several different criteria. One is whether each theory is logically consistent, the second is how well predicts out of sample observations and especially how well each theory provides an explanation for the sharp changes in the country patterns of **FDI** .Most theories of **FDI** are *under-determined* [47]and deal only partly with observed trends which limits the possibility of explaining new trends and limits the tested validity of each hypothesis.

Agarwal [48] (1980) suggested that: there is no one but a number of competing theories with varying degrees of power to explain **FDI**.

These theories can be ranked through four distinguished headings[49] :

Theories assume perfect markets, *theories assume imperfect market*, *other theories* of **FDI** and *theories based on other variables*.

II.1 Theories assume perfect market: this head covers three hypotheses:

1. *Differential rate of return hypothesis*[50]:

   this hypothesis considers **FDI** as a kind of *capital flows*, so it moves between countries according to *return rates* between them (from low rates of return to high rates of return) in such a way as to

[47] Because FDI is known by its heterogeneity and complexity including many variables and considerations : economical , financial , political , social ... for more detail see Maggie X. Chen and Michael O. Moore in Location Decision of Heterogeneous Multinational Firms , p01-46 and Kazunobi Hayakawa , Toshiyuki Matsuura in Complex Vertical FDI and Firm Heterogeneity : Evidence from East Asia ,p02-37.

[48] See Agarwal. S in Determinants of Foreign Direct Investment: A Survey, p739-773.

[49] This classification was suggested by Lizondo in Foreign Direct Investment in International Monetary Fund, Determinants and Systematic Consequences of International Capital Flows, p68-82.

[50] Weitrub analyzes the relationship between inter-country differences in the rate of return and the flows of US capital , for more detail see Weintrub ,R in Studio Emprico Sulle Relazioni di Lungo Andare Tra Movimenti di Capitali Rendimenti Differnziali ,p401-405 and Bandara , White whose rejected the hypothesis of differential rate of return as a major factor of capital movement for more detail see Bandera ,V.N and White .J.T in US direct Investments and Domestic Markets in Europe , p117-133.

equate the marginal return on and the marginal cost of capital (*the rate of return is the sole variable of investment decision*)[51].

2. *The diversification hypothesis*[52]:

According to this hypothesis, the choice among various project is therefore guided not only by *the expected rates of return* but also by *risk (correlation between return and risk).*

3. *The market size hypothesis*[53]:

This hypothesis suggests that **FDI**'s volume is determined by the host country's *market size* which is measured by the sales of **MNCs** in that country or by the country's **GDP.**

II.2 Theories assuming imperfect market: include the following hypothesis:

1. *The industrial organization hypothesis*[54]:

According to this hypothesis , when a firm establishes a subsidiary in another country it faces several disadvantages (differences in language , culture , legal system ..) in competing with local firms , but these disadvantages can be overcome if the **MNCs** exploit its *intangible assets* (well –known , brand name , patent protected technology ,managerial skills ...) in such a way to arise advantages from its location abroad (*other conception of the comparative advantage theory*).

---

[51] This claim finds its historical background in the absolute advantages theory of Adam Smith (1723-1790).

[52] This Hypothesis finds its basis in the portfolio selection and investment efficient diversification of Markowitz (1959) and Tobin (1958) , a brief survey is introduce d by Guofu Zhou in Understanding the role of Diversification , p01-04.

[53] Balassa suggested that a sufficiently large market allows for the specialization of the factor of production and consequently the achievement of cost minimization , for more detail see Balassa ,B in American Direct Investment in The Common Market , p121-146. Measures of market size by MNEs sales or the country GDP is popularly represented by Jorgenson in a generalized model of Chenery , and Koyck , for more detail see Jorgenson , D.W in Capital Theory And Investment Behavior , p247-259 and Chenery , H.B in Dvercapacity And The Acceleration Principle , p01-28.

[54] For more understanding of the industrial organization Hypothesis see Rajneesh Narula in Multinational Investment and Economic Structure, a books deal with the relationship between the multinational industrial organization and foreign direct investment based on Hymer (1976), Kidnelberger (1969) and Caves (1982) theories in this field.

2. *The internalization hypothesis*[55]:

This hypothesis explains why firms use **FDI** in preference to exporting and importing from other countries and why they are so shy to offer licensees. The answer could be found in such marketing costs when it's preferable to save them by forming a new firm. For example, if there are problems associated with buying oil products on the market, a firm may decide to buy a foreign refinery.

3. *The location hypothesis* [56]:

According to this hypothesis, **FDI** exists because of the *international immobility of some factor of production* (labor, natural resources), this immobility creates differences in the *cost of production factors* .An major example of this is the low wages as a prime determinant of **FDI** locations[57] .

II.3 Other theories of foreign direct investment: under this title, the following ones are suggested:

1. *The eclectic theory:* (**Dunning** 1977, 1978, 1988)[58]:

This theory try to explain **FDI** basing on three hypotheses: *the industrial organization hypothesis, the internalization hypothesis and the location hypothesis* but the way of this hypothesis interrelation remains a matter.

According to this theory, the three following hypotheses must be satisfied if a firm wants to engage in **FDI**.

---

[55] The original argument of the internalization hypothesis put by Coase stated that forming a plant in foreign soil saved different costs as the marketing ones , for more detail see Coase , R.H in The Nature of The Firms , p386-405 , Buckley and Casson proposed creating internal market hypothesis especially in market imperfection cases in order to reduce costs relating to intermediate products bypass to foreign soils , for more detail see Buckley ,P.J and Casson ,M in Foreign Market entry : A Formal Extension of Internalization Theory ,p849-876.

[56] Horst used this hypothesis (the location hypothesis based on the immobility of some production factors) to analyze US FDI in Canada ,see Horst ,T in The Industrial Composition of US Exports and Subsidiary Sales to The Canadian Market , p37-45.

[57] Various empirical studies concluded that wages differentials are major determinant of FDI location , for example Riedel found that lower wages costs were more significant determinant factor of export –oriented FDI in Taiwan , see Riedel , J in The Nature And Determinants of Export –Oriented Foreign Direct Investment in a Developing Country : A Case Study of Taiwan , p505-528.

[58] See John H. Dunning in The Multinational Enterprise and The Global Economy, p95-103.

1.1. *The industrial organization hypothesis:*

This suggests that a firm may have *comparative advantages* over other firms by the *ownership of some intangible assets* (the ownership specific advantages) like: particular technology or *monopoly power*[59] for example. .These advantages increase both the wealth creating capacity of the firm and the value of its assets.

1.2. *the internalization hypothesis*:

This hypothesis refers to the choice between the expansion within the firm or selling the rights to the means to other firms. According to this conception, **FDI** occurs if the specific ownership advantages can be profitably internalized[60] (it's beneficial for the firm to use these rights by itself rather than selling or leasing them).

1.3. *The location hypothesis*:

this hypothesis answers to the question of whether expansion is best accomplished at home or abroad , so it's in global interest of the firm to use *location specific advantages* in conjunction with at least some factor inputs located abroad .

[59] To understand monopoly power within markets see Philip Nelson in Monopoly Power, Market Definition and the Cellophane Fallacy, p01-20.

[60] The internalization process and measures are clearly discussed in Are Proxies Valid Measures of Internalization? of Paul Kalfadellis and Judy Gray, p02-20.

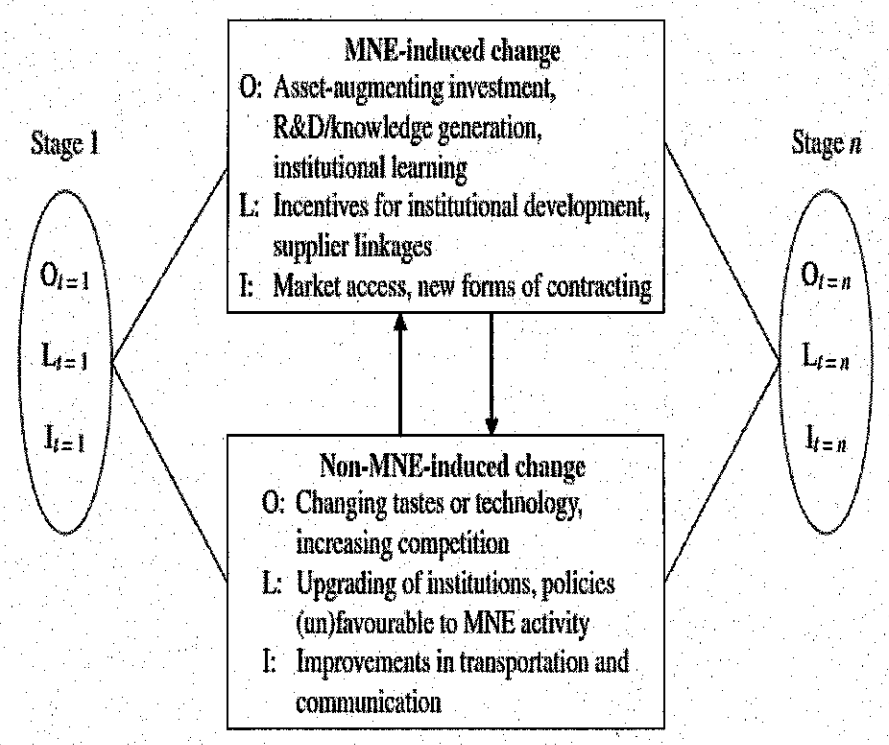


Exhibit: Some dynamic OLI paradigm from the perspective of MNEs.

Source: John H. Dunning: The Multinational enterprise and the global economy, p319.

2. *The product life cycle theory* (A technology innovation view):

Vernon (1966)[61] seemed to explain the Post –World War **II** product development innovation in the **US** and the eventual migration of the production of these products to low cost countries.

This theory is base on three important assumptions[62]:

(a) Communication costs within the firm and between the firm and the market are significant and increase with distance.
(b) Production undergoes predictable changes in technology and market methods.
(c) The market in technical *Know-How* is very imperfect.

[61] See Vernon .R in International Investment and International Trade in The Product Cycle, p 190-207.
[62] See Thomas N. Gladwin and Ian H.Gidy in A Survey of Foreign Investment Theory, p 20-29.

This theory suggested that many manufactured products go through the following stages:

(a) Introduction into the home market.
(b) Export sales are added to domestic sales.
(c) Foreign production begins in lower cost countries.
(d) Domestic industry loses its competitive advantage in price and innovation.
(e) Foreign competition serves the domestic market with imports.

(a), (b) Represent which is called: new *product stage innovative base*[63], characterized by the need for coordination between R&D and production units *and an inelastic price demand.*

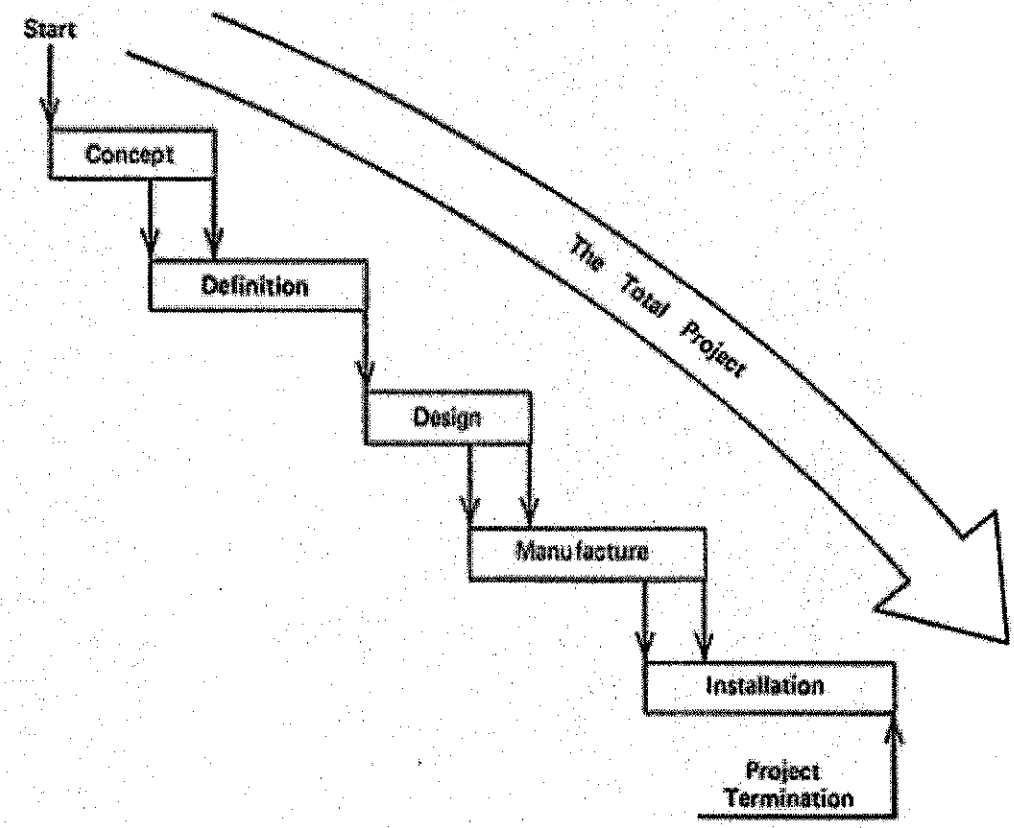


Exhibit: The Project Life Span including the Innovative Base (Start-Concept-Definition –Design).

Source: R.Maw Wideman: The Role of Project Life Cycle (Life Span) in Project Management, p 03.

[63] For more detail about the innovative base stage see Jeffry.L Funk in The Product Life Cycle Theory and Product Line Management: The Case of Mobile Phones, p143.

(c) , (d) Represents the *second stage market by the product's maturity* when the firms become increasingly sensitive to routine production cost so it's not important for production to be close to the market (the firm's resort to **FDI** in order to meet local demand) .

(e) Represents the third stage where *the product is completely standardized* and the production processes are commonly known, the home country becomes net importer and the host country becomes net exporter.

The following exhibit shows these processes work over time:

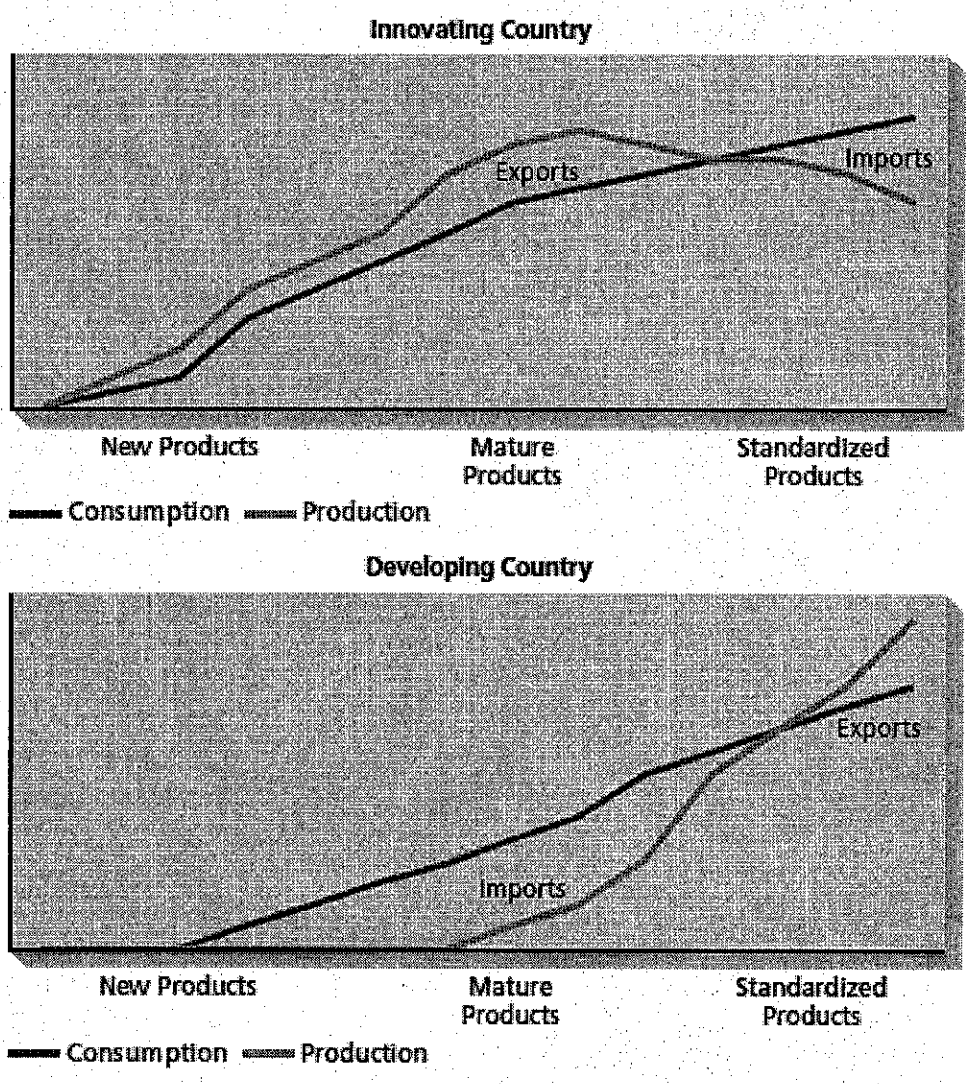


Exhibit: Vernon's Product Life Cycle Theory

Source: John B .Cullen and K. Praveen Parboteeah, International Business Strategy And The Multinational Company, p 108.

3. *The oligopolistic reaction theory* ***(Knickerbocker 1973)***:

According to this theory , the *oligopolistic reaction* increases with the level of *concentration*[64], in the field of **FDI** and decreases with the level of diversity of the product , that leads to a positive correlation between **FDI**'s profitability and the industrial concentration degree and a negative's one with the product diversity .

The inclusion of this theory implies that **FDI** is *self limiting*[65] because the invasion of each firm arouses the competition force in an attempt to maintain firms market shares and declines the oligopolistic reaction.

4. *The internal financing theory*[66]:

This theory is based on the "*gamblers earnings*[67]" of ***Barlow*** and ***Wender***[68] (1955) postulates that **MNEs** commit a modest amount of their resources to their initial investment, while subsequent subsidiaries are financed by reinvesting profits obtained from operations in the host country.

This theory is more appropriate for explaining **FDI** especially in developing countries for two reasons:

(a) The rudimentary state and the inefficiency of capital markets.
(b) The restrictions on funds movement.

---

[64] The firm concentration level (the ownership concentration) and its effect on firms profitability and performance , how the ownership structure reduces the agency costs (separation between ownership and management) see an empirical study on firms from different manufacturing sectors in Pakistan of Attiya Y.Javid in Ownership Concentration , Corporate Governance and Firm Performance : Evidence From Pakistan , p01-22 , other empirical study using panel data to show the effects of Ownership Concentration on Firm Performance see: John S. Earle , Csaba Kucsera and Almos Telegdy in Ownership Concentration and Corporate Performance on The Budapest Stock exchange : Do Too Many Cooks Spoil The Goulash ? , p1-24, how the concentration be measured (discrepancies between traditional and contemporary measures)? , this question is tackled by James F. Oehmke and Christopher A. Wolf in Measuring Concentration in The Biotechnology R&D Industry : Adjusting for Interfirm Transfer of Genetic Materials ,p134-139.

[65] See George J.Stigler in A Theory of Oligopoly, p44.

[66] It means the utilization of profit generated by a subsidiary to finance the expansion of FDI , the project self- financing is a flourished study subject underlying the appropriate criteria and effects on the firms performance and profitability , details in Self- financing of council housing services : summary of findings of a modeling exercise , p13-S7.

[67] While of the internal financing is lower, this leads to the existence of a positive relationship between internal cash flows and investment outlays.

[68] See Guy V.G.Stevens in The Multinational Firm and The Determinants of investments, p18 (Table), the internal financing and repatriated earnings affect FDI MNEs and host country incomes, for more detail see: Hartman D G in Tax Policy And Foreign Direct investment in The United States , p107-121.

5. *The currency exchange rate area hypothesis and the effect of the exchange rate theory:*

This theory explains **FDI** in terms of relative strength of various currencies , supposing that firms belonging to a country of strong currency tend to invest abroad (sources of **FDI**) while firms belonging to weak currency do not have such tendency (recipients of **FDI**) . This theory was tested empirically by examining the relationship between the value of currency and the FDI flows that[69]:

The overvaluation of currency leads to an **FDI** outflows.

The undervaluation of currency leads to **FDI** inflows.

Exchange rate is also important to **FDI** because this latter can be considered as an alternative of export as:

Depreciation of domestic currency leads to increase FDI inflows.

Appreciation of domestic currency leads to decrease FDI inflows.

The expectation of a reversed depreciation leads to increase FDI inflows.

[69] See Len J. Trevino , Franklin G. Mixon Jr in Strategic Factors affecting Foreign Direct Investment Decisions by Multinational Enterprises in Latin America, p236.

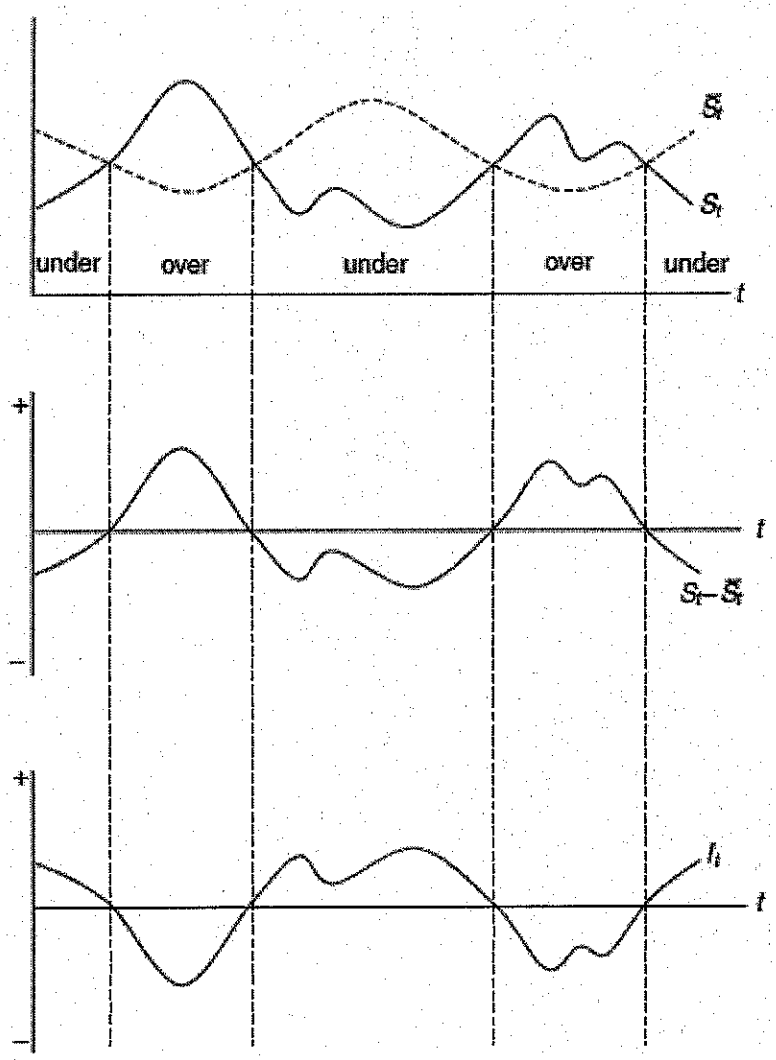


Exhibit: Relationship between undervaluation and overvaluation (misalignment), appreciation and depreciation changes in the exchange rate and FDI flows. Source: Imad A. Moosa, Foreign Direct Investment: theory, evidence and practice, p47.

Where:

S_t : the actual level of exchange rate.
$\overline{S}_t$: the exchange rate level implied by purchasing power parity (PPP).

6. *The theory of diversification with barriers to international capital flows*[70]:

This theory suggests that the international diversification can be accomplished through firms if:

(a) There exist barriers or portfolio's costs greater than those associated with direct investment.

(b) Investors recognize that multinational firms provide diversification opportunities that are otherwise unavailable.

Furthermore, the presence of capital flows barriers shows a strong systematic relationship between the extent of international involvement and excess market value (the firm stock prices).

7. *The **Kojima** theory*: 1973, 1975, and 1985[71]:

According to this theory, **FDI** is a mean of transferring capital, managerial skills from the source to the host country. ***Kojima*** classifies **FDI** to two kinds:

(a) *Trade oriented **FDI*** generating an excess import demand and excess export supply

(b) *Anti trade oriented **FDI***: which has an adverse effect on the original terms of trade cited in the first kind.

In general, this theory is based on the complementarity between **FDI** and trade (*more consideration to the comparative cost theory*).

[70] See Agmon T. and Lessard D. R in Investor Recognition of Corporate International Diversification, p1049-1055.

[71] See Kojima K in International Trade and Foreign Investment: Substitutes or Complements? , p01-12, A Macroeconomic Approach to Foreign Direct investment, p01-12 and Japanese and American Investment in I Asia: A Comparative Analysis, p01-35.

II-4 Theories based on other variables:

The theories fall under this heading are:
Political risk and country risk, tax policy, trade barriers, government regulations and strategic and long term factors.

1. *Political risk and country risk*[72]:

Political risk represents the unexpected modification of the legal and fiscal framework of the host country (repatriation restriction on dividends to the parent firm, specific government that appear hostile to **FDI** ...) which drastically discourage **FDI** inflows.
Country risk is wider concept encompassing the former taking into account economic and credit indicators.

2. *Tax policies*[73]:

There are three channels through which tax policies affect **MNC**'s decision:
(a) The tax treatment of income generated abroad (effect on net return of **FDI**).
(b) The tax treatment of income generated at home (effect on net profitability of domestic and foreign investment).
(c) The tax treatment on capital costs of domestic and foreign investment.

[72] To show the interconnection between country risk and FDI on domestic and foreign company see the empirical study on Serbia Republic of Evica Petrović , Jelina Stonković in Country Risk and Effect on Foreign Direct Investment , p10-21, Ramcharan used the Euromoney index to measure the effect of political risk on FDI using regression analysis and cross section data for 26 countries for the years 1992 -1993-1994 , for more detail see : Ramcharan. H in Foreign Direct Investment and country risk , p49-58 , what are the variables included to measure country risk and the interconnection between country risk , Greenfield investment and Acquisition are tackled by : Frank Hauser in Country Risk and Foreign Direct Investment in Transition Countries , p17-58.

[73] For more detail about the corporate taxation reaction on FDI (the most exclusively studies focus) see: Agnès Bénassy –Quéré and Amina Lahrèche Révil in How Does FDI React to Corporate Taxation? , p3-22 ,another way of thinking based on the effect of indirect tax (non–income) on FDI by American Multinational Firms estimated that 10% higher local indirect taxes are associated with 7.1% lower affiliate assets which is similar to the effect of 10% higher income tax rates, for more details see Mihir A. Desai, C. Fritz Foley and James R .Hines Jr in Foreign Direct Investment in a world of Multiple Taxes, p2729-2743.

3. *Trade barriers*[74]:

According to this theory, **FDI** may be undertaken to circumvent trade barriers as the increased threats of protection leads to greater **FDI** flows[75].

4. *Government regulations*[76]:

The government regulations can be viewed through : *incentives* (fiscal incentives , financial incentives , market preferences , provision of information , low cost infrastructure ...) to encourage **FDI** flows , or *disincentives* (various forms of restrictions) to restrict the MNC's activities .

Type of incentive	Purpose	Elements
fiscal	to reduce the tax burden on the investor	tax credit, tax relief, tax rebate, exemption from customs duty, reduction of tax base, VAT exemption, accelerated depreciation, reinvestment allowance, loss accrual
financial	to provide direct financial assistance	Soft loans, grants, sovereign guarantee on investment credits, export guarantee, insurance and credit, subsidised funding for various purposes
Other	to increase the profitability/reduce the costs of the investment through non-financial means	preferential government contracts, real estate provided below market price, promotion of institutional investment, SME development programmes, customs free areas, special economic zones, industrial parks

Exhibit: Key FDI incentives in the narrow sense.

Source: Magdolna Sass, Competiveness and Economic Policies Related to foreign Direct Investment, p 11.

[74] How does the integration effect (another approach of trade barriers) reduce border effect s on FDI? , an empirical study on 18 European Countries from 1995-2006 showing that reducing trade barriers of the host countries stimulated the horizontal multinational enterprise to substitute international trade for FDI and promoted bilateral FDI through reducing the distribution costs of products within the European Union (controversial view) , for details see : Valeriano Martinez and Martga Bebgoa in Integration Effects And Trade Barriers : Does European Economic Integration affect Foreign Direct Investment ? , p02-17.

[75] Nice example of this is the Honda's establishment of production facilities into Ohio to circumvent the tariffs and quotas imposed by US government .The surge of FDI in Mexico is related to the desire of MNCs corporations to circumvent the trade barriers imposed by NAFTA, for more detail see Eun C. S AND Resnick B. G in International Financial Management, p394.

[76] About the host government various incentives see Magnus Blomstrőm and Ari Kokko in The Economics of Foreign Direct Investment incentives, p01-21.

5. *Strategic and long term factors*[77]:

There are some strategic factors putting forward to explain **FDI** as:

(a) The strong desire from the investor to defend existing market share from competitors.
(b) The need to induce the host country into a long commitment to a particular type of technology.
(c) Competition for market share among oligopolistic and strengthening the bargaining positions.

[77] See Len J. Trevino and Franklin G. Mixon Jr in Strategic Fators affecting Foreign direct investment decisions by multinational enterprises in Latin America , p234-235-236.

Table: Some selected recent studies of FDI determinants.

Study	Issue under investigation	Findings
Goldberg and Klein (1997)	Effects of real exchange rate on FDI	A real depreciation of currencies of Asian countries against the yen leads to an increase in FDI from Japan and a decrease in FDI from the USA.
Lehmann (1999)	Role of country risk	Political and economic risks are deterrents to FDI.
Clegg and Scott Green (1999)	Link between FDI and European integration	New FDI is linked to conventional host characteristics whose effects vary considerably between groups of member countries.
Marinov and Marinova (1999)	Motives of foreign investors , host governments and host companies in Eastern Europe	Motives are related to the strategic priorities of investing firms.
Dunning and Dilyard (1999)	Explanation of FDI and portfolio investment	Determinants have common and distinctive characters .They are complementary.
Wilkins (1999)	Relationship between FDI and portfolio investment	FDI and portfolio investment ratios have shown no consistency across countries through time.
Ramcharran (1999)	Relationship between FDI and country risk	A significant relationship exists between FDI and country risk (political and economic).
Kreinin *et al* (1999)	Motives for Japanese FDI	Many motives but securing market share is the most important.
Okopsin (1999)	FDI by Singapore based firms	FDI is carried out only by large firms or firms with monopolistic advantage.
Konishi et al (1999)	FDI and trade barriers	Firms can jump over trade restrictions by undertaking FDI.
Wu (1999)	Intra-urban FDI location in China	Intra –urban FDI can be explained according to rational economic considerations.
Fosfurri and Motta (1999)	The argument that firms embarking on FDI must possess some advantage	Firms might invest abroad to capture local advantages through proximity of plant location.

