

FDI from the South: The role of institutional distance and natural resources.¹

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Abstract

This study explores location choices for investors stemming from emerging economies (often referred to as the South), with a particular emphasis on institutions and natural resources. Relying on a novel dataset of bilateral FDI flows between 1996 and 2007, we demonstrate that FDI from the South has a more regional aspect than investment stemming from the North. Institutional distance has an asymmetric effect on FDI depending on whether investors choose countries with better or worse institutions. In the latter case, a large institutional distance between source and destination countries discourages FDI inflows, but the growing attractiveness of the primary sector outweighs this deterring effect for emerging investors. We also attest to the complementary relationship between capital flows from the North and South in developing recipient countries, which we attribute to different FDI patterns of these investors.

JEL Classification: F21, F23, E02

Keywords: Foreign direct investment, South-South, developing countries, institutions, crowding-in, natural resources.

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1. Introduction

The share of developing and transition countries in the global foreign direct investment (FDI) outflows has doubled in the last 20 years, reaching 16% of the total FDI outward stock. Most of this increase has happened since 2004 (UNCTAD, 2010). This process has not only been driven by an active role of China, whose share amounts to 8.5 percent of the total FDI stemming from the South.⁴ Other important investors are Brazil, Hong Kong, India, Malaysia, Mexico, Russia, South Africa, South Korea, Singapore and the UAE, who together account for almost 80 percent of the total FDI outflows from the South in 2010. Most of the investment flows from developing countries go to other developing and transition economies, giving rise to the term “South-South FDI” and amounting to one-third of the total FDI inflows in emerging economies (Aykut and Ratha, 2004). The appearance of these new global investors has been described as a “huge infusion” or a “bonanza” in the popular media, reflecting large amounts that are being invested. It has naturally raised a number of important questions regarding their strategies and motivations, as well as implications for investors from the North.

Given the novelty of the subject and scarcity of the data, the academic literature about FDI stemming from the South is very limited and most existing papers are either descriptive or have a regional focus (Aykut and Ratha, 2004; UNCTAD, 2006; Buckley et al., 2007; Bera and Gupta, 2009). To our knowledge, there are only two studies that include investors from the South in their analysis of FDI determinants: Cuervo-Cazurra (2006) who relies on the FDI flows data, but restricts his sample to one year, and Darby et al. (2009) who construct a panel dataset for a number of foreign affiliates of North and South companies. Both studies focus on institutional determinants of FDI.

The contribution of this paper is the following. First, we construct a novel dataset that combines information on bilateral FDI flows for 60 developing and 22 developed economies between 1996 and 2007, covering 85 percent of the world FDI flows. Second, relying on this dataset, we investigate whether investors from the South invest differently from their counterparts from the North. Besides traditional determinants of FDI, a particular attention is paid to the institutional distance between source and destination countries, and endowment

⁴ We follow Aykut and Ratha (2004) and UNCTAD in defining “North” and “South” countries. In this paper, “North” includes only 22 high-income OECD countries, while “South” includes the rest: developing, transition economies, and six high-income non-OECD countries (Aruba, Brunei, Hong Kong, Kuwait, Singapore, UAE). Terms “the South”, “developing and transition economies” and “emerging economies” are used interchangeably throughout the paper.

with natural resources. Third, having attested to differences between these investors, we inquire into the consequences of South FDI for investors from the North by studying the relationship between them. As we explain further, such test of substitution or complementarity can be considered as additional approach to explore differences and similarities between investors from the South and the North.

The focus on institutional distance is motivated by a recent evidence showing that investors are not only discouraged by bad institutions in host countries, but are also deterred by an institutional distance between origin and destination countries as they prefer to invest in countries with a similar institutional environment (Bénassy-Quéré et al. 2007; Habib and Zurawicki, 2002). These studies are performed on a sample of developed economies, but their results imply that investors from the South may have a comparative advantage to invest in other developing countries (Claessens and Van Horen, 2009). Indeed, they may be eager and more able to operate in institutionally weak environments thanks to their previous domestic experience with poor institutions (Cuervo-Cazurra and Genc, 2008; Darby, 2009), as well as greater familiarity of business practices in similar markets (the World Bank, 2006). Such a hypothesis could provide a very plausible explanation for the recent surge in South-South FDI. We extend this literature by explicitly testing the above hypothesis on a sample of investors from the South. Moreover, we argue that in the setting of the multitude of investors originating both from the North and the South, one cannot consider institutional distance between origin and destination countries in absolute terms, as it is done in the earlier literature. This is because such treatment implies a symmetric preference for worse and for better institutions, an assumption that may result in misleading conclusions. We show that more insight can be gained if one rather differentiates between flows to countries with better and with worse institutions.

Further, our focus on the endowment with natural resources is propelled by their growing strategic importance owing to an increased demand and soaring prices, which motivated emerging economies to intensify efforts to acquire oil assets and invest in mining (UNCTAD, 2007).⁵ To mitigate the domestic shortage of natural resources, the Chinese government has promoted outward FDI for resource exploration projects via preferential bank loans of the Export-Import Bank of China. As a result, between 2003 and 2005, the mining

⁵ Despite the fact that companies from developing and transition economies now control most of the global production of oil and gas, their degree of internationalization is still relatively modest. Among five largest emerging country multinationals, only CNPC/PetroChina has any production abroad (17 percent of its total production). In comparison, the top privately owned oil multinationals from developed countries, ExxonMobil and BP, have at least 80 percent of their production in foreign countries.

industry has accounted for 32 percent of the total outward Chinese FDI, albeit its share has decreased afterwards. The government of India has also mandated its state-owned oil companies to secure stakes in oversea oil deposits. While Russia does not need to secure resources for its own demand, it has still engaged in the competition for resources in the post-soviet republics with the aim of selling them in international markets.⁶ Other important emerging investors in the primary sector are Brazilian, Kuwaiti and Malaysian enterprises.

Importantly, companies from the South that invest in the primary sector are almost always state-owned and, hence, they could be influenced by considerations other than economic. These investors appear to be less deterred by poor institutions in host countries than large private multinationals from developed countries (UNCTAD, 2007). As an extreme but instructive example, one may consider Chinese, Indian and Malaysian investment in Sudan that suffers from some of the worst institutions in the world and is facing United States economic sanctions due to the conflict in the Darfur region. China and Malaysia are also present in Iran, while Russia is the only major foreign investor in Belarus. Moreover, availability of rents from natural resources is often negatively related to the quality of institutions in host countries and, to preview our findings, we demonstrate that the omission of this variable can bias the results.

Our empirical analysis of FDI determinants yields a number of interesting results about the behavior of investors from the South. First of all, we show that institutional distance has an asymmetric effect, depending on whether receiving countries possess better or worse institutions than origin countries. Those investors from the South that invest in countries with better institutions choose countries with the best possible institutions. Despite unfamiliarity, such an institutional environment is the most transparent for potential entrants due to the low corruption, sound property rights, and political stability. Alternatively, when investors from the South invest in countries with worse institutions than at home, institutional distance deters them, confirming earlier evidence for investors from the North. Most importantly, however, the growing attractiveness of the primary sector appears to outweigh the deterring effects of bad institutions in destination countries that are endowed with the largest natural resources.

The emergence of large investors from the South may be viewed as taking away potential investment opportunities that could have been undertaken by investors from the

⁶ Turkmenistan and Uzbekistan, for instance, are large producers and exporters of natural gas, but they find it difficult to export due to restrictions on their access to the Russian Federation transit pipelines.

North i.e. crowding them out.⁷ However, we attest to numerous differences between investors from the South and the North, suggesting that investors from the South could be attracted by other types of activities or sectors, and hence, these flows could be rather complementary. This would be good news for investors from developed economies, but also for developing receiving countries, who would see different investment opportunities grasped by different investors, rather than emerging multinationals competing head-to-head with their counterparts from the North to earn market share. We test and confirm this hypothesis for the case of developing receiving countries.

The rest of this paper is organized as follows. Section 2 reviews the theoretical predictions and empirical evidence on determinants of FDI; Section 3 presents our empirical methodology; Section 4 explains data collection and summary statistics. Sections 5 describe our empirical findings and Section 6 concludes.

