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***'Home Bias in Foreign Direct Investments'***

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## **HOME BIAS IN FOREIGN DIRECT INVESTMENTS**

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### **Abstract**

We investigate home bias in corporate decision making in an international context. There is a strong preference in corporations to invest in surrounding countries and places of social and cultural familiarity. We investigate whether this tendency to invest in the familiar is also present in foreign direct investments. Our data is on 5963 different bilateral country pairs for FDI inflows and outflows for the period 1981-2005. Foreign direct investors prefer to invest in countries that are geographically closer to their home countries. Physical proximity is also an indicator of cultural and linguistic familiarity in most instances. Foreign direct investors also prefer to invest in countries whose economic and legal systems are similar to their own. Institutional similarities are important indicators of business climate familiarity.

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## **1. Introduction**

The purpose for this research is to investigate home bias in foreign direct investments (FDI). Foreign direct investors are usually multinational corporations that have a long term investment horizon as they invest directly in real assets in a country different than their own. We are investigating home bias in corporate decision making in an international context. Traditional studies on FDI do not often consider social, cultural or political factors that might influence international investments. We contribute to the FDI literature by considering a set of home bias variables and we expand the home bias literature by extending its application on the international direct investment markets. We also contribute to the existing literature by using a large dataset that offers a widespread look in the world's FDI flows which enables us to generalize the findings.

We argue that corporate financial decisions are influenced by the familiarity of the environment where investment opportunities arise. We expect that there is a strong preference in corporations to invest in surrounding countries and places of social and cultural familiarity. Corporate managers feel more familiar with countries with which they share a border, certain historical ties, or even a common past as parts of the same country in the past. Such historical ties sometimes lead to the existence of minority population which strengthens familiarity through a common language. In addition to languages, cultural familiarity is exists also by having same origin of the country's legal system as well as being part of the same international economic or political unions.

There is extensive financial literature in home bias in equity markets<sup>1</sup>. Equity investors prefer local, domestic investment opportunities against foreign, further away ones (Lewis,

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<sup>1</sup> see Fidora et al. 2006 for literature summary

1999). Home bias in equity markets is usually attributed to the asymmetry in information (French & Potreba, 1991). People usually have more information and experience with assets close to them in spite of the well documented benefits from international diversification (Berkel, 2004). This preference for the more familiar is referred to as familiarity bias and home bias is a special form of it observed among equity investors (Massa and Simonov (2006)).

Home bias is not investigated in foreign direct investments. The literature on FDI focuses on finding the determinants of FDI following economic parameters. The implicit assumption is that the corporate decisions are rational and can be explained by the determinants for any investment decision. Sethi et al. (2003) write that the majority of the FDI 'locational' studies i.e. studies that look to explain where does FDI go find the market size, market growth, barriers to trade, wages, production, transportation and other costs, political stability, distance and taxation regulation to have a strong effect on the location decisions. We argue that the aforementioned familiarity factors in addition to the economics ones have a significant influence on the corporate decisions with respect to FDIs and that this is reflected in the FDI flows among the world countries.

We perform additional estimations by restricting the data set according to geographic criteria such as continent and country. These estimations offer greater insight in the nature of home bias across different regions and any differences there might exist. We expect to find that home bias is a universal phenomenon with some regional variety with respect to the degree and type of home bias. Following literature, we also perform robustness estimations using different measurements for some variables to investigate whether level or pondered (scaled) variables offer better approximation for the research

question. This strengthens the findings and offer comparability with other studies in this field.

## **2. Literature Review**

This section surveys the past work done in three fields: foreign direct investment and home bias in equity markets. This is done in order to show the origin of research question.

### **2.1. FDI Literature**

The OECD defines foreign direct investment as obtaining a lasting interest by a resident entity in one economy (“direct investor”) in an entity resident in an economy other than that of the investor (“direct investment enterprise”) (OECD benchmark for FDI, 2004). This lasting interest is recorded both at the time of the initial investment between those two entities as well as at the time of all other subsequent capital transactions. The total FDI flows of one country may thus be a positive or a negative value depending on the levels of capital investment in each observed year.

FDI theories originate since the 1960ties and were aimed to understand the international capital and trade flows after the Second World War on a firm level (Buckey (2002)). There are three main theories that explain the motivations behind multinational corporations (MNCs); the monopolistic, oligopolistic and the Dunning's (1980; 1995) eclectic or OLI (ownership, location, internalisation) paradigm. The theories during the 60ties and 70ties were based on the market structure the firms operate in. Hymer (1960) and Kindleberger (1969) have developed the monopolistic theory that proposes that firm's operate in imperfect market conditions and therefore seek to take advantage of some superiority they have over the firms in the local markets. This is their monopolistic advantage and it can be in anything from R&D advantage, better marketing strategy to superior product quality as supported later on by Caves (1971; 1974). When large domestic firms decide to use their unique R&D and marketing advantage positions in the local markets and expand abroad, they're able to much easily establish their presence as multinationals since other smaller domestic firms in foreign markets do not have the same resources that they have. They use their monopolistic advantage in the local market in foreign markets as foreign direct investors.

The oligopolistic theory was introduced by Knickerbocker (1973) and further developed by Kim and Lyn (1987), Caves (1974), Severn and Laurence (1974), and Mansfield, Romeo and Wagner (1979). They report empirical evidence that firms that operate in an oligopolistic industry setting strongly react to their competitors' advances and follow their actions in order to replicate them. Thus if home market comprises of two or three firms and if one of these firms decides to start investing in a particular region or country, others will have to follow suit in order to maintain desirability in the

eyes of the shareholders. Firms in oligopolistic markets follow their competitors in their FDI decisions.

The following decade, 1980ties brought a more complex explanation for FDI. The eclectic or ownership; location; internalisation (OLI) paradigm developed by Dunning (1980, 1988), connects the three factors - ownership, location and internalisation by having a simultaneous effect on the international corporate investments' motives. It analyses why and where multinational companies would invest abroad. The multinational company can transfer unique internal knowledge in other markets at low costs by establishing a subsidiary abroad and achieve economics of scale. It chooses locations where it can make use of its economic, political or cultural advantages. The world has undergone drastic changes during the last two decades (Dunning (2002)). Financial liberalisation efforts started during late 1980's and early 1990's. Researchers thus started to account for the liberalisations in capital flows, the changes in the world political maps and the impact of globalisation. FDI studies during the last two decades try to identify the new factors that impact the FDI flows such as whether low labour costs will shift production towards the emerging and transition markets economies and how does their political instability influence the level of FDI they receive (Bevan and Estrin, (2004)).

Recent work on FDI regardless of the geographical focus of the data feature the GDP and GDP per capita as proxies for the economic pull of an economy and are an important determinant of FDI flows. It is used for both emerging and developed countries [Kinoshita and Campos (2003), Bevan, Esterin (2004), Botrić and Škuflić

(2006)]. GDP and GDP per capita are most commonly used as major determinant for FDI flows between two countries. This is due to the fact that FDI are strongly influenced by the size of the markets of the partner countries. This is because FDI flows gravitate towards larger economies.

Recent FDI literature features some measurement for country openness as the second major determinant of FDI flows. Countries that are said to be more 'open' with increased trade flows or portfolio investments would be more likely to engage in FDI. Openness indicators include net exports or market capitalisation and cost of borrowing [Botrić and Škuflić (2006), Kinoshita and Campos (2003)]. FDI flows are higher to more open countries because the capital flows to a these countries are easier than towards less open countries.

Cultural proximity is often assumed through geographical distance or shared border [Galego, Vieira and Vieira (2004)]. Although it can be a significant determinant for FDI, the importance of distance may be diluted nowadays, with globalisation and as the capital flows are now move with fewer barriers (Hoftede, 1983).

Most FDI studies are conducted for specific countries or regions such as Wezel (2003), analysing the determinants of German FDI inflows in Latin America, Hara and Razafimahefa (2005) analysing Japanese FDI inflows. Some studies focus on a group of Central and East European Countries (CEEC) and study either the macroeconomic FDI determinants (Bevan, Esterin 2004) the strong cultural, political and historical ties between them [Bandelj (2002)].

We consider a very wide country group that enables us to generalise FDI determinants, both economic or cultural or psychological not otherwise possible by narrowly focused

studies. We use FDI inflows and FDI outflows of all 30 OECD countries and their international FDI partner countries.

## **2.2. Home Bias Literature**

The term home bias (French & Potreba (1991); Lewis (1999)) is used in the context of portfolio investments to describe the tendency that investors overweight their domestic investments thus not taking the full advantage of international diversification. The past two decades have seen much relaxation of the barriers in capital flows (Artis, Hofmann (2006)). Investors can diversify their portfolios by holding assets in many foreign countries. They don't often do this, however.

The literature on home bias offers many explanations, some contradictory and some complementary (Fidora et al. (2006)) with respect to the reasons and causes for this phenomenon. The most common reason is asymmetric information and/or transaction costs (Ahearne et al, 2004). Investors find it more difficult to gather information on more 'distant' investment possibilities. Because of different factors such as distance, language and political/cultural barriers; they tend to disregard distant investments [Van Nieuwerburgh and Veldkamp (2009)]. Liljeblom and Löflund (2000) suggest other possible explanations for home bias besides asymmetric information to be (1) transaction costs, (2) differences in taxation, (3) exchange rate and capital market regulation, and

other restrictions for international investments, (4) informational differences, and (5) barriers due to investors' attitudes.

