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Effect of foreign acquisitions on target firms, the Italian case

Relatore: Prof. Luigi Benfratello

Candidato: Juan Sebastian Camacho Romero

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Introduction

One of the global trends of recent years has been the creation of direct channels of information, knowledge, and goods between different units located around the world. The entities responsible for establishing such flows have a principal representative, which is called the Multinational Corporation (MNC); it is a characteristic entity of the current globalization context and market integration. The MNCs motivated by different reasons - they are economical in the case they seek to reduce their costs or performance if they try to improve their production chain - they make investments in other local companies located in countries abroad, a phenomenon that is currently known as Foreign Direct Investment (FDI). Under the assumption that the objective for which an MNC invests abroad is met, how is it possible to identify the effect on companies that remained in a local state and are now transformed into multinationals due to the investment received from abroad?

To establish what is the effect of multinational companies within the country of Italy, this study is carried out, which has as its main objective of this study is to establish the effect on the target companies in the post-phase of an FDI by a multinational company, through the comparison of economic and productivity index. Taking into account the FDI carried out in the period from 2012 to 2014.

The following work is carried out in five chapters in which the reader will find the following: In the first chapter it is established what are the impulses for a national company to seek in its development to expand to foreign markets, in other words, what are the reasons for which a domestic company wishes to become a multinational company. It also includes the mechanism to transform, focusing mainly on investment abroad, a strategy that can be done through acquisitions, mergers, or greenfields. Finally, an economic approach is included, where the determinants of direct foreign investment are explained through microeconomics and macroeconomics. The second chapter explains the current state of investments between companies in the world. First, investments in a global context are described, which have been the trends to date; such as their fluctuations and their explanation, also which are the best-positioned companies in the world according to their capital value and which are the countries that in total handle a greater investment of inward and outward. Then the phenomenon is studied focusing on Europe, which identifies which are the countries with the greatest investment inward and outward, in addition, the current situation in Europe compared to other territories. Finally, within the second chapter, the status of the FDI in Italy is established (country of study).

The third chapter shows the empirical and theoretical results of the FDI. In the first place, some theoretical results are established which must be achieved after an inward investment in a country, but it is necessary to highlight that not all empirical results are corroborated and exact in the results of different empirical studies, at the end of the study which will be fulfilled, and which will not be established. Finally, the empirical results highlighted in different studies in the world are described. Only studies that perform a methodology similar to this work are included.

To achieve the main objective of the work, a methodology is carried out, which is described in chapter four and is divided into three parts: the first is related to the creation of the data set, this mainly describes which are the steps performed and how Zephyr and AIDA databases were used. Second, the Propensity Score Matching (PSM) method is described, how the control group is established that will serve to evaluate the treatment policies and how the matching is carried out with the treated group. To conclude the fourth chapter, it is described how the results of the FDI in the performance of the companies are achieved.

The fifth and final chapter of the work below contains all the results found in the development, contains an analysis with two approaches; the performance of the company in its productive character and its financial status, the two previous approaches will be evaluated in a time period after the FDI phenomenon.

CHAPTER 1

Corporate Growth Strategies

1.1 Impulses of a company to grow

To grow or not grow. A decision that can generate many advantages as risks for a company; However, companies that dont grow are predestined to stagnate in their market or disappear. As Ted Levitt American economist suggests, companies that compete nationally are highly vulnerable to companies that compete globally. However, this concept of growth is related to the size of the company, but there is not exactly a way to define this variable, whereby it had been several quantitative and qualitative methods or criteria have been developed, which are necessary to consider.[1]

This decision to grow by the company must be made with caution because the action represents a series of risks or effects that affect it; therefore, they must be evaluated by the leaders before making the decision.

The decision taken for the company must be backed by compelling reasons, not just for the effort that this requires for the company and its leaders, but as said before, for the risk that this entails and the time it takes to develop and implement.

The possibilities of growth by a company can be divided into three: first, the diversification with the action of penetrating new products, second, integration, and finally, internationalization. These three growth strategies mentioned above will be deepened below. [1][2]

The Diversification is undoubtedly the riskiest growth strategy that a company can take; it consists mainly in the launch of a new product destined to a known old market or an unknown new market, expanding their range of products offered in the market, generating greater participation, if the launch of the product is successful.[2]

Companies identify the opportunity of growth in new sectors where they can exploit their skills and capabilities developed already, these strengths can be classified as key success factors and are a resource that adds value to the final product, allowing companies to be competitive in the market.

Continuing with the possibilities of growth, **the integration** can refer to the action of Make-or-buy? Produce or outsourcing? Mainly related to market transaction costs (to buy) or administration costs by the company (to make).[1][2]

Currently, there are many criteria to evaluate before a company decides to venture to be present in more phases of the value chain of its final product, which is known as integration.

The companies that commonly use the market and buy intermediate products from other companies are based on specific points, such as the possibility of exploiting types of economies that the seller has been able to achieve, whether they are economies of scale, which total costs decrease to greater amount of production, learning economies, which refers to the low production costs due to the knowledge developed and/or economies of scope, referring to the reduction of the average cost of a company in the production of two or more products or services jointly. Other points maybe, if there are low transaction costs and the intermediate products purchased do not generate significant added value to the final products.

The companies that decide to adopt and establish themselves in more points of their value chain are encouraged by other types of stimuli, such as; the importance of the intermediate product due to the ability to add value to the final product, the high transaction costs and the need to keep the valuable information of their value chain secret.

Finally, **internationalization**. This type of growth is a process in which a company manages to cross the borders of its country of origin and is included in other markets in other countries, placing its products and/or operations. There are different types of

internationalization, which are named below: [1][2]

The first is the sale to foreign markets without the presence of assets in these, known as exports, that can be classified as active and passive, depending on the effort of the company to sell its products. The second, the Foreign direct investment (FDI), which refers to the flow of capital for Greenfield, mergers, or acquisitions (This will be the subject of a subsequent sub-chapter so it will not be developed in this). And Finally, the franchises, in which an amount of money is paid for a license that allows you to use the company's know-how and the brand.

Multinational players or companies beat national competitors for two reasons. First, being present in international markets allows access to various types of economies developed by various companies, in addition to new knowledge in production, technology, and/or marketing strategies. Ghemawat is referred to like the benefits of cross-border aggregation. Second, the barriers to exploiting economies of scale and local customer preferences are rapidly disappearing due to the uniformity imposed by technology, communication, and travel. Levitt declares that in the world, consumer trends tend to coincide in the same preferences, increasingly homogeneous.

In a globalized world where there is high competition in the markets, all business strategies, as suggested by Michael E porter, are aimed at creating the greatest value for consumers, measured, for example, as the difference between profits and costs incurred in the production phases. Now, how does internationalization or business growth help create value? What are the benefits or advantages that it generates?

The economist Levitt contributes to this analysis of how companies through growth can generate value in their production chain, which five major benefits were proposed:

Cost Benefits of Scale and Replication, The main source of economies of scale is in product development, this means that in companies where the growth strategy refers to direct investment instead of exports, the main efficiencies of Costs of international operations come from the replication of the assets and knowledge that have been developed already in the home country, which also includes organizational capabilities. The replication of a process in another subsidiary can cost a fraction of what the original cost, as McDonald's has done, developing its business system in the US and replicating until to date in more than 200 countries.[1] Serving Global Customers, in many types of industries, is the main driver of growth is the need to increase the number of consumers to who they can offer their products, increasing market share. This point is related to the growth of turnover, observing it as a phenomenon of income for the company.[1]

Exploiting National Resources Arbitrage Benefits, the growth decision is not just related to production in a fixed place and distribution to different countries, which is known as exportation. There is also the possibility of exploiting the efficiencies or resources of the target markets or countries. The growth also allows foreign companies the opportunities to exploit the resources of other locations, which may be: raw materials, labor, technology developed only in that country or knowledge. For example, offshoring is carried out to find economical production sites or acquisitions of companies already established to exploit the different knowledge available and developed in various locations.[1]

Learning Benefits, these benefits refer to the ability of direct participants to combine or integrate the different types of knowledge that have been developed in different locations, generating new knowledge that generates greater value for the market. According to the latest contributions from the literature, this benefit generated by the ability of multinationals could be the biggest advantage in which companies are focused.[1]

Competing Strategically, multinational companies can aggressively compete in prices with players in the market, through a simple way, cross-subsidization, which is mainly based on the financing of positive cash flows generated in another foreign market. To counter this benefit, there are various types of laws, such as the World Trade Organization's anti-dumping rules and national antitrust laws.[1]

As inevitable disadvantages of growth abroad, we can cite the difficulties of the strategy, such as the uncertainty of the global market, the large investment of human and financial resources, or the complex changes that must be carried out, to face the challenges that propose them new markets.

1.2 Growth Through Investment Abroad, Direct Foreign Investment (FDI)

Foreign direct investment is an investment made by a company in a foreign country other than its country of origin or birth. The resident entity, called a direct investor, is the one that makes the investment abroad stimulated by various interests over an extended time horizon, in a macro way it can be explained in two ways; First, make an investment towards an entity resident in another country, which is called a direct investment company. Second, the possibility of establishing a completely independent property in the foreign economy.

The types of foreign direct investment can be divided into three segments, which are: Mergers, Acquisitions, and Greenfield, which will be explained in more detail below.

