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# Evaluating the effect of Bilateral Investment Treaties on Foreign Direct Investments and the role of Democracy

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## **Abstract**

Foreign direct investments (FDI) have in later years become regarded as a key engine to economic growth, which many developing countries find appealing. Developing countries do however often find it hard to attract FDI since they have an unstable political environment due to inferior levels of democracy. To overcome this issue, they turn to bilateral investment treaties (BITs) with the hope that they will increase their chances of attracting FDI. BITs provide a safety mechanism for foreign investments, and the question is whether the effect of such agreements is depending on the level of democracy in the host country.

Using a sample of FDI flows of 20 source OECD countries with 89 partner countries covering the time period of 1996-2013, this paper has its focus on whether the effect of BITs on FDI is affected by the degree of democracy in the host country. Estimations are obtained by using a gravity model approach alongside with knowledge-capital model variables. To estimate the effect of democracy, two democracy indicators provided by the Kaufmann indices have been employed.

Our empirical findings suggest that BITs do not have any effect on FDI while the democracy variable of rule of law has a positive effect on FDI. However, our findings cannot show evidence of democracy having an impact of the effect of BITs and hence not confirm the link between BITs' effect on FDI and the level of democracy in the host country.

**Keywords:** Foreign direct investments, Bilateral investment treaties, Democracy

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## **List of abbreviations**

BIT	Bilateral investment treaty
FDI	Foreign direct investment
MFN	Most Favoured Nation
MNE	Multinational enterprise
NGO	Non-governmental organisation
NT	National Treatment
PS	Political Stability and Absence of Violence
RoL	Rule of law
RTA	Regional Trade Agreements
R&D	Research and development
WTO	World Trade Organization

## **1. Introduction**

The globalisation of the world has made international trade more accessible and the most visible sign is the increase of foreign direct investments (FDI) and multinational enterprise (MNE) activities (Busse, 2003). The closer ties have facilitated investments that would only a few decades ago been considered unimaginable. Thus, the increase of FDI is only partially due to the globalisation: a changed attitude of governments towards foreign ownership is of equally importance. Protectionism and nationalistic practices were the dominant stance of many governments up until the Second World War but the devastating consequences of the war brought a changed attitude towards foreign capital. The reconstruction of the war-torn Europe was extremely capital demanding, which forced countries to reevaluate its policies towards foreign investors (Baldwin & Wyplosz, 2009). FDI became soon recognised as a key driver of economic growth and development and this view have since spread to the rest of the world.

To understand the vast increase of FDI, one needs to consider the gains that could be made from it. From the view of MNEs, FDI is a form of efficiency seeking where the enterprise through FDI can enjoy cheaper input factors or avoiding transport cost associated with traditional trade (Leshner & Miroudot, 2006). The host country may on the other hand benefit from spillover effects generated by FDI. Apart from providing additional investment resources, FDI gives access to better technology that can boost the country's productivity but also knowledge transfers and job opportunities (Chen, Geiger & Fu, 2015). The potential gains of hosting FDI are of particular interest of developing countries since they are far behind industrial wise. This has led to race of attracting FDI among developing countries and there are several ways in which countries can make themselves more attractive. Countries in which democracy is respected are in general considered as more attractive for hosting FDI compared with those led by an autocratic regime (Harms & Ursprung, 2001). This notion comes from democracy being regarded as the most stable form of governance and policy stability being considered as a key determinant of FDI (Busse, 2003). Although the positive impact of democracy, governments seeking FDI may not want to improve the democratic rights and even if they would, it is nothing that can be accomplished in a trice. Many developing countries have therefor pinned their hopes to bilateral investment treaties (BITs) with the anticipation of attracting more FDI.

BITs have never been as popular as they are today although there is no sound proof of their effectiveness of inducing FDI (Busse, 2003).

While much of the existing literature focuses on the link between BITs and FDI as well as the relationship between democracy and FDI, this paper aims to merge these two aspects by investigating whether the effect of BITs on FDI is depending on the degree of democracy in the host country. To empirically evaluate the link between democracy and the effect of BITs, we use a sample of FDI flows of 20 source OECD countries with 89 partner countries covering the time period of 1996-2013 and we employ the gravity equation to assess the effects. This study takes its departure in evaluating the effect of BITs on FDI and then turns to evaluate if the democracy level of the host country affects the effect of BITs. Since BITs provide a safety mechanism for foreign investments, we expect to find a reduced effect of the treaties when the political risk in the host country decreases i.e. when the level of democracy increases.

The remainder of this paper is organised as follows: chapter 2 outlines the relationship between BITs and FDI, democracy and FDI as well as the linkage between BITs' effect and democracy. The third chapter presents previous research, which covers the relationship of BITs-FDI and democracy-FDI. In chapter 4, the model approach and strategy are presented and the chapter consists of four sub-sections: the gravity model, empirical specifications, measurement of democracy and data. Results are reported in chapter 6 and a final discussion and conclusion are presented in chapter 7.