Asymmetric information is an important bias. VanNieuwerburgh and Veldkamp (2009) approach asymmetric information by stating that even if information is tradable and available, home bias would not completely disappear as one would expect because if there's a slight chance that investors will know a little bit more about their home assets they will continue to be less informed about foreign investments and they invest more in home assets relative to their international holdings.

A second strand of literature mainly behavioural and rests on a common psychological bias: familiarity bias. Chan, Covrig and Ng (2005) find familiarity bias variables (physical distance, common language) have a significant effect in domestic and foreign bias (domestic investors over-weigh local investments, foreign investors under-weigh overseas investments). Huberman (2001) using data on US Regional Bell Operating Companies finds compelling evidence that familiarity breeds investment and that people invest in the familiar (the company that they work in) while often ignoring the principles of portfolio theory. Coval & Moskowitz (1999) show that US investment managers exhibit "a strong preference for locally headquartered firms". They find that asymmetric information makes geographic proximity a very important factor in determining the investor portfolio choices. They use common language (to also approximate historical and colonial familiarity) and listing on the LSE, measurements for market depth (GDP) and transaction costs. Asymmetric information and the degree of financial market development have a strong explanatory power in Berkel (2004). Bertaut and Kole (2004)

also show that the cross border investments tend to favour countries with close political and regional ties. Suh (2001) offers an insightful explanation for home bias due to asymmetric information by analysing the analysts' recommendations of stocks from the Economist's quarterly portfolio pole.

The second reason for home bias, transaction costs, means that investors would avoid investing abroad because it's too costly. Other empirical studies on this have shown however that transaction costs, cannot fully explain the home bias. Portes and Ray (2005) provide a gravity model for transactions in financial assets that works at least as well as it does for international trade. Their results show that transaction costs do not have a pivotal role in explaining home bias but the information asymmetry and a 'familiarity effect' one (distance, phone costs, banks headquartered in the country etc.). Ahearne, Grier & Warnock, (2004) analyse cross-listed companies on the US market and find that that cross-listing reduces home bias due to lowered transaction costs.

A third reason for home bias is analysed by Wincoop and Warnock (2008) who state that the key link between the home bias in the two markets is the real-exchange rate risk. Schoemaker and Bosch (2008) show that the arrival of the Euro has diminished the home bias in the bond markets in Europe and find that indeed the home bias has declined and that investors have shifted their investments from predominantly the home markets to the markets in the EMU. This shows that economic unions play a significant role in the investment decisions. Similarity of the markets brought on by this type of unions plays a big role in familiarity bias as found in Brainard (1997), where firms prefer to take up on

international investing if the destination markets have similar structure as the home market.

Geographical proximity and cultural similarities are mentioned in a number of home bias studies in different areas [Rauch (1999)]. Foad (2008) captures the effects of immigration population in investing. The familiarity effect is measured by the number of immigrants/emigrants of country  $i$  living in country  $j$  relative to the total country's population. He uses a shared border, language and distance to measure home bias. Similarly, Massa and Simonov (2004) analyse familiarity bias in the investors' choices in portfolio investments. They measure the home bias by using variables for geographic proximity and holding period, education level and immigration status of the investors. The empirical analysis in Amadi (2004) using data on international assets holdings for over 30 countries shows that familiarity factors such as a common language, trade and immigrant links have significant influence which would support an information-based explanation for equity home bias. These familiarity factors should also be applied to decision making on a corporate level and with regard to different kinds of investments, such as direct investments.

### **3. Data**

The data on the dependant variable [FDI flows] is obtained from the OECD statistics database that reports on 30 OECD member countries<sup>2</sup> and 337 partner countries, country territories and regions. Thus, the initial data sample consisted of 261,175 observations [31 countries<sup>3</sup> x 25 years x 337] for FDI inflows and outflows individually. We define an observation as a value of a bilateral country pair at a given year for one variable. The data was further reduced according to 4 criteria:

1. Country territories, regions or unions weren't considered but rather only sovereign countries.
2. Missing values.
3. Only country pairs minimum of two time series were considered.
4. Partner countries enter the dataset in a bilateral pair unless data is not available for more than one independent variable.

Therefore, the dataset is an unbalanced panel. After the reduction of the data based on the aforementioned conditions, we are left with 28,879 observations for FDI inflows and 26,457 for FDI outflows. Total data consists of 5,963<sup>4</sup> [3,078 for FDI inflows and 2,885 for FDI outflows] different bilateral country pairs that have an FDI relationship for both inflows and outflows. The data period is from 1981 to 2005. When the independent variables are considered, the total number of observations during this period for all of the bilateral country pairs for the whole dataset is 317,669 [28,879 FDI inflows x 11 independent variables] for FDI inflows and 291,027 [26,457 FDI outflows x 11 independent variables] for FDI outflows. We use all provided data on FDI, positive,

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<sup>2</sup> OECD member countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States (30 countries)

<sup>3</sup> The OECD reports data on Belgo-Luxembourg Economic Union which was eliminated from the data;

<sup>4</sup> See appendix 1

negative FDI flows as well as non - investment relationship (zero FDI flows). According to the United Nations Conference on Trade and Development (UNCTAD), FDI flows with a negative sign indicate that at least one of the three components of FDI (equity capital, reinvested earnings or intra-company loans) is negative and not offset by positive amounts of the remaining components. These are instances of reverse investment or disinvestment. The descriptive statistics and correlation tables can be found in appendices 1-3.

We consider FDI inflows and outflows among all available country pairs. The FDI inflows are flows to the FDI receiving country (OECD member) from a partnering country (any world country). The FDI outflows are flows from the FDI sending country (OECD member) to a partnering country (any world country). Data on FDI flows is in millions of US dollars. Appendix 4 reports the number of partner countries and the number observations for each OECD member country.

### **3.1. Variable definitions**

The following table contains a listing of all variables that are used in the estimations in this study. The table shows the full variable name, its short form used in the tables reporting results as well as a definition of it and the source from where it was obtained.

	<b>Variable</b>	<b>Variable code</b>	<b>Definition/Description of the variable</b>	<b>Source</b>
1.	Common Language	langcom	Dummy with value one if the two countries share a common official language or if a language is spoken by at least 9% of the population in both partnering countries, zero otherwise;	Author developed dummy with data from <a href="http://www.cepii.fr">www.cepii.fr</a>
2.	Distance between partner countries	Dist	Geodesic distances between the two countries in the bilateral country pair; in kilometers;	<a href="http://www.cepii.fr">www.cepii.fr</a>
3.	Exports as a percentage of GDP for the FDI inflows receiving country	EXPgdprec	Exports of goods and services (% of GDP) for FDI inflows receiving country; series code (NE.EXP.GNFS.ZS)	World Development Indicators (2008)
4.	Exports as a percentage of GDP for the FDI inflows sending country	EXPgdpsend	Exports of goods and services (% of GDP) for FDI inflows sending country; series code (NE.EXP.GNFS.ZS)	World Development Indicators (2008)
5.	Exports as a percentage of GDP for the FDI outflows receiving country	EXPgdprec	Exports of goods and services (% of GDP) for FDI outflows receiving country; series code (NE.EXP.GNFS.ZS)	World Development Indicators (2008)
6.	Exports as a percentage of GDP for the FDI outflows sending country	EXPgdpsend	Exports of goods and services (% of GDP) for FDI outflows sending country; series code (NE.EXP.GNFS.ZS)	World Development Indicators (2008)
7.	Exports for FDI inflows receiving country	EXPrec	Exports of goods and services (constant 2000 US\$) for FDI inflows receiving country; in US\$ million; series code (NE.EXP.GNFS.KD)	World Development Indicators (2008)
8.	Exports for FDI inflows sending country	EXPsend	Exports of goods and services (constant 2000 US\$) for FDI inflows sending country; in US\$ million; series code (NE.EXP.GNFS.KD)	World Development Indicators (2008)
9.	Exports for FDI outflows receiving country	EXPrec	Exports of goods and services (constant 2000 US\$) for FDI outflows receiving country; in US\$ million; series code (NE.EXP.GNFS.KD)	World Development Indicators (2008)
10.	Exports for FDI outflows sending country	EXPsend	Exports of goods and services (constant 2000 US\$) for FDI outflows sending country; in US\$ million; series code (NE.EXP.GNFS.KD)	World Development Indicators (2008)
11.	FDI inflows (inflows towards the OECD member)	FDIinfl	FDI Inflows to the OECD member country from the FDI sending (partner) country.	OECD
12.	FDI outflows (outflows from the OECD member)	FDIoutfl	FDI Outflows from the OECD member country to the receiving (partner) country.	OECD
13.	GDP for the FDI inflows receiving country	GDPrec	Gross Domestic Product for the FDI inflows receiving country at constant 2000 prices, in US\$ million; series code (NY.GDP.MKTP.KD)	World Development Indicators (2008)
14.	GDP for the FDI inflows sending country	GDPsend	Gross Domestic Product for the FDI inflows sending country at constant	World Development Indicators (2008)