1.2.1 Acquisitions

The lasting interests imply a long-term relationship between two units, in addition to a degree of influence by the direct investor in the administration of the direct investment company. Direct investment mainly involves; an initial transaction as a principle of a long-term relationship and subsequent amounts of capital over time within affiliated companies (an affiliated company refers to a direct investment company).

A direct investor is called the owner of ten percent or more of the capital of a company, according to The Fifth Edition of the International Monetary Fund (IMF) Balance of Payment Manual. It is necessary to highlight that only ten percent of the capital does not allow the direct investor to influence the decisions of the direct investment company, its participation in the shares is minimal, which is synonymous with low authority in the decisions. [4]

Taking up the definitions of the participants in a foreign investment where there are capital flows between two existing entities and as previously mentioned; Direct investor and direct investment company, the concept is expanded through the definition of the MFI and the Organization for Economic Cooperation and Development (OECD) as follows: [4]

The direct investor can be an individual entity, a private or public company, a government, a group of individuals, or a combination of the previous ones that have invested through a capital flow in a company located in a country other than the country of origin of the direct investor. While a direct investment company is a company to which ten percent of their ordinary shares or more belong to a foreign entity.

Within overseas acquisitions, two types of companies can be generated, a subsidiarysubsidiary or associated company.

A subsidiary or subsidiary is an incorporated company, in which more than 50 percent of its ordinary shares belong to the direct investor, can be directly or indirectly if it is produced through another subsidiary. Having the power of 50 percent or more of the shares of a company allows you to have full management of the administration. While for the associated company, it is different, since: the associated company still has total management of itself, since only 10 to 50 percent of its ordinary shares are held by the direct investor.

1.2.2 Mergers

The term mergers refer to the operation where large companies go to another company, resulting in the reduction of assets of two or more companies in a single unit and in the merger of shareholders in a single structural organization.

There is a merger if and only if, when a new company is created by two actions: the first, the unification of two companies that no longer exist by themselves or second, the result of a merger by the acquisition of one company to the other. Legally, the first act involves the creation of a new company other than the previous ones and with new consolidated assets, while the second option requires that the acquired company doesnt exist at the time when the buying company incorporates it into its assets. The result is achieved through the exchange of shares since; the shares of the participating companies enter the legal entity of the company resulting from the operation. [3][4]

1.2.3 Greenfield

Greenfield takes place when a new foreign firm is established in the region; it can be establishing new production facilities or expanding existing ones, known as Branch. Examples of greenfield can be carried out when companies perform unbundling of the value chain through offshoring where new company is created. [3][4]

1.3 FDI Determinants

The determinants of foreign direct investment can be grouped into two groups, macroeconomic for determinants that are outside the control of the company and microeconomic, being the opposite case, in control of the company. Keep in mind that you can find microeconomic determinants that could be well classified as macroeconomic and vice versa, but they are presented as follows to give an order to the presentation.

1.3.1 Macroeconomic Determinants

Neoclassic Models

Until the mid-1970s, various authors focused on the explanation of the determinants of foreign direct investment on neoclassical models of capital movements. Based mainly on the premise of; If two countries have the same production function, the most prosperous country will have a lower rate of return on capital; if there are no non-financial trade flows, from there, the capital would flow to balance returns in the absence of trade. In such a way that the greater the level of barriers to trade, the greater the potential flows of capital.

These neoclassical models show that foreign direct investment would result from the differences between the rates of return of capital, that is to say, the investments abroad are observed as international capital movements. [5]

Currently, it has been identified that neoclassical models fail to explain foreign direct investment, since adequately; For the capital movements, too restrictive assumptions are presented, such as profit maximization, perfect competition, price matching between industries and costs of production factors, the existence of homogeneous marginal production and productivity functions of each factor. In addition, the frequent inconsistency with the empirical evidence of the various studies that have been carried out in various countries is added.

Fiscal policy is another macro determinant that is normally included in the determinants of foreign direct investment, due to the opinion of some authors that taxes may affect the investment behavior, but as a partial and not principal determinant.

For example, the study of Ramirez shows how fiscal policy affects foreign direct investment as the size of the country. In the United States, empirical evidence shows that corporate taxes by the recipient country are significant factors for investment flows. The behavior is diverse for the Irish and Spanish cases, where the evidence is ambiguous, and it cannot be concluded if it affects FDI. [5]

It is necessary to clarify that there is no economic model that manages to explain the behavior of foreign direct investment adequately. It should be recognized that a model that can universally explain foreign direct investment is difficult to find, since, each case of foreign direct investment depends on characteristic factors of the location.

1.3.2 Microeconomic Determinants

Continuing with the classification and explanation of the determinants of FDI, it is found that within the microeconomic determinants, there is a subdivision in internal characteristics of the company and those that derive from the oligopolistic rivalry of the industries. [5]

Oligopolistic Rivalry of Industries

To begin to describe how oligopolistic rivalry affects FDI, we will base on four models that exemplify the actions of companies in the dynamics of FDI, also pointing out that there is the appropriation of economic rents by players. The representative models are:

The that starts from an oligopolistic balance, which is lost when a company makes an FDI. This begins a rivalry between the players, giving it a monopoly position in the new market due to new revenues that could generate, and which can subsidize their operations in the home market. After the imbalance in the market for the action of the leader, the other companies act in sub-sequence, looking to create their own subsidiaries within another market. [5][6]

The second model refers to the state of equilibrium in which two players (companies) located in different countries are established as a monopoly. The **exchange of threats** begins and disrupts the balance when one of the two decides to enter the other's market through FDI, the subsequent response of the other company, is to enter the market of the first. [5][6]

Different from the previous ones, the **non-provocative growth model**, starts in the state which a company that is in an oligopolistic equilibrium identifies that it will not be able to grow without breaking the national oligopolistic balance, but they have identified that they can obtain quotes in the abroad without provoking a chain reaction from competitors in the market in which he intends to enter also. This is achieved through small stakes in the foreign market, without alarming competitors.[5][6]

The fourth and final model is based on that FDI is a process of appropriation and conservation of income-based through mergers or acquisitions rather than by completely new investments.

The internal characteristics of companies

The internal characteristics of companies and their influence on FDI can be developed through Dunning's "Eclectic" paradigm and its OLI factors: ownership advantages (O, ownership), location advantages (L, localization), and finally, of internationalization (I, internationalization). The three factors can be seen separately, but the FDI can be explained by a connection between two or three factors together. [1]

This Eclectic analysis is called because each component of the OLI can vary depending on the specific case, another reason of great importance is that it seeks to reconcile ideas or tendencies of different thoughts within the three OLI factors. Therefore, it is necessary to highlight that within each factor, and there are various theories; structured and abundant. The revised theories do not explain FDI at all, but the explanation of the points of the phenomenon has contributed more strongly to the literature. [5]

The eclectic approach follows that it is not enough that the country in which the investment will be made has attractive features that attract the attention of the investor, such as natural resources, labor or attractive markets, it is also necessary that the investment entities are characterized by certain technical skills and resources that have been developed and appropriate, generating high added value to your final products.

Ownership Advantages The essence of FDI seeks control of the operations of the entity in which the investment is made, and this control seeks to extract the maximum benefit that can be achieved. Therefore, the advantages of ownership are those produced by the exploitation of productive assets, whether they are the company to which the investment was invested or the combination with the assets of the investor, for example, a mixture and good deployment between tangible and intangible assets such as; own technologies, organizational capacity or know-how, can generate a benefit as economies of scale. [5]

Companies that carry out FDI seeking to exploit these property advantages will always make their investment over companies in the same sector, with the objective of exploiting the advantage that they already developed in their market in a foreign market or learn and transfer advantage to their market. The investment entity will not seek to radically change its production, venturing into another type of industry.

This advantage also determines the type of investment that the entity makes, whether it will be of a vertical type (to be present in the productive stages of the value chain) or horizontal (to continue in the same general line of goods, which it produces in its country of origin). Empirical evidence shows that companies seek to disaggregate their value chain vertically, placing the production of each stage in a lowercost location. This requires millimeter coordination between each location to offer a high-quality product to the market. [1]

Internalization Advantages The internationalization variable tries to explain why companies are looking for exploiting their advantages or develop them through FDI and not through other market mechanisms, which may be exploitation licenses or even the sale of assets to rival companies. FDI seeks to exploit the benefits of the company, avoiding market imperfections, such as high transaction costs.

To carry out the internationalization of a company based on the possession of a productive asset and its exploitation, two conditions must be terms: first, that the asset can be classified as productive, this means that it meets certain characteristics of value generator in the final product, in addition, it must have the characteristic of transferability, which means that it can be replicated in another location without sunk costs (it refers to the costs of discovery and appropriation in the company). Second, that through the asset, learning economies are developed, seeking that the company that keeps it in property, enjoys certain advantages before the competitors. This allows you to be competitive in the market and counter the foreigner's disadvantage. Thus, companies seeking internationalization seek to transfer their advantages to other countries, replicate them, and continue to exploit them elsewhere. [5]

The foreign direct investment could be avoided in the case of which; First, if the transaction costs are low (Costs for contract compliance, transaction costs, and cost of tariffs) and property protection is safe. Otherwise, companies will choose to make foreign direct investment, thus protecting their property and avoiding high transaction costs.

