



HOME BIAS IN FOREIGN DIRECT INVESTMENTS

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Abstract

How does the country location, social and cultural background affect the decisions on the choice of FDI partner destination countries? Our paper explores the role of home bias in foreign direct investments (FDI) using a bilateral country framework between the OECD countries and the rest of the world. Our data is unbalanced panel data on 2,885 different bilateral country pairs for FDI outflows throughout the period 1981-2005. We find that there is a strong preference with corporations to invest in surrounding countries and places of social and cultural familiarity. Foreign direct investors prefer to invest in countries that are geographically closer to their home countries. Physical proximity serves as an indicator of cultural and linguistic familiarity and also a strong predictor of FDI outflow trends. 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 markets¹. Equity investors prefer local, domestic investment opportunities against foreign, further away ones (Lewis, 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

¹ see Fidora et al. 2006 for literature summary

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): 1) the monopolistic: 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. 2) oligopolistic: introduced by Knickerbocker (1973) and further developed by Kim and Lyn (1987), Caves (1974), Severn and Laurence (1974), stating that firms take queues from their competitors in an oligopolistic market setting in which large MNCs are presumed to be in and imitate the business decisions in order to stay competitive; and 3) Dunning's (1980; 1998) eclectic or OLI (ownership, location, internalisation) paradigm 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 economy 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 wide country selection that enables us to generalise FDI determinants, both economic or cultural or psychological not otherwise possible by narrowly focused studies. We use the 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 find 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. Schoenmaker 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

We investigate home bias in FDI flows in a bilateral country framework across a large number of countries. OECD database provides bilateral FDI data. It reports on FDI flows for 30 OECD member countriesⁱ and their (maximum possible) 337 partner countries and territories, from 1981 to 2005 and the data is in constant millions of US dollars. We define an observation as the FDI outflow of a bilateral country pair at a given year. We only consider sovereign countries (not country territories) and require each bilateral country pair to have at least two consecutive time series observations and not to be missing more than one matching independent variable. Therefore, the data is an unbalanced panel. The data set includes a total of 26,457 observations for FDI outflows which translates into 2,885 unique bilateral country pairs (without their time series). The sample includes all reported data which consists of positive FDI flows as well as disinvestments and no-investment (zero flows)ⁱⁱ. Therefore, the summary statistics for the FDI outflows range from a maximum value of US\$172 billion [FDI outflow from Germany to the UK in 2000] and a minimum value, or disinvestment of – US\$ 30 billion [outflow of Australia from the USA in 2005]. In such a large range the average FDI

outflow investment across the sample of country pairs and 25 year period is US\$ 298 million. Table 1 presents descriptive statistics.

We categorize the independent variables in the three groups: home bias variables, proximity variables and macroeconomic variables.

We include four variables to measure home bias. The *shared membership to an economic or political union* (EconOrgD) is a dummy variable (constructed by the authors) that takes the value of one if both countries in the bilateral country pair are members of either one of the following international organisations or unions: Organisation for Economic Cooperation and Development (OECD), the European Union (EU), the Commonwealth of Nations or North American Free Trade Association (NAFTA). This dummy variable will show if similar social establishment stimulates the investing preferences among countries. We expect it to have a positive influence on FDI flows. In our sample 35% of the countries in the country pairs share membership to an economic or a political union.

The *same origin of the legal system* (LegOr) is a dummy variable that takes the value of one if both countries in the bilateral country pair share the same type of legal system. Data on countries' origin of the legal system are taken from professor Rafael La Porta'sⁱⁱⁱ datasets. It divides the legal systems of the world into 5 categories: British, French, German, Socialistic and Scandinavian. This kind of division establishes a proxy for social and cultural similarity between the countries and it will show weather these factors enhance FDI flows among them. In this sample, 25% of the bilateral country pairs have the same origin of their legal systems.

