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HOW DOES POLITICAL RISK MATTER FOR FOREIGN DIRECT INVESTMENT INTO ARAB ECONOMIES?

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SUSTAINABLE DEVELOPMENT GOALS
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How Does Political Risk Matter for Foreign Direct Investment into Arab Economies?

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Abstract

The present paper extends previous work by Burger et al. (2016) that has attempted to investigate empirically the impact of political instability on FDI flows into the Arab host region. Specifically, based on gravity model approach and annual panel dataset on bilateral FDI projects in Arab countries from 2003 to 2018 (12240 projects), it explores the following research questions: how does a host country's political instability and institutional fragility affect the bilateral inward FDI project? Is there any sectoral specificity to this impact if it exists? Which component of political risk poses the most threat for the foreign investor in a specific sector? The empirical investigation highlights the negative, significant and robust impact of perceived political risk in the Arab host-country. It also establishes that there is substantial heterogeneity in foreign investment reactions to political risk reflecting both differences in the component of political risk and sectoral characteristics.

Keywords: Gravity model, Foreign direct investment, Political risk, Arab countries.
***JEL* Classification Codes:** C23, F21, F23, P48.

I. Introduction

The political landscape in the Arab region has undergone considerable changes over the last decade in response to the massive and unexpected wave of social and political unrest. The results of these changes vary from a laborious process of establishing a promising democracy, as in Tunisia, reforms though limited, as in Morocco and Jordan, to violent civil wars in Libya, Syria and Yemen. This changing political landscape combined with the continuing geopolitical tensions in the Middle East and the more recent Covid-19's sovereign risk impact, sparked uncertainty about the economic outlook and led to an increased exposure to political risk (PR) of foreign companies conducting business with or in the Arab countries. Likewise, growing global instability and increased investments in developing countries is driving more demand for PR insurance. The market capacity for PR insurance coverage has also increased considerably over recent years. It has surpassed USD 3.2 billion in 2019, almost 2.7 times the capacity of USD 1.2 billion available a decade ago (BPL Global Market Capacity Surveys, 2018 and 2019).

PRs, as distinct from commercial risks, are uncertainties affecting a firm's expected outcome generated by political actors or political conditions. They can stem fundamentally but not exclusively from governments and cover a range of issues such as government expropriation of assets, breach of contract, civil disturbance and war, foreign currency inconvertibility and transfer restriction (Ginsberg 2013).

The volatile and uncertain political and institutional environment represents a major concern for companies, irrespective of whether they are local or foreign, in a wide range of industries. This is supported by the global investment competitiveness survey results, commissioned by the World Bank Group to apprehend the perceptions of international investors on the role of investment climate factors in guiding their FDI decisions. These results reveal that more than three-quarters of investors surveyed encountered some type of PR in their investment projects in developing world, including Arab countries (World Bank, 2017).

Understanding and evaluating the impact of PR on inward FDI flows is therefore particularly relevant in the Arab region where investor perceptions of institutional risks remain elevated, and where informal barriers to invest are higher than elsewhere (Caccia et al. 2018)[1]. In addition, the region's characteristics offer an appropriate context to assess the relevance of sectoral specificity in the relationship between FDI and PR. Indeed, the countries in the region have very diverse characteristics in such key areas as the structures of economies, natural resource endowments, and type of governance and institutions, which contributes to better identification. Such understanding can help clarify how each Arab country can benefit from the growth spillovers associated with FDI through identifying the different circumstances that obstruct or promote positive effects in the considered host country.

These circumstances, which vary by country and across sectors, may include the impact of external sources of risk, notably political violence[2] and political institutions[3], on FDI. Significant body of literature has found that PR has at least some negative impact on FDI. However, other scholars find no significant[4] or even positive effects of specific categories of country risk[5].

These mixed and seemingly contradictory findings in the literature may first suggest that the relationship between political institutions and FDI is contingent upon the type of PR. Second, the effects of PR might depend upon characteristics of the FDI-receiving sector. When expected benefits of investing in a specific sector are high, foreign firms are often most eager to take more risk to capture these rents and are much less sensitive to weak institutional structures. Furthermore, sectors differ in terms of natural resource requirements that may be met only in certain specific geographical locations where the presence of limited investment opportunities may cause a relative insensitivity of foreign investors to political risks involved.

Linked to the above-mentioned literature, this paper addresses the following important research questions in the context of Arab host region: how does a host country's political instability and institutional fragility affect the bilateral inward Greenfield FDI project? Is there any sectoral specificity to this impact if it exists? Which component of PR poses the most threat for the foreign investor in a specific sector?

