ERASMUS SCHOOL OF ECONOMICS

Inward FDI determinants: The Case of the Netherlands

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Abstract

The Netherlands is one of the largest receivers of FDI in the world. It is interesting to study as other small economies may benefit from such research. Using data for 17 investing countries, over the period 2001-2010, the study aims at unravelling the major determinants of FDI. Geographic and linguistic distance as well as the investing country's GDP per capita significantly deter the amount of investments received by the Dutch economy. A relatively high Dutch wage proves to be a significant and attractive FDI determinant, as it may signal high worker productivity. Like all macroeconomic factors, no clear cut evidence on the tax rate has been obtained. We find evidence for a substitution effect between exports and FDI, but this result is statistically fragile.

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1. Introduction

The recent fast-paced globalization of world economies has resulted in a wider interconnectedness between countries and universal citizens than ever before. As the spread of ideas has become easier so has the diffusion of goods and capital alike. This rapid and sudden globalization can undeniably be linked to the rise and spread of multinational enterprises (MNEs) worldwide. As these MNEs move from one corner of the world to another with the greatest of ease, they are among the most powerful institutions of the twenty first century. They bring new ideas, a flavour of exotic cultures and employment opportunities which are valuable for communities all over the world. In search of high-return investment opportunities, investors transfer whopping amounts of capital across countries every year. From the 1990s, global foreign direct investment (FDI) inflows grew more than six fold, from $207 billion to $1,409 billion in 2010. The 2012 UNCTAD World Investment Report states that at the end of the year, global FDI flows amounted to $1.35 trillion. Developed economies are responsible for a substantial part of total world FDI, approximating around US $ 658 billion in FDI flows. The United States takes the lead as the largest investing economy, with an annual investment of $329 billion for 2012. Japan, China, Hong Kong, the UK and Germany also rank among the top 10 suppliers of foreign capital.

A growing number of countries are in a race to attract foreign investment, but few policy recommendations have been put forward. Revealing the factors underlying MNEs' location decisions has earned a great deal of importance among academics and politicians alike. Many have tried to unravel the effects of this sudden boom in MNE activity, but they are not well understood. Although this field of research has only sprung forth recently, a vast number of conflicting theories have been proposed, which leaves much ambiguity on the true determinants of FDI. An entire strand of literature is devoted to studying the effects of FDI on GDP growth, which explains why identifying the determinants of FDI has earned so much attention. Alfaro et al. (2004) have found that FDI has a considerable impact on economic growth through financial markets. Borensztein et al. (1998), Hansen and Rand (2006) and Zhang (2001) find that FDI is indeed growth enhancing. However, their research goes beyond the scope of this paper.

A pioneering paper which initiated the FDI determinant literature is that by Hartman (1984), who focused on understanding the tax effects on FDI directed towards the US. Hartman found a positive effect of taxes on foreign investment. However, since only the tax rates of the host country were included, and those of the MNEs' home countries were not, double taxation of income was not fully dealt with. Unfortunately, this limitation was hard to overcome at the time as data was unavailable. Hartman's finding of a positive effect on FDI only concerns retained earnings, which are often only taxed by the parent country of the MNE. Thus, the MNE is more likely to invest in the host economy by retained earnings, instead of issuing new investments in its home country. This host country investment is a cheaper alternative as it may not undergo any further taxation, compared to new capital, home country funding of investments.

The validity of Hartman's finding largely depends on the bilateral trade policies undertaken by partners to deal with such issues of double-taxation. Slemrod (1990) takes this into consideration and extends Hartman's model by accounting for the previously neglected tax treaties. He controls for the two ways a country can deal with double taxation; countries can provide a tax credit or exempt repatriated profits from tax payments altogether. Like Hartman, panel data of MNEs locating their subsidiaries in the US is used. Although Slemrod does not find any significant tax effect, he initiated the method of controlling for double-taxation policies.

The main focus of this study is on FDI inflows to the Netherlands. Although some may consider it a very small economy, according to the Dutch Central Bureau of Statistics (CBS), in 2009 it received 3.7% of all global FDI stocks. From just after the Second World War, the Netherlands has actively promoted its economy in search of attracting capital. According to the International Monetary Fund (IMF), $3.0 trillion passed through the Netherlands during 2009, making it the largest recipient of FDI at the time, in nominal terms. With a total of $3.7 trillion, the Netherlands also ranks as one of the top investors worldwide. The outward investment determinants, however, go beyond the scope of this research. On the contrary, we aim at shedding light on the inward FDI determinants considered important by foreign investors entering the Netherlands.

The methodology used here is similar to that of Hogenbirk (2004), as we are not aware of any other related studies done on the Netherlands. In her study, Hogenbirk examines some major Dutch inward FDI-determining factors. Her sample includes data for 28 countries from all

over the world during the period 1987-1999. Hogenbirk analyzes several macro-economic factors that may be important from an investor's point of view. These include market size, political stability and inflation rates, both for the home country and the Netherlands. Like Hogenbirk, we study the difference in wages between the Netherlands and its trading partner, the Dutch cost of capital and the openness of the Dutch economy. We also add a variable reflecting the importance of foreign investments in the home country. Besides the original OLS specifications employed by Hogenbirk, we also estimate Fixed Effects (F.E.), Random Effects (R.E.) and General Estimating Equations (GEE) models.

What is interesting about Hogenbirk's study is that some social variables are also included. Besides the traditional geographical distance, Hogenbirk also includes a proxy for cultural proximity between the home countries and the Netherlands. In this paper, we take a different approach to extend the rather novice strand within the literature linking cultural factors with FDI. More specifically, attention is focused on the direct links between FDI and linguistics. Svetlicic and Jaklic (2003) build a theoretical model arguing that the ease of communication between partners is vital to an MNE's success. They argue that companies are more likely to invest in economies with a similar language and culture to their own. Oh et al. (2011) contributed further by investigating the costs incurred during business transactions due to miscommunication. As this can incur high costs, they propose that language knowledge plays a crucial role in MNE operations, as the ability to negotiate is vital. They explain that English proficiency decreases transaction costs tremendously, more so for FDI than any other type of trade. Oh et al. (2011) use data from 1984-2004 for 115 countries adding up to an overall of 6,370 country pairs. They find evidence that a good knowledge of the English language results in the lowest possible transaction costs when compared to Spanish, French and Arabic. This implies that cultural factors do hold importance for investors.

Following the model proposed by Hogenbirk (2004) and other studies on FDI, the variables studied can be divided into 5 different segments. These include variables concerning proximity, market size, existing trade relations, socioeconomic and macroeconomic factors.

Our main focus is on the effect of proximity, and linguistic distances between countries in particular. To the best of our knowledge, research has not yet headed in this direction, and therefore we aim to unravel the true effects of linguistic distance on the amount of inflowing

investments. This is interesting to examine, especially as the world is becoming more integrated and MNEs often adopt one single language, regardless of their global location. The distance between languages has been measured by the difference between Dutch and other major languages spoken throughout the world. It is based on own calculations from the data set put forward by West and Graham (2004). The inspection of the language variable adds to the literature, as few studies have concurrently analysed the effects of all of these variables at once, especially the effect of linguistic distance on FDI in particular. In a way, it is somewhat an extension of Jan Tinbergen's (1962) gravity model of trade. The gravity model suggests the amount of bilateral trade that would flow between partners, when controlling for their market size and the geographic distance between them. Though Hogenbirk does not find geographic proximity to be a significant determinant, we investigate this relationship further to inspect the robustness of her results. As much of the literature claims it to have a substantial, deterring effect on foreign investments, we are curious to inspect this for the 21st century. Following other literature, we include several variables which have previously been neglected by Hogenbirk. Among these is the host country size, the education level of the Dutch labour force and the unemployment rate in the Netherlands. Besides the unemployment and education level, we also study the wage rate. We include these variables in our analysis as the findings of Culem (1988) and Chellaraj et al. (2009) reason them important. Also, we study the effect of certain government policies enforced, such as the corporate tax rate and the regulatory quality of the Dutch state.

Historic trade relationships could be important as firms may be more confident in investing in particular countries which they have previous business experience with. Buckley and Casson's (1981) results as well as the work by Markusen (1984) and Helpman (1984) have also lead to the inclusion of imports from and exports to the MNEs' home country. Investment as a percentage of the home country's GDP have also been included to account for any scale effects. If countries depend heavily on foreign investments in their own economies, perhaps they will also be more likely to invest abroad, and thus to direct investments to the Netherlands.

Due to the lack of available and comprehensive data, the sample period covered in the present paper only incorporates the years 2001-2010, for 17 OECD members investing in the Netherlands. Investments made by countries within and outside Europe have been studied, as the

Netherlands may be a competitive destination for either side. Although seemingly short, new data provides the opportunity to test the robustness of Hogenbirk's empirical findings, and adds by investigating a number of variables previously not considered by Hogenbirk. A full list of all the countries analyzed can be found in Appendix 1. Note that while conducting any type of empirical research, one must be aware of the endogeneity issues plaguing the results obtained by means of the Ordinary Least Squares (OLS) method. Hence, this paper warns of the problems associated with reverse causality, measurement error and omitted variable bias and takes precautionary measures when claiming any causal relationships.

