Portugal as an entry point for foreign firms on the European market.

Master thesis Economic Geography
Faculty of Spatial Sciences
University of Groningen
Wouter de Groot – s1532774

Supervisor: P.J.M. van Steen

January 12, 2012

Preface

This master thesis forms the conclusion of my master Economic Geography at the Faculty of Spatial Sciences at the University of Groningen. Also for me personally this thesis is the conclusion of my life as a student, a time which I thoroughly enjoyed and will remember for the insights I gained, both on the academic as the personal level.

First I would like to thank my supervisor Paul van Steen, working for the Department of Economic Geography at the Faculty of Spatial Sciences, University of Groningen and coordinator of the International Office, for his helpful comments and suggestions and for taking the time to supervise my thesis and supporting me in my research subject; the influence language and culture has on the Portuguese FDI. Second I would like to thank José Afonso Teixeira, professor for the Department of Geography and Regional Planning at Faculty of Social Sciences and Humanities, Universidade de Nova Lisboa, for assisting me with my thesis for the duration of my stay in Lisbon and helping me with acquiring data and information. I'm very grateful to be given the opportunity to do a part of my thesis abroad in Portugal and I'm very thankful to have been able to participate in the Erasmus program. My final thanks goes to my family, especially my mother, for supporting me financially and beyond during my academic journey.

Abstract

Foreign direct investment is an important component of the economic development of countries. There are different determinants and factors which influence the decision of companies to take part in FDI activities. For Portugal a multiple regression analysis is performed to analyze the determinants and factors important for the inward FDI stock, with special attention to the factor culture and language. The regression analysis resulted in predicting 82,3 percent of the variability with the following factors having a positive relation with the Portuguese inward FDI stock: the degree of openness, currency exchange rate, Portuguese language, population size and the total GDP. The positive relation for the factor culture and language found in the data suggests that this factor for Portugal as recipient of FDI is limited to Brazilian companies investing in Portugal.

Table of contents

List of tables and figures

Graphs and figures

Tables

Apendix

Chapter 1: Introduction

1.1 Motivation and relevance

The government of Portugal presents Portugal as a country with an attractive investment climate for foreign firms. On the website of the Ministry of Economic Affairs and Innovation of Portugal www.portugalglobal.pt are a number of qualities for the Portuguese economy promoted, including the strategic location of Portugal and its presence on the global markets. The Portuguese language, the fifth most spoken language in the world with 250 million native speakers, is explicitly named as one of these qualities. Some former colonies like Angola and Brazil, now up-and-coming economies on the global market, still have strong economic ties with Portugal. According to the Ministry of Economic Affairs and Innovation this offers an opportunity for foreign firms to also have access to these expanding markets, if they are willing to invest in Portugal. Moreover Portugal is seen as an entry point for foreign firms looking for access to the European market. This is because of the great infrastructure, presence of a high skilled labor force and low commercial costs in comparison to other European countries (Ministério da Economia e da Inovação, 2009).
However the question can be asked if these really are the reasons why foreign firms choose to locate or invest in Portugal and how important the Portuguese language is in this matter. In short: what are the reasons that foreign firms choose for Portugal/Lisbon as an entry point for the European market?

1.2 Problem statement

Since Portugal became a member of the EU in 1986 it saw a sharp increase in the size of the inbound FDI flows. In relation to the size of the Portuguese economy the increase was one of the largest in Europe (Guimarães et al., 2000). One may wonder how a relatively small economy like that of Portugal can attract a large share of FDI in comparison to the GDP and which role the Portuguese culture and language plays in this.

1.3 Research goal

The aim of this paper is to identify the reason(s) that explain why international companies invest or locate in Portugal/Lisbon. Special attention is paid to culture and language as a location factor.

1.4 Research questions

To achieve the research goal the following questions need to be answered:

1. a) What location factors, in the case of FDI, are important for international firms?
   b) Which of these location factors can be applied to Portugal?

2. a) What is the position of Portugal as a recipient of FDI flows from Portuguese speaking countries?
   b) How do these FDI flows compare to other EU-15 countries?

3. Which role does the Portuguese language/culture play for the location choice of international firms?

1.5 Data and methodology

The data needed to do this research will be inward and outward FDI data collected from the OECD, UNCTAD and the respective country statistical institutes. For the FDI streams from a Portuguese speaking country data from Brazil will be used, because data from other Portuguese speaking countries is limited or not available. For this comparison different variables will be used; FDI streams per capita, total workforce, number of employees and the percentage of total investments. These numbers will be compared to the data for other EU-15 countries to determine the difference with Portugal as a recipient of FDI from Brazil. A three year average will be used to give a smoother image of the development of FDI streams.

Chapter 2: Location factors and FDI, the case of Portugal

In this chapter the location factors which are important for companies to take part in FDI will be discussed and which of these factors are relevant for Portugal. First the motivation companies have to participate in FDI will be discussed in paragraph 2.1, to give insight into the reasons companies have to invest abroad. Second the Ownership, Location and Internalization (OLI) paradigm of Dunning is explained in paragraph 2.2, to provide a framework for analyzing how the system of foreign owned production and investment takes place. Third the Investment Development Path (IDP) will be discussed in paragraph 2.3 and 2.4, giving a framework to analyze the change of the OLI variables for different countries. Fourth an overview of the Portuguese economy will be given in paragraph 2.5 after which the IDP of Portugal is discussed in paragraph 2.6. The last paragraph provides the conclusion of the chapter and answers the first research questions.

2.1 Motivation for companies to take part in FDI

When an international company makes the decision to proceed with FDI, this choice is based upon a number of different determinants. In the end, it are these determinants which will play a decisive role in the final investment location of the firm. First there is the question why a company does not export or license its products instead of investing abroad. This has to do with the nature of the assets which are unique and specific to the company, like technology, management expertise, etc. These assets and abilities are not site-specific and therefore can be used in other locations. Yet this is not the only reason, a company has the option to choose for another location in the home country. Why a company still chooses for a location abroad has to do with the possibility of market failure that is associated with the use of these assets. One hypothesis by Blonigen (2005) is that it is difficult to get the right price for these assets when negotiating with the other party. For example, a license can never be issued for the right price without giving both parties involved full knowledge about the subject, where a company who wants to issue this license only wants to reveal this information after the contract is signed. In that case it is less expensive for the company to internalize the market transactions, which means that a production facility in a foreign market will be established. A theory that makes use of the presumptions mentioned above is the ownership, location and internalization (OLI) paradigm of Dunning (2001) (Blonigen, 2005).

According to the neo-classical economic theories multinational companies strive to achieve profit maximization and in the first place act in a way that is beneficial to the stakeholders. Because the stakeholders provide the company with the capital necessary to invest and they at least want a return on the opportunity costs made. Any amount of money that gets earned past these opportunity costs will accumulate as profits for the owners of the company. However according to the post neo-classical economic theories, in the case of imperfect market conditions, profit maximization is not the only goal of the company. A multinational company has the freedom to use all the money earned above the opportunity costs to pursuit other objectives. For example increasing the market share, driving

competitors out of business, undertaking risky investments which otherwise would not be made and dividing the extra profits among the other stakeholders. In short: multinational firms can use their profits, or a share of it, for achieving other objectives then profit maximization for the owners. At the same time, depending on their bargain power, stakeholders can reserve a part of the profits for themselves. When one of these objectives is investing abroad, there are in general four different types of activities that can be defined in regard to international operating firms. The following four activities used by Behrman (1972) and later adapted by Dunning (1995) are:

1. Natural resource seekers;
2. Market seekers;
3. Efficiency seekers;
4. Strategic asset or capability seekers.

Because nowadays international companies have multiple objectives, FDI often is a combination of the categories named above. Besides that the activity can be aggressive when a firm is actively trying to get strategic advantages and achieve their own objectives or defensive if the activity is a reaction to an action, or an expected action, made by competitors or a foreign government to protect their own market positions. Now follows a short explanation of each of the four categories (Dunning, 1996a).

Companies that search for natural resources (1) invest abroad to gain access to specific or certain resources that can be obtained at a lower price than in the home country. The reason for this investment is to improve the market position by offering products at a lower price. The raw material seeking firms can be divided into three categories. First, there are companies who wish to obtain physical resources such as minerals, raw materials and agricultural products. The aim of these companies is especially to minimize costs and secure a steady flow of raw materials needed for the production process. Second, there are companies who are looking for a wide range of cheap and motivated unskilled or low skilled labour. This form of FDI is mainly used by international companies in the industrial and service sector in the country of origin to deal with high real labor costs. Thirdly, there is FDI aimed at acquiring technology, management or marketing expertise and organizational experience.

Companies that invest abroad to supply foreign markets (2) with their products or services usually have a natural transition from an exporting situation to investing in the foreign market. In some cases, the exporting production facilities are moved from the country of origin to a third country and exported from there to the foreign market. Companies choose to invest abroad in order to protect or expand their current market. There are a number of reasons that could cause a company to invest in a foreign market. First, when the main suppliers or consuming companies have moved their factories abroad in order to stay in business, these companies have to relocate to the same location. The second reason is that products and services often must be adapted to the local market, culture and

wishes of the customers. This is done more efficient within the foreign country, in this way market knowledge is gained and the firms can compete on an equal level with domestic companies. Third reason is that the market can be provided from a nearby production facility, allowing the transaction and transportation costs to decrease. This choice largely depends on the sector and industry in which the firm operates. Products with high transport costs and which are produced in small quantities have production facilities which are inclined to locate themselves close to the main market. Companies who are from a geographical perspective far away from large and major markets are more likely to take part in this form of FDI. However, the most decisive factor for companies to invest in a market abroad are the policies enforced by the government that promote this behavior. By the use of import tariffs or an import limit the government can induce companies to invest in the country to circumvent these barriers. Besides that governments can use tax benefits, subsidiaries, import quotas and a whole range of other measures. Compared to other types of FDI, market seeking companies set up a production chain that is self sufficient in each country. This ensures that firms can respond easily to changes and needs in the local market. When there are regionally integrated markets, like the EU, a number of countries can supply all countries within this region with products (Dunning, 1996a).

The motivation for efficiency seeking investment (3) undertaken by companies is to improve the company structure, which gives an advantage through having a common policy for geographically dispersed activities. These companies seek to take advantage of the different factor endowments, cultures, institutions, systems and economic policies and market structures that countries have (ESP configuration). In general companies which take part in this kind of FDI activities are large multinationals who manufacture standardized products. Past experience has shown that when several multinationals have invested in resources and markets, the next step is to rationalize these investments and let the multinational operate more efficiently. In recent times also new entrants take part in efficiency seeking investment, for example investments done by Japanese companies in the EU, with a product after product basis as part of an integrated regional or global marketing strategy. A requirement for investments based on improving the efficiency is that it should take place within an open, developed and integrated regional market. Two main types of efficiency searching companies can be distinguished. The first invests in different countries to use the different factor endowments as an advantage. For example the difference between labor markets in both developing and developed countries can explain where multinationals decide to locate their activities. With capital, technology and information activities located in the developed countries and activities that require cheap labor and natural resources located in developing countries. The second type of investment takes places in countries which have an economic and institutional structure that is similar to the home country, taking advantage of economies of scale and scope. Factor endowments of countries play a less important role for FDI of this kind, while the availability and quality of the supporting industries, the attributes of local competitors, the structure of consumer demand and government policies play a more significant role (Dunning, 1996b).

The fourth type of FDI is the strategic asset seeking company (4). These companies obtain the ownership and assets of foreign companies for the promotion of their own long term strategic objectives. In this way preserving or improving their international competitiveness. The motivation behind strategic asset seeking investment is the acquisition of assets that are perceived valuable for sustaining or improving the company's competitive position or weakening that of competing companies, instead of the exploitation of cost and market advantages. Similar to the efficiency seeking companies, the strategic asset seeking company tries to gain from the benefits of the common ownership of varied activities and capabilities, either in the same or different economic environments. Most of the investments done by MNE's fall into the other categories described above. Investments done purely for the sake of gaining a strategic advantage are rare, usually there is always an economic gain for the firms involved. However in certain situations strategic investments might be favored above the economical incentives for FDI. The most important reason to engage in strategic asset seeking investment is to protect or improve the company's long term competitive position (Dunning, 1996b).

There are more reasons for MNE's to invest which can't be classified easily in one of the four categories. In short these other reasons can be classified as escape investment, support investment and passive investment. Because these types of investment are not relevant for this thesis they will not be explained, for more information see Dunning 1996a.

Not only companies have interest in the economic and strategic outcomes of FDI, also governments are interested in the outcome of the activities of MNE's. By policies, regulations or other instruments they try to influence the amount and pattern of FDI flowing into or out of the country. Throughout history most of the investments done by MNE's were influenced or encouraged by governments, which suggests that FDI is perceived to be advancing the long term economic and political ambitions of these home countries (Dunning, 1996a).

2.2 The OLI paradigm

There are numerous reasons for international companies to participate in FDI. In the most common conventional theories FDI is seen as an attempt to exploit firm specific qualities in a foreign market. An example of a conventional theory is the OLI paradigm synthesized by Dunning (1996). In addition there is a whole different perspective on the use of FDI by firms. Instead of the use of firm specific abilities and qualities these theories are about how companies can acquire these assets by FDI. In this way, a weakness of the company can be addressed by obtaining the required assets abroad. Two theories about obtaining these assets in a foreign country are the 'strategic linkage theory' (Nohria en Garcia-Pont, 1991) and the 'network approach theory' (Johanson en Mattsson, 1987). The first theory considers FDI as a way to get access to strategic assets the firm itself lacks, but are available in a foreign country. The second theory considers FDI as the creation of a linkage between a domestic

network and a foreign network. These theories are especially relevant for medium and small size businesses, which use network linkages to gain the advantages of economies of scale (Chen, 1998).
There can be concluded that there are many different reasons for companies and MNE's to take part in foreign direct investment activities. Because of this it is difficult to deduce a theory which covers all the determinants of FDI. Dunning argues that, although there is a different set of variables that explain different cases of foreign production, it is still possible to formulate a paradigm for the location decisions of international firms and the factors that play an important role in that decision. This theory is Dunning's ownership, location and internalization (OLI) paradigm (Dunning, 2001). Dunning states that international production can be explained through the configuration of three different variables: ownership (1), location (2) and internalization (3). It offers a framework for analyzing the system wherein foreign owned production takes place and also domestic production owned by foreign firms.

