

## Review Of The Theoretical Literature Of Foreign Direct Investment (FDI) and Multinational Enterprises (MNEs).

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### المخلص:

**Abstract:** This article provides an overview of the multinational enterprises (MNEs) theories, (horizontal and vertical FDI, knowledge capital model, proximity-concentration approach, (Ownership, Location, and Internalization) OLI diagram, complex integration strategies and the third country effect), which have been accumulated so far. Each FDI type has a different theoretical explanation about the inter-country long term capital movement, which leads to the FDI economic determinants and their relationship nature with FDI. Hence, we introduce them to show the new development in this area of study, and the theoretical base of the controversial literature around it. In order to do so, we look over definitions, previous literature roots, theories propositions and implications of each type of FDI.

**JEL Classification: F21 and F23**

### 1. Introduction:

We provides an overview of the MNEs theories, (horizontal and vertical FDI, knowledge capital model, complex integration strategies and the third country effect), determinants and their effects which have been accumulated so far.

The international movements of FDI have essentially and rapidly increased in the last decade, either in stock or flow, which strongly reflects on the home and host country macro indicators.

The increasing in the outward FDI will increase the foreign affiliate's employments, the economy presence in the international

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market and increase the transfers to the local economy, which impact positively on the home economy. On the other hand, this increase of the production locally abroad satisfies the foreign demand, transfer technology and increases the host local output and employments, which impacts positively on the host economy.

This article proceeds as follow, we present the recent global indicators of FDI and MNEs. Then we review the theoretical literature of the FDI movements, this includes the theory roots, FDI determinants and the theoretical developments. Finally, we summarize and conclude.

### **1.1 Importance and Methodology:**

In fact, the sever fluctuations and the accelerated increase of FDI movements strongly influence the local macroeconomic indicators. In addition, attracting these long term capital movements is in focus of the governments interest, specially, the developing one. Hence, understanding the deferent FDI types motives and determinants is important for policy making and empirical research applications. Therefore, we aim to conclude the main factors that influence the FDI, and their influence direction, through intensive review of the related economic literature. The current research is an essential base for a wide local, regional and international empirical researches.

We follow a descriptive dialectic "analytical" methodology for this purpose. We try also to criticize the different literature in this field to clarify a clear-cut results for different FDI types.

## **2. Definitions:**

In this section, we present the definitions of FDI and MNEs (parent (Headquarter), affiliate and subsidiary); we use general common definitions for these terms, which are used frequently in this research.

### **Firstly, FDI definition:**

In fact, there is no general FDI definition, but all different definitions have the same general features. They distinguish FDI from portfolio investment, and other matters of the strategic relationship between the direct investor and direct investment enterprise from one

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side. Moreover, the lasting interest of a significant degree of influence from the other side. We overview the foreign direct investment concepts, and try to combine the general definitions and concepts of each, United Nations Conference on Trade and Development (UNCTAD) and Organization for Economic Co-operation and Development (OECD).

Hence, the noted definition of FDI could be as:

*The foreign direct investment is a direct investment involving a strategic long-term relationship and reflecting a lasting interest of a resident entity in one economy (direct investor) in an entity (direct investment enterprise) resident in an economy other than of the investor. The direct investor's purpose (lasting interest) is to exert a significant degree of influence on the management of the enterprise resident in the other economy. FDI involves both the initial transaction between the two entities and all subsequent transactions between them, and among affiliated enterprises, both incorporated and unincorporated. Foreign direct investment may be undertaken by individuals, as well as business entities, UNCTAD, OECD, (1996) OECD (2008).*

#### **Secondly, MNE definition:**

*A MNE is an enterprise, which is irrespective of its country of origin and its ownership, including private, public or mixed, which comprises entities located in two or more countries. They are linked, by ownership or otherwise, such that one or more of them may be able to exercise significant influence over the activities of others and, in particular, to share knowledge, resources and responsibilities with the others. MNEs operate under a system of decision making which permits coherent policies and a common strategy through one or more decision-making centre, (UNCTAD & OECD) Glossary, OECD (2008).*

In the above definition, the term entities refer to both parent and affiliate enterprises, defined below, and other enterprises.

***Parent enterprise:*** *is an incorporated or unincorporated enterprise or group of enterprises, which has a direct investment enterprise operating in a country other than that of the parent enterprise,*

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(UNCTAD & OECD) Glossary, OECD (2008).

***Affiliate enterprise:** is an incorporated or unincorporated enterprise in which a foreign investor (individual or entity) has an effective voice in management. Such an enterprise may be a subsidiary, associate or branch. It is possible for a given enterprise to be a member of two or more groups of affiliated enterprises. (UNCTAD & OECD) Glossary, OECD (2008).*

***Subsidiary enterprise** is an incorporated enterprise in the host country in which another entity directly owns more than half of the shareholders voting power, or is a shareholder in the enterprise, and has the right to appoint or remove a majority of the members of the administrative, management or supervisory body. (UNCTAD & OECD) Glossary, OECD (2008).*

### **3.Global FDI movements: recent facts**

#### **3.1 Recent FDI trends in the world economy**

The flow of FDI is rapidly increase during time. Higher flow of FDI over the world always reflects a better economic environment in the presence of economic reforms, investment oriented policies and multinationals reinvested earnings increasing. This reflects a rapid increase in both the volume of FDI and number of multinationals, because of the accelerated process of globalization and privatization in the world economy, UNCTAD (2010).

In this section, we present the most international secured and trusted published data, about FDI and MNEs. We relay mainly on the UNCTAD and OECD secondary data that available in their publications.