The *shared official language or language spoken by a minority* (LangCom) is a dummy variable^{iv} that takes the value of one if the countries in the bilateral country pair have the same official language or if there is a minority of at least 9% that speaks the official language of the other country. The data on this dummy variable was taken from the CEPII as two individual dummies and merged together by the authors for the purpose of this study. This variable clearly establishes if greater familiarity with a certain country based on the most basic cultural similarity – the language has a stimulating effect on the FDI flows. In our data, 13% of the FDI flows are between such countries.

The *shared history* (HistSame) variable is a dummy variable^v that takes the value of one if there are certain shared historical events between the two countries in the bilateral country pair. It is a dummy variable that is comprised from five other dummy variables taken from the CEPII database and merged together by the authors. These dummies are: dummy if the countries have had a common colonizer after 1945, have ever had a colonial link, have had a colonial relationship after 1945, are currently in a colonial relationship or were/are the same country^{vi}. Six percent of the bilateral country pairs in this sample share such a historical relationship.

Further on we use three variables to measure the *physical proximity* between the countries in order to capture the effects of the distance from different perspectives. The *geographic proximity* (dist) measures the real distance between the two countries in the bilateral pair (in kilometres) and is obtained from the CEPII^{vii}. To illustrate, the distance between

Australia and Malaysia is around 6,600 km (the mean) and New Zealand and France are approximately 20,000 km apart (the maximum in our sample), whereas the smallest distance is around 60km [distance between Austria and the Slovak Republic]. The second proxy for distance is a dummy variable that shows if the two countries in the pair are located on the *same continent* (ContSame). In our data, 33% of the countries that have an FDI relationship are located on the same continent. The *shared border* (border) variable^{viii} is a dummy variable that takes the value of one if the two countries in the bilateral country pair share a border. In the data, 4% of the country pairs share the same border.

The third set of variables is *macroeconomic*. Data on the macroeconomic variables is from the World Bank database and are like the data on the dependent variables in constant \$US millions.

The *gross domestic product* of the FDI receiving and sending countries (GDPrec, GDPsend respectively) are used to show the economic wealth of the two countries which is one of the main attracting factors between two economic entities in international flows. The GDP is a variable that also has a very wide range of values that go from as little as the minimum of \$US 27 million [Kiribati in 1987] to the maximum value of US\$ 10 trillion [USA in 2005]. The exports are also quite different and go from the smallest amount exports in this dataset of \$US 9 million [Guinea-Bissau in 1985] to the highest amount of exports of around US\$ 1.2 trillion [USA in 2005]. For the country openness we use *the exports* of the FDI receiving and the FDI sending country (EXPrec; EXPsend respectively).

4. The Model

The basis for the model that will be developed to test home bias in FDI is the gravity model. 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. It can be written as:

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

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. 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.

Home bias in FDI flows is a function of:

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

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

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

Where: $\text{FDI}_{i,j,t}$ is the FDI outflows from country i to j at time t ; γ_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; γ_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 γ_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.

4.3. Econometric Estimation

We estimate the following regression specification for FDI outflows at level value variables.

$$\begin{aligned} \text{Log (FDI outflows}_{i,j,t}) = & \beta_0 + \\ & \beta_{11} \log (\text{GDP}_{\text{prec}}) + \beta_{12} \log (\text{GDP}_{\text{send}}) + \beta_{13} \log (\text{EXP}_{\text{prec}}) + \beta_{14} \log (\text{EXP}_{\text{send}}) + \\ & \beta_{21} \log (\text{DIST}_{i,j}) + \beta_{22} \text{SAMECONT} + \beta_{23} \text{BORDER} + \\ & \beta_{31} \text{ECONORGD} + \beta_{32} \text{LEGALOR} + \beta_{33} \text{SAMEHIST} + \beta_{34} \text{COMLANG} + \varepsilon_{i,j,t} \end{aligned} \tag{5}$$

Where:

Log (FDI outflows_{i,j,t}) is the logarithm of the levels of FDI outflows in millions of US dollars from country i to j at time t. Log GDP_{prec} is the logarithm of the GDP levels in millions of constant US dollars for the FDI receiving country. Log GDP_{send} is the logarithm of the GDP levels in millions of constant US dollars for the FDI sending country. Log EXP_{prec} is the logarithm of the exports in millions of constant US dollars for the FDI receiving country. Log EXP_{send} 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 counties 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 counties 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.