Localization Advantages The element of the OLI, localization refers to the advantages of the countries of origin as of destination, in order to establish whether companies will supply the market through trade (exports) or local production (FDI).

This approach leads to investments abroad based on defensive aspects to protect monopoly rents. The above can be explained according to the theory of the product life cycle of Vernon (1996), which is based on three stages. The first phase of development or introduction is characterized by uncertainty regarding the technology; therefore, a high degree of flexibility is required. The company is located as close as possible to the consumer (in a way to quickly import any action) or to the supplier (in a way to quickly adapt the product or process). Then, in the second phase, the growth stage, a standardization of the product emerges, which generates a spread of technology to other countries that are used by the competition. Finally, in the maturity stage, where competition is based more on marketing techniques than on product differentiation through technology, it becomes crucial to generate economic returns, taking into account production costs and seek to diminish. This produces FDI in countries with low-cost resources. [5]

Not all the benefits that a location can provide are related to low costs. There are other factors such as the availability of skilled and skilled labor, the size of the market, the per capita income of the country, political uncertainty, adequate infrastructure, or price elasticity demand.

Considering which are the determinants and foundations of foreign investment, from one country to another and what are the possibilities and methods of investments abroad. It is necessary to highlight and describe that it is a Multinational Corporation (MNC), the main entity that is responsible for carrying out these international transactions, crossing borders, and creating an international market through the capital movement.[6]

1.4 Multinational Corporations (MNCs)

A multinational company is the most striking contemporary representation of market integration and globalization. These entities are responsible for activating the internationalization market, through the movement of capital through national borders, from one place to another, or rather, from one country to another. In addition to boosting the international economy, MNE According Goldstein and Piscitello are entities associated with offering the worst work environments for their workers, being a representation of tax evasion, and generating a high environmental impact due to the contamination of their production. [6] There are several conceptions about when to classify a multinational company, according to Vernon, a company is multinational when it has at less of six subsidiaries abroad, each in a diverse country. For Charles-Albert Michalet, it must be a company of notable dimensions (large companies with more than 250 employees) and that has established subsidiaries in countries other than their country of origin, based on the latter definition of multinational (more accurate according to the current conception) the proposal made by the United Nations Conference on Trade and Development (UNCTAD) is added, which declares that a multinational is a company that maintains a participation of a company located abroad of 10 percent of its ordinary shares and that has the power to exercise some control over is. It is not necessary a minimum level of sales or exports, nor a quota in the stock market.

The MNE have come to develop an important economic power over the world economy, clear identifiers of this are that they generate income higher than the GDP of different countries or manage budgets larger than some small countries. This allows us to generate an idea of the importance of these players in the international dynamics of capital movements and market developments.

According to the stock market capitalization (How much does the company cost in the stock market) of the companies, the 100 largest multinationals in the world were classified. By countries, the United States is still home to more than half of the largest companies in the world, accumulating 53 of the total, mostly occupying the first places. China has 11 companies, occupying the second place, while the United Kingdom occupies third place with a total of 9 companies. On the part of the European Union, the country with the largest number of multinationals is France, with 3 of the total. Italy currently does not participate with any company in the ranking.

By sectors, we find that 65percentage of large companies meet consumer, financial, or technology needs. The largest sector participating in the ranking is the consumer sector (Separated in basic and non-basic) with 26 companies of the total. The second place is in the financial sector with 21 companies, and finally, we find the technology sector which has grown in recent years and today has 18 companies in the ranking. [8]

CHAPTER 2

Dimension of the FDI phenomenon

2.1 Dimension On The Global Phenomenon

The importance of foreign direct investment (FDI) as a source of momentum for economic activity has increased rapidly in the last decade. Between 2000 and 2016, the share of FDI stocks in world GDP increased from 22percentage to 35 percentage. Mergers and Acquisitions (M&As), which is the most dynamic component of FDI has recovered, reaching a record value of USD 1.2 billion in the first quarter of 2018.



Figure 2.1: Foreign Direct Investment (percentage of GDP). Source: [9]

As can be seen in figure 2.1, foreign direct investment has had a growth behavior over the years, reaching its maximum value in the years prior to the great recession due to the global economic crisis that began in 2008. The capital movement did not recover until 2010 when it has been reaffirmed with increasing behavior to date.

The FDI's behavior is expected to develop as follows, larger FDI inflows for developing economies and transition economies and lower for developed economies and a larger FDI outflows for developed economies and lower for developing economies, the above mainly due to the conception that companies make investments abroad looking for lower production costs. But according to the evidence table 2.1, the behavior of the FDI inflows is different from the statement made earlier. It behaves differently because multinationals not only seek to reduce costs, as explained in the previous chapter, there are several value factors that can generate a capture of these investments by companies in a country.

There is a clear difference between total values by different economies, developed economies have the first place in foreign investment collectors with a value above \$1000 billion compared to developing economies, multinational companies are looking for lower prices, but to a greater extent, they are searching of technology and knowledge. There is an even larger gap for FDI output, but it is basically summarized that multinational companies in developed countries have more capital to make investments table 2.1.

| Economies | FDI Inflows (Billions) | FDI Outflows(Billions) |
|----------------------|------------------------|------------------------|
| Developed economies | \$2986 | \$3258 |
| Developing economies | \$2085 | \$1221 |
| Transition Economies | \$147 | \$46 |

Table 2.1: Total Inflows and outflows FDI by economies (2015-2017). Source: [10]

Figure 2.2 shows the countries that capture a direct foreign investment worth more than \$1 Billion. In the top 15 of the countries with the largest FDI inflows is the same countries that have in their territory the 100 largest multinationals in the world. Topping the list is the United States again with an FDI inflows value of \$274.4 Billion, second is China with a value of \$136.3 Billion with approximately half of the total FDI that captures the United States. Other countries that are in the ranking are Hong Kong, Brazil (An unexpected value for the country located in Latin America and belonging to BRICS), is followed by Singapore, and fifth place is for the country of the European Union, Holland. Other countries of the European Union are in the ranking, France with the seventh place and Germany with the 13th place.

Another important variable to note in figure 2.2 is related to the geographical extension of the countries and the amount of foreign direct investment they receive, observing the figure, it can highlight that the investment received is greater if the extent of the country is greater. The countries belonging to the BRICS group are characterized by having an extended geographical dimension and are currently capturing 20 percent of foreign direct investment in the world. The above can be corroborated in the graph, where: Brazil, China, Russia, and India exceed the sum of \$20 billion in FDI each. South Africa can be noted as an exception to the rule since it barely receives \$1.3 billion of FDI, but this exception to the rule is related to the fact that in all countries of the continent of Africa, the participation of foreign investment is almost nil compared to other continents. The country with the largest FDI in the continent of Africa is Nigeria, with a value of just \$3.5 billion.



Figure 2.2: What Countries Attract the Most Foreign Direct Investment?. Source:[11]

According to the World Investment Report made by UNCTAD, a conception of the preference of FDI projects can be generated, whether M&A projects or Greenfield projects. For 2016, the investment in M As projects was \$887 billion with a quantity of 6607 projects, while for the FDI in Greenfield projects the value is \$883 billion with about 16000 closed projects, almost three times the quantity of projects of mergers and acquisitions for the same year, this allows us to conclude that carrying out Greenfield projects is cheaper for the investor. The behavior of the year 2017 is similar, and a preference towards Greenfield or MA projects cannot be concluded since about 16000 Greenfield projects with a value of \$720 billion were made against 7000 MA projects with a value of \$700 Billion. There is no marked trend on the part of investors, but there is a clear example of the low costs of Greenfields projects compared to acquisitions and mergers.

As with the preference for the type of project, it happens with the preference for the investment sector, there is no clarity on which sector is most appearing by investors, according to figure 2.3, there is a clear dispute for the first place between the manufacturing and services sector, while the primary sector is the least desirable sector, always below in value of the investment of the manufacturing and services sectors by approximately \$200 billion. As it happens between the preference for the type of FDI in relation to the number of projects and their cost, it happens between the services and manufacturing sectors, although the value of the investment is similar for both sectors, the number of projects that have materialized with that money is greater for the service sector than for manufacturing. For two years, more than twice as many projects in the service sector materialized in comparison with the manufacturing sector. On the other hand, in Greenfield projects with the same value in money, the same number of projects have been materialized for services and manufacturing.

The industries with the highest FDI uptake in M&As projects are: Chemicals and chemical products, business services, food/beverages, and tobacco and finance, while for Greenfield projects they are: Electricity, gas and water, business services, motor vehicles, and other transport equipment and construction.



Figure 2.3: Foreign Direct Investment by sectors (value and number). Source:[10]

2.2 Dimension On The Europe Phenomenon

The European Union since 1985 figure 2.4 was positioned and maintained as a location of great importance to receive direct foreign investment, but in 2006 this participation decreased by almost 10percentage. The decrease was mainly due to the effect of the importance as an FDI destination that the emerging economies have developed (EMEs), this means and as seen in the graph; by 2013, EMEs captured more than 50percentage of the total global FDI, replacing and decreasing the participation of developed countries and, consequently, the European Union.

During the period from 2003 to 2015, in terms of the value of the investment, the FDI intra-European flows are 50percentage higher than the FDI extra-European flows. Intra-European flows refer to the investment of a European country to another European country, while an extra-European flow refers to the investment of a foreign country outside Europe to a European country.