Regarding the results, though both host and home country GDP per capita are accounted for, the only robust determinant is that corresponding to the home country market size. We also find convincing evidence on the deterring effects of distances between trading partners, both in terms of linguistic and geographic distance. Another rather robust result is that a higher relative Dutch wage has a positive effect on FDI inflows, potentially signalling the high productivity of the Dutch labour force. Furthermore, the macroeconomic and political stability of the host country may play an important role on the amount of investments devoted by MNEs, and these variables are thus included. The early research attempts by Hartmann (1984) and Slemrod (1990) have confirmed the importance of taxes, and so they have been included here as well. We add to the literature on the Dutch case, as Hogenbirk did not include this factor in her analysis. Following the papers by Disdier and Mayer (2004) and Yang et al. (2000), variables such as the quality of institutions, interest, inflation and exchange rates have also been examined. Unfortunately, we are left with inconclusive results on the effects of the macroeconomic situation on attracting FDI.

The rest of the paper is organized as follows; section 2 lays out the main literature on FDI determinants, section 3 presents the theoretical background upon which this research is based, section 4 discusses the different methodologies and data used, section 5 proceeds by providing and checking the robustness of the main results, section 6 discusses the policy implications of this research, major concerns related to our findings and suggests recommendations for future research, and section 7 concludes with some final remarks.

2. Literature

Much literature exists which aims at identifying the core determinants of FDI. Until recently, data on other countries besides the US was scarce, explaining why most research is on the US level. The literature has followed two major paths in defining the reason for multinational activity. Traditionally, it was believed that MNEs are involved in vertical or horizontal investment. However, some more recent work has shown that MNEs may adopt a mix of the two. Vertical FDI suggests that firms take advantage of lower production costs whereas horizontal FDI argues that investments are made abroad in order to obtain a larger market base. Markusen (1984) first set forward the argument that MNE activities are launched in search of larger market access, and that horizontal MNE activity is a substitute for international trade. Markusen's hypothesis argues that investments are redirected to different regions in search of larger market access which may provide companies with higher sales and profits. With horizontal investments firms locate all their production processes in the host country, from manufacturing to sales and services. Helpman's (1984) counter-argument explains that multinational firms go abroad comparative advantage reasons, as the host country offers cheaper capital and labour. He advocates the idea that trade and capital investments can be compliments. With vertical FDI, each production process is situated at a different location, in order to optimize the minimize total costs of production. Blonigen (2001) provides empirical evidence for both relationships. His results suggest that finished-goods trade decreases with FDI, whereas work-in-process goods, which can be used by the MNEs' affiliates abroad, increase with foreign affiliate activity. The following subsections discuss the research conducted on each topic, linking the fields of MNE activity and FDI.

i) Horizontal FDI

In Buckley and Casson's (1981) model, exports to a host market incur larger variable costs than fixed costs, whereas the opposite relationship is suggested for FDI. Their results support Markusen's horizontal investment motive. They argue that, once a certain threshold of demand is attained, FDI would be the preferred option over exports due to the recovering of these fixed costs as increased sales cover such expenses. Before such a level is obtained however, they argue that exports are preferred over FDI.

The importance of interest rates has been examined by Yang et al. (2000) who study inward FDI towards Australia using quarterly data between 1984 and 1994. Besides a high wage rate, they find high interest rates to positively affect FDI. This suggests that higher rates of return may have attracted more investments. They find that inflation and trade have negative effects on investments. The former may signal macroeconomic instability, whereas the latter provides evidence that exports and FDI are considered substitutes.

Buch et al. (2005) take a different approach and examine micro-level data on German MNE activities abroad. The data spans over the period 1995-2001 on more than 200 host countries. They find that MNEs invested abroad in search of larger consumer markets, as a positive relationship between FDI and GDP was confirmed. A larger geographic distance to host countries had a detrimental effect on the amount of FDI transferred. They found that a 10% increase in distance was associated with a 4% decrease in investment. Furthermore, German multinationals were less likely to invest in countries with substantially large entry barriers.

Gorter and Parikh (2003) study investments made by Europeans within Europe. They conduct a cross-sectional study for the period 1995-1996, where the motives of 8 European investors entering 15 European markets are examined. They take up a more holistic approach and study the effects of several macroeconomic factors on investments simultaneously. They confirm that low taxes attract larger amounts of FDI, proving this statement with an obtained tax elasticity of -4. This suggests that a 1% decrease in the corporate income tax rate results in a 4% increase in FDI. Furthermore, they find that a large market, measured by the host country population and GDP, has a positive effect on FDI.

ii) Vertical FDI

As firms adapt to a countries' specific customs and traditions, they may be more confident in investing there if they have existing trade relations. Helpman's theory is supported by many, who argue that exports and FDI are complements. Lipsey and Weiss (1981, 1984) find a positive relationship between outward US FDI and exports to other countries. The 1981 study examines exports per industry whereas the second focuses on total exports by US MNE. Both studies use micro-level, US firm data for 1970 covering 14 manufacturing industries which invested in 44 host countries. In their first study, they find much higher coefficients of the complementary relationship between exports and foreign affiliate production for developing

countries than for developed ones. In the second, they provide further evidence that exports and FDI complement each other. For developed countries, they find that the amount of intermediate goods exported had a positive effect on the amount of final goods produced in foreign affiliates. This further suggests a vertical motive for multinational activity, proving that the different stages of production were situated at different locations in search of minimizing costs.

Blomström et al. (1988) find somewhat weaker, but statistically significant results that exports are FDI enhancing. Their study examines Swedish and US firms involved in export and foreign affiliate production activities with a number of partners. Their study spans over the period 1978-1982. What is interesting about Blomström et al.'s (1988) research is that they employed two empirical methodologies; OLS and Two Stage Least Squares (2SLS). The latter, obtaining much higher coefficients, was a stepping stone in this particular research arena. As an instrument, they used European Economic Community (EEC) membership. Although its use is admirable and revolutionary for this field, we do not believe it is appropriate and truly exogenous to FDI, especially for the countries that we have sampled. As Appendix 1 shows, it may be likely that a large share of the investments received by the Netherlands are of European origin. Thus we believe that the EEC membership may be related to the outcome variable FDI, and hence we refrain from employing it in our estimations.

iii) Horizontal and Vertical FDI

In recent years, many studies have confirmed both horizontal and vertical investment motives. Disdier and Mayer (2004) explore the location choices taken by French multinationals entering 19 host countries during 1980-1999. They prove that good institutional quality and a large market size attracts foreign investments, which provides evidence in favour of Markusen's market access hypothesis. The negative effect of high labour costs and high exchange rate volatility, however, support Helpman's belief that investors seek hosts with a comparative advantage. Unemployment has ambiguous effects. From one point of view, it deters FDI as it may signal imperfect labour markets, from another, it may be attractive as a large labour force is available. Like many other studies, Disdier and Mayer's results are largely plagued by multi-collinearity issues, specifically between institutional quality and GDP. A relationship between these variables is certainly plausible, as a separate strand of literature is devoted to explaining the

link between GDP and institutional quality, and the true direction of causality (Frankel and Romer 1999, Feyrer 2009 etc.)

Chellaraj et al. (2009) find that firms enter foreign markets to save costs. They study the case of Singapore over the period 1984-2003, distinguishing between inward and outward FDI. Chellaraj et al. find that the latter, mainly directed to developing countries, has been in search of lower labour costs. Investments entering Singapore, however, have been attracted by its highly skilled labour force. Singapore's inward FDI has shifted towards horizontal investments, whereas vertical FDI has been the main reason for outward Singaporean investment. They have accredited high importance to the industrialization policy enforced by the Singaporean government which decreased its trade barriers for goods and human capital, allowing for the growth of its skilled labour. They admit however, that reverse causality may be a plausible issue. On the one hand, the increase in FDI may have been caused by skill accumulation, but such skill accumulation may also have accelerated FDI further.

Another study by Dees (1998) focused on Asian and European investors in China over the period 1983-1995. The Chinese GDP was found to have a large and positive effect on inward FDI. A 1% increase in the Chinese market size would result in a 1.8% increase in FDI stocks. Low wages also attracted investors, as Dees' results show that a 1% decrease in the local market wage was related to a 0.71% increase in FDI. Dees also finds that the larger the amount of exports to China, the larger the amount of FDI China receives, proving that existing trade relations are important.

A paper by Culem (1988) simultaneously analyses the effects of many macroeconomic factors on FDI. Culem's results provide evidence in favour of the complementary theory between exports and FDI. The sample studied consists of 6 industrialized countries investing over the period 1969-1982. Their results find that countries would increase investments to larger markets. A positive relationship is also found between investment and the growth rate of the host economy, as these markets seem promising. High labour costs had a negative effect on investment. Perhaps this was due to the unattractively high nominal wages or relatively low productivity of labour. Culem argues that although endogeneity issues are plausible, since FDI flows were relatively small compared to exports at the time of the study, reverse causality was

unlikely. However, due to the recent surge in global FDI, problems related to endogeneity cannot be ruled out.

Buch and Lipponer (2007) further investigate the export-FDI relationship. Unlike much of the literature, their study is of superior quality as they use micro-level firm data of German banks investing abroad. They find evidence of a complementary relationship between trade and FDI. The data used dates between 1997 and 2001 and includes 2,400 German banks investing in nearly 200 countries. They find that a large market size, low country risk and existing trade increases the amount of FDI receipts. The fact that fixed and variable entry costs increase as geographic distance increases may be behind the negative effects of distance on the amount of investment sent abroad. Regarding inflation, the results are less clear cut. Initially, they find a positive effect on the nominal amount of FDI invested. However, once high-inflation Turkey is removed from the sample, a negative impact of inflation is found which reflects macroeconomic instability.

3. Theoretical Background

In Table 1 below, all 17 regressors included have been classified into five different categories. The hypothesized relationships between FDI and each regressor have also been added.