Globerman and Shapiro (1999)	The effect of policy changes on inward and outward FDI	Free trade agreements had a positive effect .Screening of projects had no significant effect.
Gyapong and Karikari (1999)	Causal relationship between FDI and economic performance in two African countries	Impact of economic performance on FDI depends on the strategy of the investment.
Tuman and Emmert (1999)	Political and economic determinants of Japanese FDI in Latin America	Determinants include market size, economic policies and certain types of political instability.
Montiel and Reihart (1999)	Effect of capital controls on the volume and composition of capital flows	Capital controls influence the composition of flows, but sterilized intervention influences both volume and composition.
Mody *et al* (1999)	The choice of FDI location by Japanese MNCs	Trade barriers do not drive Japanese FDI in Asia.
Das (1999)	Choice of entry mode	Riskiness of the project is a factor against joint venture .In the absence of policy intervention, licensing is dominated by FDI or ventures.
Martin and Ottaviano (1999)	Locational factors	High growth rates and transaction costs are associated with FDI.
Cleeve (2000)	Factors that determine location of Japanese FDI in the UK.	Wage differences are unimportant .Production growth is important.
Resmini (2000)	Determinants of FDI by EU in the CEESs.	Heterogeneity ate sector level.
Baumgarten and Haushmen (2000)	Location of US FDI in Latin America.	FDI decision is complicated, containing variables of political market and social nature.
Gray (2000)	Effect on globalization on developing countries.	Tendency for virtuous and vicious cycle is magnified.
Pitles (2000)	Theory of growth of MNEs	Growth results from endogenous factors and from external opportunities and threats.

Sanford and Dong (2000)	Influence of tourism on FDI	Significantly positive relationship between tourism and new FDI in the USA.
Traxler and Woitech (2000)	Labor market regimes are determinant of location	Investors do not assign high priority to labor market regimes.
Schoeman *et al* (2000)	Impact of fiscal policy on FDI in South Africa.	FDI flows are affected by fiscal discipline and tax burden on foreign investors.
List and Co (2000)	Relationship between location and environmental regulations	Environmental policies do matter.
Cheng and Kwan (2000)	Determinants of the location of FDI in China	Important determinants are regional market size, good infrastructure and preferential policy. Wage cost has a negative effect.
Thompson and Poon (2000)	Links between FDI and regulatory change in Asian countries.	Significant correlation between reform expectations and FDI flows.
Sung and Lapan (2000)	FDI and exchange rate volatility.	With sufficient exchange rate volatility, firms can increase profits by opening several plants.
Ihrig (2000)	Effect of repatriation restrictions on FDI	Abolishing restrictions encourages FDI inflows.
Pistoresi (2000)	Location specific and policy related determinants of FDI in Latin America and Asia	FDI depends on economic and political factors.
Kosteletou and Liargovas (2000)	Relationship between FDI and Real exchange rate	Causality runs from real exchange rate to FDI in large countries with floating exchange rates .Bidirectional causality in other cases.
Kiyamaz and Taylor (2000)	Competition for FDI	When a country is not sure that a miserly offer will drive the firm to its rival, it may take the chance and nevertheless make a miserly offer.
Benacek (2000)	Determining factors of FDI inflows in the Czech Republic	Initially, foreign investors were not motivated by local human capital.
Zhang (2000)	Size of US FDI in China	Small size is a result of US investors ' preference for market access , china export promotion FDI regime ,

		bilateral relations and political ins
Donnefeld and Weber (2000)	Choice between FDI and exports	No simple relationship between the size of tariffs and the tendency to engage in FDI.
Wei (2000)	The effect of taxes and corruption on FDI	A rise in either the tax rate or corruption in the host country reduces FDI.
Guimaraes et al (2000)	Agglomeration as determinant of FDI	Agglomeration economies are decisive location factors.
Marcelo Braga Nonnemberg and Mario Jorge Cardoso de Mondonca (2000)	Level of schooling economy's degree of oppeness as major determinants of FDI.	FDI is closely associated with stock market performance .
Sing and Leung (2001)	Effect of liberalization on FDI inflows	Policy changes are more important for FDI than GDP growth rate or exchange rate .
Moshiriani (2001)	FDI in banking	Major determinants include bilateral trade banks, foreign assets, and cost of capital, exchange rates and other FDI.
Anjum Aqeel and Mohamed Nishat (2005)	Trade , fiscal and financial sector liberalization as determinants of FDI in Pakistan .	All these variables are significant determinants of FDI .
Tayek Dong Yeo, Youngman Yoon , Min Hwan Lee and Chan Yeal Lee (2006)	Labor cost , market size , trade volume ,regulation and agglomeration as major determinants of FDI in Korea .	Trade oppeness and the agglomeration are major determinants of FDI while regulation is a negative effect on FDI .
Nguyen Ngoc Anh and Nguyen Thang (2007)	Determinig factors of FDI in Vietnam .	The imporatnce of market , labour and infrastructure as major deterinants of FDI flows .
Ozturk Ilhan and Kalyoncu Husyein (2007)	Determining factor of FDI in Turkey and Pakistan (cross country comparaison)	Economic growth of host country as a major determinant of FDI .
Asa Hansson and Karin Olofsdotter (2009)	Taxes and agglomeration as determinants of FDI in an enlarged European Countries.	Higer taxes deter FDI flows.

Karimi Mohamed Sharif and Yusop Zukkornain (2009)	Determinig factors of FDI in Malaysia .	There is no strong evidence of a directional causality between FDI and economic growth .
Claudia M.Buch , Iris Kesternish ,Alexander liponner and Monika Schnitzer (2010)	Financial factors as determinants of FDI .	The importance of financial factors for firms to engage in FDI .The fiinancial frictions matter for this decision .

Source: Compiled by the student.

III- Components and valuation of FDI :

This part describes the *components*, *accounts* and *scopes* of foreign direct investment.

III-1. FDI Components:

The **FDI** components include:

(a) *Financial instrument components*[78] : this heading contains :

1. Equity: common and preferred shares, reserves, reinvested earnings, dividends and undistributed branch earnings.
2. Debt : marketable securities as bonds , debentures , commercial papers , promissory notes , non participating preference shares ; and other non tradable security shares like loans , deposits , trade credit and other accounts payable / receivable .

In general **FDI** equity and debt are:

1. Financing provided by a direct investor to a directly or indirectly owned direct investment enterprise.
2. Financing received from directly or indirectly owned direct investment enterprise by a direct investor.
3. Financing provided by or fellow enterprises.

III-2. FDI accounts:

The **FDI** accounts include:

***FDI** positions, **FDI** transactions , **FDI** incomes and other changes.*

(a) **FDI** *positions*[79] : FDI positions can be analyzed through the following principles :

1. **FDI** positions according to the asset / liability principle :

Six classes of **FDI** assets and six classes of **FDI** liabilities serving at the building blocks for the presentation of **FDI** statistics as in the following table:

[78] OECD Benchmark Definition of Foreign Direct Investment 2008, p 60.
[79] OECD Benchmark Definition of Foreign Direct Investment 2008, p 65.

Table: FDI position according to the asset /Liability principle.

Assets	Liabilities
Of direct investors in direct investment enterprises	*Of direct investment enterprises to direct investors*
A1. Equity	L1. Equity
A2. Debt instruments	L2. Debt instruments
Of direct investment enterprises in direct investors (reverse investment)	*Of direct investor to direct investment enterprises (reverse investment)*
A3. Equity	L3. Equity
A4. Debt instruments	L4. Debt instruments
In fellow enterprises	*To fellow enterprises*
A5. Equity	L5. Equity
A5.1. If ultimate controlling parent is resident	L5.1. If ultimate controlling parent is non-resident
A5.2. If ultimate controlling parent is non-resident	L5.2. If ultimate controlling parent is resident
A6. Debt instruments	L6. Debt instruments
A6.1. If ultimate controlling parent is resident	L6.1. If ultimate controlling parent is non-resident
A6.2. If ultimate controlling parent is non-resident	L6.2. If ultimate controlling parent is resident

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p65.

2. **FDI** position according to the directional (outward / inward) principle :

FDI *outwards* include the net asset of resident enterprise exerting control or influence on nonresident enterprises. **FDI** *inwards* include the net liabilities of resident enterprises controlled or influenced by nonresident enterprises .Outwards and inwards are schematically shown as follows:

Table : FDI position according to the directional principle.

Outward foreign direct investment	Inward foreign direct investment
Outward equity position:	*Inward equity position:*
A1. Equity assets of DI in DIE	**L1.** Equity liabilities of DIE to DI
– L3. Equity liabilities of DI to DIE* (reverse investment)	**– A3.** Equity assets of DIE in DI* (reverse investment)
A5.1. Equity assets in fellow enterprises abroad *(if ultimate controlling parent is resident)*	**L5.1.** Equity liabilities to fellow enterprises abroad *(if ultimate controlling parent is non-resident)*
– L5.2. Equity liabilities to fellow enterprises abroad* *(if ultimate controlling parent is resident)*	**– A5.2.** Equity assets in fellow enterprises abroad* *(if ultimate controlling parent is non-resident)*
Outward debt instruments position:	*Inward debt instruments positions:*
A2. Debt instruments assets of DI in DIE	**L2.** Debt instruments liabilities of DIE to DI
– L4. Debt instruments liabilities of DI to DIE* (reverse investment)	**– A4.** Debt instruments assets of DIE in DI* (reverse investment)
A6.1. Debt instruments assets in fellow enterprises abroad *(if ultimate controlling parent is resident)*	**L6.1.** Debt instruments liabilities to fellow enterprises abroad *(if ultimate controlling parent is non-resident)*
– L6.2. Debt instruments liabilities to fellow enterprises abroad* *(if ultimate controlling parent is resident)*	**– A6.2.** Debt instruments assets in fellow enterprises abroad* *(if ultimate controlling parent is non-resident)*

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p66.

(b) ***FDI** financial transactions* [80]:

FDI transactions are all transactions between direct investors, direct investment enterprises and /or other fellow enterprises .**FDI** transactions are analyzed through:

1. **FDI** transactions according to the asset liability principle:

Shows the subdivision of equity assets and liability classes to sub-components as exhibited in the following table:

[80] OECD Benchmark Definition of Foreign Direct Investment 2008, p70-74.

Table: FDI Transaction according to Asset /Liability principle.

Transactions in assets	Transactions in liabilities
Of direct investors in direct investment enterprises	***Of direct investment enterprises to direct investors***
A1. Equity	**L1.** Equity
A1.1. Equity transactions	**L1.1.** Equity transactions
A1.2. Reinvestment of earnings	**L1.2.** Reinvestment of earnings
A2. Debt instruments	**L2.** Debt instruments
Of direct investment enterprises in direct investors- Reverse investment	***Of direct investors to direct investment enterprises – Reverse investment***
A3. Equity	**L3.** Equity
A4. Debt instruments	**L4.** Debt instruments
In fellow enterprises	***To fellow enterprises***
A5. Equity	**L5.** Equity
A5.1. If ultimate controlling parent is resident	**L5.1.** If ultimate controlling parent is non-resident
A5.2. If ultimate controlling parent is non-resident	**L5.2.** If ultimate controlling parent is resident
A6. Debt instruments	**L6.** Debt instruments
A6.1. If ultimate controlling parent is resident	**L6.1.** If ultimate controlling parent is non-resident
A6.2. If ultimate controlling parent is non-resident	**L6.2.** If ultimate controlling parent is resident

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p70.

2. transaction according to the directional principle

The **FDI** elements are schematically shown as follows:

Table : FDI Transaction according to the directional Principle .

Outward foreign direct investment	Inward foreign direct investment
Outward equity transactions	***Inward equity transactions***
A1. Equity assets of DI in DIE	**L1.** Equity liabilities of DIE to DI
A1.1. Equity transactions	**L1.2.** Equity transactions
A1.2. Reinvestment of earnings	**L1.2.** Reinvestment of earnings
- L3. Equity liabilities of DI to DIE(reverse investment)*	**- A3.** Equity assets of DIE in DI (reverse investment)*
A5.1. Equity assets in fellow enterprises abroad *(if ultimate controlling parent is resident)*	**L5.1.** Equity liabilities to fellow enterprises abroad *(if ultimate controlling parent is non-resident)*
- L5.2. Equity liabilities to fellow enterprises abroad* *(if ultimate controlling parent is resident)*	**- A5.2.** Equity assets in fellow enterprises abroad* *(if ultimate controlling parent is non-resident)*
Outward debt instruments transactions	***Inward debt instruments transactions***
A2. Debt instruments assets of DI in DIE	**L2.** Debt instruments liabilities of DIE to DI
- L4. Debt instruments liabilities of DI to DIE (reverse investment)*	**- A4.** Debt instruments assets of DIE in DI (reverse investment)*
A6.1. Debt instruments assets in fellow enterprises abroad *(if ultimate controlling parent is resident)*	**L6.1.** Debt instruments liabilities to fellow enterprises abroad* *(if ultimate controlling parent is non-resident)*
- L6.2. Debt instruments liabilities to fellow enterprises abroad* *(if ultimate controlling parent is resident)*	**- A6.2.** Debt instruments assets in fellow enterprises abroad* *(if ultimate controlling parent is non-resident)*

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p71.

(c) ***FDI*** *investment incomes* [81]:

FDI income is part of the return on direct investment position , it consists of : return on equity investment and debt investment . For example a resident direct investment share in the net income or earnings of its direct investment enterprises plus income on debt between direct investment and direct investment enterprises and between fellow enterprises.

[81] OECD Benchmark Definition of Foreign Direct Investment 2008, p74.

FDI income should be separately shown for:

1. assets and for liabilities principle as exhibited in the table below :

Table : FDI Income according to the Asset /Liabilities Principle.

Receivables	Payables
Of direct investors from direct investment enterprises	***Of direct investment enterprises to direct investors***
A1. Earnings on equity	**L1.** Earnings on equity
A1.1. Distributed earnings	**L1.1.** Distributed earnings
A1.2. Reinvested earnings	**L1.2.** Reinvested earnings
A2. Interest (on debt instruments)	**L2.** Interest (on debt instruments)
Of direct investment enterprises from direct investors – Reverse investment	***Of direct investors to direct investment enterprises – Reverse investment***
A3 Distributed earnings	**L3.** Distributed earnings
A4. Interest (on debt instruments)	**L4.** Interest (on debt instruments)
From fellow enterprises abroad	***To fellow enterprises abroad***
A5. Distributed earnings	**L5.** Distributed earnings
A5.1. If the ultimate controlling parent is resident	**L5.1.** If the ultimate controlling parent is non-resident
A5.2. If the ultimate controlling parent is non-resident	**L5.2.** If the ultimate controlling parent is resident
A6. Interest (on debt instruments)	**L6.** Interest (on debt instruments)
A6.1. If the ultimate controlling parent is resident	**L6.1.** If the ultimate controlling parent is non-resident
A6.2. If the ultimate controlling parent is non-resident	**L6.2.** If the ultimate controlling parent is resident

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p75.

2. directional principle as shown schematically as follows :

Table: *FDI Income according to the directional Principle.*

Income on outward foreign direct investment	Income on inward foreign direct investment
Income on outward equity	***Income on inward equity***
A1. Earnings on equity	**L1.** Earnings on equity
A1.1. Distributed earnings	**L1.1.** Distributed earnings
A1.2. Reinvested earnings	**L1.2.** Reinvested earnings
– L3. Distributed earnings of DI to DIE (reverse investment)*	**– A3.** Distributed earnings of DIE from DI (reverse investment)*
A5.1. Distributed earnings from fellow enterprises abroad *(if ultimate controlling parent is resident)*	L5.1. Distributed earnings to fellow enterprises abroad *(if ultimate controlling parent is non-resident)*
– L5.2. Distributed earnings to fellow enterprises abroad* *(if ultimate controlling parent is resident)*	– A5.2. Distributed earnings from fellow enterprises abroad* *(if ultimate controlling parent is non- resident)*
Interest on outward debt instruments	***Interest on inward debt instruments***
A2. Interest receivable from DIE	**L2.** Interest payable to DIs
– L4. Interest payable by DI to DIE (reverse investment)*	**– A4.** Interest receivable by DIE from DI (reverse investment)*
A6.1. Interest receivable from fellow enterprises (on debt instruments) *(if ultimate controlling parent is resident)*	**L6.1.** Interest payable to fellow enterprises (on debt instruments) *(if ultimate controlling parent is non-resident)*
– L6.2. Interest payable to fellow enterprises (on debt instruments)* *(if ultimate controlling parent is resident)*	– A6.2. Interest receivable from fellow enterprises (on debt instruments)* *(if ultimate controlling parent is non-resident)*

Source: OECD Benchmark Definition of Foreign Direct Investment 2008, p75.

(d) *Other changes*[82] :

The other changes account is an important component of direct investment statistics as it allows transactions to be reconciled with positions. This account consists of : valuation changes and volume changes.

[82] : OECD Benchmark Definition of Foreign Direct Investment 2008, p79.

1. *Valuation changes*:

Valuation changes in the market value of a position through exchange rate changes and other price changes.

1.1 *Exchange rate changes* :

For example, if the accounts are compiled in the local currency and the local currency appreciates against the currency of denomination of a financial instrument , exchange rate changes will reflect a decrease in the value of the instrument in the local currency .This is the case whether the instrument is an asset or a liability .

About transactions and positions: the former are converted to the compilation currency at the rate prevailing when they took place. The latter are converted at the rate prevailing on the reference date.

2.2 *Other price changes* :

This item reflects all changes to the market value of an instrument as expressed in the compilation currency that are not exchange rate changes or attributable to transactions that 's mean reflecting all the changes in the market value of an instrument in the currency in which is denominated , then these changes will be converted to the currency of compilation and may also give rise to exchange rate changes if this latter (exchange rate) changes over the period during which the market price change occurred .

2. *Volume changes* :

The causes of changes in volume of financial assets /liabilities are due to:

Debt cancellation and *write-offs, liquidations, uncompensated seizure* and *reclassifications.*

2.1 *Debt cancellation and write-offs*[83] (volume changes treatment) :

Debt cancellation and write –offs are unilaterally determined by creditor as well as by courts, arbitrator and related out of court settlements while the debt repudiation is not recognized.

[83] OECD Benchmark Definition of Foreign Direct Investment 2008, p82.

Example:

A creditor may recognize that a financial claim can no longer be collected from the debtor and may remove the claim from its balance sheet.

2.2*Debt forgiveness and debt assumption (financial transaction treatment)* [84]:

Debt forgiveness involves the intention by the creditor to convey a benefit to the debtor.

Debt assumption (including one off guarantees) involves a third party with which there may be transactions.

2.3*Liquidation and failed exploration activities* [85]:

In liquidation, the investment enterprise equity is often written off by direct investor and removed from its balance sheet (volume change treatment) .For the write off of debt, this case should be treated as valuation change. Concerning mineral exploration activities, the provision of the used equipment is recorded as transaction reflecting the injection of equity in the branch .The same kind of treatment (volume change) is adopted where the operator walks away from the activities (identification failure of viable resource discovery for example).

2.4*Uncompensated seizure* [86]:

This happens when the government decides to nationalize certain industries within its jurisdiction without compensation (the equity position of the direct investor reduced to zero through volume change treatment).

2.5*Reclassification* :

This item consists of changes in financial instruments characteristics without cross border transactions for example:

[84] OECD Benchmark Definition of Foreign Direct Investment2008, p82.
[85] OECD Benchmark Definition of Foreign Direct Investment2008,p82.
[86] OECD Benchmark Definition of Foreign Direct Investment 2008, p83.

The effect of migration of persons on FDI reclassification (assets held by person changes his resident leads to a reclassification to his /her direct investment assets).

III-3 FDI valuation[87]:

The market value is the conceptual basis for valuing direct investment transactions and positions .This covers the following headings:

1. *Valuation of Foreign Direct Investment positions :*

   a. *Equity positions :*

The market valuation is the recommended principle to be used when measuring equity positions .This valuation focuses on methods that may be used to value quoted shares, unquoted shares and equity in incorporated enterprises.

   b. *Debt positions :*

The use of nominal values as proxy for market value for all debt positions is recommended.

2. *Valuation of FDI financial flows and transfer pricing:*

When a transaction in goods and services occurs between two enterprises, this transaction is to be recorded at market prices[88].

[87] For more details see OECD Benchmark Definition of Foreign Direct Investment , p93-94-95.

[88] The balance of payments manual defines market prices as amounts of money as amounts of money that willing buyers pay to acquire something from willing sellers on commercial considerations only –sometimes called at "arm's length ". For more details OECD Benchmark Definition of Foreign Direct Investment, p96-97.

IV- The effect of foreign direct investment:

The effect of **FDI** on the host country can be classified to: economical, political and social effects[89].

The *economic effects* of **FDI** include the implications for (micro and macro) economic variables as: output, the balance of payment and market structure[90]. The *political effects* include the question of national sovereignty[91]. The *social issues* are mainly concerned with the creation of enclaves and foreign elite in the host country.

Under this heading only the economic effects are discussed.

1. *The provision of capital* [92]:

FDI contributes in filling two important gaps:

The *saving gap* (difference between investment and saving) and the foreign exchange gap (difference between imports and exports).

2. *The effect of **FDI** on output and growth* [93]:

This effect is more important because **FDI** inwards are considered to boost the economic development (the increasing of the capital stock of the host country or take over which means more efficiency utilization of existed resources).

---

[89] See Imad A.Moosa in Foreign Direct Investment: theory, evidence and application, p69.

[90] For more detail see : Adeolu B. Ayanwale in FDI and economic growth : evidence from Nigeria ,p01-37 , Andreas Johnson in The effects of FDI inflows on host country economic growth , p1-26 , K .C.Fung , Hitomi Lizaka , Sara Tong in Foreign Direct investment in China : Policy , Trend and impact , p02-34 and Maria Carkovic and Ross Levine in Does Foreign Direct Investment Accelerate Economic Growth ? , p195-220.

[91] For more detail see :Heiner Schuiz in The Political Determinants of FDI in developing countries , p01-14 , Blendi Barroli , Koji Takahashi , Tokishatsu Tomizawa The impact of Political Volatility on Foreign Direct Investment : Evidences from the Western Balkan Countries , p65-76 , a very enjoyable book in this field merits to be read of Kristiina Korhonen in Foreign Direct investment in a Changing Political Environmental .

[92] McKinnon claimed that developing countries encounter a hard saving problem to match their investment needs and other problem related to import financing through export earnings , for more detail see : McKinnon , R in Foreign Exchange Constraints in Economic Development And Efficient Aid Allocation , p388-409 , these problems de resolved typically by FDI simply because :FDI by a particular MNE in a particular country may encourage other MNEs to participate in the same project , this may encourage also official aids developments aids from the investor's home country , FDI can mobilize domestic saving by offering local attractive investment opportunities and increases the financial inflows available for investment especially for developing countries , for more detail see : Razin and Yuen about the role of FDI on financial markets of the host country arguing that FDI plays a double role (reviving domestic market through channeling domestic saving to domestic investment and providing traditional gains from trade to host country.

[93] For more detail see: Zeshan Atique, Mohsin Hasnain Ahmed and Usman Ashar in the impact of FDI on Economic growth under foreign trade regimes: A Case Study of Pakistan, p01-11.

*3. The effect of **FDI** on employment and wages*[94] *:*

1. **FDI** is capable of increasing employment directly by setting up new facilities or indirectly by stimulating employment in distribution.
2. **FDI** preserve employment by acquiring and restructuring ailing firms.
3. **FDI** can reduce employment by divestment or closure of production facilities.

4. *The effect of **FDI** on balance of payment*:

This effect has certain features:

First : distinction between direct (reflected immediately in the foreign exchange gap results from the flows associated with the investment) and indirect feature (the effect of FDI on balance of payment via domestic sales and the use of local resources) .

Second: distinction between two important forms:

The initial one off form: leads to an improvement of the capital account of the host country by the investment amount less value of any imported machinery.

The second form: the continuing effect which is the most important.

*5. The effect of **FDI** on trade flows*[95]*:*

The most critical issue about the relationship between **FDI** and trade is whether they are *complement* s or *substitutes*.

---

[94] For more detail see: Paolo Figini and Holger Gorg in Does Foreign Direct Investment Affect Wage Inequality? An Empirical Investigation, p1-20 , Jaan Masso , Urmas Varbiane , Pritt Vahter in The Impact of Outward FDI on Home Country Employment in a Low cost transition economy , p05-65.

[95] For more detail about the relationship between FDI and trade see Lionel Fontagné, Michael Pajo in Foreign Trade and FDI stocks in British, U5 and French Industries: Complements or Substitutes? , p01-31, Panic and Joyce in U5 manufacturing Industry: International Integration and Trade Performance, p 42-55, Pain and Wakelin in Export Performance and the Role of Foreign Direct Investment, p62-88 , a very interesting document entitled : Linkages between Foreign Direct Investment and Trade Flows , p337-374 merits to be analyzed to grasp the interrelation between these two macroeconomic variables landscape .

6. *The effect of **FDI** on productivity* [96]:

This effect can be channeled through: export promoting (products of the subsidiary are destined to a large world market), the installation of plants achieving the economies of scale.

7. ***FDI** and technology*[97] :

Technology diffusion by **FDI** can takes place through various channels':

Imports of high technology products, adoption of foreign technology, acquisition of foreign capital through international study.

8. *The effect of **FDI** on market structure*[98] :

This effect is viewed through improving the competitiveness forces or worsening the monopolistic or oligopolistic elements in the host economy.

9. ***FDI** and the environment* [99]:

FDI can get away with causing lot of damage to the environment particularly in developing countries that are trying to attract **FDI** (Less stringent environmental damage approach).

---

[96] See Foreign Direct Investment and Productivity: Evidence from the East Asian Economies, Staff Working Paper, UNITED NATIONS INDUSTRIAL DEVELOPMENT DRGANIZATION, p01-24.

[97] See Findlay R in Relative Backwardness, Direct Foreign Investment and the transfer of technology: A Simple Dynamic Model, p01-16.

[98] See Spiros Bougheas, David Greenaway, Kittipong, Jangkamolkulachai and Richard Kneller in Technology Gap, Foreign Direct Investment and Market Structure, p01-23.

[99] See Kevin R. Gray in Foreign Direct Investment and Environmental Impacts? Is The Debate Over, p1-08 and Feng Helen Liang in Does Foreign Investment Harm The Host Country's Environment? Evidence From China, p01-24.

Table: Summary of selected recent studies of FDI effects.

Study	Issue under investigation	Findings
Nachum (1999)	Impact of FDI on international competitiveness	FDI weakens the link between location and ownership advantage
Zhang (1999)	Relationship between FDI and growth in Asian countries	FDI enhances growth in long run
Zhang (1999)	Effect of FDI on economic growth in China	Long run link and two way causality between FDI and growth.
Bosworth and Collins (1999)	Implication of financial flows for saving and investment in the host country.	Little correlation among FDI, portfolio investment and Loans .FDI has close one to one effect on investment.
Glass and Saggi (1999)	Consequences of FDI in a general equilibrium setting	FDI raises wages and lowers profits in the host country, and vice versa.
Yabuuchi (1999)	Effects of FDI on Welfare and Unemployment	An increase in FDI leads to an increase in welfare and a decrease in unemployment if capital is also used in the domestic manufacturing sector.
Fung *et al* (1999)	Effects of FDI on national welfare	FDI can affect national welfare positively or negatively.
Saggi (1999)	Implications of licensing and FDI for technology transfer	Relative to licensing, FDI limits technology spillovers to local firms, but dissipates more rents in the product market.
Bonelli (1999)	Links between FDI and industrial competitiveness in Brazil	FDI has contributed to increased productivity and competitiveness.
Roling (1999)	German job export through FDI	Empirical basis for German job export is weak.
Driffield (1999)	Employment consequences of inward FDI in the UK	FDI generates employment substitution away from local firms
Okomato (1999)	Effect of FDI on production efficiency	FDI has a positive effect through the enhancement of competitive pressure and

		technology transfer.
Chuang and Lin (1999)	Effect of FDI on productivity	FDI has a positive spillover effect on productivity.
Elahee et pagan (1999)	The role of FDI in Asia and Latin America	FDI may have a positive effect on long run growth, eventually helping the recipient country to catch up the investing country.
Aitken and Harrison (1999)	Effect of FDI on domestic firms in Venezuela	FDI affect the productivity of domestic firm negatively .Net impact of FDI is small.
De Mello (1999)	Direct investment led growth	The extent to which FDI is growth enhancing depends on the degree of complementarity and substitution between FDI and domestic investment.
Glass and Saggi (1999)	FDI and technology	The role FDI plays in technology transfer depends on whether substitute channels are available for transfer to the host country.
Ellingsen and Warneyard (1999)	FDI and protectionism	An import competing industry may not want maximum protection because it may encourage FDI which could be less desirable.
Wilamoski and Tinkler (1999)	The effect of FDI on exports and imports	FDI leads to increased imports and exports .
Gopinnath et al (1999)	FDI and trade	Small substitution effect between foreign sales and exports.
Zukowska and Gagelmann (2000)	Examining the effect of FDI on productivity growth	FDI has a negative impact on the performance of the most productive local firms.
Drieffield and Taylor (2000)	The labor market impact of inward FDI in the UK	FDI leads to an increase in wage inequality and the use of skilled labor in domestic firms.
Fan and Dickie (2000)	Contribution of FDI to growth and stability in Asian countries.	FDI accounts for 04-20 percent of GDP growth.
Xu and Wang (2000)	International trade and FDI as channels for technology diffusion	No evidence that FDI is a significant channel for technology diffusion.
Asafu –Adjaye(2000)	Effect of FDI on Indonesian economic	FDI has a significant positive effect on growth.

	growth	
Jarolim (2000)	Role of FDI on Indonesian economic growth	FDI has a significant positive effect on growth.
Hennerberger and Ziegler (2000)	Effect of Swiss FDI on employment	FDI's spillover effect is statistically significant.
Stone and Jeon (2000)	Relationship between FDI and trade in Asia – Pacific economies.	Significant and positive relationship between FDI and trade.
Muchielli et al (2000)	Relationship between intra or inter firm firm trade and FDI.	Complementarity for global trade is explained by Complementarity for intra-firm trade and substitutability for inter-firm trade.
Castilho and Zignago (2000)	Relationship between FDI trade and regional integration.	Positive link between FDI and trade flows mitigated by the impact of integration on FDI .
Chen (2000)	Relationship between FDI and intra –industry trade	Positive and strong link between FDI and intra – industry trade.
Kearns and Ruane (2001)	Relationship between FDI and growth in Ireland	FDI has been beneficial to Ireland .R&D active firms provide greater benefits.
Wasantha Athukorala (2002)	Relationship between FDI and economic growth in Sir Lanka	Econometric result shows that FDI inflows do not exert an independent influence on economic growth.
Kui-Yin Cheung and Ping Lin (2004)	Relationship between FDI and innovation in China	FDI benefits innovation activity via spillover channels : reverse engineering ,skilled labor turnovers , demonstration effects and suplier customer relationship .
Chandana Chakraborty and Peter Nunnenkamp (2006)	Economic effects of Foreign Direct Investment in India	FDI induses economic growth if only regulations are relaxed and more industries are still open up .
Nicole Madariaga and Sandra Poncet (2006)	Spillovers and impact of FDI in Chinese cities	Economic growth responds positively to FDI received locally as well as in

		proximate cities.
Sune Karlsson , Nannan Lundin and Ping He (2007)	Relationship between FDI and job creation in China	FDI has positive effects on employment growth, these effects are associated with firm's characteristics and their access to export markets.
Nada Massoud (2008)	The employment effects of FDI inflows to Egypt	The study does not that FDI exerts a positive influence on employment.
Gaston Gohou and Issouf Soumaré (2009)	Impact of FDI on poverty reduction in Africa	The analyses confirm the positive significant relationship between FDI and poverty reduction.
Mohammad I.Al-Halameh and Abdelsttar M.Sayah (2010)	Impact of FDI on Shares Market value in Amman Exchange Market	The results show foreign direct investment has significant effects on share market value in Amman Exchange Market.

Source : Compiled by the student.

Conclusion

In this chapter, it's clearly shown that Foreign Direct Investment becomes the core feature of globalised world allowing to a more interconnection of businesses as a mean to transfer management skills and technology especially to developing countries, but the important issue remains on conceiving the appropriate strategies to built strong platform for more understanding its impacts on national economies which their aim is to exploit efficiently the positive spillover of FDI.