Outflow and inflow changed in all three groups of economies: developed countries, developing countries and the transition economies similarly to the worldwide change. Anyway the developed countries play the essential role for the world wide change as the major sources and recipients of the FDI in the world as shown in outflow changes in the figure 2. According to figure 1, there has been an overall phenomenal increase in the inflows of FDI in the last two

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decades around the world, the general trend increased sharply since year 2000. We note that the first peak approached the record level of 1401 billion dollar in 2000 that is the highest realized worldwide amount of FDI inflow in the first half of last decade. The inflow dropped sharply in 2001 and continue until 2003 where started rapid recovery in 2004, UNCTAD (2010).

Similarly the realized worldwide FDI outflow follow the same curve down with the inflow with the peak in 2000 of 1,233 US billion dollars that decreased rapidly in 2001 and started to recover in 2003, with the three higher amounts in 2006, 2007 and 2008 than the year of 2000. The differences in the criteria and instruments of measurements between countries cause none equality between the inflow and outflow, as shown in the figure 1. FDI flows are significantly increased in the last decade.

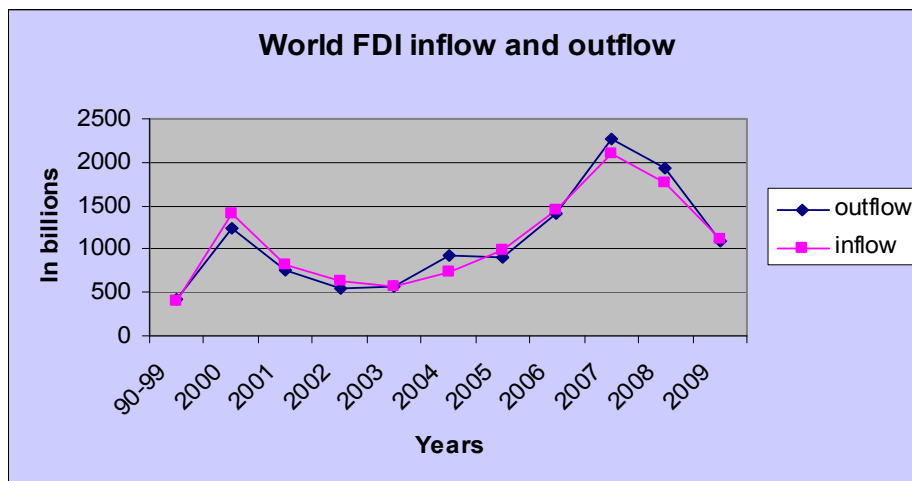


Figure 1: The world inflow and outflow

In general, the worldwide outward FDI follows the leading developed economies flow, where the huge part of the flow belong to these countries and the increasing of the outflows causes a recovery in the global economy. On the other side, the decreasing in the worldwide inflows could show less attractively position to a developed economy as a cause of the deterioration (depression) in the global economy, which makes the advanced economy less attractive

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for the FDI. The developed countries are source of the financial crisis, where influenced stronger than other regions of the FDI inflows.

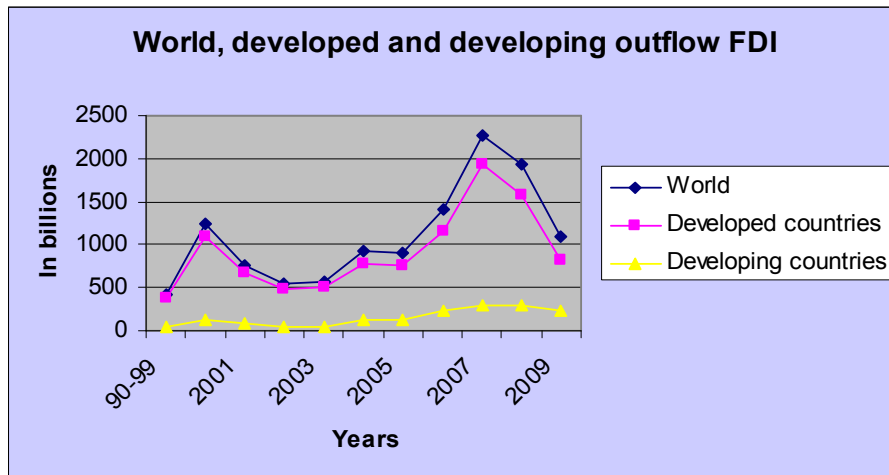


Figure 2: The outflow FDI of the worldwide main groups.

Source: UNCTAD, FDI data base, (<http://stats.unctad.org/FDI/>).

The emergence of some developing and transition countries confirm that the developed countries as a destinations of FDI are less interesting comparing to the developing countries, and is likely to continue so in the near future, UNCTAD (2011).

The improvement of macroeconomic conditions continue gradually, corporate profits and stock market performance observed already in modest global term that continued in 2010, 2011 supporting rebound in business confidence. In addition, the recovery of FDI inflows in 2010, 2011 is stronger in developing countries than the developed countries. As a result, the trend in foreign investment inflows towards developing and transition economies is expected to accelerate in the foreseeable future, as shown in the main recipients countries before, UNCTAD (2010, 2011), UNCTAD.

This trend already show during the period 2007-2009, where the developing countries show better annual increase in 2007 and 2009. Moreover, they show less decrease in 2008 comparing to the world

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and developed countries average. This is due to the economic growth in these economies and their significant reforms, as well as an increase in their openness to FDI and international production. As a result, developing and transition economies FDI inflows share now is accounted for nearly half of global one, UNCTAD (2010).

Although the financial crisis and the fluctuation in the FDI flow, these flows tended to increase during the last two decades. The majority of FDI flow sources are the developed countries as similar as the host countries, meanwhile the developing and transition countries position is increasing.

