The Impact of Restrictive Measures on Bilateral FDI in OECD Countries

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Abstract

In 2016, some 55 economies introduced at least 112 measures affecting foreign investment. Two thirds of these measures sought to liberalise, promote and facilitate new investment (falling since 2016). Almost a third of these measures are new restrictions (increasing since 2016). Restrictive policies are growing in trade policy choices. This paper investigates the effects of restrictions on FDI stocks among OECD countries. Using a gravity model with panel data from 2010 to 2017 for all OECD countries, we suggest negative effects of restrictions on FDI stocks. Services sector deregulation and strict environmental restrictions have positive effects on FDI. Therefore, the difference in FDI restrictions between countries emerges as the key factor for foreign investment. This study also shows the substitution between foreign and domestic investment in the presence of FDI restrictions. The optimal policy to be implemented to attract FDI is to liberalise or deregulate the services sector specifically the financial sector.

Keywords: International Trade, FDI stocks, FDI restrictions, OECD countries, gravity model.

JEL *Classification*: D25, F10, F14, L51.

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I. Introduction

The global financial crisis highlighted the need for competitive and effective policies or a strong regulatory framework to address the risks facing the market. The World Bank, in its World Development Report 2005, underlined the importance of an attractive investment climate. It notes that a good investment environment, which considers the local institutions, regulations and policies in which companies operate, stimulates economic growth by providing incentives for companies to invest. In this case, regulation has an impact on job creation and sustainability.

International capital flows, in particular Foreign Direct Investment (FDI), play a key factor of economic growth and globalization. Indeed, FDI can increase productivity and change the comparative advantage of host countries. The establishment of multinational firms, capital accumulation or delocalization can reduce unemployment, income inequality, enhance technology transfer, increase product variety through innovation, Dritsaki and Stiakakis (2014). However, several factors determine the massive inflow of FDI into a country and its effectiveness in economic growth, Alfaro et al. 2004; Li and Liu 2005; Batten and Vo 2009; Desbordes and Vicard (2009). A strong macroeconomic framework helps to attract more FDI into a country (tax rates, restrictions on financial transactions, legal framework, economic and political stability, etc...)

Research showing the link between FDI and regulation suggests that the FDI sector is far less liberalized than trade in goods and services, Ghosh et al (2012). Although regional, bilateral and multilateral trade and investment agreements that reduced formal barriers, restrictions are still significant in some countries and affect FDI. The regulatory framework plays a key role in FDI flows. Indeed, regulation has a profound and durable impact on a firm's financial choices and is seen as a key driver of investment. To encourage investment, authorities need to reduce investment costs, minimize the risks associated with investment and create an appropriate climate for the domestic economy. Regulation must be both optimal and competitive, protecting investors from potential risks, promoting competition between firms across borders and protecting consumers from higher prices.

In 2018, FDI represented around 2% of the EU's GDP and 1.5% of GDP in all OECD countries (see figure A.1). But we note that these investments decreased from 3% to 1% of GDP between 2016 and 2018, which is contrary to the acceleration of GDP growth and trade. These trends are more significant in developed countries than emerging countries (Cf. figures A.2 and A.3). In this year, some 55 economies introduced at least 112 measures affecting foreign investment. Two thirds of these measures sought to liberalise, promote and facilitate new investment (falling since 2016). Almost a third of these measures are new restrictions (increasing since 2016), UNCTAD (2019). How can we explain the decline of inward investment in these countries?. Is it caused by high market regulation, sub-optimal policies? What is the real impact on investments of entry barriers? Did investment restrictions stimulate capital accumulation in markets?

The objective of this paper is to evaluate the effects of FDI restrictions on FDI. It attempts to explain the impacts of entry barriers on FDI. Is it necessary to regulate the FDI market or is it better to liberalize the FDI sector in order to stimulate competition and firms

investment? The purpose of this paper is to determine the optimal policy for FDI in order to achieve sustainable economic growth. Finally, it will allow policy-makers to identify policies that promote FDI.

The existing empirical literature on the impact of FDI restrictions has shown the negative impact of FDI restrictions on inward FDI, Nicoletti et al (2003), Ghosh et al (2012). The theoretical approach suggests limiting effects of the regulation on new firm entry and a positive effect on incumbent firms' investment, Brito et al (2010), Mizuno and Yoshino (2012) . To our knowledge, no previous study has empirically measured the impact of services sector deregulation on inward FDI and shown the substitution between foreign and domestic investment in the presence of FDI restrictions. Therefore, the studies used panel data up to 2012. Accordingly, this paper adds to the existing literature by addressing the following issues: what are the effects of FDI restrictions on inward FDI through panel data from 2010-2017. What is the importance of services sector deregulation for FDI.

To conduct this study, we use a gravity model based on aggregate FDI stocks data from all OECD countries to 2010-2017 and FDI Regulatory Restrictiveness Index of OECD which measures the level of restriction in FDI sector. Our results show negative and significant effects of restrictions on FDI and a positive impact of service deregulation on FDI specifically the financial sector.

The remainder of this paper is structured as follows. The next section documents recent literature on the effects of FDI regulation on investment. In the second part, we describe our econometric model with data, sources, and the type of regression used. The third section presents and discusses the results. The last section uses the results of this study to perform policy simulation.

II. Literature review

In this section, we reviewed empirical studies about the impact of regulations on FDI. We categorize the literature according two approaches. First, we examine studies highlighting the effects of FDI restrictions on bilateral FDI flows using FDI Regulatory Restrictiveness Index. Second, we look at literature on the impacts of market acess regulation on firm investment through model à la Stackelberg.

i. FDI restrictions and FDI: Gravity analysis through FDI Regulatory Restrictiveness Index

Few studies have highlighted the impact of restrictions on FDI flows through the OECD FDI regulatory restrictiveness index. A first to expose its impacts remains Nicoletti et al (2003). Based on original version of the index created by Golub (2003) and the OECD's PMR[1], they investigate the effects of FDI restrictions and other policies on foreign direct investment in a panel of 28 OECD countries between 1980 and 2000. The paper uses a gravity model to control bilateral outward FDI flows and a dynamic panel model to explain total multilateral inward FDI stocks. Their results suggest that FDI

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[1]Product Market Regulation index.

restrictions could reduce bilateral outward FDI stocks by between 10% and 80% on average, depending on the type of restriction. Inward FDI stocks are also impacted by FDI restrictions, but the results should be treated carefully due to the lack of variability of restrictions across OECD member countries.

The analysis of Ghosh et al (2012) similar to the previous one shows the impact of restrictions on inward FDI stocks using panel data (1981-2004) for 23 OECD countries. Based on the updated of Koyama and Golub (2006) index and a gravity model, they find significant negative effects of restrictions on inward FDI stocks.
To determine the short- and long-run effects of the restrictions, they use an autoregressive distributed lag model. Their results show that the short-run elasticity estimated was between 0.06 and -0.14, and the long-run elasticity between -0.64 and -1.49.

Fournier (2015) examines the determinants of foreign direct investment (FDI) from 1998 to 2013, including FDI restrictions. Using gravity models and the recent version of the OECD FDI restrictiveness index, he finds a significant negative impact of restrictions on FDI stocks after controlling for various political and structural determinants of bilateral FDI.

The Work of Ahrend and Goujard (2012) indicates that FDI restrictions may contribute to greater risks of financial crisis. Indeed, higher restrictions in OECD countries, measured by OECD indexes, and anti-competitive product market regulation have contributed to reduced financial stability. That is due to a rise of countries' debt over FDI or capital investment. By contrast, more stringent capital regulations for banks and more openness to foreign bank entry have reduced the vulnerability to financial contagion.

Arbatli (2011) uses capital account restriction indices based on IMF's AREAER database[2]. Through a binary index of FDI restrictions, he investigates the determinants of FDI flows into emerging economies. The author creates two binary indicators of FDI restrictions: one that assesses the existence of any restrictions on FDI inflows; and one that captures restrictions on the liquidation of direct investment. He uses a dynamic panel model approach to model FDI flows and data for 46 countries over 20 years. The results suggest that FDI capital restrictions have a significant negative effect on inward FDI, but no significant effect was found for restrictions on the liquidation of investment.

Binici, Hutchison and Schindler (2009) as above apply an index of capital restrictions based on IMF's AREAER information, by asset class and covering 74 countries over the period 1995-2005. They study the effects of FDI and equity portfolio investment restrictions on total inward and outward FDI and equity portfolio investment. The results suggest that restrictions control capital outflows, not inflows.

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[2]Database on the exchange rates and trade regimes of all members of the International Monetary Fund (currently 189 countries) and three territories (Aruba, Hong Kong SAR, and Curaçao and Sint Maarten - formerly the Netherlands Antilles).

ii. Market access regulation and firm investment: Stackelberg model

The authors used a competition model à la Stackelberg to perceive the different effects of market acess regulation on investment. We have two firms in telecommunication market (incumbent and incoming). The incumbent operator is a vertically integrated firm that owns a network and operates in the retail market. The incoming operator is active on retail market and must have access to incumbent's network. We assume that only incumbent operator can invest in the deployment of a next-generation network that improves the quality of retail services.

One author who pointed out the link between market access regulation and firm entry into the telecommunications sector is Brito et al (2010). They develop a model of competition between incumbent and incoming firms. The last one who enters without installations needs to have access to the existing operator's network and therefore pays an access price. They model this sector as a duopoly of differentiated products[3], where only existing operator can invest in the deployment of a new generation network to improve the quality of services. We have a regulator who sets the access price for existing firm's network access. Two scenarios are presented: first is a access price regulation before investment of existing firm, and second is the absence of a regulation authority. In the first case, if regulator sets a high access price, existing firm invests in the next generation network and the new company exits the market. Secondly, if the access fee is low, existing firm does not invest and new firm enters the market and we arrive at a sub-optimal situation because it reduces welfare. However, in the absence of regulation, the existing firm only invests if investment cost is low.

The works of Foros (2004) and Mizuno and Yoshino (2012) are also identical to the previous ones. In a context where only the incumbent operator invests and where firms are assumed to be heterogeneous in their productivity, Foros (2004) shows that access price regulation can reduce consumer surplus and welfare if retailers do not diversify their product. Also, if the incumbent's investment in advanced services is much higher than its rival's, it uses overinvestment as an alternative tool for foreclosure.
Based on Foros' model, Mizuno and Yoshino (2012) show that the effects of market access regulation on both firms' investment. However, their analysis differs from the firsts because they consider the spillover effects of the incoming firm's access to the existing firm's infrastructure. They find that when the spillovers are low (the new firm has little benefit from the facilities) and the incumbent's investment cost is higher, this leads to high access prices through over-investment by the incumbent firm. In equilibrium, the high access cost leads to market foreclosure. However, when the spillovers are low and the incumbent's investment cost is low, the incumbent induces a low access fee by under-investing in infrastructure, the new firm enters the market.

The first analysis of Manenti and Scialà (2013) examined the impact of regulation on the existing firm's investments and on new firm entry, assuming that only the first one invested. They note that when the market is unregulated, the incumbent operator sets the access charge to prevent new entrant, which leads to a socially inefficient level in the

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[3]Two firms compete on the Hotelling line (Hotelling, 1929).

market. But access regulation may discourage welfare enhancing investments, thus also inducing a socially inefficient outcome.

III. Theoretical gravity model for FDI

Gravity model, is increasingly used when investigating determinants of FDI flows[4]. Head and Ries (2008) provide theoretical micro-foundations for a gravitational model of FDI and motivate its application for modelling bilateral FDI as well as trade flows.
The framework used in this paper is based on recent advances in the literature on gravitational models (see Yotov et al., 2016). In particular, we apply the gravity modeling approach for FDI developed by Anderson et al (2016, 2017). Indeed, their model shows how trade and FDI are linked and how they respond to natural or man-made barriers to trade and investment.

In particular, Anderson et al (2016, 2017) model focuses on the interpretation of FDI based on technological capital or knowledge capital. A given stock of technological capital (patents, plans, management skills, etc.) can be used simultaneously in more than one country. The value of knowledge capital increases when it can be "leased" to other countries as FDI. Since knowledge capital flows are largely intangible and therefore difficult to measure, bilateral FDI stock will be used as a proxy indicator of knowledge capital flows between two countries.
FDI from country i to country j is as follows: FDI_{ij}^{stock}. It is positively influenced by the size of source country (E_i), as large economies tend to invest more in technological capital. The stock of bilateral FDI is also positively influenced by the size of destination country (Y_j), as large economies can in principle absorb more foreign technology. If the size of the aggregate stock of technological capital in country i is denoted by M_i, the ratio $\frac{Y_i}{M_i}$ can be considered as a gross measure of the potential absorptive capacity of country j for FDI-related technological capital from country i. FDI flows are impeded by obstacles or frictions. For FDI, the relative openness of country j to foreign technologies can be represented by ij, which has values from 0 to 1. If $w_{ij} = 1$, country j is fully open to the entry of technological capital from country i, while in the case of $w_{ij} = 0$, no technological capital from country i is allowed. All these factors are the main determinants of the bilateral stock of FDI [5].

$$FDI_{ij}^{stock} = w_{ij}^{\eta} \frac{\alpha E_i}{P_i} \frac{Y_i}{M_j} \tag{1}$$

Wth E_i measures the size of country i as a total expenditure, including expenditures for the development of technological capital; Y_j is a measure of the size of host country j. The parameter η is the elasticity of FDI revenue flows with respect to the measure of openness. More openness in country j will lead to more frequent use of the technology stock, which will lead to an increase of FDI revenues. The other elements of equation (1) come from the structural gravity system for trade, in which the FDI determinants are

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[4]Wei (2000) or Bénassy-Quéré et al. (2007).
[5]Time indices are omitted in this representation.

integrated. α groups a set of fixed parameters from the theoretical model[6]. Finally, P_i is the inward multilateral resistance term of the gravity trade model. They aggregate the bilateral trade costs of country i with all other countries:

$$P_i = \left[\sum_{j=1}^{N} \left(\frac{t_{ji}}{\Pi_j} \right)^{1-\sigma} \frac{Y_j}{Y} \right]^{\frac{1}{1-\sigma}} \quad (2)$$

With t_{ji} represents the bilateral trade-cost frictions (bilateral distance, having different languages, common border..) that increase bilateral trade cost. $Y = \sum Y_j$ is world production or world GDP, used to normalize the size of destination country (Y_j), and σ is the elasticity of substitution from CES functions used to aggregate multilateral resistance (MR) terms [7].