References:

Adeolu, B .Ayanwale. (2007), FDI and economic growth: evidence from Nigeria, *African Economic Research Consortium Nairobi, p 01-36.*

Adj .Prof. Dr Marting Haemmig. (2004), Global innovation: the case for international venture capital firms, *Working Paper*, p01-07.

Adrian Wood. (2009), A practical Heckcher- Ohlin Model, *Working Paper*, p01-29.

Agarwal, J.P. (1980), Determinants of Foreign Direct Investment: A survey , *Weltwirtschaftliches Archives* , p739-773.

Agarwal , S and Ramaswami , S.N (1992), Choice of Foreign Market Entry Mode : Impact of Ownership ,Location and Internalization Factors , Journal of International Business Studies , p01-27.

Agmon,T and Lessard, D.R. (1977), Investor recognition of corporate international diversification, *Journal of Finance*, p1049-1055.

Agnès Bénassé- Quéré, Lionel Fontagné and Amina Lahrèche Révil. (2004), How does FDI react to corporate taxation? , *Working Paper CEPII,* p 01-36.

Aharoni , Y .(1966), *The Foreign Investment Decision Process* (Cambridge Mass Harvard Graduate School of Business).

Alan, M.Rugman. (1976), Risk reduction by international diversification, *Journal of International Business Studies*, p75-80.

Aliber , R.Z (1970) , A Theory of Direct Foreign Investment , *The International Symposium* (Cambridge Mass).

Amiti , M .Greeenaway , D and Wakelin , K .(2000) , Foreign Direct Investment and Trade : Substitutes or Complements ? Unpublished Paper , University of Melbourne .

Andreas Johnson. (2006), The effect of FDI inflows on host country economic growth, *CESIS*, p01-57.

Andreas Waldkirch. (2003), Vertical FDI: A Host country perspective, *Working Paper, Oregon State University*, p01-35.

Anne Will Harzing .(2000), an empirical Analysis and the extension of the Bartelett and Goshal typology of multinational companies, *Journal of International Business Studies*, p101-120.

Asafu-Adjaye,J.(2000) , The effects of Foreign Direct Investment on Indonesian Economiic Growth , 1960-1966, Economic Analysis and Policy , p49-62.

Attiya, Y.Javid and Robina Iqbal, Ownership, concentration, corporate governance and firm performance: evidence from Pakistan, *Pakistan Institute of Development Economics*, p01-26.

Bailes , J.C and Assada , T .(1991) , Empirical Differences between Japanese and American Budget and Performance Evaluation Systems , International of Accounting , p131-142.

Balassa, B. (1966), American Direct Investment in the common Market, *Banco Nazionale Del Lavoro Quarterly Review*, p121-146.

Baldwin , R.E (1995), The Effect of Trade and Foreign Direct Investment on Employment and Relative Wages , NBER , Working Paper.

Baranson , J.(1970) , Technology Transfer through the International Firm , *American Economic Review* ,p435-440.

Barell,R and Holland ,D .(2000) , Foreign Direct Investment and Enterprise restructuring in Central Europe , *Economics of Transition* , p477-504.

Barell, R and Pain, N. (1996), An Econometric Analysis of Foreign Direct Investment, *Review of Economics and Statistics*, p200-207.

Barell ,R and Pain ,N .(1999) , Trade Restraints and Japanese Direct Investments Flows , European Economic Review , p29-45.

Bauhmann, H.G. (1975), Merger Theory Property Rights and the Pattern of US Investment in Canada, *Weltwirschaftliches Archiv* , p676-698.

Berthelmy, J and Demureger, S. (2000), Foreign Direct Investment and Economic Growth: Theory and Application to China, *Review of Economic Development*, p140-155.

Bonelli, R. (1999), A Note of Foreign Investment in Industrial Competitiveness in Brazil, *Oxford Development Studies*, p305-327.

Borkowski ,S.C.(1993) , International Managerial Performance Evaluation , A Five Country Analysis , *Journal of International Business Studies* , p533-555.

Bosworth, B.P and Collins S.M. (1999), Capital Flows to Developing Economies: Implication for Saving and Investment, *Brooking Paper of Economic Activities,* p143-169.

Braunheljem,P and Oxelheim,L.(2000) ,Does Foreign Investment Replace Country Investment? The Effect of European Integration on The Location of Swedish Investment, *Journal of Common Market Studies*, p199-221.

Bruce Kogut. (1998), International Business: a new bottom line, *Washington Post News Week Interactive .LLC,* p152-165.

Bruce Kogut and Nalin Kulatilaka. (1994), Operating flexibility, global manufacturing and the option value of a multinational network, *The Institute of Management Science*, p123-139.

Bruce Kogut and Udo Zender.(1992), Knowledge of the firm, combinative capabilities and replication of technology, *Organization Science*, p383-397.

Burgmann ,T.(1996) ,An Empirical Examination of The Multinational Capital Structure , *Journal of International Business Studies* , p553-570.

Cantwell , J and Bellak , C .(1998) , How important is Foreign Direct Investment ? *Oxford Bulletin of Economics and Statistics*, p99-106.

Caves, R.E. (1971), international corporation: the industrial economics of foreign investment, *Economica*, p01-27.

Caves, R.E. (1974), Causes of Direct Investment: Foreign Firms Shares in Canadian and United States Manufacturing Industries, *Review of Economic and Statistics*, p279-293.

Chen, T.J and Ku, Y .H. (1999), The effect of FDI on firms' growth: the case of Taiwan manufacturers, Japan and the world economy *Working paper* , p153-173.

Chenery, H .B .(1952), Overcapacity and the acceleration principle, *econometrica*, p01-28.

Cheneg ,L,K and Kwan ,Y.K (2000) ,What Are the Determinants of the Location of Foreign Investment ? The Chinese Experience, *Journal of International Economics*, p379-400.

Choi ,F.D.S and Czechowics ,I.J .(1983) , Assessing Foreign investment Performance : A Multinational Comparison , *management International Review* ,p15-25.

Coase, R .H .(1937), the nature of the firm, *economica*, p386-405.

David G. Hartman. (1982), Tax policy and FDI I the United States, *Working Paper National Bureau of Economic research*, p01-30.

D.Sethi , SE Guisinger , SE Phelan and DM Berg .(2003) , Trends in Foreign Direct Investment flows : a theoretical and empirical study , *Journal of International Business Studies* , p315-326.

Das, S.P. (1999), Direct Investment Versus Licensing, *Review of Development Licensing*, p83-97.

Djankov ,S and Hoekman , B.M .(2000) , Foreign Investment and Productivity Growth in Czech Enterprises , *World Bank Economic Review* ,p49-64.

Donnenfeld , S and Weber ,S .(2000) ,Exporting Versus Foreign Direct Investment , *Journal of Economic Integration* , p100-126.

Dorrenbacher, C.(2000) , Measuring Corporate Internalization : A Review of Measurement Concepts and Their Use , *Intereconomics* ,p119-129.

Driffield , N and Taylor ,K .(1999) , Indirect Employment Effects of Foreign Direct Investment into The UK , *Bulletin of Economic Research* ,p207-221.

Driffield , N and Taylor ,K .(2000), FDI and the Labor Market : a Review of the Evidence and Policy Implications , *Oxford Review of Economics Policy* ,p90-103.

Edward, M.Graham. (1975), Oligopolistic imitation, theories of FDI and European Direct Investment in the US, *Alfred Sloan School of Management*, p01-78.

Elhanan Helpman.(1984), A simple theory of international trade with multinational corporations , *the journal of political economy*, p451-471

Elahee, M.N and Pagan, J.A. (1999), Foreign Direct Investment and Economic Growth in East Asia and Latin America, *Journal of Emerging Markets*, p59-67.

Errunza , V.R and Senbet , L.W .(1981) , The Effect of International Operations on The Market Value of The Firm : Theory and Evidence ,Journal of Finance ,p401-417.

Evica Petrović, Jelina Stonković. (2009), Country risk and effects on Foreign Direct Investment, *Economics and Organization*, p09-22.

Eun, C S and Resnick, B. G. (1998), International Financial Management *(New York: McGraw-Hill).*

Figlio, D.O and Blonigen , B.A .(2000) , The Effects of Foreign Direct Investment on Local Communities , *Journal of Urban Economies* ,p338-363.

Findlay, R. (1978), Relative Backwardness, Direct Foreign Investment and the transfer of technology: A Simple dynamic model , *Quaterly Journal of Economics* , p01-16.

Fisher ,E .O , Heinkel ,B.A and Zechner , J.(1989) , Dynamic Capital Structure Choice : Theory and Test , Journal of Finance , p19-40.

Fontagné Lionel , Michaël Pajo , Foreign Trade and FDI stocks in British US and French industries : Complements or Substitutes ? , *working Paper* , *TEAM* , p01-31.

Fosfuri , A and Motta , M .(1999) , Multinationals Without Advantages , Scandinavian Journal of Economics , p617-630.

George, W. Buch (2005), The US Litigation Environment and Foreign Direct Investment , Working Paper , *US Department of Commerce* , p01-16.

George,J. Stigler. (1964) , A theory of Oligopoly ,*The Journal of Political Economy* , p44-61.

Globerman ,S.(1979) ,Foreign Direct Investment and Spillover Efficiency Benefits in Canadian Manufacturing Industries , *Canadian Journal of Economics* , p 42-56.

Godley ,A.C .(1999) , Pioneering Foreign Direct Investment in British Manufacturing , *Business History Review* ,p394-429.

Godley , A.C , Scott Fletcher .(2000) , Foreign Entry into British Retailing , 1850-1994 , *International marketing Review* , p392-400.

Goldberg ,M.A.(1972) ,The Determinants of US Direct Investment in the EEC : Comment ,*American Economic Review* , p692-699.

Gopinath ,M ;Pick,D and Vasavada ,U.(1999) , The Economics of Foreign Direct Investment and Trade with an Application to the US Food Processing Industry , *American Journal of Agricultural Economics* , p442-452.

Graham, E and Krugman, P.R. (1991), Foreign Direct Investment in the United States (*Washington DC : Institute For International Economics*) .

Grubaugh ,S.G.(1987) , Determinants of Direct Foreign Investment , *Review of Economics and Statistics* ,p149-152.

Guofu Zhou. (2009), Understanding the role of diversification, *QFINANCE Working Paper*, p01-04.

Guy ,V.G Stevens . (1973), The Multinational firm and the determinants of investment, *International Finance Discussion Papers*, p01-82.

Haddad , M and Harrison ,A .(1993) , Are There Positive Spillovers From Direct Foreign Investment ? , *Journal of Development Economics* , p41-74.

Harry, S.Thruman , We must build a new world : a for better world on which o which the extremely dignity of man is respected (report) , Outline of US history .

Hartman, D.G.(1985) , Tax policy and FDI I the United States , *Journal of Public Economics* ,p107-121.

HőlgerGorg .(1998) , Analysing foreign market entry : the choice between Greenfield investment and acquisition , Working Paper , *Department of Commerce Trinity College* , p01-31.

Horst , T .(1972) , The industrial composition of US Exports and Subsidiary sales to the Canadian Market , *American Economic Review* , p37-45.

Imad ,A.Moosa .(2002), *Foreign Direct Investment : theory , evidence and practice , Palgrave McMillan Journal* .

Ioannis Komninos. (2002) , Product Life cycle theory management , *working paper Thessaloniki* , p01-26.

Iwasa , Kazumishi , Kukichi , Toru and Shimomura .(2007) , A Dynamic Chamberlin-Hecksher-Ohlin Model with endogenous time preferences : A note Model , *Working Paper , Koji Kob University MPRA* , p01-28.

Jack Baranson. (1985) , North South technology transfer , financing and institution building , *the journal of technology transfer* , p77-79.

James Oehmke and Christopher, A.Wolf. (2004), Measuring concentration in the biothechnology R&D industry: Adjusting for interfirm transfer of genetic materials, *Working Paper Michigan State University*, p134-140.

Jeffrey , L .Funk .(2004), The product life cycle theory and product line management : the case of mobile phone *Working Paper IEEE Transaction on Engineering Management* , p142-152.

Jiafa Chen , Kwan –Yiu Wong , Kim Yee.(2000) , Zhiqiang Feng , The spatial dynamics of foreign investment in the pearl river delta south China , *The geographical Journal* , p312-322.

John, B. Cullen and K .Praveen Parboteeah. (2010) , *International Business :Strategy and the multinational company , Taylor & Francis Group* .

John, H.Dunning.(1980) , Toward an Eclectic Theory on International Production :Some Empirical Tests , *Journal of International Business studies* , p09-31.

John, H.Dunning and Surianna M. Lundan .(2008) , *The multinational enterprise and the global economy , second edition , Edward Edgar Published .*

John, H.Dunning .(1980) , Toward an eclectic theory of international theory , *Palgrave MacMillan Journal* , p01-23.

Johua Aizenman. (1992), FDI as a commitment mechanism in the presence of managed trade , Working Paper *National Bureau of Economic Research .*

Joseph François, Bernard Hoekman and Julian Woerz. (2007), Does gravity apply to intangibles? Measuring Oppeness in Services , *Working Paper* , p02-33.

John A Mathews.(2000) , Dragon Multinational : A New model of growth , *Oxford University Press .*

José Mata and Pedro Portugal. (2002). , The survival of new domestic and foreign owned firms, Strategic Journal Management, p323-343.

Jorgenson, D.W .(1963) , Capital theory and investment theory , *American Economic Review* , p247-259.

John S Earle, CsabaKucsera and Almos Telegdy.(2005), Ownership concentration and corporate performance on the budpset stock exchange: Do too many cooks spoil the Goulash? , *Working Paper, Corporate Governance* , p01-25.

Kee Hwee Wee .(2007) , Outward FDI by enterprises from Thailand , *Working Paper UNCTAD* , p89-116.

Keith Head, Thierry Mayer and John Ries. (2002), Revisiting oligopolistic reaction: Are FDI decision Strategic Complements? Working Paper Center for Economic Policy Research, p453-473.

Kevin ,R.Gray. (2002) ,Foreign Direct Investment and environmental impacts-Is the debate over ? Working Paper, p306-313.

Kojima, K. (1973), A Macroeconomic Approach to Foreign Direct Investment, *Hitotsubashi Journal of Economics,* p01-21.

Kojima, K. (1975), International trade and Foreign Investment: Substitutes or Complements? , *Hitotsubashi Journal of Economics,* p01-12.

Kojima , K .(1985), Japanese and American Direct Investment in Asia : A Comparative Analysis , Hitotsubashi Journal of Economics , p 01-35.

Len, J .Travino. (2004), Franklin G. Mixon Jr , Strategic factors affecting FDI by multinational enterprises in Latin America, *Journal of World Business,* p233-234.

Michael ,D.Pont. (2003), Foreign Direct Investment In transitional economies: a case study of China and Poland, *Working Paper Martin's Press,* p01-58.

Maggie Chen and Michael, O Moore. (2009), Location Decision of Heterogeneous multinational Firms, *Institute for International Economic Policy*, p01-46.

Muzaffer Eroglu. (2008), Multinational Entreprises and Tor Liabilities: An interdisciplinary and comparative examination, *Edward Elgar Publishing*, p125-132.

Mugdolna Sass. (2003), Competitive and Economic Policies related to Foreign Direct Investment , *Working Paper* , p01-26.

Magnus Blomstrőm and Arikkoko. (2003) , The Economics of Foreign Direct Investment Incentives , *Working Paper* , p01-32.

Mc.Kinnon ,R. (1963), Foreign Exchange Constraints in economic development and efficient aid allocation , *Economic Journal* , p388-409.

Nirmal Kimar Chandra. (1999), FDI and Domestic economic neoliberalism in China ,*Economic and Politically Weekly Journal* , p3195-3212.

OECD Benchmark Definition of Foreign Direct Investment, Fourth Edition, **2008.**

Paolo Figini, Holger gorg .(2006), Does FDI affects wage inequality ? An empirical investigation, *IZA Working Paper*, p01-26.

Panic , M and Joyce , P.J .(1980) , US manufacturing industry , International Integration And Trade Performance , *Bank of England Quarterly Review* , p42-55.

Paul Kalfadillis and Judy Gray. (2003), Are proxies Valid Measure of internalization? , *Monash University Working Paper series*, p01-10

Paul, R.Krugman and Maurice Obstfeld, *International economic: Theory and practice.*

Peijie Wang. (2008), *The economics of Foreign Exchange and Global Finance, Second Edition, University of hull Business School.*

Resimini, L.(2000) , The Determinants of Foreign Direct Investments in The CEECs : New Evidence From Sectoral Patterns , *Economics of Transition* ,p665-689.

Riebel ,J.(1975) ,The Nature and Determinants of Export –Oriented Foreign Direct Investment in a Developing Country : A Case Study of Taiwan , *Weltwirtschaftliches Archiv* , p505-528.

Rugman , A.M .(1980),Internalization as a General Theory of Foreign Direct Investment : a Re-Appraisal of The Literature , *Weltwirtschaftliches Archiv* , p365-379.

Saggi ,K .(1999) , Foreign Direct Investment , Licensing and Incentives for Innovation , *Review of International Economics* , p699-714.

Schneider , F and Frey , B.S .(1985) , Economic and Political Determinants of Forein Direct Investment , *World Development* ,p161-175.

Sin, C.Y and Leung .W.F. (2001), Impacts of FDI Liberalization on Investment Inflows, *Applied Economic Letters,* p253-256.

Sjohlom, F.(1999) , Technology Gap , Competition and Spillovers from Direct Foreign Investment : Evidence From Establishment Data , *Journal of Development Studies* , p53-73.

Titman ,S and Wessels ,R .(1988) , The Determinants of Capital Structure Choice , *Journal of Finance* , p01-18.

Tuman , J.P and Emmert , C.F .(1999) , Explaining Japanese Foreign Direct Investment in Latin America , 1979-1992, *Social Science Quarterly* , p539-555.

Vernon , R .(1966) , International Investment and International Trade in the Product Cycle , *Quarterly Journal of Economics* , p190-207.

Vernon, R .(1968) , Conflict and Resolution between Foreign Direct Investment and Less Developed Countries Public Policy , p333-351.

Vernon, R .(1979) ,The Product Cycle Hypothesis in New International Environment , *Oxford Bulletin of Economics and Statistics* , p225-267.

Wallace, C.D. (1990) , Foreign Direct Investment In the 1990s: A New Climate in the third World (*Rordrecht :Martinus Nijhoff*) .

Chapter II:

Exchange rates and Foreign Direct Investment

Foreign Direct Investment ***(FDI)*** *has become an important channel for resource flows across national borders. During* ***2005****, for example, world* ***FDI*** *inflows grew* ***28.9*** *per cent compared to a growth rate of* ***12.9*** *per cent of world exports. This boom has stimulated significant attempts at developing theories that explain* ***FDI*** *trend .One line of this research explores the relationship between exchange rates and* ***FDI.***

In this chapter, the following ideas are analyzed:

1- *The theoretical background.*
2- *The empirical evidence and model specification.*
3- *Some outstanding models.*
4- *Some concluding remarks.*

I . The theoretical background:

USA as other countries of the globe experienced a depreciation of the exchange rate and an associated FDI inflows during the mid-to late 1980s, this leads to suggest that exists a relationship between these two variables, but may have squandered[1].

When we talk about FDI, we are behind a heterogeneous decision in nature as it's settled in a various context of national beliefs, considerations, different social institutions and attitudes [2]...

The FDI heterogeneity nature and its relationship with the exchange rate urged on the emergence of two broad strands in the theoretical literature [3] : the real option and risk aversion approaches.

I-1 The Real Option approach:

This approach is based on the *irreversibility* of the investment decisions in general . Dixit and Pindyck (1994) [4] considered that a firm can have an option to invest abroad , this latter value is impacted by the uncertainty of the investment expected return (the option valuation theory of investment) pioneered by Brennan and Schwartz (1985)[5] and Mac Donald and Siegel (1982)[6] , i.e. : The timing of decision making of

---

[1] See Linda Goldberg in Exchange rate and investment in the United States industry, p57S-588.

[2] See Levis R. Cabrera , Germán E. Giraldo in A multiple criteria decision analysis for FDI in Latin America countries , they used the Analytical Hierarchical Process to help investors making rational decision within FDI several factors ,p137-142 and L. J Treviño , Frankiin J. Mixon Jr in Strategic factors affecting foreign direct investment decisions by multinational enterprises in Latin America using cross country differences in macroeconomic and institutional environments to explain the factors that affect the MNEs behavior in seven Latin American countries for the period 1988-1999 , p233-242.

[3] See Linda 5. Goldberg and Charles D. Koistad in Foreign direct investment , exchange rate variability and demand uncertainty using a two period model of the inter-temporal decision making of a producer to demonstrate how does the investment decision is made in the context of multiplicative risk factors entering both through revenues (the analogy of production flexibility) and production costs (the analogy of risk aversion) , p01-28 , Aizeman used a model with two countries , two periods and two classes of goods o highlight how producers commit to domestic and foreign capacity *ex ante* (production flexibility) and commit to employment *expost* following the realization of some stochastic elements such as nominal and real shocks by integrating short –run Phillips curve , for more detail see Joshua Aizeman in Exchange rate flexibility , volatility and domestic and foreign direct investment , p890-921 , to grasp how the relative risk aversion of the firm affects the dependency of production and exports on exchange rate uncertainty see model proposed by Udo Broll and Bernhart Eckwert in exchange rate volatility and international trade , p178-185.

[4] See Dixit and Pindyck in investment under uncertainty , p06-07-08-09-135-173 (investment opportunities and investment timing chapter) , how could this approach be estimated econometrically (magnitude and investment timing) see : Tarek M. Harchaoui and PierreLasserre in Testing the option value theory of irreversible investment , p01-31 , in contrast with the general assumption claiming that increased uncertainty raises the value of waiting and decelerates investment , it may be argued that firm's fast technology changing environment implies that the firms have finite project life ,this latter may be accelerated by increasing uncertainty , for more detail see Sebastian Gryglewics , Kuno JN Huisman and Peter M Kort in Finite project life and uncertainty effects on investment , p01-18 , firms face a future demand uncertainty , how does this latter interact with the investment irreversibility to maximize firm's value , a model suggested by Robert Pindyck in Irreversible investment , capacity choice and the value of the firm , p01-30.

[5] See M J Brennan andE 5 Schwartz in Corporate income taxes , valuations and the problem of optimal capital structure , p103-114.

[6] See Robert Mac Donald and Daniel Siegel in The value of waiting to invest (1982), p01-36 , and the value of wating to invest (19B6) , p707-728 , Jonathan E. Ingersoll,Jr and Stephen A. Ross in Waiting to invest : investment and uncertainty , p01-29.

various investment problems and investment value can be shown by using real option theory. A firm facing this problem (uncertainty) can be understood as having a financial option by which the firm has the right to buy an asset (the plant in a foreign country) at a future time. The price that the firm has to pay in order to exercise the option is the sunk cost of the investment[7]. This theory is dealt with market equilibrium with no strategic competition, i.e. perfect competition and monopoly[8].

The stylized feature of this theory on the relationship between exchange rate and FDI can be found in Campa (1993)[9] . Darby et al (1999)[10], Kogut and Chang (1996)[11] suggested that changes in exchange rate levels affect the price of the option (exchange rate uncertainty may increase the value of holding onto the option by no investing) .

Another approach surged in this line called the production flexibility which referred to Aizeman (1992)[12] , according to this view exchange rate movements create the option to shift production among facilities in different countries, this implies that the fixed exchange rate regime is more favorable to FDI.

*A*ccording to Sung and Lapan (2000) [13] , investment will change to the lowest cost after an exchange rate movement, and the value of the option is positively related to uncertainty. In this case, it's more conducive for a MNE to open plants at home and abroad, postponing production decision until after an exchange rate shock .[14]

The power of this approach is that exchange rate movements affect the timing of FDI as the firm's decisions are to invest, wait or not invest at all.

---

[7] For more detail about sunk costs effects on investment rational decision making see M. Preston MCAfee , Hugo M .Mialon and Sue H. Mialon in Do Sunk Cost Matter , p01-30

[8] See Marchei Boyer, Eric Gravel, Pierre Lasserre in Real options and strategic competition : a survey , p01-29.

[9] See Campa J in Entry by foreign firms in the United States under exchange rate uncertainty, p614-622.

[10] See Darby J , Hall A .H ; Ireland and Piscicitelli .L in The impact of exchange rate uncertainty on the level of investment , pS5-67

[11] See Kogut B and Chang S J in Platform investments and volatile exchange rates : direct investment in the US by Japanese electronic companies , p221-231.

[12] See Aizeman Joshua in Exchange rate flexibility , volatility and domestic and foreign direct investment , p890-922 and Joshua Aizeman and Nancy Marion in The merits of horizontal versus vertical FDI in the presence of uncertainty , p12S-148.

[13] See Hongmo Sung and Harvey E Lapan in Strategic foreign direct investment and exchange rate uncertainty , p411-423.

[14] About the postponement production strategies under uncertainty see Jan A . Van Miegham and Maqbol Dada in Price versus production postponement : capacity and competition , p1631-1649.

I-2 Risk aversion approach:

The outstanding of this approach is that firm's investment motive is restricted on their expectation on their returns as[15]:

Expected returns = cost + payment for degree of risk.

This line referred to Cushman (1985)[16] which argued that the exchange rate volatility can be introduced as a risk composite of the above equation suggesting that the risk adjusted expected real exchange rate appreciation lowers the foreign cost of capital, this leads to an FDI encouragement, however, when the costs of other inputs are also affected, induced productivity changes or output prices changes may offset the direct effect, if so direct investment is reduced.

Some salient models in this field are there of Goldberg and Kolstad (1995)[17] , Bénassé- Quéré et al (2001)[18] interfering the demand shocks concept link with the exchange rate shocks as follow:

The increase in the foreign money supply increases demand (macroeconomic approach) [19] this leads to raise foreign prices, as a result a short term real appreciation of the foreign currency is showed .While both shocks are positive, the covariance is positive, firms minimize the variance of expected profits and increase expected utility by higher FDI.[20]

Charles D .Kostlad and Linda S .Goldberg (1995)[21] have argued that there are two classes of models that link real exchange variability to international investment activity .The first class of model relies on the argument that producer engages in international investment diversification in order to achieve *ex post* production flexibility and higher profits in response to shocks .The second class suggests that the

---

[15] For more detail about the importance of risk analysis on the investment decision and the application stages of risk analysis process see Savakkis C. Savvadis in Risk analysis in investment appraisal , p01-30 , a new method of estimating risk aversion using data on labor supply behavior is suggested by Raj Chetty in A new method of estimating risk aversion , p01-26.

[16] See Cushman D.D in Real exchange rate risk , expectations and the level of foreign direct investment , p297-308.

[17] See Goldberg .L.S and Kolstad C.D in Foreign direct investment and demand uncertainty, p855-873.

[18] See Bénassé- Quéré , A , Fontagné , L and Lahrèche Révil, A in Exchange rate strategies in the competition for attracting FDI , p178-198.

[19] For more detail see Brian Snowdon and Howard Vane in Modern Macroeconomics , p163-187 and Ferdinand C Nwafar in The Naira –Dollar Exchange rate determination : a monetary perspective , p130-135.

[20] To highlight how do the fluctuations in the growth of money supply be considered as a mechanism influencing both realizations of the exchange rate and due to sticky prices , the demand for consumption goods in the host country see Kathryn Niles Russ in The endogeneity of the exchange rate as a determinant of FDI : A model of entry and multinational firms , p01-35.

[21] See Goldberg L S and Kolstad C D in Foreign Direct investment and demand uncertainty , p855-873 and Linda S Goldberg in Exchange rates and Foreign Direct investment , p01-06.

production flexibility argument is less likely to pertain to short term volatility in exchange rates than to realignments over long intervals .

In this view, exchange rate variability is expected to have real effects on the share of domestic investment resources channeled abroad in a limited set of circumstances. If investors are risk neutral, the model does not predict any statistical relationship between exchange rate volatility and the allocation of production facilities between domestic and foreign markets . But, if there is a risk aversion among producers, exchange rate volatility may expand the share of investment resources located offshore.

R.Barrell , S.D.Gottschalk , S.G.Hall (1995)[22] constructed a model based on the hypothesis that risk-averse firms would attempt to reduce the impact of uncertainty on their investment portfolio by exploiting correlations between exchange rate in alternative locations .They showed that market power reduces the uncertainty risk impact on investment .

Bénassé Quéré (1999) [23]examine the case of FDI by integrating the determinants of multinational firms locations , he considered the case of a risk–adverse multinational firm which contemplates relocating two alternative foreign locations in order to re-export by exhibiting the trade-off between price competitiveness and a stable nominal exchange rate. He showed that that the firm will consider both locations as substitutes or complements depending on whether the two exchange rates against the investing country 's currency are correlated (positively or negatively) .

The authors identified that real exchange rate affects FDI in various ways depending of the destination of the goods produced. If FDI and trade are substitute (the investor aim to serve the local market) then the appreciation of the local currency increases FDI inflows due to higher purchasing power of the local consumers . Conversely, a depreciation of the real exchange rate of the recipient country increases FDI through reduced cost of capital.

[22] See Barrell ,R ; Gottschalk S. D and Hall S G in Foreign direct investment and exchange rate uncertainty in imperfectly competitive industries , p01-23.

[23] See Bénassé –Quéré , Lionel Fontagné and Amina lahrèche Révil in Exchange rate strategies in the competition for attracting FDI , p08-15.

I-3 Recent contributions:

The recent contributions that have been made in this field stressed on three major points:

The consideration of the effect of FDI heterogeneity motive[24], the exchange rate endogeneity[25], and multilateral resistance concept[26].

Kathryn Niles Russ (2005) and Russ.K (2007) tried to explain the conflicting findings of the previous works in a partial equilibrium framework interfering the endogeneity of the exchange rate by showing that volatility in the exchange rate may or may not deter FDI depending on which underlying variable (shock) is the source of volatility .The extent of the model is about the MNEs worry about exchange rate volatility which is closely related to the presence and magnitude of positive or negative shocks , for example :

Positive shock to the money supply of the host currency depreciates the host currency simultaneously with an increasing income and therefore an increase of sales by both domestic firms and MNEs in the host's markets[27].

A contractionary monetary policy in the host leads to a better exchange rate to convert profits with reducing local sales, but the contractionary monetary shock in the foreign country can adversely affect the value of the host currency without counteracting effect on overseas sales.

Lin et al (2006) proposed a model with heterogeneous firm motives in explaining how the exposure of profit to exchange rate risk might vary with FDI motives .i.e., if firms are an FDI market seeking motives, then the volatility of the exchange rate is responded by delaying FDI decisions whereas the export substituting FDI motives are responded to the volatility more quickly if risk aversion is great enough.

---

[24] See Chia Ching Lin , Kung Min Chen and Hsiu Hua Rau in Exchange rate volatility and the timing of foreign direct investment : market seeking versus export substituting , p01-37.

[25] See Russ K in The endogeneity of exchange rate as a determinant of FDI : a model of entry and multinational firms , p344-372.

[26] See Harmut Egger , Peter Egger and Michael Ryan in Bilateral and third country exchange rate effects o multinational activity , p01-38.

[27] Contessi presents a model with firm heterogeneity , endogeneneous exports and FDI , for more detail see Contessi in International macroeconomic dynamics , endogenous tradability and foreign direct investment with hetereneous firms ,p and Paul R Bergin , Reuvin Glick in Endogenous tradabiiity and Macroeconomic implications , p01-42.

Buch and Kleinert (2006)[28] used a partial equilibrium analysis in a model predicting that the appreciation of the home economy currency increases FDI by both good market frictions and the wealth effect[29].