Figure 2.4: Outward foreign direct investment by origin. Source: [12]

The agreements produced in the European Union by the countries belonging to it generate that Europe is a continent where development takes place through collaboration between neighboring territories. As seen in figure 2.5, the FDI for M&As and Greenfield have a greater origin in European countries. In conclusion, approximately 60percentage of the projects generated by FDI are generated by a European investor in the period from 2003 to 2015.

The European multinationals in the period from 2003 to 2015 have carried out nearly 76000 direct foreign investment projects through intra-European flows, with a total value of approximately \$4000 billion, of which 71percentage were directed towards MAs and 49 percentage remaining towards Greenfield projects. It is necessary to point out that the FDI intra-European has a greater economic impact than the FDI extra-European. [13]

During the period from 2013 to 2015, the service sector received 55 percent of the FDI intra-European projects; the second place was the manufacturing sector with a 35 percent presence and the last place for the primary sector with 10 percent. The uptake by sectors in Europe has a defined behavior compared to the general average behavior; the service sector receives a greater contribution to its development.



Figure 2.5: The FDI in Europe by origin 2013-2015, billion of euros. Source [13]

The UK, Germany, Italy, Spain, the Netherlands, and France are the countries with the greatest preference by European investors, being the countries with the highest intra-European FDI value received in Europe. The only UK receives 15 percent of the total of this type of investment, and the six countries together receive almost 50 percent of the total value, and in terms of the number of projects, it approximates value of 45 percent.[13]

The origin of intra-European investments comes from a small group of countries; The UK, France, the Netherlands, and Germany are the origin of 49 percent of the number of FDI intra-European projects with 54 percent of the total value.[13] The level of restrictions on the part of the recipients for the FDI inflows can be seen in figure 2.6. In the case of the European Union, it has the lowest average taxation; in macroeconomic determinants, it was explained as fiscal policies they can attract greater FDI. Countries such as Greece, Germany, Spain, the Netherlands and, to a greater extent, the Czech Republic, Portugal, and Luxembourg, are locations that offer investors a great advantage since they are below the lowest average taxation.



Figure 2.6: Europe restrictions on inward FDI in 2016. Source: [12]

There are currently factors that can change FDI flows in Europe. For example, the case of Brexit, which can generate an important and crucial impact on the behavior of the FDI in Europe, since it could generate a relocation of the FDI that captures the UK. Leaving the European Union also means eliminating the macroeconomic benefits generated by this union, therefore many multinational companies will seek to relocate to a country that still belongs to the whole in search of being able to continue enjoying these benefits. The benefits are related to the fiscal policies enjoyed by the countries of the European Union in their internal market. Currently, the UK receives 30percentage and 15percentage of the total value of FDI extra-European and intra-European respectively.

2.3 Dimension On The Italian Phenomenon

The behavior of the FDI entering Italy is like the behavior of the FDI in Europe in general. A stable trend with little growth until 1999, then comes an exponential growth until the great crisis of 2008 and finally an unstable behavior with little growth (figure 2.7). As explained in the European phenomenon, emerging economies have displaced some developed economies, appropriating FDI flows. One of the reasons, because Italy was affected by the global crisis, was because the US investment bank Lehman Brothers declared bankruptcy on September 15, 2008, causing millions of layoffs, evictions, bankruptcies, and economic paralysis. [14]



Figure 2.7: Foreign Direct Investment, net inflows (% of GDP). Source: [9]

According to the statistics of the Santander bank of 2017, the main foreign investors in Italy, are also countries that are within the continent of Europe, the first place in the list is the country of Luxembourg with 37 percent of the total value, continues Netherlands with 19 percentage, third place in Switzerland with 15 percentage and fourth place is for Germany with 12 percentage. It is followed by other countries with a smaller share, but always within the continent, this suggests that Italy is home to large multinational companies in Europe.[15] The main sectors that attracted the FDI projects in Italy for 2017 can be seen in table 2.2. Unlike the behavior of Europe in general, Italy is attractive abroad for its manufacturing sector, since this sector received close of half of the total incoming FDI.

| Main Invested Sectors | 2017 (percentage) |
|--|-------------------|
| Manufacturing | 41.4 |
| Wholesale and retail trade; repair of motor vehicles and motorcycles | 16.8 |
| Financial and insurance activities | 12.7 |
| Mining and quarrying | 10 |
| Real estate | 5.1 |

Table 2.2: Main Italy invested sectors in 2017. Source: [15]

Italy currently offers different investment opportunities for different types of industries, which can be attractive to investors or multinationals. Italy has a wide presence in the Aerospace Industry, in which it is a leader in helicopter production and has a partnership in a project for the construction of an international space station, among many others. For the automotive industry, Italy is distinguished by its designs, technologies, and skills, produced by its advanced research centers. It also has a strong presence in the development of new technologies such as nanotechnology, biotechnology, high technology products, among others. [15]

These are new opportunities in which Italy has established a competitive advantage, due to added value that gives to the final product, is a great opportunity for the country to first attract more direct and second foreign investment for multinationals in the possibility of acquiring knowledge through means of intervention in national companies. It is necessary to remember that one reason for a multinational company to decide to carry out an FDI is to create a channel between the different subsidiaries in which the flow of information and knowledge is continuous.

The distribution in the Italian territory of incoming FDI in Italy clearly reflects the structural imbalances of the Italian economy. The weak areas of the country continue to be affected by the lack of a strategic vision of its territory by the Italian government to support its attractiveness and boost its development. Delays in the south of the country in infrastructure (physical, financial, and technological), in key factors such

as capital (human, technological, and innovative) and conditions of insecurity, make it difficult to create a new business. As proof of the above, figure 2.8 shows that most FDI projects are established in a few regions of the country and all located in the north of the country.



REGIONAL DISTRIBUTION OF ACQUISITIONS

Figure 2.8: Regional distribution of acquisitions in Italy. Data from 2006 to 2011.

CHAPTER 3

Theorical and empirical effects of foreign direct investment (FDI)

Foreign direct investment involves the transfer of financial capital, technology, and other skills (management, marketing, accounting, etc.), as seen in the various studies so far. Currently, the result of the FDI process is not a zero-sum game; both actors within the process (investor or the receiver) must believe that the benefits for them will be higher than the costs that they must bear; otherwise, an agreement and the project would not start. However, believing in something before carrying out the process does not guarantee that it will materialize in the result.

The effects of direct foreign investment can directly affect the two companies which carry out the project. Still, it can also affect the host country, which is the country where the company that captured the investment is located.

The result of the FDI process generates benefits for the parties involved. However, it is not qualitatively clear what the costs are and what benefits both parties enjoy since they depend on various factors involved in the project. The objective of this chapter is to establish what are the theoretical results in which the FDI should end and show what have been the empirical results that have been found so far in different locations. In other words, what happened in the post-phase?

3.1 Theoretical Effects Of Foreign Direct Investment (FDI)

The economic effects of the FDI can be classified between microeconomic variables (market structure) and macroeconomic variables (in the balance of payments). While the classification varies if the host country is taken as a reference, which are: economic, political, and social. The following describes the theoretical economic effects produced by direct foreign investment.

3.1.1 The provision of capital

This FDI effect is related and qualitatively evidenced to a greater extent to the host country, which is the entity that hosts different FDIs delimited in a territory.

Normally, the two-gap model is used to represent in the development economy how developing countries face the problem of increasing their savings to meet their investment needs, in addition to de-financing imports through export earnings. The first problem arises from the saving gap (the difference between investment and savings), while the second problem arises from the exchange gap (the difference between imports and imports).

It is currently argued that the FDI contributes to filling these two gaps, due to the following behavior: (i) multinationals corporation (MNC) have access to financial markets; (ii) the FDI of a specific multinational involved in a particular project may encourage other multinationals to participate in the same project; (iii) the action can encourage the flow of official aid for the development of the investor's country of origin and (iv) by offering local attractive investment opportunities, the FDI mobilizes domestic savings. From the above, we can conclude that the impact of the FDI on the number of capital flows to developing countries is generally positive since it leads to an increase in the entry of financial resources available for investment.[16]

3.1.2 The effect of FDI on output and growth

The effect of the increases in output and growth can be measured individually for each company that has received FDI, while for the host country, it is measured as an accumulation of the total production within its territory. This effect is considered more important for developing countries, where there is the premise that investment is a means to boost economic development.

The incremental effect of output can be basically described as an increase in demand for target companies due to the new reach to foreign markets. The impact measure changes depending on whether the project is related to M&A and Greenfield; for the first, the growth will be greater compared to the second.

The quantitative measure of growth is difficult to measure since it depends largely on the macroeconomic policy in operation in the recipient country. In general, the FDI can have an impact on the production and growth of the country, if the policies within it are aimed at absorbing surplus resources and improving efficiency through alternative allocations.

There are also arguments to justify that the dominance of a developing economy by a multinational could be detrimental to growth and development, for three reasons primarily. First, the rate of accumulation of the host country may decrease; a proportion of the benefits produced by the activity carried out within the country could be distributed instead of reinvesting it in the territory. Second, the presence of various multinationals in the host country could generate undesirable practices in the market or weaken control over economic policy. Third, multinationals could become entities like a monopoly, producing a less competitive market.[16]

3.1.3 The effect of FDI on employment and wages

There is a direct relationship between investment and employment, but this relationship, as above, is conditioned by three main problems. First, the level at which the FDI replaces the national investment, second, as the FDI stimulates the increase in exports and third, if the FDI involves the construction of new facilities or simply the acquisition of existing facilities.