			2000 prices, in US\$ million; series code (NY.GDP.MKTP.KD)	
15.	GDP for the FDI outflows receiving country	GDPrec	Gross Domestic Product for the FDI outflows receiving country at constant 2000 prices, in US\$ million; series code (NY.GDP.MKTP.KD)	World Development Indicators (2008)
16.	GDP for the FDI outflows sending country	GDPsend	Gross Domestic Product for the FDI outflows sending country at constant 2000 prices, in US\$ million; series code (NY.GDP.MKTP.KD)	World Development Indicators (2008)
17.	GDP per capita for FDI inflows receiving country	GDPcaprec	GDP per capita for FDI inflows receiving country at constant 2000 prices, in US\$; series code (NY.GDP.PCAP.KD)	World Development Indicators (2008)
18.	GDP per capita for FDI outflows receiving country	GDPcaprec	GDP per capita for FDI outflows receiving country at constant 2000 prices, in US\$; series code (NY.GDP.PCAP.KD)	World Development Indicators (2008)
19.	GDP per capita for the FDI inflows sending country	GDPcapsend	GDP per capita for FDI inflows sending country at constant 2000 prices, in US\$; series code (NY.GDP.PCAP.KD)	World Development Indicators (2008)
20.	GDP per capita for the FDI outflows sending country	GDPcapsend	GDP per capita for FDI outflows sending country at constant 2000 prices, in US\$; series code (NY.GDP.PCAP.KD)	World Development Indicators (2008)
21.	Same Continent	samecont	Dummy with value one if the two countries in the pair are on the same continent, zero otherwise.	<a href="http://www.cepii.fr">www.cepii.fr</a>
22.	Same origin of the legal system for the two countries in the bilateral country pair	Legorsame	A dummy set to gain value of one if the legal system is of same origin in the FDI sending and receiving country in the bilateral pair.	Author derived dummy with data from prof. La Porta
23.	Shared Border	Border	A dummy variable that has the value of 1 and 0 otherwise if a border is shared between the FDI receiving and sending countries.	<a href="http://www.cepii.fr">www.cepii.fr</a>
24.	Shared History	samehist	Dummy with value one if the two countries in the pair share the same history, zero otherwise.	Author developed dummy with data from <a href="http://www.cepii.fr">www.cepii.fr</a>
25.	Shared membership in an economic or political union	ecorgsame	Dummy set to gain value of one if the two countries in the pair are members of the same economic or political organisation [OECD, EU, Commonwealth, NAFTA], zero otherwise.	Author derived dummy with data from organisations' websites

## **4. Methodology**

The following section establishes the model which will be used to investigate the impact of the home bias variables on FDI flows. It starts by elaborating on the theoretical background of the model and how it can be applied in this case and is followed by an overview of the econometric representation of the regressions that will be estimated.

### **4.1. Theoretical background of the model**

The basis for the model that will be developed to test home bias in FDI is the gravity model. It is called the gravity model because it predicts that certain economic categories that occur between two places, such as trade flows will behave according to natural laws, the attraction between any two objects will be determined by their mass and distance. Its origins are in physics, in the second Newton's second law of gravity and it was first introduced in economics by Ian Tinbergen (1962). He developed the gravity model to explain international trade flows between bilateral country pairs. Although it has many variations (Bergstrand, 1985) the basic analogy of its two main parts, the mass of two objects and their distance are maintained in the basis for this model. In economics the mass is proxied with the country's size and economic power and the distance is measured between two geographic places that have an economic relationship. The model varies in the added variables which serve to explain the research question. The widespread use of the model in international economics and economics of trade flows is due to the model's borrowed intuition from the natural sciences.

#### 4.1.1. Gravity Model in Physics

The gravity model in physics is Newton's second law of gravity [Motta, 1729] devised in 1678 which states that the attraction between two objects is a result of the objects' mass and the distance between them. Newton's second law of gravity is written as follows:

$$F_{i,j} = G \frac{M_i^\alpha M_j^\beta}{D_{ij}^\theta} \quad (1)$$

Where  $F_{ij}$  is the force of attraction between the two objects  $i$  and  $j$ ;  $M_i$  and  $M_j$  are the masses or sizes of the two objects,  $D_{ij}$  is the distance between them while  $G$  is a constant that represents Earth's gravity force. From the equation we can say that the bigger their mass the higher the force of attraction between them and the bigger the distance between them the lesser is the force of attraction. This basic relation between an object's mass and its distance from other objects was taken by Tinbergen (1962) as the basis for a natural relationship between two objects in economics. In economics these two objects can be any number of things that have an interaction - countries, cities, companies and people as well as in any number of relationships between them: general trade, imports, exports or direct investment. The ingenuity of this model is that it follows a natural law that can be found everywhere between physical objects and applies it to economic flows. Economics however isn't exclusively a natural science, it is a social science as well and as such the relationships between economic categories is much more complex than that of two

physical object and that's why we must add other contributing factors to the existing natural relationship between economic categories.

#### **4.1.2. Gravity Model for Foreign Direct Investment**

Following this general premise of two main factors, mass and distance we can say that the FDI flows are a function of the size of the respective economies in bilateral country pairs and the distance between them as well as other contributing factors.

When we transform equation (1) into a logarithmic form we get the following functional form of the gravity model that can be used to explain the magnitude of FDI flows between two countries:

$$\log F_{i,j,t} = \log M_{i,t} + \log M_{j,t} - \log D_{ij} + u_{i,j,t} \quad (2)$$

Where  $F_{i,j,t}$  are FDI flows from country  $i$  towards country  $j$  at time  $t$  [the FDI flows can be represented with a variation in measure such as FDI as a percentage of GDP or the total trade (EX+IM)];  $M_{i,t}$  and  $M_{j,t}$  are country's  $i$  and  $j$ 's GDP at time  $t$ , respectively [this is the measure for the size of the country and it can be also represented by GDP per capita or other measures for the country's economic size such as the stock markets' capitalisation];  $D_{ij}$  is the distance between the two countries that have an FDI relationship [the measure of distance between two countries is usually done by calculation of the physical distance between the two countries or is approximated by their location within a region or

continent or proximity can also be represented by a shared border variable].  $u_{i,j,t}$  stands for the error term.

In the case of this study, the aim is to test whether greater familiarity between two countries intensifies their FDI relationship. This familiarity creates a home bias for a country in that it will affect the chosen location for FDI. This home bias can be represented through a group of variables that will capture any similarities that may exist between countries in several areas such as: their institutions or legal system similarity; their economic development through membership in political and economic unions and organisations, their cultural and lingual similarity or social similarity that may occur because of some past historical occurrence.

#### **4.2. A modified gravity model for home bias in FDI**

This section establishes the econometric specification of the model in our analysis of home bias in FDI flows.

Home bias in FDI flows is a function of:

FDI flows =  $f$  (macroeconomic factors; physical proximity factors and home bias factors)

The econometric model in this thesis, considering these three sets of factors, economic size and might, proximity and home bias, can be written as follows:

$$FDI_{i,j,t}(\text{inflows}) = \beta_0 + \beta_1(\gamma_1) + \beta_2(\gamma_2) + \beta_3(\gamma_3) + u_{i,j,t} \quad (4a)$$

$$FDI_{i,j,t}(\text{outflows}) = \beta_0 + \beta_1(\gamma_1) + \beta_2(\gamma_2) + \beta_3(\gamma_3) + u_{i,j,t} \quad (4b)$$

Where:  $FDI_{i,j,t}$  is the FDI inflows or FDI outflows from country  $i$  to  $j$  at time  $t$ ;  $\gamma_1$  is for the macroeconomic variables that denote the economic pull or strength of the country. We use three macroeconomic variables: the GDP, GDP per capita and the country trade openness;  $\gamma_2$  is for the three geographical proximity variables, distance between the country pairs, a shared border dummy and a same continent dummy. The last set of variables, denoted by  $\gamma_3$  is for the home bias variables. These include four dummies: common language, common history between the country pairs, same origin of the country's legal system and common membership to a political or economic union between the country pairs. Finally,  $u_{i,j,t}$  stands for the error term component that has a time and cross sectional component due to the fact that our analysis is based on panel data. The variables used in the model were previously discussed in greater detail in chapter 3. We contribute by adding to the general gravity model a third set of variables to the macroeconomics and proximity variables that are the basis of the gravity model. This third group of variables contains variables that depict additional influences in FDI flows and create higher familiarity between countries that will enhance or promote an FDI relationship. We label this group as home bias variables because it reflects how a country's geo-position, socio-political and cultural circumstances may influence or create a bias for it in its relationship with other countries in terms of FDI. By including these variables we intend to show whether some additional and non-economic factors affect corporate decision makers in such a way that they would prefer making foreign direct investments in countries that are more similar to their own. The significance of adding

this group of variables is that it has direct impact on specific policies for countries that wish to attract more FDI. We marginally contribute to the gravity model based FDI literature by estimating our model using two ways of measurement for the macroeconomic set of variables, one using them first in level values and in scaled values afterwards. We also contribute by using more than one variable for proximity.

### **4.3. Econometric Model**

This section explains all the different estimations that will be carried out as well as the econometric methods that will be used.

#### **4.3.1. Panel regression at level values**

We start by estimating the comprehensive panel dataset that includes all of the countries which is followed by several other estimation models that serve as a robustness check: a breakdown of the data on individual countries and by continent, with additional regressions using variables in scaled terms for robustness.

#### **4.3.2. Regressions by individual countries**

We estimate the models with individual regressions for each OECD country separately. This strengthens and reaffirms the values of the results obtained from the estimations

made on the whole panel dataset. It also helps to identify any country specific tendencies and particularities. The econometric models are adapted to the individual country dataset shortcomings by excluding a particular dummy variable where all of the values take the value of zero.