#### **3.2 MNEs and the international production activities**

MNEs contribute essentially in improving production processes and systems by their local and foreign operations, and by providing much needed capital and cutting-edge (innovative) technology for the production process. They occupy notable share of the gross fixed capital formation, international sales and production, employments and home economy growth, UNCTAD (2010).

In light of the current financial and economic crisis, there have been simultaneous moves to both liberalize investment regimes and promote foreign investment, and the MNEs activities are less affected by the crisis than their economies. This could show a leading role MNEs to guide the international economic trends.

The share of the foreign affiliates' value added in global gross domestic product (GDP) reached the highest level has ever been realized of nearly 11 per cent in 2009, UNCTAD (2010). MNEs foreign employment increased slightly in 2009 by 1.1%, to nearly 80 million workers, which represents 4 per cent of the global labour force. The rise of developing and transition economies is obvious in international production patterns. The developing and transition economies now host the majority of foreign affiliates' labour force, which accounted 53% of affiliate's total employment in 2007. In addition, they accounted for 28 per cent of the 82,000 MNEs worldwide in 2008, two percentage points higher than 2006. This

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compares to a share of less than 10 per cent in 1992, and reflects the increasing of these countries importance as home countries, UNCTAD (2010).

In the developed countries, employment in foreign affiliates in the manufacturing sector dropped sharply between 1999 and 2007, while in services it gained importance because of structural changes in the economies, UNCTAD (2008), OECD, (2010).

In addition, foreign affiliates' sales and value-added declined by nearly 4.5 to 6 per cent in 2008 and 2009 because of the recent economic and financial crisis. The recent crisis has significantly affected the MNEs operations abroad. Anyway, this contraction is less than the world economic contraction, UNCTAD (2009a).

Hence, the role of the MNEs is essentially to improve the macroeconomic indicators and solves the macroeconomic problems. The employment in the foreign affiliates, sales, capital transfers from and to the local economy and the participation share of the local economy factors must affect the general macroeconomics trends in the local economy.

The largest worldwide MNEs are playing a leading role of the multinational activities. Many different criteria are including for calculating the transnationality index, which classify the MNEs. This index can be calculated as an average of three ratios, which are, foreign assets to the total assets, foreign sales to the total sales, foreign employment to the total employment.

The majority of these 100 largest companies are belonging to the developed countries, especially in the European Union. On the other hand, nearly half of the 100 largest MNEs in the developing and transitional countries are placed in the East Asia. The average of the transnationality index in these companies is less than the average of the 100 largest worldwide MNEs, which have higher average of nearly 15 points.

#### **4. Theories of Multinational Enterprises**

This section provides a theoretical review of FDI theories, their roots and developments. We briefly review the theoretical background of the new trade theory, which includes main concepts of FDI. Lately, we review the theories of vertical, horizontal, knowledge capital



#### **4.1 Theoretical background:**

The development of theories of the multinational enterprise occurred in three stages. The first models of multinational enterprises emerged from the traditional literature on international trade with competitive, constant-return models.

Early analysis viewed multinational activities as a part of the theory of capital flows (Caves, 1971, 1996). He worked on the direct investment associated with company specific capital. He stated that the investment brings about the shift of an industry in home country to the same industry in host country. This theory generated clear results that headquarter activities should be placed in capital-abundant countries with subsidiaries in capital-scarce countries. Thus, there was no motive for FDI to occur between identical countries.

The factors driving global capital flows in general are analyzed on the eclectic paradigm, which is a framework for analyzing the decision to engage in FDI, based on three kinds of advantages that FDI may provide in comparison to exports: Ownership, Location, and Internalization (OLI), Dunning (1977, 1979 and 1981). The ownership could be a product or a production process to which other companies do not have access, such as a patent, blueprint, or trade secret or something intangible, like a trademark or reputation for quality, Markusen, (1995). Location which market must offer an advantage that makes it profitable to produce the product in the foreign country rather than simply produce it at home and export it to the foreign market. Although tariffs, quotas and transport costs; the access to customers and cheap factor prices are the most obvious sources of location advantages. And finally, internalization which if a company has a proprietary product or production process, and due to tariffs and transport costs, it is advantageous to produce the product abroad rather than export it, it is still not obvious if the company set up a foreign subsidiary or it will licensing a foreign company, as an alternative, Markusen (1995). (OLI) advantages under the eclectic paradigm are the answer to explain why multinational enterprises choose FDI. Despite it is understood in static terms and is unable to explain the dynamics or the process of change of international production. Nevertheless, the empirical results under constant-return model are

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inadequate to explain location decision of company in circumstances that are more complex and this led in the next stage to the “new trade theory” as a considerable extension of international trade theory, which included the idea of increasing returns to scale and imperfect competition to the traditional models.

Subsequently, the theory of the multinational enterprise was split into two parts to obtain two motives that to reduce factors costs in the first and to serve foreign market in the second which appears as a new multinational activity replace the exports.

In the first part, the **theory of “vertical” FDI** emerges, when the company geographically separates the stages of production. It builds on the theory of capital flows, where direct investment is essentially a foreign production branch.

The second part consists of **“horizontal” FDI models**, which the company produces the same goods or services in different locations.

In the third stage, the new models tried to combine the two branches. The respective theory was called the **“Knowledge Capital” model (KC)**. Before moving to the results of the mentioned models, it is useful to introduce the most outstanding definitions for vertical and horizontal FDI used in the literature.

In fact, four main definitions of vertical and horizontal FDI have been used in the literature.