The ownership (1) variable consists of the competitive advantage international firms possess over local firms or firms of another nationality. These advantages can arise from ownership of or access to specific assets that generate income, and the ability to combine these assets with assets abroad in a way that benefits the firm. A firm only ventures into a foreign market if it has at least possession of a resource that is capable of generating profit in the future. These assets are not only physical resources like capital or natural resources but also information or technology.

The location (2) variable is about the non transferable characteristics of a location; these characteristics give advantages to firms on this location with respect to firms on another location. These advantages can also be both physical in the sense of natural resources and more abstract in the sense of the legal, cultural and political environment of a country.

Finally internalization (3) is about why and how firms choose to make use of the advantages given by the ownership and location variables, instead of selling or licensing these. The configuration of these variables is context specific and differs for each industry, region, country and between firms. Dunning states that, given a particular distribution of factor endowments, the activities of international operating firms will be positively related to the costs of organizing cross-border markets in intermediate products. This will lead to the internalization of cross-border markets, and give an advantage in costs over the firms which don't have these markets internalized. The internalization theory is considered as a paradigm instead of a general theory. This because there are many different reasons for market failure to occur in which the general response of the firms is to internalize the market. For example there is forward integration when firms are concerned with the quality of their usual intermediate products or services and want to take matters in their own control. Backward integration occurs when a firm wants to secure a steady stream of products from suppliers and be less affected by sudden price changes. The common governance of diversified activities on multiple locations can also be caused by the desire of a firm to gain economies external to the activities in question, but internal to the firm owning them (Dunning, 1996a).

Which specific advantage can explain trade between countries depends on the kind of trade. For some exporting countries an L-advantage is enough, usually this is trade in natural resources between developing and developed countries. Trade between developed and industrialized countries is however more based upon the O-advantages of companies. The kind of products produced requires an innovative approach by companies whereby the O-advantage plays an important role for the exporting country. Again market failure and the existence of imperfect markets make it that an extension of the international trade theory can't explain international trade just by allowing for the mobility of some resources. Because international trade theory is rooted in neo-classical trade theory this leads to restrictive assumptions, like equality of production functions, the general lack of risk and uncertainty and that technology is a free and interchangeable good between firms and countries (Dunning, 1996b).

Rather than a predictive theory, the OLI paradigm can best be seen as a framework for analyzing the determinants for international production. Besides that Dunning states the theory is also relevant when the international position of countries changes and can be used to explain these changes on the basis of the investment development path (IDP) of the country in question. The hypothesis of the IDP is that when a country develops the configuration of the OLI advantages changes, as well for foreign firms as for local firms willing to invest abroad. Dunning also suggests that the ways in which foreign and local firms interact can influence the IDP of a country (Dunning, 2001; Dunning, 1996a).

The IDP distinguishes five different stages of development of a country which are now briefly clarified. The first stage is one of a pre-industrial country. In this stage there are almost no inbound or outbound investments taking place, in the first place because of the insufficient location advantages of the country. For example: inadequate infrastructure networks, absence of communication facilities and a low skilled working force. The transition to the second stage can happen through two different government strategies. First by improving the existing physical infrastructure and improving the skill of the workforce by training or education programs. Second by having social and economic policies focused on the development of the country. Through these strategies foreign direct investment (FDI) is attracted, with a large part of this FDI stream being inbound. In the third stage the local firms start to generate their own ownership advantages. At first these advantages will be used to export products, but when foreign markets expand or when production costs in the home country rise, these advantages will be used to invest abroad. In the fourth stage local firms acquire foreign technological, organizational and management knowledge through acquisitions, mergers or strategic alliances with foreign firms to compete on the global markets. In the end, when the fifth stage is reached, there will be in the long term a balance between inbound and outbound FDI (Dunning, 1996b).

2.3 The investment development path

One of the first applications for the eclectic paradigm by Dunning was to use it to explain the changing international position of countries and the way they advanced through different stages of development. Dunning has formulated the following basic hypothesis for the investment development path (IDP):

"When a country develops, the configuration of the OLI advantages facing foreign-owned firms that might invest in that country, and that of its own firms that might invest overseas, undergoes change, and that it is possible to identify both the conditions making for the change and their effect on the trajectory of the country's development (Dunning, 2001. p.180)."

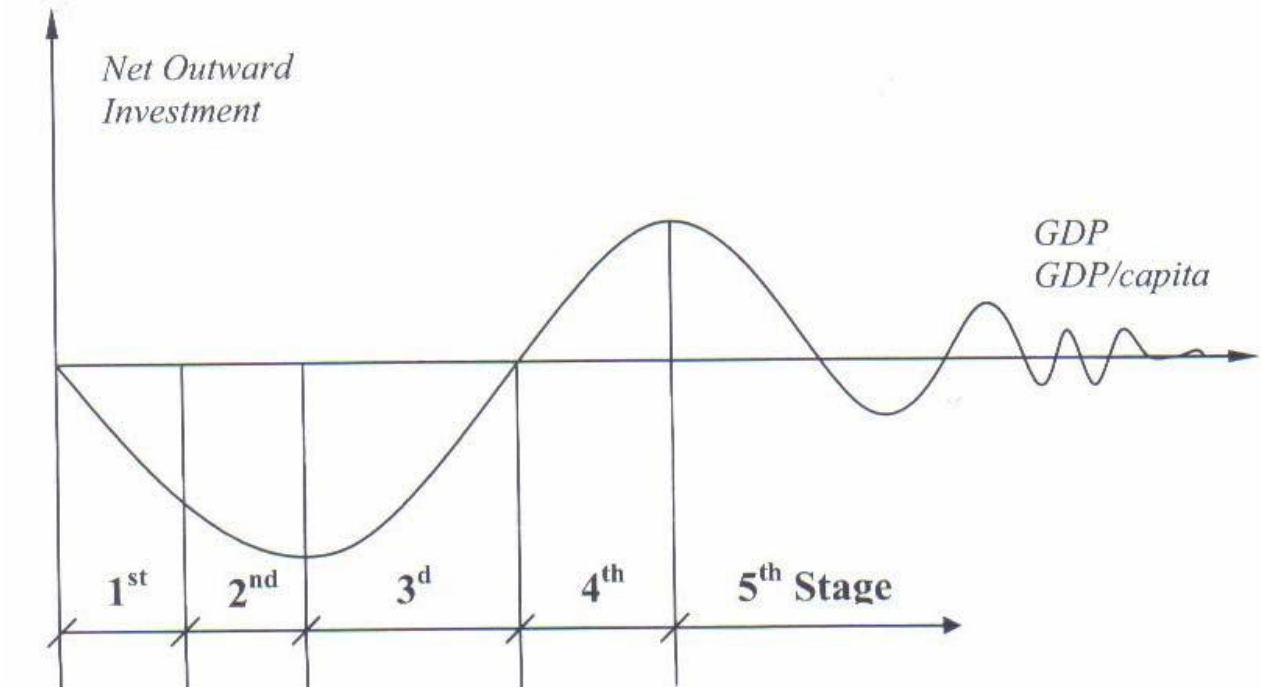
The IDP also suggests that the country's investment path can be influenced by the synergy between domestic and foreign firms (Tolentino, 1993). The IDP has different stages of development a country can transition into or out of. In the first stage the country is still pre-industrialized and does not engage in any inward or outward investment. This is in the first place caused by insufficient L attractions for foreign firms, and in the second place because the domestic firms are not in the possession of the necessary O advantages to take part in outward investment. When a country transitions to the next stage the OLI configuration will change, determined by how successfully the country was in upgrading its resources, capabilities and enlarging its markets. The change in configuration can make the country more attractive to invest in for foreign firms, and usually inward investment is the first type of investment attracted. The sectors targeted by this stream of inward investment are resource-based industries, traditional and labor intensive manufacturing, trade and distribution, transport and communications, construction and finally, depending on the country, tourism (Dunning, 1996a).

Another important factor is the presence of a stable government which provides the basic legal systems, infrastructure and communication facilities necessary for businesses to operate. In this way the L factors of a country will improve and attract foreign firms to invest, even more so when a government has policies for inward direct investment. The foreign firms that invest in the country bring knowledge and experience which enhance the L and O advantages of a country. These advantages accumulate over time and lead to economies of scale and lower real labor costs. When the L advantages improve, indigenous firms can develop their own O advantages over time. Government action and policies in this first stage of development are important for a transition, as is shown by research done about East Asian economies (Porter, 1990; Wade 1990; Dunning, 2001).

When countries have transitioned to the next stage of development their OLI configuration in regard to inward and outward investment keeps changing. Firms who found the country an attractive place to invest in, no longer do so. Because due to economic development the labor costs start to increase and resources become less plentiful and the conditions for operating cease to be favorable for these firms.

On the other hand firms are attracted to the now build up skilled labor pool and technological infrastructure. When the country has reached a stable and mature economic phase, the OLI configuration for their own firms might be such that they are more likely to engage in outward investment then foreign firms that are engaging in inward investment. This is for a large part dependent on the policies and actions taken by the government to create competitive advantages for their own firms while keeping the location factors attractive for investors. Because governments play such an important role in the inward and outward investment streams of a country, it is difficult to make predictions. This means that two countries in the same stage of their development path can have a different balance of inward and outward investment streams. In the final stage of the IDP there is a fluctuating balance between inward and outward direct investment. This occurs when the level of development and the economic structure of a country converge and firms start to secure complementary assets and new markets, instead of only utilizing their O advantages in foreign markets for their own gain (Dunning, 2001). Again at this stage the government plays a pivotal role by being able to shape the quality of the L specific advantages, deciding how the competitive environment develops and thereby how domestic firms are able to exploit the opportunities given by the global economy (Dunning, 1996b). These five stages are depicted in graph 2.1 below.

Figure 2.1 The different stages of the Investment Development Path



Source: Dunning and Narula, 1996.

2.4 Limitations of the IDP

There are some limitations to the initial version of the IDP that are also brought forward by Dunning and Narula (Dunning, 1996b). In the fifth stage of the IDP the relation between the international investment position of a country and the level of development of a country are not stabilizing around zero. The statistics of inward and outward FDI of developed industrialized countries are diversified and not fluctuating around zero, as suggested by graph 1.1. This means that the fifth stage of the IDP needs to be reconsidered to be still relevant for developed industrialized countries (Boudier-Bensebaa, 2008). For Portugal the IDP is still relevant, as it has not reached this stage of the IDP yet.

The second limitation applies to the factors that influence the IDP. Due to globalization and the rise of transnational corporations the national boundaries of firms have become more obscured. This implies that the O advantages are not longer dependent on the home country of a firm, but rather on a combination of the economic structure, the type of FDI and government policies of the home and host country. Also the nature of the O advantages for firms have changed, in the paradigm stated by Dunning in 1996 they were seen as 'asset advantages', while nowadays they have become 'transaction advantages'. The reason for this is the ability of transnational firms to effectively increase and coordinate their globally spread assets (Dunning, 2000; Boudier-Bensebaa, 2008).

2.5 Overview and history of the Portuguese economy

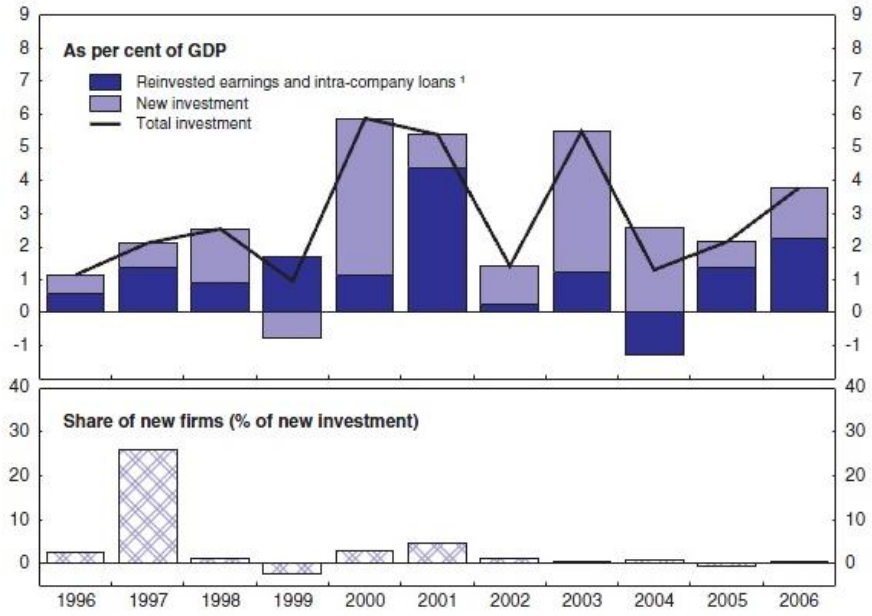
For a long time Portugal was one of the poorest countries of Europe, failing to join the other countries with the industrial revolution. Even at the end of World War II a considerable amount of the Portuguese population didn't have access to running water or electricity. Half of the working force was employed in agriculture and a quarter in manufacturing industries. Only in the 1960s Portugal showed some signs of industrialization by opening their market and resigning their autarkic policies. These changes left a large footprint on the Portuguese economy, in ten years the GDP grew from one third of the other European countries to a half of the most developed European countries. In the following decades the development path of Portugal parted further from the most developed European countries. During the two oil crisises, which were the cause of global recession, Portugal had to deal with the revolution in 1974 and the independence of the African colonies the next year. This had a strong influence on the economic, social and political stability of the country. Even while the Portuguese economy experienced huge economic transformations the GDP per capita was in 1985 still at the same level as 1971 (CISEP, 2001).

All of this changed when Portugal became a member of the European Union (EU) in 1986. Since then the Portuguese economy has become a primarily service-oriented economy; in 2009, the service sector alone accounted for 72,8 percent of the Portuguese GDP. In the past two decades the government has privatized many state owned companies and opened up the financial and telecommunication sectors. These reforms paid off with a steady growth of the GDP until the beginning of 2000 (CIA World Factbook, 2009). After 2000 there came an end to this period of growth and unemployment rose by significant numbers. Only in 2005 the economy started to show signs of

growth again, because of the structural reforms that were introduced by the Portuguese government. The budget deficit was thereafter reduced from six percent of the GDP in 2005 to 2,6 percent in 2007, one year ahead of schedule. The beginning of the credit crisis in the United States and the resulting tensions on the international credit markets have ensured that these negative effects are noticeable in Europe as well. This means Portugal faces a declining external demand, which causes exports to decline. These changes on the global market ensure that Portuguese companies have to adapt to the new patterns of consumption and production which arise across the world (OECD, 2008).