World trade is a fully integrated system, equation (2) also contains the term Π_j, which represents the outward multilateral trade resistances of country j. It aggregates the bilateral trade costs of country j with respect to all other countries. The gravity system of the FDI becomes:

$$\Pi_j = \left[\sum_{j=1}^{N} \left(\frac{t_{ji}}{\mathbb{I}_i} \right)^{1-\sigma} \frac{E_i}{Y} \right]^{\frac{1}{1-\sigma}} \quad (3)$$

Equation (3) shows that if trade costs increase in host country j, domestic prices rise and thus reduce the country's real potential to absorb foreign technological capital.

The author has highlighted the gravity estimation of bilateral FDI remains Bénassy-Quéré et al 2005. The latter study the impacts of FDI determinants on horizontal FDI. In the model, bilateral FDI stocks depend on both economies' GDP, the determinants of supply and demand, and the distance between capital. However, recent theoretical developments have provided other foundations for the application of a gravity model to other FDI models, Kleinert and Toubal, 2010; Carr, Markusen and Maskus, 2001; Bergstrand and Egger, 2007; Head and Ries, 2008[8]. Bergstrand and Egger, 2007 implement a gravity model of FDI by including several aspects of FDI (foreign direct investment (FDI), foreign affiliate sales (FAS) and multinational companies (MNEs). However, Head and Ries, 2008 develop a gravity model of FDI by considering the M&A process, in which the holding company tries to control the assets abroad.

Anderson et al (2016, 2017) also include the impacts of FDI on domestic welfare in origin and destination countries through the process of capital accumulation and the creation of a wider variety of products or more efficient production. In this paper we do not consider this mechanism but focus on the effects of restrictive standards on FDI flows.

The gravity study of FDI identified two types of obstacles that affect bilateral FDI. First, there are standard bilateral trade barriers (t_{ji}), covered by the common control variables of the gravity model (Free Trade Agreement (FTA), distance, common border, common

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[6]These include parameters such as the depreciation rate, the utility function discount factor and other parameters that are used in the underlying theoretical model. See Anderson et al (2016, 2017).

[7]With $\sigma > 1$, the elasticity of substitution shows that all countries have a preference for a variety of products and technological capital by origin country.

[8]The studies combine both horizontal and vertical FDI.

language and colonial ties), which indirectly act as barriers to foreign direct investment. Second, there are the explicit barriers to FDI addressed by the FDI openness measure w_{ij}. These include specific FDI barriers such as bureaucracy, protection of national champions, protected industries and other restrictive measures, as well as the impact of Bilateral Investment Treaties (BITs) and currency unions.

IV. DATA DESCRIPTION

To analyse the effects of FDI restrictions on FDI stocks between OECD countries, we use panel data between 36 OECD countries from 2010 to 2017. Indeed, we use OECD countries because inward and outward FDI respectively represent around 40% and 44% of GDP. Annual data over the period 2010-2017 to explain the decline of inward FDI since 2016. Finally, we use data on the deregulation of labour, business, investment and financial markets to capture their effects on FDI (which is a new area of research). Our dependant variable is aggregate bilateral FDI stock. The data are collected on OECD Foreign Direct Investment Statistics [9]. The data cover a range of advanced and emerging countries in terms of origin and destination. However, we use the latest version set up by the OECD [10]. This database highlights bilateral FDI between OECD member and non-member countries and runs from 2005 to 2017. It also highlights bilateral sectoral FDI (primary, manufacturing and services sectors). Missing data (or non-reported, suppressed) and negative FDI are replaced by 0 in our case, because negative values are interpreted as disinvestment and to have a balanced panel, Kox, L.and Rojas, H (2019). We consider the specific characteristics of the destination country that impact FDI such as political stability, government effectiveness, regulatory quality (data available on Worldwide Governance Indicators).

FDI determinants in destination countries such as investment freedom, tax burden, labour freedom, business freedom, financial freedom index are collected on The Heritage Foundation[11]. The data of environmental restriction measured by OECD's environmental policy stringency Index (EPS), unit labor cost, labour productivity are collected on OECD.stat. Renewable energy consumption (% of total final energy consumption) extracted on World Bank database, human capital index in Penn World Table database of Groningen Growth and Development Centre[12], logistics performance index (LPI) on World Bank database. The data of starting business, enforcing contracts, resolving insolvency extrated from doing business database. Data of real effective exchange rate from World Bank database.

Our interest variable is $FDI\ restrc_{j,t}$ that captures the level of restrictiveness in FDI. We use FDI Regulatory Restrictiveness Index of OECD. Indeed, this variable measures the restrictiveness of the policies implemented in the FDI sector in 70 countries (36 OECD countries and 34 non-OECD countries). It gauges the restrictiveness of a country's FDI rules by looking at the four main types of restrictions on FDI:

- Foreign equity limitations.
- Screening or approval mechanisms.

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[9] https://stats.oecd.org/Index.aspx?QueryId=64194.

[10] Benchmark Definition 4th Edition (BMD4).

[11] https://www.heritage.org/index/.

[12] This index refers to the number of years of schooling and return on education.

- Restrictions on the employment of foreigners as key personnel.
- Operational restrictions, e.g. restrictions on branching and on capital repatriation or on land ownership.

Restrictions are evaluated on a 0 (open) to 1 (closed) scale. Data are available for 1997, 2003 and 2006 and uninterrupted annual data for the period 2010-2018. Data collected from OECD.Stat.

In addition, there are the traditional country-specific variables: GDP and trade openess of importing country, (World Bank database). Bilateral resistance variables such as the bilateral distance between the two capitals, common border, common language in CEPII database, binary variables that materialize bilateral investment treaties on Investment Policy Hub of UNCTADinvestment.

V. Estimated model

This section discusses appropriate estimation approaches for gravity equation. Indeed, there are many challenges to ensure an unbiased and consistent estimate with the theoretical foundations of the gravity equation. We follow the approach of Yotov et al. (2016).

Firstly to take into account zero FDI and the presence of heteroskedasticity, we use a Pseudo-Poisson Maximum Likelihood Estimator (PPML), Silva and Tenreyro (2006). Indeed according to the literature, this type of estimator considers the zero FDIs. But PPML does not work in the presence of a negative value of the dependent variable and therefore we replace the negative values by zero FDIs.

Second, to obtain a consistent estimate, our model must contain source-time fixed effects, Baldwin and Taglioni 2006; Feenstra, 2004. Indeed, these fixed effects capture the outward multilateral FDI resistance terms and size effects such as gravity, but also other determinants of home country that are not considered in the specific model[13]. We cannot take the host country's time-fixed effects because our paper attempts to see the impacts of FDI restrictions in the destination country on inward FDI. The inclusion of these time fixed effects will absorb the effects of $FDI\ restrc_{j,t}$ in our regression. These country-time fixed effects would be included in our various robustness tests with our bilateral interest variables.

Last, to control the endogeneity between the FDI restrictions and the dependent variable, the empirical literature suggests to include country-pair fixed effects (ij) in our regressions, Anderson and Yotov, 2011; Baier and Bergstrand, 2007. These pair country fixed effects eliminate, respectively, the unobservable linkages between the endogenous variable and the error term in gravity regressions. In addition, the country-pair fixed effects control bilateral trade costs after controlling for both observable and time-invariant bilateral trade flow factors, Yotov et al (2016). However, our paper does not focus on the effects of trade policies (BIT, FTA, bilateral tariff) and we cannot consider these pair-country fixed effects. To reduce the endogeneity bias between the FDI restriction variable and bilateral FDI, we used the instrumental variable approach discussed in the section 9.

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[13]We have: GDPs, population, most favored nation (MFN) tariffs.

VI. Main Regression Equation

In our empirical analysis, we examine the influence of investment restrictions on FDI stocks between OECD countries. However, the aim of this paper is to examine the effects of FDI determinants particularly FDI restrictions on FDI stocks. The determinants of FDI are important when studying the effects of its factors. It is necessary to identify the type of determinants of FDI to conduct this empirical study. According to the literature, two approaches can be used to determine the explanatory factors of FDI: a macroeconomic approach based on modern international trade theories to explain the location of multinational production or an enterprise-level approach based on microeconomic theories of firms to explain why and which firms are more likely to invest abroad.

These two approaches examine characteristics that are either endogenous to the firm, such as management expertise, technological skills, firm size, etc., which are ownership advantages that can be exploited abroad, Hymer, 1976; Dunnin, 1973. Also exogenous characteristics that influence a firm's FDI decisions, such as market size and labour costs, which imply some location advantages for establishment in a host country (Helpman, 1984; Markusen, 1984; Carr, Markusen and Maskus, 2001, and Bergstrand and Egger, 2007). Such models generally explain the activity of firms on the foreign market, particularly the sales of foreign affiliates (horizontal FDI), rather than FDI as cross-border investment flows (vertical FDI). Due to missing data on foreign affiliates, we decided to use FDI stock data in our study. Indeed, these FDI stocks represent a fairly consistent approximation of the level of activity of foreign affiliates, as evidenced by the strong correlation between FDI stock data and real activity data of multinational enterprises (Lipsey, 2007). Through a gravity analysis we will analyse the different impacts of FDI determinants on FDI stocks, with a particular focus on the restrictive barriers to FDI. All factors that can influence bilateral FDI in our analysis are:

The first component is related to characteristics of the origin or source country of FDI. Determinants include labour costs, corporate tax rates, corruption and red tape. These factors may vary over time.
The second includes FDI factors that are related to the destination or host country. The most relevant determinants for incoming FDI are political stability, government effectiveness, regulatory quality, trade openess, labour freedom, logistic performance index, human capital and tax burden. These factors are also time variables.
The third has bilateral determinants that are invariable in time, characteristic of gravity standard analysis: distance, common border, common language. These factors tend not to change over time. The last category includes bilateral determinants of FDI that vary over time. These include Free Trade Agreement (FTAs) and Bilateral Investment Agreements (BITs) in force [14]; Reel Effective Exchange Rate (REER); common currencies and custom unions.
In our analysis we consider components 2, 3, 4.

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[14]BITs warns foreign investors against risks on the host market through instruments such as protection from expropriation, free transfer of means, fair and equitable treatment, foreign investors fair and equitable, non-discriminatory, most-favoured-nation and national treatment.

Following [Anderson and van Wincoop's (2003)](), the control of trade costs remains crucial in order to properly specify the gravity equation. However, trade costs are very important for the gravity equation. That is, two countries will trade or invest less if they were separated by an ocean or by vast stretches of deserts and mountains. Trade and invest between two nations are determined by relative trade costs, i.e. trade costs between the two nations (absolute costs) and trade costs between the country (importer, exporter) and the rest of the world, which will be called the MTR (Multilateral Trade-Resistance). Considering all these factors, our gravity equation is as follows:

$$FDI_{ijt} = exp[\beta_0 + \beta_1 FDI_{ij,t-1} + \beta_2 Z_{ij,t} + \beta_3 t_{ij} + \beta_4 LnFDIrestr_{jt} + \beta_5 X_{jt} + \alpha_{it} + \epsilon_{ij,t}]$$
(4)

With FDI_{ijt} the FDI stocks from country i (the reporting country) to country j (the partner country) in period t (2010-2017)= $\frac{FDI_{ijt}}{GDP_{deflator(it)}}$. The real FDI stocks are calculated by dividing the net FDI stocks (U.S.\$) by the source country GDP deflator (2010) to remove inflation. $FDI_{ij,t-1}$ is one-year lagged dependent variable, [Egger and Merlo (2007)]() [15]. Z_{ijt} is a time-variant vector of bilateral policy variables: real effective exchange rate (REER)[16] and bilateral investment treaties (BIT), $FDIrestr_{jt}$ captures the level of FDI restrictions in the destination country. We use the FDI Regulatory Restrictiveness Index of OECD. t_{ij} : the vector of time-invariant bilateral control variables (i.e. bilateral distance, common language, common border). X_{jt} includes destination country specific characteristics (political stability, government effectiveness, regulatory quality) and FDI determinants in destination country such as trade openess, labour productivity measured by GDP per hour worked (U.S dollars), labour freedom index, financial freedom index, investment freedom index, business freedom index, renewable energy, environmental restrictions, human capital index (education), unit labor cost, logistic performance, tax burden, unit labor tax). α_{it} represents source-country fixed effect (dummy variables that control the outward multilateral resistance terms and countries' output shares) and ϵ_{ijt} is a error term. Source-country fixed effect reduce the risk of omitted variable bias. Standard errors are clustered by country pairs to control for potential heteroskedasticity and to limit the potential effect of persistence over time of FDI stock levels in each pair of countries, see [Fournier (2015)](). β_4 is the coefficient of interest; according to the litterature it is negative, [Ghosh et al (2012)](), [Fournier (2015)]().