## **2. BITs, FDI and Democracy**

### **2.1 BITs and FDI**

FDI is closely associated with an increased risk compared with investing at home: Firms will face a different business climate, legal system, economic stability etc., which together increases the risk of the investment. Another, and perhaps a more important aspect is the behaviour of the host country's government. Once a firm undertakes FDI, the firm omits itself in the hands of the host country's government, which gains leverage as soon the initial sunk cost is paid by the MNE (Büthe & Milner, 2008). This obsolete bargain power exposes the foreign investor of political risk in terms of policy changes that could reduce the profitability or the value of the investment. Governments of developed countries have more often long-term incentives of attracting FDI and have thereby no motive of taking advantage and

exploit MNEs since it would damage their credibility in a longer perspective (Bellak, 2015). This is however not always the case and especially not among developing countries. If a government finds short-term incentives more important, it may have incentives to change its behaviour towards foreign investors in order to increase its own benefit (Bellak, 2015). Due to the information asymmetry of the host country's true intentions, MNEs often come to base their decisions on prior experiences of past policies. That is, if a country's government have shown proof of short-termism in the past, MNEs might refrain from investing in the country since they fear that the behaviour will be repeated. Countries with a stable history of investment policies are thereof seemed to be more attractive for FDI and this is a major obstacle for many developing countries since their credibility is often overshadowed by a dubious history of foreign investments (Egger & Merlo, 2007).

BITs provide a binding legal framework between the signatories and aim to increase the FDI flows. In terms of coverage, BITs are not homogenous but the essence is all much the same: they exclusively deal with investments and aim to attract foreign investors but also to provide protection for a country's own investors abroad. Despite the commitments of treaties vary, they usually have the same disposition and cover four main components: *admission rules*, *general* and *specific standards of treatment* and *dispute settlement mechanisms*.

(i) The types of investments covered by the treaty are defined by the *admission rules*. By the absence of international law on the subject, countries have the unlimited right to prohibit foreign investors from establishing on their territory. In the same way, countries are free to agree upon investment provisions with their contacting partner, as they like. There are however two main orientations practiced: controlled entry and full liberalisation. With controlled entry the host country has reserved the right to regulate the entry of foreign investors while full liberalisation allows all types of investments made by firms of the signatories (Muchlinski, 2009).

(ii) *General standards of treatment* consist in general of three different sub clauses: principles of fair and equal treatment, national treatment (NT) and most-favoured-nation (MFN) standards. There is no consensus of what defines "fair and equal treatment" but one figuring interpretation is that it should be consistent with the minimum international law on the matter (Muchlinski, 2009). The concept of NT is far more straightforward and follows the rules of the World Trade Organization (WTO): foreign investors of signatories are granted to receive the same treatment as

domestic investors. Alike NT, MFN standards are an extension of the law in the WTO and states that the contracting countries should not treat the investors any less favorably than investors originating from other countries. (Hoekman & Kostecki, 2009)

(iii) As the name implies, the *specific standards of treatment* clause concerns specific aspects of investing abroad that induce risk. By this clause, foreign investors are guaranteed the right to outward transfer assets related to the investments freely and to receive compensation by the host country in the events of expropriation and armed conflict (Muchlinski, 2009).

(iv) In events of disputes between the host country and a foreign investor, BITs provide a *dispute settlement mechanism*. That is, if the host country violates or fails to live up to the agreement, investors have the right to resolve the dispute via international arbitration if the host country's rule of law is questionable. The list of institutions to which investors can bring their cases is specified in the agreement and there is no general approach in this matter (Pohl, Mashigo & Nohen, 2012). However, the most common way is to include both international arbitration and domestic remedies and a great share of modern BITs recognizes ICSID (International Centre for Settlement of Investment Disputes) as the international jurisdiction (Sasse, 2012).

Altogether, BITs can be viewed as having two functions: a signalling and a commitment function. Through ratification of BITs, a country signals its trustworthiness and can thereby solve the problem of information asymmetry regarding its intentions towards foreign investors. The transparency of the consequences in events of violation contributes to strengthen the country's credibility further (Egger & Merlo, 2007). As for the commitment function, a BIT is de facto a commitment by the signatories to treat each other's investors fairly and in case of violation, they be granted compensation or the right to take the dispute to international court (Bellak, 2015). Given these points, much of the increased risks associated with investing in a foreign country can be dealt with through BITs and for this reason many developing countries are diligent to make such agreements.

## **2.2 Democratisation and FDI**

In today's world, the level of democracy varies greatly across countries and developing countries are overrepresented of having inferior levels of democracy. With more than half of the world's total FDI flows going to developing countries (Büthe &

Milner, 2014), discussions have risen of whether MNEs care about political rights and civil liberties of the countries in which they invest. The side that argues against is foremost constituted by non-governmental organisations (NGOs), which accuses MNEs of fostering non-democratic forms of government through FDI (Busse, 2003). The accusation stems from the fact that FDI in developing countries has previously been dominated by extraction of natural resources and critics argue that it is nothing but exploitation in a negative sense (Echandi, Krajcovicova & Zhenwei, 2015). Whether or not multinationals have civil rights at heart will probably be an unanswered question, but much evidence suggests that there is a close tie between democracy and FDI (Globerman & Shapiro, 2002).

Civil rights apart, democracy gives rise to a more stable policy environment and lower political risk compared with autocracy regimes. Elections and veto points prevent governments from lightly handled change policies as it suits them since they are accountable to their electorates (ECORYS, 2008). If a government's opportunistic behaviour towards foreign investors causes welfare losses for the public, the chance of getting re-elected declines and hence does the obsolete bargaining power of FDI. In that sense, democracy aspires to a stable policy environment since it provides firmer institutional barriers against policy arbitrariness (Jakobsen, 2006). As already discussed, political risk in terms of policy stability is regarded as a key determinant of FDI and in the way that democracy hinders governments from whimsically change policies, democracy is positively correlated with FDI (Globerman and Shapiro, 2002)

### **2.3 BITs and Democracy**

As outlined in previous sections, countries that are normally considered to be too risky for hosting FDI can, by ratifying BITs increase their attractiveness and for developing countries such agreements can make the difference between not being able to attract one single foreign investment and to host a great many MNEs (Berger et al. 2013). It should however be mentioned that there are BITs even between developed countries but these represent only a small fraction of the ratified BITs in total, and it is reasonable to believe that this inequality is due to the need of BITs being much smaller for developed countries.