Since Portugal became a member of the EU the inbound FDI increased significantly. In relation to the size of the Portuguese economy, Portugal was one of the largest recipients of FDI in Europe. Between 1986 and 1992 the inbound FDI stream was approximately three percent of the total Portuguese GDP, higher than the EU average of 1,6 percent of the GDP. A large part of this FDI stream went to the industrial sector, especially to transportation equipment, the food and chemical industry and mechanical and electrical equipment or inputs (Guimarães et al., 2000). In recent years the incoming flow of FDI remained around the average of three percent of the GDP. However this figure is lower than the figures for the emerging economies of the countries that just joined the EU. Since 2001 the number of new companies investing in Portugal also decreased and the investments of existing foreign companies have become more important (see figure 1.2). Although the total number of incoming FDI is in the first place important as an instrument for the transfer of knowledge and incentive for innovation, is it also important that a share of the inbound FDI stream consists of new firms. This is because investments made by new firms are seen as more sensitive to the degree of attractiveness of a country for FDI than investments made by existing firms. Further investments made by new firms help sustain economic growth by ensuring that investment in different sectors are made, which helps the overall technological development (OECD, 2008).

Figure 2.2 Investments as percentage of GDP in Portugal from 1999 till 2006

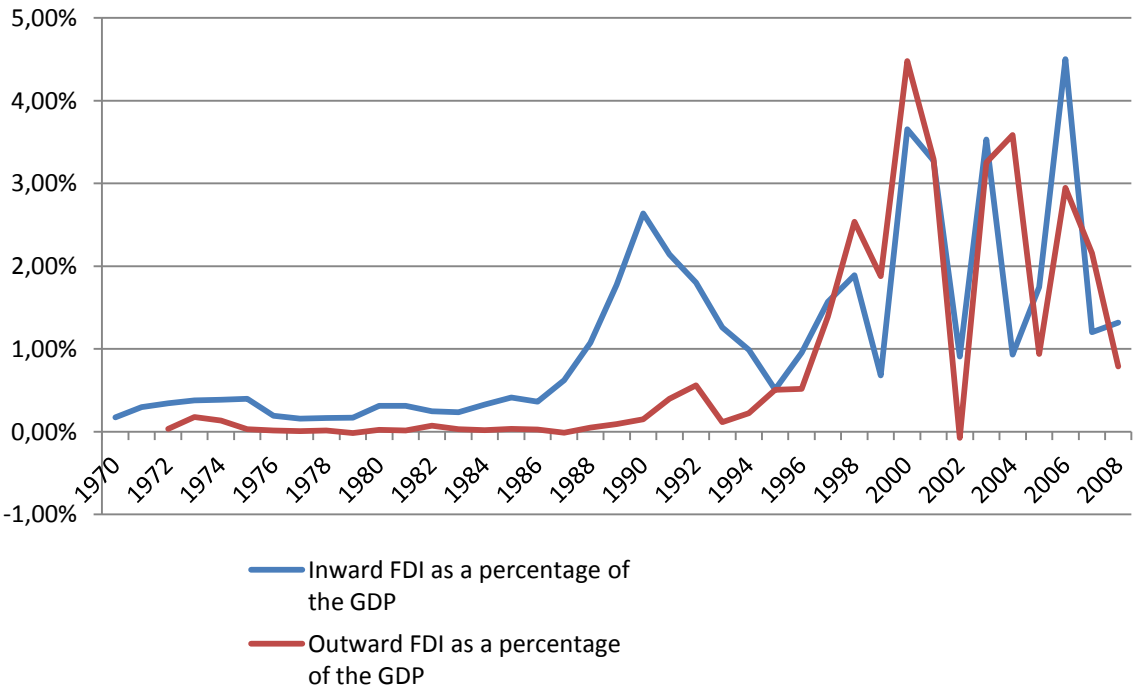


Source: Ministry of Economy, 2008

2.6 The Investment Development Path of Portugal

According to research done by Buckley and Castro (1998), Portugal was undoubtedly at stage one of the IDP until the early 1960's. The transition from stage one to stage two was still not concluded in the early 1980's. In the following fifteen years Portugal reached stage three of the IDP and in 1995 seemed to have started the transition to a fourth stage country. The IDP analysis of Portugal shows a large improvement of the competitive position in the last 50 years. But if only the ability of local firms to expand abroad is used to measure the competitiveness, the results might be too positive. The use of only net outward stock of FDI in this analysis hides the fact that inward investment in Portugal declined, as is shown in graph 2.3. Portugal was considered less attractive by companies as a location for FDI. However, this change coincides with the sharp drop in total outward FDI flows in the world in 2001, which only started to rise back to the same level again in 2006. Stage four of the IDP is linked to both high outward and inward FDI streams. Graph 2.3 shows that this stage was entered in the year 2000, however the inward and outward FDI streams fluctuate between high and low until 2008. If this transition brought progression of the international competitive position of Portugal can be questioned. High net outward FDI streams are usually linked to countries with a good international competitive economy; this effect however can also be due to disinvestment in the country (Buckley et al., 1998; Fonseca, 2007).

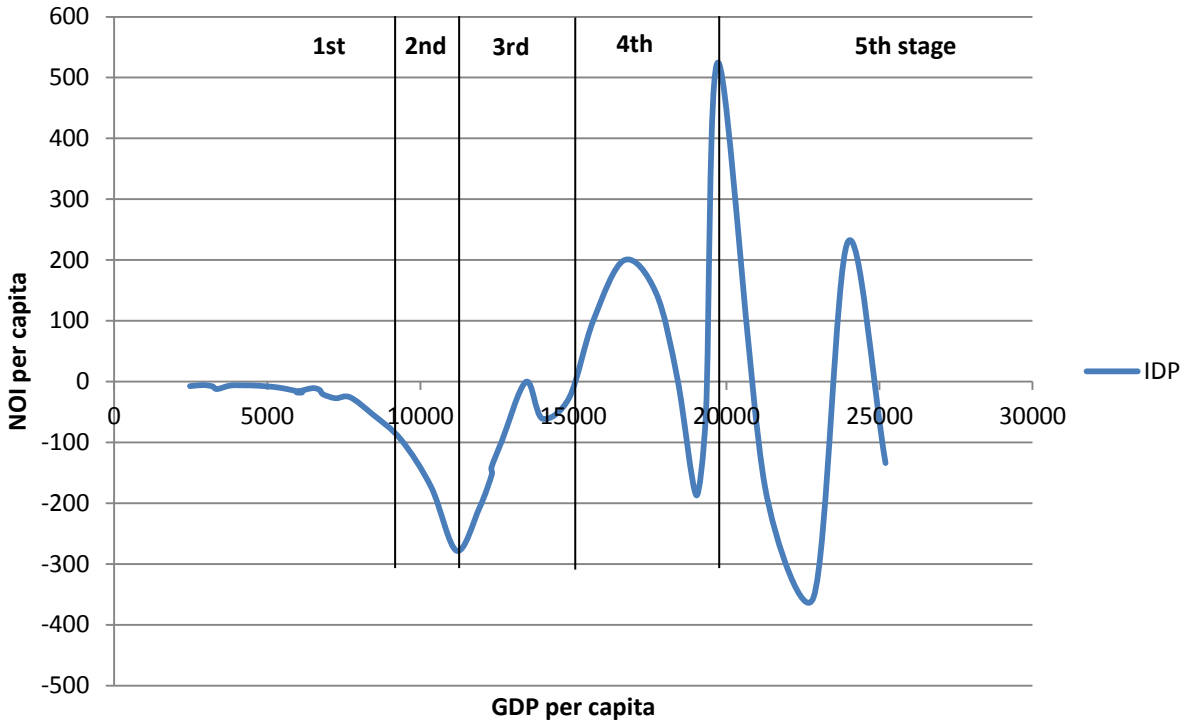
Graph 2.3 Inward and outward FDI flows as a percentage of the GDP



source: Own calculations based on UNCTAD 2010 and OECD 2010

Durán and Ubeda (1999) proposed a change to the representation of the IDP. Instead of only looking at the net outward FDI stock (NOI), analyzing inward and outward FDI stocks separately both in absolute and relative terms in combination with the NOI. The GDP per capita is also a limited indicator of the economic development of a country. Countries with the same level of GDP per capita are able to have very different economic structures and investment streams. To deal with this Dunning and Narula proposed the addition of extra structural variables, for example: gross capital formation per capita, gross enrolment ratio in secondary schools and the number of engineers and scientists in research. By the addition of these variables the theory is able to better reflect the country specific characteristics which shape the paths for economic development and investment (Fonseca, 2008).

Graph 2.4 The Portuguese IDP from 1972-2008



Source: Own calculations based on OECD, Instituto Nacional de Estatística (INE) Portugal and UNCTAD 2010.

Research done about the most important determinants for FDI in Portugal show that firms value the labor conditions and economic and political stability the most. Other slightly less important determinants named were: competition in the home market, access to the local market, and the internalization of downstream activities. This implies that motivation for inward FDI in Portugal was either cost reduction, market seeking or both. Cost reduction is usually an important motivation for exporting firms to invest in another country. When Portugal became part of the EFTA, cost reduction was in general the motivation for firms to invest in Portugal for the first time. At the moment Portugal joined the EU in 1986 it developed even more trading relations with the most developed European countries, who also started to invest in Portugal with cost reduction as their main motivation. This

changed in the period after the EU membership, when access to local markets became a more important factor.

These transitions are shown in graph 2.3 and 2.4 as the inward FDI rapidly increases after the membership of the EU and consequently falls when the behavior of exporting firms changes and they stop to invest in Portugal and outward FDI streams start to rise (CISEP, 2001). Portugal resembles more a stage 4 country in regard to outward FDI streams. However the total number of Portuguese firms engaging in this kind of FDI is still low and the destination of these FDI streams are concentrated in Brazil and Spain. Although recently some of the biggest Portuguese firms have done successful investments in Spain, which has a more competitive economic environment than Brazil. This suggests that Portuguese firms are gaining stronger O-advantages. Besides these big investments the outward FDI streams are diversifying to more European countries and different industries, nevertheless these investments are still a small part of the total outward FDI stream. A country with a similar IDP is Ireland, a likewise late industrializing country with a large percentage of its outward FDI concentrated in two countries: the UK and the US. These outward FDI streams were linked to cultural similarities and geographical proximity (Barry et al., 2003; Castro, 2004). The same can be said about the outward FDI streams of Portugal, these are also for a large part in two countries with either cultural similarities or geographic proximity.

Box 2.6 Explanation of graphs 2.3 and 2.4

The calculations for graph 2.3 are based on data provided by UNCTAD for inward and outward FDI in millions of US dollars and OECD in millions of US dollars for the Portuguese GDP. The graph resembles the inward and outward FDI as percentage of the GDP. There are some things to take into consideration when looking at the data for FDI. Because the Banco de Portugal started using a different and better estimation for reinvested earnings in 1997, it is possible that the figures before 1996 are underestimated.

The calculations for graph 2.4 are also based on data provided by UNCTAD for inward and outward FDI, OECD for the Portuguese GDP and INE for population size. In regard to FDI the same considerations need to be made as with graph 2.3. The data from Instituto Nacional de Estatística (INE) about population size is based upon censuses from 1970 till 1990, which took place every ten years. After this period population size data was recorded yearly. To get population size data for each separate year the population growth rate (PGR) is calculated for each year in the ten year periods with the following formula:

$$PGR = \left(\frac{\text{population t1} - \text{population t0}}{\text{population t0}} \times 100\%\right)/11$$

In this way a gradual increase, or decrease, between the ten year censuses is reached. However this is still a far from perfect estimation, as there is no way to account for sudden spikes in population growth. This gives, especially for the years between 1970 and 1980, a smoother increase as there was a large population size difference at these points in time.

For the calculation of the Investment Development Path (IDP) the net outward investment (NOI) per capita is plotted against the GDP per capita. The NOI is calculated by deducting the inward FDI from the outward FDI and then dividing by the population size to get a NOI figure per capita. The GDP per capita is calculated in the same way. The end result is the IDP graph shown in graph 2.4.

2.7 Conclusion

To conclude this chapter the first part of the first research question needs to be answered, which is: ”What location factors, in the case of FDI, are important for international firms?”. This chapter explained Dunning’s OLI paradigm and the motivations and reasons which companies have to invest abroad. The location factors are one of the three variables of the OLI paradigm used by Dunning to explain international investment. The location variable is related to the non transferable characteristics of a location. These characteristics give advantages to companies who operate in this location in regard to other companies in different locations. The nature of these advantages can both be physically bound to a place, like with natural resources, or be more abstract in the sense of the legal, cultural and political environment of a country. The importance of these factors is related to the motivation a firm has to invest abroad. If a company wants to secure resources the physical characteristics of a location are more important, if the local market is of interest the non physical features become more important. The important location factors mentioned by Dunning for international firms are:

- Abundance of minerals, raw materials and agricultural products;
- cheap and motivated unskilled or low skilled labour;
- acquisition of technology, management or marketing expertise and organizational experience;
- location of major suppliers or consuming companies;
- location of the main consumer market;
- different mix of factor endowments;
- similar economic and institutional structure as the home country.

The fact that the importance of these location factors change over time is captured in the investment development path (IDP) by Dunning. The five stages of the IDP represent different stages of development for a country. The transition from the first stage to the next stage is for a large part dependent on improvements made to the attractiveness of the location factors in comparison to the first stage. When the location factors are sufficiently attractive inward FDI streams are established and domestic companies can develop their own ownership advantages with the knowledge and capital gained from foreign investors. Over time this leads to economies of scale and lower real labor costs. To capitalize on these advantages and make the transition to the next stage of the IDP, effective government actions and policies play an important role. Because the existing location factors change and become unattractive over time, for example labour costs rising due to economic development, government can create competitive advantages for companies and keep the location factors attractive for foreign firms.

The second part of the first research question is: “Which of these location factors can be applied to Portugal?” This question can be answered by using the IDP of Portugal. Since every country has its own IDP these factors are different for every country. For Portugal these location factors changed when it entered and exited the different stages of the IDP. When FDI flows first started to increase

the most important location factors were the abundance of low wage workers and the political stability achieved after the independence of the Portuguese colonies. This is shown in research done by CISEP about the Portuguese IDP, which proved that the two major location factors for investing in Portugal were:

- the labour conditions with the existence of cheap, low skilled labour;
- the economic and political stability.