VII.   FDI GRAVITY RESULTS

This section presents and analyzes the empirical results. The results are reported in Tables A.4, and A.5. The tables contain the regressions with source year fixed effects. Table A.4, which represents the baseline results, contains firstly the characteristics of the destination countries (political factors, columns 1, 2, 3) and secondly the determinants of FDI (socio-economic factors, columns 4, 5, 6 and 7). Table A.5 highlights the effects of services liberalization and environmental restrictions on FDI stocks.

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[15]They argue that ignoring the dynamic nature of FDI could lead to an overestimation of the effect of bilateral factors.

[16]Bilateral exchange rate between home country and trading partners. A rise is a depreciation of the home country's currency.

i.   Baseline results

We estimate the effects of FDI restrictions on bilateral FDI stock. Using a gravity model with PPML as estimate, the baseline results are presented in Table A.4. In the different specifications, we find the following effects:

The lagged FDI variable has a positive and significant impact of FDI. Bilateral investments treaties (BIT) have negative and significant effects on FDI stocks. Distance between capitals of the two countries has negative and significant effects[17] and our dummy variable, common language has a positive and significant impact on FDI.

If both countries have signed bilateral agreement on investment, the effect is negative and significant on inward FDI stocks. The BIT has different characteristics from the FTA, it protects the investor against risks on the market receiving FDI. It therefore establishes transparency on the host country, Bergstrand and Egger, 2013. These agreements between developed countries and emerging or developing countries (North-South investment) have much greater effects than North-North agreement Kox, L. and Rojas, H (2019). FDI has contradictory properties compared to trade in goods. Depending on its structure (horizontal and vertical), FDI can substitute or compliment goods trade. In our case it appears as a substitute for trade in goods. Like the FTAs, bilateral investment agreements have a more positive impact on vertical investment (fragmented production) than horizontal investment.

The real effective exchange rate (REER) has significant negative effects on FDI. Indeed, an increase of REER implies an appreciation of foreign currency (host country) against the home country's currency. More the host currency appreciates, more the factors of production are important in this country compared to the origin country. Also, the appreciation of the host currency relative to home country increases the value of assets in that country. As a result, production costs and asset prices are higher in the receiving country, which leads to less inward FDI, Asmah and Andoh, 2013. This variable captures location competitiveness through currency fluctuation

The effects of destination country-specific characteristics on FDI stocks. We regressed FDI restrictions on FDI stocks in the presence of global governance indicators. The factors such as stability, good governance and regulatory quality attract more FDI in the destination country, Berden et al. (2014), and Dellis et al. (2017). The columns 1, 2 and 3 of table A.4 show that political stability, government efficiency and regulatory quality respectively increase bilateral FDI by 0.24, 0.23 and 0.26% for FDI. Therefore, to attract more capital, importing countries must implement more competitive standards through democratic governance.

If we consider the impacts of FDI determinants on FDI stocks we have: the trade openess and tax burden have a positive and significant impact on FDI. Indeed, variable of tax burden measures the level of taxation in the destination country. Higher the level of tax burden, lower the tax rate. It affects labour costs and has a significant impact on FDI performance, KOX, L. and ROJAS, H (2019). Determinants such as labour productivity, logistics performance, human capital are positive factors for FDI

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[17]See Bénassy-Quéré et al. (2005) or Basile et al. (2008). Indeed, firms prefer closer locations due to intra-company trade involved in the fragmentation of production.

into the destination country. Indeed, reliable and efficient transport infrastructure (roads and bridges, airports, ports & waterways and communication networks) can improve transport accessibility and reduce transport costs. Firms benefit from these factors. Lower transport costs due to accessibility, have a positive impact on firms' productivity and profitability, Shahbaz, M and al (2019). The labour productivity is a competitiveness factor, including a significant return on FDI. The positive impact of the human capital variable is similar to the knowledge capital model (Carr et al. (2001)). The more a population is well educated, more skilled labour is available and more investment is profitable

If we look at our control variabl, FDI Regulatory Restrictiveness Index, despite FDI barriers declining since the 1980s in OECD countries, we have a negative and significant impact of this variable on FDI stocks. This is explained by barriers to entry in some sectors that hamper potential productivity gains at the economic level. By hindering competition in the service sectors, for example, restrictions consequently contribute to increasing services input costs (financing and logistics) for other economic sectors. Access to world-class inputs through FDI has been crucial to move the manufacturing up the value chain and stimulate growth and employment in the services sector (OECD, 2015, 2018). Also, inward FDI restrictions are implemented to protect domestic firms from foreign competition with large financial resources and production capacity [18]. A 1% increase in restrictions leads to a decrease in FDI stocks of almost 0.8%. However, these results should be treated very carefully as the effects vary across countries. Indeed the effects of restrictions on FDI are not the same on a country like Luxembourg which has implemented liberal reforms or European Union countries with free movement of goods, services and investments as a country like Canada or New Zealand where the restrictions are higher.

ii.   Service liberalization and environmental restrictions results

Investment and financial freedom index have positive and significant effects on FDI (see Table A.5). In the most open countries, FDI is more attractive. In addition, The liberalization of these sectors is very important to attract investment, as it allows for a better absorption of the benefits arising from the presence of multinational firms, (technology and process transfer, professional labour force development, benefits from global value chains), Edgars Rožâns (2016). Regulation of the labour market has no significant effect on FDI.

The renewable energy consumption has negative effects on inward FDI stocks, while strict environmental policies have positive impacts on inward FDI stocks, see Table A.6. Indeed, countries with very strict environmental policies attract more FDI. OECD countries increased restrictions in their environmental policies in the 2000s. Investors look for investment routes having stable and stringent environmental regulations. If regulations are fluctuating, then the investor or business has to adapt and rapidly change its environmental commitments, Rahul, R and P.K. Viswanathan (2018). FDI contributes to reduction of oil energy use through environmental policies in force, Sbia et al. (2014). Firms have to develop appropriate technology that permits to produce at

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[18]To ensure the assimilation of cutting edge technologies by national firms.

lower costs with less pollution. We have a positive impact of environmental regulation on innovation and inward FDI stocks.

VIII.   Robustness check

In this section, we evaluate the sensitivity of estimation results through several robustness tests. We perform different tests to validate the strength of our results.

i.   Impact of sectoral FDI restrictions on FDI stocks

The study of FDI restrictions on FDI should take into account the effects of sectoral FDI restrictions. A robustness check is performed by considering the FDI restrictiveness indicators in the manufacturing, financial and banking sector[19]. We also consider foreign equity restrictions[20] and restrictions on cross-border financial transactions through the Kaopen index[21]. We investigate the impact of its restrictions on FDI stocks and FDI income.
The results are shown in Tables A.7, A.8 and A.9.

Its suggest negative and significant effects of sectoral FDI restrictions, more strongly in the services sector (banking plus financial). The liberalization of financial transactions has positive and significant effects on FDI and the foreign equity restrictions have negative impact on FDI. Services FDI inflows are much higher than manufacturing FDI in OECD countries. Restrictions in this sector have significant negative impacts on FDI.

ii.   Regulatory difference, doing business variables, factors endowments

To see the real effects of restrictions on FDI, we consider the regulatory difference between pairs of countries. This regulatory difference variable captures the variation of restrictions between countries over time. Countries with stable regulatory policy regimes and those with high or low restrictions. It also helps to understand why a firm invests more in a given country than in another or in the home country. It is computed by taking the difference between FDI restrictions in the host country and home country. We use both destination country-specific variables and FDI determinants in our regressions in these robustness tests. We consider the variables whose impact on FDI remains important according to Table A.4 (regulatory quality, trade openness, education, and productivity). The results presented in table A.10, column 2, show significant negative effects of the regulatory disparity on inward FDI. In column 3, we construct a dummy variable equals 1 if the regulatory difference is negative and 0 if it is positive. The negative value stipulates greater restrictions in the source country than host country and the positive value explains the opposite effect. Our estimation shows positive and non significant effects of this variable on inward FDI. The fourth regression considers

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[19]Data from OECD FDI Regulatory Restrictiveness Indexd database.
[20]FDI Regulatory Restrictiveness Indexd database.
[21]The Chinn-Ito index (KAOPEN) is an index measuring a country's degree of capital account openness, Chinn and Ito (2006).

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the average of FDI restrictions among all host countries. The regulatory difference was constructed by the difference between each country's restrictions and the average. The countries whose restrictions are close to the average are less restrictive and those that deviate from the average are closed to FDI. The results are negative and significant. The regulatory difference is essential for foreign investment. A firm or investor compares the restrictions of their country with importing country's restrictions. If the disparity is important, it has a strong impact on investment. However, the firm invests more in countries where the restrictions are less stringent.

In regression 5, we exclude from our estimates the five countries with a large share of inward FDI in GDP[22]. The results show negative and insignificant effects of restrictions on inward FDI, underlining the correlation between FDI restrictions and inward FDI.

The estimations of the Doing Business variables[23] (starting business, resolving insolvency and enforcing contracts) show positive and significant effects on FDI (Cf. Table A.7). Firms are most likely to locate in countries where entry and exit costs are very lower and legal rules are very stringent.

The last test includes the difference in factor endowment. Indeed, the difference in factor endowment can affect inward FDI, Ethier and Markusen (1996). A firm may be vertically integrated and need factors of production at different stages of production or horizontally integrated and therefore require similar factors of production in the host country. The difference in factor endowment has important effects on the second case. Differences in factor endowments are represented by factor dissimilarity (FD) and human capital dissimilarity (HCD), Golub et al (2003):

$$FD_{ijt} = \mid (lnGDP \ per \ capita_{jt} - lnGDP \ per \ capita_{it}) \mid \qquad (5)$$

$$HCD_{ij,t} = \mid (ln(education_{jt} - ln(education_{it})) \mid \qquad (6)$$

The difference in factor endowment has negative and significant effects on FDI. Firms locate in countries with the same factor endowments as the origin country.

iii. Construction of dependent variable: zero-negative FDI and other transformations

We test the robustness of our findings by considering negative and zero FDI. The table above shows that 30% of the FDI data are zero and almost 3% are negative [24]. Several transformations of the dependent variable and other estimates than the PPML will be done in this section.

Table 1: Zero and Negative FDI Data

	Positive(%)	Zeroes(%)	Negative(%)	Total
FDI	68.1349	29.2757	2.5892	100
No. of observations	6,868	2,951	261	10080

[22]Belgium, Ireland, Luxembourg, Netherlands, and Switzerland.
[23]Doing Business database.
[24]Missing data are replaced by zero.

First, we log-linearize and include 1 in the dependent variable and replace negative FDIs by 0. Using OLS as an estimator, Column 2 of Table A.11 shows the results and confirms our findings.

Second, based on analysis of Magee (2008), Liu (2009), and Cheong et al. (2015), we use a Conditional Poisson Maximum Pseudo-Likelihood (CPPML) estimator to incorporate host-source country fixed effects into the PPML estimator. The inclusion of both source and host country fixed effects controls the inward and outward multilateral FDI resistance terms, Baier and Bergstrand 2007. However, the CPPML estimator does not converge when we include source-country time fixed effects. This is probably due to the number of dummy variables too large. Thus, we control for time-fixed effects instead of source-country time-fixed effects to avoid the convergence issue. Column 3 of Table A.11 shows that FDI restrictions still discourage FDI inflows.

Third, to capture negative FDI in our estimate, we use the transformation by Busse and Hefeker (2007),Yeyati et al (2007), and Azzimonti (2019). This dependent variable transformation includes negative values of FDI: $FDI^*_{ij,t} = Ln(FDI_{ij,t} + \sqrt{1 + FDI^2_{ij,t}})$. Compared to our baseline, column 4 shows significant and negative impacts of FDI restrictions on inward FDI.

Fourth, we normalize inward FDI by the lagged one-year GDP in the host country to control the economic significance of inward FDI in growth episodes. Column 5 gives negative and significant results of restrictions on FDI. Last, we normalize FDI by the average of country pair GDP deflators (home and host countries). The last column of Table A.11 confirms our results that FDI restrictions have negative effects on inward FDI.

iv.   Host, Source and Difference FDI restrictions: Comparaison

Our analysis so far suggests that host country FDI restrictions are a push factor for inward FDI and therefore ignores its relevance as a pull factor. The objective in this section is to study the effects of home country FDI restrictions on FDI. We first analyze the role of home country FDI restrictions on FDI. Controlling for time and country fixed effects our equation becomes:

$$FDI_{ij,t} = exp[\beta_0 + \beta_1 FDI_{ij,t-1} + \beta_2 Z_{ij,t} + \beta_3 t_{ij} + \beta_4 Ln\ FDIrestr_{i,t} + \beta_5 Ln\ FDIrestr_{j,t} + \beta_6 X_{it} + \beta_7 X_{jt} + \alpha_t + \alpha_i + \alpha_j + \epsilon_{ij,t}] \tag{7}$$

Where α_t is a time-fixed effects, α_i, α_j Source-host fixed effects and X_{it}, X_{jt} Source-host controls variables.