Xing and Zhao (2008) [30] presented another mean (reverse imports) through which exchange rates can affect FDI by proposing a two country model with oligopolistic markets to examine these linkages (exchange rate , reverse imports and FDI) .They predict that exchange rate changes , wage , capital cost differentials , barriers in brand name recognition contribute positively to Japanese FDI in China and reverse imports (the empirical study was on Japanese FDI in China).

Egger et al (2007) [31]tracked two channels for effects of the exchange rate by presenting a three country model of exports and FDI .These channels are the following:

1. *Revenue effect channel*: the host currency depreciation raises the MNEs profits from affiliates (positive bilateral effect).
2. *Competition effect channel*: the host currency appreciation induces an increase in relative production costs following the same bilateral appreciation (negative bilateral effect).
3. *The third country exchange rate effect*: the reverse of the above affect i.e. a negative revenue effect and positive competition effect; this can be explained as follow: as the competition or revenue effects are determined by skilled labor endowments, transport and foreign investment costs, furthermore skilled labor is abundant and transport cost high this predicts that the exchange rate effect will be positive.

In general, it seems reasonable that no single model can encompass FDI behavior [32].The suggested relationship between exchange rate and FDI varies depending on the several determinants of the heterogeneity FDI decision as: configuration of costs and revenues, FDI types, or source of exchange rate shocks .But the theoretical background remains

---

[28] See Buch CM and Kleihert J in Exchange rate and FDI : goods versus capital market frictions , p01-35.

[29] For more clear details about this concept , a study carried by Patrick Legros and Andrew F. Newman incorporating the wealth effect concept on the organization theory , see Wealth effect , distribution and theory of organization , p312-341.

[30] See Yuking Xing and Laixun Zhao in Reverse imports , Foreign Direct Investment and Exchange Rates , p01-23.

[31] See Harmut Egger , Peter Egger and Michael Ryan in Bilateral and third country exchange rate effects o multinationai activity , p01-38.

[32] As FDI decision known by its heterogeneity conducted by several factors: economic, social, and politic .....

the strong pillar of the way paving to a more investigation of the relationship by the various and ambiguous [33]empirical studies.

II. The empirical evidence and model specifications:

The major feature of the empirical studies is that it has mostly been conducted on aggregated data, this arises the problem of data disaggregating beyond the manufacturing sector level. Furthermore, such FDI data are confidential in nature, hence difficult to access which the major source of this remains the capital flows from the balance of payment.

The paucity of data in this context forms a serious compromise between what is possible given empirically and the most theoretically appropriate approaches, this latter suggests that the response of FDI to exchange rates may differ among industries and by FDI motives, so exchange rates – FDI linkages are likely to be revealed at disaggregated level.

Froot and Stein (1991)[34] found that IFDI to the US was negatively correlated with the US dollar, but disaggregating FDI inflows by industry the coefficient significance varies; this leads to say that aggregate studies may mask important differences among industries.

Turning now to the exchange rate level effects, it seems that 64 per cent of the empirical findings[35] support the proposition that a depreciation of the host's country currency encourages FDI inflows (this result is on an aggregate data level), the remainder findings show the insignificance of the exchange rate level as the host appreciation increases IFDI or that results are mixed[36].

Lin and al (2006) analyzed for firm level data industry and found that this effect could be viewed through two channels: either increased IFDI after a depreciation of the host's currency, or a significant response determined by FDI motives.

---

[33] The ambiguity refers to different models used to determine relationships between factors affecting FDI decision and their impacts on this latter.

[34] See Froot, K and Stein , J in Exchange Rates and FDI : an imperfect capital market approach , p1191-1127.

[35] This result is calculated from the several empirical studies adopted in this survey.

[36] This means that the relationship trend was not clearly depicted.

Goldberg and Kolstad (1995), Froot and Stein (1991), M Corrison and Sheldon (1998)[37] support all in their empirical studies the proposition that the dollar depreciation increases IFDI.

Campa (1993), Alba and al (2005)[38] found an exception that the dollar appreciation increases IFDI.

Tomlin (2000)[39] , Amuedo-Dorantes and Pozo (2001) [40] showed that this effect (US dollar levels and FDI) is insignificant.

In general the empirical studies results differ in their findings between supporting the above propositions (the case of US dollar for example) and both the insignificance, the mix of the results (some Australian empirical studies).

Another matter must be revealed in this context concerning the exchange rate volatility and variability concepts as the former means the risk (variability) and the latter implies that the exchange rate movements are unexpected. From the studies including the variability in their empirical studies models found that the negative significance effect is more than half (IFDI and variability of the host's currency), the remainder is shared between positive effect (less than 15 per cent) and inconclusive effect (mixed result). But the problem here stays on the variability or the uncertainty proxy choices as: what is the appropriate proxy to design the variability or the uncertainty of the exchange rate within the model? .Some theoretical suggestions [41] used the GARCH measures to proxy uncertainty and the standard deviation measure to proxy the exchange rate variability, as the choice of the appropriate measure depends largely on the sensitivity results and it's compatibility with the theoretical concept.

Furthermore , one serious question emerges from the use of volatility proxies depending on the researcher interest (variability or uncertainty) and of what this proxies might be picking up i.e. the volatility could be proxying for some other factors (macroeconomic for example).

---

[37] See M cCorrisson , S and Scheldon , in Cross Border Acquisitions and FDI in the US Food industry , p1066-1072.

[38] See Alba , Wang P and Park In The Impact of exchange rates on FDI and interdependence of FDI over time , p01-25.

[39] See Tomlin, K.M in The effects of model specification on foreign direct investment: an application of count data models, p460-468.

[40] See Amuedo-Dorantes, C and Pozo , S in Foreign Exchange Rates and foreign direct investment in the US, p323-343.

[41] See for example Amuedo-Dorantes and Pozo in Foreign exchange rates and foreign direct investment in the United States, p323-343.

II-1 Hazard rate models:

The essence of these models is to assess the exchange rate volatility impact on the timing of investment. The dependant variable in Hazard rate models is the likelihood of a firm to invest in each period .The conditional probability that investment happens in time $t+\Delta t$ given that it has not occurred at time t is estimated as a function of time *varying covariates* amongst them an exchange rate measure (Cox's proportional Hazard model)[42] .The model assume multiplicative relationship between baseline Hazard and the Covariates as the effect of these latter is log – linear and the baseline Hazard is the same for all firms (the baseline remain unspecified)[43].

Kogut and Chang (1996)[44] found that an appreciation of the Yen increases the likelihood of the FDI, and that earlier investment in the US market as platforms for later entry (using Cox's proportional hazard model to estimate investment delays for the FDI of Japanese companies into the USA).

Lin et al (2006) estimate a Hazard model for Taiwanese FDI into China and find that exchange rate volatility delays market seeking FDI but hasten export substituting FDI[45].

Altomonte and Pennings (2004)[46] claim that a great understanding of the relationship between investment and uncertainty can be gained by estimating the Baseline because *the question remains about the interpretation in the baseline as sufficiently warrant estimation of a parametric form*[47], their basis is the real option theory as firms require high profitability when uncertainty increased, this latter increases the value of the option to delay investment

---

[42] Cox's proportional hazard model is semi- parametric form as the baseline hazard is not estimated.

[43] The unspecification of the baseline is deduced from the proportionality assumption.

[44] See Kogut, B and Chang, S .J in Platform investments and volatile exchange rates: direct investment in the US by Japanese electronics companies, p221-231.

[45] See Lin and Rau in Exchange rate volatility and the timing of foreign direct investment : Market seeking versus export substituting , p01-45.

[46] See Altomonte and Penning in The hazard rate of foreign direct investment: a structural estimation of a real –option model , p 569-593.

[47] As Box-Steffensmeiser and Jones argued that the hazard can be thought of a statistical nuisance in favour of Cox's model , for more detail see Box -Steffensmeiser and Jones in event history modeling : a guide for social scientists , p216-235.

Other way of thinking cited in Sarkar (2000) [48] suggesting that high exchange rate volatility increases the probability that the threshold of investment is reached i.e. increased uncertainty may not delay investment (*non- linearities of the relationship between exchange rate and FDI).*

One of the difficulties with the application of this model (Hazard Rate) is the collection of data on investment delays and how to pinpoint an exact starting time for investment opportunities.

Misspecification bias is also another matter (statistical nuisance) as the question posed is about the trade –off between both efficiency and biases, information and efficiency.

II-2 Qualitative dependant variable and count data models:

These models are used where available data is limited that the possibility of investment data set construction is based on historical events.

Urata and Kawai (2000)[49] use a logit model for the location choice of Japanese manufacturing firms finding a positive relationship between host country depreciation and FDI entry, and a negative effect of exchange rate volatility.

Russ (2007)[50] use single equations and a Poisson model to explore differences between first time and veteran investors for the OECD, finding that the investors behavior vary depending on investor type and the source of volatility.

Campa (1993)[51] use Tobit model to explore the determinants of FDI entries into US industries (the number of FDI entries is the dependant variable) finding that an expected dollar appreciation increases FDI, volatility deters entry and sunk costs are significant.

Tomlin (2000) estimates a count data model (Zero Inflated Poisson) and a Tobit model to analyse the sensitivity of results to specification of the dependant variable , finding that misspecification bias can arise from

---

[48] See Sarkar , S in On the investment uncertainty relationship in real option models , p219-225.

[49] See Urata and Kawai in the determinants of the location of foreign direct investment by Japanese small and medium size enterprises , p79-103.

[50] See Russ , K in Exchange rate volatility and firs time entry by multinational firms ,p01-38.

[51] See Campa , J in Entry by foreign firms in the United States under exchange rate uncertainty , p614-622

modeling discrete data with continuous distribution (criticism of Tobit models use of count data) .

Blonigen (1997)[52] used ZIP estimates based on his theoretical model using data for the USA , Buch and Kleinert (2006)[53] distinguished between the explanation of Blonigen , Froot and Stein model and they found evidence of the goods market imperfection (Blonigen assumption).

Iannizzotto and Miller (2005)[54] tested the effects of the exchange rate on FDI to the UK by using firm level data .They concluded that a real appreciation of Sterling reduced UK FDI (statistical testing rejects the ZIP in favour of a standard Poisson model).

Alba et al (2005)[55] introduced the idea of FDI interdependence over time by using a panel data Markov ZIP (MZIP) model for FDI to the USA.The interdependence takes account of immeasurable factors (corporate rivalry , domestic investment conditions , interaction with rivals in other foreign markets ...).

The main characteristic of MZIP interdependence is the existence of both favorable and unfavorable FDI states .Alba et al major findings is that the favorability of industries to FDI reflects a great exchange rate impact.

II-3 Single equation time series models and panel data models:

The major works of these models were built on the model of Froot and Stein (1991)[56] : a regression of aggregate FDI /GDP on exchange rates and a trend variable finding that FDI to USA is negatively correlated with the US dollar; this result varies across industries by disaggregating FDI inflows.

[52] ZIP is zero inflated Poisson, see Blonigen, B in Firm specific assets and the link between exchange rates and foreign direct investment, p448-465.

[53] See Buch and Kleihert in Exchange rates and FDI : goods versus capital market frictions , p01-35.

[54] See Iannizzotto and Miller in The effect of exchange rate uncertainty on foreign direct investment in the United Kingdom , p

[55] See Alba and Park in The impact of exchange rates on FDI and the interdependence of FDI over time , p01-58.

[56] See Froot and Stein in Exchange rates and FDI: an imperfect capital markets approach, p1191-1127.

Dewenter(1995) [57] , Goldberg and Kolstad (1995)[58] , Mc Corriston and Sheldon (1998)[59] , Gopinath e al (1998)[60], Kiyota and Urata (2004)[61] found similar results of Froot and Stein (FDI is negatively correlated with the US dollar) .

An alternative of time series analysis is a panel data model where the gravity models have been popular. The gravity models include the exchange rate level and volatility, and other variable allowing for distance and country effects. Estimation of these models has generated significant negative (Bénassy –Quéré et al .2001[62] ; Gast.2005[63]) and positive (Gőrg and Wakelin .2002[64]), as well as insignificant coefficients (De Sousa and Lochard 2004[65], Jeanneret 2005[66]).

Chakrabati (2001)[67] used extreme bound analysis (EBA) to explore the robustness of coefficients on the determinants of FDI to changes in the conditioning information set i.e there may be competing regressions for the relationship between FDI and the exchange rates and the estimated sign of the exchange rate coefficient may depend on which set of regressors is included.

McAleer et al (1985)[68] outlined some problems associated with EBA as the inadequacy diagnostics validation presented for the models that produce bounds, showing that coefficient fragility depends on the classifications of variables in the regression as either doubtful or free.

Stevens (1998)[69] used the specification of Froot and Stein to test for stability, finding that the sign and the significance of the estimates changes between sub-samples.

---

[57] See Dewenter , K in Do exchange rate changes drive foreign direct investment ? P405-433.

[58] See Goldberg and Koistad in Foreign direct investment and demand uncertainty, p855-873.

[59] See M.C.Corrisson and Sheldon in Cross border acquisition and FDI in the US food industry, p1066-1072.

[60] See Gopinath and Vasavada in Exchange rate effects on the relationship between FDI and trade in the US food processing industry, p1073-1079.

[61] See Kyota and Urata in Exchange rate, exchange rate volatility and foreign direct investment, p1S01-1S36.

[62] See Bénassé Quéré , Fontagné and Lahrèche in Exchange rate strategies in the competition for attracting FDI , p178-198.

[63] See Gast , M in Determinants of foreign direct investment of OECD countries 1991-2000 , p01-28.

[64] See Gőrg and Wakelin in The impact of exchangé rate variability on US direct investment , p380-397.

[65] See De Sousa and Lochard in Does the single currency affect FDI? P01-32.

[66] See Jeanneret in Does exchange rate volatility really depress foreign direct investment in OECD countries? P01-31.

[67] See Chakrabarti and Schoinick in The determinants of foreign direct investment: sensitivity analysis and cross country regressions, p89-114.

[68] See Mc Aleer and Voiker in what will take the con out of econometrics? 293-307.

[69] See Stevens G.V in Exchange rates and foreign direct investment: a note, p293-401.

Ihirg and McIntyre (1999) [70] established a business cycle link between FDI and exchange rate showing that a statistically temporally stable relationship between FDI an exchange rate and net worth when they isolate business cycle component of FDI .

Jeanneret (2005) estimates a gravity model for OECD countries and finds that the negative effect of exchange rate volatility declines over time as Gőrg and Wakelin (2002) in their findings.

[70] See Ihrig and McIntyre in Foreign direct investment and real exchange rate : the business cycle link , p01-10.

Table: *Some empirical studies on exchange rate –FDI linkages.*

Study	Major Findings
Cushman (1985)	Level mixed significance , significant reduction of FDI for expected real appreciation of the foreign currency , significant increases FDI associated with risk
Cushman (1988)	Expected $ US appreciation reduces IFDI , increased exchange rate risk positively correlated with FDI
Froot and Stein (1991)	Host currency depreciation increases IFDI
Baily and Tavlas (1991)	Volatility insignificant
Harris and Ravensraft (1991)	Wealth gains after cross- border take over possibility related to host currency depreciation
Michael W. Rosengren and Eric S.Rosengren (1992)	Host currency depreciation increases IFDI inwards through relative wealth channel .
Clare (1992)	Volatility negatively affects FDI
Campa (1993)	Volatility deters FDI , level effect is positive
Swenson (1993)	Host currency depreciation increases IFDI
Klein and Rosengren (1994)	Host depreciation increases IFDI (Relative Wealth effect)
Goldberg and Kolstad (1995)	If demand and exchange rate shocks are correlated , volatility increases FDI
Dewenter (1995)	Host currency depreciation increases absolute IFDI , not FDI relative to domestic investment
Ning and Reed (1995)	US$ depreciation stimulates OFDI
Kogut and Chang (1996)	Home currency appreciation increases OFDI
Barrell and Pain (1996)	Expected short term exchange rate changes affect timing of investment –expected appreciation of $US delays OFDI
Grosse and Trevino (1996)	US$ depreciation increases IFDI
Blonigen (1997)	Host currency depreciation increases IFDI
Tcha (1997)	Negative effect for inbound , positive effect for outbound
Bayoumi and Lipworth (1998)	OFDI to host increases after host currency depreciation
Goldberg and Klein (1998)	Exchange rate significant for SE Asia , not Latin America
Campa et al (1998)	Host currency depreciation increases IFDI
Gopinath et al (1998)	Volaility reduces FDI, appreciation of US $ increases OFDI and sales
McCorriston and Sheldon (1998)	Host currency depreciation increases aggregate IFDI , results mixed for industry
Ricci (1998)	Volatility promotes agglomeration effects of FDI , except for small countries
Ihrig and McIntyre (1999)	FDI-Exchange rate links exists in filtered not raw data

De Menil (1999)	Volatility has positive effect on FDI
Marchant et al (1999)	Exchange rate insignificant
Urata and Kawai (2000)	Levels and volatility significant –signs mixed for different industries
Kosteletou and Liargovas (2000)	For large countries causality runs from exchange rate to FDI , causality is bi-directional for small countries –mixed sign on exchange rate
Chakrabati and Scholnick (2000)	Level and volatility insignificant , skewness significant : relatively large devaluations generate mean reverting expectations , increasing IFDI
Yang et al (2000)	Exchange rate insignificant
Tomlin (2000)	Exchange rate level and volatility insignificant –exchange rate drift – significant and incorrect sign
Bénassé –Quéré et al (2001)	Host currency depreciation FDI , volatility decreases FDI , significant exchange rate interdependence effects
Amuedo-Dorantes and Pozo (2001)	Levels insignificant , volatility affects FDI negatively
Lafrance and Tessier (2001)	Volatility and level insignificant
Halicioglu (2001)	Exchange rate insignificant
Feliciano and Lipsey (2002)	Host currency depreciation increases foreign acquisitions but it's insignificant for new establishments
Matteson and Koo (2002)	Exchange rate level insignificant , volatility effect negative
Görg and Wakelin (2002)	Exchange rate significant , effect differs across locations , volatility has positive effect except for France
Trevino et al (2002)	Exchange rate insignificant
Crowley and Lee (2003)	Volatility effect differs across countries
Pain and Van Welsum (2003)	Host currency depreciation increases IFDI – volatility increases FDI
Becker and Hall (2003)	Volatility negatively affects FDI-exchange rate covariances significant , appreciation of Sterling reduces IFDI
Kiyota and Urata (2004)	Host currency depreciation increases IFDI , volatility affects FDI negatively
Xing and Wang (2004)	If host currency appreciates relative to source country currency more than that of rival host , FDI increases to rival host
De Sousa and Lochard (2004)	Volatility negatively affects FDI , level insignificant
Barrell et al (2004)	Volatility effect negative market power doesn't reduce impact of exchange rate uncertainty – exchange rate correlation affect location choice

Jeanneret (2005)	Volatility effect negative , decreasing over time
Faeth (2005)	Exchange rate effect positive contemporaneously , negative after one lag
Iannizotto and Miller (2005)	Volatility insignificant
Gast (2005)	Exchange rate insignificant
Alba et al (2005)	Volatility insignificant .FDI interdependent : a favorable state for FDI and strong US dollar increase IFDI
Brzowzoski (2006)	Volatility and uncertainty negatively affect FDI
Lin et al (2006)	Level-positive for market seeking , negative for export substituting FDI
Buch and Kleinert (2006)	Exchange rate effects operate via goods not capital market frictions
Egger et al (2007)	Exchange rate effects differ between USA and Japan : $US depreciation increases both Japanese and US OFDI
Russ (2007)	FDI behavior differs between veteran and first time investors , and effects depend on source (domestic or foreign) of interest rate volatility that drives exchange rate risk
Oliver and Manop (2008)	Expectations of local currency appreciation and local currency depreciation may stimulate inward FDI while exchange ratte volatility may deter IFDI
Jeannert (2009)	The effect of low level exchange rate uncertainty is negative on investment decision while high level is positive

Source : Compiled by the Student

IV- Some outstanding models:

1. Froot and Stein (1991):

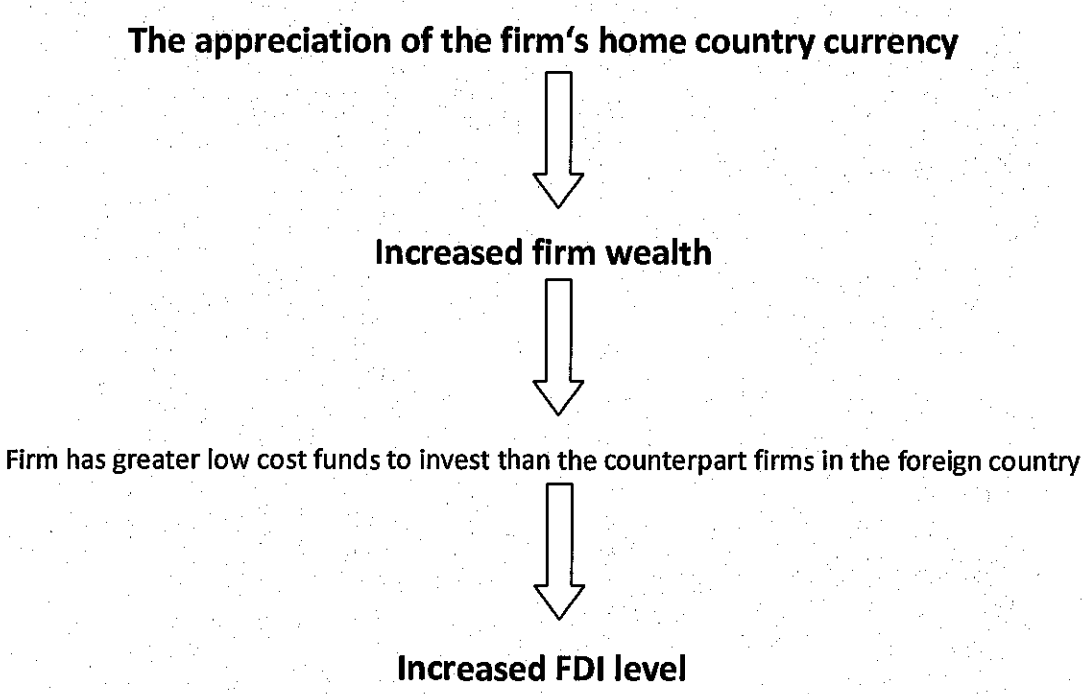


Exhibit: Froot and Stein analysis.

Source: compiled by the student.

2. Klein and Rosengren (1994) :

Their empirical study on US FDI concluded that:

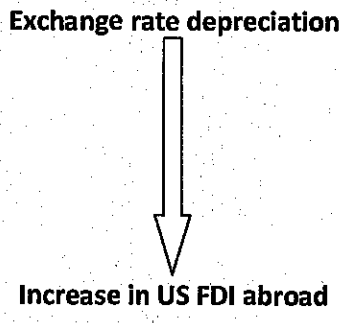


Exhibit: Klein and Rosengren analysis.

Source: compiled by the student

3 . Blonigen (1997) :

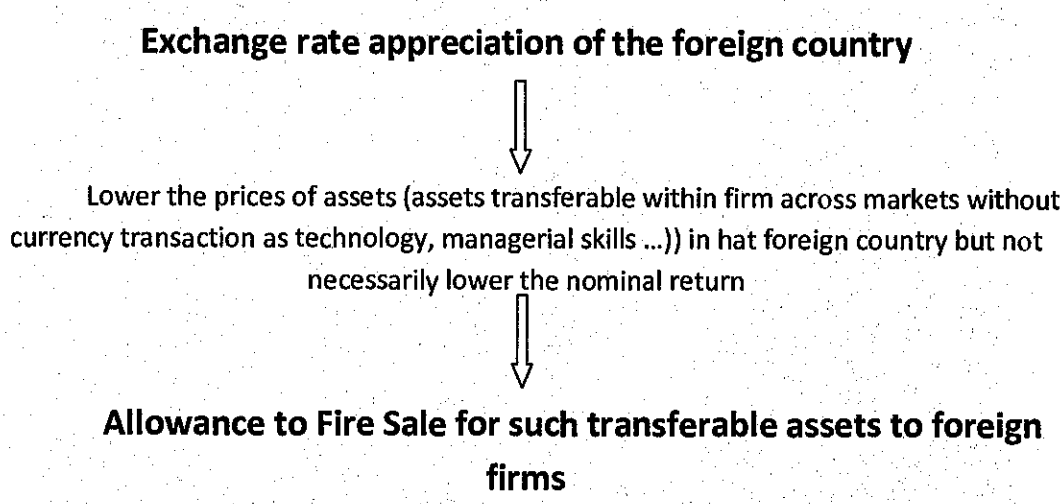


Exhibit: Blonigen analysis.

Source: Compiled by the student.

4 . Campa (1993) :

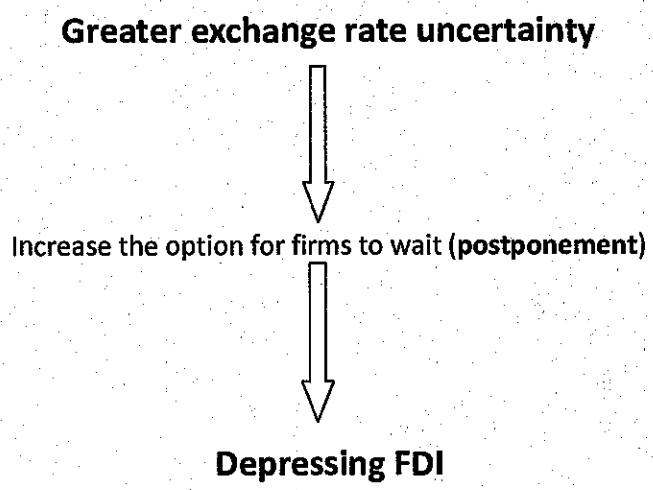


Exhibit: Campa analysis.

Source: Compiled by the student.

5 . Goldberg and Kolstad (1995) :

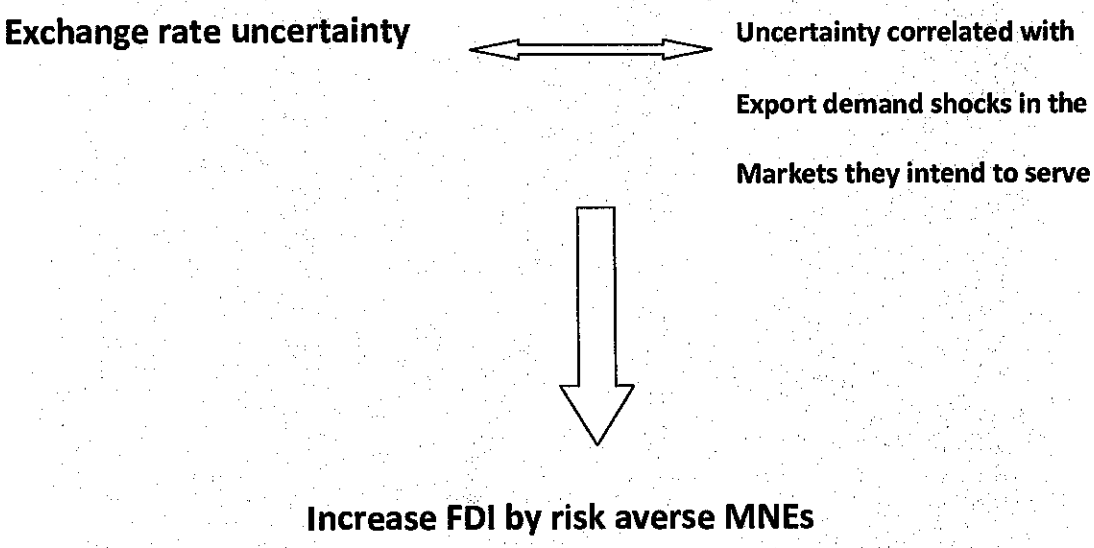


Exhibit: Goldberg and Kolstad analysis.

Source: Compiled by the student.

6 . Garruth et Al (2000) :

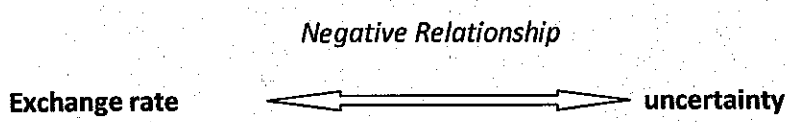


Exhibit: Garruth et Al analysis.

Source: Compiled by the student.

7 . Kohlahegen (1997) :

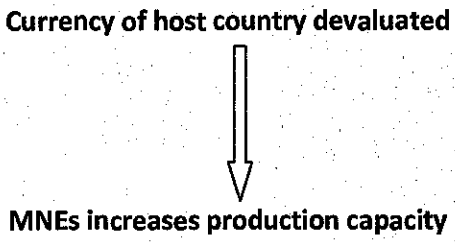


Exhibit: Kohlahegen analysis.

Source: Compiled by the student.

8 . Bénassé-Quéré (2001) :

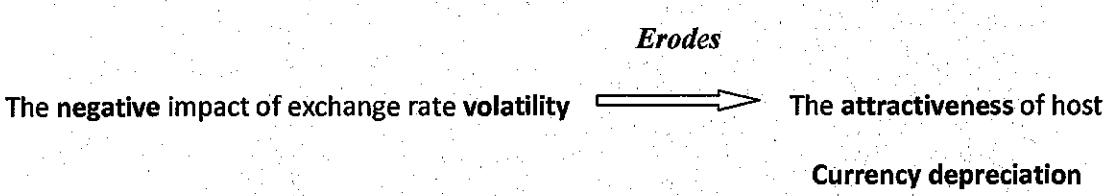


Exhibit: Bénassy-Quéré analysis.

Source: Compiled by the student.

8 . Xing and Zhou (2003) :

Product differentiation + *Barriers in brand name recognition* + *MNEs reverse imports*

Multinationals benefit from the currency devaluation of the recipient country by expanding their operations through additional FDI.

Exhibit: Xing and Zhou analysis.

Source: Compiled by the student.

Concluding Remarks:

Which is remarkable as a major matter in studying such kind of relationships is the *unavoidability of data*, this constraint led to a weakness of body of empirical evidence and a very little firm studies (micro study) .

Other resurgent constraint remains in the *heterogeneity* of FDI decision itself; this leads to the heterogeneity of studies i.e. that the exchange rate will have an *ambiguous* and *complex* effect reflected in both theoretical and empirical studies.

The empirical evidence matter consists of *mixed* results provided , this is due to model *specification* problems and data issues as results which are not robust to changes in model specifications . These constraints pave the way for researchers to invest currently efforts to examine the impacts of this macroeconomic variable on FDI decision .

References:

Alexander Jeanneret. (2006), Does exchange rate volatility really depress foreign direct investment? Working paper, *Swiss France Institute,* p01-29.

Alexander Jeanneret .(2009), Foreign direct investment and exchange rate uncertainty , working paper , *Swiss Finance Institute* , 2009 , p 01-50.

Altomonte , C and Pennings , E.(2004) , The hazard rate of foreign direct investment : a structural estimation of a real option model , *Oxford Bulletin of Economics and Statistics* , p569-593.

Amuedo –Dorantes , C and Pozo S .(2001) , Foreign exchange rates and foreign direct investment in the United States , *The International Trade Journal* , p323-343.

Arize , A.C (1997) , Conditional exchange rate volatility and the volume of foreign trade : evidence from seven industrialized countries , *Southern Economic Journal* , p235-254.

Arnd Huchzermeir and Morris A Cohen.(1996), Valuing operational under exchange rate risk , *Operation Research* , 1996 , p100-113.

Barrell , R and Pain , N (1996), An econometric analysis of US FDI , *The Review of Economics and Statistics,* p200-207.