Considering the above conditions, the effect of direct foreign investment on these variables can be summarized as follows: the FDI increases employment directly, if the investment is made through new facilities (Greenfield), also directly but to a lesser extent for M&A or indirectly stimulating employment in the distribution. In addition, it can preserve employment if the objective is to acquire a company and restructure it in a period of crisis. Not only the effects are positive in the economy of the host country, but it can also be negative if the FDI leads to the closure of production facilities.[16]

3.1.4 The balance of payments effect

The effect on the balance of payments is easy to identify due to its quantitative measure, in short, the investing country faces a sudden deficit when the FDI occurs, while the host country faces a perpetual deficit as a result of the division of profits. The effect cannot be considered negative since, an FDI profitable success project with distributed profits, must result in a larger balance of payments output than a locally funded project.

The effects of the balance of payments take two forms and can be seen in two different times, the first, which is considered the initial effect, improve the capital account of the host country by the value of the investment, without the value of any Imported machinery. The second, considered as a continuous effect, is the effect produced over time by the behavior of the FDI within the country. The latter is considered the most important of the two.

The effect of foreign direct investment must be studied in terms of (i) the absorption of the factors entering the country in the production process; (ii) the proportions to export and domestic consumption; (iii) how the value of the production is divided between the taxes of the host government, the factors of entry into production and finally the retained part.[16]

3.1.5 The effect of FDI on productivity

The productivity variable increases and the marginal cost of production decreases if the FDI increases exports to the great markets of the world and if the political conditions allow the installation of plants designed to achieve full-scale economies.

The effect of the FDI on productivity is also relational to the effect of the diffusion of technology, which will be described in the following point.[16]

3.1.6 FDI and technology

Technology is currently considered as a vital resource for economic growth, capital increase, deals, changes in the organization of the company, and relationships between them. The technology studied as an affected variable after FDI projects are of great importance and have been a central issue in the discussion of the effects of the expansion of MNCs.

The materialization of the positive effects related to technology depends in general on how foreign technology is transferred to the host country and how it is absorbed by it.

Searching positive effects related to technology, there are guidelines directed to multinationals for decision-making about the FDI, which are: (i) ensure that the activities are compatible with the technological plans of the host countries, especially with the target companies; (ii) establish a channel that allows the rapid transfer and diffusion of technology; (iii) meet the needs of the local market, in relation to technology; (iv) technology licenses on reasonable terms and conditions and (v) foster relationships between local companies and universities for the study of new technologies. The effects on the technology can be classified as direct and indirect, the direct ones are related to the channel between the target company and the multinational company, where one of the two transfers knowledge and technology directly to the other. While for the indirect or normally called spillovers occur in the following ways: (i) transfer of labor from the target companies to local companies; (ii) through technical assistance and support to suppliers and customers; (iii) reverse engineering, produced through demonstration in local companies on issues of technology choice and management practices.

Despite the efforts of international entities to establish guidelines for FDI by MNCs, these entities do not meet all the requirements, causing negative impacts on host countries.[16]

3.1.7 FDI and training

After establishing an FDI project, training becomes a sunk cost. Employees must acquire the skill and knowledge to use the new technologies that are transferred from the post phase to the FDI. One of the purposes of multinationals is to use local market employees to a greater extent, due to lower production costs or even due to political pressures.[16]

3.1.8 Other effects on the market and industry structure

Foreign direct investments can influence the host country industry by generating a greater amount of inter-industry linkages. Establishing subsidiaries of multinational companies also produces an increase in relations with local companies, due to a dependency between inputs and outputs between different companies.

If there is an increase in demand for subsidiaries due to foreign trade, a whip effect is generated among companies belonging to the value chain. New linkages can also be produced if the project refers, for example, to a greenfield, where the new company requires inputs that can be provided by local companies. The FDI could also be responsible for increasing rivalry in the market or worsening oligopoly or monopoly situations already present in the market. The result can be positive or negative, depending on the behavior of the multinational in the local market. The following describes the appropriate behavior so that the results of the FDI in the market are positive: (i) not making agreements contrary to competition, such as pricing; (ii) the actions of the multinationals must be aligned with local competition laws and (iii) constantly cooperate with the competent regulatory authorities.

The adequate result of the FDI would be an increase in a rivalry in the local market, with an improvement in the performance of the state prior to the FDI.[16]

3.2 Performance Measures And Empirical Evidence In The Post-Acquisition Phase

After describing the current situation of incoming FDI in the world, starting with a global framework and ending in Italy, the country of study, the objective of this section will be to expose the results of the different empirical studies that have been developed on the post-acquisition or post-integration phase, mainly in the productivity variable.

3.2.1 Why labour productivity

Productivity is the measure of how in certain production, the inputs are being used in relation to the number of outputs, based mainly on a classic diagram of inputs-outputs, as can be seen in the next representation. It is necessary to clarify that productivity has in only the factors that are used directly in the production of a good or service, can be; workforce, raw materials, energy, etc.



Productivity since an industrial point of view can explain why some of the best companies in developing countries are not competitive in quality and price in international markets. Productivity has allowed countries like the United States the ability to produce more goods and services through more efficient work and not through longer work time.

When foreign companies decide to enter a local market, they are expected to carry capital and other intangible assets; in addition, and consequence, the productivity of the companies could increase. The result is not immediate and requires a joint work, while two goals are reached; the first, that the workers acquire the knowledge already developed by the investing company and second, the adaptation of the production form of the multinational companies to the local company. The improvement of productivity requires, according to empirical and academic, studies investment in education, training, knowledge, research and development.[17]

3.2.2 Results of empirical literature on the effects of post-FDI phase around the world

Currently, there are several academic studies that evaluate the impact of foreign direct investment (FDI) on the target companies, which are carried out through comparisons of various productivity and financial indices between companies acquired by foreign units and domestic companies (National companies).

For example, the case of China, mainly the study conducted by Wang, which has the main objective to assess whether the FDI can improve the performance of the target company. The evaluation is carried out through the difference-in-difference method, comparing the companies acquired by a foreign entity (Treatment Group) with the companies that have not been acquired by foreign entities (Control Group). In order to eliminate variations due to the random selection of the control group, the Propensity Score Matching (PSM) method was performed, resulting in a control group with characteristics like the treated group. The study was carried out with a dataset in a period between 2001 and 2007.[18]

Two control groups were considered, the first; they are the domestic companies that have been acquired by another national entity, and the second; domestic companies that have not been acquired by any other entity. The variables chosen to match the groups through the PSM method are: Total Factor Productivity (TFP), employment, the real wage, firm age, the real capital per worker, exporting status, a dummy for state-owned or collectively owned enterprises, the leverage ratio, the liquidity ratio, export status and, according to the conclusion of the study conducted in France by Blonigel, which declares that domestic firms attract investment from abroad when they have an increase in productivity; the productivity growth rate variable is added.

From the results of the PSM method, it can be concluded that a high level of productivity, employment, real wages, and real capital per worker can significantly increase the likelihood of a foreign company makes a direct investment over a local company while the age of the firm, government ownership, and leverage ratio decrease the likelihood of a firm being acquired by a foreign firm.[18]

The evaluation of the performance of the companies post-acquisition phase was carried out through two approaches; productivity and financial. In the results on the comparison in the productivity approach, it was found that the companies treated on average increased their TFP by 6.2 percent relative to domestic-acquired enterprises, while for the subsequent two years, the increase is insignificant, and there is not enough statistical significance to conclude it. This result differs from the study conducted by Arnold and Jovorcik, in which they concluded that companies acquired abroad in Indonesia continue with an increase in productivity of almost 13.5 percent until the third year after the acquisition, a result like that obtained by Yasar in the country of Turkey. The results are different in comparison with the control group of domestic firms without acquisition, in which a growth during the three years of productivity is identified, from 8.1 to 9.6 percent.

Two other productivity measures were considered; gross output per employee and value-added output per employee, but the evidence is weak because the estimated coefficients do not have enough statistical significance to be able to conclude from it. According to the previous results, there is insufficient evidence to conclude that the increase in the level of productivity of foreign-acquired firms is due to the FDI since; firms acquired by a national company also show an increase in this variable.

According to the literature, the productivity factor of foreign-acquired firms is expected to increase significantly compared to domestic companies, for this case the result differs because the labor input factor for domestic-acquired companies remained constant, while for the foreign-acquired firm there was an increase, considering that for both the capital input factor increased. Another reason may be related to the sunk costs of entering the foreign market, which could consequently reduce the company's investment in other aspects, such as investment in R&D, which is a direct cause of the company's productivity.