The first definition is based on the motivation of investment. Here, FDI is classified to be vertical or horizontal depending on the motive for affiliate operations. Thus, horizontal FDI companies save on trade costs associated with exporting by setting up foreign facilities whose range of production activities similar to the operations they perform at home, Markusen (2002), and Markusen and Venables (2000). While, vertical FDI is conducted in order to benefit from factor price differences between countries, Hanson et al., (2003), companies fragment different production stages across different countries to benefits from the international differences in factor prices, Helpman (1984); Helpman and Krugman (1985); and Yeaple (2003).

In the jargon of trade theory, vertical production networks are a form of “vertical FDI” through which multinationals spread across

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different locations the different activities that they perform, such as R&D, input production, and input processing, Hanson et al. (2003).

Theories of multinational enterprises offer several explanations for vertical production networks, including cross-country and/or cross-industry differences in trade costs, factor prices, and the technological separability of production, Hanson et al. (2003).

The second definition to discriminate between the two types of FDI was proposed by, Brainard (1993a), who uses the term “factor proportion” in order to explain foreign activities of MNEs based on Markusen (1984); Helpman (1984); Helpman and Krugman (1990); and Ethier and Horn (1990), and explains vertical expansion across borders in terms of relative factor endowments and technological parameters. This methodology is derived from the empirical estimation of international trade flows. The alternative to the factor proportions hypothesis formulates location advantages in terms of proximity to customers or specialized suppliers, which motivate horizontal expansion across borders at the expense of reduced scale, Krugman, (1996); Horstman and Markusen (1992); and Brainard (1993a).

The third definition concentrates on the geographical distribution at the foreign affiliate sales level, Brainard (1993b, 1997).

Finally, Markusen (1995) defines vertical FDI as a geographical separation of the production process by stages, which is very similar to fragmentation<sup>1</sup> and considered the horizontal foreign investment, is more important quantitatively than the vertical.

Indeed, a clear separation between horizontal and vertical FDI is not possible, because in case of horizontal FDI affiliates draw some headquarter services from the parent company, which include geographical separation, even when the company duplicates the same production activity in several countries. Thus, each horizontal MNE has some vertical traits.

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<sup>1</sup> Recent definition of fragmentation is; the splitting of a product process into two or more steps that lead to the same final product; it calls international or cross-border fragmentation when takes place beyond national borders, Matsuura and Hayakawa (2008).

Closely related to the term vertical FDI is the literature on outsourcing and fragmentation, which defined “the splitting of production processes into separate parts that can be done in different locations, including in different countries” Ronald and Kierzkowski (1990). These terms are more general and include often the geographical separation of production that takes place outside the company. Furthermore, different prominent researchers refer to geographical separation of production “multinational vertical company” in different ways. Feenstra (1998) calls it “disintegration of production”, Leamer (1996) calls it as “delocalization” and Krugman (1996) used term of “slicing the value chain”, and Matsuura and Hayakawa (2008) called it “cross-border fragmentation” if takes place beyond national borders.

Another term considered as complex integration strategy of MNEs is “export platform FDI”, which suggested by Ekholm et al. (2003). It is defined as FDI from a source country into a host country for, the purpose of, exporting production to a third country market, and not in the parent or local market. Thus, such a definition includes both features of vertical and of horizontal FDI. Here setting foreign affiliate serves a large integrated market as a horizontal investment. However, at the same time, the location within the region is chosen based on cost considerations, which is typical for vertical FDI, Ekholm et al. (2003), Grossman et al. (2003), Yeaple (2003) and Egger et al. (2004). However, empirical findings by Hanson et al. (2001) suggest a closer relationship to vertical FDI, since this type of investment is strongly cost driven, and depends negatively on the size of the foreign market.

The complex vertical FDI is more complicated, which motivated by the advantage of the third country. It is assumed to have plants in the host and third country with exports from the third one to the home country.

#### **4.2 Theories of Horizontal FDI**

Horizontal multinationals are companies that produce the similar good or services in two or multiple plants in different countries, which each plant serves the local market from the local production with one or more headquarters in home country. The multinationals strategy to

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serve the foreign market, by setting up a new affiliate instead of serving through exports based on many factors determines the company decision to be horizontal MNE. These factors are presence of trade costs, market size and company-level scale economies.

The main motivation for horizontal FDI as mentioned before is to avoid trade costs or to get access to a foreign market, which only can be served locally, in addition, the horizontal models predict that multinational activities can arise between similar countries.

The comparison between benefits and costs is the intuition behind the company decision to become horizontal MNE. Setting up a foreign production affiliate instead of exports serving to the foreign market means additional costs of serving the new country. Moreover, there are production costs, both fixed and variable, depending on factor prices and technology. The plant-level economies of scale will increase the costs of establishing foreign affiliates. On the other side, there are cost savings when switching from exports to local production abroad. The most obvious are trade costs. Additional benefits arise from the proximity to the market, as shorter delivery, increasing knowledge of the market, and quicker response to the market becomes easier. Thus, if benefits outweigh the costs, a multinational enterprise will conduct a horizontal FDI.

The interaction of trade costs and economies of scale either at plant or company level arise the capital flows between similar countries, which explain the horizontal FDI, as shown in table 1.

In order to explain the perception behind the models, we assume two countries, which are relatively different in either size or factor endowments. Anyway, moderate transportation costs are assumed. In the first situation, the horizontal MNEs will not arise, because they will have a disadvantage relatively to the local company with headquarter and production plant in the larger country by setting the complete production in one plant. The multinationals have to bear fixed costs for the plant in the smaller market which it requires a big sales amount to cover the new affiliate fixed cost and acquire economies of scales. In the other side, the national or local company in the larger country faces trade costs for the small amount of exports to the smaller country. Of course, while serving foreign markets via exports increases transport costs on production costs, but setting up a new plant abroad as an alternative is costly as well. A trade-off

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between costs of setting up a new plant and trade costs from exports is a feasible strategy for decision of the company. Company should make a decision to become horizontal multinational, when plant-specific costs are lower than transport costs. From this point of view, the role of scale effects, which the market size is proxy to it, in relation to transport costs, which distance is proxy to it, is an essential and important issue.