2. What Makes FDI from the South Different?

2.1 Institutional determinants

Traditional literature on FDI has paid a particular attention to the importance of institutions in attracting FDI, suggesting several reasons why their quality may matter. In line with the growth literature, good economic institutions, such as property rights and rule of law, increase incentives to invest and improve allocation of resources (Acemoglu et al., 2005; Kaufmann and Kraay, 2002; Rodrik et al., 2004). This leads to higher growth prospective and, hence, renders a country more attractive for foreign investors. Second, poor institutional environment, such as corruption, brings additional costs to FDI (Shleifer and Vishny, 1993; Wei, 2000). Third, FDI have very high sunk costs, which makes investors reluctant to enter foreign markets, unless they can write binding long-term contracts to decrease all types of uncertainty, and, hence, government stability, and institutions enabling contract enforcement are especially important (Naudé and Krugell, 2007; Busse and Hefeker, 2007). If contracts and property rights are well-enforced, each agent will be able to recoup its investment to a greater degree (Levchenko, 2007). The empirical literature supports these theoretical predictions and numerous studies demonstrate that strong institutions of host countries attract FDI (Wheeler and Mody, 1992; Daude and Stein, 2007); however most of these studies have been done with the focus on developed origin countries.

⁷ Hillary Clinton, the US secretary of state, has noted that some developing countries are making “disturbing” gains in the Latin American region. She said that the US was competing for attention and relationships with at least the Russians, the Chinese and the Iranians (The Economist, 2009).

Poor institutional quality of potential host countries is often cited as the leading explanation for the scarcity of capital flows to poor countries predicted by the standard neoclassical theory – the “Lucas Paradox” (Lucas, 1990; Alfaro et al, 2008; Papaioannou, 2009). Thus, the above literature does not provide an explanation for the emerging phenomenon of the South-South FDI. To understand the role of institutions in the capital flows between developing economies, one should rather look at studies of Habib and Zurawicki (2002) and Bénassy-Quéré et al. (2007), who propose to consider not only institutions in host countries, but also an institutional distance between the origin and the destination countries. They adopt the notion of “psychic distance”, which asserts that companies choose to enter markets perceived to be psychologically closer, because these countries present lower level of uncertainty, and psychic closeness facilitates learning from host countries. In line with this hypothesis, they find that a larger institutional distance deters foreign investors. While these studies analyze a sample of investors from mostly developed economies, their results imply that emerging investors from the South that are familiar with weak institutions may have a comparative advantage in investing in other developing economies that suffer from corruption and political instability. To the best of our knowledge, the only paper that studies the role of institutional distance on the sample that includes developing countries is Claessens and Van Horen (2008), but their study is restricted only to the banking FDI. They also report a deterring effect of a large institutional distance.

While not directly analyzing institutional distance, there are some studies that attest to the diminishing negative effects of bad host institutions if investors have earlier experience with poor institutional environment. Cuervo-Cazurra (2006) show that investors from countries with high corruption and the lack of enforcement of anticorruption laws select similar countries when they internationalize in order to exploit their familiarity with corrupt environments and also because they face lower costs of operating as opposed to other investors.⁸ Darby et al (2009) develop and empirically test the hypothesis that multinationals with previous experience of imperfect institutions at home are little, if not at all, discouraged by institutional deficiencies abroad, as contrasted to multinationals with no such experience, and that good governance in host countries may even deter those investors who had previous negative experience at home. Egger and Winner (2005) test and confirm a “helping hand”

⁸ It should be mentioned that all investors, even those from developed countries, may engage in corrupt practices in order to smooth their business operations. Hines (1995) examines the impact of the Foreign Corrupt Practices Act of 1977 forbidding foreign bribery by American firms on subsequent US outward FDI growth to corrupt nations. Hines finds a lower FDI growth to corrupt states than to non-corrupt countries subsequent to the law’s passage.

impact of corruption on FDI, according to which corrupt environments fasten the bureaucratic processes of setting up businesses. Taken together, these studies imply that incentives to invest differ across investors, and that countries with bad institutions do not necessarily have to improve their quality in order to attract investors. They may still see considerable investment inflows, albeit from a different type of investors.

Similarly, in a study of Chinese outward direct investment, Buckley et al. (2007) show that when choosing an investment location Chinese firms prefer countries with higher political risk, even after controlling for the rate of return. They advance a number of explanations that are linked to the nature and strategy of Chinese firms. Such behavior could be led by state-owned firms that do not maximize profits or could be due to close political ties between China and other developing host countries, where the bargaining position of Chinese firms may have been strengthened, because these host countries receive only a modest amount of FDI from developed economies. Chinese investors might be able to mitigate the risk associated with operating in risky environment or be prepared to invest in countries that are usually avoided by other investors due to ethical reasons. These authors also blame inexperience of Chinese investors that take decisions without the due diligence and risk assessment. According to the BCG Report (2006), the largest Russian investors are also state-owned, and a similar logic may be applied to them.

It is important to note, too, that earlier papers rely on a measure of institutional distance, computed as an absolute difference between institutions in origin and destination countries, assuming that better or worse institutions have a similar deterring effect. Finding such assumption unrealistic, we relax it by introducing the notions of positive (home institutions are better than host institutions) and negative institutional distance (home institutions are worse than host institutions). Whereas we presume that institutional distance plays a deterring role when institutions in destination countries are worse than at home (in line with previous studies), we hypothesize that a larger institutional distance should not harm and could even attract investors when institutions in destination countries are better than at home. Despite unfamiliarity, such an institutional environment is the most transparent for potential entrants due to the rule of law (the quality of contract enforcement and property rights), low level of corruption, sound and unobtrusive regulation that promotes private initiative, high accountability, good quality of public services, and political stability. This also reflects “assets seeking FDI” as investors purchase multinationals with famous brands and the latest technologies, which are more likely to develop in institutionally friendly environments.

2.2 Institutions and resources

As it was discussed in the Introduction, growth of FDI from the South has recently been driven by investment in natural resources. Interestingly, most developing countries that are endowed with natural resources have a very poor quality of institutions and, hence, it is necessary to look at the sources of this negative correlation. Most of the explanations, found in the literature, relate to the rents that are generated due to natural resources exploitation and that are easily appropriated. A “rentier effect” occurs, because revenues from the export of fuels and minerals allow governments to mollify dissent (buy off critics through lavish infrastructure projects or outright graft) and avoid accountability pressures (because taxes are low), increase incentives for corruption, as well as discourage the introduction of better institutions, because they would erode the political advantage and future rents of the incumbents (Acemoglu et al., 2004; Acemoglu and Robinson, 2006; Ades and Di Tella, 1999; Robinson et al., 2006). Numerous studies also show that natural resources income is one of the leading determinants of the probability of wars and of the conflict duration (Collier and Hoeffler, 2004; Ross, 2004; Collier et al., 2004) with harmful effects on the quality of the legal system and, thus, on property rights (van der Ploeg, 2010).

The above rent-seeking models are confirmed by a number of empirical studies. Bhattacharyya and Hodler (2009) rely on a dataset covering 99 countries during 1980-2004 and find that natural resources induce corruption in countries that have endured a non-democratic regime for a long time. Isham et al. (2003) stress that certain types of natural resources, such as oil and diamonds, have a particularly weakening effect on institutional capacity. In a quasi-experimental study, Brollo et al. (2010) argue that windfall government revenues worsen the functioning of institutions by reducing the degree of political accountability and deteriorating the quality of elected officials as well. Vicente (2010) document an increase in corruption of 10 percent after the announcements of the oil discovery in São Tomé.

Such a close nexus between institutions and resources requires a simultaneous examination of the impact of institutions and endowment with natural resources, leading otherwise to a serious omitted variable bias. Surprisingly, very few papers address this issue. Exploring sector level data, albeit for one source country, Poelhekke and van der Ploeg (2010) show that subsoil assets boost resource FDI, but crowd out non-resource FDI, leading to the lower aggregate amount of foreign investment in countries endowed with natural resources. They attribute their results to the “resource curse”, but find no effect of institutions on non-

resource FDI. Relying on country level data, Asiedu (2006) studies the impact of natural resources and bad host institutions on FDI in Africa and concludes that both factors are important in explaining FDI.

In this study, we show the effect of omitting and including natural resources as a determinant of FDI along with the institutions. The results suggest that the joint treatment of these variables is justified.

2.3 Complementarity vs substitution

Given the rise of investors from emerging economies, what are the implications for multinationals in developed economies? This depends on a number of factors. First of all, one has to know whether these investors compete in the same industries and sectors. Bera and Gupta (2009) show that investors in India from both the North and the South tend to concentrate in sectors that are equally characterized by larger markets, lower import intensity, and higher export orientation. Would this imply that South investors enter into competition with investors from the North for new investment opportunities? Besides their ability to deal with bad institutions, developing countries might have other advantages over developed countries when investing in the South, such as familiarity with low cost production processes and the use of technologies that are more appropriate for developing countries.⁹ Moreover, there is anecdotal evidence that South-South FDI prepares emerging country corporations for venturing into developed economies, by giving them the experience of competing with North companies in the South environment which they know. For example, before targeting Jaguar and Land Rover brands, Tata made important acquisitions in the South Korea and Singapore.