Much of the literature has found that larger distances between countries have a negative effect on FDI (Buch et al. 2005, Buch and Lipponer 2007 etc). Therefore, both linguistic and geographic distances are expected to have a negative effect on investments entering the Netherlands. As Hogenbirk explains, since multi-collinearity between population size and GDP may be an issue, we decided to merge the two variables into GDP per capita. We expect that GDP per capita proxies aggregate demand. As Hogenbirk predicts, we believe that a higher host country GDP per person would attract investors, as this may suggest a wealthy host population, or perhaps a high aggregate demand. Larger host markets may be attractive as higher prices can be charged and bigger quantities can be sold. As Liu et al. (1997) argue, home country GDP per capita may indicate higher local demand which may be detrimental to investments made abroad.

Thus, we expect MNEs originating from larger markets to invest less abroad, but that large host countries may attract foreign investors (Buch et al. 2005).

Past trade may increase investors' confidence in doing business with a certain partner, and hence we expect exports exiting the Netherlands to positively influence the FDI inflows (Lipsey and Weiss 1981, 1984). As FDI and good trade may be mutually exclusive options for MNEs, we expect these to have a negative relationship, as the substitute hypothesis of Markusen suggests.

Regarding the social factors analysed, positive relationships with FDI are anticipated. We follow Chellaraj et al. (2009) as their study focused on Singapore: a small and open economy similar to the Netherlands. A highly educated labour force and a higher hourly wage may attract foreign investors as this may signal high worker productivity.

Some of the macroeconomic variables may discourage investors from devoting capital to the Netherlands. Following much of the literature, we believe that high tax rates discourage investment (Hartman 1984, Slemrod 1990). On the other hand, other elements may attract foreign capital. Higher regulatory quality can indicate strong institutions and government stability, which could mean that investments are less risky (Disdier and Mayer 2004). However, as even the Dutch ombudsman, Alex Brenninkmeijer, argued that the Dutch government was highly incomprehensible and bureaucratic, hindering many daily economic activities, it is likely that bureaucracy has a negative effect on FDI through regulatory quality.[1] Hence, we believe it to have a negative relationship with incoming FDI. As Disdier and Mayer (2004) suggest, exchange rate appreciations of the Euro would mean that the costs of acquiring it would increase, and thus a negative relationship between exchange rate appreciations (in this case, increases of the US $/Euro ratio) and FDI is expected. Naturally, if investments in the Netherlands are more risky than in the home country, foreigners might be discouraged from displacing funds from their own economies, and may rather be in favour of financing local projects. A relatively risk-prone host market may result in less FDI in the Netherlands. This theory coincides with Buch and Lipponer's (2007) results that low-risk economies are more favourable. We expect that the Dutch

[1] The full ombudsman report can be downloaded, in Dutch, at the following link: http://jaarverslag.nationaleombudsman.nl/

inflation rate decreases with the amount of incoming investments. This may signal macroeconomic instability which may warn potential investors from entering such markets (Disdier and Mayer 2004).

As interest rates, and thus rates of returns increase, the possibility of large returns on investments could also attract investors (Yang et al. 2000). Regarding inflation, due to its positive link to economic growth in developing countries, it may positively affect FDI. Li and Liu (2005) find that this relationship offsets the typical negative effect of interest rates. Therefore, since growing economies are clearly attractive destinations, a positive link between inflation and FDI is anticipated. Following the earlier work of Coughlin et al. (1991), higher unemployment should lead to higher FDI, as it confirms the availability of an abundant labour supply. Driffield and Taylor (2000) suggest that FDI may create direct and indirect employment opportunities for skilled and unskilled workers. They argue that foreign MNE investment in the UK attracted skilled workers, which would leave their jobs in order to join these MNEs. The vacancies they leave open may be filled by relatively unskilled labour, provided that they have the necessary experience. This creates more employment for the host country, hence, the anticipated positive relationship between FDI and unemployment.

Table 1

		Regressors	Hypothesized Relationship
1	**Proximity**	Language Distance	(-)
		Geographic Distance	(-)
		Geographic Distance Sq	(+)
2	**Market**	Home GDP per capita	(-)
		Host GDP per capita	(+)
3	**Trade**	Exports	(+)
		Imports	(-)
4	**Social**	Education	(+)
		Wage Difference	(+)
5	**Macro-economic**	Tax	(-)
		Regulatory Quality	(-)
		Interest Rate	(-)
		Inflation Difference	(+)
		Exchange Rate	(-)
		Risk Difference	(+)
		Unemployment	(+)
		Home FDI (% of GDP)	(+)

Finally, it is important to include how likely home countries are to invest abroad in general. The total amount of direct investment flows to the home market is expressed as a percentage of GDP. If FDI plays a substantial part in a country's economy, countries with a high FDI-GDP ratio may be more likely to invest abroad. Hence we anticipate a positive relationship between the amount of FDI received by the Netherlands and the proportion of total home country FDI to GDP.

4. Methodology

i) Data

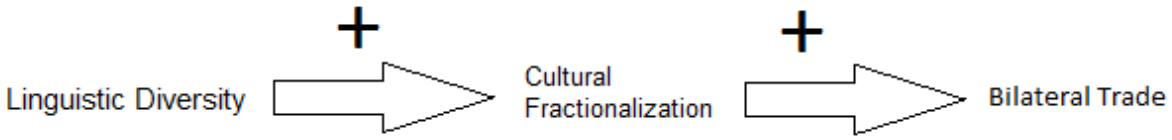
The data on the dependent variable used, FDI, is obtained from the OECD. Inward FDI is defined as investment flowing into the Netherlands from each respective partner. Investment is measured in millions of current US dollars. Although data in purchasing power parity is preferable, due to its lack of availability, we made use of the OECD data. In total, there are 168 observations, where data for 2004 and 2005 are missing for Australia. We interpolate these two points by averaging the two previous periods. Of course, it could be that data is missing for a good reason. For example, it may not be disclosed as there are large investments or divestments happening by a particular company. However, as this is only done for 2 out of 170 observations, we do not expect it to have too large of a distortionary effect on the relationships we are estimating. This is reasonable as the data for the years 2002 and 2003, which is used for the interpolation, is not too different for the rest of the sampled period for Australia.

In order to control for any size effects, we also include FDI as a proportion of a country's gross domestic product. This FDI data is also obtained from the OECD and is expressed as a percentage of the home country's respective GDP. The trade figures used in this paper have also been obtained from the OECD, as this source provides bilateral exports and imports between the Netherlands and all 17 countries studied. Both include the trade of goods and services and are measured in thousands of current US dollars. Each measure is reported by the Netherlands. Imports are produced in the home country and are entering the Netherlands, whereas exports are produced in the Netherlands and are going to the home country.

GDP per capita of the partner country and the Netherlands have been obtained from the World Bank. They are measured in international dollars using purchasing power parity (PPP). The data used to calculate the inflation difference between the home and host country is also obtained from this source. The inflation difference is computed by subtracting the home country values from their Dutch counterparts. Regulatory quality is also obtained from the World Bank and is defined as the government's ability to form and implement reliable policies that stimulate private sector growth. Before 2002, data was collected on a bi-annual basis, and thus the 2001 figure is calculated by averaging the available data for 2000 and 2002.

An index compiled by West and Graham (2004) is used to calculate linguistic distance between the Netherlands and its trade partners. The dataset represents the linguistic distance of 51 ethnicities from English. The index ranges between 0 and 7, which represents English or the Indonesian primary language, Bahasa, respectively. In order to make the index comparable to the Netherlands, each country's distance is subtracted from the Dutch distance to English.

For robustness checks, a different language distance indicator is also used. It is a language diversity index created by Greenberg which calculates the probability that any two, randomly selected people in a country have different mother tongues. This index is obtained from the *Ethnologue: Languages of the World* research project which compiles data on all languages of the world. The index ranges between two extremes, 1 and 0, where the former represents extreme diversity and no two people have the same mother tongue. The latter is defined when there is no diversity and everyone speaks the same mother tongue. This data is once again modified to be comparable to the Netherlands, where the home country value is subtracted from the Dutch one. We anticipate that country pairs with a small difference would be more likely to trade with each other. This is intuitive, because countries with similar linguistic distance can also be viewed as culturally similar. Countries with a higher linguistic diversity have more culturally fractionalized societies (Fearon 2003). Highly fractionalized countries are similar in culture as they may be more accustomed to interacting with people of a different racial origin. Therefore, countries with similar cultural fractionalization should engage in more bilateral trade with each other, as they are more alike. Conversely, such an expectation coincides with Loree and Guisinger's (1995) view that large cultural distances between countries negatively affect FDI.



Data on the percentage of the labour force that is unemployed and that has undergone tertiary education is extracted from the CBS. This source also provides information on the corporate tax rate and the average hourly wage in the Netherlands. Figures on the average wage have been transformed where the home wage is subtracted from the Dutch one. The International Monetary Fund (IMF) provides the data for the home country's average wage, and the Dutch wage is obtained from the CBS. Both home and host country wages are expressed in US dollars.

The geographic distance between capital cities has been computed using the Indo.com site, used by Hogenbirk (2004). This site calculates as-the-crow-flies distances between countries' capital cities, measured in kilometres. It uses US census data and other supplementary sources which calculate these distances from longitude and latitude coordinates. To test the robustness of these results, geographic data from the CEPII database is used compiled by Mayer and Zignango (2011).

The interest rates in the Netherlands have been obtained from De Nederlandsche Bank (DNB), the Dutch National Bank. As the Netherlands has been part of the Euro zone during the period sampled, Euro exchange rate information has been compiled from the European Central Bank. The exchange rate is denoted in US dollars per Euro.

The difference between investment risk is based on own calculations and is estimated by subtracting the home country values from those of the Netherlands. This index has been obtained from the Euromoney Country Risk database. It ranges on a scale between 0 and 100, where 0 represents maximum risk and 100 equals no risk. Information on economic, political and structural characteristics as well as capital accessibility, credit rankings and fiscal debt indicators are used to construct this variable.