Columns (1) to (3) of Table A.12 summarize the results from estimating Equation 7 by varying the scope of control variables and PPML as the estimate [25]. Column 3 shows that home and host country restrictions have significant negative effects on FDI. The results are robust after controlling the FDI determinants and country-specific variables in the host and home countries. Indeed, FDI restrictions are considered as barriers to market entry for new firms. High restrictions lead to market foreclosure and high market prices,

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[25]To save space, the coefficients of all the control variables are not reported.

which is profitable for established firms that find the domestic investments is beneficial, Brito et al (2010); Manenti and Scialà (2013). Therefore, higher restrictions lead to a decline of home country outward FDI and an increase of domestic investment. FDI restrictions are perceived as barriers to entry supported by the domestic private sector. Restrictions on FDI are regulatory protections for incumbent firms. They affect potential domestic and foreign entrants.

The effect of FDI restrictions on FDI could be a nonlinear function. Indeed, the decision to invest may depend both the restrictions in the source and host country. The assumption here is that even if host country restrictions are high, a firm's foreign investment into the host country might be less affected when the firm is already subject to a high restriction in its home country. In contrast, if domestic restrictions are lower, a firm may not tolerate severe restrictions in the destination country. This idea is widely used in the literature and refers to the effect of the so-called "corruption distance", Wu, 2006; Qian and Sandoval-Hernandez, 2016. The difference between the level of restrictions in the two countries discourages FDI due to the additional costs of new or stricter restrictions. However, the effect of the difference in restrictions between countries decreases with individual country restrictions. To capture the effects of the difference in restrictions taking into account the effects of countries restrictions, we estimate the following equation:

$$FDI_{ij,t} = exp[\gamma_0 + \gamma_1 FDI_{ij,t-1} + \gamma_2 Z_{ij,t} + \gamma_3 t_{ij} + (\gamma_4 + \gamma_5 FDIrestr_{j,t} + \gamma_6 FDIrestr_{i,t})Diff\ restr_{ij,t}$$
$$+ \alpha_{it} + \alpha_{jt} + \epsilon_{ij,t}]$$
(8)

Where $Diff\ restr_{ij,t}$ is "corruption distance" $= |FDIrestr_{j,t} - FDIrestr_{i,t}|$, α_{it}, α_{jt} Source-host time fixed effects[26] , γ_4 shows the effect on FDI of a similarity of restrictions between home and host countries, γ_5 and γ_6 reflect the impact of the difference in FDI restrictions between countries in presence of host and source countries FDI restrictions. A positive coefficient of γ_5 and γ_6 implies that the negative effect of the difference in FDI restrictions between countries declines with the level of host and home country FDI restrictions, Wu, 2006 [27]. Columns 4 of Table A.12 show negative and significant effects of the difference in FDI restrictions between host and source countries on FDI.

More interesting, we have a negative and insignifint sign of our interaction term between the restriction difference and the host country restrictions. In contrast, we have a negative and significant result for the interaction term between the restriction difference and home country restrictions (Column 6 of Table A.12). Results opposite to Wu, 2006. The negative sign indicates that the difference in FDI restrictions between countries increases with the level of FDI home country restrictions. Even if home country restrictions are high, the investor or the multinational firm will compare the difference in FDI restrictions between his country and the host country. If the difference is less important they will invest and if the disparity is important they will have a disincentive to invest. This confirms the idea that the disparity of restrictions between countries is the first factor considered by firms or investors and not the level of restrictions in home and

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[26]We include country time fixed effects to address the risk of omitted variables and to consider FDI Multilateral resistance.

[27]Wu, 2006 studies the effects of corruption on cross-border investments by multinational firms.

host countries. The difference in FDI restrictions between countries has greater negative effects than individual home country restrictions because home country FDI restrictions are very attractive for domestic investments, in this case it is necessary to compare the restrictions of two countries. This study concludes that there exists a substitutability between domestic and foreign investments in the presence of FDI restrictions.

IX.   Endogeneity Problem: Reverse Causality

The crucial econometric issue in estimating gravity model is the endogeneity between trade policy variables and bilateral FDI. Indeed, we have a reverse causality between our FDI restrictiveness variables and bilateral FDI. Countries with low or no FDI restrictions have large FDI inflows and inverse effect. In this case the gravity estimate is biased in the presence of reverse causality[28]. To solve this problem, we use the instrumental variable approach.

Restrictions on FDI have negative effects on competition between firms and positive effects on incumbent firms' investments, Brito et al (2010), Manenti and Scialà (2013). As a result, high restrictions boost domestic firms' investments. Our instrumental variable is Gross Fixed Capital Formation (GFCF), which captures domestic firms' investments in fixed capital. This variable is clearly correlated with the endogenous variable but has no effect on bilateral FDI. Luxembourg and Belgium, which have the highest inward FDI, have lower domestic investments, which led to liberalisation of their FDI sector. However, foreign investment is not linked to domestic investment but to factors such as tax exemptions and the european common market. We have a correlation between our instrument and the endogenous variable and no effect on dependent variable.

Our instrument can be considered as exogenous as it does not affect inward FDI. The exclusion restriction of our instrument is valid and linked to the fact that domestic firms' investment does not affect inward FDI. FDI liberalization finances debt, stimulates competition and therefore innovation. However, more restrictions protect domestic firms from competition and increase investment.

Using instrumental variables (2SLS) regression, the results are presented in Table A.13. The results are robust. The Durbin and Wu-Hausman tests are significant, showing that the restrictiveness variable is endogenous. Thus the OLS estimate is biased. The high F-statistic (>10) suggests that our instrument is strong, Stock, Wright, and Yogo (2002). In this case the 2SLS estimation with fixed effect gives small biases.

X.   Conclusion and policy implications

This paper has examined the impacts of FDI restrictions on FDI stocks in OECD countries. Using panel data for all OECD countries from 2010-2017, FDI Regulatory Restrictiveness Index of OECD and gravity model, we highlighted the effects of FDI restrictions on FDI stock. The results indicate that FDI restrictions significantly reduce bilateral FDI. In constrast deregulation of the investment and finance sectors significantly increase FDI stocks. Environmental restrictions also have positive and significant effects on FDI.

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[28]$FDI\ restr_{j,t}$ is endogenous in our study.

Renewable energy is not the most attractive type of energy for FDI.

The results seem robust to alternative specifications. Several aspects were analyzed. First, we estimate the effects of sectoral FDI restrictions, foreign equity restriction and cross-border financial transaction restrictions on bilateral FDI stocks. We find a negative and significant impact on FDI, stronger in the service sector. Second test highlight the negative impact of the regulatory difference between countries on FDI and the positive effects of the doing business variables on FDI. Last, Home FDI restrictions have negative effects on FDI and our test also shows that the regulatory disparity of FDI is the most important factor that investors consider.

This study is an extension of previous studies based on the impacts of FDI restrictions on FDI stocks. However, it differs from previous studies in that we examine FDI restrictions on FDI through original quantitative tools and various estimates. We use the new OECD bilateral FDI database and a very recent FDI restrictiveness index. It departs from recent literature as we highlight the factors explaining the decline in FDI since 2016 and the effet of services deregulation on FDI.

From this study, it emerges that restrictions are public policies considered as barriers to entry in favour of domestic private sector. Market regulation leads to a decrease in both inward and outward investment benefiting domestic investment. The implementation of future restrictions depends on the penetration rate of firms or multinationals. Countries with large shares of inward FDI in GDP growth will implement liberal policies and subsidies to firms. These measures will encourage more competition between firms. Case of Belgium, Luxembourg, Netherlands... However, countries with domestic investment as a major contribution to GDP will impose restrictions to hinder entry of new firms in order to stimulate domestic private investment.

We cannot implement a policy that stimulates both competition and investment between firms.

We could improve our study by considering several types of FDI, namely financial FDI and M&A. However, there are some important limitations mainly related to data. First, the restrictions on FDI have certain limitations, including the fact that they are invariable over time for certain sectors. Second, it would be really interesting to also consider domestic investments to future research.

From this study, we conclude that the drop of inward FDI in OECD countries since 2016 is due to a rise of restrictive and protectionist policies in order to protect local firms. It is also the result of Donald Trump's tax cuts since 2017. This measure led to repatriation of profits into United States. This decrease is probably due to the trade war between China and United States, which has a considerable effect on production and investment in global value chains.

From our findings, we can formulate policy implications to reduce the restrictive effects of FDI restrictions: The first is to liberalize services sector whose restrictions have significant negative effects on FDI. Also reduce foreign equity restrictions that limit the entry of foreign capital.

Second, deregulate investment sector with a high quality legal system. Our estimates suggest that countries with a flexible investment sector and institutions that guarantee the enforcement of contracts had significant and positive effect on FDI inflows.

The optimal policy should be to lower entry barriers and exit costs. Our results show that firms locate in countries where entry costs are lower with the better insolvency laws.

All these policies must be combined with a strict environmental policy against environmental degradation.
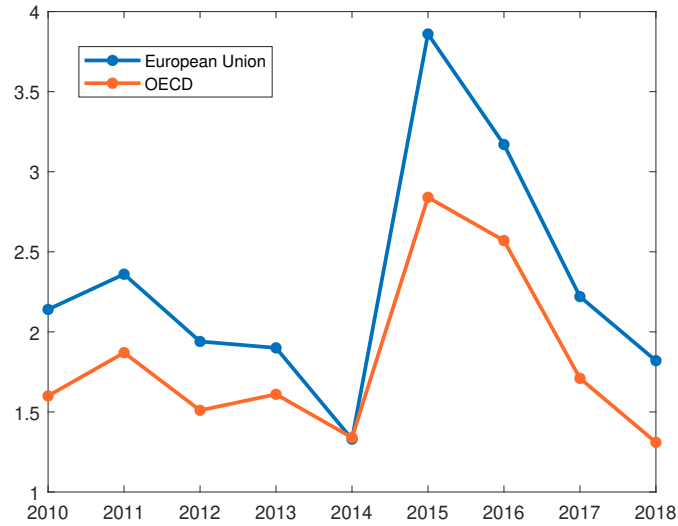
XI. Appendix

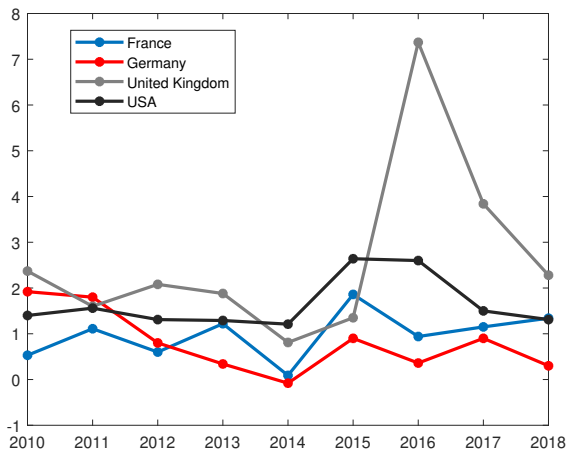**Figure A.1: Inward FDI flows % of GDP, 2010-2018**

Figure A.2 :Developped countries inward FDI flows % of GDP, 2010-2018
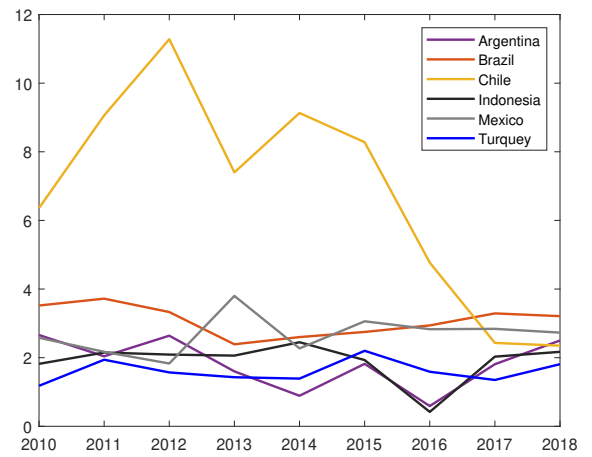