Firms valued the low wage rates of Portuguese workers and the stable government. The EU membership spurred the growth of inward FDI flows further, with again the low labour costs in comparison with other EU countries playing a major role. More recently also the access to the Portuguese local market has become an advantageous location factor for companies investing in Portugal, profiting from the low wage rate and the integrated market of the EU.

Chapter 3: Portuguese FDI flows and stocks, important factors and variables

In this chapter the position of Portugal as a recipient of FDI from Portuguese countries is discussed. First the type of FDI flows towards Portugal are analyzed and elaborated in paragraph 3.1. Second, in paragraph 3.2, a more in-depth look is taken at the FDI stocks of Brazil, since data about FDI flows and stocks of most other Portuguese speaking countries is not available. Third, in Paragraph 3.3, the factors which are important for FDI flows in general and the relevant factors for Portugal and Brazil are discussed and analyzed. The factors mentioned in paragraph 3.3 for Portugal are then used to do a multiple regression analysis to compare the FDI stocks of Portugal with the EU-15. The chapter is concluded with paragraph 3.4, in which the research questions are answered.

3.1 The type of FDI flows towards Portugal

The most suitable data available for Portugal is for inward FDI flows on a country of origin level. The data is obtained from the OECD statistical database and is on FDI flows from 1985 till 2009. To be able to compare the data, it is represented as shares on the total world FDI share for each five year period, as can be seen in table 3.3. Countries or economic regions with a share below 0,01 (less than 1 percent) are not shown. Most of the inward FDI from 1985 till 2009 for Portugal has its origins in countries who are member of the OECD and/or EU-15. The average share for the whole time period for the EU-15 is about 70 percent (share = 0,694), what means that most inward FDI flows originate from countries that are geographically close to Portugal in relation to the rest of the world. This is further reinforced when we look at which countries have the highest shares of inward FDI flows. Over the five different time periods, the countries that appear three times or more in the top three of largest inward FDI shares are: Spain, the United Kingdom, France and the Netherlands. These are all countries within Europe who are in a relative close geographical proximity to Portugal. A surprising absent country in the top three is the USA, which accounts for over 25 percent of total outward FDI flows in the world for the time period 1985 till 2009.

Interesting to see is that for the time period 2000-2004 60 percent of the inward FDI originated from two countries, Spain and Canada. When the time period 2000-2004 is closer examined, almost 35 percent of the total FDI flows between the years 1985 and 2009 are done within the time period 2000-2004. When this is placed in the international context of FDI development throughout the years, the larger inflow of FDI in this time period coincides with the spike of total FDI flows worldwide in 2000. After 2000 these numbers decreased, but there were still substantial higher levels of FDI flows worldwide in the subsequent years then in the same period in the last decade (UNCTAD, 2010). For Spain the FDI flows three folded in this time period and this higher level of investment continued in the next time period. The literature mentions the fact that this high amount of FDI flows from Spain can be expected since it is the only geographically neighboring country and has a considerable larger economy then Portugal. A part of the FDI inflow from Spain can also be explained as Spanish affiliates of US and Japanese multinational companies undertake investments in Portugal in interest of the regional headquarters of these multinational companies, which started in this time period (Simões et

al., 2011). For Canada there have been two huge investments in 2000 and 2001, in the literature the increasing demand from Portuguese consumers from the agri-food business in Canada are mentioned as the largest contributor for this spike in FDI flow for these years (Berry, 2008).

Table 3.1 Inward FDI shares for Portugal on mean total world FDI in 5 year periods ranging from 1985-2009, filtered for shares>0,01.

Region	1985-1989
Total world	*1,000*
OECD	*0,916*
EU15	*0,573*
United Kingdom	0,254
Total World Unallocated	*0,167*
France	0,128
Spain	0,114
Total world (Excl. OECD)	*0,084*
United States	0,084
Germany	0,077
Switzerland	0,068
Latin America countries	*0,063*
Netherlands	0,055
BLEU	*0,052*
NAFTA	*0,046*
Brazil	0,036
Sweden	0,022
OECD - Unallocated	*0,014*
Italy	0,012
Denmark	0,010

Region	1990-1994
Total world	*1,000*
OECD	*0,899*
EU15	*0,759*
United Kingdom	0,184
Spain	0,162
France	0,155
Total World Unallocated	*0,116*
Total world (Excl. OECD)	*0,101*
Germany	0,090
Switzerland	0,062
Netherlands	0,055
Latin America countries	*0,042*
BLEU	*0,040*
NAFTA	*0,033*
United States	0,032
OECD - Unallocated	*0,027*
Brazil	0,026
Denmark	0,016
Italy	0,016
Japan	0,014
Sweden	0,014
Ireland	0,012
Finland	0,011

Region	1995-1999
Total world	*1,000*
OECD	*0,824*
EU15	*0,695*
Netherlands	0,200
Total world (Excl. OECD)	*0,176*
United Kingdom	0,127
Spain	0,120
Germany	0,089
United States	0,078
NAFTA	*0,076*
France	0,067
Switzerland	0,043
Italy	0,042
Ireland	0,025
Denmark	0,022
Brazil	0,013
Sweden	0,012
MERCOSUR	*0,012*
BLEU	*-0,023*

Region	2000-2004
Total world	*1,000*
OECD	*0,892*
EU15	*0,571*
Spain	0,350
NAFTA	*0,315*
Canada	0,302
Total world (Excl. OECD)	*0,108*
BLEU	*0,077*
Netherlands	0,063
United Kingdom	0,057
Italy	0,047
Luxembourg	0,029
United States	0,013
France	0,012
Ireland	0,011
MERCOSUR	*-0,010*
Brazil	-0,010
Latin America countries	*-0,016*
Denmark	-0,029
Austria	-0,036

Region	2005-2009
Total world	*1,000*
OECD	*0,931*
EU15	*0,797*
Spain	0,360
Netherlands	0,154
France	0,144
NAFTA	*0,127*
Luxembourg	0,103
Canada	0,094
United Kingdom	0,071
Total world (Excl. OECD)	*0,069*
United States	0,033
Italy	0,032
BLEU	*0,026*
Brazil	0,021
MERCOSUR	*0,021*
Latin America countries	*0,019*
Ireland	0,015
Belgium	0,014
Australia	0,014
Austria	0,010
Sweden	-0,011
Germany	-0,100

Region	1985-2009
Total world	*1,000*
OECD	*0,900*
EU15	*0,694*
Spain	0,291
NAFTA	*0,169*
Canada	0,137
Netherlands	0,112
Total world (Excl. OECD)	*0,100*
United Kingdom	0,095
France	0,090
Luxembourg	0,048
BLEU	*0,041*
Italy	0,035
United States	0,034
Total world Unallocated	*0,020*
Switzerland	0,016
Ireland	0,014
Latin America countries	*0,011*
Brazil	0,010

Source: OECD Statistical database, 2011; own calculations.

3.2 Brazilian FDI stocks

Because the lack of FDI data for most Portuguese speaking countries, it is hard to analyze the flows from these countries towards Portugal. The only Portuguese speaking country with sufficient FDI data is Brazil. Although research question 2a formulated in the first chapter only mentions Portugal, the contribution of Portugal as a Portuguese speaking country to the inward FDI stock of Brazil is interesting and still relevant to the research question. However this FDI data is not very specific and frequently updated (data about FDI flows is aggregated over five year periods); the most recent FDI stock data on a country of origin and sector basis from the 'Banco central do Brasil' is for the year 2000. Due to the problems and shortcomings of the data compilation methods the comparability, comprehensiveness, reliability and timeliness suffer in quality. Especially the geographical allocation of transactions proves to be difficult (Lemnos, 2005). There is chosen for data about FDI stocks because these are an important measure for the long term attractiveness of a country (Bloningen, 2005). The data is divided into the FDI stocks for the primary, secondary and tertiary sector with the tertiary sector being the sector which contains data about investments into the services sector. The following definitions for the primary, secondary and tertiary sector were used. The primary sector encompasses all activities for the extraction, processing and packaging of raw materials and basic foods; the secondary sector includes all activities for the manufacturing and processing of finished goods; and the tertiary sector includes activities which are concerned with the provision of services to the general public and businesses (Banco central do Brasil, 2011).

Countries who share a common language benefit from an increased volume of trade, caused by the different channels of communication which are used. Direct communication (DC) is three times more effective in promoting trade then indirect forms of communication, as is explained more in-depth in chapter 4. This effect is most notable in the trade of services and less so for the trade in primary goods and resources. To see if this is relevant for the FDI stocks from Portugal in Brazil, we can examine in which sectors Portugal has invested and if these sectors fall under the services industry and if this value is higher than investments made in those sectors by other non-Portuguese speaking countries.

To be able to compare the data for different countries, they are represented as a share on the world total for the first column with the total amount of FDI stocks. Consequential the data in the columns for the primary, secondary and tertiary sector are represented as a share on the total FDI stock of that country. Thus a comparison between the size of the FDI stock for each country and the distribution of this FDI stock between the sectors is possible. The results of these calculations can be seen in table 3.1, only the countries with a total FDI stock share larger than or equal to 0,01 (one percent) are shown. The world total shows that most FDI stocks (64 percent) are located in the tertiary sector and the largest share, almost half, of FDI stocks are coming from Western European countries, with North America having the second largest share in the FDI stocks with a quarter on the total.

More interesting is the distribution of the shares across the different sectors. There is a large difference between countries in the distribution of the share across the three sectors. At first sight the country with the maximum share in the tertiary sector is Spain (91,9%), the second largest share being Portugal (90,5%). Due to the high share in the tertiary sector, sub sequentially the shares in the primary and secondary sectors for Portugal and Spain have to be lower than other countries, which is true. This difference can't be explained by outliers in the data, because both Spain (11,9 percent) and Portugal (4,4 percent) have a considerable share on the total amount of FDI stocks in Brazil. The country which accounts for the highest share (23,8 percent) of the total FDI stocks is the United States.

Most developed countries, except Spain, Portugal and the Netherlands, have a share in the secondary sector that is higher, equal or slightly lower than in the tertiary sector. Italy, Switzerland and Germany are the countries with the highest share of their FDI stock in the secondary sector, although they account together for less than 10 percent of the total FDI stocks in Brazil. The relative large share (almost 15 percent) of FDI stocks originating from the category other Latin America and the Caribbean can be explained by the data compilation techniques used. Due to the way FDI transactions are registered by the Banco de Brasil, on a creditor/debitor principle, the correct origin country is sometimes wrongly registered. This happens when a foreign company uses a holding company in a different country to invest in Brazil; usually these holding companies are located in tax havens.

Table 3.2 Share of FDI stocks on world total and share of country total on primary, secondary and tertiary sector for the year 2000 for Brazil.

Region/Economy Sector/Industry:	Total	Primary	Secondary	Tertiary
Total world	**1,000**	**0,023**	**0,337**	**0,640**
Developed countries	**0,777**	**0,022**	**0,364**	**0,614**
Western Europe	**0,495**	**0,022**	**0,329**	**0,650**
European Union	**0,465**	**0,021**	**0,308**	**0,671**
France	0,067	0,023	0,466	0,511
Germany	0,050	0,020	0,651	0,329
Italy	0,024	0,004	0,701	0,295
Luxembourg	0,010	0,005	0,606	0,389
Netherlands	0,107	0,030	0,216	0,754
Portugal	0,044	0,001	0,095	0,905
Spain	0,119	0,001	0,080	0,919
Sweden	0,015	0,000	0,426	0,574
United Kingdom	0,014	0,235	0,393	0,372
Other Western Europe	**0,029**	**0,041**	**0,652**	**0,308**
Switzerland	0,022	0,011	0,735	0,254
North America	**0,258**	**0,015**	**0,414**	**0,571**
Canada	0,020	0,018	0,510	0,472
United States	0,238	0,015	0,406	0,579
Other developed countries	**0,025**	**0,105**	**0,559**	**0,336**
Japan	0,024	0,100	0,561	0,339
Developing economies	**0,190**	**0,030**	**0,238**	**0,732**
Latin America and the Caribbean	**0,180**	**0,028**	**0,210**	**0,762**
South America	**0,030**	**0,063**	**0,234**	**0,703**
Uruguay	0,020	0,011	0,130	0,859
Other Latin America and Caribbean	**0,148**	**0,021**	**0,203**	**0,776**
Bermuda	0,019	0,018	0,432	0,550
British Virgin Islands	0,031	0,039	0,241	0,720
Cayman Islands	0,060	0,005	0,106	0,889
Panama	0,015	0,025	0,170	0,805
Unspecified	**0,032**	**0,008**	**0,271**	**0,721**

Source: UNCTAD, 2010; Banco central do Brasil, 2000; own calculations.

3.3 Important determinants for FDI

In chapter 2 one of the important factors mentioned which enable FDI flows between countries, is the possession of key ownership advantages for companies. Usually these ownership advantages come in the form of a technological advantage over another firm in the production process of a certain product. These advantages enable companies to explore and expand to foreign markets to compete with the local firms. In recent years this technological aspect of ownership advantages has become more important since the start of the knowledge and information intensive era and is no longer an asset which only applies to the high tech sectors. Nowadays most of the big and successful multinational companies have become so because of their level of technology and innovation (Carvalho, 2010).

However, not all companies need a technological advantage to start their internationalization process. Companies from less developed economies are investing abroad without a distinctive technological advantage, but with a technology-seeking motivation. Examples of this behavior can be found in most developing East-Asian economies, such as China, Taiwan and India. Companies from those countries invest specifically in more developed economies with strategic asset-seeking in mind. In a way companies from less developed economies are using the advanced economies as a provider for capabilities they are lacking themselves. By investing in advanced economies, companies from less developed countries benefit from the technological spillovers that exist for companies who are in the same location. This is partly because of the nature how information is exchanged between people and companies and is what in the end is fueling technology-seeking investment (Makino, 2002).

In the literature a couple of determinants are mentioned which influence FDI flows and destination. These determinants are: currency exchange rate, degree of openness, institutional quality, market size and population, labor costs and productivity, physical distance and common culture and language. A short summary and explanation of these determinants is given below.

Currency exchange rate.