Although it may be easier to interpret the results obtained in terms of elasticities, we do not transform the data into logarithmic form. This is done for two reasons. Firstly, negative numbers, due to divestment, cannot be transformed into logarithms. This would lead to a large

loss in variation only leaving us with 131 observations prior to the original 170. Secondly, divestment is a rational choice and we believe that deleting this data may bias the results.

Not all variables are expressed in differences between the Netherlands and the home country. As 11 of the 17 countries sampled are part of the European Union, there may be little or no difference between variables for the Netherlands and the home countries studied. Furthermore, this would cause a loss in variation of the market variables, and as we are interested in each variable's specific effect, we do not express all of them in terms of their differences.

Appendix 2 provides descriptive statistics for the independent regressors included as well as the main variable of interest, FDI.

ii) Empirical Specifications

In order to test the importance of certain Dutch and home country characteristics on attracting foreign investment to the Netherlands, the following panel OLS model presented in equation 1 has been employed

$$\boldsymbol{y}_{nt} = \boldsymbol{proximity}_{nt} + \boldsymbol{X\beta}_{nt} + \boldsymbol{\varepsilon}_{nt} \qquad \text{[eq. 1]}$$

$$\mathbf{y} = \begin{pmatrix} y_{11} \\ y_{22} \\ \vdots \\ y_{nt} \end{pmatrix}, \quad \mathbf{X} = \begin{pmatrix} x_{111} & \cdots & x_{1p1} \\ x_{212} & \cdots & x_{2p2} \\ \vdots & \ddots & \vdots \\ x_{n1t} & \cdots & x_{npt} \end{pmatrix}, \quad \boldsymbol{\beta} = \begin{pmatrix} \beta_{11} \\ \beta_{22} \\ \vdots \\ \beta_{pt} \end{pmatrix}, \quad \boldsymbol{\varepsilon} = \begin{pmatrix} \varepsilon_{11} \\ \varepsilon_{22} \\ \vdots \\ \varepsilon_{nt} \end{pmatrix}$$

where $\boldsymbol{y}$ stands for the outcome variable, ***proximity*** represents the language and geographic distances between each country pair, $\boldsymbol{X}$ is a vector of explanatory variables, $\boldsymbol{\beta}$ is the vector of estimated coefficients for each explanatory variable, $\boldsymbol{\varepsilon}$ is the error term vector, *n* is the number of countries studied (in this case 17), *t* is the year under analysis and *p* is the number of other explanatory variables used (see Table 1). In the next section, Table 2 presents the initial OLS models and their respective results. As our main interest is the effect of the ***proximity*** variables,

we add each group of variables step by step in order to examine the robustness of the results obtained on the linguistic and geographic distance.

A major assumption under OLS modelling is that the variance is homoskedastic throughout the dependent variable of interest. Violation of this assumption may result in severe overestimation of the effect each regressor has on the dependent variable. Another assumption is that the data is normally distributed. The results of the Breusch-Pagan homoskedasticity test and the Shapiro-Wilkinson normality test can be found in Table 2. The p-values of these tests confirm that the data is neither homoskedastic nor normal. This leads us to specify an OLS model with heteroskedastic-consistent standard errors in all OLS specifications.

As we are analyzing panel data, it may be useful to apply other methodologies more suitable for such data, as suggested by Verbeek (2008). Macroeconomic studies may be interested in analyzing only time-varying effects, as there may be unit-specific, time-invariant differences between individuals which are often difficult to control for due to the lack of data. Fixed Effects (F.E.) models assume that something within the unit under analysis is constant and may impact or even bias the predictor or outcome variable, if it is not accounted for. Equation 2 below represents the F.E. model

$$\boldsymbol{y}_{nt} = \boldsymbol{\alpha}_n + \boldsymbol{X\beta}_{nt} + \boldsymbol{u}_{nt} \qquad \text{[eq. 2]}$$

where α is the individual specific, time-invariant intercept, and u captures the rest of the noise in the model, between countries. This allows for the assessment of the predictor's net effect on FDI. F.E. models can account for omitted variables that are likely to be correlated with the dependent and independent variables. Although this specification eliminates the *proximity* variables as they are constant over time, using the F.E. method is still interesting in order to examine the net effects of the other time-varying variables.

However, as there may be little or no variation between countries over the 10 year period covered, the use of a Random Effects model may be superior to the F.E. methodology. The Random Effects (R.E.) model may better capture the effects of both the country-fixed, time-invariant variables as well as the effects of variables which may change over time. Equation 3 below shows the random effects model.

$$y_{nt} = proximity_{nt} + X\beta_{nt} + \varepsilon_{nt} + u_{nt} \quad \text{[eq. 3]}$$

Unlike the F.E. model which only controls for fixed, unchanging values over time, the R.E. model can estimate the impact of time-variant variables as well. It is likely that differences between countries have some effects on the amount of FDI sent to the Netherlands. The R.E. model accounts for between-country errors in *u* and within-country errors in *ε*. Due to this, R.E. models allow for generalizations of the estimated effects beyond the sampled data. The use of the R.E. model, however, may be at the cost of potential coefficient bias. Although we have included the *proximity* variables, the results obtained from the R.E. computations should be interpreted with caution, as the model assumes that the error term is unrelated to the regressors. There should be no omitted variables in our regressions. However, as the low R-squared estimates confirm, this is unlikely to be true (Table 3 & 4).

Next a Generalized Estimating Equation (GEE) is specified, which is an extension of the General Linear Models (GLM). An advantage of this GEE model over the GMM one is that its estimations compute robust standard errors. The GEE method produces unbiased estimates of population-average regression coefficients despite possible misspecification of the data's correlation structure. It only assumes a functional form for the marginal distribution at each time period measured. GEE estimates are assumed to be asymptotically normal and consistent regardless of whether the data are correlated or not. The GEE assumes that the regressors have a linear relationship with the outcome variable, and only estimate consistent coefficients when subjects are independent. The estimated coefficients represent marginal or population-average effects and are not to be interpreted for the individuals comprising the subpopulation. As we study panel data, and as correlation between units over time may be an issue, we also employ this estimation strategy. Table 3 in the next section provides the results of the OLS, F.E., R.E. and GEE models estimated.

5. Results

i) Main results

In Table 2 below, the results of the panel OLS specifications are displayed. As the proximity factors are the main focus of this research, each model builds upon the previous by adding more controls to these variables. Column 1 only includes the proximity factors. In this specification the distance between trading partner's native languages has a negative but insignificant effect on the amount of FDI received by the Netherlands. Perhaps, the distance between languages is highly correlated with *geographic distance*, which may absorb the true effects of languages. Our first significant result is that *geographic distance* has a negative and significant effect on FDI, confirming earlier findings by Buch et al.'s (2005) and Buch and Lipponer's (2007) work. Significant at the 10% level, this result reveals further evidence that geographic distance deters FDI sent to the Netherlands, even in the 21st century, when goods and capital are highly mobile. If the distance between capital cities increases by one kilometre, the amount of investments received from that country's capital decreases by $1.8 million. This is surprising as the same geographic distance variable has been used as that by Hogenbirk (2004), who does obtain a significant result. The reason behind this difference may be that the FDI data in this study is obtained from the OECD whereas Hogenbirk uses DNB data. Furthermore, this study uses a different cultural measure focusing only on language, whereas Hogenbirk uses an index combining Hofstede's (1980) four cultural dimensions. Squaring geographic distance between countries further accounts for bilateral relations, and its importance is confirmed, as it is strongly significant at the 1% confidence level. Its positive sign suggests that there are many outliers, and that large investments are made by countries either very close to or very far from the Netherlands. This is probably due to selection bias, as only 5 of the 17 sampled countries are non-European which coincidentally are some of the largest investors in the Netherlands (Appendix 1).

In Column 2, controls for the market size are added to the former *proximity* variables. In order to account for any scale effect, the home and host country GDP per capita are added. Although the expected signs are obtained for both market variables, we can make conclusions on the home country GDP per capita, as it has a significant negative effect on investments. This

proves that previous literature used correctly specified models, but that combining the market size variables into GDP per capita provides more clear-cut evidence. The home market size results are in line with Liu et al.'s (1997) findings. Although a positive relationship between the host country GDP and incoming FDI is estimated, just like in Gorter and Parikh (2003), this is insignificant, and does not allow us to make any concrete conclusions. This time, linguistic distance has a significant deterring effect on investment at the 10% level, and provides further evidence for Loree and Guisinger's (1995) and Hogenbirk's (2004) findings. As the distance between languages increases by 1 unit, investments decrease by roughly US $1 billion. Once again, the geographic distance variables are significant, with their coefficients changing little in size.

Next, Column 3 adds bilateral trade to the estimations. The negative sign of imports entering the Netherlands suggests a substitution effect between FDI and imports from the home countries. Although this provides evidence for Markusen's (1984) hypothesis of horizontal FDI, it is insignificant, and thus cannot be interpreted directly. As the positive sign of exports suggests, existing business relations may be FDI enhancing. Existing knowledge on partners' cultural and business behaviour may be favourable for foreign investments, but as it is insignificant no further evidence for these relationships is provided.