Figure A.3: Emerging countries inward FDI flows % of GDP, 2010-2018
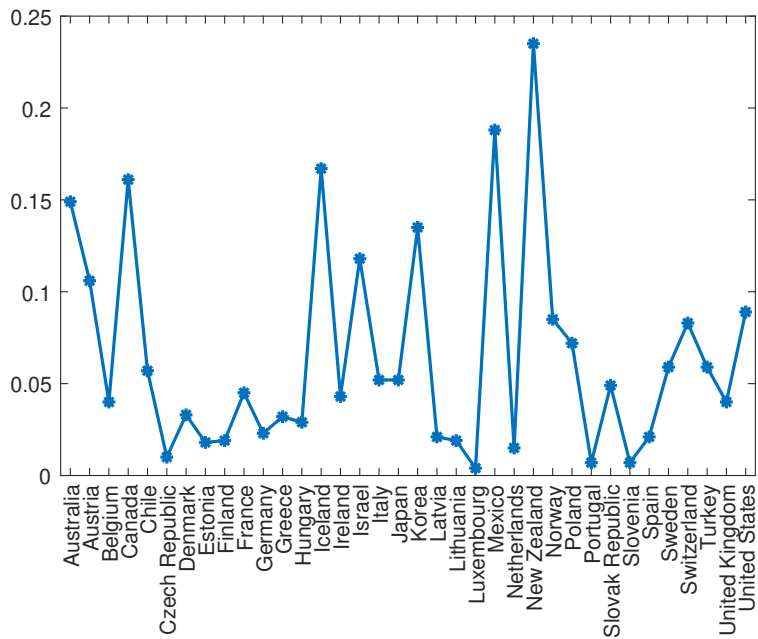
Figure A.4 :OECD FDI Regulatory Restrictiveness Index in 2018
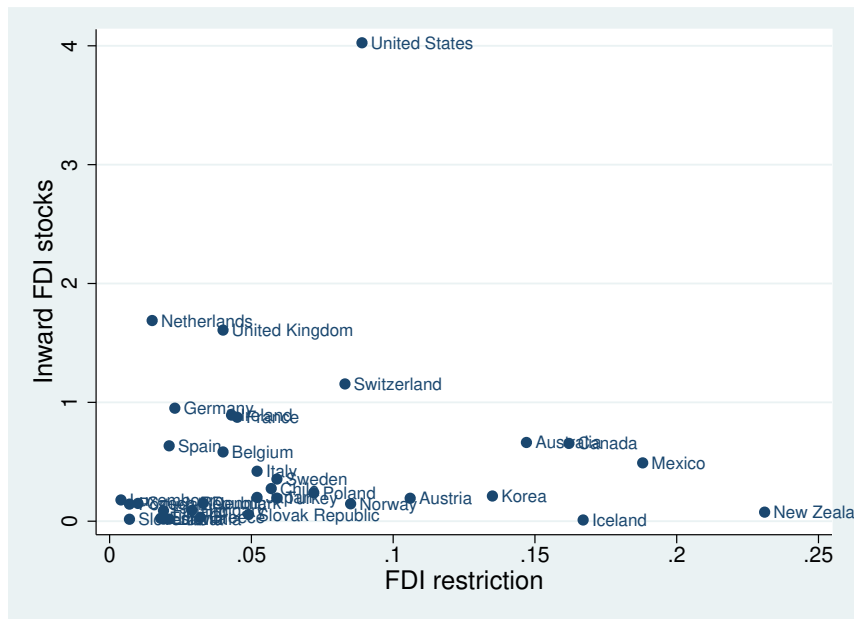
Figure A.5: Correlation between FDI and FDI restrictions in OECD, 2017

Table A. 1: Variable description and sources

Variables	Description	Source
$FDI_{ij,t}$	Aggregate bilateral greeneld investments	OECD.stat
$BIT_{ij,t}$	Is a dummy that indicates whether both countries have an investment agreement in force	UNCTADinvestment
$border_{ij}$	Takes the value 1 when countries share a common border, and 0 otherwise	CEPII
$lang_{ij}$	Takes the value 1 when countries share a common border, and 0 otherwise	CEPII
$Ln\ dist_{ij}$	Distance in kilometers between country capitals	CEPII
$FDIrestr_{j,t}$	FDI Regulatory Restrictiveness Index of OECD captures the level of restrictiveness in FDI on all sectors	OECD.stat
$FDIrestrmanu_{j,t}$	FDI Regulatory Restrictiveness Index of OECD captures the level of restrictiveness in FDI on manufacturing sector	OECD.stat
$FDIrestrfinan_{j,t}$	FDI Regulatory Restrictiveness Index of OECD captures the level of restrictiveness in FDI on financial sector	OECD.stat
$FDIrestrbank_{j,t}$	FDI Regulatory Restrictiveness Index of OECD captures the level of restrictiveness in FDI on banking sector	OECD.stat
$Ln\ GDP_{j,t}$	Importer country GDP (constant 2010 US)	World Bank database
$Trade\ openess_{j,t}$	Sum of imports and exports normalized by GDP	World Bank database
$Unit\ labor\ cost_{j,t}$	Index that measures the average cost of labour per unit of output produced (2015)	OECD.stat
$Productivity_{j,t}$	Labour productivity measured by GDP per hour worked (U.S dollars)	OECD.stat
$REER_{ijt}$	Real Effective Exchange Rate	World Bank database
$Politiq\ stab_{j,t}$	Index that measures perceptions of the likelihood of likelihood of political instability and/or politically-motivated violence, including terrorism	World Governance indicators
$Gov\ effectiv_{j,t}$	Index that measures the quality of public services and credibility of the government's commitment	World Governance indicators
$Regul\ quality_{j,t}$	Index that captures the ability of the government to formulate and implement sound policies and regulations	World Governance indicators
$Tax\ burden_{j,t}$	Measures the tax burden imposed by the government	Heritage Foundation
$Labour\ freedom_{j,t}$	Index that measures the legal and regulatory framework of a country's labour market	Heritage Foundation
$Financial\ freedom_{j,t}$	Measures banking efficiency and independence from government control in the financial sector ranging from 0 (high control) to 100 (Negligible government interference.)	Heritage Foundation
$Business\ freedom_{j,t}$	overall indicator of the efficiency of government regulation of business, ranging from 0 (closed) to 100 (free)	Heritage Foundation
$Investment\ freedom_{j,t}$	Index measuring restrictions on flows of investment capital ranging from 0 (high restrictions) to 100 (no restrictions)	Heritage Foundation
$Environ\ restric_{j,t}$	Index that measures the stringency of environmental policy range from 0 (not stringent) to 6 (highest degree of stringency)	OECD.stat
$Renewable\ energ_{j,t}$	% of total final energy consumption	World Bank database
$Logis\ perfor_{j,t}$	Index that measures trade logistics performance (road, port, rail, air infrastructure, etc..), ranging from 1 (very low) to 5 (very high)	World Bank database
$Education_{j,t}$	Index that measures the average years of schooling	Penn World database
$starting\ business_{j,t}$	Measures the entry cost paid by a small- or medium-sized firm to start up and operate in the largest business city in each economy	Doing business database
$Resolving\ Insolvency_{j,t}$	Measures the time, cost and outcome of insolvency proceedings involving domestic legal entities	Doing business database
$Enforcing\ contracts_{j,t}$	Measures quality and efficiency in the court system	Doing business database

Table A.2: Descriptive statistics

Variables	obs.	Mean	Std. Dev.	Min	Max
Bilateral FDI					
$FDI_{ij,t}$	10,080	101.9283	428.3609	0	8340.064
Traditional variables of the gravity model					
$lang_{ij}$	10,080	.0587302	.2351306	0	1
$border_{ij}$	10,080	.0642857	.2452734	0	1
$Ln\ dist_{ij}$	10,080	3.469138	.5056796	1.775372	4.29195
$BIT_{ij,t}$	10,080	.5978175	.4903627	0	1
$GDP_{i,t}$	10,080	1.32e+12	2.78e+12	1.37e+10	1.73e+13
$GDP_{j,t}$	10,080	1.32e+12	2.78e+12	1.37e+10	1.73e+13
Index of Economic Freedom					
$Tax\ burden_{j,t}$	10,080	66.10834	12.69926	35.9	93.6
$Business\ freedom_{j,t}$	10,080	82.00543	17.85653	61	519.5
$Invest\ freedom_{j,t}$	10,080	78.71493	9.49992	50	95
$Labour\ freedom_{j,t}$	10,080	63.31076	15.55192	31	98.5
$Finan\ freedom_{j,t}$	10,080	70.10417	10.81733	40	90
Socio-economic factors					
$Education_{j,t}$	10,080	3.303331	.346448	2.214366	3.807068
$Ln\ Trade\ openess_{j,t}$	10,080	11.56388	.5641905	10.10975	12.68642
$REER_{ij,t}$	9,099	99.10728	9.415318	69.39654	154.1953
$Productivity_{j,t}$	10,080	51.50111	17.47187	19.43301	97.66675
Worldwide Governance Indicators					
$Politiq\ stab_{j,t}$	10,080	.6706824	.6480735	-2.009063	1.587232
$Regul\ quality_{j,t}$	10,080	1.254318	.4893416	-.5067052	2.088636
$Gov\ effectiv_{j,t}$	10,080	1.267461	.5361716	-.0299037	2.241138
FDI Regulatory Restrictiveness Index					
$FDIrestr_{j,t}$	10,080	0.0661736	0.058583	0.004	0.24
$FDIrestrmanu_{j,t}$	10,080	0.018375	0.0438353	0	0.2
$FDIrestrfinan_{j,t}$	10,080	0.0341875	0.0499691	0	0.233
$FDIrestrbank_{j,t}$	10,080	0.0371944	0.0648945	0	0.25
$Equity\ restric_{j,t}$	10,080	.0378333	.0287328	.003	.14
Environmental Policy Stringency Index					
$Environ\ restric_{j,t}$	3,920	2.979353	.5351703	1.833333	4.133333
$Renewable\ energ_{j,t}$	7,560	20.18018	16.05634	1.314953	77.34468
Kaopen Index					
$Chinn-Ito\ index_{j,t}$	9,800	1.908734	.8038244	-1.210019	2.346708
Doing Business Variables					
$Enforcing\ contracts_{j,t}$	7,141	68.98404	9.828041	42.38	85.7
$Resolving\ insolvency_{j,t}$	5,881	69.29771	22.77655	21.7	99.92
$Starting\ business_{j,t}$	9,381	88.97914	6.00097	68.88	99.96

Table A.3: Cross-Correlation Table

Variables	BIT	lang	border	Ln dis	FDI restr	REER	Politic stab	Gov effec	Regul qual	Ln Trade open	Ln GDP	Env restr	Rena energ	Business free	Inves free	Tax burd	Labor free	Finan free	Logis perf	Educ
BIT	1.000																			
lang	-0.151	1.000																		
border	0.110	0.292	1.000																	
Ln dis	-0.459	-0.044	-0.388	1.000																
FDI restr	-0.336	0.090	-0.078	0.404	1.000															
REER	-0.030	-0.003	-0.029	0.071	-0.006	1.000														
Politic stab	-0.093	0.081	0.048	-0.098	-0.056	0.006	1.000													
Gov effec	-0.225	0.127	-0.002	0.018	0.113	0.003	0.638	1.000												
Regul qual	-0.130	0.128	0.012	-0.029	0.004	0.003	0.501	0.741	1.000											
Ln Trade open	-0.033	0.130	0.078	0.061	0.028	-0.002	-0.120	0.124	0.132	1.000										
Ln GDP	-0.117	0.108	0.043	0.172	0.157	-0.001	-0.209	0.096	0.077	0.951	1.000									
Env restr	-0.078	0.085	0.024	-0.020	0.178	-0.008	0.447	0.522	0.650	0.262	0.212	1.000								
Renab energ	-0.152	-0.075	-0.024	-0.050	0.199	-0.009	0.357	0.270	0.161	-0.549	-0.453	0.133	1.000							
Business free	-0.099	0.045	-0.017	0.008	0.060	0.006	0.261	0.385	0.106	0.072	0.080	0.416	0.113	1.000						
Inv free	0.111	0.082	0.008	-0.081	-0.151	-0.027	0.197	0.398	0.491	0.042	-0.102	0.225	-0.098	0.093	1.000					
Tax burd	-0.013	-0.044	-0.075	0.116	0.056	-0.003	-0.093	-0.336	-0.228	-0.340	-0.328	-0.342	-0.041	-0.266	-0.089	1.000				
Labor free	-0.220	0.121	-0.047	0.208	0.312	-0.001	0.220	0.359	0.294	0.208	0.240	0.231	-0.120	0.146	0.046	0.029	1.000			
Finan free	-0.011	0.123	-0.022	0.021	0.068	-0.004	0.325	0.493	0.587	0.094	0.021	0.460	-0.096	0.186	0.507	-0.121	0.385	1.000		
Logis perf	-0.083	0.154	0.067	-0.026	-0.025	-0.029	0.265	0.559	0.503	0.622	0.567	0.487	-0.150	0.350	0.328	-0.460	0.190	0.266	1.000	
Educ	-0.126	0.053	0.028	-0.048	0.043	-0.016	0.414	0.504	0.508	0.168	0.113	0.501	-0.069	0.109	0.287	-0.047	0.368	0.379	0.274	1.000

Table A.4: Gravity Estimation Results of impacts of FDI Restrictions on FDI Stocks

Specification Dependant variable Year	PPML Estimate Inward FDI Stock 2010-2017						
	Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$Ln\ FDI\ restr_j$	-0.8062*** (0.1132)	-0.8149*** (0.1152)	-0.8367*** (0.1163)	-0.7550*** (0.1196)	-0.8469*** (0.1160)	-0.6084*** (0.1068)	-0.9732*** (0.1451)
$Ln\ FDI_{ij,t-1}$	1.4629*** (0.0675)	1.4457*** (0.0685)	1.4413*** (0.0736)	1.4028*** (0.0728)	1.4653*** (0.0698)	1.4135*** (0.0718)	1.0663*** (0.0840)
$BIT_{ij,t}$	-0.3461*** (0.0867)	-0.3660*** (0.0853)	-0.3933*** (0.0847)	-0.4391*** (0.0898)	-0.4105*** (0.0851)	-0.2762*** (0.0831)	-0.5597*** (0.1216)
$LnGDP_{jt}$	0.5839*** (0.0599)	0.5267*** (0.0573)	0.5419*** (0.0560)		0.4915*** (0.0601)	0.4907*** (0.0565)	0.5006*** (0.0827)
$lang_{ij}$	0.2698*** (0.0761)	0.2599*** (0.0798)	0.2390*** (0.0800)	0.2937*** (0.0780)	0.2635*** (0.0880)	0.1915** (0.0766)	0.3989*** (0.1091)
$border_{ij}$	-0.0913 (0.0772)	-0.0661 (0.0813)	-0.0481 (0.0793)	-0.1126 (0.0824)	-0.0611 (0.0826)	-0.0227 (0.0737)	-0.1171 (0.1182)
$Lndist_{ij}$	-0.5978*** (0.0874)	-0.5931*** (0.0900)	-0.5919*** (0.0868)	-0.6385*** (0.0952)	-0.6028*** (0.0912)	-0.5474*** (0.0882)	-0.8532*** (0.1252)
$LnREER_{ij,t}$	-3.1726*** (0.7758)	-2.9778*** (0.8048)	-2.8207*** (0.7791)	-3.1988*** (0.8484)	-2.9142*** (0.7747)	-2.9097*** (0.7548)	-4.1660*** (1.0786)
$Politiq\ stab_{j,t}$	0.2423*** (0.0616)						
$Gov\ effectiv_{j,t}$		0.2355*** (0.0554)					
$Regul\ quality_{j,t}$			0.2593*** (0.0616)				
$Ln\ tax\ burden_{j,t}$				0.6206* (0.3755)			
$Ln\ Trade\ openness_{j,t}$				0.8438*** (0.0938)			
$Ln\ unit\ labor\ cost_{j,t}$				-0.0921 (0.8433)			
$Ln\ education_{j,t}$					1.4309** (0.6527)		
$Ln\ productivity_{j,t}$						1.6970*** (0.3368)	
$Logistic\ perf\ index_{j,t}$							1.0346*** (0.1830)
$Source-time\ fixed\ effect$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.859	0.859	0.855	0.856	0.857	0.857	0.766
$Observations$	8902	8902	8902	8256	8902	8902	4501