Further, one has to account for firm-specific advantages possessed by corporations from the developing and developed countries. The latter are more likely to possess advantages based on ownership of key assets, such as technologies, brands and intellectual property, while developing country corporations rely more on advantages related to production process capabilities, networks and organizational structure (UNCTAD, 2006). This could lead to substitution relationship if firms rely on their different strengths to compete within the same industries. Alternatively, it can lead to a complementary relationship between multinationals from the South and the North as a number of investors from the South rely on a business model of serving multinationals from the North (which already exists in technology equipment, IT services, household appliance).

⁹ For example, in Vietnam TVs made by Chines TLC are the most popular brand as their powerful color receivers provide clear picture even in remote areas.

To the best of our knowledge, no study has explored a potential substitution or complementarity between South-South FDI and the ability of developed economies to invest in the South.¹⁰ Methodologically, such a study would be related to the literature on the impact of FDI on domestic investment (Borensztein et al. 1998; Agosin and Machado, 2005). It would also be linked to a more recent literature that looks at the effect of emerging large FDI recipients, such as China, on the amount of FDI received by other developing countries (Eichengreen and Tong, 2007; Fung et al., 2008; Garcia-Herrero and Santabarbara, 2007; Mercereau, 2005). These papers find that FDI flows to China do not crowd-out FDI flows to other emerging economies in Asia, Latin America and Central and Eastern Europe.

It is important to mention that such a test should be viewed as an additional tool to analyze whether FDI from the South are driven by the same forces as FDI from the North. As our earlier discussion implies, a complementary relationship would suggest that FDI from the North and South are different owing to different firm-specific advantages and/or choices of industries and sectors.

3. The Data

To address these issues, we construct a novel comprehensive database of bilateral annual data on FDI inflows that, in addition to developed countries, the North, encompasses a significant number of investing countries from the South.

The data for developed countries come from the OECD statistics; while for other countries we use bilateral FDI inflow data from national sources, ASEAN, and UNCTAD (for details, see Appendix 1 – Data Sources). In total, the dataset covers 82 host countries, of which 60 are located in the South; as well as 163 source countries, of which 139 are from the South. The coverage is almost complete for receiving Latin American, Asian, Central and Eastern European and North African countries¹¹, and, if contrasted to the IMF aggregate data on FDI inflows, it accounts for 85 percent of the total world FDI inflows. Even though earlier data are available for the majority of countries, the sample is restricted to the 1996-2007 period, in line with the availability of other indicators. This leaves us with 22,646 annual country-pairs in the bilateral dataset, and with 38 source countries per destination and per year on average.

¹⁰ The question of substitution vs complementarity is not analyzed for the South-North flows because these flows, accounting for just 3 percent of total flows, still do not represent an economically significant amount.

¹¹ Bilateral data for other African countries does not seem to be available. A notable exception is South Africa; however, this country reports FDI outflows rather than inflows.

Over the studied period, there has been a considerable increase in the total amount of FDI inflows (Figure 1). Notably, the amount of investment from the South has been increasing, too, almost doubling between the middle and the end of the considered period. Distinguishing by sub-categories of both investing and receiving countries, the FDI flows from North to North represent half of the total FDI amount of our sample, even though there are only 14.8% of North-North country-pairs in the sample (Table 1). In contrast, South-South investments account for 14.5% of the total FDI amount, while South-South relationship is observed in 41% of the sample. In turn, North-South FDI represent 18.4% of the total FDI flows, while South countries invest relatively little into the North (3.6% of the total volume). Our analysis excludes inflows from islands and countries classified as tax heavens or offshore financial centers.

For the second part of the paper, we additionally construct a panel dataset of receiving South countries, in which all incoming flows are aggregated into the North and South flows. This database contains 399 panel type country-year observations. South flows represent a significant portion of total inflows into a number of developing and transition economies (Figure 2), notably in Asia, but also in poorer countries of each sub-region, such as El Salvador in Latin America, Ethiopia in Africa, or former Republics of Yugoslavia and Central Asian former Republics of the Soviet Union. These countries are recipients of important amounts of regional FDI from richer and bigger neighbors.

All other data come from standard sources: macroeconomic data are from the World Bank Development Indicators; geographic data are from the CEPII distance and geodesic databases; data on average years of schooling are from Cohen and Soto (2007). The data for natural resources are taken from the World Bank database on Natural Resources Wealth and is calculated as the present value of future rents from subsoil natural resources (oil, gas, coal, bauxite, copper, gold, iron, etc.) per capita. The definitions and descriptive statistics of all variables are provided in Appendix 2.

The data on institutions are from the World Bank Governance Matters database, described in Kaufmann et al (2010). We work with six available measures of institutional quality – voice and accountability; political stability and lack of violence; government effectiveness; regulatory quality; rule of law; and control for corruption. By relying on simple averages of these indicators, we construct annual differences between mean institutions in source and destination country. Based on these data, we construct a measure of institutional distance as an absolute distance between institutions in origin and destination countries. To differentiate between FDI in host countries with better or worst institutions than at home, we

construct two additional measures. Positive (negative) institutional distance is equal to an absolute institutional difference between origin and destination countries when institutions at home are better/worse than in the host country, and zero otherwise. Please note that a positive institutional distance refers always to the investment in countries with worse institutions, i.e. it is “positive” because institutions of the origin countries are superior.

The countries of our database exhibit a significant variation in institutional quality. As shown in Table 1 Panel A, institutional disparities are, naturally, the largest between North and South countries. At the same time, institutional differences are much wider among South-South investors as opposed to North-North investors, highlighting the diversity of countries that are partners in South-South relationships, as well as a potential different behavior of investors from the South. The latter hypothesis is reinforced in column 6 of Table 1. Whereas inflows from North to either North or South countries are negatively correlated with institutional differences between source and host countries, which is a common finding in the literature (Habib and Zurawicki, 2002; Bénassy-Quéré et al., 2007), South-South flows exhibit a positive correlation with institutional differences.

A further look at the disaggregated institutions and their correlation with FDI inflows suggests that the latter finding only holds for South economies investing into worse institutions (Table 1, Panel B, column 6). In other words, South investors seem to be directed into countries with poorer institutional quality. However, for South countries investing into better South countries (Table 1, Panel C), such correlation is next to nil. In all other instance, larger discrepancies between home and host institutions in both directions are negatively correlated with FDI inflows.

Correlation coefficients between FDI inflows and resources in host countries hint at the possible trade-off between institutions and resources as attractors of FDI, notably for receiving South countries. Both South and North investors invest into institutionally worse economies which possess resources (Panel B, last column). In contrast, when both South and North countries choose institutionally better South economies, the latter tend not to have substantial resources (Panel C, last column).

4. Methodology and Results

- a) *Institutions and other Determinants of Bilateral FDI: are investors from the South different?*

To estimate the differences in the investment behavior of investors from the South and North, we rely on the gravity equation, which has become very common in the application to bilateral FDI (Bénassy-Quéré et. al, 2007; Daude and Stein, 2007; Javorcik et al., 2011).

In our initial specification, we follow earlier literature that estimates the effect of absolute institutional distance on FDI. To see a differential impact for developing and developed source countries, we interact institutional distance with a dummy variable that takes a value of 1 if source country is located in the North. Hence, we estimate the following model:

$$\ln(FDI_{sdt}) = \alpha_0 + \alpha_1 \ln D_{sd} + \alpha_2 Contig_{sd} + \alpha_3 ComLang_{sd} + \alpha_4 SmCnt_{sd} + \alpha_5 Colony_{sd} + \alpha_6 InstDiff_{sdt} + \alpha_7 InstDiff_{sdt} * North_s + st_{st} + dt_{dt} + u_{sdt}, \quad (1)$$

where FDI_{sdt} is bilateral uni-directional foreign direct investment from a source country s to a destination country d at a time t , D – distance in kilometers between source and destination countries, $Contig$ – a dummy variable equal to 1 if two countries have a common border, $ComLang$ – a dummy equal to 1 if two countries share a common language, $SmCnt$ – a dummy variable if two countries belonged to the same country in the past, $Colony$ – a dummy variable equal to 1 if two countries share a colonial past, $InstDiff$ – an absolute difference in institutions between source and destination countries and $North$ – a dummy variable equal to 1 if source country is a developed one.

Following Baldwin and Taglioni (2006), we include time-variant source and destination country dummy variables, st_{st} and dt_{dt} , in all our specifications in order to remove the cross-section and time-series correlation that result from the omitted variable bias. Moreover, this allows us to control for the omission of term that Anderson and Van Wincoop (2003) refer to as multilateral trade resistance. By definition, such an approach cannot be used in the analysis of the impact of host and home institutions, because these variables cannot be included into the regression such as (1). This provides an additional motivation to focus on institutional distance. Likewise, the dummy variable North is omitted from the regressions, even though we are able to keep the interaction term of this variable with the $InstDiff$ variable. To the best of our knowledge, ours is the first paper on institutional distance that includes time-variant source and destination country dummies and, thus, controls for all time-variant source and destination country effects, including home and host institutions.