#### 4.4. Regression specifications

We estimate the following two regression specifications for FDI inflows and FDI outflows at level value variables.

$$\begin{aligned}
 \text{FDI}_{i,j,t}(\text{inflows}) &= \beta_0 + \beta_1(\gamma_1) + \beta_2(\gamma_2) + \beta_3(\gamma_3) + u_{i,j,t} \\
 \text{Log (FDI inflows}_{i,j,t}) &= \beta_0 + \\
 &\beta_{11} \log (\text{GDPrec}) + \beta_{12} \log (\text{GDPsend}) + \beta_{13} \log (\text{EXPrec}) + \beta_{14} \log (\text{EXPsend}) + \\
 &\beta_{21} \log (\text{DIST}_{i,j}) + \beta_{22} \text{SAMECONT} + \beta_{23} \text{BORDER} + \\
 &\beta_{31} \text{ECONORGD} + \beta_{32} \text{LEGALOR} + \beta_{33} \text{SAMEHIST} + \beta_{34} \text{COMLANG} + \varepsilon_{i,j,t}
 \end{aligned}
 \tag{5a}$$

$$\begin{aligned}
 \text{FDI}_{i,j,t}(\text{outflows}) &= \beta_0 + \beta_1(\gamma_1) + \beta_2(\gamma_2) + \beta_3(\gamma_3) + u_{i,j,t} \\
 \text{Log (FDI outflows}_{i,j,t}) &= \beta_0 + \\
 &\beta_{11} \log (\text{GDPrec}) + \beta_{12} \log (\text{GDPsend}) + \beta_{13} \log (\text{EXPrec}) + \beta_{14} \log (\text{EXPsend}) + \\
 &\beta_{21} \log (\text{DIST}_{i,j}) + \beta_{22} \text{SAMECONT} + \beta_{23} \text{BORDER} + \\
 &\beta_{31} \text{ECONORGD} + \beta_{32} \text{LEGALOR} + \beta_{33} \text{SAMEHIST} + \beta_{34} \text{COMLANG} + \varepsilon_{i,j,t}
 \end{aligned}
 \tag{5b}$$

Where:

Log (FDI in/outflows  $_{i,j,t}$ ) is the logarithm of the levels of FDI inflows or outflows in millions of US dollars from country  $i$  to  $j$  at time  $t$ . Log GDPrec is the logarithm of the GDP levels in millions of constant US dollars for the FDI receiving country. Log GDPsend is the logarithm of the GDP levels in millions of constant US dollars for the FDI sending country. Log EXPrec is the logarithm of the exports in millions of constant US dollars for the FDI receiving country. Log EXPsend is the logarithm exports in millions of constant US dollars for the FDI sending country. Log DIST is the logarithm of the distances between the two countries  $i$  and  $j$  in the bilateral country pairs. SAMECONT is a dummy variable that takes the value of one if the two countries in the bilateral country pair are on the same continent. BORDER is a dummy variable if the two countries in the bilateral country pair share a border. ECONORGD is a dummy variable that has a value of one if the two countries in the bilateral country pair are members of an economic or political union (EU, OECD, Commonwealth or NAFTA). LEGALOR is a dummy variable that takes the value of one if the two countries in the bilateral country pair have the same legal system origin. COMLANG is a dummy variable that takes the value of one if the two countries in the pair share the same language and SAMEHIST is a dummy that has the value of one if the two countries in the bilateral country pair share history as described in section 3.4.6.2.

## **5. Results**

In this section we discuss the presence of home bias in FDI outflows and inflows. We analyse the effects of three sets of variables on FDI flows: home bias factors, physical proximity and macroeconomic factors. Given the purpose of this study we give priority to the results from the home bias studies. We do this by primarily analysing the outflows of foreign direct investment of OECD countries towards the rest of the world. By performing the same estimations on FDI outflows as well as inflows way we can immediately see a comparison of all of the results.

## **5.1 Home bias in FDI outflows**

[Insert table 1 here]

Table 1 reports the results for the panel data regressions of all countries. In the case of FDI outflows the FDI sending country is an OECD member and the FDI receiving country is the partner country anywhere in the world.

The variables of interest in this study, the home bias variables are expected to have a stimulating influence on FDI outflows. We expect that countries will prefer to invest in countries that are more familiar to them in terms of social, political, economical and cultural attributes.

Out of the four variables in this group, all four have a positive coefficient. Three of them are statistically significant whilst the economic union dummy isn't. This means that in the

case of FDI outflows, investors generally prefer to invest in countries that have same or similar language to theirs indicating that cultural similarity is a very strong attracting factor. They choose to invest in countries with which they share past events such as having been part of a same country in the past or having had colonial ties. Countries also prefer to invest in other countries that have the same origin of the legal system which implies that the organisation of the societies is similar which in turn is a strong attracting factor. This makes countries culturally similar and therefore more appealing in the eyes of the FDI investors. Several other studies have included one or two such (non-economic) variables to denote a similar cultural or geographic proximity and have also found them to be a positive and stimulating effect for FDI [e.g. Guiso, Sapienza, Zingales (2007); Disdier, Fontagne, Meyer, Tai (2007); Bandelj (2002);].

A notable exception is that the economic union dummy isn't statistically significant most notably is contrary to the finding in FDI inflows. The FDI outflows are done by the OECD countries towards the rest of the world and this finding can be interpreted to mean that in general for richer countries (what the OECD members can be described as in comparison with the rest of the world) isn't that important whether the FDI outflows country is a member of an international political or economic organisation and in fact it might be less desirable. This could be due to the fact that as soon as countries become members of an international union such as the EU and the OECD for example, it becomes more expensive to invest there, due to organisational and technological evolution that is often a prerequisite for membership in said organisations. Conversely, in the case of FDI inflows, the sample of countries that receives the inflows are OECD members which is already on average a group of the richest countries in the world and we may assume

investment costs not to differ as greatly as in the FDI outflows receiving countries. Therefore, given a choice among them it's better for the FDI sending country, if they're both members of the same organisation because the investment process would go with greater ease.

Of the physical proximity variables, the geographical distance in kilometres has a negative coefficient estimate which means that the overall tendency is for countries to invest more in countries that are closer. The distance and the FDI flows are always expected to have a counter-proportionate relationship meaning that FDI attractiveness for a certain location will fall as the distance grows. The other two proximity variables are expected to have a positive influence on FDI outflows. They are both statistically significant which indicates that it's preferable for investors to make investments within the same continent. It is also considered that a shared border with a country has a very stimulating effect for FDI.

The macroeconomic group of variables has an expected positive influence on FDI outflows which is present in our results. The GDP of the FDI outflows sending country (an OECD member) has a positive impact on FDI outflows and is highly statistically significant. The GDP of the FDI outflows receiving country (the FDI partner country) has a positive but statistically insignificant coefficient signifying that in the case of FDI outflows a higher GDP of the FDI sending country is more important than the one of the FDI receiving country. We also expect that the country's openness to trade would stimulate the FDI flows. This is demonstrated in the results through the positive and

statistically significant coefficients of the proxy for trade openness, the exports. We can conclude that the country openness is a strong predictor of FDI flows and it suggests that countries that have relaxed their trade barriers can expect to attract FDI inflows. This is consistent with findings in the literature [Tobin, Ackerman, 2003; Herrmann, Jochem, 2005; Janicki, Wunnava, 2004;] especially in the case of riskier countries as an FDI recipient.

In general we can conclude that the home bias variables are a significant contributing factor in FDI outflows. We find that investments flow more towards places that are more similar to the FDI sending country with respect to certain ‘non-economic’ factors that show social, cultural, historical and political preference. Further confirmation is required to show whether these findings are applicable in a geographically narrower areas or at an individual country level.

#### **5.1.1. Home bias in FDI inflows**

For comparison of the general results for outflows we use the FDI inflows and expect to find similar if not the same effects as FDI outflows. We expect that the home bias phenomenon is present to some degree for all of the countries in the world. The dataset in this study shows two perspectives, FDI outflows which occur from OECD member countries towards the rest of the world and FDI inflows which are directed from all of the countries in the world towards the 30 OECD member countries. The a priori expectation

is that the home bias variables should have the same effect in both cases, however it is highly important to see if there are some differences what they are. This will immediately show if there are differences in the nature of home bias when a small group of rich countries (OECD members) is concerned as opposed to a very wide variety of countries of the whole world.

Of the four home bias variables, all have a statistically significant coefficients and a positive influence on FDI inflows. The economic union dummy is positive and significant which means that FDI outflows tend towards economically similar countries. The legal origin dummy is also positive and significant; countries prefer to make FDI investments to countries that have similar institutional organisation. The same speaking countries or countries with a same language speaking minority are a preferred location for investors due to an easier way to do business. This has a stimulating influence for FDI inflows. The same history between the countries in the bilateral country pair has a positive influence on FDI in general. This is a general conclusion based on a geographically unrestricted group of countries. It should be further investigated in order to see particular geographical aspects with respect to historical events between countries.

The distance variable has an expected negative coefficient. Overall, countries prefer to invest in countries that are closer to them. The shared continent and borders dummy variables also have the expected positive sign which means that in the case of inflows like in outflows, investors like to invest in their more immediate environment.

The general consensus in the literature for the GDP effects in this kind of analysis is to have a strong and positive relationship with FDI flows. However in this regression even though both the GDP of the sending and receiving country are statistically significant, the coefficient for the GDP of the FDI inflows receiving country has a negative sign. This means that in this case of inflows where the recipient country is an OECD member country, having a very high GDP has a negative effect on FDI inflows. This could mean that higher GDP makes countries more expensive to invest in and therefore less attractive for FDI.