Notes: The dependent variable is bilateral FDI stocks.
Columns (1),(2),(3) are results in the presence of global governance indicators.
(4),(5),(6),(7) are results in presence of socio-economic factors (determinants of FDI).
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Table A.5: Gravity Estimation Results of Impacts of Service Liberalization and Environmental Restrictions on FDI Stocks

Specification Dependant variable Year	PPML estimate Inward FDI stock 2010-2017													
	Global gov indicators			Socio-economic factors				Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
$Ln\ investment\ freedom_{j,t}$	3.9788***	3.6886***	3.9009***	4.3165***	4.4539***	3.2559***	3.5975***							
	(0.7972)	(0.8076)	(0.8527)	(0.8963)	(0.8575)	(0.8733)	(1.0239)							
$Ln\ labour\ freedom_{j,t}$	-0.3852	-0.3686	-0.2547	-0.0768	-0.1569	0.0946	-0.1640							
	(0.3240)	(0.3375)	(0.3200)	(0.3422)	(0.3363)	(0.2571)	(0.4527)							
$Ln\ financial\ freedom_{j,t}$								2.7977***	2.6853***	2.8009***	4.1482***	3.3052***	3.1084***	3.6751***
								(0.5703)	(0.5437)	(0.6229)	(0.6546)	(0.6052)	(0.6454)	(0.7442)
$Ln\ FDI_{ij,t-1}$	1.5442***	1.5478***	1.5515***	1.4597***	1.5546***	1.4437***	1.1236***	1.5731***	1.5686***	1.5741***	1.4611***	1.5802***	1.4416***	1.1220***
	(0.0753)	(0.0760)	(0.0779)	(0.0750)	(0.0778)	(0.0716)	(0.0915)	(0.0683)	(0.0693)	(0.0723)	(0.0700)	(0.0711)	(0.0683)	(0.0834)
$BIT_{ij,t}$	-0.2703***	-0.3221***	-0.3510***	-0.3496***	-0.3851***	-0.1720**	-0.4374***	-0.1403	-0.1826**	-0.2116**	-0.2059**	-0.2310***	-0.0570	-0.3004**
	(0.0887)	(0.0928)	(0.0902)	(0.0903)	(0.0922)	(0.0848)	(0.1271)	(0.0893)	(0.0913)	(0.0873)	(0.0951)	(0.0875)	(0.0749)	(0.1247)
$LnGDP_{jt}$	0.4975***	0.4077***	0.4055***		0.4081***	0.4164***	0.3288***	0.3861***	0.3167***	0.3176***		0.3103***	0.3847***	0.2788**
	(0.0586)	(0.0629)	(0.0624)		(0.0787)	(0.0493)	(0.1091)	(0.0780)	(0.0829)	(0.0808)		(0.0921)	(0.0503)	(0.1336)
$lang_{ij}$	0.1026	0.1014	0.0838	0.1170	0.0956	0.0336	0.2046	0.0320	0.0344	0.0220	0.0272	0.0335	-0.0101	0.1082
	(0.0915)	(0.0947)	(0.0972)	(0.0981)	(0.0980)	(0.0907)	(0.1338)	(0.1121)	(0.1130)	(0.1147)	(0.1209)	(0.1178)	(0.0936)	(0.1464)
$border_{ij}$	-0.1283	-0.1153	-0.1058	-0.1344	-0.1111	0.0082	-0.1703	-0.1417	-0.1258	-0.1215	-0.1281	-0.1295	0.0220	-0.1283
	(0.0809)	(0.0827)	(0.0828)	(0.0916)	(0.0840)	(0.0782)	(0.1238)	(0.0966)	(0.0981)	(0.0978)	(0.1117)	(0.1025)	(0.0756)	(0.1342)
$Lndist_{ij}$	-0.6077***	-0.6272***	-0.6397***	-0.6511***	-0.6562***	-0.5235***	-0.8923***	-0.6352***	-0.6438***	-0.6547***	-0.6786***	-0.6661***	-0.5105***	-0.8647***
	(0.1050)	(0.1078)	(0.1048)	(0.1065)	(0.1099)	(0.0897)	(0.1408)	(0.1075)	(0.1085)	(0.1063)	(0.1117)	(0.1084)	(0.0840)	(0.1383)
$LnREER_{ij,t}$	-2.8468***	-2.6149***	-2.5311***	-2.8248***	-2.5825***	-2.7227***	-3.8482***	-2.6781***	-2.4847***	-2.3955***	-2.6306***	-2.4391***	-2.5479***	-3.6742***
	(0.5988)	(0.6118)	(0.6006)	(0.6781)	(0.5883)	(0.6178)	(0.9696)	(0.5856)	(0.5924)	(0.5969)	(0.6357)	(0.5795)	(0.6065)	(0.8899)
$Politiq\ stab_{j,t}$	0.2845***							0.2470***						
	(0.0665)							(0.0638)						
$Gov\ effectiv_{j,t}$		0.1716***							0.1794***					
		(0.0611)							(0.0458)					
$Regul\ quality_{j,t}$			0.1261**							0.1476***				
			(0.0572)							(0.0506)				
$Ln\ tax\ burden_{j,t}$				0.7191							0.5934			
				(0.4730)							(0.5149)			
$Ln\ Trade\ openness_{j,t}$				0.7215***							0.7226***			
				(0.0905)							(0.1221)			
$Ln\ unit\ labor\ cost_{j,t}$				1.8503							0.7102			
				(1.1256)							(1.7851)			
$Ln\ education_{j,t}$					0.0011							0.2872		
					(0.8904)							(0.8000)		
$Ln\ productivity_{j,t}$						2.2841***							2.4962***	
						(0.3981)							(0.4206)	
$Logistic\ perf\ index_{j,t}$							1.1804***							1.3280***
							(0.2080)							(0.2170)
R^2	0.834	0.833	0.829	0.831	0.831	0.855	0.723	0.814	0.817	0.813	0.808	0.814	0.851	0.713
Observations	8902	8902	8902	8256	8902	8902	4501	8902	8902	8902	8256	8902	8902	4501
Source − time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Specification Dependant variable Year	PPML estimate Inward FDI stock 2010-2017													
	Global gov indicators			Socio-economic factors				Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Ln business freedom$_{j,t}$	0.2330 (0.2347)	0.0221 (0.2677)	0.9299*** (0.3374)	0.2820 (0.1978)	0.3673* (0.2095)	0.2207 (0.2179)	-2.5195** (1.2184)							
Renewable energ$_{j,t}$								-0.0329*** (0.0076)	-0.0318*** (0.0072)	-0.0308*** (0.0069)	-0.0325*** (0.0077)	-0.0299*** (0.0077)	-0.0353*** (0.0062)	-0.0368*** (0.0074)
Environ restric$_{j,t}$								0.2753*** (0.1020)	0.2158** (0.0957)	0.0323 (0.1027)	0.3228*** (0.1174)	0.3010*** (0.1001)	0.2928*** (0.0845)	0.2661*** (0.1013)
Ln FDI$_{ij,t-1}$	1.6251*** (0.0655)	1.6081*** (0.0672)	1.5956*** (0.0707)	1.5449*** (0.0708)	1.6385*** (0.0710)	1.4998*** (0.0661)	1.1640*** (0.0837)	1.0668*** (0.1055)	1.0344*** (0.1072)	0.9750*** (0.1054)	0.9952*** (0.0983)	1.0750*** (0.1125)	0.9671*** (0.0918)	0.7502*** (0.1070)
BIT$_{ij,t}$	-0.1460* (0.0831)	-0.1696** (0.0843)	-0.2035** (0.0849)	-0.2715*** (0.0867)	-0.2319*** (0.0794)	-0.0856 (0.0711)	-0.3606*** (0.1160)	-0.2756* (0.1541)	-0.2783* (0.1504)	-0.2490* (0.1488)	-0.3880*** (0.1421)	-0.3786** (0.1597)	-0.2608* (0.1413)	-0.3774** (0.1649)
LnGDP$_{jt}$	0.3252*** (0.0705)	0.2519*** (0.0750)	0.2378*** (0.0772)		0.1764** (0.0818)	0.2924*** (0.0537)	0.1720 (0.1128)	0.6356*** (0.1052)	0.5745*** (0.1058)	0.6683*** (0.1027)		0.5585*** (0.1020)	0.3995*** (0.0971)	0.4409*** (0.1482)
lang$_{ij}$	0.1027 (0.1059)	0.0929 (0.1065)	0.0592 (0.1084)	0.1267 (0.1205)	0.0990 (0.1116)	0.0558 (0.0942)	0.2457* (0.1319)	0.4223*** (0.1357)	0.3740*** (0.1406)	0.2898** (0.1407)	0.5175*** (0.1284)	0.3931*** (0.1456)	0.3786*** (0.1149)	0.5578*** (0.1463)
border$_{ij}$	-0.2144*** (0.0830)	-0.1838** (0.0854)	-0.1565* (0.0872)	-0.2507*** (0.0967)	-0.1857** (0.0888)	-0.0508 (0.0715)	-0.2259* (0.1202)	-0.0247 (0.1115)	0.0257 (0.1207)	0.0844 (0.1277)	-0.0544 (0.1113)	0.0366 (0.1166)	0.1015 (0.1101)	-0.0230 (0.1315)
Lndist$_{ij}$	-0.6502*** (0.1040)	-0.6467*** (0.1054)	-0.6479*** (0.1060)	-0.7532*** (0.1075)	-0.6630*** (0.1043)	-0.5326*** (0.0865)	-0.8982*** (0.1334)	-0.7737*** (0.1150)	-0.7616*** (0.1221)	-0.7397*** (0.1227)	-0.7125*** (0.1233)	-0.7744*** (0.1253)	-0.6274*** (0.1145)	-0.9051*** (0.1409)
LnREER$_{ij,t}$	-2.8735*** (0.5668)	-2.6174*** (0.6008)	-2.4414*** (0.6127)	-2.6826*** (0.6784)	-2.5063*** (0.5641)	-2.6740*** (0.6264)	-3.9793*** (0.9073)	-7.8570*** (1.4134)	-7.6839*** (1.3581)	-7.4235*** (1.3008)	-7.3138*** (1.4931)	-7.3806*** (1.3758)	-8.2327*** (1.6445)	-10.1500*** (1.9867)
Politiq stab$_{j,t}$	0.3238*** (0.0644)							0.3100*** (0.1158)						
Gov effectiv$_{j,t}$		0.3181*** (0.0507)							0.3720*** (0.0756)					
Regul quality$_{j,t}$			0.3409*** (0.0517)							0.7602*** (0.1081)				
Ln tax burden$_{j,t}$				0.4377 (0.4619)							-0.5337 (0.4882)			
Ln Trade openness$_{j,t}$				0.5363*** (0.1144)							0.8311*** (0.1261)			
Ln unit labor cost$_{j,t}$				0.9505 (1.3136)							15.2888*** (4.5397)			
Ln education$_{j,t}$					1.9313*** (0.7152)							0.6778 (0.9084)		
Ln productivity$_{j,t}$						2.5149*** (0.3846)							3.6624*** (0.4309)	
Logistic perf index$_{j,t}$							1.7236*** (0.2632)							1.2856*** (0.2831)
R^2	0.820	0.823	0.821	0.808	0.821	0.846	0.721	0.775	0.774	0.772	0.793	0.770	0.801	0.747
Observations	8902	8902	8902	8256	8902	8902	4501	3513	3513	3513	3356	3513	3513	2061
Source − time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

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Table A.7: Gravity Estimation Results of Impacts of Sectoral FDI Restrictions on FDI Stocks