As people are at the heart of multinational corporations, investors may be interested in some host country social indicators. The difference between Dutch and home country wages and the percentage of the Dutch labour force with a tertiary education have been included in Column 4. As Chellaraj et al. (2009) explain, a highly skilled labour force may be attractive for investors, but the negative sign of the education variable in Table 2 suggests otherwise. It is likely that foreign-owned firms invest in industries not requiring highly skilled labour. In any case, this is not significant and thus the importance of human capital cannot be endorsed. The positive sign of a relatively high host country wage signal high worker productivity in the Netherlands. As this is significant at the 10% level, we do find evidence supporting Yang et al.'s (2000) results that investors seek highly productive labour. A dollar increase in the difference between the Dutch and home country wage may attract up to US $ 144 million more investments to the Netherlands.

The previously obtained results on exports and imports still appear insignificant, where now the signs of the variables interchange. The positive sign of imports suggests evidence for Helpman's complement theory. This is likely due to endogeneity issues where FDI may be the one affecting trade patterns (Aizenman and Noy 2006). Furthermore, one can never be certain that all key variables affecting FDI have been included in our OLS estimations, unless a Two Stage Least Squares (2SLS) approach is carried out. The importance of the proximity variables and the home country GDP per capita is confirmed, as they appear significant with almost identical coefficients as those from Column 3.

Column 5 of Table 2 incorporates the variables from all five categories, with none of the macroeconomic variables significantly affecting FDI. Although a negative sign is reported, it seems strange that the widely accepted negative effect of the tax rate is not confirmed by our results. This may be due Weyzig's (2012) reasoning that the Netherlands is a typical tax-treaty shopping destination. It is often a transit economy for capital, and since it has a large tax treaty network, MNEs may find it cost-saving to divert capital to the Netherlands as tax payments may be lowered or avoided altogether. As all countries studied have signed tax treaties with the Dutch government, further research is required to disentangle these relationships.[2] In particular, it is important to unravel the true effects on FDI whose end destination is the Netherlands, and is not simply in transit. The positive signs of the interest rate, risk difference and home country FDI % of GDP suggest that they may attract FDI, however they are insignificant. The positive sign of the *risk difference* variable indicates that investors are risk loving, since risky investments often earn high returns on investments, also explaining the positive coefficient of the *interest rate* variable. Although negative signs for the *inflation difference*, *exchange rate* and *unemployment rate* were anticipated, the results provided do not suggest them to significantly deter FDI. A rather surprising result is that on the regulatory quality of the Netherlands, which has a negative effect on FDI. Perhaps investors favour unregulated markets where they could bypass certain laws without being caught. As the Netherlands is highly bureaucratic, this may simply be impossible. Furthermore, perhaps high bureaucracy may slow down economic activities and ward off investors, thus deterring them from entering the Dutch market. Many of the

[2] The list of all countries that have signed tax treaties with the Netherlands can be found on the official site of the Dutch government: http://www.government.nl/

macroeconomic variables may be highly related to the Dutch GDP level, which may hide the true relationships between these variables and FDI.

Table 3 goes on to compare the different regression results obtained using the different estimation strategies presented in section 4. As the Hausman test p-value suggests, the Random Effects model is preferred over the Fixed Effects one. The fact that no variables are significant in the F.E. model and the low overall R-squared (0.044) suggest that the country-specific, time-invariant proximity variables account for a major part of the variation in the sample, confirming their importance in determining FDI. The estimated results of the OLS and Random Effects models are identical in size and significance except for two variables. The *wage difference* has a positive and significant effect in the OLS but not in the R.E. model, whereas the Dutch *unemployment rate* is negative in both but significant only in the R.E. specification. The Breusch-Pagan LM test reported at the bottom of Table 3 suggests that there are no random effects and that the use of the OLS methodology is preferred. Hence, more evidence is provided on the positive effect of the wage difference on FDI. An increase in the hourly Dutch wage relative to the home country's by one US dollar results in a US $ 200 million increase in the amount of FDI received by the Netherlands. The GEE specification reports similar results for the proximity and market variables, but it shows a negative and significant effect of the Dutch unemployment rate and the home country's FDI as a percentage of GDP. However, as there is no 1^{st} period auto-correlation, it may be inappropriate to make conclusions from the GEE model, and thus we favour the use of the OLS model.

Following the attempts by Hogenbirk (2004), a number of different specifications regarding the trade variables have been estimated. Hogenbirk argues that due to the high multi-collinearity between exports and imports, it is difficult to distinguish between each separate effect on FDI. Appendix 3A and 3B provide correlations between the regressors. Appendix 4 presents the different trade models specified where Column 1 and 2 include only exports or imports, respectively. Despite Hogenbirk's suggestion to disentangle their relationships to FDI in this way, neither trade variable is significant. As Zhang and Song (2002) argue that there may be a lagged relationship between past and present economic fluctuations, Column 3 includes the one period lags of exports and imports, neither of which significantly affects FDI. *Language distance* and *wage difference* are insignificant in this model, but as this model obtains the lowest R-

squared, we tend to prefer the other models in Appendix 4. In order to account for the total amount of investments that a country makes, we include a combined *trade openness* proxy including the sum of Dutch exports and imports divided by GDP. The results can be found in Column 4. As anticipated, a positive relationship between this *trade openness* variable and FDI is obtained, but it is insignificant just like the other trade variables. All results that were previously significant are also significant here, with the additionally significant and negative effect of *tertiary education* at the 10% level. This suggests that most MNEs entering the Netherlands may be involved in the manufacturing sector, which does not require a highly skilled labour force. On the contrary, manufacturing calls for a highly productive, unskilled workforce.

Appendix 5 reports the results using the same empirical strategies as in Table3, but excludes the years after 2008; the period right after the global financial crisis struck. Thus, the number of observations falls to 136. As the Hausman test does not provide evidence that there any country specific effects on either FDI or the regressors, the R.E. model is once again preferred to its F.E. counterpart. As the small F-statistics of the OLS and F.E. models are insignificant, we conclude that these models do not fit the 2001-2008 data well. The results obtained for the OLS and R.E. estimations are identical, both in size and significance, where the only difference lies in the significance of the *geographic distance* variable, which is significant in the R.E. but not in the OLS specification. This time, the Breusch-Pagan LM test rejects the null hypothesis, thus we favour the use of the R.E. model. What is interesting for the pre-crisis sample is that neither the *home country GDP per capita* nor the *wage difference* is a significant FDI determinant in the R.E. specification. This suggests that the home market demand has a deterrent effect on investments made abroad, and that the post-crisis years are largely responsible for this negative relationship. Although positive, the *wage difference* is insignificant. This may indicate that MNEs have switched to the manufacturing sector during the crisis. This is intuitive, as companies may have to tighten budgets during times of economic downturn, and hence employ relatively unproductive labour.

For this smaller, pre-crisis sample, the use of the GEE model is most appropriate, as signs of 1st order autocorrelation appear at the 10% significance level. As usual, the proximity variables are all significant and the anticipated signs are obtained. Home GDP per capita is

negative and significant once again, suggesting that this is an important FDI determinant, also during times of economic instability. An increase in home country GDP per capita by one US dollar results in a decrease in investments sent to the Netherlands by US$ 0.051 million. The GEE model for this sub-sample is the only model which reports a significant trade variable. More specifically, imports entering the Netherlands have a negative effect on FDI, providing evidence for Markusen's theory that FDI and trade are substitutes. As both FDI and imports entering the Dutch economy may have tremendously dropped after the economic crisis of 2008, this may be the reason behind its previously insignificant effect in the full dataset. A 1% increase in the Dutch interest rate causes a decrease in the amount of FDI received by around US $ 1.9 billion, a tremendous effect significant at the 1% level. This is in line with Grosse and Trevino's (1996) reasoning that high costs of capital may be unattractive for investors. Furthermore, the proportion of FDI to the home country's GDP is significant at the 5% level, indicating that the home country's likelihood of investing abroad is indeed affected by the overall importance of FDI in its own economy.

All proximity variables, including the *language distance, geographic distance* and the squared of this variable have the same previous magnitudes, and this time they are all significant at the 1% level. This confirms their importance in determining the location of FDI, even when the time frame under examination is decreased.

Table 2					
Dependent Variable: FDI (current US$, millions)					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Constant	3,929***	4,584	4,747	46,776*	138,049
Proximity					
Language Distance	-803	-1,027*	-1,053*	-1,025*	-960*
Geographic Distance	-1.823*	-1.916*	-1.917*	-1.939**	-1.955*
Geographic Distance Sq	0.000**	0.000**	0.000**	0.000**	0.000**
Market					
Home GDP per capita		-0.060*	-0.060*	-0.057*	-0.058*
Host GDP per capita		0.050	0.067	0.602	0.173
Trade					
Exports			0.000	-0.000	0.000
Imports			-0.000	0.000	0.000
Social					
Education				-2,146	-2,578
Wage Difference				144*	202*
Macro-economic					
Tax					-1,254
Regulatory Quality					-6,610
Interest Rate					4.213
Inflation Difference					-1,240
Exchange Rate					-2,651
Risk Difference					574
Unemployment					-1,195
Home FDI (% of GDP)					7.821
N	170	170	170	170	170
R-squared	0.29	0.30	0.30	0.32	0.34
F-statistic	4.61***	4.67***	3.55***	2.72***	2.03**
OLS Assumption Tests				**Statistic**	**P-value**
Breusch-Pagan Heteroskedasticity Test				703.96	0.000
Shapiro Wilkinson Normality Test				8.89	0.000
1st. Order Autocorrelation test				1.577	0.227

Notes: *, ** and *** significant at 10%, 5% and 1%, all models use heteroskedastic-consistent standard errors. OLS results represented