The estimation results for this gravity equation are presented in Column 1 of Table 2. In these estimations, all standard gravity variables are correctly signed and significant at 1

percent level: geographic distance has a negative impact on FDI bilateral flows, while common border, language and colonial history exert a positive influence. The coefficient on the institutional distance should be interpreted as the impact of institutional distance on the FDI outflows from the South, while the sum of this coefficient with the interaction coefficient should be interpreted as the impact on the FDI outflows from the North. As we see, the sum is negative (and statistically significant at 1 percent), reflecting the fact that investors from developed economies prefer to invest in countries with a similar institutional environment. This finding is in line with the results of Habib and Zurawicki (2002) and Bénassy- Quéré et al. (2007) that study FDI flows of OECD countries. When it comes to developing and transition economies as source countries, we observe that institutional distance does not deter their FDI outflows and even has a positive effect, suggesting that investors from the South invest in countries with either much better or much worse institutions than at home¹². However, in the current setting, it is not possible to see whether it is, in fact, better or worse institutions that stimulate the FDI from the South, because the absolute value of the distance is used.

To shed more light on this issue, in Column 2 of Table 2, we disaggregate the absolute institutional distance into positive (when institutions in the source country are better than in the destination country) and negative institutional distance (when institutions in the source countries are worse than in the destination country). The idea behind this disaggregation is based on the hypothesis that the effect of positive and negative institutional distance is not symmetric, because investing in countries with much better institutions (large negative institutional distance) could be attractive. This disaggregation plays no role for investors from the North, who always prefer to invest in countries with similar institutions (as suggested by the negative and statistically significant coefficients on the disaggregated institutional distance interacted with the North dummy). In contrast, the disaggregation is important for investors from the South: our previous result that institutional distance plays a positive role for FDI from the South remains unchanged, but we note that it is fully driven by the positive institutional distance. In other words, investors from the South seem to be attracted by countries with the worst institutions. There is, however, no significant evidence that they are also attracted by best institutions.

¹² Institutional distance may be correlated with differences in labor costs between countries. Thus, in the current setting, it may be worthwhile to control for labor cost differences, usually proxied by PPP-adjusted differences in GDP per capita. Unfortunately, these data are not available for half of the sample, and for the majority of South countries. We checked whether the simple current GDP per capita differences can be used instead, and found that the degree of correlation between this measure and institutional differences is actually only 0,13.

This finding that investors from the South pick countries with the worst institutions does not have a plausible explanation, unless we consider natural resources. As discussed in section 2, natural resources could be an important driver of FDI and its omission could bias the results owing to the negative relationship between natural resources endowment and institutions. To control for this, we split the sample into the South and North origin countries, and estimate specifications that include an interaction term between the availability of subsoil resources in host countries and positive or negative institutional distance:¹³

$$\ln(FDI_{sdt}) = \alpha_0 + \alpha_1 \ln D_{sd} + \alpha_2 Contig_{sd} + \alpha_3 ComLang_{sd} + \alpha_4 SmCnt_{sd} + \alpha_5 Colony_{sd} + \alpha_6 PosInstDiff_{sdt} + \alpha_7 PosInstDiff_{-sdt} * \log(Resources_d) + \alpha_6 NegInstDiff_{sdt} + \alpha_7 NegInstDiff_{sdt} * \log(Resources_d) + st_{st} + dt_{dt} + u_{sdt}, \quad (2)$$

where *PosInstDiff* (*NegInstDiff*) is the absolute difference in institutions between source and destination countries if institutions in a source country are better (worse) than institutions in a destination country and zero otherwise, *Resources* is the value of subsoil assets per capita in a destination country.

Our findings are presented in Table 3 and offer support to the hypothesis that availability of natural resources is an important determinant of FDI from the South and hence cannot be excluded from the estimation. Moreover, controlling for resources changes the signs and significance of the coefficients on institutions, suggesting that omitting this variable indeed biases the results. Columns (1)-(2) of Table 3 contain the results of the baseline specification.

Our results lead us to the following conclusions. First, when investors from the South invest in countries with better institutions (negative institutional distance between source and destination country), we observe that a large institutional distance has a positive effect as these investors are attracted by countries with the best institutions. As discussed in Section 2, despite unfamiliarity, such an institutional environment is the most transparent for potential entrants due to the rule of law and low level of corruption. Interestingly, this motive also applies to investors from the North when they invest in other economies with better institutions than at home.

Second, when investors from the South invest in countries with worse institutions (positive institutional distance between source and destination country), they choose countries

¹³ Since we include time-varying source and destination country dummies, the variable for natural resources is dropped in the estimation. But it is preserved in the interaction terms with institutional distance.

that are similar in terms of institutional quality. Thus, the implications of previous studies about the deterring role of the institutions are borne out by our estimations for the sample of investors from the North. More generally, our finding that investors from the South prefer to invest in countries with similar institutional environment explains a recent rise in South-South FDI.

Third, those investors from the South that invest in countries with worse institutions are less deterred by an institutional distance when host countries are endowed with a large wealth of natural resources. If we rely on the coefficients in column 5, we find that countries possessing natural resources that are worth more than 4675 USD per capita (top 10 percent of our sample) will attract FDI from investors from the South despite a large institutional distance. To name a few, this concerns such countries as Algeria, Azerbaijan, Kazakhstan, Russia, and Venezuela. Importantly, the interaction between institutional distance and resources is not significant for investors from the North, which are consistently deterred by worse institutions, despite the availability of resources.

Finally, we observe that certain traditional determinants, such as common border and common language, have a much larger impact on investors from the South than investors from the North. While these findings corroborate previous cursory observations of the regional aspect of the South FDI (Aykut and Ratha, 2004; UNCTAD, 2006; BCG Report, 2006), our study is the first attempt to test this hypothesis formally within the gravity model framework.

We provide a number of robustness tests. First, as noted by Aykut and Ratha (2004), Chinese inward FDI flows are often overstated due to round tripping, as Chinese firms move money offshore and then bring it back to China disguised as FDI. To correct for this bias, we estimate our model excluding China as both source and destination country (Columns 3-4). Second, acknowledging potential endogeneity of institutions, we additionally replace *PosInstDiff* and *NegInstDiff* with differences in initial institutions for the year 1996 (*PostInstDiff1996*, *NegInstDiff1996*), the earliest date available in the Kaufman database, and present the estimation results in Column (5-6). This last specification is our preferred one, because it is the strictest, and because the result for the North investing countries is fully in line with the earlier studies.

b) Complements or substitutes?

The analysis in the previous section allows us to conclude that emerging country investors behave differently from investors from developed economies. Geographic and

linguistic distance appears to be a larger obstacle for the former ones, while important differences also exist vis-à-vis institutional distance and resource attractiveness. Given such differences, we would like to see whether investment flows from the North and the South behave as complements or substitutes. This question is of particular importance for developing host countries where source countries both from the South and North are present.

To explore this issue, one can estimate the determinants of FDI at the aggregated level of destination countries, focusing only on South recipients, and cumulating, on a yearly basis, two broad types of foreign inflows: from the North and from the South. Following the Borensztein et al. (1998) methodology of studying the crowding-out effect of FDI on domestic investment, the estimated model would take the following form:

$$FDI_GDP_{dt} = \beta_0 + \beta_1 SouthFDI_GDP_{dt} + \beta_2 Controls_{dt} + \mu_t + \varepsilon_{dt} \quad (3)$$

where FDI_GDP_{dt} is a ratio of total FDI to GDP in destination country d at time t , $SouthFDI_GDP_{dt}$ is the amount of foreign direct investment from South investors over GDP in country d at time t , μ_t is a set of year fixed effects, and $Controls_{dt}$ is a set of determinants of FDI. Apart from traditional factors, such as the level of initial income, the level of initial human capital, government consumption, and host institutions (see also Mercereau, 2005), we augment this specification by natural resources endowment. To see potential differences in North-South FDI relationship in resource-rich and resource-poor countries, we also interact South FDI flows with resources.

If aggregate FDI flows from the South simply augment total FDI, the coefficient on this variable should equal to one. However, if FDI flows from South investors augment total FDI more than one-to-one, in other words, if there is a complementary relationship between South and North FDI, the coefficient on this variable should be greater than one. By the same token, a coefficient below one would imply the substitution between two types of flows.