Taking the positive correlation between democracy and FDI into account, it is reasonable to assume that the effect of BITs will be reduced when the level of democracy increases in the host country. That is, when the political risk in the country

decreases, the need of BITs for attracting FDI becomes smaller as MNEs reassess their perceptions of the country. However, one should have in mind that it is unlikely that an increased level of democracy will have an instant effect since MNEs often base their decisions on historic events. Still, if the democratised country can offer great opportunities for MNEs, the effect could possibly be noticeable quite rapidly.

### **3. Literature review**

During the last decade, the link between BITs and FDI has become an area of interest among many trade economists as the number of ratified treaties has increased tremendously. The empirical results of BITs impact on FDI are however rather heterogeneous and much suggests that the results largely depend on the empirical approach and data used in the study (Bellak, 2015).

To empirically test the effect of BITs on FDI, Hallward-Driemeier (2003) selected a sample consisting of bilateral FDI flows between 20 OECD countries and 31 developing countries, covering the years of 1980 to 2000. Her findings show no significant effect of BITs on FDI, but she does discuss that her choice of treating all BITs as homogenous could bias the results (Hallward-Driemeier, 2003). Egger and Pfaffermayr (2004) set off their study using the knowledge-capital model. Their sample consisted of outward FDI stock data of 19 OECD source countries with 57 partner countries with half of them being OECD countries as well, over a sample period of 15 years (1982-1997). The results from the study show a significant positive effect of ratified BITs but they also conclude that signed treaties, but which are not yet in force, have a positive impact on FDI, although more modest (Egger & Pfaffermayr, 2004). To analyse the impact of BITs on FDI, Busse, Kröniger and Nunnenkamp (2010) used a gravity model framework where they constructed the dependent variable as FDI flows from country  $i$  to country  $j$ , divided by the total FDI outflow from country  $i$  towards the rest of the  $j$  countries in the sample, where  $i$  denotes developed countries and  $j$  developing. The rationale of this modification of the dependent variable is to capture the attractiveness of a certain developing country compared with the others (Busse, Kröniger & Nunnenkamp, 2010). By employing various specifications and including instrumental variable approaches, they conclude that BITs have a positive impact on FDI flows to developing countries (Busse, Kröniger, Nunnenkamp, 2010).

In later years, criticisms have risen towards much of the previous literature that treats investment provisions as “black boxes” and hence ignore the varieties of the content in such agreements. Berger et al. (2013) argue that this might be the source of the ambiguous results found regarding investment agreements’ effect on FDI. Instead of treating regional trade agreements (RTAs) and BITs as homogenous, Berger et al. (2013) focus on two legal aspects regarding the protection of FDI: guarantees of market access in the pre-establishment phase in means of MFN and NF and the presence of investor-state dispute settlement mechanisms (ISDS). To further account for differences in the agreements, they also measure the strength of the two key elements. With a gravity-type framework, they employ several estimation methods including dynamic Generalised Method of Moments (GMM) estimations to research the effect of these provisions in both RTAs and BITs on FDI for a large sample of developing host countries between 1978 and 2004. Their result shows strong evidence of liberal admission rules in RTAs having a positive impact on FDI whilst RTAs without strong investments provisions have the opposite effect. Regarding ISDS, they find that such mechanisms play a minor role while “foreign investors respond favourably to the mere existence of BITs” (Berger et al. 2013, p. 1).

The ambiguous results found on BITs’ effect on FDI motivated Bellak (2015) to perform a meta-analysis on previous literature done on the subject. By correcting for publication selection bias and by objectively reviewing the empirical results and the theoretical framework used, he concludes that there is no “genuine empirical effect” of BITs on FDI. He does however discuss that BITs may provide a signaling effect and that it may contribute to the “sustainability of FDI” (Bellak, 2015, p. 20).

Turning to literature concerning democracy’s role on FDI, there is more or less a consensus of the field that democracy favours foreign investments. One of the first studies on the subject was conducted by Rodrik (1996), who regressed a proxy for democracy on investment values by American affiliates located abroad. His results showed a positive and significant effect of the democracy proxy and the results suggested that countries with inferior levels of democracy were less likely to attract FDI by American MNEs. Busse (2003) and Harms and Ursprung (2002) followed the path that was laid out by Rodrik, although using different indicators for democracy. Busse (2003) uses both cross sectional and panel data covering 69 developing countries over the period of 1972-1999. His chosen indicators of democracy are civil and political rights, which are provided by the NGO Freedom House. Harms and

Ursprung (2002) use the same indicators of democracy hence dividing them into three categories in their cross section study of 69 developing countries that cover the period of 1989-1997. Both studies conclude a positive relationship between FDI and democracy. Globerman and Shapiro (2002) focus on the linkage between governance infrastructure and FDI flows and uses six governance indicators provided by Kaufmann, Kraay, and Zoido-Lobaton (1999). In addition, they include the Human Development Index (HDI) and Environmental Sustainability Index (ESI) as measures for human and physical capital and the environmental infrastructure. The results clearly indicate that governance infrastructure has an important role when it comes to attract FDI. In a report conducted by ECORYS (2008), the link between FDI and democracy is further studied. Like Globerman and Shapiro (2002), the Kaufmann indices are used as a measure of governance infrastructure and hence democracy. They use a large sample consisting FDI flows from 28 OECD source countries to 124 host countries, with a sample period of 1996-2005. They use a Negative Binomial Quasi-Maximum Likelihood (NBQML) estimation method by the motivation of the sample containing multiple zero observations. The results are somewhat ambiguous with several of the Kaufmann indices taking negative values, which they argue might be due to the nature of the index (ECORYS, 2008).