Barrell , R Gottschalk , S D and Hall S G (2004) , Foreign direct investment and exchange arte uncertainty in imperfectly competitive industries *Available from URL ://repec.org/res2004/GottschalkBarrellHall.pdf.*

Bayoumi , T and Lipworth, G (1995) , Japanese foreign direct investment and regional trade , *Journal of Asian Economics* , p581-607.

Becker , B and Hall , S .(2003) , Foreign direct investment in industrial R&D and exchange rate uncertainty in the UK , *Available from URL: http: //www.niesr.ac.uk/pubs/dps/dp217.pdf.*

Bettina Becker and Stephen G Hall .(2003), Foreign direct investment in industrial R&D and exchange rate uncertainty in the UK , *National Institute of Economic and Social Research* , 2003 , p01-23.

Bénassé-Quéré , A Fontagné , L and Lahrèche Révil .(2001), A , Exchange rate strategies in the competition for attracting FDI , *Journal of Japanese and International Economics* , p178-198.

Blonigen, B (1997), Firm specific assets and the link between exchange rates and foreign direct investment, *American Economic Review,* p448-465.

Blonigen, B (2005), A review of empirical literature on FDI determinants, *Atlantic Economic Journal,* p383-403.

Brozozowski,M. (2006) ,Exchange rate variability and foreign direct investment – Consequences of EMU enlargement, *Eastern European Economics* , p05-24.

Bruce Kogut and Sea Jin Chang.(1996), Platform investments and volatile exchange rates: direct investment in the US by Japanese electronic companies, *The Review of Economics and Statistics,* p221-231.

Bruce A Blonigen .(2005) , A review of empirical literature on FDI determinants , *NBER working paper,* p01-38.

Campa , J Donnefeld , S and Weber , S .(1998), Market structure and FDI , *Review of International Economics* , p361-380.

Chakrabarti, A. (2001), The determinants of foreign direct investment: sensitivity analysis of cross country regressions, *Kyklos* , p89-114.

Chakrabarti, A (2003), A theory of spatial distribution of foreign direct investment, International Review of Economics and Finance, p119-154.

Chakrabarti .R and Scholnick , B (2000) , Exchange rate expectations and FDI flows , *Available from URL :http://www.prism.gatech.edu/~rc166/Ex-FDI.pdf.*

Carruth , A Dickerson ,A and Henley , A .(2000) , What do we know about investment under uncertainty ? , Journal of Economic Surveys, p119-167.

Christine Bolling , Mattew Shane and Terry Roe .(2007), Exchange rates and US foreign direct investment in the global processed food industry , *Agricultural and Resource Economic Review* , p230-238.

Christian W Schmidt and Udo Broll (2008), The effect of exchange rate risk on US foreign direct investment : an empirical analysis , *Dresden Discussion Paper Series in Economics No 08/09* , p01-32.

Clare ,G .(1992) , The impact of exchange rate on the foreign direct investment of US multinational manufacturing companies , *Open Economies Review* ,p143-163.

Crowley ,P and Lee ,J .(2003) ,Exchange rate volatility and foreign investment : international evidence , *The International Trade Journal,* p227-252.

Daniel H Pick.(1990), , Exchange rate risk and US agricultural flows , *American Journal of Agricultural Economics* , p674-700.

Daniel Powers , Meyong SuYun .(2009), Multivariate Decomposition of Hazard Rate Models , *Institute For The Study of Labor* , p01-49.

Darby, J Hallet , A.H , Irelands ,J and Pisceitelli .L(1999), The impact of exchange rate uncertainty on the level of investment , *The Economic Journal* , p55-67.

David O. Cushman.(1985) , Real exchange rate risk , expectations and the level of direct investment , *The Review of Economics and Statistics* , p297-308.

David O.Cushman. (1988), Exchange rate uncertainty and foreign direct investment in the United States, *Weltwirtschaftliches Archiv CXXIV* , p322-335.

Davide Furceri and Sara Borelli.(2008) , Foreign direct investments and exchange rate volatility in the EMU Neighbourhood countries, *Journal of international and Global Economic Studies* , 2008 , p 42-49 .

Deena Khatkhate .(1998) ,Impact of volatility of exchange rates of major currencies on foreign exchange management , *Economic and Political Weekly*, p465-467.

De Sousa , J and Lochard , J (2004), Does the single currency affect FDI ? Available from *URL: http://team.univ-paris1.fr/teamperso/toubal/M1/EU/FDI2.pdf.*

Diallo Ibrahima Amadou .(2007) , Exchange rate volatility and investment : a panel data cointegration approach ,MPRA working paper , *Centre D'etudes et De Recherches sur le Dévelopment* , p01-25.

Diego N Moccero and Carlos Winograd .(2006) , Real exchange rate volatility and exports : Argentine perspectives , *working paper*, p01-52.

Dixit, A .and Pindyck, R (1994), *Investment under uncertainty* .Princeton University Press .Princeton, NJ.

Froot ,K and Stein , J .(1991), Exchange rates and FDI : an imperfect capital market approach , *Quaterly Journal of Economics* , p1191-1127.

Gast,M .(2005), Determinants of foreign direct investment of OECD countries 1991-2000, *Available from URL :*

http://geb.uni-iessen.de/geb/volltexte/2005/2396/pdf/ZeuDiscPap27.pdf.

Golan Benita and Beni Lauterbach. (2007), Policy factors and exchange rate volatility: panel data versus a specific country analysis, International *Research Journal of Finance and Economics*, p 07-23.

Gőrg ,H and Wakelin ,K.(2002), The impact of exchange rate variability on US direct investment , *The Manchester Schoology* , p380-397.

Grosse, R and Trevino, L.J (1996), Foreign direct investment in the United States: an analysis by country of origin, Journal of Business Studies, p139-155.

Harmut Egger, Peter Egger and Michael Ryan. (2006), Bilateral and third country exchange rate effects on multinational activity, working paper, 2006, p 01-36.

Hassan R AlHajhouj.(2002) , Foreign direct investment and exchange rate risk , Scientific Journal of King Faisal University , p237-254.

Henry Aray and Javier Gardezabal.(2008), Going multinational under exchange rate uncertainty , working paper, p01-43.

Hongmo Sung and Harvey E Lapan.(2000) , Startegic foreign direct investment and exchange rate uncertainty , *International Economic Review*, p411-423.

Iannizzotto, M and Miller, N.J. (2005), The effect of exchange rate uncertainly on foreign direct investment in the United Kingdom, *Available from URL: http://www.york.ac.uk/depts/econ/profiles/details/ozkang/ozkang_paper9.pdf.*

Itagaki, T.(1981), The theory of multinational firms under exchange rate uncertainty , *Canadian Journal of Economics* ,p276-297.

Janice ,C .Eberly and Jan A. Van Mieghem .(1997), Multi-factor dynamic investment under uncertainty, *Journal of Economic Theory* , p345-387.

Philipe Jorion (1995) , Predicting volatility in the foreign exchange market, *The Journal of Finance*, p507-528.

John Copas .(1999), Statistical modeling for risk management, *Palgrave Macmillan Journals* , p35-49.

Jonathan P Obrien , Timothy B Folta , Douglas R Johnson .(2003), A real options perspective on entrepreneurial entry in the face of uncertainty , *Managerial and Decision Economics* , p515-533.

Jose Campa , Linda S Goldberg.(1995) , Investment in manufacturing , exchange rates and external exposure , *Journal of International Economics* , p 297-320.

Jose Campa and Linda S Goldberg. (1999), Investment pass-through and exchange rates: a cross country comparison, *International Economic Review*, p287-314.

Joseph D Alba , Peiming Wang and Donghyum Park , The impact of exchange rate on FDI and interdependence of FDI over time , *Nanyang Technological University , Singapore* , p01-25.

Joshua Aizeman.(1992) , Exchange rate flexibility , volatility and domestic and foreign direct investment , *Palgrave Macmillan Journals* , p890-922.

Joshua Aizeman .(1991), Foreign direct investment , productive capacity and exchange rate regimes , *NBER working paper* , p01-45.

Joshua Aizenman.(1994), Monetary and real shocks, productive capacity and exchange rate regimes, *Economica*, p 407-434.

Kai –Li Wang and Christopher B Barrett .(2007), Estimating the effects of exchange rates volatility on export volumes , *Journal of Agricultural and Resource Economics*, p01-38.

Kathryn L Dewenter .(1995) , Do exchange rate changes drive foreign direct investment , *The Journal of Business*, p405-433.

Kenneth A Froot and Jeremy C Stein.(1991), Exchange rate and foreign direct investment: an imperfect capital market approach, *The Quarterly Journal of Economics*, p1191-1217.

Kioyta , K and Urata , S.(2004) , Exchange rate , exchange rate volatility and foreign direct investment , *The World Economy* , p1501-1536.

Klein , M and Rosengren , E .S .(1994), , The real exchange rate and FDI in the United States : relative wealth versus relative wage effects , *Journal of International Economics* ,p373-389.

Kohlahegen , S.(1977) , Exchange rate changes , profitability , and direct foreign investment , *Southern Economic Journal*, p43-52.

Kogut , B and Chang , S.J .(1996), Platform investment and volatile exchange rates : direct investment in the US by Japanese electronic companies , *Review of Economic and Statistics* , p221-131.

Kosteletou, N and Liagrovas , P .(2000) , Foreign direct investment and real exchange rate interlinkages , *Open Economies Review* , p135-148.

Kozo Kiyota and Shujiro Urata. (2002), Exchange rate, exchange rate volatility and foreign direct investment, working paper, 2002, p01-32.

Lee -Lee Chong and Hui- Boon Tan. (2008), Exchange rate risk and macroeconomic fundamentals: evidence from Neighbouring Southeast Asian Economics International *Reaserch Journal of Finance and Economics*, p88-95.

Lin , C and Chen ,M and Rau, H.(2006) ,Exchange rate volatility and timing of foreign direct investment : Market seeking versus export –substituting .*Available from URL* http://www.apeaweb.org.confer/sea/papers/Chen-lin-raup.pdf .

Linda S Goldberg and Charles Kolstad. (1995), Foreign direct investment, exchange rate variability and demand uncertainty , international Economic Review , 1995 , p855-873.

Linda S Goldberg and Charles D Kolstad , Foreign direct investment , exchange rate variability and demand uncertainty , working paper , p01-29.

Linda S Goldberg , Michael W Klein .(1997), Foreign direct investment , trade and real exchange rate linkages in Southeast Asia and Latin America , *NBER working paper* , p01-44.

Mario J Crucini , Chris Telmer .(2008), Microeconomic sources of real exchange rate variability , *working paper*, p01-20.

Mary A Marchant ,Sayed H Saghaian and Steven S Vickner.(1999) , Trade and foreign direct investment : management strategies for US processed food firms in China , *International Food and Agribusiness Management Review*, p131-143.

Michal Brzozowski.(2003) , Exchange rate variability and foreign direct investment – Consequences of EMU enlargement , *Central for social and economic research , Warsaw November* , p01-26.

Mustapha Nabli , Jennefer Keller and Marie-Ange Veganzones. , Exchange rate management within the Middle East and North Africa region: the cost to manufacturing competitiveness, *working paper*, p01-23.

Martin J Balley and George S Tavlas .(1991) , Exchange rate variability and direct investment , Annals of the American Academy of Political and Social Science , p106-116.

Matiur Rahman. (1998), Exchange rate and foreign direct investment: evidence from Pakistan and Sri Lanka, *working paper University of Southern Maine*, p01-07.

Michel B Devereux and Philip R Lane.(2001) , Understanding bilateral exchange rate volatility , *working paper,* p01-43.

Mc Corrisson , S and Sheldon. (1998), Cross border acquisitions and FDI in the US food industry , *American Journal of Agricultural Economics*, p1066-1072.

Nicholas Bloom , Stephen Bond and John Van Reenan.(2001) , The Dynamic of Investment Under Uncertainty , *The Institute For Fiscal Studies* , p01-58.

Oliver Morrisey and Manop Udomkerdmongkol .(2008) , Foreign direct investment and exchange rates : a case study of US FDI in Emerging Market countries , *School of Economics , University of Nottingham*, p01-23.

Olumuyiwa B Alaba.(2003) , Exchange rate uncertainty and foreign direct investment in Nigeria , TPRPT working paper, p01-19.

Oscar Bajo-Rubio and Simon Sosvilla –Rivero .(1994) ,An econometric analysis of foreign direct investment in Spain 1964-1989, *Southern Economic Journal*, p104-120.

Pain ,N and Van Welsum ,D .(2003) , Untying the Gordian Knot : the multiple links between exchange rate and foreign direct investment , *Journal of Common Market Studies* , p823-846.

Philipe Bacchetta and Eric Van Wincoop.(2000), Does exchange rate stability increase trade and welfare? *The American Economic Review*, p1093-1109.

Qin , J .(2000), Exchange rate risk and two way foreign direct investment , *Journal of Financial Economics* , p221-231.

Ranjit Sau.(1997), Foreign direct investment, portfolio investment and macroeconomic stability , *Economic and Political Weekly Journal* , p386-387.

R.Barrell , S.D Gottschalk and S.G.Hall , Foreign direct investment and exchange rate uncertainty in imperfectly competitive industries , *National Institute of Economic and Social Research* , p 01-21.

Robert Lafrance and David Tessier.(2000) , Exchange rate and investment in Canada , working paper, p01-08.

Russ, K .(2007), The endogeneity of the exchange rate as a determinant of FDI : a model of entry and multinational firms , *Journal of International Economics* , p344-372.

Ryuta Takashima and Kyoko Yagi , Optimal investment timing and location under uncertainty, *working paper*, p01-14.

Sarkar , S.(2000) , On the investment –uncertainty relationship in a real option model , *Journalof Economic Dynamics and Control* , p219-225.

Sassan Alizadeh , Michael W Brandt , Francis X Diebold.(2002), Range- Based estimation of stochastic volatility models , *The Journal of Finance* , p1047-1091.

Shanta Parajuli and P .Lynn Kennedy .(2010), The exchange rate and inward foreign direct investment in Mexico , *working paper*, p01-23.

Shauna Philips and Fredom Z Ahmadi –Es fahani. (2008), Exchange rates and foreign direct investment: theoretical models and empirical evidence, *Agricultural and Resource Economics,* p505-525.

Susan Pozo.(1992), Conditional exchange rate volatility and the volume of international trade : evidence from early 1900s , *The Review of Economics and Statistics,* p325-329.

Tarek Harchaoui and Pierre Lasserre .(1999) , Testing The Option Value Theory of Irreversible Investment , *CIRANO* , p01-39.

Tarek Harchaoui , Faouzi Tarkhani and Terence Yuen .(2005), The effects of the exchange on investment : evidence from Canadian manufacturing industries , *Bank of Canada working paper* , p01-60.

Thi Hon Hanh PHAM, Thinh Duc NGUYEN. (2003), Foreign direct investment, exports and real exchange rate linkages: Vietnam evidence from a cointegration approach, *working paper,* p01-24.

Udo Broll and Kit Pong Wong .(2005), Multinationals , Hedging and Capital structure under exchange rate uncertainty , *working paper* , p01 -16.

Udo Broll and Bernhart Eckwert.(1999), Exchange rate and international trade, *Southern Economic Journal,* p178-185.

Vladyslav Sushko.(2007), Foreign direct investment under exchange rate uncertainty (Thirty five years and still uncertain) , *working paper* , p01-19.

Xing , Y and Zhao .(2008), L , Reverse imports , foreign direct investment and exchange rates , *Japan and the World Economy,* p275-289.

Chapter III:

Foreign Direct Investment and Exchange Rates:

A Case Study of US FDI in Emerging Market

This chapter investigates the impact of exchange rates on US foreign direct investment (inflows) to a sample of 16emerging markets countries using panel data for the period 1994-2006.

Three variables are used to capture separate exchange rate effects: the bilateral exchange rate to the US$ captures the value of local currency (a higher value implies a cheaper currency), changes in real effective exchange rate index (REER) proxy for expected changes in the exchange rate (an increasing , decreasing REER is interpreted as devaluation , appreciation being expected , the transitory component of bilateral exchange rate is a proxy for volatility of local currency .The background of this support is the" Chakrabati" and "Scholnick" hypothesis that ceteris paribus there is a negative relationship between the expectation of local currency depreciation and FDI inflows , cheaper local currency (devaluation) attracts FDI as volatile exchange rates discourages FDI . This investigation respects the following steps:

1. *The Emerging Market*
2. *Theoretical background of the study*
3. *Empirical methodology and data*
4. *Econometric analysis and results*
5. *Concluding remarks*

I- Emerging Markets:

I-1 Definition:

Emerging markets are countries that are restructuring their economies along market-oriented lines and offer a wealth of opportunities in trade, technology transfers, and foreign direct investment. According to the World Bank[1], the five biggest emerging markets are China, India, Indonesia, Brazil and Russia. Other countries that are also considered as emerging markets include Mexico, Argentina, South Africa, Poland, Turkey, and South Korea. These countries made a critical transition from a developing country to an emerging market. Each of them is important as an individual market and the combined effect of the group as a whole will change the face of global

I-2 Emerging Markets characteristics:

Emerging markets stand out due to four major characteristics. First, they are regional economic powerhouses with large populations, large resource bases, and large markets. Their economic success will spur development in the countries around them; but if they experience an economic crisis, they can bring their neighbors down with them. Second, they are transitional societies that are undertaking domestic economic and political reforms. They adopt open door policies to replace their traditional state interventionist policies that failed to produce sustainable economic growth. Third, they are the world's fastest growing economies, contributing to a great deal of the world's explosive growth of trade. By 2020, the five biggest emerging markets' share of world output will double to 16.1 percent from 7.8 percent in 1992[2]. They will also become more significant buyers of goods and services than industrialized countries. Fourth, they are critical participants in the world's major political, economic, and social affairs. They are seeking a larger voice in international politics and a bigger slice of the global economic pie.

I-3 The potential causes of Emerging Markets creation:

There are two potential causes for the creation of emerging markets: the failure of state-led economic development and the need for capital investment. First, state-led economic development failed to produce sustainable growth in the traditional developing countries. This failure

[1] For more detail see World Trade Report in a Globalized World , p09.

[2] For more detail see Neenad Pacek and Daniel Throniely in Emerging Markets , Lessons for Business success and the Outlook of different Markets , p65.

and its tremendous negative impact pushed those countries to adopt open door policies, and to change from the state's being in charge of the economy to facilitating economic growth along market-oriented lines. Second, the developing counties desperately needed capital to finance their development, but the traditional government borrowing failed to fuel the development process. In the past, the governments of the developing countries borrowed either from commercial banks or from foreign governments and multilateral lenders like the IMF and the Word Bank. This often resulted in heavy debt overload and led to a severe economic imbalance. The past track record of many developing countries also demonstrates their inability to well manage and efficiently operate the borrowed funds to support economic growth. In light of the unsatisfactory results of government borrowing, developing countries began to rely on equity investment as a means of financing economic growth. They seek to attract equity investment from private investors who will become their partners in development. To attract equity financing, a developing country has to establish the preconditions of a market economy and create a business climate that meets the expectations of foreign investors. This change in financing sources thus became another factor leading to the rise of emerging markets.

I-4 Emerging Markets and traditional view of development[3] :

The rise of emerging markets is changing the traditional view of development as follows. First, foreign "investment" is replacing foreign "assistance." Investing in the emerging markets is no longer associated with the traditional notion of providing development assistance to poorer nations. Second, emerging markets are rationalizing their trade relations and capital investment with industrialized countries. Trade and capital flows are directed more toward new market opportunities, and less by political consideration. Third, the increasing two-way trade and capital flows between emerging markets and industrialized countries reflect the transition from dependency to global interdependency. The accelerated information exchange, especially with the aid of the Internet, is integrating emerging markets into the global market at a faster pace.

I-5 Emerging Markets challenges:

In their effort to create a market economy and to ensure sustainable development, emerging markets still face big challenges that come from fundamental problems associated with their traditional economic and

[3] See Dianna Farrell , Jaana K.Renes and Heiner Schulz in The Truth about Foreign Direct Investment in Emerging Markets , p01-07.

political systems. A market economy requires those countries to redefine the role of the government in the development process and to reduce the government's undue intervention. Another serious problem that those countries have to confront is controlling corruption, which distorts the business environment and impedes the development process. An even more challenging task for those countries is to undertake structural reforms with their financial system, legal system, and political system, so as to guarantee a disciplined and stable economy that is relatively free of political disturbances and interference.

I-6 Emerging Markets prospects[4]:

Emerging markets are the "key swing factor" in the future growth of world trade and global financial stability, and they will become critical players in global politics. They have a huge untapped potential and they are determined to undertake domestic reforms to support sustainable economic growth. If they can maintain political stability and succeed with their structural reforms, their future is promising.

[4] See Gran Thoronton in Emerging Markets, leading the way to recovery, p01-44.

II -Theoretical background:

The main support of this model study is the "Chakrabatti" and "Scholnik"(2002)[5] hypotheses about different specifications and variables to show the impact of exchange rates, exchange rates expectations and exchange rate volatility on FDI inwards.

Referring to them , investors are lacking to expect fully the future exchange rate variations and they do not revise their expectations to the full extent in current exchange .They suggested that after a probably devaluation of the host country currency , this latter becomes temporarily cheap vis a vis the origin country currency , under these circumstances FDI would to the country as foreign assets become cheaper relative to their future income stream as it's cleared from the following model :

$$\pi = N\left[\frac{R(N)E(e_1)}{1+r}\right] - C(N)e_0 \qquad (01)$$

Where:

N: is a measure of the scale of the project.

R: is revenue in host country currency occurring at future point of time for unit N.

C: is the cost of project in the host country currency payable –up for unit N.

e_0: is the exchange rate (source country currency unit per local currency unit) at the time of making the investment .

$E(e_1)$: is the expected exchange rate at the time when the project pays back .

r: is the opportunity cost of capital over the project's life.

[5] See Chakrabarti, R. and Scholnick B in Exchange Rate Expectations and Foreign Direct Investment Flows p: 01-21.

Following to this model, firms maximize the value of the expected net payoff by choosing the appropriate value of N, under this assumption there exists an expected dollar profit maximizing the value of **N**.

Suppose that the optimal value of N is N^*, so the following statement can be suggested:

$$N^* = N^*(r,d) \; ; \; \partial N^* / \partial r < 0 \text{ and } \partial N^* / \partial d < 0 \qquad (2)$$

As: $$dE(e_1) / de_0 < 1 \qquad (3)$$

Based on the expectation inelasticity concept found by Frankel and Froot (1987)[6].

From (2), (3) the following assumption is summarized:

$$dN^* / de_0 < 0 \qquad (4)$$

[6] Froot, K. and Stein, J in Exchange Rates and Foreign Direct Investment: an Imperfect Capital Markets Approach p, 1191-1218.

Explanations:

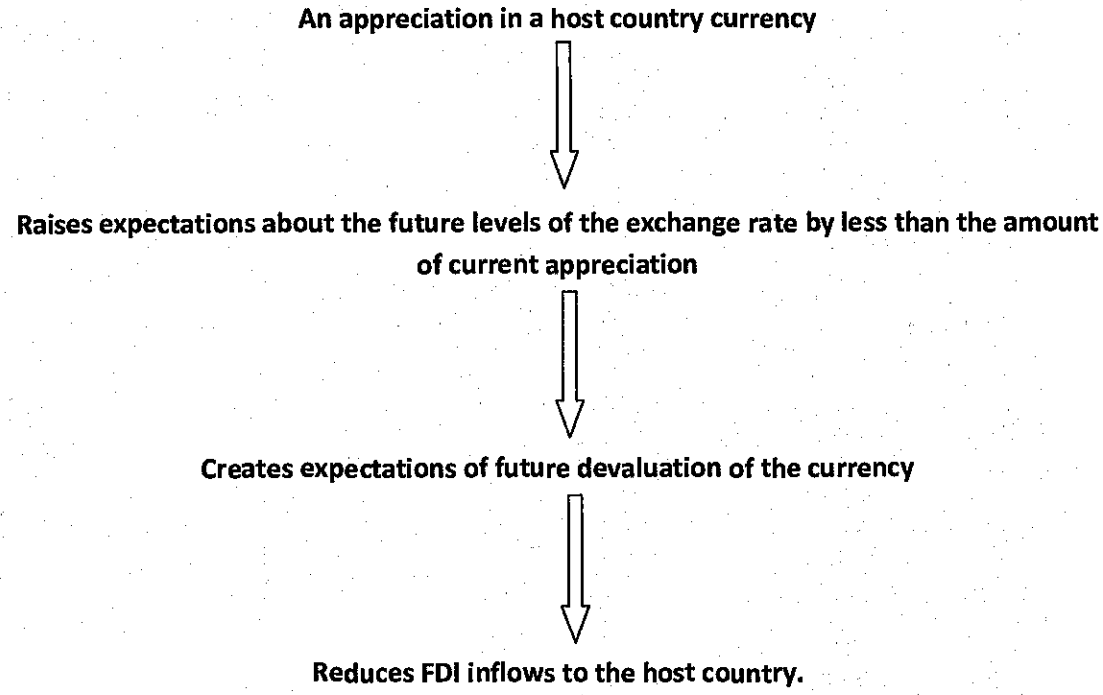


Exhibit: future exchange rate expectations and FDI.

Source: Compiled by the student.

Don't neglect that the effect depends also on the motives for FDI as its illustrated by the following exhibit:

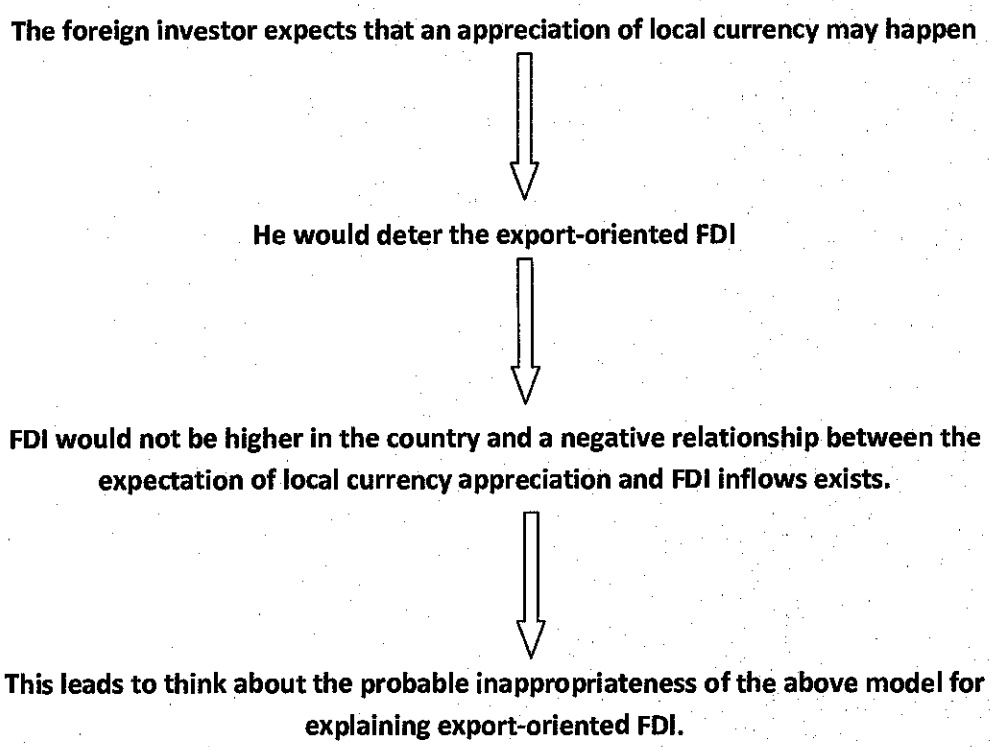


Exhibit: Expectations relationships reverse.

Source: Compiled by the student.

III- Empirical methodology and data:

This study case aims to test three hypotheses:

1. The expected devaluation of foreign currency lowers current inward FDI.

2. The foreign currency devaluation raises FDI inwards.

3. The exchange rate volatility discourages FDI inwards.

These three hypotheses can be extended as the following model shows:

Inflows of FDI = *f*(level of exchange rate, exchange rate volatility , exchange rate shock)

Level of exchange rate: appreciation or depreciation of the foreign country currency

Exchange rate shock: measured by the exchange rate skewness as a proxy (due to lack of data this component is excluded from the model).

Cyclical and regular components of exchange rates are used as proxies measuring exchange rate variations.

Don't neglect that foreign direct investment decision is conducted by other variables rather than exchange rate like: market potential, labor costs, export potential, GDP, infrastructure, inflation ….), under the above clarifications the suggested full econometric model to be tested is specified as follows:

$$FDI\,i,t = \alpha i \quad +\beta 1 \Delta REERi,t$$
$$+\beta 2FXDi,t+\beta 3TFXDi,t+\beta 4MNUi,t+\beta 5INFi,t+\beta 6EXPi,t+\beta 7PGDPi.t+\beta 8PORi,t$$
$$+\beta 9TELi,t+\beta 10GGDPi,t+\varepsilon i,t. \qquad (5)$$

Where:

$FDI_{i,t}$: is the US FDI inflow to the countries.

$\beta_1 \Delta REER_{i,t}$: is the first difference of log of $REER$ as proxy of the expectation in local currency value (increase, decrease implies that the foreign investor expects devaluation, appreciation of local currency)

$FXD_{i,t}$: is log of bilateral exchange rates adjusted for inflations to capture the impacts of exchange rates on FDI flows into host countries .

$TFXD_{i,t}$: is the temporary components (cyclical and regular) of log of the bilateral exchange rates (the Hodrick Prescott HP filter is used to estimate these transitory components) as :

Exchange rate =trend component +cyclical component+ irregular component (6)

From the above equation:

Exchange rate –trend component =cyclical component +irregular component (7)

The equation reveals that cyclical and irregular components appear to exhibit oscillatory and unpredictable behavior of series (that of exchange rate in particular), these two components generate exchange rate variability.[7]

$MNU_{i,t}$: is the manufacturing as proxy of industrialization in, the host countries , its importance results from the informal skills embodied in labor forces .More industrialized countries attract more technology intensive FDI .[8]

$INF_{i,t}$: is the inflation as some empirical studies examine the effect of host's country macroeconomic management on FDI[9] .

$EXP_{i,t}$:is the exports , there is an empirical support augmenting that export orientation attracts FDI as MNEs are more attracted to a country with high export potential[10] .

---

[7] For more detail see Goldfajn and Valdes in The Aftermath of Appreciations, p229-226.

[8] See Wheeler and Mody in International investment location decisions, p57-76 and Lucas in On The Determinants of Foreign Investment: Evidence from East and Southeast Asia , p391-406.

[9] See Schneider and Frey in Economic and Political determinants of Foreign Direct Investment, p161-175 and Tuman and Emmert in Explaining Japanese Foreign Direct Investment in Latin America, p539-555.

$PGDP_{i,t}$: is log of real per capita GDP as a measure of labour costs. This latter has very low mobility in contrast to capital and technology .The multinationals can reduce production costs by transferring the more mobile production factors to countries where labour is cheaper[11].

$POR_{i,t}$: is the portfolio investment represents a measure of investor confidence and may be positively correlated with FDI (the rise in portfolio capital indicating higher foreign investor confidence and boosting the relative attraction of the country for foreign investor).[12]

$TEL_{i,t}$:is log of the number of telephone mainlines , this is n indicator of infrastructure level as low infrastructure level substantially increases operational costs and may be a deterrent factor of FDI[13] .

$GGDP_{i,t}$: is real GDP growth as a large domestic market permits the exploitation of economies of scale , which is likely to stimulate FDI , some empirical studies confirm that domestic market potential measured by GDP growth attracts FDI [14].