In the second case, the countries are similar in size but different in factor endowments. The horizontal multinational has no advantage when, firstly places the production in both countries, or secondly in the factor-scarce country (higher cost). The local company placed in the factor-abundant country, such as labour, executes the whole production in the low cost country (with low costs). Thus, the MNEs aim to determine the cut off point that equalize profits between the two strategies (exports or FDI) to decide continue exporting or set up a new plant.

The trade off between the additional fixed costs from setting up a new affiliate abroad and avoiding the variable costs such as transport cost and tariff, arise the horizontal multinational. Markusen (1984) is one of the first works, which explains the horizontal FDI model with company-level scale economies as a driving force. A company of two plants has a fixed cost that is less than twice times of the fixed costs of a company with single plant, this give a strong motivation for multi-plant production.

Extensions and refinements of this model can be found in, Horstman and Markusen (1987, 1992). Horstmann and Markusen (1992) examine the model with two countries, one homogeneous good and imperfect competition. The monopolistic company is located in each country in order to serve the local market only. The model assumes that the company has constant marginal costs in production; and there are two different types of fixed costs involved in the company. One is plant-specific costs i.e. fixed costs in each single production plant. Another is company-specific costs, which act as joint inputs across plants, and it finds that companies are more likely to become horizontal multinationals by producing in both home and host locations, when plant-specific costs are low relative to company-specific costs. A decision of MNEs depends on the size of economies of scale and on the production technology of the company. However,

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their implications are insufficient to explain a decision of company since an activity to foreign markets is costly.

Markusen (1995) describes the horizontal multinational as an alternative option to trade and local companies, where the amount of direct foreign investment increases relative to trade (but not necessarily absolutely) as tariffs and transport costs increase. In addition, he discusses the problem of internalization.

More general model, Brainard (1993b) discusses the scale effects role at the company and plant level in relation to transportation costs. The perception is that the horizontal FDI appears as an alternative to exports, if the trade costs are larger than the fixed costs from setting up a new affiliate, which is also known as **proximity-concentration approach**. The driving force behind is the trade off between the advantages to be near the market and avoiding the variable costs such as the transportation costs (proximity), and economies of scale effects when producing in one plant (concentration). The horizontal model predicts two cases, which can dominate the exports or full crowd them out. Firstly, if the transportation costs are larger than the plant fixed costs; meanwhile the second case occurs if the company-level scale effects are larger than plant-level scale effects. This means that the horizontal MNEs arise when transport costs are relatively higher than the fixed plant costs, and the greater are increasing returns at the company level relative to the plant level. This refers that transport costs and the economies of scale are significant to the company to become horizontal multinational.

Markusen and Venables (1998) extended and developed the previous horizontal model to a multi-country framework which, they develop a two-factor, two-sector, two-country model of the new trade theory with monopolistic competition and product differentiation. The model predicts the multinational activity for horizontal FDI, their model allows for the mix of multinational and local companies in each country. In the former, multinationals dominate in countries that are similar in size, factor and technology endowments. In the later, they show that differences in relative factor endowments decrease the horizontal activity of MNE.

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Table 1. shows the necessary conditions for the appearance of horizontal multinationals:

These conditions are countries similar in size, and in the factor endowments, and the presence of transportation costs, and economies of scale at the company level.

**Table 1: Conditions for the Existence of Horizontal FDI**

<b>Presence of horizontal FDI when:</b>	<b>Horizontal FDI</b>
<b>Country characteristics</b>	
Absolute market size	Large
Relative market size	Similar
Relative factor endowment	Similar
Trade costs / barriers	Moderate / high
Of which (Tariff barriers)	High
<b>Economies of scales</b>	
Company-level	High
Plant-level	Low

#### **4.3 Theories of Vertical FDI**

The theory of vertical FDI is the second important pillar of the MNE theoretical literature, which takes place if the MNE geographically fragments its production by stages. In particular, countries with differences in factor endowments. In contrast to the horizontal MNE, that duplicates the production process between similar countries.

The fragmentation of production occurs in order to exploit differences in relative factor costs. The motive of the name vertical could be that the production stages split in different countries are complements to each other. The vertical FDI is based on, the idea that, different parts of the production process have different input factors. Thus, the input prices differentials across countries makes splitting production profitable, for example labour intensive production stages in country with low labour costs.

Similar to the perception behind the horizontal models, the decision to adopt the vertical FDI stands behind the trade-off between costs and benefits. The benefits arise from the lower production costs in the new country. The production chain includes several stages, and



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each stage usually requires different factors. Hence, it's profitable to shift particular stage to the country, which has the required factor in relatively cheaper price, as a result to the factor prices differentials. This is only profitable when the costs of splitting the production process are lower than the cost savings. The costs of fragmentation take many forms such as transport costs, additional costs of setting up new affiliates, creating new networks or existing different production parts in different countries. The economic feasibility is to compare the additional various costs arise from production splitting with the production costs reduction arise from exploiting the factor price differentials between countries (or different production stages).