There are however those who argue that there is a negative link between democracy and FDI. The main proclaimer of this view is Oneal (1994), who advocates that autocratic regimes do not discourage FDI by the rational that MNEs can make larger profits from their investments if the host country has a low level of democracy. To estimate the effect of the host countries' regimes on FDI flows of US MNEs, he uses a sample of 48 developed and developing countries, over various years from 1950 to 1985. As a measure of the political regime, he uses an autocracy and democracy index and his findings show interestingly higher profits for US MNEs that are operating in autocratic countries (Oneal, 1994). The contrasting result of Oneal (1994) is rather an outlier in the literature where the majority of studies establish a positive link between democracy and FDI.

As presented in this section, there is a fair amount of studies on the link between BITs and FDI as well as of democracy and FDI. Hence, there are few studies – if any - that focuses on the link between BITs and democracy. This paper aims to fill out this gap and contribute to the literature by studying how various aspects of democracy affect BITs' effect on FDI.

#### **4. Model approach**

There are two distinct ways in which MNEs can engage in FDI and these are traditionally referred to as horizontal and vertical FDI. The intuition behind the former is MNEs choosing to locate their production facilities in the foreign country in which they have their market, instead of exporting the final goods. By doing so, they can avoid costs related with trade, and thus horizontal FDI can be seen as a substitute to trade (Carr, Markusen & Maskus, 2001). Establishment of production facilities abroad involves a fixed cost, and MNEs will only undertake horizontal FDI if and only if the gains from producing locally exceed the fixed cost (Freenstra, 2016). Hence, an important factor for the investment to be profitable is the size of the market; a larger consumer base is preferred since it increases the possibility of covering the fixed cost and for this reason; horizontal FDI is positively correlated with market size as well as trade costs.

Vertical FDI on the other hand, involves a fragmented production chain with the operating headquarter located in the home country. The incentives of locating the production abroad derive from factor price differences across countries, and labour has showed the most concerned factor. By offshoring unskilled labour intensive activities to countries with relatively low wage rates, multinationals can enjoy cheap labour and thereby reduce their labour costs. Vertical FDI can thereby be seen as “efficiency-seeking” investments and hence a complementary to trade (Leshner & Miroudot, 2006). In contrast to horizontal FDI, the host country of vertical FDI is not the final destination of the goods and because of the more transport routes; it requires low trade costs to be profitable.

The theoretical framework of FDI is to a great extent based on theories contributed by Helpman (1984) and Markusen (1984). Helpman focused his analysis on the vertical case and derived a two-factor framework with monopolistic competition. His model shows that vertical FDI is driven by differences in factor prices, which stem from differences in relative factor endowments across countries (Helpman, 1984). Since the home country in general has abundance of skilled labour, knowledge-generating activities (such as R&D) will be kept at home while the unskilled-labour-intensive production can be offshored. In other words, vertical FDI arises by the strategic behaviour of firms as they seek to take advantage of factor price differences (ECORYS, 2008). The focus of Markusen lies on horizontal FDI with a

multi-plant setting. The essence of the theory is knowledge having characteristics of “public goods” within firms and that it can be transferred without incurring additional costs. This joint-input characteristic makes it possible for multiple facilities to utilize the knowledge-based services simultaneously, and hence facilitates for horizontal FDI (Carr, Markusen & Maskus, 2001).

The theories by Helpman (1984) and Markusen (1984) were combined by Markusen in 1998, which resulted in a unified framework known as the knowledge-capital model. The model outlines two key determinants of multinational activities: market size and skilled labour endowment where the former prevails horizontal FDI and the latter vertical FDI (Egger & Merlo, 2007). The strength of the knowledge-capital model is that it enables to cover the two types of FDI, and by employing the knowledge-capital approach we recognise the importance of market size and differences in labour endowment.

#### **4.1 The Gravity Model**

The gravity model approach has been used in the study to estimate the effect of BITs on FDI, and furthermore the role of democracy. The model was developed to estimate bilateral trade flows and builds on the theory of countries’ trade being proportional to their economic mass and distance, analogy with Newton’s law of universal gravitation. The intuitive gravity model has been subject for modifications over the years, which has allowed for additional independent variables to be included and it has today become the most widely used approach when studying FDI. (Bloningen et al. 2006). One in particular important contribution was made by Anderson and van Wincoop (2003), who emphasize the importance of controlling for multilateral resistance (MR). MR refers to the barriers to trade and hence FDI, that each country faces with *all* its trading partners, which should not be confused with barriers between the bilateral pair i.e. bilateral resistance. Without taking MR into account, estimated coefficients risk to be upward biased due to omitted variables (WTO & UNCTAD, 2012). Controlling for MR can be done in several ways and the fixed effect method has been chosen for this study as it, according to Freenstra (2016) “might be considered to be the preferred empirical method [to account for MR]” (p. 143).