Specification Dependant variable Year							PPML estimate Inward FDI stock 2010-2017							
	Global gov indicators			Socio-economic factors				Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Ln FDI restr finan$_{j,t}$								-12.4175*** (3.0128)	-11.6107*** (2.8889)	-12.2653*** (2.8935)	-13.6907*** (4.0142)	-12.1185*** (2.9749)	-7.8579** (3.2859)	-12.0557*** (3.9657)
Ln FDI restr manu$_{j,t}$	-11.1553*** (2.5402)	-11.0740*** (2.5374)	-11.5587*** (2.5447)	-10.7878*** (3.2326)	-11.1355*** (2.5452)	-1.6439 (2.5354)	-10.6247*** (3.4084)							
Ln FDI$_{ij,t-1}$	1.6202*** (0.0633)	1.6002*** (0.0650)	1.6034*** (0.0731)	1.5559*** (0.0678)	1.6371*** (0.0687)	1.5059*** (0.0683)	1.1787*** (0.0840)	1.6017*** (0.0630)	1.5853*** (0.0649)	1.5869*** (0.0711)	1.5255*** (0.0658)	1.6190*** (0.0669)	1.4952*** (0.0667)	1.1758*** (0.0833)
BIT$_{ij,t}$	-0.2027** (0.0831)	-0.2277*** (0.0841)	-0.2726*** (0.0818)	-0.3172*** (0.0861)	-0.2941*** (0.0798)	-0.1008 (0.0779)	-0.4060*** (0.1191)	-0.2793*** (0.0948)	-0.3079*** (0.0980)	-0.3530*** (0.0974)	-0.4079*** (0.1058)	-0.3707*** (0.0964)	-0.1946** (0.0932)	-0.4820*** (0.1392)
LnGDP$_{jt}$	0.2897*** (0.0674)	0.2102*** (0.0721)	0.2155*** (0.0683)		0.1500** (0.0745)	0.2892*** (0.0543)	0.1082 (0.1199)	0.3535*** (0.0635)	0.2663*** (0.0694)	0.2761*** (0.0661)		0.2096*** (0.0731)	0.3098*** (0.0517)	0.1767 (0.1142)
lang$_{ij}$	0.1755** (0.0855)	0.1620* (0.0883)	0.1364 (0.0894)	0.1803* (0.1092)	0.1644* (0.0959)	0.0664 (0.0911)	0.2735** (0.1248)	0.1636** (0.0831)	0.1463* (0.0870)	0.1178 (0.0883)	0.1730 (0.1068)	0.1453 (0.0960)	0.0901 (0.0855)	0.2606** (0.1246)
border$_{ij}$	-0.1030 (0.0819)	-0.0714 (0.0866)	-0.0513 (0.0841)	-0.1427 (0.0934)	-0.0748 (0.0867)	-0.0432 (0.0758)	-0.1227 (0.1299)	-0.0693 (0.0870)	-0.0419 (0.0920)	-0.0159 (0.0897)	-0.0890 (0.1025)	-0.0377 (0.0943)	0.0159 (0.0828)	-0.0924 (0.1311)
Lndist$_{ij}$	-0.5686*** (0.0963)	-0.5665*** (0.0997)	-0.5745*** (0.0959)	-0.6864*** (0.1013)	-0.5907*** (0.0988)	-0.5294*** (0.0865)	-0.8358*** (0.1351)	-0.5415*** (0.1028)	-0.5469*** (0.1060)	-0.5491*** (0.1025)	-0.6441*** (0.1091)	-0.5646*** (0.1056)	-0.4938*** (0.0911)	-0.8173*** (0.1408)
LnREER$_{ij,t}$	-2.7646*** (0.6255)	-2.4935*** (0.6659)	-2.2805*** (0.6326)	-2.5045*** (0.7427)	-2.3916*** (0.6281)	-2.6471*** (0.6452)	-3.7793*** (0.9251)	-2.8354*** (0.6937)	-2.5431*** (0.7233)	-2.3185*** (0.6851)	-2.5838*** (0.8062)	-2.4337*** (0.6852)	-2.5912*** (0.7073)	-3.7220*** (1.0064)
Politiq stab$_{j,t}$	0.3301*** (0.0639)							0.3433*** (0.0676)						
Gov effectiv$_{j,t}$		0.3109*** (0.0533)							0.2974*** (0.0557)					
Regul quality$_{j,t}$			0.3117*** (0.0619)							0.3036*** (0.0601)				
Ln tax burden$_{j,t}$				0.5960 (0.4134)							0.7023* (0.4089)			
Ln Trade openness$_{j,t}$				0.4572*** (0.1138)							0.5586*** (0.1079)			
Ln unit labor cost$_{j,t}$				1.4122 (1.1662)							1.9033 (1.2068)			
Ln education$_{j,t}$					1.7086*** (0.6082)							1.7544*** (0.6203)		
Ln productivity$_{j,t}$						2.4276*** (0.3990)							2.2684*** (0.3726)	
Logistic perf index$_{j,t}$							1.4220*** (0.2124)							1.3531*** (0.1965)
R^2	0.849	0.849	0.844	0.830	0.846	0.846	0.742	0.854	0.851	0.845	0.840	0.848	0.858	0.749
Observations	8902	8902	8902	8256	8902	8902	4501	8902	8902	8902	8256	8902	8902	4501
Source − time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Specification	PPML estimate													
Dependant variable	Inward FDI stock													
Year	2010-2017													
	Global gov indicators			Socio-economic factors				Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Ln FDI restr bank$_{j,t}$	-6.3643*** (2.0485)	-5.5677*** (1.8649)	-5.8073*** (1.8052)	-6.9472*** (2.5233)	-5.8576*** (1.8818)	-2.9602 (2.5124)	-3.4429 (2.8298)							
Ln Equity restriction$_{j,t}$								-0.6986*** (0.1179)	-0.7232*** (0.1199)	-0.7463*** (0.1213)	-0.7547*** (0.1243)	-0.7582*** (0.1190)	-0.5229*** (0.0935)	-0.8195*** (0.1503)
Ln FDI$_{ij,t-1}$	1.6312*** (0.0663)	1.6126*** (0.0682)	1.6180*** (0.0756)	1.5613*** (0.0703)	1.6486*** (0.0716)	1.5092*** (0.0678)	1.1810*** (0.0837)	1.5137*** (0.0662)	1.4912*** (0.0666)	1.4890*** (0.0731)	1.4255*** (0.0705)	1.5116*** (0.0699)	1.4304*** (0.0725)	1.0975*** (0.0842)
BIT$_{ij,t}$	-0.2747*** (0.0979)	-0.2952*** (0.1000)	-0.3426*** (0.0985)	-0.4022*** (0.1077)	-0.3627*** (0.0990)	-0.1576 (0.1045)	-0.4197*** (0.1443)	-0.2973*** (0.0813)	-0.3091*** (0.0789)	-0.3401*** (0.0784)	-0.4077*** (0.0832)	-0.3540*** (0.0779)	-0.2101*** (0.0735)	-0.4919*** (0.1164)
LnGDP$_{jt}$	0.3675*** (0.0639)	0.2787*** (0.0719)	0.2845*** (0.0691)		0.2223*** (0.0767)	0.3135*** (0.0480)	0.1691 (0.1198)	0.5722*** (0.0594)	0.5288*** (0.0584)	0.5437*** (0.0562)		0.4906*** (0.0600)	0.4931*** (0.0561)	0.4810*** (0.0876)
lang$_{ij}$	0.1736** (0.0859)	0.1527* (0.0882)	0.1285 (0.0882)	0.1947** (0.0984)	0.1567* (0.0942)	0.0881 (0.0873)	0.2456* (0.1348)	0.1835** (0.0873)	0.1749** (0.0880)	0.1548* (0.0866)	0.2324*** (0.0831)	0.1798* (0.0944)	0.1220 (0.0849)	0.2947** (0.1231)
border$_{ij}$	-0.1349 (0.0829)	-0.1096 (0.0867)	-0.0920 (0.0832)	-0.1641* (0.0931)	-0.1098 (0.0867)	-0.0286 (0.0789)	-0.1875 (0.1276)	-0.1892*** (0.0720)	-0.1637** (0.0753)	-0.1507** (0.0718)	-0.2003*** (0.0775)	-0.1628** (0.0774)	-0.0714 (0.0692)	-0.2217* (0.1138)
Lndist$_{ij}$	-0.5616*** (0.1050)	-0.5720*** (0.1072)	-0.5791*** (0.1040)	-0.6531*** (0.1092)	-0.5898*** (0.1063)	-0.5048*** (0.0915)	-0.8669*** (0.1402)	-0.7077*** (0.0870)	-0.7007*** (0.0880)	-0.7073*** (0.0854)	-0.7401*** (0.0887)	-0.7116*** (0.0878)	-0.6015*** (0.0822)	-0.9716*** (0.1217)
LnREER$_{ij,t}$	-2.8271*** (0.6394)	-2.5588*** (0.6691)	-2.3559*** (0.6396)	-2.6231*** (0.7505)	-2.4378*** (0.6336)	-2.6296*** (0.6738)	-3.8471*** (0.9738)	-3.2745*** (0.6829)	-3.1229*** (0.7142)	-2.9830*** (0.7072)	-3.4052*** (0.7566)	-3.0538*** (0.6793)	-2.9946*** (0.6836)	-4.4644*** (1.0403)
Politiq stab$_{j,t}$	0.3414*** (0.0667)							0.2261*** (0.0622)						
Gov effectiv$_{j,t}$		0.2968*** (0.0527)							0.2466*** (0.0527)					
Regul quality$_{j,t}$			0.2856*** (0.0579)							0.2570*** (0.0572)				
Ln tax burden$_{j,t}$				0.7230* (0.4220)							0.6770 (0.4186)			
Ln Trade openness$_{j,t}$				0.5628*** (0.1043)							0.9255*** (0.0939)			
Ln unit labor cost$_{j,t}$				1.8455 (1.1817)							-0.5822 (0.9104)			
Ln education$_{j,t}$					1.6412** (0.6515)							1.5835** (0.6867)		
Ln productivity$_{j,t}$						2.4048*** (0.3925)							2.0294*** (0.3473)	
Logistic perf index$_{j,t}$							1.4356*** (0.2038)							1.1502*** (0.2000)
R^2	0.846	0.843	0.836	0.835	0.840	0.854	0.729	0.843	0.846	0.842	0.845	0.844	0.849	0.743
Observations	8902	8902	8902	8256	8902	8902	4501	8902	8902	8902	8256	8902	8902	4501
Source − time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Table A.9: Impact of Restrictions on Cross-Border Financial Transactions on FDI

Specification Dependant variable Year	PPML estimate Inward FDI stock 2010-2017						
	Global gov indicators			Socio-economic factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$Chinn-Ito\ index_{j,t}$	0.0946* (0.0512)	0.0799* (0.0484)	0.1210*** (0.0449)	0.1211** (0.0540)	0.1651*** (0.0479)	-0.0208 (0.0557)	0.1127* (0.0675)
$Ln\ FDI_{ij,t-1}$	1.5783*** (0.1007)	1.5445*** (0.0956)	1.5566*** (0.1115)	1.4611*** (0.0917)	1.5861*** (0.1082)	1.5362*** (0.0887)	1.1423*** (0.1057)
$BIT_{ij,t}$	-0.0369 (0.0857)	-0.0255 (0.0840)	-0.0736 (0.0853)	-0.1823** (0.0888)	-0.1204 (0.0839)	-0.0374 (0.0776)	-0.1689 (0.1209)
$LnGDP_{jt}$	0.5296*** (0.0977)	0.5016*** (0.0939)	0.4878*** (0.0964)		0.4454*** (0.0971)	0.4236*** (0.0936)	0.4928*** (0.1435)
$lang_{ij}$	0.1355 (0.1532)	0.1254 (0.1540)	0.1048 (0.1574)	0.1882 (0.1485)	0.1382 (0.1607)	0.1063 (0.1397)	0.2333 (0.1895)
$border_{ij}$	-0.1553* (0.0827)	-0.1201 (0.0884)	-0.1094 (0.0868)	-0.1351 (0.0827)	-0.1415 (0.0907)	-0.0572 (0.0752)	-0.1413 (0.1198)
$Lndist_{ij}$	-0.6016*** (0.1028)	-0.5890*** (0.1047)	-0.5939*** (0.1029)	-0.6378*** (0.0978)	-0.6204*** (0.1034)	-0.5304*** (0.0981)	-0.8234*** (0.1386)
$LnREER_{ij,t}$	-2.7328*** (0.6810)	-2.5821*** (0.7181)	-2.4014*** (0.7016)	-2.9198*** (0.7942)	-2.4785*** (0.6966)	-2.4947*** (0.6600)	-3.9003*** (0.9331)
$Politiq\ stab_{j,t}$	0.2292*** (0.0765)						
$Gov\ effectiv_{j,t}$		0.2885*** (0.0633)					
$Regul\ quality_{j,t}$			0.2448*** (0.0549)				
$Ln\ tax\ burden_{j,t}$				-0.4192 (0.4144)			
$Ln\ Trade\ openness_{j,t}$				0.9153*** (0.1042)			
$Ln\ unit\ labor\ cost_{j,t}$				-2.2794*** (0.6677)			
$Ln\ education_{j,t}$					0.3726 (0.6651)		
$Ln\ productivity_{j,t}$						1.8342*** (0.3998)	
$Logistic\ perf\ index_{j,t}$							1.1610*** (0.2796)
R^2	0.808	0.812	0.808	0.820	0.808	0.829	0.707
$Observations$	8652	8652	8652	8006	8652	8652	4374
$Source-time\ fixed\ effect$	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

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Table A.10: Gravity Estimation Results of Impact of Regulatory Difference, Doing Business Variables, Factors Endowments on Inward FDI Stocks