5. Home bias in FDI outflows

[Insert table 2 here]

Table 2 reports the results for the panel data regressions of all countries. In FDI outflows the FDI sending country is an OECD member and the FDI receiving country is the partner country anywhere in the world. We start with the basic gravity model and then add the other variables one by one.

In column (1) we report results for the basic economic relation between FDI outflows and economic mass and distance, as established by the gravity model. The coefficient estimate for the GDP of the FDI sending country is positive indicating that as income increases in the FDI sending country FDI outflow increases. The coefficient estimate of the FDI receiving country is positive indicating that as income in the FDI receiving country increases, FDI flows to that country increases. The coefficient estimate for distance is negative. FDI outflows are lower to countries that are geographically further away. In column (2) we add the country openness to trade as an additional explanatory variable. The coefficient estimate for exports of the FDI sending country is positive. As

the FDI sending country becomes more open to trade FDI outflows increase. The coefficient estimate for the exports of the FDI receiving country is positive. As FDI receiving country becomes more open to trade FDI flows to that country increases. When we add the two country openness variables the coefficient estimate for the GDP of the FDI receiving country becomes insignificant. In column (3) we add the two proxies for the distance between the countries. The coefficient estimate for the shared border dummy is positive. FDI outflows are higher to countries that share a border. Corporate managers invest more into countries that are bordering their own country. The coefficient estimate for same continent is insignificant.

In columns (5) through to (8) we add one by one the four home bias variables that are the main focus of this study. 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);].

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. 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 (in the final regression(8)), 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.

5.2. 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, as well as a geographical breakdown by individual country. Finally in order to see if the results are robust according to the econometric method, we instrument the independent variables (using their lags).

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. Conclusion

We investigate home bias in foreign direct investments. We do this by using very broad panel of country pairs (2,885) 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. 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.

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. Descriptive statistics for FDI outflows panel data (level values)

The table reports the main descriptive statistics of the variables used in the FDI outflows analysis. These variables are in level values and in their original units.

	FDI Outflows (mil\$)	GDP of FDI Receiving country(mil\$)	GDP of FDI Sending country(mil\$)	Exports of the FDI Receiving country (mil\$)	Exports of the FDI Sending country (mil\$)	Physical Distance (km)	Location on Same continent	Shared Border	Econ. or Political Union	Legal Syst. Origin	Shared History	Common Language
Mean	298	424,364	1,064,948	90,063	193,839	6,159	0.34	0.04	0.37	0.24	0.07	0.12
Median	1	74,753	392,490	25,343	135,759	5,690	0	0	0	0	0	0
Maximum	172,210	10,995,800	10,995,800	1,196,100	1,196,100	19,629	1	1	1	1	1	1
Minimum	-30,136	27	6,499	9	1,576	59	0	0	0	0	0	0
Jarque-Bera Probability	2.88E+09 0	1,367,047 0	205,865 0	234,453 0	31,843 0	2,328 0	4,614 0	388,982 0	4,509 0	6,965 0	145,963 0	43,542 0
Observations	26,469	26,462	26,469		26,457	26,469	26,469	26,469	26,469	26,469	26,469	26,469

Table 2. Analysis of the Home Bias in FDI flows calculated based on variables at level values

Dependant variable is log (FDI outflows i,j,t) which equals foreign direct investment flow from country i to country j at time t; The FDI outflows are from the FDI sending country towards the FDI receiving country. The explanatory variables are: Log of the GDP of the FDI receiving country; log of the GDP for the FDI sending country; log of the exports of the FDI receiving country; log of the exports for the FDI sending country; the log of the physical distance between the country i and j in kilometres; shared continent dummy (value of one if the two country i and j are one the same continent); shared border dummy (value of one if country i and j share a border); shared economic or political union dummy (value of one if country i and j share membership in the same economic or political union); same legal origin dummy (one if country i and j share the same origin of their legal systems); shared language (one if country i and j share the same official language or language of the minorities); shared history (one if country i and j share history with respect to having had a past colonial relationship or having been part of the same country). The t-statistics are based on standard errors that have been adjusted for heteroskedasticity using the White (1980) method; Fixed effects used; Note that *, **, *** stand for significant coefficients at the 10%, 5% and 1% level respectively;