## 4.2 Empirical specification

By the use of panel data, a Poisson estimator has been applied for this study. This method can favourably be used to measure levels of FDI since it allows for estimating the non-linear form of the gravity model and thus enables retaining zero observations (WTO & UNCTAD, 2012). Other estimation methods, such as OLS, require a linear form of the gravity equation and the standard procedure is to estimate its log-linear version. Hence, the consequence of this approach is that zero observations are dropped out since the logarithm of zero is not defined. A common way to handle this issue is to add a small value (1 dollar, say) to the observations before taking logarithms, but this rather ad hoc technique can yield inconsistent estimates and is therefore not to be preferred. In our case, the data reports 24 165 zero observations of bilateral FDI flows and for this reason a Poisson estimator has been used and the baseline specification of our gravity model reads as follows:

$$FDI_{ijt} = \exp [\beta_1 \ln(MASS_{ijt}) + \beta_2 \ln(SIM_{ijt}) + \beta_3 \ln(DSK^2_{ijt}) + \beta_4 BIT_{ij} + \mu_{ij} + \gamma_t] \varepsilon_{ijt} \quad (1)$$

where  $FDI_{ijt}$  is the dependent variable of FDI flows between country  $i$  and  $j$  at time  $t$ . Provided by the knowledge-capital model,  $MASS_{ijt}$  measures the economic mass of country  $i$  and  $j$  at time  $t$  and is expected to have a positive effect on horizontal FDI by the rationale that a larger market size increases the possibility of MNEs to cover the fixed cost that is in particular associated horizontal FDI. Further independent variables given by the knowledge-capital model are  $SIM_{ijt}$  and  $DSK^2_{ijt}$ , which measure similarity of economic size and difference in skilled labour endowment of country  $i$  and  $j$  at time  $t$ . Similarity in size is expected to have a positive effect on horizontal FDI by the same rationale as for the gravity model whereas differences in skilled labour endowment are expected to further vertical FDI. That is, if the home country is skilled labour abundant relative to the host country, the  $DSK^2_{ijt}$  variable should take a positive sign and hence aspire to increased flows of vertical FDI according to the theory.

Table 1: *Independent variables and predictions of effect on FDI*

Variable name	Description	Expected effect on FDI
$\ln\text{MASS}_{ijt}$	Economic mass in terms of absolute bilateral country size: $\text{GDP}_{ij} + \text{GDP}_{ji}$	+ (horizontal FDI)
$\ln\text{SIM}_{ijt}$	Similarity in economic size: $\left(\frac{\text{GDP}_i}{\text{GDP}_i + \text{GDP}_j}\right) * \left(\frac{\text{GDP}_j}{\text{GDP}_i + \text{GDP}_j}\right)$	+ (horizontal FDI)
$\ln\text{DSK}_{ijt}^2$	Difference in skilled labour endowment: $(\text{TSE}_{it} - \text{TSE}_{jt})^2$	+ (vertical FDI)

The variable of interest in the baseline specification is the BIT dummy taking the value of unity if the bilateral pair shares a ratified BIT, and 0 otherwise. A positive coefficient of  $\text{BIT}_{ij}$  implies that BITs have positive effect on FDI and hence generate an increase of FDI flows between the countries.

Additionally, country-pair fixed effects ( $\mu_{ij}$ ) have been included to account for MR along with fixed year effects ( $\gamma_t$ ), which are included in order to control for time-specific effects such as booms and slowdown in the global economy. Lastly,  $\varepsilon_{ijt}$  is the disturbance term.

### 4.3 Measurement of Democracy

There are multiple ways in which one can measure the level of democracy, and chosen for this study are the Kaufmann indices of the political stability (PS) and the rule of law (RoL) of the host country. PS measures the likelihood of political instability and politically motivated violence while RoL measures to what extent agents rely and have confidence in the legal system, and in particular the police, property rights and jurisdictions (Kaufmann, Kraay & Mastruzzi, 2007). The chosen indices measure two dimensions of democracy that is often highlighted as key determinants of FDI and for which BITs can provide a “safety net” for, if flawed. We have for that reason limited us to these two dimensions of democracy although there are other dimensions that potentially could affect BITs’ effect on FDI, though more indirectly.

The two different dimensions do overlap to some extent, which is troublesome since it could lead to multicollinearity and hence bias the result. To overcome the issue, each of the two dimensions of governance has been run in separate regressions, which eliminates the risk of omitted variables due to multicollinearity. These specifications are formulated as follows:

$$FDI_{ijt} = \exp [\beta_1 \ln(MASS_{ijt}) + \beta_2 \ln(SIM_{ijt}) + \beta_3 \ln(DSK^2_{ijt}) + \alpha_1 BIT_{new_{ij}} + \alpha_2 \ln(X_{jt}) + \alpha_3 (BIT_{new_{ij}} * \ln(X_{jt})) + \mu_{ij} + \gamma_t] \varepsilon_{ijt} \quad (2)$$

where the dependent and the first three independent variables on the right hand side are the same as in the baseline regression (1). As can be noted from equation (2), we have used a BIT<sub>new<sub>ij</sub></sub> dummy to estimate the effect of BITs on FDI as we presume it to give a more accurate estimation. In contrast to the BIT<sub>ij</sub> dummy, BIT<sub>new<sub>ij</sub></sub> take the value 1 if a BIT was ratified after 1997 i.e. during the sample period, and 0 otherwise.

Secondly, new to this equation is also the X<sub>ji</sub> variable, which stands for one of the two democracy variables. The variable of interest is the BIT<sub>new<sub>ij</sub></sub>\* ln(X<sub>ij</sub>), which is an interaction variable between BITs and the Kaufmann variable. This variable measures how the effect of BITs on FDI is affected by the two aspects of democracy and will show how the effect is affected when the specific aspect of democracy is increasing.