The theoretical modelling of vertical FDI was driven typically by differences in factor endowments. The early literature of vertical FDI made by Helpman (1984, 1985) and followed by Helpman and Krugman (1985). They assume that countries differ with respect to relative factor prices; and vertical multinationals use differences in factor prices between countries to minimize production costs. These initial studies explain the expansion across countries on the base of factor proportion abundance, in which the companies headquarter, is separated geographically from the production. These models were based on the extended Heckscher-Ohlin trade theory with two factors of production and two production sectors, homogeneous goods and differentiated goods. While the production of homogeneous goods is under a perfect competition with constant return to scale, the production of differentiated goods is under increasing return to scale. The production process of differentiated goods could be divided into multiple stages i.e. headquarters services and final production one.

In the former, Helpman (1984) model indicates a general-equilibrium condition "relative factor endowment differentials" that causes companies to become vertical multinationals. He explains the appearance of vertically separated production by cost savings for MNEs, if it separates the high-skilled labour (human capital) intensive headquarter activities and low-skilled labour intensive production activities. These two activities have different factor intensities between countries and can be split geographically, every activity in the abundant country factor related. The model constructed without

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tariffs or transport costs, so that the company will open only one foreign plant whereas it's not include the trade costs from exporting outputs back to home country. It is further assumed that the production factors across countries are immobile.

The driving force of the model was the absence of Factor-Price-Equalization (FPE). If otherwise the difference in relative endowments of countries is not sufficiently large, trade in goods will lead to the equalization of factor prices between countries. Then, there will be no incentive for the company to separate headquarters and production activities, and FDI will not occur. If, however, the difference in relative factor endowments is large, one country for example has a much higher endowment of labour relative to capital, and then trade does not equalize factor prices. Hence, it is profitable for the company to split activities, locating the labour-intensive part of production for example (assembling) in the labour-abundant country. Consequently, vertical FDI arises if this separation occurs by setting up an own affiliate.

Thus, the intuition of Helpman (1984) was to show that multinational companies have a motive to fragment the production geographically and separate the production process only if the countries differ sufficiently in relative factor endowments and vertical FDI will not arise between similar countries.

The literature on vertical FDI is related closely to the models of outsourcing, and other complex investment decisions, which the vertical separation of production occurs without multinationals, Grossman and Helpman (2005).

Vertical FDI can be seen as a subset of this fragmentation, since parts of the production chain are also adopted abroad but by other companies.

Some studies analyze the decision of MNE between outsourcing and FDI. Grossman and Helpman (2002) investigate the choice between outsourcing and integration through FDI as a trade off between incomplete contracts, in arm's length relationship, against less-efficient integration within a MNE. While Antras and Helpman

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(2004) show how the different productivity levels of the company affects the decision to source the inputs from external suppliers or from the company own affiliate abroad.

The literature indicates only the impact on international trade flows, such as Markusen et al. (1996) and Markusen and Venables (2000), which vertical FDI is considered as a trade creating<sup>1</sup>, as long as products at different stages (input and final goods) are shipped between different locations. On the other hand, trade costs have a negative impact on the location of vertical FDI, Zhang and Markusen (1999) explain that the host market size has a negative impact on vertical FDI because the fixed costs for the new plant can be sooner covered in a larger market.

Last point rises interestingly recently concerning the relationship between trade and the FDI in which, recent studies refer to positive relationship between vertical FDI and trade where fragmentation of production increase the trade of input and goods between countries.

In the other side, duplicating production and setting up new affiliates reduce the trade flow between countries, and this is a promising research field.

In summary, the theory of vertical MNE explains an incentive for companies to separate geographically their headquarters and production activities. The intuition behind theory of vertical MNE is based on factor-price differentials as well as trade costs.

Table 2. shows that differences between country characteristics are the driving force behind this type of FDI.

Company is driven to become vertical MNE when countries are different in factor endowments, and transport costs and tariff barriers must be low in order to make the separation more valuable. The implications of vertical multinational activity are always explained by an absence of FPE.

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<sup>1</sup> Trade creating is caused by extra output produced between countries, which the replacement of the expensive domestic production by cheaper imports (from the affiliates) from more efficient partner country (factor abundant country). Absence of Factor-Price-Equalization (FPE) is a necessary condition between countries.

**Table 2: Conditions for the existence of vertical FDI**

<b>Presence of vertical FDI when</b>	<b>Vertical FDI</b>
<b>Country characteristics</b>	
Absolute market size	Small
Relative market size	-
Relative factor endowment	Different
Trade costs / barriers	Low
<b>Economies of scales</b>	
Company-level	High

#### **4.4 Knowledge Capital Model**

In the previous sections, we presented the theoretical literature describes theories of MNE, vertical and horizontal separately. The KC model results of combining the theories of vertical and horizontal FDI, Markusen et al. (1996) and Markusen (1997) develop the “Knowledge Capital” model. The model nests the motivations behind the MNEs decision or choice, either market seeking that stand behind the horizontal MNE or resource seeking and cost minimization that stand behind the vertical MNE. These motivations are the driving force of the MNE decision to be vertical or horizontal.

The crucial question is how the MNE choice influenced by the main characteristics related. There are two main categories, which determine the MNE decision either for the initial multinational activity, or for the choice of the multinational activity type. First: characteristics of the home and host country such as (market size, relative factor endowments and trade costs (tariffs and transportations), second: company internal characteristics, such as (company productivity, size and age).

Thus, depending on country characteristics both types of FDI can arise endogenously within the single model, but there still need to

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include the companies' internal characteristics, which determine the national company decision. The intuition behind the name "Knowledge Capital" (KC) because knowledge in the model is mobile across countries, and it serves as a joint input to improve the production in the multiple affiliates, independently of the type of FDI, either vertical or horizontal.