Data collection, study period and selected countries:

III-1Data collection:

The data representing those variables are annual aggregate data.

Net *FDI* inflows is treated as dependant variable and collected from Bureau of Economic Analysis at the US Department of Commerce .The data represent financial flows generated by multinationals and do not totally represent the MNEs activity[15] .The balance of data payments is used to construct the dependant variable this is due to data limitation in developing countries .

---

[10] For more detail see Culem in The Locational Determinants of Foreign Investments among Industrialized Countries, p885-904.

[11] See Aristotelous and Fountas in An Empirical Analysis of Inward Foreign Direct Investment Flows in the EU with Emphasis on the Market Enlargement on the Market Enlargement Hypothesis, p571-583.

[12] For more detail see Meredith in US Muitinational Investment in Canadian Manufacturing Industries, p111-119.

[13] For more detail see Asidieu in On Determinants of Foreign Direct Investment in Developing Countries: is Asia Different? P107-119.

[14] See Gastanaga, Nugent and Pashamova in Host Country Reforms and DFI Inflows: How Much Difference do they make?, p1299-1314.

[15] For more detail see Lipsey in Foreign Direct Investors and The Operations of Multinational Firms : Concepts , History and Data , p01-14

REER indices are from international financial statistics, international monetary fund through World Development indicators (WDI) 2008.

IMF defines *REER* as nominal effective exchange rate adjusted for relative movements in national price indicators (CPI) of home country and selected countries.

Average official bilateral exchange rate are collected from World Development indicators 2008, they are adjusted by CPI of host countries to acquire real exchange rates.

MNU: measured as value added as a share of GDP, it's collected from World Development indicators 2008 (used as proxy of the industrialization factor).

INF: inflation measured as percentage of annual growth of GDP deflator , it's collected from World Development indicators 2008 (used as proxy of macroeconomic environment factor) .

EXP: exports of goods and services as a ratio of GDP , are collected from World Development indicators 2008 (is used as proxy of the export market factor).

PGDP: GDP per capita is collected from World Development indicators 2008(the data utilized for labor costs).

POR: portfolio investment is collected from World Development indicators 2008 and adjusted by GDP at current prices (US Dollar) to obtain portfolio investment as ratio of GDP as a proxy of foreign investors confidence in economic and political conditions of the host countries.

TEL: data on number of telephone mainlines is extracted from World Development Indicators 2008 (this variable is used as proxy of infrastructure).

GGDP: real GDP growth is obtained from World Development Indicators 2008 as a proxy of the domestic market potential factor.

III-2 Study period:

The period of study covers from 1994 to 2006.

III-3 Selected countries:

The countries selected are 16 emerging countries , consist of 5 countries from Asia (**China , Malaysia , Pakistan , The Philippines , Thailand**) , 8 Latin America Countries (**Bolivia , Chile , Colombia, Costa Rica , Dominican Republic , Paraguay , Uruguay ,Venezuela**)and 3 African countries (**Morocco , South Africa , Tunisia**) .

IV- Econometric Analysis:

1. The fixed and random effects are uses to test the hypothesis (or pooled OLS if estimation if unobserved effects summation equals Zero[16]).

2. To show which technique is more suitable for the data the **Hausman** or **F –Test** is used.[17]

3.**LM** test is used to check for first order correlation .[18]

4.It's possible that the errors are not independent and identically distributed (iid) , in this case the estimators are still consistent but inefficient that 's why random and fixed effects with first order autocorrelation disturbances are used to assume error terms and remedy the problem [19].

5. Robustness check of regional effects on FDI determination is performed by dividing the countries into two regions: Latin America and Asia.

[16] For more detail see Jeffery M.Wooldridge in Econometric Analysis of Cross Section and Panel Data, p251-286.

[17] See Jeffery M.Wooldridge in Econometric Analysis of Cross Section and Panel Data , p288 and Badi H. Batgali in Econometric Analysis of Panel Data , p124-128.

[18] For more detail see Badi H. Batgali , p62.

[19] See Jeffery M.Wooldridge in Econometric Analysis of Cross Section and Panel Data, p663-673.

Estimation Results: 1994-2006.

Table 01:

INDEPENDENT VARIABLE	*FIXED EFFECTS WITH AR(1) DISTURBANCES*		
First difference of log of REER	**-0.48(0.08)**	-0.77(0.16)	**-0.56(0.09)**
Log of the bilateral exchange rate	**5.75(0.00)**	**6.04(0.00)**	**5.86(0.00)**
Temporary component of log of the bilateral exchange rate	**-6.30(0.01)**	**-6.64(0.06)**	**-6.50(0.01)**
Manufacturing, value added/GDP	-0.06(0.60)	-0.04(0.45)	-0.05(0.63)
Inflation	**-0.01(0.07)**	-0.01(0.87)	**-0.02(0.08)**
Exports of goods and services	-0.01(0.96)	-0.01(0.93)	-0.01(0.58)
Log of real per capita GDP	3.00(0.20)	3.36(0.16)	3.13(0.19)
Portfolio investment/GDP	**0.03(0.09)**	**0.03(0.11)**	**0.04(0.08)**
Log of number of telephone mainlines	-0.69(0.25)	-0.47(0.46)	-0.69(0.21)
Real GDP growth	0.01(0.83)	0.01(0.96)	0.01(0.93)
Constant .	**-40.36(0.00)**	**-41.54(0.00)**	**-41.46(0.00)**
Coefficients of determinations	0.36	0.32	0.21
Hausman test Statistics (Chi-5quared)			
LM test Statistics			
Koenker-Bassett test (t-test) Statistics			
Number of observations	176	176	176

Period Covered 1994-2006. *Sample :16 emerging markets*

Notes: *the figures in parentheses are P-values (significant coefficients in* ***bold****); the 5% critical value of Chi-squared distribution with 1 degree of freedom is 3.85.*

Table : Fixed Effects and Random Effects

INDEPENDENT VARIABLE	*FIXED EFFECTS*	*RANDOM EFFECTS*
First difference of log of REER	-1.94(0.01)	-062(0.69)
Log of the bilateral exchange rate	6.62(0.00)	0.24(0.03)
Temporary component of log of the bilateral exchange rate	-7.96(0.00)	-0.16(0.91)
Manufacturing, value added/GDP	0.03(0.67)	0.10(0.01)
Inflation	-0.02(0.09)	-0.01(0.93)
Exports of goods and services	-0.02(0.18)	-0.01(0.51)
Log of real per capita GDP	3.71(0.11)	1.19(0.14)
Portfolio investment/GDP	0.08(0.09)	0.04(0.38)
Log of number of telephone mainlines	-0.48(0.19)	-0.39(0.17)
Real GDP growth	0.02(0.28)	0.06(0.02)
Constant	-	-9.56(0.01)
Coefficients of determinations	0.43	0.16
Hausman test Statistics (Chi-Squared)	86.49(0.00)	
LM test Statistics	180.69	
Koenker-Bassett test (t-test) Statistics	0.89(0.56)	
Number of observations	192	192

Period Covered 1994-2006 *Sample :16 emerging markets*

***Notes**: the figures in parentheses are P-volues (significant coefficients in **bold**); the 5% critical value of Chi-squared distribution with 1 degree of freedom is 3.85.*

Fixed effects estimation results (192 observations) are presented in the table above .This estimation reveals negative responses of the FDI inflows to expectations of local currency devaluation and local currency volatility .The expected positive response of FDI is also shown .The estimated coefficients of these variables are statistically significant at 5 percent level .In addition, the results provide evidence that high inflation discourages FDI inflows.

An increase in foreign investors' confidence encourages inward FDI .The estimated coefficients are statistically significant at 10 percent level .The other coefficients are statistically insignificant.

IV-1The economic crisis of 1997 effects on FDI inflows:

To test the hypothesis that the 1997 economic crisis may decrease inflows of FDI to the emerging markets a time dummy variable is included in the model (TIME) , which equals to 1 if the period is 1997-2006 and 0 otherwise .From the econometric tests , there is no evidence that the economic crisis has any impact on US FDI inwards to the emerging markets .In the following regression , the estimated coefficients of exchange rate expectation is not statistically significant whilst the impacts of foreign currency devaluations and volatility of the exchange rate on the inward FDI are comparable to these obtained before : local currency depreciation stimulates FDI and volatile exchange rate discourages FDI .

The interaction of exchange rate expectations with exchange rate volatility effect on FDI inflows is examined by including the interaction variable (*ΔREER*TFXD*) in the model , results are shown in the following table :

Estimation Results (1994-2004)

INDEPENDENT VARIABLE	*FIXED EFFECTS WITH AR (1) DISTURBANCES*		
First difference of log of REER	**-0.86(0.08)**	-0.77(0.16)	**-0.56(0.09)**
Log of the bilateral exchange rate	**5.75(0.00)**	**6.04(0.00)**	**5.86(0.00)**
Temporary component of log of the bilateral exchange rate	**-6.30(0.01)**	**-6.64(0.06)**	**-6.50(0.01)**
Manufacturing, value added/GDP	-0.06(0.60)	-0.04(0.45)	-0.05(0.63)
Inflation	**-0.01(0.07)**	-0.01(0.87)	**- 0.02(0.08)**
Exports of goods and services	-0.01(0.96)	-0.01(0.93)	-0.01(0.58)
Log of real per capita GDP	3.00(0.20)	3.36(0.16)	3.13(0.19)
Portfolio investment/GDP	**0.03(0.09)**	**0.03(0.11)**	**0.04(0.08)**
Log of number of telephone mainlines	-0.69(0.25)	-0.47(0.46)	-0.69(0.21)
Real GDP growth	0.01(0.83)	0.01(0.96)	0.01(0.93)
Constant	**-40.36(0.00)**	**-41.54(0.00)**	**-41.46(0.00)**
TIME		**-0.49(0.17)**	
ΔREER*TFXD (logged)	**-0.26(0.04)**		
Coefficients of determinations	0.43		0.16
Hausman test Statistics (Chi-Squared)	86.49(0.00)		
LM test Statistics	180.69		
Koenker-Bassett test (t-test) Statistics	0.89(0.56)		
Number of observations	192		192

Period Covered 1994 *Sample :16 emerging markets*

***Notes**: the figures in parentheses are P-values (significant coefficients in **bold**); the 5% critical value of Chi-squared distribution with 1 degree of freedom Is 3.85.*

IV-2 Regional Effects on FDI Inflows:

The 1997 economic crisis had a significant and direct impact on level of exchange rates in Asian Countries. After the crisis, some of the countries adopted floating exchange rate regime, so it's important to test the regional effects on US FDI inflows .A dummy variable for Asian countries interacted with the core explanatory variables is included in the model as follow:

$$FDIi,t=\beta0+\beta1\Delta REERi,t+\beta2FXDi,t+\beta3TFXDi,t+\beta4Xi,t+\beta5ASIA+\beta6ASIA*\Delta REERi,t+\beta7ASIA*FXDi,t+\beta8ASIA*TFXDi,t+\mu i+\varepsilon i.$$

Where:

ASIA is a dummy variable that is 1 for Asian countries and 0 otherwise .The Latin American countries are included and the African countries are omitted (to have a sensible comparison group).

Tests are shown in the following table:

VARIBLES	FIXED EFFECTS WITH AR (1) DISTURBANCES	FIXED EFFECTS	OLS
Δ log of REER (β1)	**-4.00(0.01)**	-3.38(0.03)	1.39(0.51)
FXD (logged ,β2)	**9.36(0.00)**	9.62(0.00)	0.16(0.05)
TFXD (logged, β3)	**-9.07(0.00)**	-10.89(0.00)	1.76(0. 38)
MNU/GDP (β4)	-0.09(0.29)	-0.13(0.89)	-0.04(0.39)
INF (β5)	**-0.04(0.03)**	-0.02(0.01)	0.01(0.17)
EXP/GDP (β6)	0.01(0.92)	0.02(0.76)	-0.03(0.04)
PGDP (logged, β7)	**5.26(0.25)**	4.73(0.19)	1.43(0.38)
PORT/GDP (β8)	0.08 (0.27)	-0.04 (0.76)	-0.05(0.78)
TEL (logged, β9)	-0.97 (0.13)	-0.86(0.13)	-0.67(0.16)
GGDP (β10)	**0.05 (0.8)**	0.04(0.04)	0.06(0.05)
ASIA (β11)	**6.46 (0.01)**	-	2.79(0.01)
ASIA*Δ log of REER (β12)	**-5.97(0.05)**	6.34(0.01)	4.23(0.29)
ASIA*FXD (logged) (β13)	**-0.81(0.07)**	-7.31(0.01)	-0.46(0.08)
ASIA*TFXD (logged) (β14)	**0.38(0.00)**	1.96(0.07)	-3.69(0.42)
Constant	**-68.78 (0.00)**	-	-7.94(0.00)
Coefficient of determination	0.49	0.56	0.26
F-test: H0: β1+β12=0	10.59(0.01)		
F-test :H0:β2+β13=	3.16(0.08)		
F-test: H0:β3+β14=0	24.32(0.00)		
F-test statistic		18.79(0.00)	
LM test (Chi-squared) statistic		144.46	
Koenker-Bassett test statistic		0.56(0.19)	
Number of observations	143	156	156

Period Covered 1994 *Sample :16 emerging markets*

***Notes:** The figures in parentheses are P-values (significant coefficients in **bold**); the 5% critical value of Chi-squared distribution with 1 degree of freedom is 3.84.*

The previous results are largely confirmed but ASIA exhibits some differences compared to Latin America (the samples are too small to reliably each region separately) .The LM test however suggests misspecification due to first –order autocorrelation. The calculated test is greater than the 5% critical value of the Chi –squared distribution with 1 degree of freedom, so the no –first order autocorrelation null hypothesis could be rejected and fixed –effects with AR(1) disturbances is re-estimated .

First –order autocorrelation fixed effects findings show that the results on inflation and market potential variables are broadly consistent with prior expectations and with the evidence found in other studies of FDI determinations. Market potential encourages inflows of FDI whereas inflation discourages FDI flows.

In line with the hypotheses , exchange rate volatility , local currency appreciation and expectations of local currency depreciation all discourages FDI flows into both Latin America and Asia .The other independent variables are statistically insignificant .

Concluding Remarks:

This chapter investigates the effects of exchange rate expectations, and exchange rate volatility on (net) US FDI to 16 emerging markets countries. This empirical study adopted as theoretical background the "Chakrabarti" and "Scholnick" (2002) model .Annual aggregate data are employed over the period 1994-2006.

The study based on three hypotheses: expectations of local currency appreciation and local currency depreciation may stimulate inward FDI; in addition, exchange rate volatility has probably a significant role on FDI inflows.

The results can be summarized as follow:

1. There is strong evidence of the positive (negative) relationship of local currency devaluation (appreciation) and FDI inflows.
2. There is evidence of the negative (positive) relationship of expectations of local currency depreciation (appreciation) and FDI inflows .The result implies that FDI in the countries is increasingly being undertaken to service domestic demand for finance, telecommunications, wholesaling, and retailing rather than to tap cheap labor.
3. There is evidence of the negative relationship of volatile exchange rates and FDI inflows.
4. There is significance of the interaction variable (*ΔREER*TFXD*): the greater is the volatility the greater is the extent to which FDI is discouraged .Exchange rate expectations give weight on exchange rate variation .If devaluation is expected, a volatile exchange rate discourages FDI .In case of expected appreciation, the variation decreases FDI when change in REER is between 0 and -3.30 otherwise the variability encourages FDI.
5. There is significance of foreign investors confidence in economic conditions of host countries
6. The 1997 economic crisis has no possibly impact on US FDI in emerging markets because the impact is on exchange rates, especially in an Asia, which then affect FDI.

Foreign investors in emerging markets do respond to the exchange rate : devaluation attracts FDI (as it reduces the price of assets abroad), although an expected devaluation postpones FDI .US investors are discouraged by volatile exchange rates , perhaps because this is correlated with economic and political uncertainty , which also appears to discourage FDI .

This analysis contributes to the discussion of the impacts of exchange rates on FDI .However, a limitation is the sample used here which is restricted to relatively few countries since REER data are not available for earlier years and for many emerging markets .The utilization of longer and /or broader data series would extend and test the results. Another improvement of this study would be to utilize data from future exchange rate markets and the standard deviation of high frequency (monthly or daily) exchange rate data to re-analyze the effects of exchange rate expectations and volatility on FDI inflows. The country-level analysis moreover has some limitations, particularly when MNEs have different FDI objectives .Suppose two types of MNEs with two different FDI objectives exist in host country. One is interested in low cost production (export –oriented FDI). The other is interested in domestic sales (market –seeking FDI). Under such circumstances, the country-level analysis cannot clearly clarify the FDI types (in the country) by capturing the exchange rate expectation impact on inward FDI .As a consequence , this investigation indicates the need to undertake the firm-level analysis , which requires detailed information on firm activities .

References:

Aristotelous, K. and Fountas, S. (1996). 'An Empirical Analysis of Inward Foreign Direct Investment Flows in the EU with Emphasis on the Market Enlargement Hypothesis', *Journal of Common Market Studies*, Vol. 34(4), pp. 571 – 583.

Asiedu, E. (2002). 'On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?', *World Development*, Vol. 30(1), pp. 107-119.

Baltagi, B.H. (2001). *Econometric Analysis of Panel Data*, 2nd ed. Chichester: John Wiley.Beck.

Katz, J.N. (1995). 'What to do (and not to do) with time-series cross-section data', *American Political Science Review*, Vol. 89, pp. 634-637.

Blonigen, B.A. (1997). 'Firm – specific Assets and the Link between Exchange Rates and Foreign Direct Investment', *American Economic Review*, Vol. 87, pp. 447-465.

Bureau of Economic Analysis (2008). *US-International Transactions Account Data*, available from http://www.bea.gov/bea/di1.htm/.

Campa, J.M. (1993). 'Entry by Foreign Firms in the United States under Exchange Rate Uncertainty',*Review of Economics and Statistics*, Vol. 75, pp. 614-622.

Chakrabarti, R. and Scholnick, B. (2002). 'Exchange Rate Expectations and Foreign Direct Investment Flows', *Weltwirtschafiliches Archiv*, Vol. 138(1), pp. 1-21.

Culem, G.C. (1988). 'The Locational Determinants of Direct Investments Among Industrialized Countries', *European Economic Review*, Vol. 32, pp. 885 – 904.

Cushman, D.O. (1985). 'Real Exchange Rate Risk, Expectations, and the Level of Direct Investment',*Review of Economics and Statistics*, Vol. 67, pp. 297-308.

Cushman, D.O. (1988). 'Exchange – rate Uncertainty and Foreign Direct Investment in the United States', *Weltwirtschafiliches Archiv*, Vol. 67, pp. 297-308.

Frankel, J. and Froot, K. (1987). 'Using survey data to test standard propositions regarding exchange rate expectations', *American Economic Review*, Vol. 77(1), pp. 133-153.

Froot, K. and Stein, J. (1991). 'Exchange Rates and Foreign Direct Investment: an Imperfect Capital Markets Approach', *Quarterly Journal of Economics*, Vol. 196, pp.1191-1218.

Globerman, S. and Shapiro, D.M. (1999). 'The Impact of Government Policies on Foreign Direct Investment: The Canadian Experience', *Journal of International Business Studies*, Vol. 30(3), pp.513 – 532.

Goldberg, L.S. and Kolstad, C.D. (1995). 'Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty, *International Economic Review*, Vol. 36, pp. 855-873.

Hodrick, R. and Prescott, E. (1997). 'Post-war US Business Cycles: An Empirical Investigation',*Journal of Money Credit and Banking*, Vol. 29, p. 01-16.

International Monetary Fund. (2008). 'Foreign Direct Investment in Emerging Market Countries',*Report of the Working Group of the Capital Markets Consultative Group, International Monetary Fund.*

Klein, M.W. and Rosengren, E.S. (1994). 'The Real Exchange Rate and Foreign Direct Investment in the United States: Relative Wealth vs. Relative Wage Effects', *Journal of International Economics*, Vol. 36, pp. 373-389.

Lipsey, R.E. (2000). 'Interpreting Developed Countries' Foreign Direct Investment', *NBER Working Paper No. 7810*, National Bureau of Economic Research, July 2000.

Lucas, R.B. (1993). 'On the Determinants of Direct Foreign Investment: Evidence from East and Southeast Asia', *World Development*, Vol. 21(3), pp. 391-406.

Meridith, L. (1984). 'U.S. Multinational Investment in Canadian Manufacturing Industries', *Review of Economics and Statistics*, Vol. 66, pp. 111 – 119.

Revankar, N.S., (1979), Error component models with serial correlated time effects, *Journal of the Indian Statistical Association* **17**, 137–160.

Ridder, G., (1992), An empirical evaluation of some models for non-random attrition in panel data, *Structural Change and Economic Dynamics, 337–355*.

Sala-i-Martin, X., (1996), The classical approach to convergence analysis, *Economic Journal* **106**, 1019–1036.

Schmidt, P. and R.C. Sickles, (1984), Production frontiers and panel data, *Journal of Business and Economic Statistics*,p 367–374.

Shim, J.K., (1982), Pooling cross section and time series data in the estimation of regional demand and supply functions, *Journal of Urban Economics* **11**, 229–241.

Smith, L.V., S. Leybourne, T.H. Kim and P. Newbold, (2004), More powerful panel data unit root tests with an application to mean reversion in real exchange rates, *Journal of Applied Econometrics* **19**, 147–170.

Schneider, F. and Frey, B.S. (1985). 'Economic and Political Determinants of Foreign Direct
Investment', *World Development*, Vol. 13(2), pp. 161 – 175.

Suits, D., (1984), Dummy variables: Mechanics vs. interpretation, *Review of Economics and Statistics* **66**, 177–180.

Swamy, P.A.V.B. and G.S. Tavlas, (2001), Random coefficient models, Chapter 19 in B.H. Baltagi, ed.,*A Companion to Theoretical Econometrics* (Blackwell Publishers, Massachusetts), 410–428.

Taylor,W.E., (1980), Small sample considerations in estimation from panel data, *Journal of Econometrics* **13**, 203–223.

Tuman, J.P. and Emmert, C.F. (1999). 'Explaining Japanese Foreign Direct Investment in Latin America, 1979 – 1992', *Social Science Quarterly*, Vol. 80(3), pp. 539 – 555.
Verbeek, M. and Th.E. Nijman, (1992), Testing for selectivity bias in panel data models, *International Economic Review* **33**, 681–703.

Wheeler, D. and Mody, A. (1992). 'International Investment Location Decisions', *Journal of International Economics*, Vol. 33, pp. 57 – 76.

Wooldridge M Jeffrey (2002), Econometric Analysis of Cross Section and Panel Data , The *MIT Press , Cambridge Massuchsetts* , London England .

World Bank (2008). *World Development Indicators 2008*, available from http://devdata.worldbank.org/dataonline/.

Conclusion:

This study has taken a considerable tour of the economic, financial aspects of FDI by exploring the characteristics, determinants and effects of FDI in one hand and the exchange rate impact behavior on FDI flows by mentioning the major findings and contributions in the other, but it's possible to state the following points as some sort of recapitulation:

1. FDI is the process whereby residents of one country acquire ownership of assets for the purpose of controlling the activities of a firm in another country .Interests of FDI results from its rapid growth, the concern it raises over the causes and consequences of foreign ownership and the fact that FDI has become an important source of funds in the international business process.
2. The effects of FDI on the host country can be classified into economic, political and social effects .Whether these effects are favorable or adverse is a controversial matter, as they are condition specific.
3. One of the many influences of FDI activity is the behavior of exchange rates .Exchange rates defined as the domestic currency price of a foreign currency , matter in terms of their levels and their volatility .Exchange rates can influence both the total amount of Foreign Direct Investment that takes place and the allocation of this investment spending across range of countries as the FDI host country currency depreciation increases IFDI , volatility affects FDI negatively and the expected host currency depreciation lowers IFDI .

These are the major pillars of the study paving the way for a more detailed and fruitful researches in order to be able to pick-up and distinguish the exchange rate and other variables impacts on FDI decision.

References:

Adeolu, B .Ayanwale. (2007), FDI and economic growth: evidence from Nigeria, *African Economic Research Consortium Nairobi, p 01-36.*

Adj .Prof. Dr Marting Haemmig. (2004), Global innovation: the case for international venture capital firms, *Working Paper*, p01-07.

Adrian Wood. (2009), A practical Heckcher- Ohlin Model, *Working Paper*, p01-29.

Agarwal, J.P. (1980), Determinants of Foreign Direct Investment: A survey , *Weltwirtschaftliches Archives* , p739-773.

Agarwal , S and Ramaswami , S.N (1992), Choice of Foreign Market Entry Mode : Impact of Ownership ,Location and Internalization Factors , Journal of International Business Studies , p01-27.

Agmon,T and Lessard, D.R. (1977), Investor recognition of corporate international diversification, *Journal of Finance*, p1049-1055.

Agnès Bénassé- Quéré, Lionel Fontagné and Amina Lahrèche Révil. (2004), How does FDI react to corporate taxation? , *Working Paper CEPII,* p 01-36.

Aharoni , Y .(1966), *The Foreign Investment Decision Process* (Cambridge Mass Harvard Graduate School of Business).

Alan, M.Rugman. (1976), Risk reduction by international diversification, *Journal of International Business Studies*, p75-80.

Alexander Jeanneret. (2006), Does exchange rate volatility really depress foreign direct investment? Working paper, *Swiss France Institute,* p01-29.

Alexander Jeanneret .(2009), Foreign direct investment and exchange rate uncertainty , working paper , *Swiss Finance Institute* , 2009 , p 01-50.

Aliber , R.Z (1970) , A Theory of Direct Foreign Investment , *The International Symposium* (Cambridge Mass).

Altomonte , C and Pennings , E.(2004) , The hazard rate of foreign direct investment : a structural estimation of a real option model , *Oxford Bulletin of Economics and Statistics* , p569-593.

Amiti , M .Greeenaway , D and Wakelin , K .(2000) , Foreign Direct Investment and Trade : Substitutes or Complements ? Unpublished Paper , University of Melbourne .

Amuedo –Dorantes , C and Pozo S .(2001) , Foreign exchange rates and foreign direct investment in the United States , *The International Trade Journal* , p323-343.

Andreas Johnson. (2006), The effect of FDI inflows on host country economic growth, *CESIS,* p01-57.

Andreas Waldkirch. (2003), Vertical FDI: A Host country perspective, *Working Paper, Oregon State University*, p01-35.

Anne Will Harzing .(2000), an empirical Analysis and the extension of the Bartelett and Goshal typology of multinational companies, *Journal of International Business Studies*, p101-120.

Arize , A.C (1997) , Conditional exchange rate volatility and the volume of foreign trade : evidence from seven industrialized countries , *Southern Economic Journal* , p235-254.

Aristotelous, K. and Fountas, S. (1996). 'An Empirical Analysis of Inward Foreign Direct Investment Flows in the EU with Emphasis on the Market Enlargement Hypothesis', *Journal of Common Market Studies*, Vol. 34(4), pp. 571 – 583.

Arnd Huchzermeir and Morris A Cohen.(1996), Valuing operational under exchange rate risk , *Operation Research* , 1996 , p100-113.

Asafu-Adjaye,J.(2000) , The effects of Foreign Direct Investment on Indonesian Economiic Growth , 1960-1966, Economic Analysis and Policy , p49-62.

Asiedu, E. (2002). 'On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?', *World Development*, Vol. 30(1), pp. 107-119.

Attiya, Y.Javid and Robina Iqbal, Ownership, concentration, corporate governance and firm performance: evidence from Pakistan, *Pakistan Institute of Development Economics*, p01-26.

Bailes , J.C and Assada , T .(1991) , Empirical Differences between Japanese and American Budget and Performance Evaluation Systems , International of Accounting , p131-142.

Balassa, B. (1966), American Direct Investment in the common Market, *Banco Nazionale Del Lavoro Quarterly Review*, p121-146.

Baldwin , R.E (1995), The Effect of Trade and Foreign Direct Investment on Employment and Relative Wages , NBER , Working Paper.

Baranson , J.(1970) , Technology Transfer through the International Firm , *American Economic Review* ,p435-440.

Barell,R and Holland ,D .(2000) , Foreign Direct Investment and Enterprise restructuring in Central Europe , *Economics of Transition* , p477-504.

Barell, R and Pain, N. (1996), An Econometric Analysis of Foreign Direct Investment, *Review of Economics and Statistics*, p200-207.

Barell ,R and Pain ,N .(1999) , Trade Restraints and Japanese Direct Investments Flows , European Economic Review , p29-45.

Barrell , R Gottschalk , S D and Hall S G (2004) , Foreign direct investment and exchange arte uncertainty in imperfectly competitive industries *Available from URL ://repec.org/res2004/GottschalkBarrellHall.pdf.*

Bauhmann, H.G. (1975), Merger Theory Property Rights and the Pattern of US Investment in Canada, *Weltwirschaftliches Archiv* , p676-698.

Bayoumi , T and Lipworth, G (1995) , Japanese foreign direct investment and regional trade , *Journal of Asian Economics* , p581-607.

Bénassé-Quéré , A Fontagné , L and Lahrèche Révil .(2001), A , Exchange rate strategies in the competition for attracting FDI , *Journal of Japanese and International Economics* , p178-198.

Becker , B and Hall , S .(2003) , Foreign direct investment in industrial R&D and exchange rate uncertainty in the UK , *Available from URL: http: //www.niesr.ac.uk/pubs/dps/dp217.pdf.*

Berthelmy, J and Demureger, S. (2000), Foreign Direct Investment and Economic Growth: Theory and Application to China, *Review of Economic Development*, p140-155.

Bettina Becker and Stephen G Hall .(2003), Foreign direct investment in industrial R&D and exchange rate uncertainty in the UK , *National Institute of Economic and Social Research* , 2003 , p01-23.

Blonigen, B.A. (1997). 'Firm – specific Assets and the Link between Exchange Rates and Foreign Direct Investment', *American Economic Review*, Vol. 87, pp. 447-465.

Bonelli, R. (1999), A Note of Foreign Investment in Industrial Competitiveness in Brazil, *Oxford Development Studies*, p305-327.

Borkowski ,S.C.(1993) , International Managerial Performance Evaluation , A Five Country Analysis , *Journal of International Business Studies* , p533-555.

Bosworth, B.P and Collins S.M. (1999), Capital Flows to Developing Economies: Implication for Saving and Investment, *Brooking Paper of Economic Activities,* p143-169.

Braunheljem,P and Oxelheim,L.(2000) ,Does Foreign Investment Replace Country Investment? The Effect of European Integration on The Location of Swedish Investment, *Journal of Common Market Studies*, p199-221.

Bruce Kogut. (1998), International Business: a new bottom line, *Washington Post News Week Interactive .LLC,* p152-165.

Bruce Kogut and Nalin Kulatilaka. (1994), Operating flexibility, global manufacturing and the option value of a multinational network, *The Institute of Management Science*, p123-139.

Bruce Kogut and Udo Zender.(1992), Knowledge of the firm, combinative capabilities and replication of technology, *Organization Science*, p383-397.

Burgmann ,T.(1996) ,An Empirical Examination of The Multinational Capital Structure , *Journal of International Business Studies* , p553-570.

Blonigen, B (1997), Firm specific assets and the link between exchange rates and foreign direct investment, *American Economic Review*, p448-465.

Blonigen, B (2005), A review of empirical literature on FDI determinants, *Atlantic Economic Journal*, p383-403.

Brozozowski,M. (2006) ,Exchange rate variability and foreign direct investment – Consequences of EMU enlargement, *Eastern European Economics* , p05-24.

Bruce Kogut and Sea Jin Chang.(1996), Platform investments and volatile exchange rates: direct investment in the US by Japanese electronic companies, *The Review of Economics and Statistics,* p221-231.