As discussed in previous sections, MNEs are more than often unwilling to invest in countries with flawed levels of democracy since they estimate the risk to be higher. The intention of BITs is to overcome this type of issues and by that increase the FDI flows. Based on this, we expect to find a positive effect of PS and RoL on FDI but also a reduction of BITs' effect on FDI when PS and RoL increase in the host country.

#### 4.4 Data

The study uses a sample consisting of 32 040 observations of FDI flows of 20 source countries and 89 host countries (see Appendix A1 for a list of included countries) over the time period of 1996-2013. Ratification of BITs is mostly common between developed (high income) and developing (low income) countries and for that reason many previous studies have focused on such combinations. Our sample consists of high-income OECD source countries while the included host countries are of various income groups. The reason for this is that we want to cover a wide range of democracy levels, which would not be the case if only developing countries were included since the majority of such have the lowest degree of democracy.

Concerning the FDI data, inward FDI data is usually preferred since countries tend to register what crosses their borders more accurately compared with what is

leaving the country (Lejour & Salfi, 2015). In our case however, outward FDI has been chosen by the rationale that outward data reported by OECD countries is presumably more adequate than what would be the case with data reported by the partner countries of lower income groups. Noteworthy is also the chosen measurement of FDI. FDI stocks are according to Egger and Merlo (2007) to be recommended when dealing with panel data since flows measure the first difference in stocks while stocks are the accumulated value of foreign owned assets at a given point in time. Due to data limitations, we had to choose between FDI stocks only covering a few years or FDI flows covering a longer period of time. The trade-off is that while FDI stocks is the preferred measurement, a longer time period is crucial when evaluating the effect of BITs on FDI (Busse, Kröniger & Nunnenkamp, 2010). After careful considerations, we chose to use data of FDI flows acquired from the OECD.Stat database.

What is often the case with FDI data is that it contains zero observations and as can be seen in table 2, more than 75 % of our 32 040 observations of FDI flows take the value 0. Zero observations might reflect systematic rounding errors but it could also be that the reported FDI flows are actually zero. Whatever the case, exclusion of zero observations would result in a loss of informative data, which could bias the results and hence such observations should not be excluded by any means (WTO & UNCTAD, 2012). By looking at our sample, one realises that zero FDI flows are highly realistic and we have therefore treated the zero observations as meaningful.

Provided by the knowledge-capital model are the variables of economic mass, similarity in economic size and differences in skilled labour endowment. The data that has been used to construct the two first mentioned variables has been acquired from the World Bank database of World Development Indicators, which reports GDP in US dollar for each country and year. To measure differences in skilled labour endowment, we have used data of tertiary school enrolment, also provided by the World Bank database. The data consists of a few missing observations, and our approach to handle this shortcoming is to calculate the average of the two observations next to the missing one. This is however not optimal and especially since we already suspect the data to be poorly reported by countries of lower income levels. With this in mind, we added an alternative proxy for differences in skilled labour endowment, which is based on GDP per capita data acquired from the World Bank

database of World Development Indicators. GDP per capita reflects the productivity of the country and by the assumption that higher education equalizes higher productivity; GDP per capita can favourably be used as proxy for skilled labour endowment.

There are multiple ways to measure the level of democracy, some more comprehensive than others. Two indicators of governance from the Kaufmann indices were selected for estimating democracy's impact on BITs' effect on FDI. The indices were developed for the Worldwide Governance Indicators (WGI) project and reflect in total six dimensions of governance. The indicators are based on 33 separate data sources and are available for every other year from 1996 to 2002 and thereafter annually. The inconsistency yields problem since our sample period stretches from 1996 to 2013 but in the same manner as with school enrolment, we used the approach of taking the average of the two observations next to the missing one to obtain index numbers for the years not reported. Once again, this is not optimal but since the year-to-year variation is rather modest, we are of the belief that the approach will not cause any bias of the result.

Lastly, the BIT dummies are based on data from UNCTAD's IIA database, which provides information about international investment treaties. The database reports both when the treaty was signed but more interestingly when the treaty came into force. As previously mentioned, we test for two different BIT dummies:  $BIT_{ij}$  and  $BIT_{new_{ij}}$ . They distinguish in the way that  $BIT_{new_{ij}}$  only takes the value 1 if a BIT was ratified during the sample period while  $BIT_{ij}$  takes the value 1 independently of what time the BIT was ratified. As can be understood,  $BIT_{new_{ij}}$  is a more restricted dummy and hence takes the value 1 more seldom than  $BIT_{ij}$ , see table 2.

Table 2. *Descriptive statistics*

Variable	Obs.	Mean	Std. Dev	Min	Max	Zeroes
$FDI_{ijt}$	32 040	79.07681	631.7912	0	54 043.35	24 165
$\ln MASS_{ijt}$	32 040	27.11796	1.52411	22.8022	30.90054	-
$\ln SIM_{ijt}$	32 040	-3.524649	1.745515	-10.07053	-1.386294	-
$\ln DSK^2_{ijt}$	32 040	6.720941	1.878853	-13.05864	9.38577	-
$\ln GDPcap^2_{ijt}$	32 040	20.46407	1.312359	1.057407	23.27854	-
$\ln PS_{ijt}$	32 040	3.384139	0.884255	-0.746687	4.600327	-
$\ln RoL_{ijt}$	32 040	3.514638	0.706317	0.6491303	4.561998	-
$BIT_{ij}$	32 040	0.4281523	0.4948187	0	1	18 322
$BIT_{new_{ij}}$	32 040	0.1934143	0.3949813	0	1	25 843

## 5. Empirical results

Main regression results from the Poisson estimation are reported in table 3, which contains five specifications with various independent variables and whereas the last two are interaction variables of the BITnew dummy and Kaufmann variables.