Unlike the analysis conducted by Burger et al. (2016), where the baseline econometric strategy ignores the possible heterogeneity of FDI from different sources[6], a gravity model approach is adopted here to empirically investigate the possible answers to the above research questions. For that purpose, an annual panel dataset on Greenfield FDI projects in Arab countries from 2003 to 2018 have been assembled from an online comprehensive database, developed by a specialist division of the Financial Times (fDi Intelligence). The data source covers information on countries of origin and destination, and provides other relevant information, such as sectoral allocation, capital expenditures, employment, sector and business activity undertaken by the foreign affiliate.

Based on the database sectoral classification, four broad sectors[7] have been differentiated for the sake of the analysis.

Only greenfield FDI projects (12240 projects) are considered, knowing that during the period 2003-2018 this mode of foreign capital entry was the mode preferred by multinational investors in the Arab countries, accounting for more than 85% of total FDI projects in average. Moreover, many policymakers, be they from Arab region or elsewhere, are particularly interested in attracting new FDI projects.

To better understand how each aspect of PR affects FDI projects in the host country, the paper uses comprehensive measures of PR compiled from two main sources: Political Risk Services (PRS) Group, one of the leading providers of country risk data, and Heritage Foundation databases. Principal components analysis is performed to determine components explaining as much variance as possible in the selected PR variables. Three components were selected based on eigenvalues close to or above one and accounting for 78% of the total variability in the data. Each component has been entitled in a way that best reflects the risk category proxied by the variables representing the component. The first component rather reflects expropriation/breach of contract risk considerations. The second component refers to transfer/convertibility risk. The last component measures war and political violence risk. These components are introduced as independent variables rather than one composite indicator and the gravity regression model of bilateral FDI is replicated to identify the components of *PR* that matter most for foreign investors.

The results provide empirical evidence that perceived political risk in the Arab host-country reduces significantly FDI inflow irrespective of the estimation procedure employed, while, in line with the results obtained by Méon and Sekkat (2012), the sensitivity of FDI to local political risk decreases when global volume of foreign investment in the considered Arab region is abundant. This suggest that relationship between new FDI and PR in the Arab region may be unstable across years. As well, the study establishes that there is significant heterogeneity in foreign firms' investment responses to PR in Arab countries. This heterogeneity reflects differences in the component of PR and sectoral characteristics. In this respect, the considered three components expropriation/breach of contract, transfer/convertibility and war/political violence risks have a negative and statistically significant impact on the probability that bilateral investment takes place. However, only the transfer/convertibility risk negatively and significantly affects the size of foreign investments made. In addition, the findings reveal striking differences from sector to sector as concerns the relevance of home country PR components in the two-step decision of foreign firms on FDI in the Arab countries. While the FDI participation probability is strongly negatively correlated with at least two of the three PR components, irrespective of the investment sector, the size of the FDI projects in resources and energy sector has the particularity of being insensitive to any component of PR.

The rest of the paper is organized as follows. Section II presents the econometric framework and defines the variable of interest, the dependent variable and the control variables. Estimation issues and baseline results on the effect of the composite proxy of PR on aggregate bilateral FDI flows are discussed in Section III. This section also studies the extent to which the highlighted effect in the baseline results varies across the PR components and sectors. The final section concludes and provides several policy implications.

II. Econometric Strategy

II.1. Gravity Model Approach

The considered empirical strategy builds on the gravity model (GM) often used to explain the bilateral trade flows and recently extended by different scholars to model FDI flow/stock bilateral movements (see, for example, Buckley et al. 2007; Clougherty and Grajek 2008; Cuervo-Cazurra 2008; Feils and Rahman 2008; Hejazi 2009; Li and Vashchilko 2010; Zwinkels and Beugelsdijk 2010; Falk 2016). Yet, it should be noted, as Li and Vashchilko (2010, p. 772) point out, "*the gravity model of FDI does not have as strong a theoretical foundation as in the case of trade*", even if the state of the art is in rapid evolution (see, for example, Bergstrand and Egger 2007; Head and Ries 2008) [8].

The main motivation behind the choice of the GM is its empirical flexibility to model factor flows between national entities in space. In its classic form, the standard GM approach predicts that the equilibrium levels of bilateral FDI flows (FDI^*) between two countries are:

- directly proportional to the product of their sizes, typically measured by GDP or GDP per capita, and
- inversely proportional to the trade frictions or costs distance, typically measured by geographic and economic distance, between them.