For financial results, the average leverage ratio of foreign-acquired firms decreases compared to domestic-acquired firms in the three years following the investment. The difference remains around 2 percent. Improvement results were found in companies acquired abroad in the variable liquidity ratio, where it increased since 2.7 percent for the first year to 4.1 percent in the third year. In conclusion, the FDI allows firms to reduce their external financing and increase internal capital, which is related to the result found by the study conducted by Alfaro et al., in which it was concluded that the FDI in developed country economies produces a benefit for its economic growth.[18]

Currently there are various methods to evaluate the productivity of a company, various index with accounting values of the company or can even be measured through economic models, such is the case of the Cobb-Douglas production function, which is an approach Neoclassical to determine the production of a company based on capital inputs (K) and labor (L). Menbratie used this model to empirically evaluate the productivity of companies in South Africa under the assumption of a non-linear relationship between inputs and outputs in the productivity of a company in relation to the FDI; the result was a Log-Log type. [19]

According to the Menbratie study conducted in South Africa through a metadata analysis from 2003 to 2007, which analyzed the change in labor productivity and spillover effects produced after foreign investments, it was found that there is a positive relationship between FDI and labor productivity with a statistical significance of 10 percent. According to the estimate of POOLED OLS, productivity in South The effect of direct foreign investment on the productivity of local firms is usually analyzed in the literature based on the amount of labor, capital, and technology used in production. Other authors add other factors that can affect labor productivity, such as the price of labor, capital cost, energy cost, among many others that are necessary for the company production. Menbratie showed that using the annual total salary paid by the companies, as a price of the factors of production, does not affect the results to the previous models in which this variable had not been used. This allows us to conclude that the amount of salary paid by companies in South Africa does not affect productivity to any extent.[19]

The effect is the same for Central and Eastern Europe since Bijsterbosh and Kolasa, through a study carried out with data from the central bank of Europe from 1996 to 2005 shows that labor productivity is positively affected with an acceptable statistical significance. The results through different regression models imply a long-term semielasticity of the level of productivity with respect to the share of FDI between 0.2 and 0.9 (with a significance of 1, 5, and 10 percentage). [20]

The result of the model in Central and Eastern Europe suggests that the productivity of companies increases if the distance with the technological frontier is not too large, this means that there should not be a wide gap between the technology that companies have before the investment and the technology offered by the multinational. In relation to the above, on the absorption capacity by the subsidiary, the interaction between human capital and the FDI was added, giving a significant positive relationship result.[20]

3.2.3 Performance measures and empirical evidence in the post-acquisition phase

Benfratello's study, which carried out the analysis of 224 manufacturing companies in the period corresponding to 1989-1997 through financial indexes such as Return On Investment (ROI), Return On Equity (ROE) and Return On Sales (ROS), allows establish how is the current state that can characterize a company before an FDI in Italy. The performance of the target companies before receiving a direct foreign investment for this study can be described as deficient, which can generate the idea about of because the owners decide to sell it. The result of the after-sales analysis can be reduced to the same poor performance by the target company, even though the evaluation was carried out four years after the FDI, which would be enough time to observe the results of the new management. [21]

If the object of study of the post-phase of FDI are variables of productivity or productivity in general, the Italian case shows through its empirical studies the same behavior of studies conducted throughout the world.

The study conducted by Piscitello and Rabbiosi (2010) in which an analysis of the change in productivity of the target companies was carried out after an M&As process in the period 1994-1997, concluded that there is a positive relationship between the increase of the productivity due to an M&As, all the results with an acceptable statistical significance. The above was carried out with an econometric model based on the Cobb-Douglas production function, to which a logarithmic transformation was applied.[22]

A conclusion by Piscitello and Rabbiosi to underline is in relation to the result of the study with the provenance of the investment if the investment is made by another local firm, the change in productivity is not noticeable, while if the investment comes from abroad (FDI), the productivity change is identified. The results also show the possibility that productivity improvement is the result of good management and rationalization of inputs.[22]

Finally, the study conducted by Di Gianfrancesco, which conducted a study of 50 companies during the years 2006 to 2008 comparing productivity and financial indices among foreign-acquired firms and Control Group, found that; for the financial indices before FDI and after FDI performance does not change much and It is similar to the performance of the control group (Companies that did not receive FDI), while for the productivity indices, the FDI capturing companies were always above the companies of the control group. The control group was matched with the foreign-acquired firms through Propensity Score Matching (PSM). [2]

CHAPTER 4

Data extraction and econometric analysis methodology

4.1 Data Set

The general objective of the study is to evaluate the impact of foreign investment on the target companies (Companies that received investment) through the performance of productivity, in the country of Italy.

The data used in this study are of two types: data related to all investments made to Italian companies (target companies) and the accounting and productive data of the target companies and the control group companies.

The first step to be carried out is to identify the interval time in which the analysis of the impact of foreign direct investment (FDI) will be carried out, seeking to continue the work of Di Gianfrancesco, it is decided to work with the period since 2012 to 2014. After defining the window time to study, the extraction of all Italian companies that received FDI through the Zephyr database is carried out. Zephyr contains information on Mergers and Acquisitions (M&A), Initial Public Offering (IPO), private equity and venture capital deals, and rumors of the Europe companies. The result of the first extraction yielded 474 companies that completed an agreement during the period, in table 4.1, you can see the types of deals made with the corresponding amount in the chosen period.

| Deal type | Number of operations |
|--------------------------|----------------------|
| Mergers and Acquisitions | 234 |
| Capital Increase | 15 |
| Institutional Buy-out | 34 |
| Joint Venture 100% | 2 |
| Management Buy-out | 1 |
| Minority Stake | 188 |

Table 4.1: Number of operations by deal type.

After the first extraction, two data cleaning were done, the first is related to what type of agreement will be analyzed, and the second with what type of sector will be made.

Only companies in which investors held 50 percent of the number of shares or more were taken into account, since; maintaining this shared value gives the investment company the economic and action control of the target companies, not only is important the amount of the investment, it is necessary that there is a full participation of the investment company for the transfer of technology and knowledge to the target company. In addition, only companies in the manufacturing and primary sector were considered, according to the diagram of inputs-outputs, it is more appropriate to measure the productivity variable for companies in these sectors due to the quantitative identification of inputs and outputs. The result after the first and second debugging leads to a result of 120 companies.

The next step is to extract from the AIDA database, which by its acronym in Italian is "Analisi Informatizzata delle aziende italiane," which collects complete information about Italian companies, with a history of ten years. The companies resulting from the previous steps were searched, and 112 companies were found out of the 120. To which all the available information of the ten possible years was extracted according to the identification provided by Zephyr, Target BVD ID.

The analysis for the Italian companies will be carried out using data before the acquisition to know the current state of the company and data after the acquisition to identify the effect of the investment. It was decided to carry out the evaluation with a time window of three years; this means three years before and after the investment.

After finishing the process of building the database of the target companies, the following operation was carried out; the year in which the investment in the company was made is considered as year zero or as an index the position t, three years ago corresponds to t-3 and three years forward t + 3, for example, a company that received investment in the year 2012, t would be equal to 2012, t + 3 would be the year 2015 and t-3 the year 2009. The above allows us to evaluate the change in productivity over time, based on the same timeline for all businesses. The summary of the construction of the database can be seen in figure 4.1.

To do the next step of the methodology was necessary to choose the variables of the study, corresponding to each firm inside the database (The variables choose will be explained in the next methodology point). The last data cleaning was to delete the firms that do not have information complete of the variables choose within the years of the study. The result is a database of manufacturing companies that received direct foreign investment where their investors maintain a value of the shares at 50 percent or more, moreover to data available for three years before and after the investment, being a total of 72 firms.



Figure 4.1: Flowchart: Data set creation.

4.2 Econometric analysis

The objective of this study is to evaluate the impact of direct foreign investment in the target companies located in the country of Italy. It is not enough to collect information before and after the investment phenomenon and observe its changes, maintaining the other environment variables stable. Changes in the performance of the target companies can be caused by variables that are exogenous to the investment phenomenon; This means that if the company's performance changes in the post phase of the investment, it does not depend only on the investment received from abroad.

To identify the effect of foreign investment is necessary to study the phenomenon under the assumption of whether or not it happens, identify the behavior in the two cases and compare them between them to conclude its effect. If the companys performance with presence of FDI is better than the result of the companys performance in the absence, it means that the result of the investment has a positive effect, in other cases it is necessary to identify which are the exogenous variables to which attributed to them the increase in performance or the decrease thereof.

The entities to be evaluated in the scenario with the presence of FDI are the companies resulting from the extraction carried out in the databases mentioned above (AIDA and Zephyr), while the entities to be evaluated in the scenario with no investment will be called a control group and will be found through the Propensity Score Matching (PSM) method.

4.2.1 Propensity Score Matching (PSM)

Propensity score matching is a statistical coincidence technique that seeks to establish the effect of treatment through the covariates that predict who receives the treatment. This method tries to reduce the bias produced by a simple comparison of the results of the entities that were and were not intervened without considering the real variables that cause the treatment to be carried out in the entities treated. The method works under the probability that an entity in the set will be treated, given a set of observed variables. This probability is known as the Propensity Score. The Propensity Score will result in valid coincidences to estimate the impact of an intervention; if the researcher is able to identify the relevant variables that justify the treatment performed, for this case, the treatment refers to the direct foreign investment that receives a company within the whole group.

To perform the pairing of the control group (Local companies) with the treated group (Companies with FDI), three steps are required, which are explained below.

The first step refers to the construction of the participation model, which has as a representation of the following summary:

An attribute of the PSM method does not require a single form to be specified; it can be explained under a logistic regression model, as can be seen in expression 4.1.

$$P(Y=1|X) = \phi(X\beta) \tag{4.1}$$

The equation 4.2 includes the observable dependent variables that determine the probability of receiving treatment or not, described as a list of values that belong to list X, to achieve the study objective the variables included in list X are included in the table 4.2.