Estimation results based on this approach are summarized in Table 4, column (1). The coefficient on South FDI is found to be significantly greater than one, while the interaction term is positive and also statistically significant. The effect of a marginal increase in South FDI, evaluated at the mean value of natural resources, on the overall share of FDI to GDP is of the order of 2.486. This suggests that in the absence of natural resources, aggregate South investment inflows increase aggregate total investment more than one for one, or that South

FDI are complementary to North FDI. In the presence of natural resources, this complementary effect is actually amplified.¹⁴

The regression in Table 4 column (1) does not control for country fixed effects. This is deliberate, as we are interested in seeing the effect of standard determinants of FDI suggested by the literature, some of which do not vary over time. The non-inclusion of country fixed effects, however, may affect both the coefficients on these regressors and on $SouthFDI_GDP_{dt}$, especially if some of the omitted country characteristics are correlated both with South and North FDI. We thus repeat the estimation controlling for country fixed effects (Table 4, column 2). Indeed, both the coefficient on $SouthFDI_GDP_{dt}$ and the coefficient on the $SouthFDI_GDP_{dt}$ and resources are smaller than the coefficients obtained in column (1), suggesting that part of the positive bias has been eliminated by including these terms. Nevertheless, both the individual and the total effect of $SouthFDI_GDP_{dt}$ remain greater than one.

In addition to this, to control for the endogeneity of our variable of interest due to simultaneity, and also to test the complementarity hypothesis in the long run, we estimate specification (3) using the Blundell and Bond (1998) system GMM estimator, which is a joint estimation of the equation in levels and in first differences. Adoption of this methodology is motivated by a similar application by Agosin and Machado (2005) to testing long-run complementarity between foreign and domestic investment. In column (3) of Table 4, we embrace a specification that allows the current total amount of foreign investment to depend on the current and lagged value of South FDI, as well as on the lagged value of total investment. Given the time-invariance of resources, it is interacted only with the current level of South FDI. In column (4), we also inquire into a possible longer-term relationship, including two lags of the South and total investment variables. In both cases, we use year effects and previous GDP growth proxying returns on investment (Gastanaga, Nugent, and Pashamova, 1998) as instruments in GMM estimation. Both specifications fare well according to tests of first and second order serial correlation; and also Sargan test does not allow rejecting the null hypothesis of the validity of the instruments. Based on these two specifications, the computed complementarity effect between South and North FDI ranges

¹⁴ In the current setting, we are not able to see whether this complementarity concerns only the resource FDI, or the resource and non-resource FDI. The distinction may be important, as suggested, for instance, by Poelhekke and Ploeg (2010).

from 2.372 to 3.375.¹⁵ Given the careful treatment of endogeneity, we can attribute this result to crowding-in of investors from the North by investors from the South. The amplifying effect of natural resources endowment on this complementary relationship, however, is not robust.

Finally, to mitigate the volatility of yearly data, we also confirm these results in column (5), re-estimating equation (3) on cross-section data averaged for the studied period. Despite small sample size, our results of complementarity between investment from the North and the South remain valid¹⁶.

5. Conclusions

While South-South FDI flows constitute one-third of total foreign investment in developing and transition economies, there has been a lack of a systematic study of the determinants and implications of such flows, mainly due to data limitations. We attempt to fill this gap by relying on our novel dataset of FDI flows and ask two simple questions: (1) Do foreign investors from the South behave differently than investors from the North; and (2) Do investment from the South serve as complement or substitute to the investment from the North?

We demonstrate that FDI from the South has a more regional exposure than investment from developed countries, as common border and common distance appear to be more important for the former investors. Whereas we confirm previous findings that large institutional distance deters investors from the North, the relationship between FDI and institutional distance is more complex for emerging economies. Our findings lead us to the following conclusions. First, when countries from the South invest in countries with better institutions, institutional distance can be viewed as a driving force. This is likely due to the “asset-seeking” nature of FDI, as emerging investors acquire new technologies, brands, and

¹⁵ Long term effect of South FDI is equal to the sum of short-term coefficients on South FDI divided by 1 minus the sum of coefficients of the lagged dependent variable: $\hat{\beta}_{LT}(FDI_s) = \frac{\sum \hat{\beta}_{ST}(FDI_s)}{1 - \sum \hat{\beta}(FDI_T)}$.

¹⁶ Having considered the impact of the South FDI on the flows originating in the North, one can also wonder about the reverse impact, namely whether FDI from the North crowd-in or crowd-out investors from the South. To address this issue, we estimate Equation 4 with FDI from the North as an explanatory variable and our findings indicate a crowding-in effect as well. Thus, there is a mutually reinforcing relationship between FDI from the South and the North. This might appear surprising at first, because the estimated equations imply that an increase in USD1 of the South FDI should lead to a larger increase of the total FDI and the same applies to an increase in the North FDI, which is not possible if total FDI are equal to the sum of FDI from the North and the South. However, such identity does not have to hold if we rely on lags of our explanatory variables, as is the case in specifications 2-3. In specifications 1 and 4, the above identity should hold for each country, but not in the cross-country context. For example, FDI flows from China to India could crowd-out an investor from the West in India, but motivate this investor to redirect its investment to another developing country.

intellectual property, which are more likely to be found in good institutional environment. Second, when emerging economies invest in countries with worse institutions, they are on average deterred by a large institutional distance, even though the effect is weaker in the case of South-South FDI. Third, such a negative effect of an institutional distance is outweighed by the appeal of natural resources, which appears to be a very important force behind FDI from the emerging economies that strive to secure the possession of subsoil resources.

Our analysis implies that countries with bad institutions do not necessarily have to improve their quality in order to attract investors. They may still see considerable investment inflows, albeit from a different type of investors and into different sectors, such as primary sector. This however can present problems for receivers of such investments, if their resources are disproportionately drawn out, and if the benefits of such investments are not properly shared. In addition, ignoring bad institutions in a search of natural resources could also pose serious problems in the future for investors from the South. Recently, a combination of bad institutions, growing strategic importance of natural resources, and large windfalls have led to the nationalization of oil and gas resources in Bolivia, Venezuela and Ecuador. In these instances, investors from the North have borne the costs. It remains to be seen whether these were isolated cases whether a perceived loss of control over natural assets, with implications for national security, will motivate other countries with poor property rights protection to renegotiate contracts signed with foreign investors with the aim of increasing the state control.

The emergence of new multinational corporations in the South does not displace other investors and, if anything, appears to be rather complementary to FDI from the North. Given our careful treatment of endogeneity, we can talk about a crowding-in of investment from the North by emerging country investors. We attribute this outcome to differences in investment behavior between developed and developing economies.