Similarly to the basic vertical and horizontal models, the KC model is a two-goods, two-factor and two-country framework which consists of homogeneous and differentiated goods, skilled and unskilled labour, and home and host country. The production of homogeneous goods is under a perfect competition with constant return to scale, and employs only unskilled labour.

The production of differentiated goods is under a Cournot competition with increasing return to scale which consists of headquarters services and production activities. Headquarter services e.g. blueprints, R&D and managerial services are skilled-labour intensive and serve as a joint input to multiple production plants.

The KC-model consists of three company types. One type is horizontal MNE, which duplicates the same activity in the foreign country and benefits headquarter in the home country. The second type is vertical FDI, which fragments the production process and locates the high-skilled labour intensive headquarter in the high-skilled labour abundant home country, meanwhile the low-skilled labour intensive production in the low-skilled labour abundant host country. The third type is companies from the home country, which serve the foreign market by exports. The main results are illustrated in Figure 3, where an Edgeworth box with country endowments of skilled and unskilled labour on the vertical and horizontal axis respectively. The origin of the home country is in the South-West corner and of the host country in the Northeast corner, where the simulation for medium transportation costs. In this situation, vertical FDI is dominating if the countries have different endowments.

Thus, we see vertical FDI in both North West and South East corners. If, in contrast, the countries are very similar, there is no incentive to fragment the production chain, so there is no vertical FDI.

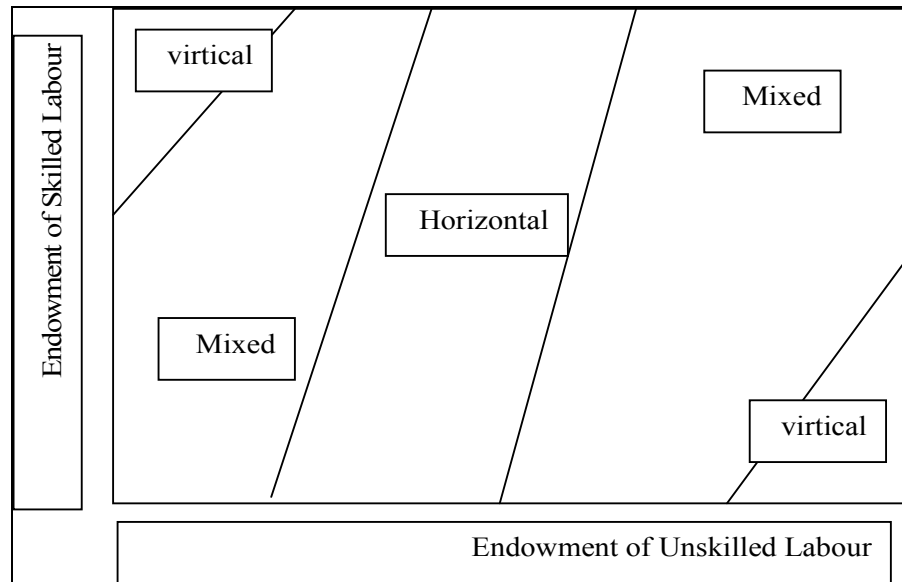


Figure 3: Horizontal and Vertical FDI in the K-C Model

Markusen et al. (1996).

At the same time, in the presence of transportation costs, it is more attractive to produce abroad by horizontal affiliate instead of serving the foreign market by exports. Thus, in the middle area, we find only the horizontal FDI. Meanwhile, the two areas between the presence areas of vertical and horizontal multinationals is the mixed presence of multinationals, and companies serving the foreign markets by exports<sup>1</sup>. Overall, these results are consistent with the previously described models of vertical and horizontal FDI shown and summarized in tables (1, 2).

Theoretical implications of the KC model can explain the multinational activity as a function of characteristics of home and host

<sup>1</sup> Our and other empirical work, confirm that the multinationals presence of both strategies of serving the foreign market (exports and FDI). Therefore, we believe that we should not deal the lines separating the areas of vertical and horizontal, as a clear-cut lines or points. Hence, we prefer to consider these lines as nondeterministic (uncertain) areas, which allow for the presence of the FDI, in addition to exports, Sabra (2011).

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country relating absolute, relative size and factors endowments.

- National company tends to dominate when home country is large and skilled labour abundant; and when home and foreign countries are similar in size and in relative endowments, and have low trade costs.
- Horizontal MNE tends to dominate vertical MNE when two countries are large, similar in size and in relative endowments, and have high trade costs between countries. With respect to this causality, the company chooses to penetrate foreign markets via FDI rather than export.
- Vertical MNE tends to dominate horizontal MNE between high cost country and low cost country (two countries are differences in relative factor endowments), and have low trade costs across countries. With respect to causality, company takes advantages of low factor costs from foreign country and exports outputs back to home country.

Trade costs make horizontal FDI more attractive while they are discouraging vertical FDI. The implications of Markusen and Venables (1998, 2000) particularly illustrate that horizontal MNE will dominate when relative economies of scale at company and at plant level are high. However, they do not attempt to explain differences among companies and industries, in the propensities of company to become MNE. Helpman et al. (2004) a latter attempts to study the effect of the productivity. the model suggests a hypothesis that the more productive companies substitute their exports through FDI, which they found that the less productive company just serves the local market while the more productive company serves the foreign market via exports and the most productive company penetrates the foreign market via FDI. The company internal characteristics impact on the strategy choice decision to serve the market arises as a promising field to understand the MNEs strategy choice of serving the market.

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characteristics will be a good attempt to more understanding about the company strategy, location choice and the FDI determinants.