The illustrative equation can be described as follows:

$$FDI^{*}_{i,j,t} = GY^{\alpha}_{i,t} Y^{\beta}_{j,t} / D^{\gamma}_{i,j} \tag{1}$$

where G, Y, D, i and j refer to gravitational constant, gross domestic product per capita at year t, distance, source and host countries, respectively.

The studies cited above incorporate several additional variables capturing macroeconomic and institutional conditions in the host j and/or source i country. The purpose of this paper is to examine general and sector-specific impact of PR on inflows of FDI without neglecting other location factors summarized in a vector X of K components. Accordingly, the augmented GM version is specified as follows:

$$FDI^{*}_{ijt} = GY^{\alpha}_{it} Y^{\beta}_{jt} PR^{\gamma}_{jt} \prod_{k} X^{\lambda_k}_{kijt} / D^{\delta}_{ij} \tag{2}$$

The linearized expression using the natural logarithm leads to the following expression:

$$LnFDI^{*}_{ijt} = \alpha_0 + \alpha LnY_{it} + \beta LnY_{jt} + \gamma LnPR_{jt} + \sum_{k=1}^{K} \lambda_k LnX_{kijt} - \delta LnD_{ij} \tag{3}$$

FDI flows are likely to require time to adjust to desired or equilibrium levels. It is therefore assumed that the logarithm of FDI^{*} adjusts by a certain proportion of the difference between desired and actual capital in each period such that:

$$LnFDI_{ijt} - LnFDI_{ijt-1} = \theta\left(LnFDI^{*}_{ijt} - LnFDI_{ijt-1}\right) \tag{4}$$

or equivalently:

$$LnFDI_{ijt} = (1-\theta) LnFDI_{ijt-1} + \theta LnFDI^{*}_{ij,t} \tag{5}$$

The idea behind the adjustment process is that new greenfield FDI is fully effective after a learning or installation period due to relatively higher sunk cost of physical investment. The resulting installation costs increase with the level of investment and it is not optimal for foreign firms to raise the capital stock instantaneously. They instead converge to the targeted level with an adjustment process speed specified by the parameter θ, $0< \theta <1$.

Ultimately, the regression model to be tested appears in the following form:

$$LnFDI_{ijt} = \theta\alpha_0 + (1-\theta) LnFDI_{ijt-1} + \theta\alpha LnY_{it} + \theta\beta LnY_{jt} + \theta\gamma LnPR_{jt} + \sum_{k=1}^{K} \theta\lambda_k LnX_{kijt} - \theta\delta LnD_{ij} + \eta_{it} + \eta_{jt} + \eta_{ij} + \varepsilon_{ijt} \tag{6}$$

where country pair specific fixed effects, η_{ij} , as well as time varying fixed effects for the host and investor countries, η_{it}, η_{jt}, are included in the estimation in order to capture any host or investor-country time varying characteristics.

The main parameter of interest is γ, which allows testing if there is significant impact of *PR* on FDI inflows. The long-run effect of *PR* on FDI is measured by $\theta\gamma/(1-\theta)$. The baseline regression relates to all FDI projects reported in the fDi Markets database and hosted by an Arab country. An overall composite indicator of *PR* is first introduced in the regression analysis. Then three major categories or components of *PR* are compiled: war and political violence, expropriation/breach of contract, and transfer/convertibility risk. These components are introduced as independent variables rather than one composite indicator and the regression is replicated. The purpose is to identify the components of *PR* that matter most for foreign investors. In a second phase, sector-specific regressions are performed separately for each of the four broad sectors defined in the first section. The aim is to test if the impact of *PR* (composite and components) varies by sector and source country.

II.2. Measuring the Variable of Interest: PR

For a given host country, PR corresponds to the risk to foreign investors interests resulting from political instability or political change, including strength of the legal system mainly with respect to the enforcement of property rights. Internal and external conflicts, such as general strikes, insurrection, terrorism, and (civil) war, are also considered as part of PR. These are events over which the host country's government often has relatively little control. In summary, a foreign investor faces three broad categories of political risks:

1. Risk of loss resulting from legislative or administrative actions or repudiation or breach of government contracts or omissions that have the effect of depriving the investor of ownership or control or substantial benefits from the investment (here after referred to as Expropriation/Breach of Contract risk or *PR_EBC*);
2. The risk of war, insurrection, terrorism and civil disturbance (here after referred to as War and Political Violence risk or *PR_WPV*);
3. Transfer risk resulting from restrictions on currency conversion and transfer (here after referred to as Transfer/Convertibility risk or *PR_TC*)