The coefficients in the inflows regression are all significant except for the country openness proxy for the FDI receiving country, the exports of the FDI receiving country. The two country openness variables represented through the exports have a positive coefficient which supports the expectation that the more open economies have higher levels of FDI flows; the coefficient for the exports of the receiving country however, isn't statistically significant.

Overall, in both cases of FDI outflows and inflows we find that the results support our claim that there is home bias in FDI flows. Regardless whether it comes to highly developed group of countries or a general consideration of the whole world, the influence of the home bias i.e. certain aspects of countries are present overall. Such a general and unrestrained sample offers a broad picture in the general tendencies in FDI flows in the world. This however brings a need to the fore to narrow and restrict the dataset at a country level to reaffirm these findings from a broad to a more specific level.

## **5.2. Geographical breakdown by country**

This section performs estimations on each country individually. It is important to look at regressions at a country level in order to compare the findings and find out the particularities in home bias at an even more geographically specified level. This will offer insights into potential differences between countries that are at different according to size and development level within the OECD member countries. This analysis shows that the results found overall support the findings in the full panel regressions in the previous sections.

### **5.2.1. FDI outflows by country**

[Insert table 2a here]

Table 2a reports the results for the FDI outflows for each country. Canada and Portugal regressions couldn't run in Eviews due to low number of observations for the panel analysis so the total number of country regressions is 28 instead of 30. In some cases a variable had to be excluded because there weren't any country pairs that had a particular relationship depicted by that dummy variable. This would be the shared border dummy for all island countries, the shared language countries for some countries that have a

language that's not similar to any other and is only spoken in one country (such as: Greece, Hungary and Iceland) and in some cases the shared history variable.

Of the home bias variables, the economic union dummy is expected to have a positive effect on FDI outflows. Countries are expected to invest in other countries that have similar organisation of the economic system. This variable is significant for 10 of the 28 countries and it doesn't have the expected positive influence on FDI outflows for: France, Greece, Korea, Mexico and Sweden.

The same legal origin dummy is also expected to have a positive effect on FDI outflows. In this regression it is significant for 15 of 28 countries. However results show negative coefficient signs for: Germany, Greece, Japan, Korea, and Switzerland. These countries' outflows aren't determined by the similarity of the legal system with their FDI partner countries.

The shared language dummy isn't taken into consideration for 10 of the 30 OECD countries because they don't share lingual similarity with any other FDI partner in the sample. Of the remaining countries this variable is significant for 11 of 20 countries however it doesn't have the expected positive stimulating influence on FDI outflows for Belgium, Ireland, Korea, Luxembourg and Turkey. Overall though it can be inferred that shared language plays a positive role in the FDI outflows.

The shared history dummy isn't used in the estimations of 6 of the 30 OECD countries because they didn't have any such relationship with their FDI partners in this sample. It is statistically significant for 10 of 24 countries and it exhibits a stimulating influence on FDI outflows except for: Denmark, Korea and Turkey where it has a negative coefficient.

Of the proximity variables, the distance variable is expected to be negative with less FDI outflows to countries that are more distant from the FDI outflows sending country. The coefficients are significant for 13 of the 28 countries and have the expected negative sign for all of the statistically significant variables. The shared continent dummy is significant for 13 of 28 countries and is expected to increase FDI outflows if the country pair is on the same continent. Negative influence on FDI outflows is found in: Belgium, Iceland, Ireland, Luxemburg and Norway. The shared border dummy variable isn't considered for 8 of the 30 OECD countries. From the rest it's significant for 9 of 23 countries and even though it mostly has a positive influence on FDI outflows it does exhibit a negative sign for the Netherlands and Switzerland where it decreases FDI flows with bordering countries.

The macroeconomic variables are significant for most countries. The GDP of the FDI receiving and sending country are significant in 12 of the 28 countries. We expect a positive impact of the GDP variables on FDI outflows. The larger the economy the higher the FDI outflows. Some of the FDI outflows countries have a negative coefficient sign for the GDP of the receiving country: Norway, Slovakia, Switzerland and USA – they tend to invest in countries with lower GDP. The exports of the FDI outflows receiving variable is significant for 18 of 28 countries and it has a positive effect on FDI outflows for all significant coefficients. Exports of the FDI outflows sending country is significant for 11 of the 28 countries and although it has a general positive influence for some countries it has a negative sign: Germany, Japan, Luxembourg and Turkey – they seem to engage less

in FDI outflows when their exports are higher. Country openness generally speaking has a positive influence on FDI outflows.

### **5.2.2. FDI inflows by country**

[Insert table 2b here]

Table 2b reports the results for the FDI inflows for each OECD member country. Canada and Portugal regressions couldn't run in Eviews due to low number of observations for the panel estimation so the total number of country regressions is 28 instead of 30. In some cases a variable had to be excluded because there weren't any country pairs that had a particular relationship depicted by that dummy variable. This would be the shared border dummy for all island countries, the shared language countries for some countries that have a language that's not similar to any other and is only spoken in one country (such as: Greece, Hungary and Iceland) and in some cases the shared history variable.

Of the home bias variables, the economic union dummy is expected to have a positive effect on FDI inflows. Countries are expected to invest in other countries that have similar organisation of the economic system. This variable is significant for 6 of the 28 countries and it doesn't have the expected positive influence on FDI inflows in: Austria, Hungary and Sweden.

The same legal origin dummy is also expected to have a positive effect on FDI inflows. In this regression it is significant for 23 of 28 countries. However results show negative

coefficient signs for several countries: Belgium, Czech Rep., Hungary, Japan, Korea, Mexico, Poland, Portugal and Switzerland. These countries' inflows aren't determined by the similarity of the legal system with their FDI partner countries.

The shared language dummy isn't taken into consideration for 7 of the 30 OECD countries because they don't share lingual similarity with any other FDI partner in the sample. Of the remaining countries this variable is significant for 6 of 23 countries however it doesn't have the expected positive stimulating influence on FDI inflows for Hungary and Luxembourg. Overall though it can be inferred that shared language plays a positive but not as important role in the case of FDI inflows to the OECD countries.

The shared history dummy isn't used in the estimations of 5 of the 30 OECD countries because they didn't have any such relationship with their FDI partners in this sample. It is statistically significant for 14 of 25 countries and it exhibits a stimulating influence on FDI inflows except several countries such as: Austria, Czech Rep. Denmark, France, Greece and Turkey where it has a negative coefficient.

Of the proximity variables, the distance variable is expected to be negative with less FDI inflows to countries that are more distant from the FDI inflows sending country. The coefficients are significant for 14 of the 28 countries and have the expected negative sign for all but four (Austria, Japan, Korea and Mexico) of the statistically significant variables. The shared continent dummy is significant for 12 of 28 countries and is expected to increase FDI inflows if the country pair is on the same continent. Negative influence on FDI inflows is found in: France, Luxemburg and the Netherlands. The shared border dummy variable isn't considered for 8 of the 30 OECD countries. From the

rest it's significant for 13 of 22 countries and even though it mostly has a positive influence on FDI inflows it does exhibit a negative sign for Denmark, Greece, Luxembourg and the UK where it decreases FDI flows with bordering countries.

The macroeconomic variables are significant for most countries. The GDP of the FDI receiving country is significant in 13 of the 28 countries while the GDP of the FDI inflows sending country is significant for 16 of 28 countries. We expect a positive impact of the GDP variables on FDI inflows - the larger the economy, the higher the FDI inflows. Some of the FDI inflows countries have a negative coefficient sign for the GDP of the receiving country: Belgium, Hungary, Ireland, New Zealand and Sweden – their high GDP has a negative influence on FDI inflows in them. The exports of the FDI inflows receiving variable is significant for 12 of 28 countries and it doesn't have a positive effect on FDI inflows for: Luxembourg, Netherlands, Slovakia and Spain. Exports of the FDI inflows sending country is significant for 23 of the 28 countries and it has a general positive influence almost all countries except for Belgium and New Zealand – they seem to invest less in FDI when their exports are higher. Country openness, especially the openness of the FDI inflows sending country, generally speaking has a positive influence on FDI inflows.

### **5.3. Robustness tests**

We perform robustness checks in a number of ways. Following literature we first have a look at estimations with variables in scaled values. We do so in order to make our results comparable to other studies on FDI. We next look into a geographical breakdown by continents to see if there are some particularities in the determinants in such a setting. Finally in order to see if the results are robust according to the econometric method, we instrument the independent variables (using their lags).

Each of the robustness checks is estimated for the FDI outflows panel and then for the inflows panel data as well. The results have some minor differences with the main regressions but do not vary greatly. The additional regressions outputs can be found in the appendix 5.

## **6. Conclusion**

We investigate home bias in foreign direct investments. We do this by using very broad panel of country pairs (5963) thus enabling generality in the conclusions. Our main contribution is to show that corporate investments are prone to have a bias that comes from particular similarities between two geographical locations. These similarities can be economic or social, political or cultural. Corporate investors will overall prefer destinations that are more familiar to them.

Our results show that the home bias variables are significant for both FDI inflows and FDI outflows. Corporations prefer to invest in countries that are geographically closer to their home country. The physical proximity is an indicator of preference towards

investments where there's cultural and linguistic familiarity. Direct investors also prefer to invest in countries with similar economic and legal systems to their own. Institutional similarities are important indicator for business climate familiarity. A notable positive effect is the influence of a commonly spoken language between countries or a shared history among them. This is likely to increase FDI flows between such country pairs.