Bruce A Blonigen .(2005) , A review of empirical literature on FDI determinants , *NBER working paper*, p01-38.

Bureau of Economic Analysis (2008). *US-International Transactions Account Data*, available from http://www.bea.gov/bea/di1.htm/.

Campa , J Donnefeld , S and Weber , S .(1998), Market structure and FDI , *Review of International Economics* , p361-380.

Cantwell , J and Bellak , C .(1998) , How important is Foreign Direct Investment ? *Oxford Bulletin of Economics and Statistics*, p99-106.

Caves, R.E. (1971), international corporation: the industrial economics of foreign investment, *Economica,* p01-27.

Caves, R.E. (1974), Causes of Direct Investment: Foreign Firms Shares in Canadian and United States Manufacturing Industries, *Review of Economic and Statistics*, p279-293.

Chen, T.J and Ku, Y .H. (1999), The effect of FDI on firms' growth: the case of Taiwan manufacturers, Japan and the world economy *Working paper* , p153-173.

Chenery, H .B .(1952), Overcapacity and the acceleration principle, *econometrica,* p01-28.

Cheneg ,L,K and Kwan ,Y.K (2000) ,What Are the Determinants of the Location of Foreign Investment ? The Chinese Experience, *Journal of International Economics*, p379-400.

Choi ,F.D.S and Czechowics ,I.J .(1983) , Assessing Foreign investment Performance : A Multinational Comparison , *management International Review* ,p15-25.

Campa , J Donnefeld , S and Weber , S .(1998), Market structure and FDI , *Review of International Economics* , p361-380.

Carruth , A Dickerson ,A and Henley , A .(2000) , What do we know about investment under uncertainty ? , Journal of Economic Surveys, p119-167.

Chakrabarti, A. (2001), The determinants of foreign direct investment: sensitivity analysis of cross country regressions, *Kyklos* , p89-114.

Chakrabarti, A (2003), A theory of spatial distribution of foreign direct investment, International Review of Economics and Finance, p119-154.

Chakrabarti .R and Scholnick , B (2000) , Exchange rate expectations and FDI flows , *Available from URL :http://www.prism.gatech.edu/~rc166/Ex-FDI.pdf.*

Chakrabarti, A (2003), A theory of spatial distribution of foreign direct investment, International Review of Economics and Finance, p119-154.

Christine Bolling , Mattew Shane and Terry Roe .(2007), Exchange rates and US foreign direct investment in the global processed food industry , *Agricultural and Resource Economic Review* , p230-238.

Christian W Schmidt and Udo Broll (2008), The effect of exchange rate risk on US foreign direct investment : an empirical analysis , *Dresden Discussion Paper Series in Economics No 08/09* , p01-32.

Christine Bolling , Mattew Shane and Terry Roe .(2007), Exchange rates and US foreign direct investment in the global processed food industry , *Agricultural and Resource Economic Review* , p230-238.

Clare ,G .(1992) , The impact of exchange rate on the foreign direct investment of US multinational manufacturing companies , *Open Economies Review* ,p143-163.

Coase, R .H .(1937), the nature of the firm, *economica,* p386-405.

Crowley ,P and Lee ,J .(2003) ,Exchange rate volatility and foreign investment : international evidence , *The International Trade Journal,* p227-252.

Daniel H Pick.(1990), , Exchange rate risk and US agricultural flows , *American Journal of Agricultural Economics* , p674-700.

Daniel Powers , Meyong SuYun .(2009), Multivariate Decomposition of Hazard Rate Models , *Institute For The Study of Labor* , p01-49.

Darby, J Hallet , A.H , Irelands ,J and Pisceitelli .L(1999), The impact of exchange rate uncertainty on the level of investment , *The Economic Journal* , p55-67.

Das, S.P. (1999), Direct Investment Versus Licensing, *Review of Development Licensing,* p83-97.

David G. Hartman. (1982), Tax policy and FDI I the United States, *Working Paper National Bureau of Economic research,* p01-30.

David O. Cushman.(1985) , Real exchange rate risk , expectations and the level of direct investment , *The Review of Economics and Statistics* , p297-308.

David O.Cushman. (1988), Exchange rate uncertainty and foreign direct investment in the United States, *Weltwirtschaftliches Archiv CXXIV* , p322-335.

David G. Hartman. (1982), Tax policy and FDI I the United States, *Working Paper National Bureau of Economic research,* p01-30.

Davide Furceri and Sara Borelli.(2008) , Foreign direct investments and exchange rate volatility in the EMU Neighbourhood countries, *Journal of international and Global Economic Studies* , 2008 , p 42-49 .

Deena Khatkhate .(1998) ,Impact of volatility of exchange rates of major currencies on foreign exchange management , *Economic and Political Weekly,* p465-467.

De Sousa , J and Lochard , J (2004), Does the single currency affect FDI ? Available from *URL: http://team.univ-paris1.fr/teamperso/toubal/M1/EU/FDI2.pdf.*

Diallo Ibrahima Amadou .(2007) , Exchange rate volatility and investment : a panel data cointegration approach ,MPRA working paper , *Centre D'etudes et De Recherches sur le Dévelopment* , p01-25.

Diego N Moccero and Carlos Winograd .(2006) , Real exchange rate volatility and exports : Argentine perspectives , *working paper,* p01-52.

Dixit, A .and Pindyck, R (1994), *Investment under uncertainty* .Princeton University Press .Princeton, NJ.

Djankov ,S and Hoekman , B.M .(2000) , Foreign Investment and Productivity Growth in Czech Enterprises , *World Bank Economic Review* ,p49-64.

Donnenfeld , S and Weber ,S .(2000) ,Exporting Versus Foreign Direct Investment , *Journal of Economic Integration* , p100-126.

Dorrenbacher, C.(2000) , Measuring Corporate Internalization : A Review of Measurement Concepts and Their Use , *Intereconomics* ,p119-129.

Driffield , N and Taylor ,K .(1999) , Indirect Employment Effects of Foreign Direct Investment into The UK , *Bulletin of Economic Research* ,p207-221.

Driffield , N and Taylor ,K .(2000), FDI and the Labor Market : a Review of the Evidence and Policy Implications , *Oxford Review of Economics Policy* ,p90-103.

D.Sethi , SE Guisinger , SE Phelan and DM Berg .(2003) , Trends in Foreign Direct Investment flows : a theoretical and empirical study , *Journal of International Business Studies* , p315-326.

Edward, M.Graham. (1975), Oligopolistic imitation, theories of FDI and European Direct Investment in the US, *Alfred Sloan School of Management*, p01-78.

Elhanan Helpman.(1984), A simple theory of international trade with multinational corporations , *the journal of political economy*, p451-471

Elahee, M.N and Pagan, J.A. (1999), Foreign Direct Investment and Economic Growth in East Asia and Latin America, *Journal of Emerging Markets*, p59-67.

Errunza , V.R and Senbet , L.W .(1981) , The Effect of International Operations on The Market Value of The Firm : Theory and Evidence ,Journal of Finance ,p401-417.

Evica Petrović, Jelina Stonković. (2009), Country risk and effects on Foreign Direct Investment, *Economics and Organization*, p09-22.

Eun, C S and Resnick, B. G. (1998), International Financial Management *(New York: McGraw-Hill).*

Figlio, D.O and Blonigen , B.A .(2000) , The Effects of Foreign Direct Investment on Local Communities , *Journal of Urban Economies* ,p338-363.

Findlay, R. (1978), Relative Backwardness, Direct Foreign Investment and the transfer of technology: A Simple dynamic model , *Quaterly Journal of Economics* , p01-16.

Fisher ,E .O , Heinkel ,B.A and Zechner , J.(1989) , Dynamic Capital Structure Choice : Theory and Test , Journal of Finance , p19-40.

Fontagné Lionel , Michaël Pajo , Foreign Trade and FDI stocks in British US and French industries : Complements or Substitutes ? , *working Paper* , *TEAM* , p01-31.

Fosfuri , A and Motta , M .(1999) , Multinationals Without Advantages , Scandinavian Journal of Economics , p617-630.

Frankel, J. and Froot, K. (1987). 'Using survey data to test standard propositions regarding exchange rate expectations', *American Economic Review*, Vol. 77(1), pp. 133-153.

Froot ,K and Stein , J .(1991), Exchange rates and FDI : an imperfect capital market approach , *Quaterly Journal of Economics* , p1191-1127.

Froot, K. and Stein, J. (1991). 'Exchange Rates and Foreign Direct Investment: an Imperfect Capital Markets Approach', *Quarterly Journal of Economics*, Vol. 196, pp.1191-1218.

Gast,M .(2005), Determinants of foreign direct investment of OECD countries 1991-2000, *Available from URL :*

http://geb.uni-iessen.de/geb/volltexte/2005/2396/pdf/ZeuDiscPap27.pdf.

George, W. Buch (2005), The US Litigation Environment and Foreign Direct Investment , Working Paper , *US Department of Commerce* , p01-16.

George,J. Stigler. (1964) , A theory of Oligopoly ,*The Journal of Political Economy* , p44-61.

Globerman ,S.(1979) ,Foreign Direct Investment and Spillover Efficiency Benefits in Canadian Manufacturing Industries , *Canadian Journal of Economics* , p 42-56.

Globerman, S. and Shapiro, D.M. (1999). 'The Impact of Government Policies on Foreign Direct Investment: The Canadian Experience', *Journal of International Business Studies*, Vol. 30(3), pp.513 – 532.

Godley ,A.C .(1999) , Pioneering Foreign Direct Investment in British Manufacturing , *Business History Review* ,p394-429.

Godley , A.C , Scott Fletcher .(2000) , Foreign Entry into British Retailing , 1850-1994 , *International marketing Review* , p392-400.

Golan Benita and Beni Lauterbach. (2007), Policy factors and exchange rate volatility: panel data versus a specific country analysis, International *Research Journal of Finance and Economics*, p 07-23.

Goldberg ,M.A.(1972) ,The Determinants of US Direct Investment in the EEC : Comment ,*American Economic Review* , p692-699.

Gopinath ,M ;Pick,D and Vasavada ,U.(1999) , The Economics of Foreign Direct Investment and Trade with an Application to the US Food Processing Industry , *American Journal of Agricultural Economics* , p442-452.

Gőrg ,H and Wakelin ,K.(2002), The impact of exchange rate variability on US direct investment , *The Manchester Schoology* , p380-397.

Graham, E and Krugman, P.R. (1991), Foreign Direct Investment in the United States (*Washington DC : Institute For International Economics*) .

Grosse, R and Trevino, L.J (1996), Foreign direct investment in the United States: an analysis by country of origin, Journal of Business Studies, p139-155.

Goldberg, L.S. and Kolstad, C.D. (1995). 'Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty, *International Economic Review*, Vol. 36, pp. 855-873.

Grubaugh ,S.G.(1987) , Determinants of Direct Foreign Investment , *Review of Economics and Statistics* ,p149-152.

Guofu Zhou. (2009), Understanding the role of diversification, *QFINANCE Working Paper*, p01-04.

Guy ,V.G Stevens . (1973), The Multinational firm and the determinants of investment, *International Finance Discussion Papers*, p01-82.

Haddad , M and Harrison ,A .(1993) , Are There Positive Spillovers From Direct Foreign Investment ? , *Journal of Development Economics* , p41-74.

Harry, S.Thruman , We must build a new world : a for better world on which o which the extremely dignity of man is respected (report) , Outline of US history .

Harmut Egger, Peter Egger and Michael Ryan. (2006), Bilateral and third country exchange rate effects on multinational activity, working paper, 2006, p 01-36.

Hartman, D.G.(1985) , Tax policy and FDI I the United States , *Journal of Public Economics* ,p107-121.

Hassan R AlHajhouj.(2002) , Foreign direct investment and exchange rate risk , Scientific Journal of King Faisal University , p237-254.

Henry Aray and Javier Gardezabal.(2008), Going multinational under exchange rate uncertainty , working paper, p01-43.

Hongmo Sung and Harvey E Lapan.(2000) , Startegic foreign direct investment and exchange rate uncertainty , *International Economic Review*, p411-423.

Hodrick, R. and Prescott, E. (1997). 'Post-war US Business Cycles: An Empirical Investigation',*Journal of Money Credit and Banking,* Vol. 29, p. 01-16.

Iannizzotto, M and Miller, N.J. (2005), The effect of exchange rate uncertainly on foreign direct investment in the United Kingdom, *Available from URL: http://www.york.ac.uk/depts/econ/profiles/details/ozkang/ozkang_paper9.pdf.*

Ioannis Komninos. (2002) , Product Life cycle theory management , *working paper Thessaloniki* , p01-26.

Imad ,A.Moosa .(2002), *Foreign Direct Investment : theory , evidence and practice , Palgrave McMillan Journal* .

International Monetary Fund. (2008). 'Foreign Direct Investment in Emerging Market Countries',*Report of the Working Group of the Capital Markets Consultative Group, International Monetary Fund.*

Iwasa , Kazumishi , Kukichi , Toru and Shimomura .(2007) , A Dynamic Chamberlin-Hecksher-Ohlin Model with endogenous time preferences : A note Model , *Working Paper , Koji Kob University MPRA* , p01-28.

Jack Baranson. (1985) , North South technology transfer , financing and institution building , *the journal of technology transfer* , p77-79.

James Oehmke and Christopher, A.Wolf. (2004), Measuring concentration in the biothechnology R&D industry: Adjusting for interfirm transfer of genetic materials, *Working Paper Michigan State University*, p134-140.

Jeffrey , L .Funk .(2004), The product life cycle theory and product line management : the case of mobile phone *Working Paper IEEE Transaction on Engineering Management* , p142-152.

Jiafa Chen , Kwan –Yiu Wong , Kim Yee.(2000) , Zhiqiang Feng , The spatial dynamics of foreign investment in the pearl river delta south China , *The geographical Journal* , p312-322.

John, B. Cullen and K .Praveen Parboteeah. (2010) , *International Business :Strategy and the multinational company , Taylor & Francis Group* .

John, H.Dunning.(1980) , Toward an Eclectic Theory on International Production :Some Empirical Tests , *Journal of International Business studies* , p09-31.

John, H.Dunning and Surianna M. Lundan .(2008) , *The multinational enterprise and the global economy , second edition , Edward Edgar Published* .

John, H.Dunning .(1980) , Toward an eclectic theory of international theory , *Palgrave MacMillan Journal* , p01-23.

Johua Aizenman. (1992), FDI as a commitment mechanism in the presence of managed trade , Working Paper *National Bureau of Economic Research* .

Joseph François, Bernard Hoekman and Julian Woerz. (2007), Does gravity apply to intangibles? Measuring Oppeness in Services , *Working Paper* , p02-33.

John A Mathews.(2000) , Dragon Multinational : A New model of growth , *Oxford University Press* .

José Mata and Pedro Portugal. (2002). , The survival of new domestic and foreign owned firms, Strategic Journal Management, p323-343.

Jorgenson, D.W .(1963) , Capital theory and investment theory , *American Economic Review* , p247-259.

John S Earle, CsabaKucsera and Almos Telegdy.(2005), Ownership concentration and corporate performance on the budpset stock exchange: Do too many cooks spoil the Goulash? , *Working Paper, Corporate Governance* , p01-25.

John Copas .(1999), Statistical modeling for risk management, *Palgrave Macmillan Journals* , p35-49.

Jonathan P Obrien , Timothy B Folta , Douglas R Johnson .(2003), A real options perspective on entrepreneurial entry in the face of uncertainty , *Managerial and Decision Economics* , p515-533.

Jose Campa , Linda S Goldberg.(1995) , Investment in manufacturing , exchange rates and external exposure , *Journal of International Economics* , p 297-320.

Jose Campa and Linda S Goldberg. (1999), Investment pass-through and exchange rates: a cross country comparison, *International Economic Review*, p287-314.

Joseph D Alba , Peiming Wang and Donghyum Park , The impact of exchange rate on FDI and interdependence of FDI over time , *Nanyang Technological University , Singapore* , p01-25.

Joshua Aizeman.(1992) , Exchange rate flexibility , volatility and domestic and foreign direct investment , *Palgrave Macmillan Journals* , p890-922.

Joshua Aizeman .(1991), Foreign direct investment , productive capacity and exchange rate regimes , *NBER working paper* , p01-45.

Joshua Aizenman.(1994), Monetary and real shocks, productive capacity and exchange rate regimes, *Economica*, p 407-434.

Kai –Li Wang and Christopher B Barrett .(2007), Estimating the effects of exchange rates volatility on export volumes , *Journal of Agricultural and Resource Economics*, p01-38.

Kathryn L Dewenter .(1995) , Do exchange rate changes drive foreign direct investment , *The Journal of Business*, p405-433.

Kee Hwee Wee .(2007) , Outward FDI by enterprises from Thailand , *Working Paper UNCTAD* , p89-116.

Keith Head, Thierry Mayer and John Ries. (2002), Revisiting oligopolistic reaction: Are FDI decision Strategic Complements? Working Paper Center for Economic Policy Research, p453-473.

Kenneth A Froot and Jeremy C Stein.(1991), Exchange rate and foreign direct investment: an imperfect capital market approach, *The Quarterly Journal of Economics*, p1191-1217.

Kevin ,R.Gray. (2002) ,Foreign Direct Investment and environmental impacts-Is the debate over ? Working Paper, p306-313.

Kioyta , K and Urata , S.(2004) , Exchange rate , exchange rate volatility and foreign direct investment , *The World Economy* , p1501-1536.

Klein, M.W. and Rosengren, E.S. (1994). 'The Real Exchange Rate and Foreign Direct Investment in the United States: Relative Wealth vs. Relative Wage Effects', *Journal of International Economics*, Vol. 36, pp. 373-389.

Kojima, K. (1973), A Macroeconomic Approach to Foreign Direct Investment, *Hitotsubashi Journal of Economics*, p01-21.

Kojima, K. (1975), International trade and Foreign Investment: Substitutes or Complements? , *Hitotsubashi Journal of Economics*, p01-12.

Kojima , K .(1985), Japanese and American Direct Investment in Asia : A Comparative Analysis , Hitotsubashi Journal of Economics , p 01-35.

Kohlahegen , S.(1977) , Exchange rate changes , profitability , and direct foreign investment , *Southern Economic Journal*, p43-52.

Kogut , B and Chang , S.J .(1996), Platform investment and volatile exchange rates : direct investment in the US by Japanese electronic companies , *Review of Economic and Statistics* , p221-131.

Kosteletou, N and Liagrovas , P .(2000) , Foreign direct investment and real exchange rate interlinkages , *Open Economies Review* , p135-148.

Kozo Kiyota and Shujiro Urata. (2002), Exchange rate, exchange rate volatility and foreign direct investment, working paper, 2002, p01-32.

Lee -Lee Chong and Hui- Boon Tan. (2008), Exchange rate risk and macroeconomic fundamentals: evidence from Neighbouring Southeast Asian Economics International *Reaserch Journal of Finance and Economics*, p88-95.

Len, J .Travino. (2004), Franklin G. Mixon Jr , Strategic factors affecting FDI by multinational enterprises in Latin America, *Journal of World Business*, p233-234.

Lin , C and Chen ,M and Rau, H.(2006) ,Exchange rate volatility and timing of foreign direct investment : Market seeking versus export –substituting .*Available from URL http://www.apeaweb.org.confer/sea/papers/Chen-lin-raup.pdf*.

Linda S Goldberg and Charles Kolstad. (1995), Foreign direct investment, exchange rate variability and demand uncertainty , international Economic Review , 1995 , p855-873.

Linda S Goldberg and Charles D Kolstad , Foreign direct investment , exchange rate variability and demand uncertainty , working paper , p01-29.

Linda S Goldberg , Michael W Klein .(1997), Foreign direct investment , trade and real exchange rate linkages in Southeast Asia and Latin America , *NBER working paper* , p01-44.

Lipsey, R.E. (2000). 'Interpreting Developed Countries' Foreign Direct Investment', *NBER Working Paper No. 7810*, National Bureau of Economic Research, July 2000.

Lucas, R.B. (1993). 'On the Determinants of Direct Foreign Investment: Evidence from East and Southeast Asia', *World Development*, Vol. 21(3), pp. 391-406.

Maggie Chen and Michael, O Moore. (2009), Location Decision of Heterogeneous multinational Firms, *Institute for International Economic Policy*, p01-46.

Magnus Blomstrőm and Arikkoko. (2003) , The Economics of Foreign Direct Investment Incentives , *Working Paper* , p01-32.

Mario J Crucini , Chris Telmer .(2008), Microeconomic sources of real exchange rate variability , *working paper*, p01-20.

Martin J Balley and George S Tavlas .(1991) , Exchange rate variability and direct investment , Annals of the American Academy of Political and Social Science , p106-116.

Matiur Rahman. (1998), Exchange rate and foreign direct investment: evidence from Pakistan and Sri Lanka, *working paper University of Southern Maine*, p01-07.

Mary A Marchant ,Sayed H Saghaian and Steven S Vickner.(1999) , Trade and foreign direct investment : management strategies for US processed food firms in China , *International Food and Agribusiness Management Review*, p131-143.

Mc.Kinnon ,R. (1963), Foreign Exchange Constraints in economic development and efficient aid allocation , *Economic Journal* , p388-409.

Meridith, L. (1984). 'U.S. Multinational Investment in Canadian Manufacturing Industries', *Review of Economics and Statistics*, Vol. 66, pp. 111 – 119.

Michael ,D.Pont. (2003), Foreign Direct Investment In transitional economies: a case study of China and Poland, *Working Paper Martin's Press*, p01-58.

Michal Brzozowski.(2003) , Exchange rate variability and foreign direct investment – Consequences of EMU enlargement , *Central for social and economic research , Warsaw November* , p01-26.

Mc Corrisson , S and Sheldon. (1998), Cross border acquisitions and FDI in the US food industry , *American Journal of Agricultural Economics*, p1066-1072.

Muzaffer Eroglu. (2008), Multinational Entreprises and Tor Liabilities: An interdisciplinary and comparative examination, *Edward Elgar Publishing*, p125-132.

Mugdolna Sass. (2003), Competitive and Economic Policies related to Foreign Direct Investment , *Working Paper* , p01-26.

Mustapha Nabli , Jennefer Keller and Marie-Ange Veganzones. , Exchange rate management within the Middle East and North Africa region: the cost to manufacturing competitiveness, *working paper*, p01-23.

Nicholas Bloom , Stephen Bond and John Van Reenan.(2001) , The Dynamic of Investment Under Uncertainty , *The Institute For Fiscal Studies* , p01-58.

Nirmal Kimar Chandra. (1999), FDI and Domestic economic neoliberalism in China ,*Economic and Politically Weekly Journal* , p3195-3212.

OECD Benchmark Definition of Foreign Direct Investment, Fourth Edition, **2008**.

Oliver Morrisey and Manop Udomkerdmongkol .(2008) , Foreign direct investment and exchange rates : a case study of US FDI in Emerging Market countries , *School of Economics , University of Nottingham*, p01-23.

Olumuyiwa B Alaba.(2003) , Exchange rate uncertainty and foreign direct investment in Nigeria , TPRPT working paper, p01-19.

Oscar Bajo-Rubio and Simon Sosvilla –Rivero .(1994) ,An econometric analysis of foreign direct investment in Spain 1964-1989, *Southern Economic Journal*, p104-120.

Pain ,N and Van Welsum ,D .(2003) , Untying the Gordian Knot : the multiple links between exchange rate and foreign direct investment , *Journal of Common Market Studies* , p823-846.

Paolo Figini, Holger gorg .(2006), Does FDI affects wage inequality ? An empirical investigation, *IZA Working Paper*, p01-26.

Panic , M and Joyce , P.J .(1980) , US manufacturing industry , International Integration And Trade Performance , *Bank of England Quarterly Review* , p42-55.

Paul Kalfadillis and Judy Gray. (2003), Are proxies Valid Measure of internalization? , *Monash University Working Paper series*, p01-10

Paul, R.Krugman and Maurice Obstfeld, *International economic: Theory and practice.*

Peijie Wang. (2008), *The economics of Foreign Exchange and Global Finance, Second Edition, University of hull Business School.*

Philipe Bacchetta and Eric Van Wincoop.(2000), Does exchange rate stability increase trade and welfare? *The American Economic Review,* p1093-1109.

Qin , J .(2000), Exchange rate risk and two way foreign direct investment , *Journal of Financial Economics* , p221-231.

Ranjit Sau.(1997), Foreign direct investment, portfolio investment and macroeconomic stability , *Economic and Political Weekly Journal* , p386-387.

R.Barrell , S.D Gottschalk and S.G.Hall , Foreign direct investment and exchange rate uncertainty in imperfectly competitive industries , *National Institute of Economic and Social Research* , p 01-21.

Resimini, L.(2000) , The Determinants of Foreign Direct Investments in The CEECs : New Evidence From Sectoral Patterns , *Economics of Transition* ,p665-689.

Revankar, N.S., (1979), Error component models with serial correlated time effects, *Journal of the Indian Statistical Association* **17,** 137–160.

Ridder, G., (1992), An empirical evaluation of some models for non-random attrition in panel data, *Structural Change and Economic Dynamics, 337–*355.

Riehel ,J.(1975) ,The Nature and Determinants of Export –Oriented Foreign Direct Investment in a Developing Country : A Case Study of Taiwan , *Weltwirtschaftliches Archiv* , p505-528.

Robert Lafrance and David Tessier.(2000) , Exchange rate and investment in Canada , working paper, p01-08.

Rugman , A.M .(1980),Internalization as a General Theory of Foreign Direct Investment : a Re-Appraisal of The Literature , *Weltwirtschaftliches Archiv* , p365-379.

Russ, K .(2007), The endogeneity of the exchange rate as a determinant of FDI : a model of entry and multinational firms , *Journal of International Economics* , p344-372.

Ryuta Takashima and Kyoko Yagi , Optimal investment timing and location under uncertainty, *working paper,* p01-14.

Saggi ,K .(1999) , Foreign Direct Investment , Licensing and Incentives for Innovation , *Review of International Economics* , p699-714.

Sala-i-Martin, X., (1996), The classical approach to convergence analysis, *Economic Journal* **106,** 1019–1036.

Sarkar , S.(2000) , On the investment –uncertainty relationship in a real option model , *Journalof Economic Dynamics and Control* , p219-225.

Sassan Alizadeh , Michael W Brandt , Francis X Diebold.(2002), Range- Based estimation of stochastic volatility models , *The Journal of Finance* , p1047-1091.

Shanta Parajuli and P .Lynn Kennedy .(2010), The exchange rate and inward foreign direct investment in Mexico , *working paper*, p01-23.

Shauna Philips and Fredom Z Ahmadi –Es fahani. (2008), Exchange rates and foreign direct investment: theoretical models and empirical evidence, *Agricultural and Resource Economics*, p505-525.

Schmidt, P. and R.C. Sickles, (1984), Production frontiers and panel data, *Journal of Business and Economic Statistics*,p 367–374.

Shim, J.K., (1982), Pooling cross section and time series data in the estimation of regional demand and supply functions, *Journal of Urban Economics* **11**, 229–241.

Schneider , F and Frey , B.S .(1985) , Economic and Political Determinants of Forein Direct Investment , *World Development* ,p161-175.

Sin, C.Y and Leung .W.F. (2001), Impacts of FDI Liberalization on Investment Inflows, *Applied Economic Letters*, p253-256.

Sjohlom, F.(1999) , Technology Gap , Competition and Spillovers from Direct Foreign Investment : Evidence From Establishment Data , *Journal of Development Studies* , p53-73.

Smith, L.V., S. Leybourne, T.H. Kim and P. Newbold, (2004), More powerful panel data unit root tests with an application to mean reversion in real exchange rates, *Journal of Applied Econometrics* **19**, 147–170.

Suits, D., (1984), Dummy variables: Mechanics vs. interpretation, *Review of Economics and Statistics* **66**, 177–180.

Susan Pozo.(1992), Conditional exchange rate volatility and the volume of international trade : evidence from early 1900s , *The Review of Economics and Statistics*, p325-329.

Swamy, P.A.V.B. and G.S. Tavlas, (2001), Random coefficient models, Chapter 19 in B.H. Baltagi, ed.,*A Companion to Theoretical Econometrics* (Blackwell Publishers, Massachusetts), 410–428.

Tarek Harchaoui and Pierre Lasserre .(1999) , Testing The Option Value Theory of Irreversible Investment , *CIRANO* , p01-39.

Tarek Harchaoui , Faouzi Tarkhani and Terence Yuen .(2005), The effects of the exchange on investment : evidence from Canadian manufacturing industries , *Bank of Canada working paper* , p01-60.

Taylor,W.E., (1980), Small sample considerations in estimation from panel data, *Journal of Econometrics* **13**, 203–223.

Thi Hon Hanh PHAM, Thinh Duc NGUYEN. (2003), Foreign direct investment, exports and real exchange rate linkages: Vietnam evidence from a cointegration approach, *working paper*, p01-24.

Titman ,S and Wessels ,R .(1988) , The Determinants of Capital Structure Choice , *Journal of Finance* , p01-18.

Tuman , J.P and Emmert , C.F .(1999) , Explaining Japanese Foreign Direct Investment in Latin America , 1979-1992, *Social Science Quarterly* , p539-555.

Udo Broll and Kit Pong Wong .(2005), Multinationals , Hedging and Capital structure under exchange rate uncertainty , *working paper* , p01 -16.

Udo Broll and Bernhart Eckwert.(1999), Exchange rate and international trade, *Southern Economic Journal*, p178-185.

Verbeek, M. and Th.E. Nijman, (1992), Testing for selectivity bias in panel data models, *International Economic Review* **33**, 681–703.

Vernon , R .(1966) , International Investment and International Trade in the Product Cycle , *Quarterly Journal of Economics* , p190-207.

Vernon, R .(1968) , Conflict and Resolution between Foreign Direct Investment and Less Developed Countries Public Policy , p333-351.

Vernon, R .(1979) ,The Product Cycle Hypothesis in New International Environment , *Oxford Bulletin of Economics and Statistics* , p225-267.

Vladyslav Sushko.(2007), Foreign direct investment under exchange rate uncertainty (Thirty five years and still uncertain) , *working paper* , p01-19.

Wallace, C.D. (1990) , Foreign Direct Investment In the 1990s: A New Climate in the third World (*Rordrecht :Martinus Nijhoff*) .

Wheeler, D. and Mody, A. (1992). 'International Investment Location Decisions', *Journal of International Economics*, Vol. 33, pp. 57 – 76.

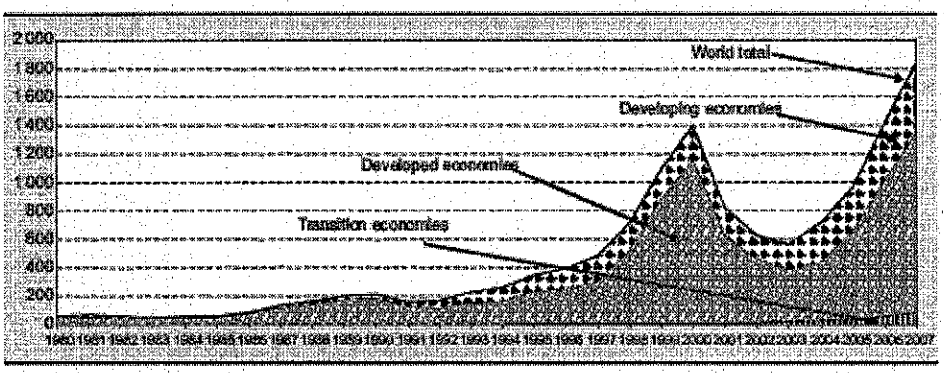
Wooldridge M Jeffrey (2002), Econometric Analysis of Cross Section and Panel Data , The *MIT Press , Cambridge Massuchsetts* , London England .