Source: Author's own calculations

Table 3				
Dependent Variable: FDI (current US$, millions) Sample Period: 2001-2010				
	OLS	**Random Effects**	**Fixed Effects**	**GEE Model**
Constant	138,049	138,049	131,943	14,398
Proximity				
Language Distance	-960*	-960**	NA	-984**
Geographic Distance	-1.955*	-1.955***	NA	-2.054***
Geographic Distance Sq	0.000**	0.000***	NA	0.000***
Market				
Home GDP per capita	-0.058*	-0.058**	-0.099	-0.039*
Host GDP per capita	0.173	0.173	0.180	0.198
Trade				
Exports	0.000	0.000	0.000	-0.000
Imports	0.000	0.000	0.000	0.000
Social				
Education	-2,578	-2,578	-2,442	-2,753
Wage Difference	202*	202	220	154
Macro-economic				
Tax	-1,240	-1,254	-1,210	-1,282
Regulatory Quality	-6,610	-6,610	-6,357	-7,086
Interest Rate	4.213	4.213	2.377	9.006
Inflation Difference	-1,240	-1,240	-1,281	-1,251
Exchange Rate	-2,651	-2,651	-2,835	-2,550
Risk Difference	574	574	649	429
Unemployment	-1,195	-1,195*	-1,248	-1,132*
Home FDI (% of GDP)	7.821	7.821	237	-203*
N	170	170	170	170
R-squared (overall)	0.343	0.343	0.044	
R-squared (within)		0.072	0.074	
R-squared (between)		0.954	0.000	
F-statistic	2.03**		3.75***	
Model Tests			**Statistic**	**P-value**
Hausman Test			0.67	1.000
Breusch-Pagan LM Test			0.00	1.000

Notes: *, ** and *** significant at 10%, 5% and 1%, all models are specified with heteroskedastic-consistent standard errors.

Source: Author's own calculations

ii) Robustness Checks

To ensure that the results on the proximity indicators are robust, several modifications are made to Column 5 of Table 2. Table 4 includes alternative proxies for a number of the variables studied, using the initial panel OLS strategy. Column 1 uses a different geographic variable, which uses data obtained from the CEPII geographic dataset. Column 2 uses the language diversity index obtained from the *Ethnologue* research project, instead of the own data compilations created from the West and Graham (2004) index. Column 3 includes continent dummies and a dummy indicating whether a country is landlocked or not. The landlocked dummies are added to capture more bilateral information. Landlocked countries may be at a disadvantage as they do not have direct links to water transportation. Limão and Venables (2001) find that transport costs incurred by landlocked countries are 50% higher and result in 60% less trade than the average coastal economy. The continent dummies are added in order to identify the origin of the major investing countries.

In Column 1 the deterring effects of all the proximity variables are confirmed, once again, as they are significant at stricter confidence levels than before. The language distance variable has a much larger coefficient and is highly significant at the 1% level. A 1 unit increase in the distance between languages decreases the amount of investments received by US $ 1.6 billion. Relatively higher wages paid in the Dutch labour market are also significant but positive determinants of FDI.

Column 2 uses the *language index* obtained from the *Ethnologue* research project. The *geographic distance* variables and the *wage difference* are significant but the new language distance variable is not. Perhaps the diversity of the number of people speaking the same mother tongue is not a good proxy for cultural or linguistic distance. Countries are compared only by the number of citizens that speak the same mother tongue, and true distances between languages may not be fully accounted for. The home country's GDP per capita is not significant in either Column 1 or 2, although the anticipated negative sign has been obtained. The rather peculiar result obtained that FDI increases with language diversity distances casts further doubt on the ability of this variable in capturing cultural distance.

Table 4: Robustness Checks			
Dependent Variable: FDI (current US$, millions)			
	(1)	**(2)**	**(3)**
Constant	137,387	143,098	144,490
Proximity			
Language Distance	-1,632***		-275
Language Index		338	
Geographic Distance		-2.261**	-3.869**
Geographic Distance Sq		0.000**	0.000***
CEPII Distance	-2.116**		
CEPII Distance Sq	0.000**		
Market			
Home GDP per capita	-0.056	-0.025	-0.075*
Host GDP per capita	0.174	0.124	.176
Trade			
Exports	0.000	-0.000	0.000
Imports	0.000	0.000	0.000
Social			
Education	-2,565	-2,604	-2,521
Wage Difference	207*	210*	218*
Macro-economic			
Tax	-1,247	-1,293	-1,232
Regulatory Quality	-5,891	-8,898	-6,590
Interest Rate	26	-14	21
Inflation Difference	-1,243	-1,146	-1,253
Exchange Rate	-2,776	-2,248	-1,253
Risk Difference	540	742	630
Unemployment	-1,194	-1,198	-1,221
Home FDI (% of GDP)	-4.199	66	106
Geographic Dummies	No	No	Yes [a]
N	170	170	170
R-squared	0.33	0.33	0.35

Notes: *, ** and *** significant at 10%, 5% and 1%, all values in logarithms

[a] : None of the geographic dummies is significant

Source: Author's own calculations

Next, Column 3 includes the initial proximity indicators and some geographical dummies, in order to further account for bilateral differences between the home countries and the Netherlands. The continental dummies for countries from Asia, Europe and other continents are insignificant (results not shown). Accounting for the home country's origin does not have a significant power in explaining FDI. Although *language distance* has the expected negative sign, it seems reasonable that it is insignificant. Naturally, countries that are on the same continent may have more similar languages. Thus, cultural distances are likely to be captured by the continent dummies, leaving *language distance* insignificant. The *landlocked dummy*'s coefficient reports a negative sign, which is in line with Limão and Venables' (2001) findings, but it is not significant at the 10% confidence level. The geographic proximity variables are also significant and negative in this specification. Once again, higher home country demand has a detrimental and significant effect on FDI, at the 10% level. This suggests that investors are not likely to go abroad when they have the potential to make large sales in their own markets. This seems reasonable, as firms do not need to acquaint themselves with a country's legal systems and cultural norms.

Throughout all the robustness checks in Table 4, the geographical proximity variables change little in terms of size and significance, which contradicts Hogenbirk's results that deemed geographical distance unimportant for potential investors. As previous research suggests, the geographic distance variables have a significant negative impact on FDI, proving to be one of the most robust results obtained in this study (Buch et al 2005, Buch and Lipponer 2007, Disdier and Head 2008). The *wage difference* also changes little in size and significance. This finding is in line with Hogenbirk´s and Gorter and Parikh's (2003) results which also find that a relatively higher Dutch wage may signal high worker efficiency. The coefficient of the *wage difference* variable changes only slightly, which gives us confidence in stating that high worker productivity is an attractive attribute. A dollar increase in the Dutch wage relative to that of the home country can lead to a US $ 200 million increase in investments. Distances between languages may not always be significant FDI determinants. As English has vastly been adopted as the main language of business, perhaps the distance between trade partner's own languages is losing importance but since we obtain a negative significant effect we believe that it is still important.

6. Discussion

Unlike Hogenbirk's (2004) study on FDI in the Netherlands, we do not often find any macroeconomic variables to be significant FDI determinants. This may be because panel effects are accounted for in this study whereas Hogenbirk's did not. We include the Dutch corporate tax rate as previous literature deems it important, adding to Hogenbirk's analysis which did not include this. Since much of the literature hints towards a negative and detrimental tax effect, it is surprising that we do not obtain any significant relationship between FDI and the tax rate. Weyzig (2012) explains that the Netherlands is a tax shopping destination and with its large network of signed tax treaties, it is likely that such a clear cut relationship may not exist. A more in-depth analysis is necessary to fully deal with these questionable findings. Future research attempts should focus on adding more bilateral information and further disentangling these relationships by accounting for the ways that economies can deal with double-taxation.

A remarkable result of this study is that geographic distance has a strong and negative impact on FDI, in contrast to Hogenbirk (2004) who did find this relationship to be significant. This is peculiar for two major reasons. Firstly, we only study 17 investing countries compared to Hogenbirk who includes 28. One would expect that Hogenbirk's larger sample would obtain more variables to be significant. Secondly, it is rather peculiar that unlike Hogenbirk, we find an extremely robust and negative effect of geographic distance on FDI, though we use the exact same data source Hogenbirk. Furthermore, this study does not find any results on the importance of the macroeconomic situation of the host economy. Though we do find some evidence on the Dutch borrowing and unemployment rate, as these results are statistically fragile, we are weary in generalizing these results beyond our sample. The insignificance of these variables suggests that it is not macroeconomic but microeconomic factors that are most important for investments. Hence, the literature should include more microeconomic variation which is company, industry and country-pair specific.

Unfortunately, there is no circumstantial evidence regarding the link between FDI and the education level of the Dutch labour force. Though some results do point towards a negative relationships, as we only obtain a significant result in two of our estimations, we leave this open for discussion. Perhaps future research should focus either on the wage rate or the education

level of the Netherlands, as each one may conceal the other's effect on FDI. Also, it may be that the high collinearity between the tertiary education level of the Netherlands and its per capita income and tax rate obscure the true effects of education. However, we do not believe that collinearity is the major issue at play here. It would be truly problematic only if variables were perfectly collinear, which is not the case here (Appendix 3A and 3B). Furthermore, Roodman (2008) explains that the inclusion of collinear variables could actually enhance obtaining significant results. When MNEs invest in a country, besides bringing capital they may also bring human capital along with them. They may recruit people from their own countries or from other parts of the world. Hence, this may explain why the education level of the Netherlands may not be a key element in the MNEs investment decision.

Endogeneity between GDP, unemployment, openness and FDI are major concerns, as some studies have found reverse causality between these factors (Chang 2009). Thus they should not be neglected and future research endeavours should aim at untangling problems related to causality. As no appropriate instruments have been found to deal with such plausible issues in this paper, we leave this for future studies.