Both types of FDI have a positive impact on global welfare by avoiding the duplication of headquarter activities, improving the global production efficiency and facilitate transferring the technology to the local suppliers; however, they differ in the impact on wages. Vertical FDI decrease the differences in absolute wage between countries and increase the relative wages within countries. In contrast, horizontal FDI increases the income in each country, without necessarily changing the distribution. Anyway, the relationship nature with the exports shows the impact on the local economy.

As the KC model combines the main features of the vertical and horizontal models, the KC model results fit well and support for the theory of horizontal and vertical FDI results. The same theoretical predicted results in the theories of vertical and horizontal FDI shown in tables (1, 2) get accordance with the KC model results. These results show that the similarity in market size and relative factor endowments with high trade cost support horizontal FDI theory, according the KC model. On the other hand, differences in relative factor endowments with low trade costs encourage the vertical theory of FDI according the KC model.

#### **4.5 Complex multinationals and the third country effect**

Horizontal and vertical FDI are not completely able to explain the company strategy decision under the complex investment strategies. Hence, other interesting theories are the complex integration strategies have initiated a departure from two-country case, putting emphasis on the role of endowments firstly, and the trade and investment costs, secondly, in the rest of the world.

The motive stand behind the multinational company choice of a complex integration strategies which involve greater dispersion of activities that can realize profit maximization under the globalization process. "The complex integration strategies are based upon a firm's ability to shift production or supply to wherever it is most profitable. Under complex integration, any affiliate operating any where may



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perform, either by itself or with other affiliates or the parent firm, functions for the firm as a whole", UNCTAD (1993, p.121).

One of the fundamental theoretical work of the complex integration strategy is Grossman et al. (2003). Their model presents that companies have headquarter in a Northern country supply differentiated final goods to one Northern and another Southern markets. Similar companies must produce a final goods through using an intermediate goods and conducting assembly activities, these activities take place in either the home or the host countries.

Industries are different by the size of the fixed costs of establishing a foreign affiliate for producing the intermediate goods and for assembly, the cost of transporting intermediate and final goods internationally, and the fraction of the consumer demand that resides in the low-wage South country.

For each industry, the productivity determines the organizational forms of heterogeneous companies. If the transportation of intermediate and final goods is costless, (the variable costs), the relative size of fixed costs of establishing an affiliate for intermediate goods and assembly determines the company organizational form, (the fixed cost). So, the relative sizes of the markets don't affect the integration strategy choice, and intra-industry FDI doesn't rise. The low productivity companies choose an integration strategy that minimize the fixed cost of operation, while the high productivity companies seek minimizing the variable costs of serving the different markets. Hence, just in case that transportation costs of the final goods are high, the relative country size is an essential determinant in the multinationals complex strategies, Grossman et al. (2003). Other main studies had the same conclusions such Yeaple (2003). He concludes that the multinationals integrate with a complex horizontal integration from home to another Northern capital abundant country, and with a complex vertical integration to a Southern labour abundant.

Complex vertical MNE tends to dominate in case of total world income is high, or bilateral countries are similar in size, or home and host countries are similar in relative factor endowments, or home and third countries are different in relative factor endowments, or bilateral countries are different in relative unskilled labour and if transport

costs between countries are high.

Finally, the strength of the third country effect depends on a host country's relative remoteness from third markets, Baltagi et al. (2007). Complex multinationals operate plants abroad to serve the domestic market more cheaply or produce locally to save on trade costs, where engage in trade or even FDI with third market, Baltagi et al (2007). Hence, third markets affect bilateral FDI due to their weight (size) in worldwide demand or supply, production cost related, Baltagi et al. (2007).

### **5. Summary and Conclusions:**

This research shows the global trends of FDI in capital movements and multinationals and affiliate numbers. The rapid growth in global FDI as a result of the deep process of globalization, privatization and global reform policies attracting FDI raise the economic discussion about the theories explain it.

The article reviews the main and recent theories of the FDI, and the main existing explanation for executing the FDI, and the motivation behind the different types of the FDI. It focuses on the multinationals strategy decision literature of choosing one type instead of another, and the main determinants influence these decision choices, basing on the different theories. On the other side, it reviews the major country level determinants could affect the raising of each FDI type - or multinational strategy of choosing the FDI type.

This research contributes to the limited literature work concerning this new outstanding area, which discusses horizontal, vertical, Knowledge Capital model (KC), exports platform (third country effect) and the complex multinationals. In addition, it explain the different methods explain and stand behind the FDI types, such as proximity concentration approach and OLI diagram.

This provides an overview and explanation of the theoretical views of the different possible economic variable raise one strategy or another. It also provides reviews of the different determinants and variables applied and derived to carry out any econometric analysis, either at company or country level.

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The horizontal FDI conditions to rise are countries similar in size, and in the factor endowments, and the presence of transportation costs, and economies of scale at the company level.

On the other side, company is driven to become vertical MNE when countries are different in factor endowments, and transport costs and tariff barriers must be low in order to make the separation more valuable. The implications of vertical multinational activity are always explained by an absence of FPE.

The KC model combines the main features of the vertical and horizontal models, and support for the theory of horizontal and vertical FDI results. Similarity in market size and relative factor endowments with high trade cost support horizontal FDI theory. On the other hand, differences in relative factor endowments with low trade costs encourage the vertical theory of FDI according the KC model.

Complex vertical MNE operate plants abroad to serve the domestic market more cheaply or produce locally to save on trade costs, where engage in trade or even FDI with third market. It tends to dominate in case of total world income is high, or bilateral countries are similar in size, or home and host countries are similar in relative factor endowments, or home and third countries are different in relative factor endowments, or bilateral countries are different in relative unskilled labour and if transport costs between countries are high.

Finally, the research shows a new interesting field about the relationship between the FDI and exports, as a company alternative strategies to serve the foreign markets.

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