World Bank (2008). *World Development Indicators 2008*, available from http://devdata.worldbank.org/dataonline/.

Appendices

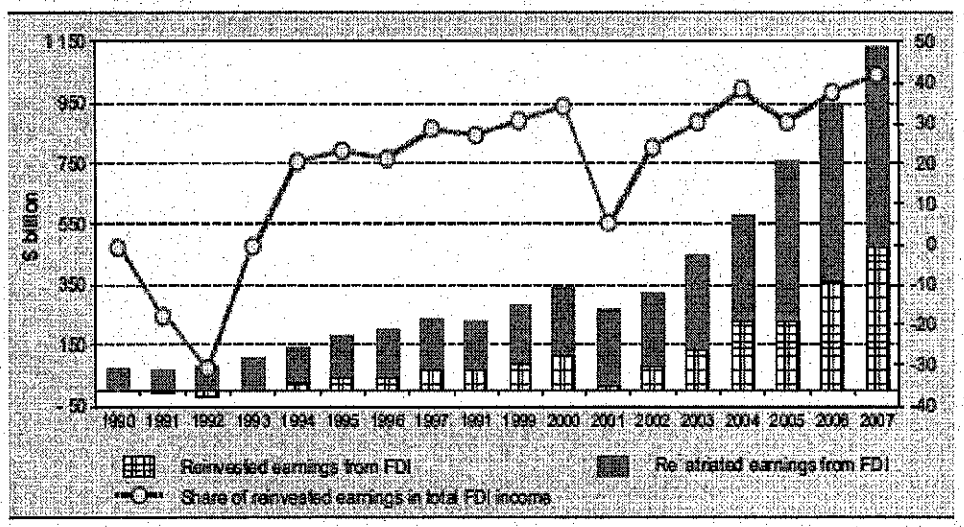
FDI (Foreign Direct Investment)

Figure I.1. FDI inflows: global and by groups of economies, 1980–2007
(Billions of dollars)



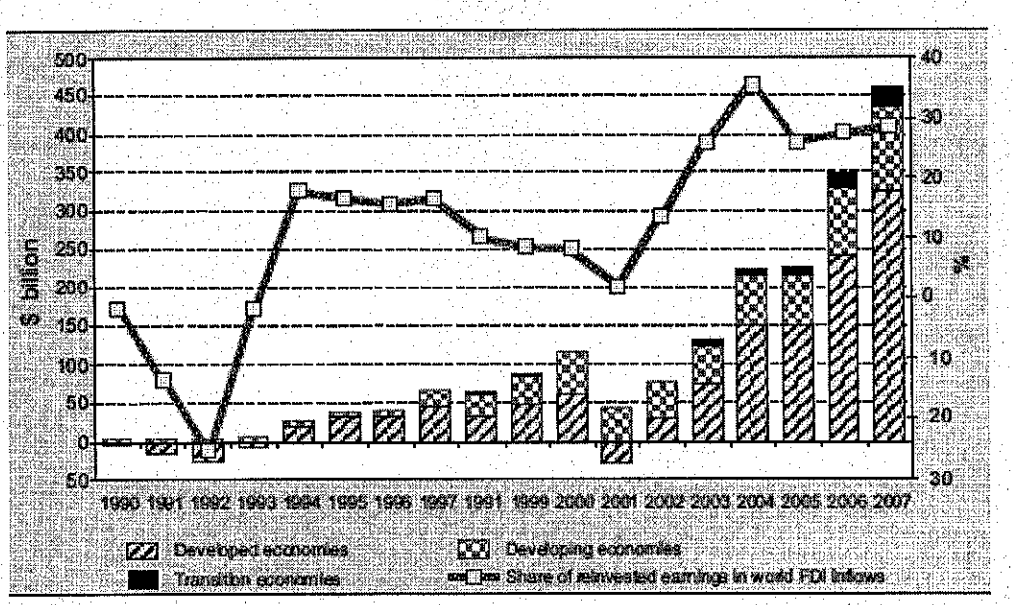
Source: UNCTAD FDI/TNC database (www.unctad.org/fdistatistics) and annex table B.1.

Figure I.3. Worldwide income on FDI and reinvested earnings, 1990–2007



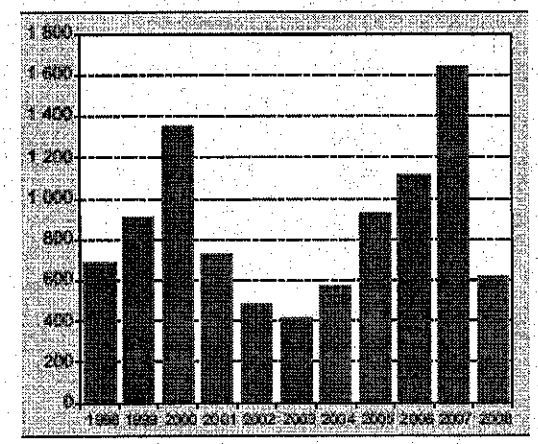
Source: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics).

Figure I.4. Reinvested earnings of TNCs: value and share in total FDI inflows, 1990–2007



Source: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics).

Figure I.5. Value of cross-border M&As, 1998–2008
(Billions of dollars)



Source: UNCTAD, cross-border M&A database (www.unctad.org/fdistatistics).

Note: Data for 2008 are only for the first half of the year.

Table I.2. Cross-border M&As valued at over $1 billion, 1987–2008[a]

Year	Number of deals	Percentage of total	Value ($ billion)	Percentage of total
1987	19	1.6	39.1	40.1
1988	24	1.3	53.2	38.7
1989	31	1.1	68.2	40.8
1990	48	1.4	83.7	41.7
1991	13	0.3	31.5	27.0
1992	12	0.3	23.8	21.0
1993	18	0.5	37.7	30.5
1994	36	0.8	72.6	42.5
1995	44	0.8	97.1	41.9
1996	48	0.8	100.2	37.9
1997	73	1.1	146.2	39.4
1998	111	1.4	408.8	59.0
1999	137	1.5	578.4	64.0
2000	207	2.1	999.0	74.0
2001	137	1.7	451.0	61.7
2002	105	1.6	265.7	55.0
2003	78	1.2	184.2	44.8
2004	111	1.5	291.3	51.5
2005	182	2.1	569.4	61.3
2006	215	2.4	711.2	63.6
2007	300	3.0	1 161	70.9
Q1	*54*	*2.1*	*153.7*	*53.7*
Q2	*98*	*3.7*	*359.4*	*76.1*
Q3	*73*	*2.9*	*251.3*	*67.1*
Q4	*75*	*3.1*	*396.9*	*78.7*
2008*	137	3.1	439.4	70.7
Q1	*77*	*3.3*	*259.7*	*73.8*
Q2	*60*	*2.9*	*179.7*	*66.6*

Source: UNCTAD cross-border M&A database (www.unctad.org/fdistatistics).

* First half only.

Table I.4. Selected indicators of FDI and international production, 1982–2007

Item	Value at current prices ($ billion)				Annual growth rate (Per cent)						
	1982	1990	2006	2007	1986-1990	1991-1995	1996-2000	2004	2005	2006	2007
FDI inflows	58	207	1 411	1 833	23.6	22.1	39.9	27.9	33.6	47.2	29.9
FDI outflows	27	239	1 323	1 997	25.9	16.5	36.1	63.5	-4.3	50.2	50.9
FDI inward stock	789	1 941	12 470	15 211	15.1	8.6	16.1	17.3	6.2	22.5	22.0
FDI outward stock	579	1 795	12 756	15 602	18.1	10.6	17.2	16.4	3.9	20.4	22.3
Income on inward FDI	44	74	950	1 128	10.2	25.3	13.1	31.3	31.1	24.3	18.7
Income on outward FDI	46	123	1 038	1 220	18.7	20.2	10.2	42.4	27.4	17.1	17.5
Cross-border M&As[a]	..	200	1 118	1 637	26.6[b]	19.5	51.5	37.6	64.2	20.3	46.4
Sales of foreign affiliates	2 741	6 126	25 844[c]	31 197[c]	19.3	8.8	8.4	15.0	1.8[c]	22.2[c]	20.7[c]
Gross product of foreign affiliates	676	1 501	5 049[d]	6 020[d]	17.0	6.7	7.3	15.9	5.9[d]	21.2[d]	19.4[d]
Total assets of foreign affiliates	2 206	6 036	55 818[e]	68 716[e]	17.7	13.7	19.3	-1.0	20.6[e]	18.6[e]	23.1[e]
Export of foreign affiliates	688	1 523	4 950[f]	5 714[f]	21.7	8.4	3.9	21.2	12.8[f]	15.2[f]	15.4[f]
Employment of foreign affiliates (thousands)	21 524	25 103	70 003[g]	81 615[g]	5.3	5.6	11.5	3.7	4.9[g]	21.6[g]	16.6[g]
GDP (in current prices)	12 083	22 163	48 926	54 563[h]	9.4	5.9	1.3	12.6	8.3	8.3	11.5
Gross fixed capital formation	2 799	5 102	10 922	12 350	10.0	5.4	1.1	15.2	12.5	10.9	13.1
Royalties and licence fee receipts	9	29	142	164	21.1	14.6	8.1	23.7	10.6	10.5	15.4
Exports of goods and non-factor services	2 395	4 417	14 845	17 138	11.6	7.0	3.8	21.2	12.8	15.2	15.4

Source: UNCTAD, based on its FDI/TNC database (www.unctad.org/fdi statistics), UNCTAD, *GlobStat*, and IMF, *International Financial Statistics*, June 2008.

[a] Data are only available from 1987 onward.

[b] 1987-1990 only.

[c] Data for 2006 and 2007 are based on the following regression result of sales against inward FDI stock (in $ million) for the period 1980-2005: sales=1 484.6302+1.5834* inward FDI stock.

[d] Data for 2006 and 2007 are based on the following regression result of gross product against inward FDI stock (in $ million) for the period 1982-2005: gross product=591.8513+0.3574* inward FDI stock.

[e] Data for 2006 and 2007 are based on the following regression result of assets against inward FDI stock (in $ million) for the period 1980-2005: assets= -2 874.9859+4.7088* inward FDI stock.

[f] For 1995-1997, based on the regression result of exports of foreign affiliates against inward FDI stock (in $ million) for the period 1982-1994: exports=138.9912+0.6414*FDI inward stock. For 1998-2007, the share of exports of foreign affiliates in world exports in 1988 (33%) was applied to obtain the value.

[g] Based on the following regression result of employment (in thousands) against inward FDI stock (in $ million) for the period 1980-2005: employment= 7 164.7284+4.2372* inward FDI stock.

[h] Based on data from the IMF, *World Economic Outlook*, April 2008.

Note: Not included in this table are the values of worldwide sales by foreign affiliates associated with their parent firms through non-equity relationships and the sales of the parent firms themselves. Worldwide sales, gross product, total assets, exports and employment of foreign affiliates are estimated by extrapolating the worldwide data of foreign affiliates of TNCs from Austria, Canada, the Czech Republic, Finland, France, Germany, Italy, Japan, Luxembourg, Portugal, Sweden and the United States for sales; those from the Czech Republic, Portugal, Sweden and the United States for gross product; those from Austria, Germany, Japan and the United States for assets; those from Austria, the Czech Republic, Japan, Portugal, Sweden and the United States for exports; and those from Austria, Germany, Japan, Switzerland and the United States for employment, on the basis of the shares of those countries in world outward FDI stock.

Figure I.8. Matrix of inward FDI performance and potential, 2006

	High FDI performance	Low FDI performance
High FDI potential	**Front-runners** Azerbaijan, Bahamas, Bahrain, Belgium, Brunei Darussalam, Bulgaria, Chile, Croatia, Cyprus, the Czech Republic, the Dominican Republic, Estonia, Hong Kong (China), Hungary, Iceland, Israel, Jordan, Kazakhstan, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mongolia, the Netherlands, New Zealand, Oman, Panama, Poland, Romania, Saudi Arabia, Singapore, Slovakia, Sweden, Thailand, Trinidad and Tobago, Tunisia, Ukraine, United Arab Emirates and the United Kingdom	**Below potential** Algeria, Argentina, Australia, Austria, Belarus, Brazil, Canada, China, Denmark, Finland, France, Germany, Greece, Ireland, Islamic Republic of Iran, Italy, Japan, Kuwait, the Libyan Arab Jamahiriya, Mexico, Norway, Portugal, Qatar, the Republic of Korea, the Russian Federation, Slovenia, Spain, Switzerland, Taiwan Province of China, the United States and the Bolivarian Rep. of Venezuela.
Low FDI potential	**Above potential** Albania, Armenia, Botswana, Colombia, Congo, Costa Rica, Egypt, Ethiopia, the Gambia, Georgia, Guinea, Guyana, Honduras, Jamaica, Kyrgyzstan, Lebanon, Moldova, Namibia, Nicaragua, Nigeria, Peru, Sierra Leone, Sudan, Tajikistan, The FYR of Macedonia, Togo, Uganda, the United Republic of Tanzania, Uruguay, Viet Nam and Zambia.	**Underperformers** Angola, Bangladesh, Benin, Bolivia, Burkina Faso, Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo, Ecuador, El Salvador, Gabon, Ghana, Guatemala, Haiti, India, Indonesia, Kenya, Madagascar, Malawi, Mali, Morocco, Mozambique, Myanmar, Nepal, Niger, Pakistan, Papua New Guinea, Paraguay, Philippines, Rwanda, Senegal, South Africa, Sri Lanka, Suriname, the Syrian Arab Republic, Turkey, Uzbekistan, Yemen and Zimbabwe.

Source: UNCTAD, based on annex table A.I.10.

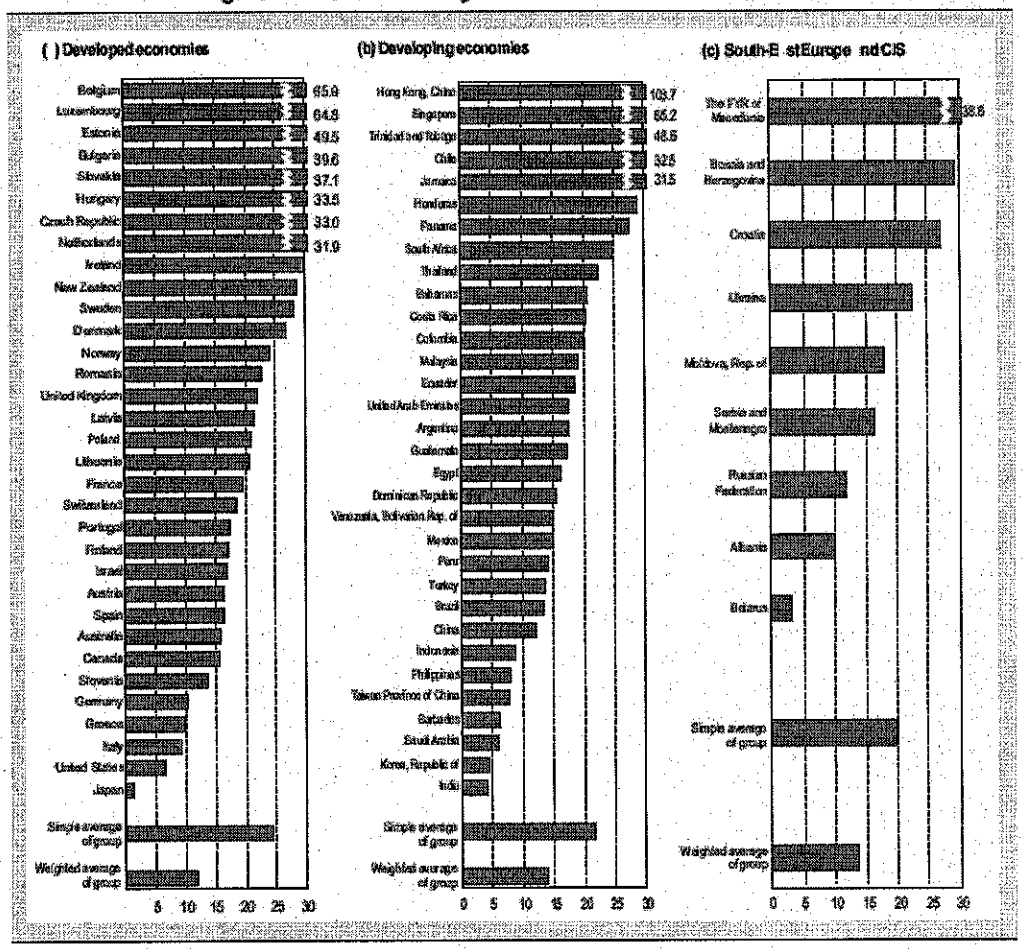
Table I.6. Top 20 rankings by Inward and Outward Performance Indices, 2006 and 2007 *

Inward FDI Performance Index ranking			Outward FDI Performance Index ranking		
Economy	**2006**	**2007**	**Economy**	**2006**	**2007**
Hong Kong, China	2	1	Luxembourg	3	1
Bulgaria	3	2	Iceland	1	2
Iceland	4	3	Hong Kong, China	2	3
Malta	5	4	Switzerland	4	4
Bahamas	8	5	Panama	5	5
Jordan	7	6	Belgium	7	6
Singapore	6	7	Netherlands	6	7
Estonia	9	8	Kuwait	12	8
Georgia	15	9	Bahrain	11	9
Lebanon	13	10	Singapore	8	10
Guyana	20	11	Ireland	9	11
Bahrain	12	12	Sweden	13	12
Belgium	10	13	Spain	14	13
Gambia	11	14	France	18	14
Panama	16	15	Estonia	17	15
Mongolia	19	16	United Kingdom	21	16
Tajikistan	18	17	Israel	15	17
Cyprus	24	18	Norway	16	18
Moldova, Republic of	27	19	Austria	23	19
Egypt	31	20	Denmark	33	20

Source: UNCTAD, annex table A.I.10.

* Countries are listed in the order of their 2007 rankings. Rankings based on indices derived using three-year moving averages of data on FDI flows and GDP for the three years immediately preceding the year in question including that year.

Figure I.7. Transnationality index[a] for host economies,[b] 2005

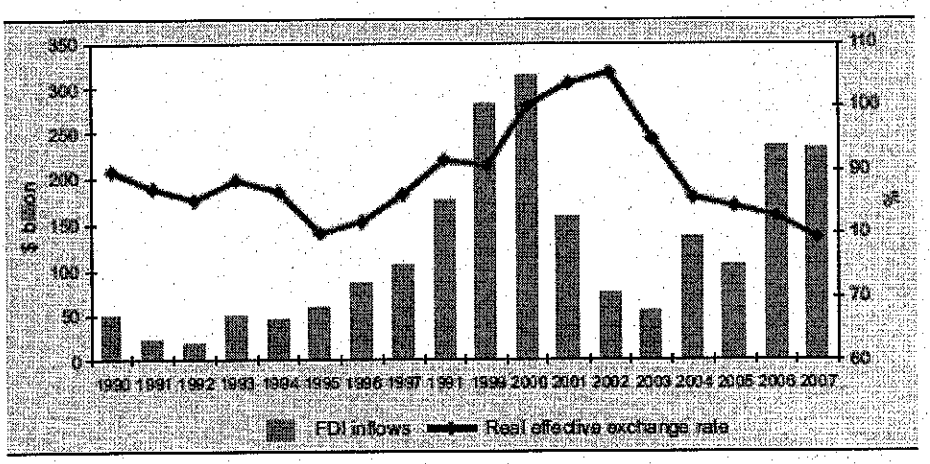


Source: UNCTAD estimates.

[a] Average of the four shares : FDI inflows as a percentage of gross fixed capital formation for the past three years 2003-2005; FDI inward stocks as a percentage of GDP in 2005; value added of foreign affiliates as a percentage of GDP in 2005; and employment of foreign affiliates as a percentage of total employment in 2005.

[b] Only the economies for which data for all of these four shares are available were selected. Data on value added were available only for Australia (2001), Austria (2003) Belarus (2002), Bulgaria, China (2003), Czech Republic, Estonia (2004), France, Hong Kong (China), Hungary, Italy (2004), Ireland (2001), Japan, Latvia (2004), Lithuania, Republic of Moldova, Netherlands (2004), Singapore (manufacturing only, 2004), Portugal, Romania, Slovakia, Slovenia (2004), Spain, Sweden, and the United States. For Albania, the value added of foreign owned firms was estimated on the basis of the per capita inward FDI stocks and the corresponding ratio refers to 1999. For the other economies, data were estimated by applying the ratio of value added of United States affiliates to United States outward FDI stock to total inward FDI stock of the country. Data on employment were available only for Australia (2001), Austria (2003), Bulgaria, China (2004), Czech Republic, Estonia (2004), France (2003), Germany, Hungary, Hong Kong (China) (2004), Italy (2004), Ireland (2001), Japan, Latvia (2004), Lithuania, Luxembourg (2003), Netherlands (2004), Poland (2000), Portugal, Republic of Moldova (2004), Romania, Singapore (manufacturing only, 2004), Slovakia, Slovenia (2004), Spain, Sweden, Switzerland and the United States. For the remaining countries, data were estimated by applying the ratio of employment of Finnish, German, Japanese, Swedish, Swiss and United States affiliates to Finnish, German, Japanese, Swedish, Swiss and United States outward FDI stock to total inward FDI stock of the economy. Data for Ireland and the United States refer to majority-owned foreign affiliates only. Value added and employment ratios were taken from Eurostat for the following countries: Austria, Bulgaria, Czech Republic, Estonia, Finland, Hungary, Italy, Latvia, Lithuania, Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

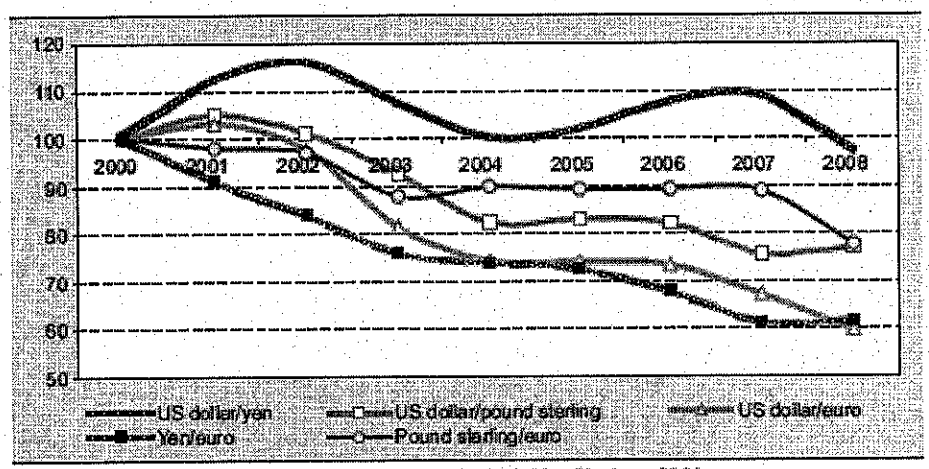
Figure I.18. FDI inflows to the United States and the real effective exchange rate, 1990–2007



Source: UNCTAD, FDI/TNC database (www.unctad.org/fdistatistics) and IMF's *International Financial Statistics*, June 2008 (for data on exchange rate).

Note: Real effective exchange rate is based on relative normalized unit labour costs.

Figure I.16. Nominal bilateral exchange rate changes of selected currencies, 2000–2008 [a]
(2000=100)

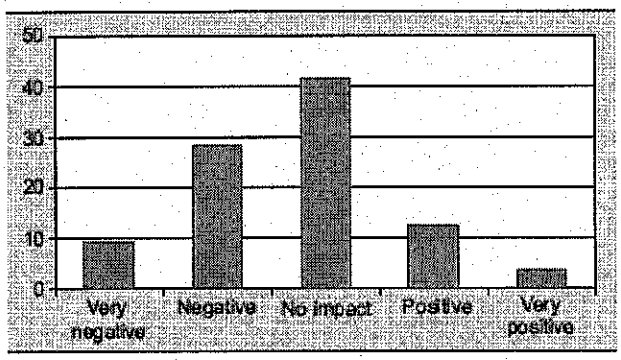


Source: UNCTAD, based on OECD, *Economic Outlook*, No. 83, June 2008.

[a] 2008 data are projections by OECD.

Note: A falling curve indicates a depreciation of the exchange rate of the first mentioned currency against the second currency.

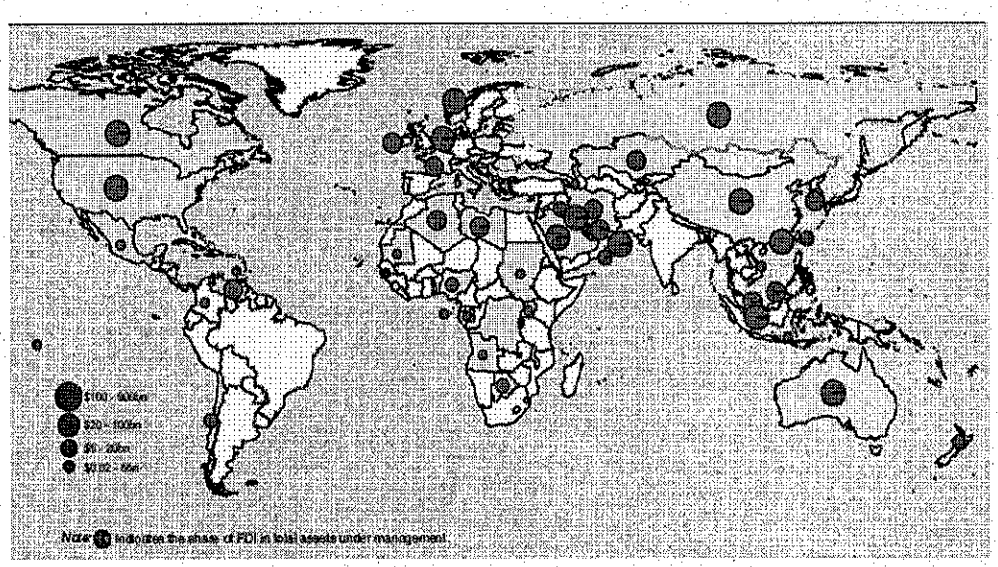
Figure I.17. Impact of depreciation of the United States dollar on global FDI flows for 2008–2010
(Per cent of responses to the UNCTAD survey)



Source: UNCTAD, 2008b.

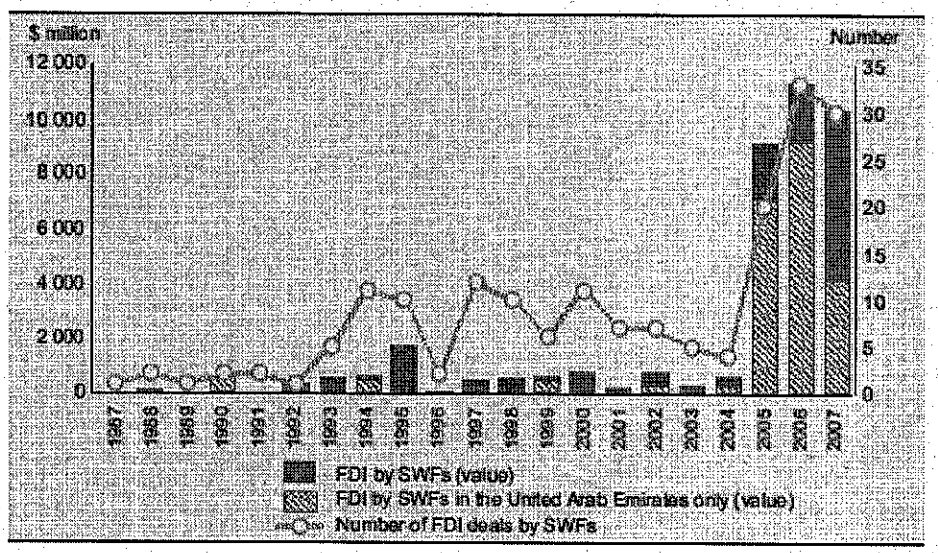
Note: The survey question was: To what extent have your actual FDI and short-term investment plans been affected by the depreciation of United States dollar?

Figure I.19. Major FDI locations of sovereign wealth funds, 2007



Source: UNCTAD, based on annex table A.I.11.

Figure I.20. FDI flows* by sovereign wealth funds, 1987–2007



Source: UNCTAD cross-border M&A database (www.unctad.org/fdistatistics).
* Cross-border M&As only. Greenfield investments by SWFs are assumed to be extremely limited.

Table I.9. Twenty selected large FDI cases by sovereign wealth funds, 1995–2007

Year	Value ($ million)	Acquired company	Host economy	Industry of the acquired company	Acquiring SWF or entity established by SWFs	Home economy	Acquired share (%)
2005	2 359	Kuokwang Petrochemical Co Ltd	Taiwan Province of China	Industrial organic chemicals, nec	International Petroleum Investment Co (IPIC)	United Arab Emirates	20
2006	2 313	Tunisie-Telecoms	Tunisia	Telephone communications, except radiotelephone	Investment Corporation of Dubai	United Arab Emirates	35
2005	1 691	Borealis A/S	Denmark	Plastics materials and synthetic resins	Abu Dhabi Investment Authority	United Arab Emirates	50
2005	1 495	Tussauds Group Ltd	United Kingdom	Amusement and recreation services	Dubai International Capital LLC	United Arab Emirates	100
2006	1 270	Travelodge Hotels Ltd	United Kingdom	Hotels and motels	Dubai International Capital LLC	United Arab Emirates	100
2006	1 241	Doncasters PLC	United Kingdom	Aircraft parts,equipment	Dubai International Capital LLC	United Arab Emirates	100
2005	1 222	CSX World Terminals LLC	United States	Marine cargo handling	Dubai Ports International	United Arab Emirates	100
2006	1 209	280 Park Ave,New York,NY	United States	Operators of non-residential buildings	Istithmar PJSC	United Arab Emirates	100
2007	1 160	Mauser AG	Germany	Plastic foam products	Dubai International Capital LLC	United Arab Emirates	100
1995	1 135	Mediaset SpA(Fininvest)	Italy	Television broadcasting stations	Investor group	Saudi Arabia	18
2006	1 030	Merry Hill	United Kingdom	Operators of non-residential buildings	Queensland Investment Corp	Australia	50
2007	954	Chapterhouse Holdings Ltd	United Kingdom	Real estate investment trusts	GIC Real Estate Pte Ltd	Singapore	100
2007	942	Barneys New York Inc	United States	Men's and boys' clothing and accessory stores	Istithmar PJSC	United Arab Emirates	100
2007	862	Hawks Town Corp	Japan	Department stores	Government of Singapore Investment Corp Pte Ltd (GIC)	Singapore	100
2007	821	Capital Shopping Centres PLC	United Kingdom	Operators of non-residential buildings	GIC Real Estate Pte Ltd	Singapore	40
2007	621	Bank Muscat	Oman	Banks	Dubai Financial LLC	United Arab Emirates	15
2007	612	WestQuay Shopping Center	United Kingdom	Operators of non-residential buildings	GIC Real Estate Pte Ltd	Singapore	50
2007	596	Westfield Parramatta	Australia	Operators of non-residential buildings	GIC Real Estate Pte Ltd	Singapore	50
2005	594	Bluewater Shopping Centre	United Kingdom	Operators of non-residential buildings	GIC Real Estate Pte Ltd	Singapore	18
2006	594	Adelphi	United Kingdom	Operators of non-residential buildings	Istithmar PJSC	United Arab Emirates	100

Source: UNCTAD, cross-border M&A database (www.unctad.org/fdistatistics). For those cases ranked between 21 and 50, see annex table A.I.12.