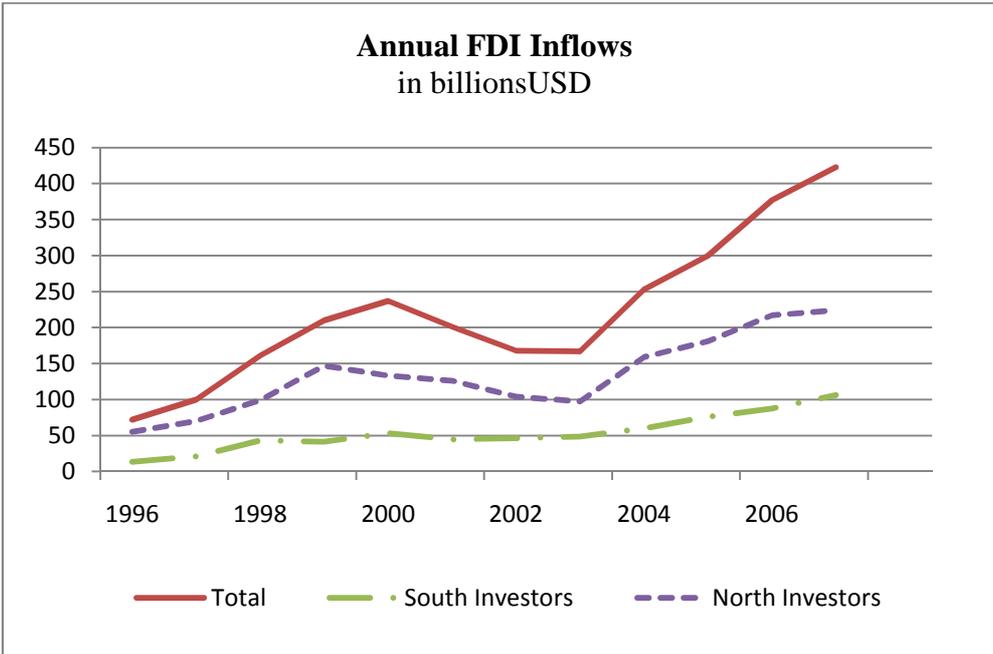
References

- Acemoglu, D., S. Johnson and J. Robinson, 2005. Institutions as the fundamental cause of long-run growth, in *Handbook of Economic Growth*, ed. By P. Aghion and S. Durlauf.
- Acemoglu, D., J.A. Robinson and T. Verdier (2004). Kleptocracy and divide-and-rule: a theory of personal rule, *Journal of the European Economic Association*, 2, 162-192.
- Acemoglu, D. and J.A. Robinson (2006). Economic backwardness in political perspective, *American Political Science Review*, 100-131.
- Ades, A. and R. Di Tella (1999). Rents, competition, and corruption, *American Economic Review*, 89, 982-993.
- Agosin, M. R. and R. Machado, 2005. Foreign Direct Investment in Developing countries: Does it Crowd in Domestic Investment? *Oxford Development Studies* 33(2), 149-162.
- Anderson, J., and D. Marcouiller, 2002. Insecurity and the Pattern of Trade: An Empirical Investigation," *Review of Economics and Statistics*, 84, 342–52.
- Alfaro, L., S. Kalemli-Ozcan, V. Volosovych, 2008. Why Doesn't Capital Flow from Rich to Poor Countries? An Empirical Investigation, the *Review of Economics and Statistics* 90 (2), 347-368.
- Asiedu, E., 2006. Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability, *the World Economy* 29(1), 63–77.
- Aykut, A. D. and D. Ratha, 2004, South-South FDI Flows: How Big Are They?, *Transnational Corporations* 13(1), 149-176.
- Baldwin, R. and D. Taglioni, 2006. Gravity for Dummies and Dummies for Gravity Equations, NBER Working Paper No. 12516.
- Banerjee, A. and L. Iyer, 2005. History, Institutions, and Economic Performance: The Legacy of Colonial Land Tenure Systems in India, *The American Economic Review* 95 (4), 1190-1213.
- Bénassy-Quéré, A., M. Coupet and T. Mayer, 2007. Institutional determinants of foreign direct investment, *the World Economy* 30(5) 764-782.
- Bera, S., and S. Gupta, 2009. South-South FDI vs North-South FDI: A Comparative Analysis in the Context of India, ICRIER Working Paper No. 238
- Bhattacharyya, S. and R. Hodler (2010). Natural resources, democracy and corruption, *European Economic Review*, 54(4), 608-621.
- Blundell, R. and S. Bond, 1998. GMM estimation with persistent panel data: an application to production functions, *Journal of Econometrics* 87(1), 115-143.
- Borensztein, E., J. De Gregorio and J. Lee, 1998. How does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics* 45, 115-135.
- Boston Consulting Group, 2006. The New Global Challengers. How 100 Top Companies from Rapidly Developing Economies are Changing the World. A Report. Boston.
- Brollo, Fernanda, Tommaso. Nannicini, Roberto Perotti, and Guido Tabellini, 2010. CEPR Discussion Paper 7672.
- Buckley, P.J., J. Clegg, A.R. Cross, X. Liu, H. Voss, and P. Zheng, 2007. The determinants of Chinese outward foreign direct investment, *Journal of International Business Studies*, 38 (4), 499-518.
- Busse, M. and C. Hefeker, 2007. Political Risk, Institutions and Foreign Direct Investment. *European Journal of Political Economy*, Elsevier, 23(2), 397-415.

- Claessens, S. and N. Van Horen, 2008. Location Decisions of Foreign Banks and Institutional Competitive Advantage, DNB Working Papers 172.
- Cohen, D. and M. Soto, 2007. Growth and human capital: good data, good results, *Journal of Economic Growth* 12(1), 51-76.
- Collier, P. and A. Hoeffler, 2004. Greed and grievance in civil wars, *Oxford Economic Papers*, 56, 663-695.
- Collier, P., A. Hoeffler and M. Soderbom, 2004. On the duration of civil war, *Journal of Peace Research*, 41, 253-273.
- Cuervo-Cazurra, A. 2006. Who Cares About Corruption? *Journal of International Business Studies*, 37, 807-822.
- Cuervo-Cazurra, A., and M. Genc, 2008. Transforming Disadvantages into Advantages: Developing-Country MNEs in the Least Developed Countries. *Journal of International Business Studies*, 39, 957-979.
- Darby, J., R. Desbordes, and I. Wooton, 2009. Does public governance always matter? How experience of poor institutional quality influences FDI to the South. CEPR Discussion Paper Series No. 7533.
- Daude D. and E. Stein, 2007. The quality of institutions and foreign direct investment, *Economics and Politics* 19(3), 317-344.
- Du, J., L. Yi and Z. Tao, 2008. Economic institutions and FDI location choice: Evidence from US multinationals in China, *Journal of Comparative Economics*, 36, 412-429.
- Economist, The, 2009. The dragon in the backyard. The Economist Newspaper and The Economist Group. August 13th.
- Egger, P., H. Winner, 2005. Evidence on Corruption as an Incentive for Foreign Direct Investment. *European Journal of Political Economy*, 21, 932-952.
- Eichengreen, B. and Tong, H., 2007. Is China's FDI coming at the expense of other countries?, *Journal of the Japanese and International Economies*, 21(2), 153-172.
- Fung, K.C., I. Korhonen, K. Li and F. Ng, 2008. China and Central and Eastern European Countries: Regional Networks, Global Supply Chain, or International Competitors? *The World Bank Policy Research Working Paper Series* 4689.
- Garcia-Herrero, A. and D. Santabarbara, 2007. Does China Have an Impact on Foreign Direct Investment to Latin America?, *China Economic Review* 18(3), 266-286.
- Gastanaga, V., J. Nugent and B. Pashamova, 1998. Host Country Reform and FDI inflows: How Much Difference do they Make? *World Development* 26(7), 1299-1314.
- Habib, M. and L. Zurawicki, 2002. Corruption and Foreign Direct Investment, *Journal of International Business Studies* 33(2), 291-307.
- Hines, J.R., 1995, Forbidden Payment: Foreign Bribery and American Business After 1977, NBER Working Paper No. 5266.
- Isham, J., L. Pritchett, M. Woolcock and G. Busby, 2003. The varieties of the resource experience: How natural resource export structures affect the political economy of economic growth, World Bank, Washington D.C.
- Javorcik, B. S., Ç. Özden, M. Spatareanu and C. Neagu, 2011, Migrant networks and foreign direct investment, *Journal of Development Economics* 94(2), 231-241.
- Kaufmann, D., A. Kraay, and M. Mastruzzi, 2010. The worldwide governance indicators : methodology and analytical issues, Policy Research Working Paper Series 5430, The World Bank.
- Kaufmann, D., A. Kraay, E. Lora and L. Pritchett, 2002. Growth without Governance, *Economía* 3(1), pp. 169-229.
- Levchenko, A., 2007. Institutional Quality and International Trade, *Review of Economic Studies*, 74(3), 791-819.

- Lucas, Robert E., 1990. Why Doesn't Capital Flow from Rich to Poor Countries? *American Economic Review* 80, 92–96.
- Mercereau, B., 2005. FDI Flows to Asia: Did the Dragon Crowd Out the Tigers? *IMF Working Papers* 05/189.
- Naritomi, J., R. Soares and J. Assunção, 2007. Rent Seeking and the Unveiling of 'De Facto' Institutions: Development and Colonial Heritage within Brazil, *NBER Working Papers* No. 13545.
- Naudé, W. A., and W.F. Krugell, 2007. Investigating Geography and Institutions as Determinants of Foreign Direct Investment in Africa Using Panel Data. *Applied Economics*, 39, 1223–1233.
- Papaioannou, E., 2009. What drives international financial flows? Politics, institutions and other determinants, *Journal of Development Economics* 88 (2), 269-281.
- Poelhekke, S., and F. van der Ploeg, 2010. Do Natural Resources Attract FDI? Evidence from Non-Stationary Sector-Level Data. *CEPR Discussion Paper Series* No. 8079.
- Robinson, J., R. Torvik, and T. Verdier, 2006. Political foundations of the resource curse, *Journal of Development Economics* 79, 447– 468.
- Rodrik, D., A. Subramanian and F. Trebbi, 2004. Institutions Rule: The Primacy of Institutions Over Geography And Integration In Economic Development, *Journal of Economic Growth* 9 (2), 131-165.
- Ross, M.L., 2004. What do we know about natural resources and civil war?, *Journal of Peace Economics*, 41, 337-356.
- Shleifer, A. and R. W. Vishny, 1993. Corruption. *Quarterly Journal of Economics*, 108(3), 599-617.
- Van der Ploeg, R., 2010. Natural Resources: Curse or Blessing?, forthcoming in the *Journal of Economic Literature*.
- Vicente, P.R. (2010). Does oil corrupt? Evidence from a natural experiment in West Africa, *Journal of Development Economics*, 92, 1, 28-38.
- Wheeler, D. and A. Mody, 1992. International investment location decisions. The case of U.S. firms, *Journal of International Economics* 33, 57-76.
- Wei, S.-J., 2000. How Taxing is Corruption on International Investors, *Review of Economics and Statistics* 82(1), 1-11.
- World Bank, 2006. *Global Development Finance: The Development Potential of Surging Capital Flows*. Chapter 4: Financial Integration Among Developing Countries. The World Bank: Washington, D.C.
- UNCTAD, 2006. *FDI from Developing and Transition Economies: Implications for Development*, World Investment Report
- UNCTAD, 2007. *Transnational Corporations, Extractive Industries and Development*, World Investment Report
- UNCTAD, 2010. *Investing in a Low-Carbon Economy*, World Investment Report