Regarding the interpretation of coefficients, coefficients of independent variables should be understood as elasticities, i.e. they reflect a percentage change in FDI flows in a response to a change in the independent variable in question. For example, the coefficient of  $\ln\text{MASS}_{ijt}$  in specification (1) reports a value of 2,351 and hence should be interpreted as if the economic mass would increase by 1 %, FDI flows would increase by 2,351 %. The interpretation of coefficients of dummy variables must on the other hand be calculated by the following formula:

$$\text{percentage change} = (\exp(\text{coefficient}) - 1) * 100$$

The result from the baseline specification is presented in column 1 and shows positive and highly significant coefficients of economic mass and similarity in size. According to the knowledge-capital model, a large economic mass and similarity in size should have a positive effect on horizontal FDI, which can be confirmed by the results of specification (1). Noteworthy is however the surprisingly high value of economic mass; a positive sign was to be expected but rather by a 1:1 ratio. The result shows on the contrary a coefficient of 2,351, which implies that horizontal FDI flows would increase more than twice as much relative to an increase in economic mass.

Turning to the vertical case, the result reports no evidence of differences in skilled labour endowment having a positive effect on vertical FDI. The coefficient of  $\ln\text{DSK}_{ijt}^2$  shows expected sign thus insignificant, for which our theory is that tertiary school enrolment might not be reported correctly and hence being a badly suited proxy for differences in skilled labour endowment.

Regarding the variable of interest, the coefficient of  $\text{BIT}_{ij}$  shows a positive sign on a 5 % significance level and the interpretation is that a ratified BIT increases FDI flows between the signatories by approximately 38 %. By reviewing the results of earlier studies, we were not sure what to expect but our findings imply a positive effect of BITs on FDI.

Table 3. Results from FE Poisson estimation

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
lnMASS <sub>ijt</sub>	2.351*** (0.313)	2.111*** (0.645)	2.261*** (0.690)	2.000*** (0.646)	1.897*** (0.636)
lnSIM <sub>ijt</sub>	1.122*** (0.258)	0.736* (0.422)	0.735* (0.404)	0.658 (0.427)	0.607 (0.421)
lnDSK <sup>2</sup> <sub>ijt</sub>	0.0113 (0.0311)	0.0296 (0.0500)		0.0263 (0.0481)	0.0278 (0.0480)
BIT <sub>ij</sub>	0.323** (0.144)				
BITnew <sub>ij</sub>		0.221 (0.225)	0.227 (0.226)	-0.205 (0.760)	-1.849 (1.527)
lnGDPcap <sup>2</sup> <sub>ijt</sub>			-0.0554 (0.0469)		
lnPS <sub>ijt</sub>				0.152 (0.137)	
lnPS <sub>ijt</sub> *BITnew <sub>ij</sub>				0.121 (0.198)	
lnRoL <sub>ijt</sub>					0.631** (0.310)
lnRoL <sub>ijt</sub> *BITnew <sub>ij</sub>					0.530 (0.384)
Observations	19,692	13,644	13,644	13,644	13,644
Number of bilateral	1,094	758	758	758	758

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

To further test the effect of BITs on FDI, a second regression was run where the BITnew<sub>ij</sub> dummy only includes BITs that were ratified during the sample period of 1996-2013. That is, observations that had a ratified BIT in year 1996 will take the value of 0 and thereby be excluded. By excluding observations where a BIT already was in force, we intend to capture the “real” effect of BITs by focusing on the transition phase. As column (2) shows, coefficients of economic mass and similarity in size are still positive though with a lower significance of the latter. Regarding BITs, we now find an ambiguous result of their effect on FDI. A lower effect of BITs was expected as we excluded observations with a long history of BITs and FDI. Nevertheless, the insignificant result suggests that BITs have no effect on FDI, which contrast the findings of the baseline specification. This is however not too surprising

when comparing with the literature and we therefore assume that  $BIT_{new_{ij}}$  is a more adequate proxy for the effect of BITs on FDI.

Returning to the vertical case, both specification (1) and (2) show insignificant coefficients of  $\ln DSK^2_{ijt}$  and as already mentioned, we suspect that these findings might be due to the choice of proxy. To test the robustness of these findings a third regression was performed where we instead use differences in GDP per capita as a proxy for skilled labour endowment. This is done against the background that tertiary school enrolment often is poorly reported and hence could lead to poor estimation results. Yet, the third specification reports the same ambiguous result of skilled labour endowment and the conclusion is therefore that our study cannot provide any evidence of differences in skilled labour endowment having an effect on vertical FDI.