To calculate the variables in table 4.2, it was necessary to recalculate some income statement and balance sheet variables. They can be seen in the table 4.3.

$$X = [X_1, X_2, X_3, \dots, X_n]$$
(4.2)

| Economic Variables | Definition |
|---|---|
| Revenues | _ |
| Index of Revenue Growth | $(Revenue_t - Revenue_{t-1})/Revenue_{t-1}$ |
| Index of Net Asset Variation | $(NetAsset_t - NetAsset_{t-1})/NetAsset_{t-1})$ |
| ROI | GrossOperatingIncome/NetAsset |
| ROE | EBT/Stakeholders' equity |
| ROS | GrossOperatingIncome/Revenue |
| Added Value per Employee | AddedValue/Number of Employees |
| Net technical fixed assets per employee | NetTechnicalFixedAssets/Number of Employees |
| Leverage | Stakeholders' equity/Netliabilities |

Table 4.2: variables used in the creation of the PSM model

| Economic Variables | Definition |
|----------------------------|--|
| Profit Before Taxes (EBT) | NetIncome + IncomeTaxes |
| Gross Operating Income | AddedValue-Costs of Labour |
| Stakeholders' equity | Contributed Capital + Retained Earnings + Profit/Loss |
| Added Value | Sales Revenue-COGS |
| Net Technical Fixed Assets | Fixed Assets-Accumulated Depreciation |
| Net Assets | Total Assets-Accumulated Depreciation and Amortization |

Table 4.3: Income statement and balance sheet variables

The dependent variable Y represents a dummy variable that indicates the participation in the treatment if the variable takes the value equal to 1 means that it receives treatment, while if it takes a value of 0, it is out of the treatment.

$$Y\epsilon(0,1) \tag{4.3}$$

All of the above is under the assumption of the next equation.

$$0 \le P(Y = 1|X) \le 1 \tag{4.4}$$

The second step to perform is to calculate the Propensity Score. This step consists in constructing the value of the probability that a company has in conjunction with receiving the treatment. This value is estimated individually, given the characteristics of every one.

This second step was carried out through Stata, which is a statistical software package created in 1985 by StataCorp. Stata allows data management, statistical analysis, plotting, simulations, among other features.

The information of the local companies prone to inclusion in the control group is also extracted from the AIDA database, we searched for companies that had information available for the same years where the target companies had the investment and also information available for the window of time where it is desired to carry out the impact study, this means that if a target company received the investment in 2012, the company prone to the control group must have information available in the year 2009 until 2015, the impact study It will be three years before the investment and three years after the investment. In total 4000 were found, and the model was introduced; the companies that were finally located in the control group are those that through the Propensity Score is more like the target companies.

The third and final step is to extract the results of the PSM method and continue with the evaluation of the treatment of direct foreign investment The evaluation is carried out through a hypothesis test on the comparison of means between the variables to be evaluated. The comparison is made during the three years following the investment, between the average of the objective companies with the average of the control companies. Among the variables to consider, the following were included: Added Value per Employee, Net technical fixed assets per employee, Index of Revenue Growth, Index of Net Asset Variation, ROI, ROE, ROS and Leverage.

CHAPTER 5

Analysis of the results

5.1 Sample analysis of the target companies

After performing the data purification procedure described in chapter three, a set of 72 target companies is established as a study group. The impact of foreign direct investment in Italy will be evaluated in this group of companies.

In the table 5.1 the number of companies for each year of study is shown, as a first observation it can be identified that the number of companies for the years 2012 and 2013 is similar, while for the year 2014 it is higher than the previous years, this means that in 2014 there was a greater investment in Italy by foreign entities.

| Year | Number of firms |
|------|-----------------|
| 2012 | 21 |
| 2013 | 20 |
| 2014 | 31 |

Table 5.1: Number of companies by study year

Next, the main characteristics of the study group will be described, which is divided into three factors: location, company size, and finally, the sectors to which they belong.

5.1.1 Investment by regions

For the development of the work is necessary to identify in which regions of the country there is the highest concentration of foreign investment; this generates an idea of the current state of the country in relation to its development. The figure 5.1 shows the concentration of inversion (shown as color intensity) through the division by regions.



REGIONAL DISTRIBUTION OF ACQUISITIONS

Figure 5.1: Regional distribution of acquisitions in Italy. Data from 2012 to 2014.

As you can see in the figure 5.1, the highest concentration of investment is in the central and northern regions of the country. Although investments were made in the

south, the concentration is minimal by region, and the number of regions is low compared to the north and center of the country. This has been a marked and differentiated characteristic throughout the years in Italy, the figure 2.8 corroborates this conclusion; the highest concentration of investment by region and number of regions is presented in the south and north of the country.

Lombardia, Veneto, Emilia-Romagna, and Piemonte are the regions that receive the most intervention from abroad, generating development and a higher level of competition in the region and the companies located in this territory.

5.1.2 Companies size

The size of the companies is carried out through the number of employees registered in the year where the investment was made. The classification is divided into three, which corresponds to small companies (less than 50 employees), medium companies (greater than 50, but, less than 250 employees) and large companies (greater than 250 employees). In the figure 5.2 is the study set classified by size.

Within the study group, we found that small businesses predominate in the sample with a value of 56 percent, while large and medium companies divide the other half of the share with 18 and 26 percent.

It is necessary to highlight how small companies predominate in the study group. Investors are looking for young companies, which are currently characterized by generating a differentiation in their products instead of entering a competitive market that is usually occupied by mature companies (large companies).



Figure 5.2: Companies size distribution of acquisitions in Italy. Data from 2012 to 2014.

5.1.3 Investment by sectors

The classification of the sectors was carried out through the ATECO 2007 code, included in the AIDA database. The proportion of each sector within the target group of companies can be seen in the figure 5.3.

The proportion of investment by sectors is strongly related to the strengths of the country in its manufacturing industry, as described in chapter two, the country has great advantage in the manufacturing industry in relation to the development of new machinery and as can be seen in the figure (sector diagram) this is the sector with the highest participation, with an approximate value of 26 percent. Other important sectors in Italy and within the control group, is the manufacture of pharmaceutical products and the manufacture of metal products.

This division by sectors allows us to give an idea of what the objective of multinational companies in Italy is, investors are not looking for low costs or increasing their production, they are looking to improve their productivity through the generation of



Figure 5.3: Sector distribution of acquisitions in Italy. Data from 2012 to 2014.

added value to final products. They seek to create an information channel between companies to exploit the established strengths.

5.2 Analysis of the matching between domestic and target companies

The final result of the PSM method is summarized in the table 5.2. The results showed the matching between the control companies (domestic companies) and the treated companies (target companies).

The results table 5.2 is divided for each year of investment; it was done in this way because the investment entities looked companies with different characteristics for each year. For the first year of study (2012) with an acceptable statistical significance, it is suggested that at a higher level of Revenues and Leverage increase the probability to be acquired, while the likelihood of receiving an investment decreases if Net technical fixed assets Per employee are high.

In conclusion, investors for 2012 were looking for companies with high revenues, also with a capacity to cover their debts with the capital of the company but not with a proportion of specialized assets compared to the workforce in their production. It would be expected that a greater amount of specialized assets in a company increases its probability of purchase, but it would be contradictory to the search for high leverage, since, more specialized assets can translate into debt for the company.

In the second year of study (2013), with an acceptable statistical significance, it is suggested that companies with high revenues and high value-added by employees increase their probability of acquisition. Investors are looking for companies with high revenues and with differentiated productivity from the rest of Italian companies.

For the last year of study (2014), with an acceptable statistical significance, it is suggested that at a higher level of productivity measured through value-added per employee, companies are more likely to be acquired, while their probability decreases if the ROE is high. For this year, investors are looking for differentiating productivity in companies, but not a high capital performance.

A diminished ROE for companies means poor capital performance; this situation may cause that business owner to want to sell for low performance, while investors take this position as an advantage to reach favorable purchase agreements. This behavior can be considered as normal in investments made in Italy due to the evidence found in the studies conducted by Di Gianfrancesco and Benfratello.

According to the positions of the related investors on which company to invest in, it can be concluded that the interest in positive economic performance is low, while its objective is companies that have marked and differentiated productivity from others. This produces an idea about the aim of the acquisition; rather than reducing costs, it seeks to transfer and exploit already developed richness.

| Variables | Coefficients ₂₀₁₂ | Std. Error ₂₀₁₂ | $Coefficients_{2013}$ | Std. Error ₂₀₁₃ | Coefficients ₂₀₁₄ | Std. $Error_{2014}$ | |
|---|------------------------------|----------------------------|-----------------------|----------------------------|------------------------------|---------------------|--|
| Revenues | 0.000012^{*} | 0.0000078 | 0.0000035^{***} | 0.00000074 | 0.0000054 | 0.0000043 | |
| Index of Revenue Growth | -0.332 | 0.453 | 0.379 | 0.412 | -0.04 | 0.378 | |
| Index of Net Asset Variation | 0.167 | 0.501 | 0.261 | 0.469 | 0.061 | 0.467 | |
| ROI | 0.857 | 1.85 | -0.028 | 2.02 | 1.021 | 1.5 | |
| ROE | -0.284 | 0.399 | -0.338 | 0.339 | -0.461* | 0,272 | |
| ROS | 0.013 | 1.933 | 0.942 | 1.69 | -0.485 | 1.38 | |
| Added Value per Employee | 0.002 | 0.002 | 0.002^{*} | 0.001 | 0.003^{***} | 0.001 | |
| Net technical fixed assets per employee | -0.004* | 0.002 | -0.023 | 0.42 | 0 | 0.001 | |
| Leverage | 0.696* | 0.431 | -0.023 | 0.42 | -0.239 | 0.339 | |
| Note: * ** *** Denotes signicance | | | | | | | |
| at 10, 5, 1 percent respectively | | | | | | | |

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Table 5.2: PSM results

5.3 FDI Evaluation

After matching between the two types of companies, the evaluation of FDI impact on the target companies in Italy was carried out (The methodology is explained under which process was carried out).