Figure 1. The Dynamics of FDI Inflows



Source: Own estimations

Figure 2. The Share of FDI Inflows to GDP in Developing and Transition Economies, 1996-2007

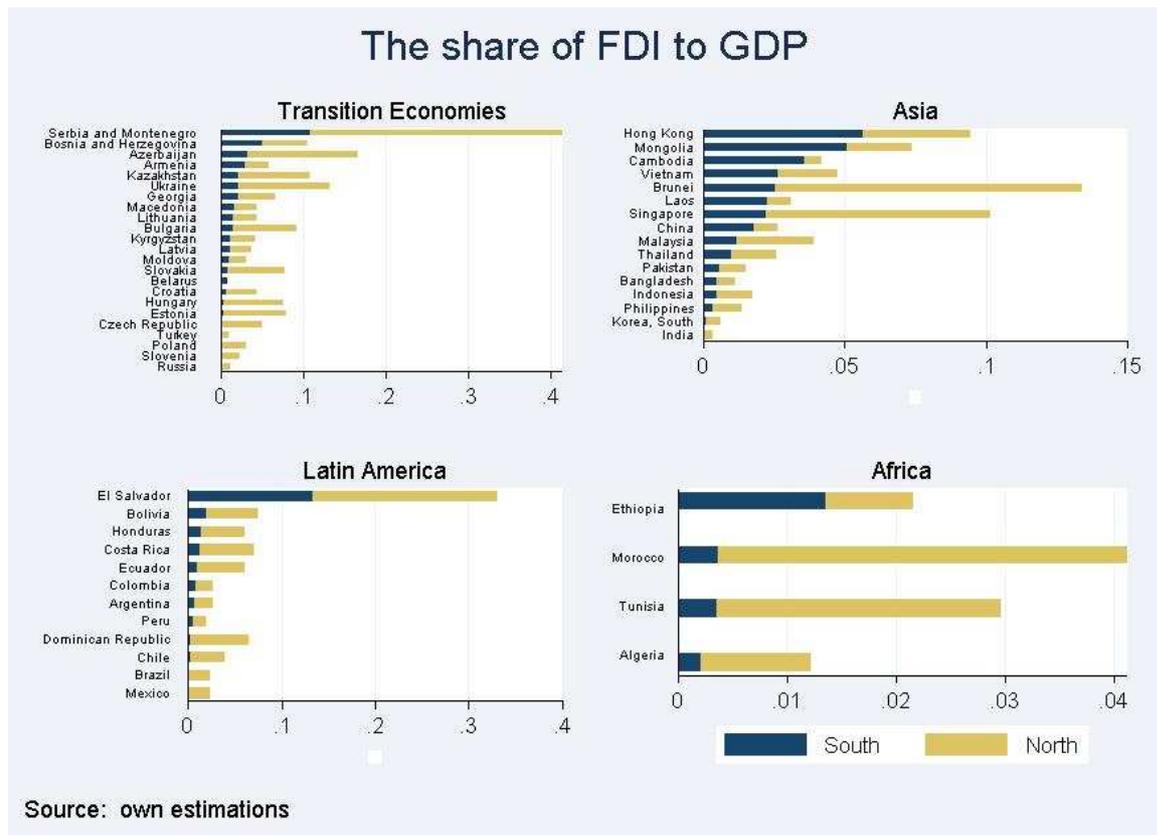


Table 1. Summary Statistics of Bilateral Inflows, 1996-2007

Panel A : Full Gravity Sample

Type of FDI Relationship (Source-Destination)	Mean yearly flows; in mln USD	Aggregate flows for the period: percent of total	Observations: percent of total sample	Absolute institutional distance between partner countries	Correlation between inflows and absolute institutional difference	Correlation between host resources and inflows
(1)	(2)	(3)	(4)	(5)	(6)	(7)
South-South	96800	14.5	40.9	0.727	0.092	0.013
North-North	423000	50.9	14.8	0.380	-0.227	0.216
North-South	24500	18.5	26.8	1.528	-0.118	0.210
South-North	123170	3.4	17.4	1.439	-0.155	0.164

Panel B: Sub-Sample with Positive Institutional Distance

Type of FDI Relationship (Source-Destination)	Mean yearly flows; in mln USD	Aggregate flows for the period: percent of total	Observations: percent of sub-sample	Positive institutional difference between partner countries	Correlation between inflows and positive institutional difference	Correlation between host resources and inflows
(1)	(2)	(3)	(4)	(5)	(6)	(7)
South-South	78300	19.6	37.9	0.769	0.145	0.130
North-North	200000	49.8	14.5	0.385	-0.210	0.266
North-South	2350	30.1	46.3	1.563	-0.132	0.219
South-North	119000	0.44	1.2	0.293	-0.175	0.235

Panel C: Sub-Sample with Negative Institutional Distance

Type of FDI Relationship (Source-Destination)	Mean yearly flows; in mln USD	Aggregate flows for the period: percent of total	Observations: percent of sub-sample	Negative institutional difference between partner countries	Correlation between inflows and negative institutional difference	Correlation between host resources and inflows
(1)	(2)	(3)	(4)	(5)	(6)	(7)
South-South	18500	6.9	40.8	0.685	-0.003	-0.119
North-North	223000	83.3	16.9	0.369	-0.210	0.196
North-South	22800	1.2	1.5	0.275	-0.132	-0.138
South-North	4170	8.5	40.6	1.511	-0.175	0.167

Source: own calculations

Table 2. Institutional and other gravity-type determinants of FDI Flows

Dependent variable: lnFDI

	With absolute institutional distance	Positive and negative inst. distance
	(1)	(2)
lnD	-0.872*** (0.0221)	-0.877*** (0.0222)
Contig	0.395*** (0.0646)	0.391*** (0.0647)
ComLang	0.642*** (0.0537)	0.644*** (0.0537)
Colony	0.820*** (0.0676)	0.811*** (0.0677)
SmCnt	0.739*** (0.0973)	0.745*** (0.0975)
InstDiff	0.322*** (0.0344)	
InstDiff*North	-0.438*** (0.0580)	
PostInstDiff		0.477*** (0.122)
PostInstDiff*North		-0.406*** (0.0598)
NegInstDiff		0.133 (0.108)
NegInstDiff*North		-0.752*** (0.139)
Constant	17.35*** (0.829)	23.48*** (0.661)
Time variant country dummies	Yes	Yes
Observations	22646	22646
R-squared	0.642	0.642

Column (1) presents estimation with an absolute institutional distance; (2) with positive and negative institutional distance. All models include time variant destination and source dummy variables.

*, **, *** - statistical significance at 10%, 5%, and 1% levels, respectively

Table 3. Institutional distance and resources as determinants of FDI

Dependent variable: lnFDI

	Baseline		Exl. China		Exc. China, with initial institutions	
	South	North	South	North	South	North
	1	2	3	4	5	6
lnD	-0.803*** (0.0361)	-0.976*** (0.0371)	-0.766*** (0.0385)	-0.966*** (0.0375)	-0.758*** (0.0456)	-0.954*** (0.0434)
Contig	0.638*** (0.0838)	0.0287 (0.123)	0.819*** (0.0933)	0.0316 (0.123)	0.883*** (0.112)	0.0896 (0.136)
ComLang	1.004*** (0.0701)	0.162* (0.0923)	0.921*** (0.0753)	0.175* (0.0926)	1.046*** (0.0885)	0.0746 (0.108)
Colony	0.372*** (0.0888)	1.518*** (0.110)	0.458*** (0.0932)	1.511*** (0.110)	0.568*** (0.113)	1.393*** (0.132)
SmCnt	0.397*** (0.116)	0.450 (0.318)	0.178 (0.126)	0.468 (0.320)	0.203 (0.153)	0.911* (0.497)
PostInstDiff	-1.475*** (0.170)	-1.917*** (0.259)	-1.561*** (0.218)	-1.903*** (0.260)		
PostInstDiff*Resources	0.0918*** (0.0214)	0.0246 (0.0288)	0.0840*** (0.0221)	0.0220 (0.0288)		
NegInstDiff	1.292*** (0.152)	0.814** (0.399)	1.456*** (0.184)	0.773* (0.402)		
NegInstDiff*Resources	0.0227 (0.0144)	0.0711 (0.0466)	0.0133 (0.0154)	0.0726 (0.0465)		
PostInstDiff1996					-0.803* (0.470)	-2.306** (0.943)
PostInstDiff1996*Resources					0.0950*** (0.0291)	-0.0564 (0.0380)
NegInstDiff1996					0.833* (0.472)	1.599 (1.020)
NegInstDiff1996*Resources					0.0167 (0.0201)	0.0764 (0.0585)
Constant	17.98*** (0.633)	20.45*** (0.789)	20.51*** (0.720)	16.62*** (0.869)	22.91*** (1.563)	24.15*** (5.541)
Time variant country dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12557	8927	10551	8735	7263	6179
R-squared	0.598	0.651	0.619	0.649	0.657	0.677

All estimations contain the full set of time variant source and destination fixed effects.