A factor which influences FDI flows is the currency exchange rate between countries. The reason this factor is of importance, is because when an appreciation of the currency rate occurs, it leads to a temporary increase in wealth for a company which grants the company more funds to invest with in comparison with companies from the foreign country that had a devaluation of their currency. In the case of constant currency depreciation however, the country is perceived to have a high risk factor because of the reducing purchasing power of the consumers. Blonigen states that when a company is mainly motivated by acquisition of assets that are transferable between markets without a currency transaction, for example technological or managerial skills, an exchange rate appreciation of a foreign currency lowers the price of these assets in that foreign currency, but not consequently lowers the nominal returns. This means they are still as effective as before the exchange rate appreciation, only they cost less. Naturally this effect is more important for companies which operate in high-tech

sectors, because the technological and managerial skills are more important in these sectors (Blonigen, 2005). Welsh additionally states that an alteration in the exchange rate might cause an increase in FDI because companies take advantage of the relative lower costs and prices in the host country. The effect of an exchange rate adjustment is therefore most notable in the country which has the depreciation of their currency rate, because it increases inward FDI flows due to the decrease in relative value of the host country assets in relation to the home country (Walsh, 2010).

Degree of openness.

A factor that also explains FDI flows is the degree of openness a country has. The degree of openness is decided by the amount of trade barriers that exist in a country, like taxes and regulations. If there are a lot of trading barriers, a country is considered to be less open. In the case of raised taxes the amount of inward FDI may decrease. In the case of increased regulations a company may change its way of entrance by participating in horizontal FDI and circumventing the barrier by establishing production facilities abroad. Vertical FDI streams however benefit from more openness, because capital and trade flows are more important for this type of FDI. The effect of taxes on openness can however vary greatly because of different tax policies, difference in type and assessment of FDI streams and the existence of tax treaties between countries (Blonigen, 2005; Walsh, 2010). In the literature indicators used for openness are exports plus imports and the exports plus imports divided by the GDP (Amaya, 2004).

Institutional quality.

The quality of institutions in the host country is important, especially so for less developed countries, for companies which participate in FDI because they provide a legal framework and enhance market efficiency. Without certainty of the legal protection of assets, companies will refrain from investing. Enhancing market efficiency is done by policies countering market failures and combating corruption, when these policies are successful they are lowering the operational costs for companies and make a country therefore more attractive for investment. Moreover poor institutional quality usually translates directly into a poorly maintained infrastructural network, an important necessity for a globally operating company (Blonigen, 2005). To obtain and maintain a high rate of economic development, governments of developing countries seek to attract FDI. One of the ways in which they can achieve this is by reducing the transaction costs and establishing a business environment build on trust. According to Dumludag (2007) this includes contract enforcement mechanisms, commercial norms and rules, education, constitutions, electoral rules, laws and legal norms (Dumludag et al., 2007). Although institutional quality plays a role in the decision to invest abroad, it is a factor which is hard to measure. This is partly because of the nature of the variable institutional quality. The variable consists of an index of legal, economic and political institutions, which make it difficult to track change of the variable over time (Welsh, 2010).

Market size and population.

A determinant important for FDI is the market size and growth potential of the host country, countries with a large population attract more FDI because of the higher expected demand. This is in particular important for companies that engage in horizontal FDI. These companies invest abroad to supply the foreign market with their products by establishing production facilities abroad (Artige, 2006). Additionally companies have lower costs as a result of scale economies which are more likely to exist in countries with larger populations (Resmini, 2000). In the literature market size is usually measured by the GDP, sometimes in combination with the size of the labor force (Bevan, 2000).

Labor costs and productivity.

The existence of an abundance of labor is a decisive factor for the location of FDI, especially if the labor costs are lower than in the country of origin. Most developing economies use their low labor costs as a strong competitive advantage to attract FDI. However countries only can attract FDI if the low labor costs are not paired with low labor productivity or an overvalued currency (Bevan, 2000). Companies which participate in FDI value the skill, production and education level of the labor force over the presence of low labor costs. Interesting is that multinational companies usually pay a higher wage to workers of the same skill set when compared to domestic firms. Over time this can cause an overall increase in wage level in a country, because the domestic firms have to compete with the international operating companies over skilled workers, increasing the welfare level (Sarna, 2005). To calculate the factor of labor costs and productivity the average compensation of employees is divided by the nominal added value. This gives an indicator which ranges from 0 to 1 (Artige, 2006).

Physical distance.

The physical distance between countries, usually measured by taking the distance from capitol to capitol city, is found to be a relevant determinant for FDI flows in the theory as well as suggested by the empirical evidence. In research done about FDI flows into Eastern European countries the relation between distance and FDI is negative, meaning that the further away two countries are the less FDI flows exist between them and contrariwise the closer two countries are the larger the FDI flows are (Resmini, 2000). Research done by Egger et al. about bilateral exports and FDI stocks shows that distance has a much more significant negative effect on FDI stocks then on export (Egger,2001). The rationalization for the fact that greater distance means less FDI, are the higher communication costs that come with managing and organizing operations over these great distances (Jeon, 2004).

Culture and language.

The factor culture and language as a determinant for the location of FDI is already partly explained in paragraph 3.1. In short: a common language can reduce the transaction costs and the information asymmetry that exist between countries (Goldberg et al., 2005; Coval et al., 1999). For this reason having only physical distance as a measure of the transaction costs is not sufficient. Usually the

transport costs are the largest share of the transaction cost that rises when the distance between countries increases. But also language and culture have a larger impact when the distance increases, because the added cost of communication and translation, knowing the ins and outs of a different culture, different tax administration and different laws and procedures (Bevan, 2000). Having the same language and cultural systems can reduce these additional transaction costs, just like close proximity between countries reduces these managing and operating costs (Resmini, 2000)

There are different factors which are important for attracting FDI flows into either Portugal or Brazil. Because these factors are likely to differ in importance for Portugal and Brazil, they will be explained and where possible examples will be given in the two different sub paragraphs named after the relevant country.

3.3.1 Factors important for FDI flows towards and from Portugal

Inward FDI

As has been mentioned in chapter two, companies prefer to invest in foreign markets that have certain location advantages that can be exploited by the company or are unavailable in the host country. Portugal's integration into the European Union has spurred a growth of inward FDI because of the relative low wages in comparison to other European countries and its access to the European free market. This is especially well suited for companies which have as main focus exporting their products to multiple markets, and don't attach much value to a strong local market.

Since Portugal joined the EU, most inward FDI had its origins from Western European and North American companies and most of these FDI streams were directed into the manufacturing sectors. Data shows that most of these companies partake in exporting activities, which means that multinational companies use Portugal's location advantages to provide for the external markets in the EU. The most important determinants for investing in Portugal at that time are therefore:

- Low wages;
- Proximity and nature of the open market of the EU.

As mentioned before in this chapter, it is important that the low wages are balanced against the labor productivity (Barbosa et al., 2004). The EU membership was also critical for Portugal, because it ensured political and economic stability. Before membership of the EU companies had to get prior authorization from the government before they could invest in Portugal, due to EU requirements and regulations this policy got changed and companies were required to do an a posteriori notification if there had been made an investment in Portugal. Additionally foreign and domestic firms were treated equally by taxation and acquisition laws. These changes in policies made Portugal more open and attractive for foreign investors. However there are still some policies, like the restrictive product and labour market regulations, that could be improved upon. In comparison to other European countries,

the low level of skilled labour is something that holds back higher levels of FDI. Companies have specifically named the lack of flexibility on the labour market, the inconvenient licensing procedures and product market regulations as factors which could be improved (OECD, 1994; OECD, 2008).

The increased openness also caused further economic integration with Spain, which is Portugal's only neighboring country with which it had limited economic relations before joining the EU. A factor which influenced the amount of FDI was the privatization program which was started after becoming an EU member, and the EU subsidies to improve the Portuguese infrastructure and EU programs with incentives for projects in manufacturing, tourism and agriculture. However in the recent decade there was a change in the motivations for companies to invest into Portugal. Since the extension of the EU with Eastern European countries, Portugal has gotten competition in regard to the low labor costs. An external factor influencing inward FDI into Portugal was the decline of the importance of certain industries, in particular manufacturing. In the last decade inward FDI into manufacturing went from around 34 percent to around 4 percent. This means that the motivation to invest into Portugal changed over the years and went from being about cost reduction, to more recently, companies who are more focused on the local market (Castro, 2004). Most inward FDI had its origin in Western European countries, with the main investing countries being Spain, Netherlands and the United Kingdom. Research done by Leitão (2008) showed that important and statistically significant determinants for European countries to invest into Portugal were: labor costs, market size, openness and physical distance. The high inflation value was however not deterring companies from investing and did not decrease the inward FDI (Leitão et al., 2008).

Outward FDI

Portuguese companies didn't participate in outward FDI activities on a large scale until very recently. There were some outward FDI activities but these only accounted less then 0,2 percent of the GDP and were performed by a limited amount of large Portuguese companies. This percentage increased in the 90s, but still only a small amount of large companies contributed to the outward FDI streams. Most of these companies operated in the services sector; telecommunications, electricity, financial services and retail trade. The destinations of these FDI streams are for a large part concentrated in Brazil and Spain (Castro, 2004). Research done by Fonseca (2010) shows that the general tendency of most of these FDI streams was to replace existing exports, suggesting that production moved abroad to supply the foreign markets. Angola, and to a lesser extent Spain, are exceptions in this trend. For these countries the exports are complimented by FDI streams. This is common in the case of vertical FDI, because it produces complementary trade flows of final goods from the foreign partner company to the domestic company. Another explanation can be that the local production by the company doesn't meet the demands of the local market and additional products need to be exported from the home country (Fonseca et al., 2010).

The motivation of most of these companies to invest abroad is market seeking of nature, and most of these FDI streams had as destination either Spain or Brazil. Exemplifying the expansion found in the literature to less developed and neighbouring or cultural similar regions. This suggests that Portuguese companies posses some ownership advantages that allow them to compete in these foreign markets (Castro, 2004).

3.3.2 Factors important for FDI flows towards and from Brazil

Inward FDI

Brazil is considered an emerging economy being in the process of transitioning from a developing country towards being a developed country. Brazil became interesting for foreign investors after the Brazilian government dealt with the hyperinflation by implementing the economic stabilization program 'Plano Real', which was introduced in 1994. This plan effectively reduced the inflation from 5150 percent to a manageable 10 percent a year at the end of the program. Stabilizing the currency value caused a renewed interest in the Brazilian economy and helped develop the different sectors of the economy. Having a stable currency exchange rate is essential to be able to attract foreign investment, because otherwise companies run the risk of losing they value of their investments. Although research done by de Angelo about the influence of the currency exchange rate showed that companies perceive the current fluctuations of the value of the Brazil currency not as a high enough risk to refrain from investing. The benefits of the growing consumer market in Brazil outweigh the sleight risk that comes with currency depreciation. As mentioned before market size is an important determinant for FDI flows. For Brazil there exists a positive relation between market size and the amount of FDI. Research done about the internal market growth of Brazil showed that because of the growing customer demand the amount of FDI flows into Brazil increased (de Angelo, 2010).

In the same time frame as the 'Plano Real' program, the Brazilian government started a process of liberalization in an effort to make the economy more open to foreign companies. In a way the decreased inflation rates were strengthened by the active policies for economic liberalization established by the Brazilian government, causing a greater inflow of FDI. The improved openness resulted in more trade flows between Brazil and other countries, which is the first logical step to participate in before a multinational company considers to engage in FDI activities (Amal, 2010). Due to the market size and huge growth potential of the Brazilian economy these FDI flows were also less affected by small variations in inflation and currency exchange rates then for countries with a smaller market and population (de Angelo, 2010).

Developing countries are attractive for multinational companies because of the reduced costs of operation as well as labor costs and even more so if there exists a large market with potential consumers. Having a large market is however not enough on itself, the GDP per capita can be a good proxy for purchasing power and predict future demands from consumers and showing therefore growth potential for the domestic market (Amal, 2010). By stabilizing the inflation and putting policies

for liberalization in place, which raised the overall market efficiency, the risk to invest in Brazil was reduced to such an amount that the advantages of the use of the resource and economies of scale in Brazil paid off for foreign companies (de Angelo, 2010; Dumludag et al., 2007). The strategy for multinational companies operating in Latin America revolve usually around either efficiency seeking or market seeking behavior, hence the strong relation to the GDP per capita and the inward FDI stocks for Latin America. This means that companies not only establish production facilities because of the low wages or available resources but also to supply the local market (Amal, 2010).

Outward FDI

Not only is Brazil receiving FDI, Brazilian companies are also engaging in FDI activities in other countries. The reasons with which these companies engage in FDI activities might however differ from that of companies who have an origin in more developed countries. Because Brazil still is an emerging country in the world economy, the Brazilian multinational companies are less developed in comparison to their Western counterparts. This is emphasized by the importance of technological capabilities necessary to both succeed on the local and international market. Additionally having some technological capabilities makes it less difficult to gain knowledge and know-how from information spillovers, which make it easier for companies to catch up with the leading multinationals from the developed economies. Usually the first FDI streams from emerging economies are a natural extension of the economic development of the company in the host country, which gave it a certain amount of competitiveness in regard to other companies. If a company from a developing country wants to explore foreign markets and invest abroad, this is usually done in close and culturally comparable countries (Carvalho, 2010).

The main motivation for the largest part of the foreign investment done by companies from emerging markets can be categorized under the acquisition of strategic assets. Multinationals from developed countries also engage in FDI with this motivation but for companies from emerging economies it is more important because it speeds up the catching up process (Dunning et al., 1996b). However Brazil is a different case then other emerging economies taking part in FDI, because Brazilian companies started their internalization process relative early, in the end of the 1980s, and the companies had the tendency to invest in more developed markets, particularly the USA. Some specific studies of Brazilian multinational firms have showed the importance of technology in the internationalization process.

An example for a Brazilian firm which became an important player on the international market is the aircraft manufacturer Embraer. This firm has an innovative organizational structure, outsourced key components of production to reliable suppliers and has its own R&D activities, to improve the competitiveness and reduce costs and risks. Besides this a major factor for success was that Embraer focused on a part of the market, the market for regional jets, that was neglected by the big multinationals in the aircraft industry.

Another example of a Brazilian firm succeeding on the international market is Sabó, a company that manufacturers auto parts. It is one of the companies which started the internationalization process early because their client base moved abroad. Due to early relations and partnerships with foreign companies it acquired new technologies and improved production processes, causing it to be one of the few Brazilian auto part manufacturers which didn't end up in an acquisition by a foreign multinational (Carvalho, 2010). These examples show that acquiring technology is not the only reason for Brazlian firms to participate in FDI but that Brazilian firms also have their own technological capabilities to compete with on the international market.