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(Log)FDI Outflows	(Log)FDI Outflows	(Log)FDI Outflows	(Log)FDI Outflows	(Log)FDI Outflows	(Log)FDI Outflows	(Log)FDI Outflows
C	6.19***	6.13***	6.06***	6.07***	6.05***	6.06***	6.05***
(Log) GDPrec	0.002***	0.00009	0.0002	0.0002	0.0001	0.0001	0.0001
(Log) GDP send	0.0007***	0.0004***	0.0004***	0.0004***	0.0004***	0.0004***	0.0004***
(Log) EXPrec		0.005***	0.005***	0.005***	0.005***	0.004***	0.005***
(Log) EXPsend		0.001*	0.001*	0.001*	0.001**	0.0012**	0.001**
(Log) Distance	-0.03***	-0.03***	-0.02***	-0.017***	-0.02***	-0.07***	-0.01***
Same Continent			0.00003	0.00002	0.00004**	0.00004**	0.00005***
Border			0.0002***	0.0002***	0.0002***	0.0002***	0.0001***
Shared Econ. Org.				0.0002	0.00002	0.00002	0.00002
Same Legal System					0.0001***	0.00009***	0.00007***
Shared Language						0.0002***	0.00008***
Shared History							0.0002***
N	26450	23631	23631	23631	23631	23631	23631
Adj. R²	0.077	0.087	0.089	0.089	0.091	0.093	0.095

Appendix 1

Regression Analysis of the Home Bias in FDI flows by continent calculated based on variables at level values

Dependant variable is log (FDI outflows $_{i,j,t}$) which equals foreign direct investment outflow from country i to country j at time t, for country pairs located on a continent (Europe, Asia-Pacific and Americas); The FDI flows are from the FDI sending country towards the FDI receiving. The explanatory variables are: Log of the GDP of the FDI receiving country; log of the GDP for the FDI sending country; log of the exports of the FDI receiving country; log of the exports for the FDI sending country; the log of the physical distance between the country i and j in kilometres; shared border dummy (value of one if country i and j share a border); shared economic or political union dummy (value of one if country i and j share membership in the same economic or political union); same legal origin dummy (one if country i and j share the same origin of their legal systems); shared language (one if country i and j share the same official language or language of the minorities); shared history (one if country i and j share history with respect to having had a past colonial relationship or having been part of the same country). The t-statistics are based on standard errors that have been adjusted for heteroskedasticity using the White (1980) method; Fixed effects used; Note that *, **, *** stand for significant coefficients at the 10%, 5% and 1% level respectively;

Variable	EUROPE	ASIA-PACIFIC	AMERICAS
	FDI outflows	FDI outflows	FDI outflows
C	5.95408 ***	5.99240 ***	5.751069 ***
L [GDP of FDI rec. country]	-0.00091 **	-0.00042 *	-0.000507
L [GDP of FDI send. country]	0.00053	0.00105 ***	-0.006787 ***
L [Exports of FDI rec. count.]	0.00685 ***	0.00425 ***	0.007958 ***
L [Exports of FDI send.count.]	0.00146	-0.00352 **	0.040592 ***
L [Distance]	-0.00061 ***	-0.00016 **	0.000145
Shared Border	-0.00026 ***		0.001218 ***
Economic Union Dummy	0.00005 **	-0.00014 ***	-0.001442 ***
Same Legal Origin Dummy	0.00013 ***	0.00033 ***	0.000876 ***
Shared Language	0.00010 **	-0.00001	-0.000316 **
Shared History	0.00011	-0.00049 ***	n/a n/a
N	7,798	738	504
Adjusted R²	0.07	0.37	0.65