Lastly we test for the democracy variables and in order to avoid multicollinearity, the two Kaufmann variables have been run in separate regressions since they do to some extent overlap each other. Like previous specifications, the specifications (4) and (5) report positive and highly significant coefficients of economic mass while the coefficients of  $\ln DSK^2_{ijt}$  are still insignificant. This insinuate once again that a large aggregated mass has a positive effect on horizontal FDI while the data cannot show any evidence of differences in skilled labour endowment having an effect on vertical FDI. A new contrasting result is however that the coefficients of similarity in size are no longer significant, but this is not too distressing since the previous findings are of low significance. Concerning BITs, we have proceeded to use  $BIT_{new_{ij}}$  to measure the effect of BITs since we assume that it give a more accurate estimation and as can be seen in columns (4) and (5), the coefficients of  $BIT_{new_{ij}}$  still show of insignificance. As for the two democracy variables, we expected to find a positive effect of both since our hypothesis is that democracy in terms of political stability and rule of law promotes investments. Both coefficients are to be found positive hence only significant for  $RoL_{ijt}$ . This implies that a high degree of rule of law in the host country has a positive impact on FDI, while the effect of political stability is ambiguous. We further tested if the effect of BITs is affected by the degree of PS and RoL in the host country, which we did through interaction terms. As can be seen in columns (4) and (5), the results show no significant coefficients of either interaction variables and the conclusion is thereby that the data cannot show any evidence of PS and RoL affecting BITs' effect on FDI. We had expected to find a reduction of the effect of BITs on FDI when the level of

political stability and rule of law increased in the home country, and a possible explanation of this missing result could be that it might take time before an effect of increased democracy can be noticed. With regards to democracy and MNEs reassessment being a slow process, it is likely that our sample is too short for detecting a possible effect of increased democracy on the effect of BITs. Another plausible explanation of this default could be that the chosen proxies for democracy, the Kaufmann variables, are too narrow for this purpose.

Bearing these possible shortcomings in mind, which could be overcome by an extension of this study, our findings can be summarised as follows: our data cannot provide any robust evidence of BITs having an effect on FDI, which is a fairly common result in previous studies done on the subject. As for the knowledge-capital model variables, our study can confirm that economic mass and similarity in size have positive effects on FDI, which according to the model concern horizontal FDI. As for differences in skilled labour endowment, the study cannot show any significant result of its effect on vertical FDI. Regarding democracy's impact on FDI, our findings suggest that an increased level of rule of law in the host country has a positive effect while political stability is of insignificance. However, the main question of this paper was to investigate whether the level of democracy in the home country affects the effect of BITs on FDI, and our findings suggest that BITs' effect is independent of the level of democracy in the home country.

## **6. Conclusion**

At present, the existing literature has focused on the relationships between BIT-FDI and democracy-FDI, respectively. The aim of this study is to merge the two aspects of "FDI facilitation" by investigating whether the effect of BITs on FDI is depending on the level of democracy in the host country. The topic is of relevance in the context of understanding the function of BITs but also why BITs have become such a popular tool to attract FDI, especially among developing countries. The majority of ratified BITs today are between developed and developing countries, which is due to the latter are often regarded to be riskier for investments. The increased risk is mainly inflicted by an unstable political environment, which in turn can be linked to a low degree of democracy. Hence, to fully evaluate the role of democracy, we did expand our sample

to include countries of various income classifications since developing countries are overrepresented in having a flawed democracy.

As the existing literature does not provide any unison conclusion of BITs' effect on FDI, we started out with evaluating the relationship. We first found that BITs do have a positive effect on FDI but when controlling the robustness of the results, we could no longer find any effect. Our conclusion is thereby that our data cannot provide evidence of BITs having an effect on FDI since we are of the opinion that the second specification provides a more correct estimation of the effect of BITs. We find this result not too surprising given the ambiguous results of previous studies.

Regarding democracy's role on FDI, our findings confirm previous research in that sense that one of the democracy indicators (rule of law) appears to have a significant and positive effect on FDI. However, the hypothesis that a higher level of democracy in the host country would reduce the effect of BITs cannot be confirmed. One possible explanation could be that it takes time for the effect of increased democracy to show, for which our sample is too short. This opens up for further research on the subject, which is highly relevant since we most likely have not seen the last of BITs as well as the world is becoming more and more integrated and democratised.

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## Appendix

Table A1. *Sample of countries included*

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Reporting: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Israel, Italy, Japan, Luxembourg, Netherlands, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States

Partners: Albania, Algeria, Angola, Argentina, Armenia, Azerbaijan, Bangladesh, Bahrain, Belarus, Belize, Benin, Botswana, Brunei, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Chile, China, Colombia, Congo, Cote d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Djibouti, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, Gambia, Georgia, Honduras, Hungary, India, Indonesia, Iran, Jamaica, Jordan, Korea, Kuwait, Kyrgyzstan, Lao PDR, Latvia, Lebanon, Lithuania, Macedonia FYR, Madagascar, Malawi, Mali, Malta, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Mozambique, Namibia, Nepal, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Qatar, Romania, Russian Federation, Rwanda, Saudi Arabia, Senegal, Serbia, Singapore, Slovakia, Tajikistan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Ukraine, Uruguay, Uzbekistan, Vietnam, Yemen

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Table A2. *Data*

Variable	Source
FDI outward flows	OECD International direct investment database, <a href="http://www.oecd-ilibrary.org/finance-and-investment/">http://www.oecd-ilibrary.org/finance-and-investment/</a>
GDP (Current US Dollars)	World Bank, World Development Indicators
Difference in skilled labour endowments (tertiary school enrolment in percentage of total population)	World Bank, World Development Indicators
GDP per capita (Current US Dollars)	World Bank, World Development Indicators
BIT dummy	UNCTAD International Investment Agreements Navigator, <a href="http://investmentpolicyhub.unctad.org/IIA">http://investmentpolicyhub.unctad.org/IIA</a>
Kaufmann indices	Worldwide Governance Indicators, <a href="http://info.worldbank.org/governance/wgi/#home">http://info.worldbank.org/governance/wgi/#home</a>

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