*, **, *** - statistical significance at 10%, 5%, and 1% levels, respectively.

Table 4. Complementarity or Substitution between Investment from the South and the North

Dependent Variable: Total FDI over GDP

	A-la Borensztein et al (1998)	A-la Borensztein et al (1998) Including country fixed effects	Blundell and Bond (1998) + Borensztein et al (1998)	Blundell and Bond (1998) + Borensztein et al (1998)	A-la Borensztein et al (1998) Cross-section
	(1)	(2)	(3)	(4)	(5)
FDISouth	1.731*** (0.193)	1.161*** ^a (0.165)	1.385*** (0.383)	1.278*** (0.403)	2.153*** (0.587)
Resources	9.39e-07 (9.38e-07)		2.15e-06 (2.76e-06)	-3.51e-06 (5.40e-06)	-1.90e-07 (2.06e-06)
FDISouth*Resources	0.00023*** (4.9e-05)	0.0001*** (0.00004)	2.01e-05 (8.05e-05)	-8.71e-05 (0.000150)	0.001** (0.0001)
Initial Income (1996)	-0.003 (0.003)		-0.003 (0.004)	-0.008 (0.008)	-0.003 (0.007)
Initial Education (1996)	0.003*** (0.001)		-0.001 (0.004)	-0.003 (0.005)	0.002 (0.002)
Gov. Consumption	0.005 (0.006)	0.007 (0.012)	0.010 (0.019)	-0.004 (0.021)	0.009 (0.014)
Host Institutions	0.018*** (0.004)	0.022** (0.010)	-0.005 (0.014)	-0.006 (0.016)	0.017* (0.009)
FDISouth (-1)			-0.702** (0.334)	-0.559* (0.303)	
FDISouth (-2)				-0.453 (0.480)	
Total FDI (-1)			0.712*** (0.087)	0.787*** (0.184)	
Total FDI (-2)				0.002 (0.199)	
Constant	-0.067** (0.028)		0.011 (0.084)	0.105 (0.128)	0.005 (0.053)
N Obs	352	382	303	276	37
R-squared	0.524	0.685			0.704
Sargan (p-value)			0.384	0.225	
First-order serial correlation (p-value)			0.093	0.038	
Second-order serial correlation (p-value)			0.323	0.432	
Computed total effect:	2.486	1.503	2.372	3.375	

Columns 1, 2 and 5 are estimated by OLS and include the full set of year fixed effects; reported are robust standard errors. Column 2 contains the full set of country fixed effects. Columns 3 and 4 are estimated using the one-step generalized method of moments. Instruments in GMM estimation: time dummies and GDP growth. Statistical significance at * 10%, ** 5%, and *** 1%, respectively.

^a Test of the hypothesis that the coefficient is greater or equal to one: P-value = 0.954. Test of the hypothesis that the coefficient is smaller or equal to one: P-value = 0.045.

Appendix 1. Sources of FDI Data

Countries	Sources
Argentina, Armenia, Belarus, Bosnia and Herzegovina, Brazil, Bolivia, Colombia, Costa Rica, Croatia, Czech Rep, Dominican Rep, Ecuador, El Salvador, Estonia, Honduras, Hungary, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Macedonia, Pakistan, Peru, Slovenia, Ukraine	Balance of Payments/ National Central Banks
Chile	Chilean Foreign Investment Committee
Bulgaria, Russia, Serbia and Montenegro	The Vienna Institute for International Economic Studies
Algeria, Azerbaijan, Ethiopia, Kyrgyzstan, Mongolia	UNCTAD
India	Indian Ministry of Commerce and Industry
Brunei, Cambodia, Malaysia, the Philippines, Indonesia, Myanmar, Laos, Singapore, Thailand, Vietnam,	Balance of Payments /Statistics of Foreign Direct Investment in ASEAN
Bangladesh	Board of Investment; National Central Bank
Morocco	Office des Changes
Tunisia	Ministry of Development and International Cooperation
China	China Statistical Yearbooks
Hong Kong	Balance of Payment/ Census and Statistics Department
Taiwan	Investment Commission, MOEA
Sri Lanka	Board of Investment of Sri Lanka
Australia, Austria, Belgium, Canada, Denmark, Finland France, Germany, Greece, Iceland, Ireland, Italy, Japan Luxembourg, Mexico, The Netherlands, New Zealand Norway, Poland, Portugal, Slovak Republic, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States	OECD Statistics

Appendix 2. Variable Description and Sample Statistics

Variable	Description	Obs	Mean	St. Dev.	Min	Max
<i>Dep.Var. in the Gravity Sample</i>						
Linflows	Natural logarithm of total annual bilateral FDI inflows, current USD	22646	15.90	3.06	2.69	26.53
<i>Indep.Var. in the Gravity Sample</i>						
LnD	Natural logarithm of km of simple distance between most populated cities	22646	8.22	1.07	4.09	9.90
Contig	1 for contiguity	22646	0.09	0.28	0.00	1.00
ComLang	1 if a language is spoken by at least 9% of the population in both countries	22646	0.15	0.36	0.00	1.00
Colony	1 for pairs ever in colonial relationship	22646	0.06	0.23	0.00	1.00
SmCnt	1 if countries ever were the same country	22646	0.03	0.18	0.00	1.00
InstDiff	Simple absolute difference between means of institutional indicators (control of corruption, government effectiveness, political stability and lack of violence, regulatory quality, rule of law, voice and accountability) in source and in destination countries	22646	1.02	0.75	0.00	3.89
PosInstDiff	Absolute difference between institutional indicators, if institutions in source country are better than institutions in destination countries.	22646	0.58	0.77	0.00	3.59
NegInstDiff	Absolute difference between institutional indicators, if institutions in source country are worse than institutions in destination countries.	22646	0.43	0.69	0.00	3.89
RelInstDiff	The absolute difference between the means of institutions of the source and of destination country, divided by the average absolute difference between the institutional quality of each alternative source country and that of the destination country (Claessens and Van Horen, 2008)	22646	0.99	0.68	0.00	3.84
North	Dichotomous variable equal to 1 for developed (North) source countries, 0 for developing (South)	22646	0.41	0.49	0.00	1.00
Resources	Natural logarithm of the subsoil resources in USD dollars per capita in the destination country	21484	5.57	2.66	0.00	11.26
<i>Dep.Var. in the Aggregate Sample(Focus on Destination)</i>						
TotalFDI/GDP	Sum of flows from North and South investors, aggregated by host country and year, and divided by current GDP	399	0.06	0.07	0.00	0.84
<i>Indep.Var. in the Aggregate Sample(Focus on Destination)</i>						
FDI_South	Sum of flows from South investors, aggregated by host country and year, and divided by current GDP	399	0.01	0.03	0.00	0.28
Log of Initial Income	Natural logarithm of GDP in 1996	399	7.54	0.88	5.42	9.87
Initial Education	Years of Schooling in 1990	352	6.84	2.21	2.20	10.50
Log of Gov. Consumption	Natural logarithm of total government consumption over GDP	399	22.55	1.60	18.70	26.86
Dummy for Africa	Dichotomous variable equal 1 if the host country is in Africa; zero otherwise	399	0.02	0.12	0.00	1.00
Dummy for Asia	Dichotomous variable equal 1 if the host country is in Asia; zero otherwise	399	0.20	0.40	0.00	1.00
Dummy for Latin America	Dichotomous variable equal 1 if the host country is in Latin America; zero otherwise	399	0.37	0.48	0.00	1.00
Institutions, domestic	Means of institutional indicators in the host country	382	-0.06	0.64	-1.28	1.55
Resources	Subsoil resources in USD dollars per capita in the destination country	399	2124.49	2651.11	0	11670
Inflation	Inflation, consumer prices (annual, %)	399	38.96	357.25	-8.52	7481.66