Although in the literature the motivation for companies from developing countries to invest abroad is linked to asset seeking behavior. Research done by Makino (2002) and Matthews (2006) about multinationals from East Asia show that asset seeking to gain access to knowledge and skills was the main motivation for most companies (Makino et al., 2002; Matthews, 2006). However for Brazil Carvalho (2010) has found that Brazilian firms don't see asset seeking as their main motivation to invest abroad. Carvalho found a positive and significant relation between Brazilian firms having technological capabilities and exploiting these in foreign markets. These technological capabilities resided mostly in the human resources companies possessed by having access to skilled laborers. Market seeking was the second most common reason given to invest abroad by Brazilian companies, although there was not found a significant relation for it in the data. That the levels of outward FDI are still relatively low is attributed to the political and juridical environment in Brazil. Because the government still has a cautious and moderate approach in regard to outward FDI policies. High tax rates and the difficulty of acquiring the necessary funds and capital against low interest rates for foreign investment are given by Brazilian companies as the main reasons to refrain from investing abroad (Carvalho, 2010).

3.4 Brazilian and Portuguese FDI compared to the EU-15

To compare the different factors which are important for FDI flows towards both Portugal and Brazil a multiple regression can be done to find which variables mentioned in paragraph 3.3 have a significant correlation with the inward FDI stocks, and if these factors differ for Brazil and Portugal. In table 3.3 a list of variables used is presented with a short explanation of how they will be measured.

The countries of which data is used are the countries with the largest inward FDI stock share in both Portugal and Brazil and the EU-15 countries. The EU-15 countries that are included: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom. Other countries which are included are; Switzerland, United States of America, Japan and Argentina. With these countries more than 80 percent of the total FDI stocks for as well Portugal and Brazil are accounted for. The FDI data used is about FDI stocks, because stock data is a more stable variable which also represents past FDI accumulation (Benassy-Quere et al., 2007). The variables LnGDP, LnPop, Lnwage, LnLbpr and LnDist are transformed with a natural log to

make the error term more homoskedastic. Data for the EU-15, the USA and Japan are obtained from the OECD statistical database for the variables LnGDP, LnWage, LnInwardFDIstock and the variables LnPop and Cur are obtained from the UNCTAD statistical database. The values for LnLbpr are obtained from the Groningen Growth and Development Centre (GGDC). The variables GDPimex and LnDist are calculated with data from both OECD and UNCTAD. Data for the variables for Brazil and Argentina are obtained from 'Instituto Brasileiro de Geografia e Estatística' (IBGE) for Brazil and 'Instituto Nacional de Estadística y Censos' (INDEC) for Argentina. The data for all the variables are for a three year period from the year 2000 till 2002. The distance between capital cities is calculated distance in km of a direct flight between the cities as the value for LnDist.

Table 3.3 List of variables for inward FDI

Variable	Measurement
Cur	- Currency exchange rate; Currency exchange rate between the domestic currency and the US dollar
LnInwardFDIstock	- Natural log of the inward FDI stock of a country in US dollars
GDPimex	**-** Degree of openness; GDP divided by the exports plus imports
LnGDP	- Market size; GDP for each country in the sample.
LnPop	- Population; Population size
LnWage	- Labor costs; Average wage level
LnLbpr	**-** Labor productivity; GDP per person employed
LnDist_Portugal	- Physical distance; Distance in km between capitals of Brazil (Brasil) and Portugal (Lisboa) and of the relevant capitals of other countries.
Cultlan	- Culture and language; dummy variable. Set to 1 if a country has Portuguese as official language, set to 0 if not.

Before we can look at the inward FDI stocks of Portugal and Brazil we need to see if the variables are good predictors for the inward FDI stock. To do this a regression (3.1) is done with the following variables:

$$LnInwardFDIstock_i = (b_0 + b_1LnGDP_i + b_2LnWage_i + b_3Lbpr_i + b_4Cur_i + b_5Cultlan_i + b_6LnPop_i + b_7GDPimex_i) + \varepsilon_i \quad (3.1)$$

However the regression of equation 3.1 shows that there is multicollinearity between the variables LnGDP, Lbpr and LnWage. This can be explained since all variables are calculated with the GDP. When the regression is run with only one of the mentioned variables, the model with only LnGDP included has the highest predictive value with a R^2 of ,846. The importance of LnGDP variable for the regression analysis can be rationalized since it gives the most information about the relative wealth of

a country, which can be an indication of the wage levels and labour productivity. The above results in equation 3.2 as the new regression model:

$$LnInwardFDIstock_i = (b_0 + b_1LnGDP_i + b_2Cur_i + b_3Cultlan_i + b_4LnPop_i + b_5GDPimex_i) + \varepsilon_i \quad (3.2)$$

Table 3.4 Multiple regression for LnInwardFDIstock[a]

		Unstandardized Coefficients		Standardized Coefficients
Model		B	Std. Error	Beta
1	(Constant)	10,320	1,116	
	Cur	-,018	,003	-,399***
	GDPimex	1,827	,272	,547***
	Cultlan	,085	,246	,022
	LnPop	,127	,085	,170
	LnGDP	,915	,095	1,043***

a. Dependent Variable: LnInwardFDIstock_country

Note R^2 = ,846 for equation 3.2 *p< ,010, **p<,05, ***p<,001

The results of the regression are shown in table 3.4 and are significant with a R^2 of ,846, which means that the predictors account for 84,6 percent of the variability of the inward FDI stock of a country. The dependant variable is explained by all the variables except the variable Cultlan and LnPop. The predictor LnPop is not significant and tells us that, in the sample taken, having a large population does not necessarily mean that more FDI is attracted. As suggested by the literature and mentioned in 3.3 there is a positive relation between the degree of openness of a country and the amount of FDI stock. The higher the degree of openness, the higher the inward FDI stock of a country is. The currency exchange rate in US dollars shows a negative relation with the inward FDI stock. The beta coefficient shows (Beta = -0,399) that there exists a negative relation between the inward FDI stock and the currency exchange rate. A possible cause of this negative relation is that foreign investors perceive the increased currency exchange rate with a higher risk and more volatile market and therefore refrain from investing. This suggest that the countries in the sample have FDI inflows which are undertaken with the motivation to take advantage of domestic markets, hence an increase in the currency exchange rate leads to less purchasing power of consumers which in return leads to less inward FDI stock overall. The predictor LnGDP implies the same as the last predictor, only now the relation is positive. A high GDP per capita means that consumers have a relative high standard of living and suggest potential market growth which attracts foreign investors. This is just like with the currency exchange rate related to the motivation which companies have to invest. The positive

relation implies that the inward FDI flows of the countries in the sample are mostly done with a market seeking objective. High GDP means having potential consumer market growth and therefore opportunities for companies to invest (Field, 2005; Artige, 2006; Resmini, 2000).

Instead of for the inward FDI stock for each country the model can be adapted to display the importance of the variables for the inward FDI stock for Portugal. As additional predictor the distance between Lisbon and the capital cities of the sample in km is added.

$$LnInwardFDIstock\_Portugal_i = (b_0 + b_1LnGDP_i + b_2Cur_i + b_3Cultlan_i + b_4LnPop_i + b_5GDPimex_i + b_6LnDist\_Portugal) + \varepsilon_i \quad (3.3)$$

Table 3.5 Multiple regression for LnInwardFDIstock_Portugal[a]

		Unstandardized Coefficients		Standardized Coefficients
Model		B	Std. Error	Beta
1	(Constant)	-44,802	5,205	
	Cur	,010	,005	,124**
	GDPimex	1,170	,325	,271***
	Cultlan	12,556	1,029	1,400***
	LnPop	1,410	,100	1,002***
	LnGDP	5,705	,462	1,505***
	LnDist_Prtgl	-2,514	,201	-,823***

a. Dependent Variable: LnInwardFDIstock_Portugal

Note R^2 = ,823 for equation 3.3 *p< ,010, **p<,05, ***p<,001

The multiple regression is done for data from 2000 till 2005 and the model is significant with a R^2 of ,521 with again LnGDP having the highest R^2 value. There appears to be no multicollinearity between the variables. However, there are a couple cases which are outliers in the data and influence the regression substantially. These cases are Belgium2000, Belgium2001, Argentina2000, Argentina2001 and Argentina2005. In the case of Belgium there was an inward FDI stock of zero in the years 2000 and 2001. For Argentina there was a negative amount of inward FDI stock in the years 2000, 2001 and 2005, which for all cases results in an error value when the natural log of zero or a negative value is taken. Negative FDI stock values can occur when debt and loans between daughter and parent companies are included in the FDI stock value (OECD, 1996). After the removal of these cases the model is still significant and the predictive value is considerably increased to a R^2 of ,823, which

means that 82,3 percent of the variability of the inward FDI stock of Portugal is explained by the predictors used (see table 3.5). All predictors which are used to explain the inward FDI stock of Portugal are significant.

The currency exchange rate has a positive relation with the inward FDI stock of Portugal, this deviates from the regression done for the total inward FDI stock for each country. The sample suggests that a high currency exchange rate is positively related to investment. In the literature this is assigned to the decrease of worth of foreign assets when the currency exchange rate increases, which gives companies an incitement to invest when their assets are of relative higher worth (Walsh, 2010).
The variable GDPimex has a positive relation to the inward FDI stock of Portugal which indicates that Portugal has a low amount of trade barriers and has a relative high degree of openness, which was already mentioned in the literature and research done by Leitão (Leitão et al., 2008). Interesting is that the variable for a common language and culture (Portuguese language) is significant and has a positive relation to the inward FDI stock. This suggests that the Portuguese language is an important factor for the inward FDI stocks in Portugal. The only contributor in the sample which has the Portuguese language as official language is Brazil. Therefore there can be concluded that despite the large physical distance, which has a negative relation with the inward FDI stock of Portugal, Brazil is an important investor in Portugal. The importance of the factor language can be explained due to the decreased communication costs over long distances because there is no need for translation costs which also reduces the overall information asymmetry (Egger, 2001; Goldberg et al., 2005). The variables for Population and GDP per capita have both a positive relation with the inward FDI stock, as mentioned in the literature this suggests that market size is an important factor for companies when investing in Portugal, considering the low labour costs in comparison to other European countries. Due to the EU membership of Portugal and the free trade of goods and services between EU member countries foreign companies gain indirect access to the European market by investing in Portugal (Artige, 2006).

When the same regression was done as in equation 3.3, but then for inward FDI stock for Brazil, the multiple regression is not significant with $p>0,05$. Therefore the results from the regression analysis are not suitable for the prediction of the variability of the inward FDI stock of Brazil. This is caused by the lack of available data about inward FDI stocks on a country of origin level for Brazil. The data available is for the year 2000, which provides only data for 16 cases in the sample.

3.5 Conclusion

The position of Portugal as recipient of FDI flows from Portuguese speaking countries is difficult to analyze, since for most Portuguese speaking countries data about FDI flows is missing and some countries are not even in a development stage on the IDP where participating in FDI activities is being considered by companies. Only Brazil has sufficient FDI data and is developed enough to participate in FDI activities. The answer to the research question limits itself therefore to Portugal and Brazil, the two most developed Portuguese speaking countries.

To answer the first part of the research question for this chapter: "What is the position of Portugal as a recipient of FDI flows from Portuguese speaking countries?" the inward FDI flows for the period of 1985 till 2009 of Portugal are analyzed. In this time period almost 70 percent of the inward FDI flows have its origins in European countries. A surprising absent country in the inward FDI flows is the USA, a large contributor to the total outward FDI flows in the world. The five time periods show that for the time period 2000-2004 there is a considerable difference from the norm, caused by the large share of both Spain (35%) and Canada (30,2%). The investments from Canada are only substantially increased in a two year period after which they return to normal levels. The investments from Spain continue on this increased level in the next time periods. When placed into the international context the increased FDI flows from Spain coincide with the overall increase of FDI activities worldwide. Since Spain is a geographical neighbour of Portugal naturally a large part of these investments end up there, but also because Spanish affiliates of US and Japanese multinationals undertake investments in Portugal on behalf of the regional headquarters. The FDI flows from Portuguese speaking countries into Portugal only represent a very small share on the total inward FDI flows, less than a two percent average for the time periods taken. Brazil is by far the largest contributing Portuguese speaking country of these FDI flows. The main reason for this low share is the low level of development of most Portuguese speaking countries; most countries are in a stage of the IDP where companies don't participate in outward FDI activities yet. Factors mentioned in the literature which are important for FDI flows in general into Portugal are the low wage levels in comparison to other EU countries together with the membership of the EU, granting companies who invest in Portugal access to the free European market. These qualities are especially favourable for companies which take part in exporting activities and use Portugal as the production headquarters for the nearby European market.

Because the lack of data for most Portuguese speaking countries, a closer look at the FDI stocks of Brazil is taken with special attention to Brazil as recipient of FDI from Portugal. Brazil has more than half (64%) of its inward FDI stocks located in the tertiary sector. In the literature the tertiary sector is mentioned as a sector where a cultural and language is most likely to play a role, due to the importance of information and communication in this sector. Spain, with Portugal as a close second, has the largest share in the tertiary sector, over 90 percent of the FDI flows coming from these countries go towards the tertiary sector. Considering the share of both countries (15 percent) on the

total FDI stock and the size of the economy relative to the other countries, this is a lot higher than the average for the tertiary sector. Since there is only data for the inward FDI stock by country of origin and sector for the year 2000 it is not possible to a more in depth analysis of the changes in FDI stock over time. Concluded can be that the most important factors found in the literature contributing to inward FDI in general for Brazil are the large market size and associated potential market growth, the low labor costs and in comparison to the neighboring countries the stable currency rate and political and economical environment.

With the important factors for FDI established in the first half of the chapter, a comparison can be made with the EU-15 countries to answer the second part of the research question: "How do these FDI flows compare to other EU-15 countries?". This comparison has been done with a multiple regression analysis done on the total inward FDI stock of the countries in the sample, analyzing which factors are important for FDI activities. All variables used in the regression are significant contributors for explaining the variability in the FDI stock except the variables for Portuguese language and population. Factors found in the multiple regression analysis which have a positive relation with the inward FDI stock of the countries are:

- degree of openness;
- total GDP.

When these factors have a high value, it coincides with a high inward FDI stock of a country. Having a high degree of openness means less trade barriers and regulations for foreign firms who want to enter a foreign market. The importance of having a large population size and a high GDP reveal that most FDI activities are undertaken with a market seeking motivation, because both factors exemplify market demand and market growth potential. The currency exchange rate is the only variable which has a negative relation with the inward FDI stock of a country, in the literature this is explained due to the perception of high risk companies have about a high currency exchange rate.