The final results of the study are divided into two: first, the results obtained from the evaluation corresponding to the financial variables will be shown, and secondly, it corresponds to the results of the productivity variables. This will allow establishing in a macro way, which is the general result of the investments, which can be; improve the financial performance of the company or improve its productivity.

The search by investors for companies with poor financial performance may be a consequence of the current situation of the Italian economy in that period. According to data from the Istituto nazionale di statistica (ISTAT), the Italian economy since the second quarter of 2011 shows a decrease in its GDP behavior, which manages to stop in the first quarter of 2013, but, keeping stable with a lower value in comparison to other countries of the European Union.

5.3.1 Financial Conditions

The financial measures included: Index of Revenue Growth, Index of Net Asset Variation, ROI, ROE, ROS, and Leverage. The results obtained from the difference in average during years one, two, and three of the investment are shown in the table 5.3.

In the first column of the table are the variables evaluated, the second, third, and fifth column describes the results between the difference of means (Coefficients), and the rest of the columns refer to the standard deviation of each measurement variable by year.

In the first place it is necessary to highlight the results that are statistically significant, which show that for the first year the leverage of the target companies is higher compared to the domestic companies, which is an expected value since the Stakeholders' equity increases due to the rise in capital produced by the value of the investment. The target companies begin to finance their activity with their own capital and not through loans to third parties. This result is evidenced in the same way for the second and third years after the investment.

Another variable of the target companies that presents a superior performance in comparison to the control companies is the ROS, which for the third year of investment, is greater by 3.2 percent. This is related to higher productivity generated after the investment since the amount of added value produced in the treated companies shows a notable increase beginning in the year in which the investment is made, while the cost of labor remains constant because there are no variations in the average number of employees.

The last variable that represents a significant change is the ROI, which is greater by 1.5 percent. The explanation is similar to the growth of the ROS, the Gross Operating Income increases due to the increase in value-added, while the variation in assets could be smaller compared to the control companies (There is no statistical significance).

Another variable to highlight despite the fact that there is no significant evidence is ROE, for the three years after the acquisition, the control companies have a higher performance of their capital. The result is expected, considering that the Stakeholders' equity increase by direct investment in the target companies and that there is no evidence to establish that the Index of revenue growth increased or decreased. It is difficult to achieve a higher return on their equity if their capital increase, and their revenues do not show a variation or improvement.

The behavior of the Index of Revenue Growth is related to the Italian economic cycle, presented in the years from 2012 to 2017, in which according to data from the Department for programming and coordination of economic policy of the country of Italy, industrial production during these years remained constant reaching its lowest points during its history.

| Variables | Coefficients $_{t+1}$ | Std. $\operatorname{Error}_{t+1}$ | Coefficients $_{t+2}$ | Std. $\operatorname{Error}_{t+2}$ | $\operatorname{Coefficients}_{t+3}$ | Std. $\operatorname{Error}_{t+3}$ |
|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| Index of Revenue Growth | -0.046 | 0.309 | -0.001 | 0.317 | -0.001 | 0.317 |
| Index of Net Asset Variation | 0.048 | 0.324 | -0.032 | 0.257 | -0.032 | 0.257 |
| ROI | 0.011 | 0.119 | 0.019 | 0.122 | 0.015^{*} | 0.127 |
| ROE | -0.045 | 0.36 | -0.075 | 0.49 | -0.049 | 0.554 |
| ROS | 0.015 | 0.149 | 0.023 | 0.151 | 0.032^{*} | 0.166 |
| Leverage | 0.048^{*} | 0.292 | 0.071^{*} | 0.331 | 0.073^{*} | 0.336 |
| Note: * ** *** Denotes signicance | | | | | | |
| at 10, 5, 1 percent respectively | | | | | | |

Table 5.3: Mean difference for financial variables

The empirical results on the financial evaluation of the objective companies described in chapter three are subsequent to those found in this study. Foreign direct intervention does not generate a significant positive performance over a period of three years in the treated companies, compared mainly with the case of China and Italy in previous years.

5.3.2 Firm productivity

Productivity measures included: Added Value per Employee and Net technical Fixed Assets Per Employee. The results obtained from the difference in average during years one, two, and three of the investment are found in the following table 5.4.

The organization for the table 5.4 corresponds to the same one of the table 5.3, in the first column of the table are the variables evaluated, the second, third and fifth column represent the results between the difference of means (Coefficients) and the rest of the columns refers to the standard deviation of each measurement variable by year.

Within the productivity variables, there are significant changes in the two variables during the three years, there is only one exception and corresponds to the Technical fixed assets per employee in the first year after the investment. This result could be related to the arrival of a new administration, which requires a period of time to establish and design their latest projects, these new projects may be the acquisition of new machinery or assets. As specified above, the number of employees does not show significant changes during this study period.

For the first, second, and third year after the investment, the value-added per employee of the target companies increased on average from 29.83 to 40.83 million euros compared to the control companies. Keeping the workforce constant, the target companies developed a new level of productivity through the new administration that increases over the years and is higher than they already had in the beginning. The results explained have an acceptable statistical significance.

| Variables | $Coefficients_{t+1}$ | Std. $\operatorname{Error}_{t+1}$ | $Coefficients_{t+2}$ | Std. Error $_{t+2}$ | Coefficients $_{t+3}$ | Std. $\operatorname{Error}_{t+3}$ |
|---|----------------------|-----------------------------------|----------------------|---------------------|-----------------------|-----------------------------------|
| Added Value per Employee | 28.83^{**} | 86.56 | 33.38^{**} | 139.75 | 40.83^{*} | 177.88 |
| Net technical fixed assets per employee | 10.04 | 64.07 | 11.38^{*} | 57.07 | 12.5* | 62.46 |
| Note: * ** *** Denotes signicance | | | | | | |
| at 10, 5, 1 percent respectively | | | | | | |

Table 5.4: Mean difference for productivity variables

For the second and third year, the new administration increased the company's fixed technical assets on average and compared to the control companies between 11.38 and 12.50 million euros. This increase in assets, mainly machinery since only within the study manufacturing companies are taken into account, also increases the productivity of the company, more specialized machinery increases the value added to the final product. The results in the productivity of the target companies are similar to those found in the empirical evidence described in chapter three, for China, South Africa, and Italy (previous years) the productivity of the companies treated presented a significant increase.

The results found on the increase in added value and productivity by the target companies is related to the general behavior of the productive sector in the country, according to the "Istituto nazionale di statistica" (ISTAT) from 2013 to 2016, all manufacturers companies presented an improvement in their performance of this variable. Although the entire sector showed an increase in productivity, the target companies reached a higher value compared to the control companies. Another statement that is implicitly related to the results obtained is the variation of the workforce, in which the country presented even a decrease in this during this period.

Conclusions

It is commonly believed that direct foreign investment within a country produces development, which is supported even with the theoretical evidence developed in the academy so far. These benefits will be produced by the transfer of capital, specific and productive assets, knowledge, or good practices. After developing this empirical work, it is established the evidence found of the FDI effects within Italy during the period from 2012 to 2014 is.

The low development of the Italia south in comparison to the north is exemplified according to the concentration of investment received in the territory during the years of study. Foreign investors prefer a territory where there is an advance in infrastructure (physical, financial, and technological). In addition, the predominance of small companies and the sectors in which the investment was made (Manufacture of machinery) shows the aim of multinational companies with the investment; generate greater added value to their products as a strategy of differentiation in the market.

The position of MNCs on which companies to acquire during the study period has been clear and can be divided into two main points: first, the state of the Italian economy during the study periods has influenced the investors' decision, since that, the investors could take a position of advantage when acquiring a company with a poor economic performance. Second, the MNCs were looking for companies that would provide added value for their value chain; because the company became more attractive in the procurement market if its productivity had a better performance than the companies in the market.

The results of the FDI within the Italian territory are characterized by an improvement in the position of the company facing its debts and by an increase in productivity. The target companies during the years following the acquisition improved their level of leverage; that is, the financing of their operation or new projects is financed by their own capital and not by third parties. In addition, after three years of the acquisition, there is an improvement in other financial variables: ROS and ROI. The new administration through best practices produces a superior performance than in the previous years of sales and investments.

Finally, the productivity of the companies acquired through the new administration shows a greater performance than the previous one, the increase in technical or productive assets and the added value per employee is positively affected by the new management practices. Productivity as a strength of the target companies is exploited and with continuous improvement during the years studied.

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