Mixed results have been obtained on the effect of trade on FDI. We only obtain a significant and negative relationship between trade and FDI in one of our empirical models. It does however provide evidence in favour of Markusen's (1984) substitute hypothesis. Our results suggest a substitution effect between home country exports and FDI, contradicting Hogenbirk's results of a complementary relationship. It is possible that reverse causality is the foundation of this outcome, as Zhang and Song (2002) have found that FDI entering China has a positive effect on manufacturing exports leaving China. This may be the case as only few of the results on trade are significant. Although a substitution effect is proposed between exports and FDI, this result must be interpreted with caution as other endogeneity issues cannot be ruled out. As microeconomic data becomes more readily available, future research should focus on specific firms and country pairs. This would deal with the complex trade relationships and their subsequent effects on MNE activity in a superior manner. Future studies should also focus on using models which better fit the data. As the signs of the trade variables are not stable throughout the employed specifications, we are humble in making any claims on their effects on FDI.

Of all the endogeneity problems, we attach the least importance to the issue of measurement error, as it is only problematic when it is related to both FDI and the independent measurement error, which we think to be unlikely. Furthermore, as this only makes it more difficult to find a significant relationship, it will also be found when appropriately addressing endogeneity. Reverse causality and omitted variable bias are more of a concern, as some convincing literature exists on explaining the causal effect of FDI on trade and GDP. The highest R-squared obtained by this research is 0.38, suggesting that 62% of inward FDI in the Netherlands is not captured by the variables examined in this study. Industry specific variables are probably the causes of this, and hence data on such variables should be included in future.

A possible solution to the proposed endogeneity issues would be the use of 2SLS models, which certainly provide more exogenous relationships between the dependent and independent variables. This would solve for all the problems concerning endogeneity only if researchers identify a completely exogenous instrument. As such an instrument is difficult to find, and like much of the previous literature, we do not use the 2SLS approach as we could not come up with such a variable.

Besides using superior econometric models, obtaining more harmonious data is also recommended for future research endeavours. As data availability increases, perhaps FDI in PPP will also become more readily available. The use of PPP data for both the outcome variable and the regressors may be more comprehensive as it may solve for the insignificance of many of the macroeconomic variables and shed further light on their true effects on FDI. Furthermore, future studies should connect macro to microeconomic phenomena, as this would address specific sectors in the economy.

It may also be interesting to include developing countries in such analyses. Since these countries often have a high growth rate. As capital investments in such economies grow, this may be favourable to the amount of capital sent to developed countries. In such cases, it is more likely that FDI entering the Netherlands could be affected by factors of macroeconomic stability, as investors from rather unstable economies may feel forced to invest in more constant markets, which are not prone to warfare and political instability.

7. Conclusion

The Netherlands is a leading example for other small economies who want to attract foreign investment. As one of the largest recipients of world FDI, the Netherlands has proven to be a favoured location for foreign investors from all corners of the globe. The comprehensive approach of this study examines the effects of bilateral, social and macroeconomic variables on attracting FDI to the Netherlands, but mainly focuses on the effects of proximity between trade partners. Simultaneously including several variables provides an opportunity to paint a broad picture of the major determinants attracting foreign-owned companies and their capital to the Netherlands.

Like many past studies, further evidence is provided on the deterring effect of geographic distance on FDI (Buch et al. 2005, Buch and Lipponer 2007). Our result has important policy implications suggesting that the geographic curse may still be a dominating phenomenon. Distance matters even in the 21st century, when transport networks have extensively been developed and the transfer of capital between entities has become easier, regardless of their global location. Linguistic distance between countries, also has a robust and negative effect on FDI. Countries dissimilar in cultural norms, taste and corporate practices are unlikely to enter into business deals with each other. This is logical as things that are acceptable and even trendy in one corner of the world may be frowned upon in another. Perhaps governments can provide MNEs with subsidies to attract them from far away. For example they can provide foreign companies with tax credits and subsidies to lower the costs incurred during relocation.

MNEs are likely to maintain the status quo when it comes to investing abroad, especially if home country demand is high. The positive sign of the host country GDP per capita is in line with Gorter and Parikh's (2003) findings but it does not significantly affect the amount of FDI entering the Netherlands. As the Netherlands is home to many MNE headquarters, FDI may be affected through other channels other than market size. Our findings are in line with Chellaraj et al.´s (2009) result that incoming investments in are of the horizontal type. Foreign investors locate in the Netherlands in search of high worker productivity, measured by high wages. Although some evidence on the substitution effect between FDI and exports is also found, supporting Markusen's proposition, it is still unclear and should be interpreted with caution. As it

is statistically weak we are weary of making policy recommendations. Though the literature points towards a negative effect of taxes, the large Dutch tax treaty network and the insignificance of the Dutch corporate tax rate leaves us doubtful of such a relationship in the Netherlands. This suggests that MNEs are likely to invest in countries that account for double-taxation.

All the obtained results may be case-specific and the proposed relationships should not be generalized to countries outside the sample. As reverse causality plagues several of the relationships studied, only a truly exogenous instrument would solve for these endogeneity issues. Also, one can never be sure that all relevant relationships have been studied, thus we are open to suggestions for the inclusion of other potentially important factors affecting inward FDI.

8. References

Aizenman, J., Noy, I., (2006), FDI and trade - Two-way linkages? *The Quarterly Review of Economics and Finance*, ***46***(3), 317-337.

Alfaro, L., Chanda, A., Kalemli-Ozcan, S., Sayek, S., (2004), FDI and economic growth: the role of local financial markets, *Journal of International Economics*, Elsevier, vol. ***64(***1), pages 89-112.

Blomstrom, M., Lipsey, R. E., Kulchycky, K. (1988). US and Swedish direct investment and exports, *Trade policy issues and empirical analysis* (pp. 257-302). University of Chicago press.

Blonigen, B. A. (2001), In search of substitution between foreign production and exports. *Journal of international economics*, ***53***(1), 81-104.

Borensztein, E., De Gregorio J., Lee, J-W., (1998), How does foreign direct investment affect economic growth? *Journal of International Economics* ***45***(1) 115–135.

Buch, C. M., Kleinert, J., Lipponer A., Toubal, F., (2005), Determinants and effects of foreign direct investment: evidence from German firm-level data, *Economic Policy*, ***20***(41), 51-110.

Buch, C.M., Lipponer A., (2007), FDI versus exports: Evidence from German banks. Journal of Banking and Finance, ***31***(3), 805-826

Buckley P.J., Casson, M., (1981), The Optimal Timing of a Foreign Direct Investment, *The Economic Journal*, ***91***(361), 75-87.

Chang S.C., (2007), The interactions among foreign direct investment, economic growth, degree of openness and unemployment in Taiwan, *Applied Economics*, ***39***(13), 1647-1661.

Chellaraj G., Maskus, K., Mattoo. A., (2009), Labor Skills and Foreign Investment in a Dynamic Economy- Estimating the Knowledge-Capital Model for Singapore, World Bank Policy Research Working Paper 4950

Coughlin, C.C., Terza, J.V., Arromdee, V., (1991), State characteristics and the location of foreign direct investment within the United States, *Review of Economics and Statistics*, ***73*** (4), 675–683.

Culem, C.G., (1988), The Location Determinants of Direct Investment Among Industrial Countries, *European Economic Review*, ***34*****(**4), 885-904.

Dees, S. (1998), Foreign direct investment in China: determinants and effects, *Economics of planning*, ***31***(2-3), 175-194.

Driffield, N., Taylor K., (2000), FDI and the labour market: a review of the evidence and policy implications, *Oxford Review of Economic Policy*,***16***(3), 90-103.

Disdier, A. C., Head, K., (2008), The puzzling persistence of the distance effect on bilateral trade. *The Review of Economics and Statistics*, **90**(1), 37-48.

Disdier, A. C., Mayer T., (2004), How different is Eastern Europe? Structure and determinants of location choices by French firms in Eastern and Western Europe, *Journal of Comparative Economics* , ***32***(2), 80–296.

Fearon, J. D. (2003). Ethnic and cultural diversity by country*. *Journal of Economic Growth*, ***8***(2), 195-222.

Feyrer, J., 2009, "Distance, Trade, and Income – The 1967 to 1975 Closing of the Suez Canal as a Natural Experiment," NBER Working Paper 15557, National Bureau of Economic Research, Inc.

Frankel, J. A., Romer, D.H., (1999), "Does Trade Cause Growth?" *American Economic Review*, ***89***(3), 379-399.

Gorter, J., Parikh, A., 2003, How Sensitive is FDI to Differences in Corporate Income Taxation within the EU? *De Economist*, ***151***(2), 193-204.

Grosse, R., & Trevino, L. J. (1996). Foreign direct investment in the United States: an analysis by country of origin. *Journal of International Business Studies*, 139-155.

Hansen, H., Rand, J., 2006, On the Causal Links Between FDI and Growth in Developing Countries, *World Economy*, **29**(1), Blackwell Publishing Ltd, 1467-9701.

Helpman E., (1984), A Simple Theory of Trade with Multinational Corporations, *Journal of Political Economy*, **92**(3), 451-71.

Hofstede, G.H., (1980), Cultures Consequence: International Differences in Work Related Values. Beverly Hills: CA: Sage

Li X., Liu X., 2005, Foreign Direct Investment and Economic Growth: An Increasingly Endogenous Relationship, *World Development*, ***33***(3), 393-407

Limão, N., & Venables, A. J. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The World Bank Economic Review*, ***15***(3), 451-479.

Lipsey, R., Weiss M.Y., (1981), "Foreign Production and Exports in Manufacturing Industries," *Review of Economics and Statistics*, ***63***(4), 488-494.