For Portugal a multiple regression analysis is done for the inward FDI stocks in Portugal which originate from the countries in the sample. The same variables plus a variable which represents the physical distance between countries are used to predict the variability in the inward FDI stock of Portugal. All variables used in the regression are significant predictors. The factors which have a positive relation with the inward FDI stock of Portugal are:

- the degree of openness;
- the currency exchange rate;
- the Portuguese language;
- population size;

- total GDP.

Interesting is that for the Portuguese inward FDI stock the Portuguese language is a significant and positive related predictor. This suggests that Brazilian companies make a significant contribution to the inward FDI stock of Portugal, even while the physical distance has a negative relation with the inward FDI stock. Another notable change from the regression done for total inward FDI stock is that the currency exchange rate is now positively related to the inward FDI stock of Portugal, while it was negative related for total inward FDI stock. An explanation from the literature is the relative increase in value of assets of foreign companies in comparison to Portugal, which might give companies an incitement to make investments they otherwise wouldn't have done. The positive relation of the variables about population and GDP per capita suggest that FDI activities in Portugal are from market seeking nature.

Chapter 4: FDI and the importance of a common language

In this chapter the importance of the Portuguese language as a location factor for FDI found in the literature is discussed in paragraph 4.1. In paragraph 4.2 this is analyzed with a multiple regression done with the predictors mentioned in the literature. The answer on the research question is given in paragraph 4.3.

4.1 The influence of language and culture on FDI

History shows that a common language and culture can facilitate trade networks, for example the historical development of Jewish trade networks. The common language, religion and laws dictated by the Torah made it easier to trade or invest and provided the basis for a large trade network throughout Europe (Tamari, 1987). Colonization of large parts of the world by western countries established the basis for similar trade networks all across the world. For example the British empire, which at one point was spread out across almost the whole world, was linked to these countries by the British migrants who brought investment in infrastructure and local businesses. Even today there are still British interests in these countries who date back to time of colonization. Comparable are the FDI flows that developed after the colonization of South America by Spain and Portugal and the subsequent migration (Goldberg et al, 2005). The underlying assumption why these cultural links cause FDI flows is the information asymmetry by foreign and domestic investors. For stock investments research done by Coval and Moskowitz (1999) about US investment managers they found that investment managers who focus on investment in stocks in a geographical close location perform better then investment of the same risk further away or managers which do not focus on stocks that are close. This led them to explain this difference with the asymmetric level of information between close and far away investors. Due to this asymmetry domestic investors might not know about investment opportunities in a foreign country. There are a certain number of barriers that can influence the level of information asymmetry. First there is the physical distance between the domestic and foreign country. The further away the foreign country, the less information is available and the harder it is to monitor current investments. Second, language and culture can be a barrier to getting information due to the difficulty of human interaction. (Goldberg et al., 2005; Coval et al., 1999). Having two countries with the same culture or language can reduce the information asymmetry that exists. The human dimension for FDI are the face-to-face contacts necessary to establish these investments. Although the human dimension is not the most important factor for the location of FDI, the location is determined by many factors in both the source and destination country. However the human dimension has influence on how FDI streams develop and if culture and language play a role. Goldberg defines this influence as 'abnormal' FDI. (Goldberg, 2005).

The size of a language is important for the effective distribution of information throughout the language network, similar to economies of scale. A common language between countries promotes trade and does this through different channels of communication. Direct communication (DC) is about three times more effective in promoting trade then indirect forms, like translation (Melitz, 2007). This

effect of having a common language is most notable in the trade of services and less so in the trade of goods, because trade in services requires at least some forms of DC (OECD, 2008). The researches done by Melitz, Goldberg and the OECD shows us that having a common language can have a positive influence on trade and FDI streams between countries.

4.2 Multiple regression for cultural and language variables for the inward FDI stock from Brazil

In chapter three the Portuguese language was already a significant predictor in the multiple regression for the inward FDI stock of Portugal from 2000 till 2005. In this chapter a more in depth look will be given to the different aspects of the factor language and culture. As mentioned before, human interaction is still of importance when companies take part in FDI activities abroad. Dealing with another culture and language in countries abroad can be a barrier for investments because information about investment opportunities is not easily available (Goldberg et al.,2005; Coval et al., 1999). To extend upon the multiple regression done in chapter three for inward FDI stock in Portugal additional variables can be added to explain the cultural and language factors. A multiple regression for the inward FDI stock of Brazil in the EU member countries and the variables mentioned in the literature can be done. The variables which in regard to culture and language in the literature are: the total stock of population in a country which has as country of birth Brazil and the total amount of passengers by airplane from Brazil. The first variable is a proxy for the information asymmetry which happens over large distances. By having a large population of Brazilians in a foreign country, information about investment opportunities could potentially be transferred easier to Brazil then without the existence of this population. The second variable, a proxy for human interaction, is the amount of travelers between Brazil and a foreign country. This influences the information available in Brazil about these foreign countries and presents a firsthand source of information about the investment climate, which can be transferred to friends and family back in Brazil. Information about specific investments get easier to verify for people who travel or know other people who have travelled to the same country (Goldberg et al., 2005; Melitz et al., 2007). The data for the variables is, when available, acquired for each year starting from 2000 till 2005 and obtained from the OECD for population stock and population flows and Eurostat for the number of international air passenger from Brazil for the European countries and when available for non EU countries from the respective national statistical databases. The new regression equation becomes as is shown below.

$$LnBrazilFDIStock_i = (b_0 + b_1 LnGDPcap_i + b_2 Cur_i + b_3 GDPimex_i + b_4 LnBrazilPop_i + b_5 LnAirPassengersBr_i) + \varepsilon_i \quad (4.1)$$

When this regression is analyzed in SPSS for the variables mentioned in equation 4.1 the model has a R^2 of ,328 with p<,05. The reason for this low accountability of the variance in LnBrazilFDIStock by

the predictors is caused by the low amount of cases (n=38). The variable LnAirPssengersBr has a lot of missing data values for countries and is the variable with the lowest amount of cases. If the regression is performed without this variable the amount of cases increases considerably (n=67). The new regression equitation therefore becomes 4.2. All other assumptions necessary to be able to do a multiple regression were met.

$$LnBrazilFDIStock_i = (b_0 + b_1LnGDPcap_i + b_2Cur_i + b_3GDPimex_i + b_4LnBrazilPop_i) + \varepsilon_i \quad (4.2)$$

As can be seen in table 4.1, the multiple regression is significant and has a R^2 of ,529. Interesting is that for the inward Brazilian FDI stock in the EU the GDP per capita, a proxy for market size and growth potential, is not a significant predictor to account for the variability in the FDI stock. This corresponds with what is mentioned in the literature that developing economies usually invest abroad with the intention of acquiring technology and not for market expansion (Carvalho, 2010; Dunning et al., 1996b). The degree of openness is positively related to the amount of inward FDI stock from Brazil, this means that the amount of inward FDI stock increases when a country has less trade barriers and less strict regulations for FDI entrance (Blonigen, 2005; Walsh, 2010). Having a population with Brazil as country of birth is positively related to the inward FDI stock from Brazil in that country and is a significant predictor. As mentioned at the beginning of this chapter this variable was used as a proxy for the information asymmetry which occurs when distances between countries increase. The regression shows that having a higher population of Brazilians coincides with having a higher amount of inward FDI stock from Brazil. However this does not mean that less information asymmetry is the cause of the higher inward FDI stock value. It only shows there is a positive relation in the sample between the two variables (Goldberg, et al., 2005).

Table 4.1 Multiple regression for LnBrazilFDIStock[a]

		Unstandardized Coefficients		Standardized Coefficients
Model		B	Std. Error	Beta
1	(Constant)	10,934	2,058	
	LnGDP	,016	,129	,011
	GDPimex	2,247	,749	,306***
	LnBrazilPop	,672	,089	,784***
	Cur	-,030	,006	-,496***

a. Dependent Variable: LnBrazilFDIstock

Note R^2 = ,524 for equation 4.2. *p < ,010 **p < ,05 ***p< ,001

4.3 Conclusion

The Portuguese language and culture plays a role for the location of investment for international companies in Portugal. The multiple regression analysis showed that the outward FDI stock of Brazil for the EU-15 countries had a positive and significant correlation with the number of people with Brazilian heritage in a country. This relation does not have to be directly causally linked; the regression only shows a positive relation in the sample taken. However it does suggest that the existence of a Brazilian population in another country is perceived as favorable by Brazilian firms as destinations for investment. Due to lack of data for international aviation passengers between countries the variable about the importance of human interaction could not be analyzed. The multiple regression also only accounts for 53,9 percent of the variability in the Brazilian FDI stock in each country tested, which leaves about half of the variability unexplained by the multiple regression analysis. There can be concluded that the Portuguese language is of importance for the location decision of firms from Brazil, but the degree of importance seems to be small since a lot of the variability in the inward FDI stock levels from Brazil are still unaccounted for in the multiple regression analysis.

Chapter 5: Conclusion

5.1 Conclusion

This chapter concludes the research goal stated in the first chapter; to identify the reason(s) that explain why international companies invest or locate in Portugal, with special attention for culture and language as a location factor. This research goal is achieved by answering the research questions stated in each chapter. In chapter two the important location factors for FDI flows are identified in the literature and the chapter also discusses which of these apply to Portugal. The location factors that are mentioned as being important for Portugal are the abundance of low wage workers, the political stability achieved after the independence of the Portuguese colonies and recently also the access to the Portuguese local market. The relevance of the OLI paradigm and the Investment Development Path (IDP) is shown after calculating the Portuguese IDP graph which clearly distinguishes the different development stages for Portugal as how these are formulated by Dunning.

With these factors established the position of Portugal as recipients of FDI is analyzed in chapter three, with special attention to FDI from Portuguese speaking countries. Since the lack of available data about FDI flows from most Portuguese speaking countries, the answer of the research question is extended to also include the position of Brazil as recipient of FDI. The inward FDI flows of Portuguese speaking countries into Portugal represent a very small share (2%) on the total amount of FDI flows. The low share of FDI flows from Portuguese speaking countries is due to the low level of economic development and the corresponding early stages of the IDP which most Portuguese speaking countries experience. The position of Brazil as recipient of FDI is analyzed with the FDI stocks of 2000. Most FDI is located in the tertiary sector, the sector where language and culture play an important role due to the importance of information and communication. Spain (91,9%) and Portugal (90,5%) have by far the largest share of their FDI in the tertiary sector while also contributing for around 15 % to the total FDI stocks.

The multiple regression done for the total inward FDI stock of a country displays that all variables, except the variable for population and Portuguese language and culture, are significant predictors for the variability of the inward FDI stock. Factors found in the multiple regression analysis which have a positive relation with the inward FDI stock of a country are: degree of openness and total GDP. The currency exchange rate is the only variable which has a negative relation with the inward FDI stock of a country, in the literature this is explained due to the perception of high risk companies have about a high currency exchange rate. To compare these factors with the factors for inward FDI stocks of Portugal a multiple regression is done with the same variables plus a variable representing the distance in km between Lisbon and each capital city. All variables were significant predictors for the variability of the inward FDI stock in Portugal. The factors which had a positive relation with the inward FDI stock in Portugal are: the degree of openness, the currency exchange rate, the Portuguese language, population size and total GDP. Interesting is that the Portuguese language is a significant predictor when the regression analysis is done for Portuguese inward FDI stocks, but was not

significant when the regression analysis was done for the total inward FDI of a country. This suggests that Brazilian companies make a significant contribution to the inward FDI stock of Portugal since they are the only Portuguese speaking country in the sample, even while there is a negative relation with the physical distance as predictor. Another difference with the regression done for total inward FDI stock is that the currency exchange rate is now positively related to the inward FDI stock of Portugal. In the literature this change can be explained by the relative increase in the worth of assets of foreign companies in regard to Portugal, which can give companies an incitement to invest. Both multiple regression analyses show that the determinants for FDI mentioned in the literature are good predictors for the FDI stock in the samples, with the multiple regression for inward FDI stock for each country explaining 84,6 percent of the variability and for inward FDI stock of Portugal explaining 82,3 percent of the variability.

To answer if the Portuguese language and culture have influence on the FDI stock of Portugal the relation between Brazilian outward FDI and the Portuguese language and culture is closer examined in chapter four. The multiple regression analysis explained 52,4 percent of the variability and showed that the number of people with Brazilian heritage in a country had a positive and significant correlation with the outward FDI stock of Brazil for the EU-15 countries. However this does not mean that the relation has to be causally; the regression only shows a positive relation in the sample taken. Nevertheless it does prove that the existence of a large Brazilian population in another country is perceived as being favorable as destination for investments from Brazil.

There can be concluded that the reasons found in the literature and shown by the results from the data correspond with each other. International companies invest or locate themselves in Portugal because of the low wage rate, economical and political stability and more recently the local market. The role of the Portuguese language and culture for Portugal as recipient of FDI is limited to Brazilian companies investing in Portugal. In the analysis of the data a positive relation is found between the inward FDI stock of Portugal and the variable for language. When the outward FDI stock of Brazil was closer examined, the amount of people with Brazilian heritage living in a country was positively related to the FDI stock from Brazil. Although these variables were significant, they accounted only for a small amount of the predictability of the regression models.

5.2 Discussion

The most important results of the analysis of the data were the significant factor of language as predictor for the inward FDI stock of Portugal together with the other variables being significant as well. The regression model for total inward FDI stock explained 84,6 percent of the variability and the regression model for the Portuguese inward FDI stock was for 82,3 percent accounted by the predictors used. The results from both regression analyses correlated with the determinants mentioned in the literature and were able to be used to explain the inward FDI stocks in the data.

However due to the lack of data available for most Latin American and developing countries, the amount of cases used for the total inward FDI stock is quite low and consists mostly of developed countries. There was not sufficient data to calculate all variables for all the countries in the sample, which caused some of these cases to be excluded. The countries chosen to be included in the sample could also be extended. Now countries with a limited amount of FDI in Portugal are excluded from the sample. The existence of multicollinearity between three of the variables, total GDP, labour productivity and wage level is cause for concern. The variable which explained the highest percentage was added in the final model (total GDP) and the other two variables were excluded. However this leaves a part of the determinants found in the literature unexplained, which influences the outcomes of the regression models. Some of the variables were not reported in US dollars and had to be transformed with the average currency exchange rate for the relevant year, which can transform the data incorrectly because of the volatile nature of currency exchange rates.