The results are decidedly stronger and more pronounced for FDI outflows. FDI flows generally move from the more developed countries towards the less developed ones. Our FDI outflows countries are all 30 OECD members most of which can be considered as developed, therefore giving the FDI outflows results a stronger generality.

These findings have an impact on country policies that have to do with certain aspects of governance. If taken into consideration, by implementing some measures that will ease the understanding of doing business, governments can increase the attractiveness of their country for FDI and other kinds of investments. The international capital flows markets will become much more liquid if the international organisations worked towards establishing certain general guidelines for international investment.

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**Table 1.** Home Bias in FDI flows – full panel regression; variables at level values; method: OLS fixed effects with White errors;

[Dependant variable is log (FDI flows)]

	<b>FDI inflows</b>	<b>FDI outflows</b>
C	6.03421 ***	6.04402 ***
L [GDP of FDI receiving country]	0.00050 ***	0.00012
L [GDP of FDI sending country]	-0.00032 *	0.00036 ***
L [Exports of FDI rec. count.]	0.00075	0.00441 ***
L [Exports of FDI send. count.]	0.00455 ***	0.00114 **
L [Distance]	-0.01123 **	-0.01340 ***
Same Continent	0.00003 ***	0.00005 ***
Shared Border	0.00012 ***	0.00014 ***
Economic Union Dummy	0.00006 ***	0.00002
Same Legal Origin Dummy	0.00004 ***	0.00007 ***
Shared Language	0.00003 ***	0.00008 ***
Shared History	0.00021 ***	0.00020 ***
N	25,256	23,631
R <sup>2</sup>	9.03%	9.6%

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.









Table 2a Home bias in FDI inflows (by country) (level values) [dependant variable is log (FDI outflows)]

	Const.	LGDP of FDI receiving country	LGDP of FDI sending country	L Exports of rec. count.	L exports of send. count.	L distance	Same Continent	Shared Border	Economic Organisation Dummy	Legal origin dummy	Common Language	Shared History
Australia	5.928470	0.000533	-0.006575	-0.001590	0.019543	0.000095	0.000160	NA	0.000039	0.000080	0.000045	0.000054
	***	***								*		
Austria	5.988826	-0.000065	-0.000760	0.000513	0.002183	-0.000019	0.000004	0.000012	0.000001	0.000005	0.000019	0.000057
	***	**		***	***	*						***
Belgium	6.128299	-0.001153	-0.061507	0.003392	0.038857	-0.000829	-0.000680	0.001652	0.000131	-0.000010	-0.000401	NA
	***	*		***		*	**	***	***		**	
Canada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech R.	5.998316	-0.000003	-0.000189	0.000015	0.000456	0.000001	0.000004	0.000004	-0.000002	0.000001	NA	-0.000002
	***				*		*					
Denmark	5.982139	-0.000157	0.005050	0.001428	-0.003381	-0.000006	0.000030	-0.000067	0.000012	0.000062	NA	-0.000079
	***									*		***
Finland	5.92687	-0.000215	-0.007228	0.001461	0.008912	-0.000029	-0.000001	0.000025	0.000004	-0.000018	0.000520	-0.000054
	***	**		**							*	
France	5.888364	-0.002349	-0.001501	0.020840	0.001830	-0.000287	-0.000039	-0.000202	-0.000118	0.000114	-0.000044	0.000018
	***	***		***		*			*	***		
Germany	5.927260	0.002308	0.004939	0.008652	-0.004034	0.000007	0.000142	-0.000101	-0.000172	-0.001155	0.001039	0.000122
	***	**	***		***					***	***	**
Greece	5.999510	0.000011	0.000088	0.000062	-0.000079	-0.000003	0.000005	-0.000007	-0.000004	-0.000008	NA	0.000003
	***			**		*	***	***	***	***		
Hungary	5.988314	-0.000025	0.003423	0.000094	-0.001549	-0.000005	-0.000001	0.000018	0.000001	0.000002	NA	0.000006
	***		*			**		***				
Iceland	5.924513	-0.000017	0.047359	0.000171	-0.034922	-0.000049	-0.000016	NA	0.000001	0.000001	NA	0.000031
	***					*	**					
Ireland	5.970318	-0.001005	0.010724	0.002348	-0.006943	-0.000309	-0.000229	NA	0.000068	-0.000052	-0.000099	0.001102
	***	**		***		***	**				**	**
Italy	5.978723	-0.000464	0.001341	0.003500	-0.000913	0.000018	0.000115	0.000023	-0.000010	0.000104	-0.000055	NA
	***	***	**	***			***			***		
Japan	5.979585	0.005177	0.003883	-0.000263	-0.005509	-0.000379	-0.000023	NA	-0.000050	-0.000607	NA	0.000079
	***	***	***		***	**				***		
Korea	5.995243	0.000094	0.000306	0.000583	-0.000144	-0.000081	-0.000011	NA	-0.000017	-0.000060	-0.000014	-0.000120
	***		**	**		***			*	***	***	***
Luxemb.	1.659070	-0.002233	1.011824	0.016117	-0.302473	-0.001007	-0.000241	-0.002236	0.000066	0.000277	-0.000307	0.006098
			*	**	*	***	***		*	***	***	***
Mexico	5.998858	0.000073	-0.000912	-0.000178	0.001206	0.000025	0.000057	0.000263	-0.000002	0.000004	-0.000028	0.000039
	***							***	*			*
Netherl.	5.894264	-0.000584	0.005558	0.011777	0.001013	-0.000483	-0.000103	-0.001173	-0.000137	0.000049	0.001121	0.000090
	***			***		**		*		***	***	
New Zeal.	6.002888	0.000063	-0.002049	-0.000190	0.001697	0.000006	0.000117	NA	-0.000005	-0.000005	-0.000005	0.000032
	***						**					
Norway	5.976542	-0.000154	-0.008942	0.000988	0.012103	-0.000085	-0.000046	-0.000045	0.000011	0.000061	NA	NA
	***		*	*	*	***	*			**		
Poland	5.992086	-0.000023	-0.001492	0.000088	0.002757	-0.000007	0.000001	0.000007	0.000003	-0.000006	NA	-0.000011
	***	***	*	***	**							
Portugal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	6.017788	0.000008	-0.007867	-0.000024	0.004923	0.000001	-0.000001	0.000003	0.000001	0.000002	-0.000003	0.000003
	***		**		**			**	***	*	***	
Spain	5.942352	-0.000095	0.001422	0.002587	0.005636	-0.000073	0.000068	0.000015	0.000021	0.000221	0.000208	-0.000081
	***			***	*		**			***	***	
Sweden	5.972482	-0.000109	0.001732	0.002604	0.000314	0.000021	0.000059	0.000130	-0.000035	0.000100	0.000301	0.000026
	***			***			***	***	**			
Switzerl.	6.055109	0.000621	-0.049967	0.004135	0.036623	-0.000148	-0.000030	-0.000319	0.000020	-0.000330	0.000006	NA
	***	**	***	***	***	***	***	***		***		
Turkey	6.002785	-0.000013	0.000335	0.000108	-0.000895	-0.000001	0.000002	0.000017	-0.000001	0.000001	-0.000012	-0.000008
	***		***	***	***	**	***	**			**	**
UK	5.830815	-0.000208	-0.006869	0.025761	0.009635	-0.000003	0.000548	0.000023	-0.000533	0.000197	0.000294	0.000220
	***			**			*		**		***	**
USA	5.880269	-0.002083	-0.005911	0.020461	0.008398	-0.000581	0.000476	0.000554	0.000308	0.000735	-0.000011	0.000962
	***	*	*	***	**	*	***	**	***	***		***



Table 2b Home bias in FDI inflows (by country) (level values) [dependant variable is log (FDI inflows)]