Appendix 2. Regression Analysis of the Home Bias in FDI outflows by individual country calculated based on variables at level values

Dependant variable is log (FDI outflows_{ij,t}) which equals foreign direct investment flow from country i to country j at time t; The FDI outflows are from the FDI sending country towards the FDI receiving country. The explanatory variables are: Log of the GDP of the FDI receiving country; log of the GDP for the FDI sending country; log of the exports of the FDI receiving country; log of the exports for the FDI sending country; the log of the physical distance between the country i and j in kilometres; shared continent dummy (value of one if the two country i and j are one the same continent); shared border dummy (value of one if country i and j share a border); shared economic or political union dummy (value of one if country i and j share membership in the same economic or political union); same legal origin dummy (one if country i and j share the same origin of their legal systems); shared language (one if country i and j share the same official language or language of the minorities); shared history (one if country i and j share history with respect to having had a past colonial relationship or having been part of the same country). The t-statistics are based on standard errors that have been adjusted for heteroskedasticity using the White (1980) method; Note that *, **, *** stand for significant coefficients at the 10%, 5% and 1% level respectively;

	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	5.982687	-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
	***	*	*	***	**	*	***	**	***	***		***

Appendix 3

Regression Analysis of the Home Bias in FDI flows calculated based on variables at scaled values

Dependant variable is (FDI flows i,j,t /GDP of the FDI sending country *100) which equals foreign direct investment flow from country i to country j at time t as a percentage of the GDP of the FDI sending country; The FDI outflows are from the FDI sending country towards the FDI receiving country. The explanatory variables are: Log of the GDP per capita of the FDI receiving country; log of the GDP per capita for the FDI sending country; log of the exports as a percentage of GDP of the FDI receiving country; log of the exports as a percentage of GDP for the FDI sending country; the log of the physical distance between the country i and j in kilometres; shared continent dummy (value of one if the two country i and j are one the same continent); shared border dummy (value of one if country i and j share a border); shared economic or political union dummy (value of one if country i and j share membership in the same economic or political union); same legal origin dummy (one if country i and j share the same origin of their legal systems); shared language (one if country i and j share the same official language or language of the minorities); shared history (one if country i and j share history with respect to having had a past colonial relationship or having been part of the same country). The t-statistics are based on standard errors that have been adjusted for heteroskedasticity using the White (1980) method; Fixed effects used; Note that *, **, *** stand for significant coefficients at the 10%, 5% and 1% level respectively;

	FDI outflows
C	0.00010
Log [GDP/capita of FDI receiving country]	0.00000 ***
Log [GDP/capita of FDI sending country]	0.00000 ***
Exports (%of GDP) of FDI rec. country	0.00000 ***
Exports (% of GDP) of FDI send. country	0.00001 ***
Log [Distance]	-0.00020 ***
Same Continent	0.00010
Shared Border	0.00009 ***
Economic Union Dummy	0.00005
Same Legal Origin Dummy	0.00012 ***
Shared Language	-0.00004
Shared History	0.00023 ***
N	23,631
R²	4%

Appendix 4

Regression Analysis of the Home Bias in FDI flows calculated based on variables at level values using GMM (IV)

Dependant variable is log (FDI flows $_{i,j,t}$) which equals foreign direct investment flow from country i to country j at time t; The FDI outflows are from the FDI sending country towards the FDI receiving country. The explanatory variables are: Log of the GDP of the FDI receiving country; log of the GDP for the FDI sending country; log of the exports of the FDI receiving country; log of the exports for the FDI sending country; the log of the physical distance between the country i and j in kilometres; shared continent dummy (value of one if the two country i and j are one the same continent); shared border dummy (value of one if country i and j share a border); shared economic or political union dummy (value of one if country i and j share membership in the same economic or political union); same legal origin dummy (one if country i and j share the same origin of their legal systems); shared language (one if country i and j share the same official language or language of the minorities); shared history (one if country i and j share history with respect to having had a past colonial relationship or having been part of the same country). The method used in this regression is static GMM analysis with the first lag of the explanatory variables used as instruments; t-statistics are based on standard errors that have been adjusted for heteroskedasticity using the White (1980) method; Fixed effects used; Note that *, **, *** stand for significant coefficients at the 10%, 5% and 1% level respectively;