5.3 Recommendations

Future research about the influence of language and culture on FDI flows between countries should be done about a larger and more recent time period. Data collection for most developing countries is becoming increasingly extensive in the amount of subjects covered and is collected over shorter time periods. To get a better insight in the important determinants for the total inward FDI stock and the difference between these determinants for developing and developed countries, a multiple regression which has only developing or developed countries could be done. This should show if there is a difference in predictors between developing and developed countries for inward FDI stocks.

References

de Angelo, C. F., Eunni, R. V., Fouto, N. M. M. D. (2010), Determinants of FDI in emerging markets: evidence from Brazil. International Journal of Commerce and Management, Vol. 20(3) Emerald Group Publishing, Ltd.

Amal, M., B.T., Tomio, H. Raboch, (2010), Determinants of Foreign Direct Investment in Latin America. Journal of Globalization, Competitiveness and Governability. Vol.4(3), p. 118-133.

Amaya, C.A., P. Rowland, (2004), Determinants of Investment Flows into Emerging Markets. Banco de la República Colombia.

Artige, L., Nicolini, R. (2006), Evidence on the Determinants of Foreign Direct Investment; the Case of Three European Regions. CREPP.

Barbosa, N., P. Guimarães, D. Woodward, (2004), Foreign firm entry in an open economy: the case of Portugal. Journal of Applied Economics, Vol.36, p. 465–472. Routledge, London.

Banco central do Brasil (2011), Census of Foreign Capitals in Brazil - 2000 base-year, http://www.bcb.gov.br visited on 20-06-2011.

Barry, F., Gorg, H. & McDowell, A. (2003), Outward FDI and the Investment Development Path of a Late-industrializing Economy: Evidence from Ireland, Regional Studies, vol. 37, no.4: pp. 341-349.

Benassy-Quere, A., M. Coupet and T. Mayer (2007), Institutional determinants of foreign direct investment," The World Economy 30, 764-782.

Berry, B. (2008), Agri-Food Past, Present & Future Report Portugal. Government of Canada.

Bevan, A.A., S. Estrin, (2000), The Determinants of Foreign Direct Investment in Transition Economies. Centre for Economic Policy Research, London.

Blonigen, B.A., (2005), A Review of the Empirical Literature on FDI Determinants, University of Oregon and NBER.

Boudier-Bensebaa, F. (2004), FDI-assisted Development in the Light of the Investment Development Path Paradigm: Evidence from Central and Eastern European Countries, University of Paris XII – Val de Marne, ERUDITE, 32 p.

Buckley, P. J., Castro, F.B. (1998), The Investment Development Path: The case of Portugal, Transnational Corporations, 7 (1): 1-15.

Carvalho, F., G. Duysters, I. Costa, (2010), Drivers of Brazilian foreign investments – technology seeking and technology exploiting as determinants of emerging FDI. UNU MERIT, working paper series no.17.

Castro, F. B. (2004), "Foreign Direct Investment in a Late Industrialising Country: the Portuguese IDP Revisited", Working Paper nº 147, University of Porto, CEMPRE.

Chen, H., T. Chen, (1998), Network linkages and location choice in foreign direct investment. Journal of International business studies, Vol 29, No. 3.

CIA world factbook: Portugal, (2009).

CISEP – Centro de Investigação sobre Economia Portuguesa (2001), "Como está a Economia Portuguesa?", CISEP.

Coval, J.D., Moskowitz, T.J. (1999), Home bias at home: local equity preferences in domestic portfolios. Journal of Finance 54 (6), p. 2045-2073.

Dumludag, D., E. Saridogan, S. Kurt, (2007), Determinants of Foreign Direct Investment: An Institutionalist Approach. International Finance Symposium: Foreign Direct Investment in Finance Sector, Marmara.

Dunning, J.H., R. Narula, (1996a), Foreign direct investment and governments: catalysts for economic restructuring. Routledge, London.

Dunning, J.H., R. Narula, (1996b), The Investment Development Path Revisited: Some emerging issues, Foreign Direct Investment and Governments, Routledge, London.

Dunning, J. H., (2001), The Eclectic (OLI) Paradigm of International Production: Past, Present and Future. Economics of Business, Vol. 8, No. 2.

Egger, P., M. Pfaffermayr, (2001), Distance, Trade and FDI: A Hausman-Taylor Sur approach. WIFO working papers no. 164.

Field, A. (2005), Discovering statistics using SPSS, SAGE publications ltd, London.

Fonseca, M. et al. (2007), The Investment Development Path Hypothesis: Evidence from the Portuguese Case – a panel Data Analysis, Working Paper, School of Economics and Business Administration, Technical University of Lisbon, Lisbon.

Fonseca, M. (2008), The Investment Development Path Hypothesis: Evidence from the Portuguese Case, FEP – Faculty of Economy, University of Porto, Porto.

Guimarães, P., O. Figueiredo, D. Woodward, (2000), Agglomeration and the Location of Foreign Direct Investment in Portugal. Journal of urban economics 47, p. 115-135.

IBGE - Instituto Brasileiro de Geografia e Estatística (2011), Brasilia, Brazil.

INDEC - Instituto Nacional de Estadística y Censos, (2011), Buenos Aires, Argentina.

INE - Instituto Nacional de Estatística, (2010),Lisbon, Portugal.

Jeon, B.N., L. Tang, Z. Lei, (2004), Information technology and bilateral FDI: theory and evidence. Journal of Economic Integration, Vol.20(4): pp. 613-630.

Leitão, N.C., H.C. Faustino, (2008), Portuguese Foreign Direct Investments Inflows: An empirical investigation. Technical University of Lisbon, Department of Economics, Lisbon.

Lemnos, F., (2005), FDI Data Compilation in Brazil Methodology, Problems and Shortcomings. Banco central do Brasil.

Makino, S., Lau, C., Yeh, R.. (2002), Asset-Exploitation versus Asset-Seeking: Implications for Location Choice of Foreign Direct Investment from Newly Industrialized Economies. Journal of International Business Studies, p. 403-421

Mathews, J.A., (2006), Dragon multinationals: new players in 21st century globalization. Asia Pacific Journal of Management, 23, pp. 5-27

Melitz, J. (2008), Language and foreign trade, European Economic Review, Elsevier, vol. 52(4), p. 667-699

Ministério da economia e da inovação, (2009). www.portugalglobal.pt visited on 12-02-2010

OECD, (2008), OECD economic surveys Portugal. Organisation for Economic Co-operation and Development, Paris.

OECD, (1994), OECD reviews on foreign direct investment; Portugal. Organisation for Economic Co-operation and Development, Paris.

OECD, (2010), Stat Extract Database. stats.oecd.org

Osborne, J. (2002), Notes on the use of data transformations. Practical Assessment, Research & Evaluation, 8(6).

Porter, M.E. (1990), The Competitive Advantage of Nations, Free Press, New York.

Sarna, R. (2005), The impact of core labour standards on Foreign Direct Investment in East Asia. The Japan Institute for Labour Policy and Training, Tokyo.

Simões, V.C., R.M. Cartaxo, (2011), Inward FDI in Portugal and its policy context. Columbia FDI Profiles, University of Columbia.

Tamari, M. (1987), With All Your Possessions: Jewish Ethics and Economy Life. The Free Press, N.Y.

Tolentino, P.E. (1993), Technological Innovation and Third World Multinationals. London: Routledge.

Resmini, L. (2000), The determinants of foreign direct investment in the CEECs: new evidence from sectoral patterns. Economics of Transition, Vol. 8(3), p. 665-689.

UNCTAD (2010), Foreign Direct Investment database, Genève.

Wade, R. (1990), Governing the market: economic theory and the role of government in East Asian industrialization, Princeton: Princeton University Press.

Walsh, J.P., J. Yu, (2010), Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach. IMF Asia Pacific Department.

Appendix

Table 1 - Multiple regression analysis LnInwardFDIstock_country for 3.4

Descriptive Statistics

	Mean	Std. Deviation	N
LnInwardFDIstock_country	25,4926	1,19384	57
Cur	8,0022	27,06567	57
GDPimex	,5585	,35770	57
Cultlan	,11	,310	57
LnPop	16,7284	1,60591	57
LnGDP	13,2905	1,35952	57

Correlations

		LnInwardFDIstock_country	Cur	GDPimex	Cultlan	LnPop	LnGDP
Pearson Correlation	LnInwardFDIstock_country	1,000	-,150	-,102	-,171	,550	,721
	Cur	-,150	1,000	-,228	-,079	,169	,333
	GDPimex	-,102	-,228	1,000	-,255	-,714	-,588
	Cultlan	-,171	-,079	-,255	1,000	,182	-,111
	LnPop	,550	,169	-,714	,182	1,000	,800
	LnGDP	,721	,333	-,588	-,111	,800	1,000
Sig. (1-tailed)	LnInwardFDIstock_country	.	,133	,226	,102	,000	,000
	Cur	,133	.	,044	,280	,104	,006
	GDPimex	,226	,044	.	,028	,000	,000
	Cultlan	,102	,280	,028	.	,088	,205
	LnPop	,000	,104	,000	,088	.	,000
	LnGDP	,000	,006	,000	,205	,000	.
N	LnInwardFDIstock_country	57	57	57	57	57	57
	Cur	57	57	57	57	57	57
	GDPimex	57	57	57	57	57	57
	Cultlan	57	57	57	57	57	57
	LnPop	57	57	57	57	57	57
	LnGDP	57	57	57	57	57	57

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,920[a]	,846	,831	,49104	,846	56,003	5	51	,000	1,977

a. Predictors: (Constant), LnGDP, Cultlan, Cur, GDPimex, LnPop

b. Dependent Variable: LnInwardFDIstock_country

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67,517	5	13,503	56,003	,000[a]
	Residual	12,297	51	,241		
	Total	79,814	56			

a. Predictors: (Constant), LnGDP, Cultlan, Cur, GDPimex, LnPop

b. Dependent Variable: LnInwardFDIstock_country

Table 2 – Multiple regression analysis LnInwardFDIStock_Portugal for 3.5

Descriptive Statistics

	Mean	Std. Deviation	N
LnInwardFDIstock_Portugal	20,4240	2,14133	100
Cur	8,7303	27,33711	100
GDPimex	,6906	,49650	100
Cultlan	,06	,239	100
LnPop	16,9085	1,52208	100
LnGDP	10,3764	,56489	100
LnDist_Prtgl	7,7433	,70130	100

Correlations

		LnInwardFDIstock_Portugal	Cur	GDPimex	Cultlan	LnPop	LnGDP	LnDist_Prtgl
Pearson Correlation	LnInwardFDIstock_Portugal	1,000	-,175	,142	,013	,213	,163	-,400
	Cur	-,175	1,000	-,236	-,057	,274	,035	,586
	GDPimex	,142	-,236	1,000	-,253	-,761	,504	-,313
	Cultlan	,013	-,057	-,253	1,000	,351	-,881	,408
	LnPop	,213	,274	-,761	,351	1,000	-,530	,377
	LnGDP	,163	,035	,504	-,881	-,530	1,000	-,341
	LnDist_Prtgl	-,400	,586	-,313	,408	,377	-,341	1,000
Sig. (1-tailed)	LnInwardFDIstock_Portugal	.	,041	,079	,449	,017	,053	,000
	Cur	,041	.	,009	,288	,003	,366	,000
	GDPimex	,079	,009	.	,006	,000	,000	,001
	Cultlan	,449	,288	,006	.	,000	,000	,000
	LnPop	,017	,003	,000	,000	.	,000	,000
	LnGDP	,053	,366	,000	,000	,000	.	,000
	LnDist_Prtgl	,000	,000	,001	,000	,000	,000	.
N	LnInwardFDIstock_Portugal	100	100	100	100	100	100	100
	Cur	100	100	100	100	100	100	100
	GDPimex	100	100	100	100	100	100	100
	Cultlan	100	100	100	100	100	100	100
	LnPop	100	100	100	100	100	100	100
	LnGDP	100	100	100	100	100	100	100
	LnDist_Prtgl	100	100	100	100	100	100	100

Model Summary[b]

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	,907[a]	,823	,811	,92990	,823	71,993	6	93	,000	1,992

a. Predictors: (Constant), LnDist_Prtgl, GDPimex, Cultlan, Cur, LnPop, LnGDP

b. Dependent Variable: LnInwardFDIstock_Portugal

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	373,523	6	62,254	71,993	,000[a]
	Residual	80,419	93	,865		
	Total	453,942	99			

a. Predictors: (Constant), LnDist_Prtgl, GDPimex, Cultlan, Cur, LnPop, LnGDP

b. Dependent Variable: LnInwardFDIstock_Portugal

Table 3 – Multiple regression analysis LnBrazilFDIStock for 4.1

Descriptive Statistics

	Mean	Std. Deviation	N
LnBrazilFDIstock	18,4333	1,99679	67
LnGDP	13,3813	1,36223	67
GDPimex	,5401	,27203	67
LnBrazilPop	9,5524	2,33166	67
Cur	11,6459	33,01997	67

Correlations

		LnBrazilFDIstock	LnGDP	GDPimex	LnBrazilPop	Cur
Pearson Correlation	LnBrazilFDIstock	1,000	-,031	,096	,444	-,297
	LnGDP	-,031	1,000	,041	-,049	,032
	GDPimex	,096	,041	1,000	-,484	-,340
	LnBrazilPop	,444	-,049	-,484	1,000	,386
	Cur	-,297	,032	-,340	,386	1,000
Sig. (1-tailed)	LnBrazilFDIstock	.	,402	,220	,000	,007
	LnGDP	,402	.	,369	,346	,397
	GDPimex	,220	,369	.	,000	,002
	LnBrazilPop	,000	,346	,000	.	,001
	Cur	,007	,397	,002	,001	.
N	LnBrazilFDIstock	67	67	67	67	67
	LnGDP	67	67	67	67	67
	GDPimex	67	67	67	67	67
	LnBrazilPop	67	67	67	67	67
	Cur	67	67	67	67	67

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	,724[a]	,524	,494	1,42086	,524	17,087	4	62	,000	2,029

a. Predictors: (Constant), Cur, LnGDP, GDPimex, LnBrazilPop

b. Dependent Variable: LnBrazilFDIstock

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	137,984	4	34,496	17,087	,000[a]
	Residual	125,168	62	2,019		
	Total	263,153	66			

a. Predictors: (Constant), Cur, LnGDP, GDPimex, LnBrazilPop

b. Dependent Variable: LnBrazilFDIstock