	Const.	LGDP of FDI receiving country	LGDP of FDI sending country	L Exports of rec. count.	L exports of send. count.	L distance	Same Continent	Shared Border	Economic Organisation Dummy	Legal origin dummy	Common Language	Shared History
Australia	6.00448 ***	0.00089	0.00046	-0.00181	-0.00028	-0.00004	-0.00004	NA	0.00007	0.00004	0.00000	0.00004
Austria	5.99600 ***	-0.00121	-0.00013	0.00040	0.00159	0.00005	0.00010	0.00019	-0.00007	0.00008	0.00020	-0.00009
Belgium	6.27534 ***	-0.11500	0.00342	0.07583	-0.00941	0.00006	0.00001	0.00156	0.00003	-0.00007	0.00012	0.00244
Canada	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech R.	5.99093 ***	-0.00447	-0.00015	0.00512	0.00103	-0.00003	0.00004	0.00011	0.00000	-0.00005	NA	-0.00004
Denmark	5.97856 ***	0.00686	-0.00022	-0.00499	0.00189	-0.00003	0.00002	-0.00011	0.00001	0.00012	NA	-0.00008
Finland	5.96435 ***	-0.00266	0.00001	0.00827	0.00032	0.00000	0.00003	-0.00002	0.00001	0.00005	0.00060	0.00006
France	5.94556 ***	0.00067	-0.00135	-0.00072	0.01068	-0.00039	-0.00015	-0.00003	-0.00001	0.00009	0.00002	-0.00010
Germany	5.95534 ***	0.00101	-0.00115	-0.00041	0.00820	-0.00042	-0.00023	-0.00014	0.00012	-0.00013	-0.00013	0.00000
Greece	6.00725 ***	0.00002	0.00007	-0.00121	-0.00009	-0.00001	0.00002	-0.00001	0.00000	0.00001	NA	-0.00002
Hungary	6.01382 ***	-0.00912	-0.00022	0.00577	0.00130	-0.00003	0.00002	0.00002	-0.00002	-0.00004	-0.00003	0.00001
Iceland	6.01701 ***	0.03738	-0.00001	-0.04023	0.00003	-0.00003	-0.00001		0.00001	-0.00001	NA	0.00000
Ireland	6.16465 ***	-0.13135	0.00004	0.10426	-0.00006	-0.00013	-0.00007	NA	0.00002	0.00004	-0.00005	-0.00005
Italy	5.98383 ***	0.00298	-0.00035	-0.00315	0.00310	0.00000	0.00009	0.00006	0.00000	0.00009	0.00020	NA
Japan	5.96954 ***	0.00079	0.00013	-0.00047	0.00432	0.00032	-0.00003	NA	-0.00008	-0.00014	NA	0.00029
Korea	5.99225 ***	0.00001	-0.00014	0.00001	0.00138	0.00003	0.00001	NA	0.00000	-0.00003	0.00000	0.00015
Luxemb.	-4.95081 **	2.49920	-0.00030	-0.68743	0.01216	-0.00126	-0.00037	-0.00173	-0.00002	0.00014	-0.00024	0.00203
Mexico	5.97168 ***	0.00152	-0.00006	-0.00079	0.00373	0.00039	0.00015	0.00118	0.00004	-0.00001	0.00013	0.00008
Netherl.	5.89930 ***	0.02156	-0.00043	-0.01149	0.00702	-0.00031	-0.00012	-0.00013	-0.00005	0.00002	0.00082	0.00018
New Zeal.	5.88198 ***	-0.01400	0.00019	0.03389	-0.00041	0.00000	0.00038	NA	0.00002	0.00001	0.00000	-0.00008
Norway	5.98099 ***	0.00014	0.00008	0.00251	0.00043	-0.00002	0.00000	0.00007	0.00001	0.00008	NA	NA
Poland	5.99263 ***	0.00342	-0.00029	-0.00380	0.00189	-0.00005	0.00006	0.00000	0.00000	-0.00008	NA	0.00005
Portugal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	5.78218 ***	0.09777	-0.00017	-0.06214	0.00078	-0.00002	0.00002	0.00002	-0.00002	-0.00003	0.00000	0.00001
Spain	5.97094 ***	0.00438	-0.00036	-0.00411	0.00495	-0.00022	0.00006	-0.00008	0.00004	0.00010	0.00002	0.00009
Sweden	5.96883 ***	-0.00829	-0.00074	0.00822	0.00599	0.00011	0.00017	0.00013	-0.00009	0.00010	0.00032	0.00002
Switzerl.	5.97940 ***	-0.01693	-0.00063	0.01575	0.00569	-0.00045	-0.00048	0.00000	0.00001	-0.00023	-0.00023	NA
Turkey	5.99394 ***	0.00016	-0.00003	0.00047	0.00041	-0.00001	0.00001	0.00000	0.00000	0.00001	0.00000	-0.00001
UK	5.87704 ***	-0.00068	-0.00191	0.00348	0.02001	-0.00075	-0.00029	-0.00064	-0.00007	0.00021	0.00000	0.00004
USA	5.82362 ***	-0.01179	0.00013	0.01444	0.02876	-0.00150	0.00046	-0.00141	0.00035	0.00104	-0.00026	0.00153



**Appendix 1a. Descriptive statistics for FDI inflows panel data (level values)**

	FDIINFL(\$mil)	GDPREC(\$mil)	GDPSEND(\$mil)	EXPREC(\$mil)	EXPSEND(\$mil)	DISTANCE(km)	SAMECONT	BORDER	ECORGD	LEGORSAME	HISTSAME	LANGCOM
Mean	220	903819	418852	193839	90063	6610	0.33	0.04	0.34	0.24	0.06	0.13
Median	0	401804	56720	135759	25343	6322	0	0	0	0	0	0
Maximum	108566	10995800	10995800	1196100	1196100	19629	1	1	1	1	1	1
Minimum	-47033	5362	25	1576	9	59	0	0	0	0	0	0
Jarque-Bera Probability	9.51E+08	408346	1406084	31843	234453	1781	5119	519899	5012	7026	215883	32178
Observations	28890	28890	28874	28763	25365	28890	28890	28890	28890	28890	28890	28890
Missing Values (NA)			NA=16	NA=16	NA=3526							

**Appendix 1b. Descriptive statistics for FDI outflows panel data (level values)**

	FDI_OUTFL(\$mil)	GDPREC(\$mil)	GDPSEND(\$mil)	EXPREC(\$mil)	EXPSEND(\$mil)	DISTANCE(km)	SAMECONT	BORDER	ECORGD	LEGORSAME	SAMEHIST	COMLANG
Mean	298	424364	1064948	90063	193839	6159	0.34	0.05	0.37	0.24	0.07	0.12
Median	1	74753	392490	25343.3	135759.9	5690.174	0	0	0	0	0	0
Maximum	172210.1	10995800	10995800	1196100.0	1196100.0	19629.5	1	1	1	1	1	1
Minimum	-30136.35	27.5615	6499.975	9.0	1576.0	59.61723	0	0	0	0	0	0
Jarque-Bera Probability	2.88E+09	1367047	205865	234453	31843	2328	4614	388982	4509	6965	145963	43542
Observations	26469	26462	26469		26457	26469	26469	26469	26469	26469	26469	26469
Missing Values (NA)		NA=7		NA=2823	NA=12							

**Appendix 2a. Correlations table with nominal variable values for FDI inflows panel data - level values**

	FDIINFL	GDPREC	GDPSSEND	EXPREC	EXPSSEND	DISTANCE	SAMECONT	BORDER	ECORGD	LEGORSAME	HISTSAME	LANGCOM
FDIINFL	1.00											
GDPREC	0.18	1.00										
GDPSSEND	0.17	-0.02	1.00									
EXPREC	-0.18	-0.55	0.00	1.00								
EXPSSEND	-0.11	0.02	-0.59	-0.03	1.00							
DISTANCE	-0.07	0.07	0.01	-0.05	-0.01	1.00						
SAMECONT	0.05	-0.10	-0.06	0.05	0.04	-0.72	1.00					
BORDER	0.08	0.00	0.05	0.00	-0.01	-0.23	0.23	1.00				
ECORGD	0.14	0.04	0.32	-0.04	-0.07	-0.26	0.44	0.17	1.00			
LEGORSAME	0.03	-0.01	-0.04	-0.05	0.00	-0.02	-0.04	0.15	-0.03	1.00		
HISTSAME	0.08	0.05	0.04	-0.06	-0.04	-0.04	-0.04	0.16	0.02	0.30	1.00	
LANGCOM	0.06	0.16	0.04	-0.15	-0.06	0.09	-0.06	0.16	-0.03	0.29	0.39	1.00

**Appendix 2b. Correlations table with logarithm variable values for FDI outflows panel data - level values**

	FDIOUT_10_6	LGDPREC10_6	LGDPSEND10_6	LEXPREC10_6	LEXPSSEND10_6	LDIST10_6	SAMECONT	BORDER	ECORGD	LEGOR_SAME	SAMEHIST	COMLANG
FDIOUT_10_6	1.00											
LGDPREC10_6	0.22	1.00										
LGDPSEND10_6	0.12	-0.06	1.00									
LEXPREC10_6	-0.14	-0.42	0.02	1.00								
LEXPSSEND10_6	-0.09	-0.01	-0.42	-0.02	1.00							
LDIST10_6	-0.05	0.02	0.11	-0.02	-0.04	1.00						
SAMECONT	0.04	-0.01	-0.13	0.05	0.04	-0.72	1.00					
BORDER	0.08	0.07	-0.02	0.01	0.00	-0.27	0.28	1.00				
ECORGD	0.13	0.43	-0.03	-0.08	-0.03	-0.22	0.45	0.19	1.00			
LEGOR_SAME	0.04	-0.03	-0.04	0.00	-0.01	-0.02	-0.05	0.17	-0.03	1.00		
SAMEHIST	0.08	0.01	0.06	-0.03	-0.03	-0.02	-0.06	0.16	-0.02	0.31	1.00	
COMLANG	0.08	0.04	0.15	-0.06	-0.17	0.06	-0.05	0.19	0.00	0.34	0.43	1.00