	FDI outflows
C	5.96463 ***
L [GDP of FDI receiving country]	0.00021
L [GDP of FDI sending country]	0.00045 ***
L [Exports of FDI rec. count.]	0.00431 ***
L [Exports of FDI send. count.]	0.00104 *
L [Distance]	-0.00027 ***
Same Continent	-0.00009 ***
Shared Border	0.00003
Economic Union Dummy	0.00002
Same Legal Origin Dummy	0.00007 ***
Shared Language	0.00011 ***
Shared History	0.00017 ***
N	21,060
R ²	10.3%

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- i 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)
- ii Negative values in transactions may indicate disinvestment in assets or discharges of liabilities. In the case of equity, the direct investor may sell all or part of the equity held in the direct investment enterprise to a third party; or the direct investment enterprise may buy back its shares from the direct investor thereby reducing or eliminating its associated liability. If the financial movement is in debt instruments between the direct investor and the direct investment enterprise, it may be due to the advance and redemption of inter-company loans or movements in short term trade credit. Negative reinvested earnings indicate that, for the reference period under review, the dividends paid out by the direct investment enterprise are higher than current income recorded (if that is the decision of the board of managers) or that the direct investment enterprise is operating at a loss.
- iii <http://mba.tuck.dartmouth.edu/pages/faculty/rafael.laporta/publications.html>
- iv The common language dummy in our sample also never has a value of one for these countries: Czech Republic, Denmark, Greece, Iceland, Japan, Norway and Poland because in our sample they don't share the same official or minority language with any of their FDI partners.
- v The history dummy variable doesn't have a value of one for: Switzerland, Norway and Italy with an addition of Belgium in the outflows dataset.
- vi The shared history part of the dummy variable complements the common colonizer information setting to one if countries were or are the same state or the same administrative entity for a long period (25-50 years in the twentieth century, 75 year in the ninetieth and 100 years before). This definition covers countries have been belong to the same empire (Austro-Hungarian, Persian, Turkish), countries have been divided (Czechoslovakia, Yugoslavia) and countries have been belong to the same administrative colonial area. For instance, Spanish colonies are distinguished following their administrative divisions in the colonial period (viceroyalties). According to this definition, Argentina, Bolivia, Paraguay and Uruguay were thus a single country. Similarly, the Philippines were subordinated to the New Spain viceroyalty and thus smctry equals to one with Mexico. Sources for this variable came from <http://www.worldstatesmen.org/>.
- vii [Centre D'Etudes Prospectives Et D'Informations Internationales (CEPII)] The distance is measured following Head and Meyer (2002) and the formula for the distances is not a simple air distance between two cities but it is calculated using the countries' area and the capitals' longitude and latitude: $[d_{i,j} = .67 * \text{sqr}(\text{area}/\pi)]$.
- viii The shared border dummy variable doesn't take the value of one in the cases of island countries. There are five island countries among the OECD member countries: Australia, Iceland, Japan, Korea and New Zealand. For these countries the shared border dummy variable never takes the value of one and cannot be used in the estimation for these countries. The data we use is on South Korea, which only borders North Korea (for which there isn't any data) and therefore it effectively functions like an island country in our data sample;

The trend of Foreign Direct Investment has changed by the shift of FDI inflows from the developed world to the developing world that has been happening for decades. In the world of countries developing their potential, Myanmar and Cambodia emerged as newly open markets and among the most ideal FDI destinations in ASEAN region. Companies gain complete control over production in foreign location by means of investment entry mode. Investment mode requires substantial initial input of time and money, long-term strategy, thus poses risks in case of withdrawal. Investment mode, however, enables the efficient use of production facility and exploitation of the host country's opportunities. (Hollensen 2007, 356-372).