	Baseline	Regulatory difference			Exclusion Countries	Doing business variables			factor endowments	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$Ln\ FDI\ restr_{j,t}$	-0.5181*** (0.1116)				-0.0444 (0.1706)	-0.6275*** (0.1262)	-0.8222*** (0.1388)	-0.8223*** (0.1333)	-0.5044*** (0.0919)	-0.3616*** (0.0684)
$Diff\ FDI\ restr_{ij,t}$		-1.5209* (0.8675)	0.1573 (0.0963)	-2.5726** (1.0256)						
$Ln\ FDI_{ij,t-1}$	1.3810*** (0.0744)	1.4569*** (0.0651)	1.4457*** (0.0681)	1.4452*** (0.0671)	1.3656*** (0.0708)	1.4435*** (0.0746)	1.1751*** (0.0899)	1.2074*** (0.0817)	1.5891*** (0.0706)	1.6699*** (0.0753)
$BIT_{ij,t}$	-0.3040*** (0.0845)	-0.1901** (0.0825)	-0.1687** (0.0796)	-0.2459*** (0.0914)	-0.0974 (0.1208)	-0.2636*** (0.0854)	-0.4723*** (0.1045)	-0.4284*** (0.1154)	-0.3399*** (0.0800)	-0.3358*** (0.0801)
$lang_{ij}$	0.2177*** (0.0672)	0.1271 (0.0803)	0.1189 (0.0890)	0.1454* (0.0769)	0.4323*** (0.0791)	0.2393*** (0.0743)	0.5305*** (0.1013)	0.4919*** (0.1524)	0.2103*** (0.0809)	0.1857** (0.0829)
$border_{ij}$	-0.0432 (0.0766)	-0.0697 (0.0714)	-0.0687 (0.0733)	-0.0271 (0.0840)	-0.0283 (0.0822)	-0.0640 (0.0676)	-0.2116** (0.0975)	-0.1427 (0.1442)	0.0245 (0.0825)	-0.0210 (0.0837)
$Lndist_{ij}$	-0.5120*** (0.0886)	-0.5414*** (0.0888)	-0.5250*** (0.0897)	-0.5016*** (0.0923)	-0.4273*** (0.0971)	-0.4774*** (0.0831)	-0.7785*** (0.1094)	-0.8897*** (0.1348)	-0.3859*** (0.0807)	-0.4076*** (0.0924)
$LnREER_{ij,t}$	-2.9856*** (0.7773)	-3.0191*** (0.6791)	-2.8534*** (0.6809)	-2.7454*** (0.7150)	-3.1594*** (0.7521)	-2.4032*** (0.7734)	-5.9451*** (1.4536)	-6.7122*** (1.4737)	-3.0375*** (0.7057)	-2.8891*** (0.6614)
$Regul\ quality_{j,t}$	0.1589*** (0.0574)	0.1383*** (0.0505)	0.1304*** (0.0480)	0.1511*** (0.0557)	0.3276*** (0.1182)	0.0941** (0.0391)				
$Ln\ Trade\ openness_{j,t}$	0.7756*** (0.0863)	0.5905*** (0.0826)	0.6077*** (0.0874)	0.5839*** (0.0837)	0.9751*** (0.1095)	0.8297*** (0.0993)	0.9965*** (0.1110)			
$Ln\ education_{j,t}$	-0.5573 (0.5942)	-0.5958 (0.6846)	-0.6241 (0.6853)	-0.4734 (0.6597)	-0.7233 (0.7316)	0.4060 (0.6582)				
$Ln\ productivity_{j,t}$	1.1324*** (0.3463)	1.7733*** (0.4223)	1.9205*** (0.4322)	1.5660*** (0.4173)	-0.0025 (0.3759)	1.0114*** (0.2848)				
$Ln\ starting\ business$						4.7928*** (1.4151)				
$Ln\ enforcing\ contracts$							1.4601** (0.7348)			
$Ln\ resolving\ insolvency$								1.7258*** (0.3281)		
$FD_{ij,t}$									-1.3459*** (0.2400)	
$HCD_{ij,t}$										-0.2819*** (0.1000)
R^2	0.862	0.860	0.855	0.859	0.870	0.899	0.827	0.770	0.873	0.859
Observations	8902	8902	8902	8902	7664	8274	6327	5240	8902	8902
$Source-time\ fixed\ effect$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is bilateral FDI stocks
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

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Table A.11: Alternative Construction of Dependent Variable.

Model	Baseline PPML estimate	Including zeros FDI OLS estimate	CPPML estimate	Busse and Hefeker (2007) transformation, OLS estimate	Normalized by lagged GDP, PPML estimate	Normalized by GDP deflator PPML estimate
	(1)	(2)	(3)	(4)	(5)	(6)
$Ln\ FDI\ restr_{j,t}$	-0.5181***	-0.0810***	-0.7241**	-0.1137***	-0.5574***	-0.5232***
	(0.1116)	(0.0181)	(0.3228)	(0.0254)	(0.1163)	(0.1132)
$Ln\ FDI_{ij,t-1}$	1.3810***	0.7211***	1.5334***	3.2557***	1.2512***	1.3721***
	(0.0744)	(0.0132)	(0.0729)	(0.0614)	(0.0794)	(0.0757)
$BIT_{ij,t}$	-0.3040***	-0.0133	-0.1555**	-0.0474*	-0.3408***	-0.3085***
	(0.0845)	(0.0178)	(0.0780)	(0.0246)	(0.0875)	(0.0862)
$lang_{ij}$	0.2177***	0.2090***	0.1416**	0.3133***	0.2390***	0.2173***
	(0.0672)	(0.0371)	(0.0622)	(0.0567)	(0.0707)	(0.0687)
$border_{ij}$	-0.0432	0.1140***	0.0011	0.2033***	-0.0440	-0.0406
	(0.0766)	(0.0307)	(0.0705)	(0.0464)	(0.0799)	(0.0771)
$Ln\ dist_{ij}$	-0.5120***	-0.1505***	-0.5110***	-0.1669***	-0.5355***	-0.5149***
	(0.0886)	(0.0226)	(0.0688)	(0.0320)	(0.0944)	(0.0902)
$Ln\ REER_{ij,t}$	-2.9856***	-0.1836	0.2427	-0.3882	-3.1540***	-2.9828***
	(0.7773)	(0.1705)	(0.4828)	(0.2397)	(0.8528)	(0.7808)
$Regul\ quality_{j,t}$	0.1589***	0.0622***	-0.6951***	0.0734***	0.1551***	0.1662***
	(0.0574)	(0.0137)	(0.1741)	(0.0185)	(0.0559)	(0.0588)
$Ln\ Trade\ openness_{j,t}$	0.7756***	0.2269***		0.2684***	0.8070***	0.7834***
	(0.0863)	(0.0151)		(0.0202)	(0.0887)	(0.0865)
$Ln\ education_{j,t}$	-0.5573	-0.2042	-5.3608*	-0.2196	-0.3788	-0.5448
	(0.5942)	(0.1353)	(3.1964)	(0.1787)	(0.6385)	(0.6005)
$Ln\ productivity_{j,t}$	1.1324***	0.1199**	6.7723***	0.1549**	1.1558***	1.1167***
	(0.3463)	(0.0559)	(1.2057)	(0.0732)	(0.3592)	(0.3453)
$Ln\ GDP_{jt}$			2.8037***			
			(0.6473)			
$Ln\ GDP_{it}$			1.0118***			
			(0.1298)			
$Source-time\ fixed\ effect$	Yes	Yes	No	Yes	Yes	Yes
$Source-Host-fixed\ effect$	No	No	Yes	No	No	No
$Time-fixed\ effect$	No	No	Yes	No	No	No
$Log-likelihood$	-233711.26		-125826.17		-1977551.5	-234628.5
R^2	0.862	0.836	0.946	0.798	0.863	0.860
$Observations$	8902	9098	8650	9098	8901	8902

Notes: The dependent variable is bilateral FDI stocks.
The column 4 considers zero and negative FDI.
Standard errors are reported in parentheses and clustered by country- pair level
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Table A.12: Host vs. source Country FDI Restrictions.

Model	No controls (1)	Host country controls (2)	Both country controls (3)	Difference restriction (4)	Difference restriction with host restriction (5)	Interaction term with host-source restrictions (6)
$Ln\ FDI\ restr_{i,t}(source)$	-0.1782 (0.1396)	-0.2113 (0.1415)	-0.4663*** (0.0997)			
$Ln\ FDI\ restr_{j,t}(host)$	-4.3671*** (0.5124)	0.0954 (0.3769)	-0.9742*** (0.3228)		-0.5158*** (0.1100)	
$Diff\ FDI\ restr_{ij,t}$				-1.7013** (0.7536)	0.2471 (0.8020)	
$Diff\ FDI\ restr_{ij,t}*$ $FDI\ restr_{j,t}(host)$						-7.5332 (8.4184)
$Diff\ FDI\ restr_{ij,t}*$ $FDI\ restr_{j,t}(host)$						-17.0999*** (3.2390)
$Source-Host-fixed\ effect$	Yes	Yes	Yes	No	No	No
$Source-Host-time\ fixed\ effect$	No	No	No	Yes	No	Yes
$Source-time\ fixed\ effect$	No	No	No	No	Yes	No
$Time-fixed\ effect$	Yes	Yes	Yes	No	No	No
Host controls	No	Yes	Yes	No	Yes	No
Source controls	No	No	Yes	No	No	No
Bilateral controls	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.928	0.926	0.946	0.930	0.863	0.930
Observations	9799	8650	8650	9799	8902	9799

Notes: The dependent variable is bilateral FDI stocks.
$Diff\ FDI\ restr_{ij,t} = |FDI\ restr_{j,t} - FDI\ restr_{i,t}|$.
Standard errors are reported in parentheses and clustered by country- pair level
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

Table A.13: Gravity Estimation Results with Instrumental Variable.

Specification Dependant variable Year	2SLS estimate Inward FDI stock 2010-2017						
	Global Gov Factors			Socio-Economic Factors			
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$Ln\ FDI\ restr^+_{j,t}$	-0.1490***	-0.1595***	-0.1491***	-0.2195***	-0.1638***	-0.1292***	-0.2540***
	(0.0447)	(0.0418)	(0.0412)	(0.0467)	(0.0412)	(0.0419)	(0.0626)
$LnFDI_{ij,t-1}$	0.7245***	0.7221***	0.7210***	0.7153***	0.7248***	0.7240***	0.5990***
	(0.0130)	(0.0130)	(0.0130)	(0.0137)	(0.0130)	(0.0130)	(0.0163)
$BIT_{ij,t}$	-0.0397**	-0.0299	-0.0314*	-0.0651***	-0.0429**	-0.0238	-0.0820***
	(0.0195)	(0.0193)	(0.0187)	(0.0214)	(0.0189)	(0.0198)	(0.0289)
$Ln\ Trade\ openness_{j,t}$	0.2509***	0.2454***	0.2427***	0.2894***	0.2467***	0.2278***	0.3107***
	(0.0150)	(0.0150)	(0.0149)	(0.0179)	(0.0151)	(0.0156)	(0.0238)
$lang_{ij}$	0.2272***	0.2232***	0.2182***	0.2340***	0.2319***	0.2206***	0.3396***
	(0.0361)	(0.0362)	(0.0357)	(0.0374)	(0.0355)	(0.0366)	(0.0550)
$border_{ij}$	0.1076***	0.1141***	0.1157***	0.1084***	0.1096***	0.1173***	0.1623***
	(0.0309)	(0.0311)	(0.0309)	(0.0338)	(0.0310)	(0.0305)	(0.0470)
$Ln\ dist_{ij}$	-0.1441***	-0.1399***	-0.1409***	-0.1528***	-0.1406***	-0.1276***	-0.2285***
	(0.0234)	(0.0235)	(0.0234)	(0.0262)	(0.0234)	(0.0239)	(0.0353)
$LnREER_{ij,t}$	-0.1937	-0.1987	-0.1992	-0.2265	-0.1951	-0.2048	-0.2689
	(0.1687)	(0.1697)	(0.1691)	(0.1857)	(0.1693)	(0.1686)	(0.2787)
$Politiq\ stab_{j,t}$	0.0205**						
	(0.0087)						
$Gov\ effectiv_{j,t}$		0.0483***					
		(0.0109)					
$Regul\ quality_{j,t}$			0.0686***				
			(0.0109)				
$Ln\ tax\ burden_{j,t}$				0.2178***			
				(0.0686)			
$Ln\ unit\ labor\ cost_{j,t}$				1.0696***			
				(0.1977)			
$Ln\ education_{j,t}$					0.2260*		
					(0.1204)		
$Ln\ productivity_{j,t}$						0.1979***	
						(0.0473)	
$Logistic\ perf\ index_{j,t}$							0.1086***
							(0.0284)
$Durbin$	8.09714***	10.9111***	7.9452***	24.5611***	12.1945***	4.85083**	11.3571***
$Wu - Hausman$	7.84603***	10.576***	7.69867***	23.7834***	11.8217***	4.69871**	11.013***
$F - statistics$	277.303***	330.841***	339.457***	263.816***	358.135***	321.502***	307.032***
$Source - time\ fixed\ ffect$	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.834	0.835	0.835	0.832	0.834	0.835	0.773
$Observations$	9098	9098	9098	8439	9098	9098	4587

Notes: The dependent variable is bilateral FDI stocks.
Columns (1),(2),(3),(4),(5),(6),(7) are performed using 2SLS estimation.
Columns (1),(2),(3) are results in the presence of Global Governance Indicators.
(4),(5),(6),(7) are results in presence of Socio-Economic Factors.
(+) controlled for endogeneity
Standard errors are reported in parentheses and clustered by country- pair level.
*, **, *** denote signicance respectively at the 10% 5% and 1% levels.

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