**Appendix 3. Descriptive statistics for FDI flows (Millions of US dollars)**

	Observations		Mean		Std. Dev.		Maximum		Minimum	
	inflows	outflows	inflows	outflows	inflows	outflows	inflows	outflows	inflows	outflows
Australia	468	460	223	136	2,950	1,734	39,129	11,886	-47,033	-30,136
Austria	433	900	81	60	501	188	7,295	2,213	-1,458	-834
Belgium	236	237	537	506	2,440	2,173	20,183	12,503	-7,776	-5,351
Canada	99	93	1,991	2,390	4,835	5,252	25,290	30,800	-3,081	-593
Czech Rep.	630	601	66	3	291	27	4,910	409	-1,059	-85
Denmark	866	945	101	93	696	660	8,849	11,803	-9,857	-10,152
Finland	847	1,065	65	79	541	653	11,062	14,204	-623	-4,812
France	2,637	2,723	175	303	1,028	1,989	15,560	57,932	-8,852	-6,211
Germany	3,711	3,638	144	279	2,112	2,403	87,095	87,323	-26,374	-29,088
Greece	601	502	20	5	106	28	1,420	310	-702	-45
Hungary	784	774	27	6	172	50	2,741	843	-585	-206
Iceland	259	416	15	25	149	168	2,322	2,030	-87	-56
Ireland	569	167	72	159	1,317	912	10,193	5,871	-16,015	-4,822
Italy	969	1,030	125	124	519	641	8,676	10,336	-893	-7,330
Japan	516	927	281	842	1,357	2,776	24,224	32,540	-1,278	-203
Korea	2,912	809	19	42	144	162	3,238	2,291	-764	-365
Luxembourg	658	656	492	567	3,328	3,368	67,458	62,797	-7,175	-6,075
Mexico	1,786	195	124	21	902	138	21,092	1,334	-2,483	-350
Netherlands	1,472	1,582	229	373	1,333	3,073	20,137	107,723	-10,177	-10,103
New Zealand	1,035	988	29	9	303	197	4,653	3,687	-2929	-2649
Norway	571	359	73	97	383	347	4,031	2,582	-1,054	-1,689
Poland	620	503	115	9	355	78	3,533	1,532	-720	-246
Portugal	282	714	53	51	374	369	7,157	4,542	-2,748	-2,191
Slovakia	907	253	39	0.4	161	16	1,653	99	-226	-235
Spain	836	890	328	380	1,268	1,399	16,960	21,340	-2,291	-3,078
Sweden	230	887	193	164	1,549	783	38,431	9,778	-32,89	-2,925
Switzerland	1,120	737	455	321	1,255	1,248	6,761	19,952	-2,095	-2,793
Turkey	1,085	1,026	20	4	124	32	2,137	481	-368	0
UK	981	1,256	711	967	4,203	6,708	94,728	172,210	-6,738	-12,665
United States	282	1,157	1,912	1,248	7,034	3,776	108,566	47,265	-4,754	-28,503
<b>TOTAL (sum)</b>	<b>28,890</b>	<b>26,469</b>	8,728	9,275	41,746	41,361	669,496	738,629	-173,494	-173,805
<b>TOTAL (avg)</b>	<b>963</b>	<b>882</b>	<b>291</b>	<b>309</b>	<b>1,391</b>	<b>1,378</b>	<b>22,316</b>	<b>24,621</b>	<b>-5,783</b>	<b>-5,793</b>



## Appendix 4:

Statistics for number of partner countries (for each of the OECD member countries)

Country Name (OECD country)	Number of partner countries for inflows	Number of Obs. for inflows	Number of partner countries for Outflows	Number of obs. for Outflows
Australia (AUS)	33	468	39	460
Austria (AUT)	62	433	62	900
Belgium (BEL)	59	236	59	237
Canada (CAN)	8	99	8	93
Czech Rep. (CZE)	146	630	157	
Denmark (DNK)	67	866	60	945
Finland (FIN)	151	847	141	1,057
France (FRA)	165	2,618	163	
Germany (DEU)	170	3,688	167	
Greece (GRC)	C 153	601	152	5.95477 ***
Hungary (HUN)	L [GDP of FDI receiving country]	165	165	0.00020
Iceland (ISL)	L [GDP of FDI sending country]	44	44	-0.00128 ***
Ireland (IRE)	L [Exports of FDI rec. count.]	58	51	0.00174
Italy (ITA)	L [Exports of FDI send. count.]	183	162	0.00718 ***
Japan (JPN)	L [Distance]	52	60	-0.00064 ***
Korea (KOR)	Shared Border	173	68	-0.00025 ***
Luxembourg (LUX)	Economic Union Dummy	166	166	0.00005 ***
Mexico (MEX)	Same Legal Origin Dummy	166	58	0.00003
Netherlands (NLD)	Shared Language	171	171	0.00006
New Zealand (NZL)	Shared History	162	158	0.00006
Norway (NOR)		51	36	
Poland (POL)		62	62	
Portugal (PRT)		58	55	
Slovakia (SVK)		60	60	
Spain (ESP)		55	55	
Sweden (SWE)		64	62	
Switzerland (CHE)		22	69	
Turkey (TUR)		169	169	
United Kingdom (GBR)		139	115	
United States (USA)		95	92	
<b>Mean / total number</b>	<b>102 / 3,081</b>	<b>963 / 28,890</b>	<b>96 / 2,886</b>	<b>882 / 26,469</b>

**Appendix 5a. Home Bias in FDI flows by continent – EUROPE; variables at level values;**  
method: OLS fixed effects with White errors;

[Dependant variable is log (FDI flows)]

FDI inflows

FDI outflows

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.

**Appendix 5b.** Home Bias in FDI flows by continent – **ASIA - PACIFIC**; variables at level values; method: OLS fixed effects with White errors;

[Dependant variable is log (FDI flows)]

	<b>FDI inflows</b>	<b>FDI outflows</b>
C	6.03082 ***	5.99240 ***
L [GDP of FDI receiving country]	0.00113 ***	-0.00042 *
L [GDP of FDI sending country]	0.00022 ***	0.00105 ***
L [Exports of FDI rec. count.]	-0.00693 ***	0.00425 ***
L [Exports of FDI send. count.]	0.00045 ***	-0.00352 **
L [Distance]	0.00006 ***	-0.00016 **
Economic Union Dummy	0.00008 ***	-0.00014 ***
Same Legal Origin Dummy	0.00001	0.00033 ***
Shared Language	-0.00001 **	-0.00001
Shared History	-0.00005	-0.00049 ***
<b>N</b>	<b>738</b>	<b>494</b>
<b>R<sup>2</sup></b>	<b>37%</b>	<b>40%</b>

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.

**Appendix 5c.** Home Bias in FDI flows by continent – **AMERICAS**; variables at level values;  
method: OLS fixed effects with White errors;

[Dependant variable is log (FDI flows)]

	<b>FDI inflows</b>	<b>FDI outflows</b>
C	5.751069 ***	5.704836 ***
L [GDP of FDI receiving country]	-0.000507	-0.007624 ***
L [GDP of FDI sending country]	-0.006787 ***	-0.001419 **
L [Exports of FDI rec. count.]	0.007958 ***	0.042828 ***
L [Exports of FDI send. count.]	0.040592 ***	0.014903 ***
L [Distance]	0.000145	0.00053
Shared Border	0.001218 ***	0.001286 ***
Economic Union Dummy	-0.001442 ***	-0.00089 *
Same Legal Origin Dummy	0.000876 ***	0.001553 ***
Shared Language	-0.000316 **	-0.001048 ***
<b>N</b>	<b>504</b>	<b>302</b>
<b>R<sup>2</sup></b>	<b>65%</b>	<b>67%</b>

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.

**Appendix 5d. Home Bias in FDI flows – full panel regression; variables at level values;**  
method: **GMM (instruments: lag (-1) of the independent variables;** fixed effects with White errors;

[Dependant variable is log (FDI flows)]

	FDI inflows	FDI outflows
C	5.96770 ***	5.96463 ***
L [GDP of FDI receiving country]	0.00061 ***	0.00021
L [GDP of FDI sending country]	-0.00029	0.00045 ***
L [Exports of FDI rec. count.]	0.00061	0.00431 ***
L [Exports of FDI send. count.]	0.00456 ***	0.00104 *
L [Distance]	-0.00023 ***	-0.00027 ***
Same Continent	-0.00009 **	-0.00009 ***
Shared Border	0.00004	0.00003
Economic Union Dummy	0.00005 ***	0.00002
Same Legal Origin Dummy	0.00004 ***	0.00007 ***
Shared Language	0.00005 ***	0.00011 ***
Shared History	0.00018 ***	0.00017 ***
N	<b>22,548</b>	<b>21,060</b>
R <sup>2</sup>	<b>9.8%</b>	<b>10.3%</b>

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.

**Appendix 5e.** Home Bias in FDI flows – **full panel regression; scaled variables**; method: OLS fixed effects with White errors;

[Dependant variable is log (FDI flows / GDP of FDI flows sending country) \*100]

	<b>FDI inflows</b>	<b>FDI outflows</b>
C	1.54418 *	0.00010
GDP/capita of FDI receiving country]	0.00001 ***	0.00000 ***
GDP/capita of FDI sending country]	0.00002 ***	0.00000 ***
Exports (%of GDP) of FDI rec. country	-0.00146	0.00000 ***
Exports (% of GDP) of FDI send. country	0.00840 ***	0.00001 ***
L [Distance]	-0.52203 **	-0.00020 ***
Same Continent	-0.31963 **	0.00010
Shared Border	-0.06949	0.00009 ***
Economic Union Dummy	-0.13873 **	0.00005
Same Legal Origin Dummy	0.06614 **	0.00012 ***
Shared Language	0.12056 **	-0.00004
Shared History	0.08623	0.00023 ***
<b>N</b>	<b>25,255</b>	<b>23,631</b>
<b>R<sup>2</sup></b>	<b>1.4%</b>	<b>4%</b>

NOTE:

\*\*\*, \*\*, and \* indicate 1 per cent, 5 per cent, and 10 per cent significance level, respectively.