Lipsey, R., Weiss M.Y., (1984), "Foreign Production and Exports of Individual Firms," *Review of Economics and Statistics*, ***66***(2), 304-308.

Loree D.W., Guisinger S.E., (1995), Policy and Non-Policy Determinants of U.S. Equity Foreign Direct Investment, *Journal of International Business Studies, **26***(2), 281-299

Liu, X., Song, H., Wei, Y., & Romilly, P. (1997). Country characteristics and foreign direct investment in China: a panel data analysis. *Weltwirtschaftliches Archiv*, *133*(2), 313-329.

Markusen J.R., (1984), Multinationals, Multi-plant Economies, and the Gains from Trade, *Journal of International Economics*, **16**(3-4), 205-26.

Mayer T., Zignago S., (2011), Notes on CEPII's distances measures: the GeoDist Database, CEPII, Working Paper 25

Roodman, D. (2008). Through the looking glass, and what OLS found there: on growth, foreign aid, and reverse causality. *Centre for Global Development Working Paper*, (137).

Svetlicic, M., & Jaklic, A. (2003). Outward FDI by transition economies: basic features, trends and development implications. *Facilitating Transition by Internationalization*, 49-78.

UNCTAD World Investment Report, July 2012: Towards a New Generation of Investment Policies

Verbeek, M. (2008). *A guide to modern econometrics*. Wiley. com.

Weyzig, F. (2012). Tax treaty shopping: structural determinants of Foreign Direct Investment routed through the Netherlands. *International Tax and Public Finance*, 1-28.

Yang, J. Y.Y, Groenewold, N., Tcha, M., (2000), The Determinants of Foreign Direct Investment in Australia, *The Economic Record*, ***76***(232), 45-54.

Zhang, K. H., (2001), Does Foreign Direct Investment Promote Economic Growth? Evidence From East Asia and Latin America, *Contemporary Economic Policy*, ***19***(2), 175–185.

Zhang, K. H., & Song, S. (2002). Promoting exports: the role of inward FDI in China. *China Economic Review*, ***11***(4), 385-396.

9. Appendix

Appendix 1: List of countries in sample and investment		
Country	Sample Average FDI (millions of US$)	Total investments per country (2001-2010)
Australia	32,262	258,095
Austria	34	340
Denmark	592	5,925
Finland	122	1,227
France	3,978	39,780
Germany	3,746	37,462
Ireland	1,360	13,608
Italy	372	3,725
Japan	1,133	11,330
Korea, Republic of (South Korea)	102	1,020
Norway	637	6,375
Spain	-1,685	-16,856
Sweden	1,303	13,035
Switzerland	1,372	13,723
Turkey	66	660
United Kingdom	7,421	74,218
United States	2,589	25,898

Source: Author's own calculations

Appendix 2 Descriptive Statistics						
	Mean	Median	Maximum	Minimum	Std. Dev.	N
FDI	2,914.13	396.29	131,137.60	-22,926.90	12,588.82	168
Exchange Rate	1.23	1.25	1.47	0.90	0.18	170
Exports	13.50	4.98	122.00	0.53	20.70	170
Home GDP	1,643,794	732,246	13,144,400	133,092	2,726,543.00	170
Host GDP	582,942	582,623	626,675	546,876	29,601.09	170
Geographic distance	3,171.59	1,132.00	16,631.00	356.00	4,365.86	170
Home population	53,707,712	43,757,290	309,000,000	3,866,242	70,036,917	170
Host population	16,265,135	16,300,824	16,530,388	15,925,513	175,076	170
Imports	9.91	4.39	84.80	0.46	14.30	170
Inflation difference	-0.72	-0.20	6.30	-47.75	5.44	170
Interest	2.59	2.58	4.39	0.44	1.26	170
Language difference	1.04	1.00	3.00	-1.00	1.48	170
Unemployment	5.25	5.30	6.83	3.78	1.00	170
Regulatory Quality	1.79	1.78	1.97	1.67	0.08	170
Tax	30.16	30.55	35.00	25.50	4.12	170
Tertiary Education	30.13	30.66	34.03	25.66	2.63	170
Wage difference	3.72	4.89	25.14	-20.23	7.92	170
Risk Difference	-0.36	0.23	2.35	-5.92	1.69	170

Source: Author's own calculations

Appendix 3a: Co-linearity									
	Language Distance	Geographic Distance	Home GDP per capita	Host GDP per capita	Exports	Imports	Education	Wage Difference	Tax
Language Distance	1								
Geographic Distance	-0.04	1							
Home GDP per capita	-0.38	-0.2	1						
Host GDP per capita	0	0	0.48	1					
Exports	0	-0.02	0.02	0	1				
Imports	-0.01	-0.04	0.06	0.09	0.93	1			
Education	0	0	0.45	0.93	0.1	0.22	1		
Wage Difference	0.04	0.02	0.11	0.22	-0.05	-0.07	0.28	1	
Tax	0	0	-0.44	-0.92	0.15	0.05	-0.88	-0.21	1
Regulatory Quality	0	0	0.26	-0.52	-0.08	-0.08	-0.55	-0.25	0.31
Interest Rate	-0.03	-0.01	-0.03	-0.12	0.1	0.14	-0.12	-0.3	0.16
Inflation Difference	0	0	-0.07	-0.03	-0.13	-0.11	-0.04	-0.08	0.04
Exchange Rate	0	0	0.04	0.03	0.2	0.19	0.05	0.11	-0.04
Risk Difference	-0.13	0.04	-0.11	-0.24	0	0.04	-0.3	-0.55	0.22
Unemployment	0	0.00	0.04	0.02	0	-0.02	0.01	0.02	-0.01
FDI (% of GDP)	-0.28	-0.35	0.46	0.17	-0.08	-0.07	0.13	0.04	0.19

Source: Author's own calculations

Appendix 3b: Co-linearity							
	Regulatory Quality	Interest Rate	Inflation Difference	Exchange Rate	Risk Difference	Unemployment	FDI (% of GDP)
Tax	1						
Regulatory Quality	0.02	1					
Interest Rate	0	-0.11	1				
Inflation Difference	-0.02	0.16	-0.74	1			
Exchange Rate	0.51	0.27	-0.02	-0.1	1		
Risk Difference	0.03	0.03	-0.7	0.21	0.12	1	
Unemployment	-0.06	0.07	-0.05	0.04	-0.13	0.04	1

Source: Author's own calculations

Appendix 4				
Dependent Variable: FDI (current US$, millions)				
	(1)	**(2)**	**(3)**	**(4)**
Constant	135,372	138,157	88,084*	140,596
Proximity				
Language Distance	-964*	-959*	-691	-960*
Geographic Distance	-1.955*	-1.955*	-1.937*	-1.958*
Geographic Distance ^2	0.000**	0.000**	0.000**	0.000**
Market				
Home GDP per capita	-0.059*	-0.058*	-0.055	-0.059*
Host GDP per capita	0.161	0.176	0.148	0.152
Trade				
Exports	0.000			
Lagged Exports			-0.000	
Imports		0.000		
Lagged Imports			0.000	
Trade Openness				0.010
Social				
Education	-2,500	-2,590	-2,118*	-2,562*
Wage Difference	201*	202*	222	205*
Macro-economic				
Tax	-1,246	-1,250	-967	-1,308
Regulatory Quality	-6,251	-6,621	10,294	-6,859
Interest Rate	9.811*	2.968	34.440	10.799
Inflation Difference	-1,236	-1,241	-1,542	-1,233
Exchange Rate	-2,610	-2,647	-3,129	-2,746
Risk Difference	587	570	583	591
Unemployment	-1,206	-1,193	-1,324	-1,194
Home FDI (% of GDP)	8.635	7.416	16.412	10.523
N	170	170	153	170
R-squared (overall)	0.34	0.34	0.32	0.34

Notes: *, ** and *** significant at 10%, 5% and 1%, all models use heteroskedastic-consistent standard errors

Source: Author's own calculations

Appendix 5				
Dependent Variable: FDI (current US$, millions)				
Sample Period: 2001-2008				
	OLS	**Random Effects**	**Fixed Effects**	**GEE Model**
Constant	61,967	61,967	74,939	-19,449
Proximity				
Language Distance	-1,210**	-1,210*	NA	-1,186***
Geographic Distance	-1.581	-1.581**	NA	-1.690***
Geographic Distance Sq	0.000*	0.000***	NA	0.000***
Market				
Home GDP per capita	0.032	0.032	0.067	-0.051**
Host GDP per capita	0.049	0.049	0.023	0.124
Trade				
Exports	0.000	0.000	0.000	0.000
Imports	-0.000	-0.000	-0.000	-0.000**
Social				
Education	-1,278	-1,278	-1,476	-11
Wage Difference	168	168	197	-28
Macro-economic				
Tax	-1,087	-1,087	-1,179	-545
Regulatory Quality	6,764	6,764	6,440	13,758
Interest Rate	-373	-373	57	-1,868***
Inflation Difference	-571	-571	-562	-480
Exchange Rate	-163	-163	-1,987	7,236
Risk Difference	425	425	449	124
Unemployment	-54	-54	-272	960
Home FDI (% of GDP)	-5.480	-5.480	-23	22**
N	136	136	136	136
R-squared (overall)	0.378	0.378	0.045	
R-squared (within)		0.068	0.075	
R-squared (between)		0.934	0.000	
F-statistic	1.46		1.62	
Model Tests			**Statistic**	**P-value**
1st. Order Autocorrelation test			3.15	0.095
Hausman Test			2.48	0.991
Breusch-Pagan LM Test			71.58	0.000

Notes: *, ** and *** significant at 10%, 5% and 1%, all models are specified with heteroskedastic-consistent standard errors.

Source: Author's own calculations