The PR proxy, whether considered as a composite indicator or representative for each of the abovementioned categories, must be forward looking and should reflect political risk in a narrow sense, as opposed to a broad country risk. This is why PR indices developed by the International Country Risk Guide (ICRG) and compiled by the PRS Group are used. Independently acclaimed and sourced by researchers examining in what manner political risk/instability affects FDI (see, for example, Howell and Chaddick 1994; Busse and Hekefer 2007; Alfaro et al. 2008; Asiedu and Lien 2011; Baek and Qian 2011; Méon and Sekkat 2012; Al-Khouri and Abdul Khalik 2013), the ICRG has become one of the most prominent time-series databases of country risk analysis. Some authors find that PRS indices are more reliable and have power to differentiate/predict political risk effects better than other major political risk information providers (see, for example, Howell and Chaddick 1994; Hoti 2005; Click and Weiner 2010; Bekaert et al. 2014)[9].

Based on the insights of various analysts, the rating is designed to only reflect political risk as the ICRG has separate ratings on economic and financial risks. The PR index consists of 12 components and 15 subcomponents measuring various dimensions of the political, institutional and business environment facing firms operating in a country. The index is calculated since 1984 by assigning risk points to each components starting from zero, with a maximum number of points depending on the fixed weight that the considered component is given in the overall political risk assessment. The lower the score for the considered index, the higher the risk. In this paper, out of 12 components, 9 are considered to capture the three broad categories of political risks (*PR_EBC; PR_WPV; PR_TC*): investment profile, socioeconomic conditions, corruption, law and order, bureaucracy quality, internal conflict, external conflict, military in politics and democratic accountability. Evidently, the selected indicators are related to each other by varying degrees, as they all assess political risk but from a different point of view.

This paper also employs the investment freedom and property rights indices published by The Heritage Foundation/Wall Street Journal. The first evaluates a variety of restrictions that are typically imposed on the movement of capital, both domestic and international, and the second measures the likelihood that private property will be expropriated and evaluates the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts. Both indices are calculated by deducting from the ideal score of 100 (no risk situation) for each of the restrictions found in the concerned country.

For a better understanding of each above mentioned component or rating, the actual index is subtracted from the maximum assigned value, so that higher values of the index correspond to higher political risk. As well, for the sake of factor analysis, all the variables have been converted into 0-12 point scales making them interval scaled. The Principal Component Analysis (PCA) was then used to define the underlying structure among the selected 11 components, by analyzing the correlation among the variables and combine the variables that are highly interrelated. Accordingly, the selected 11 components (9 from PRG Group and 2 from Heritage Foundation) are reorganized into three groups of PR presented in Table 1 (See Annex 1 for the PCA outputs).

Each of the components reported in Table 2 should be entitled in a way that best reflects the risk category proxied by the variables representing the component. The first component rather reflects expropriation/breach of contract risk or *PR*_EBC considerations. The second component could refer to the transfer/convertibility risk or *PR_TC*. The last component could measure the war and political violence risk or *PR_WPV*. The overall PR composite index corresponds to an aggregation with geometric average of these three components.

II.3. Measuring the Dependent Variable: Greenfield FDI Flows

As outlined in the introduction, the source of FDI statistics used in this paper is fDi Markets online database, developed by a specialist division of the Financial Times, tracking cross border greenfield FDI announced projects from a variety of sources and covering all sectors and countries worldwide since 2003. For each investment project, this source reports the sector and location of both the investing firm and foreign facility, as well as a description of overseas activity. It also includes estimates for capital expenditures and jobs created derived from algorithms when a company does not release the information. As stressed by UNCTAD, in spite of some limitations, the new database is clearly superior to the arbitrary procedure of treating greenfield FDI as a residual[10].

Only greenfield FDI projects, typically perceived to create new capital assets and additional production capacity, are considered in this paper. During the period 2003-2018, these type of projects were the mode of investment preferred by multinational enterprises in the Arab countries, accounting for more than 85% of total FDI projects in average, which motivates the focus on this mode of foreign capital entry.

Between January 2003 and December 2018 a total of 13,899 FDI new projects in Arab region were recorded, representing 5.1% share of global greenfield FDI. These projects represent a total capital investment of USD 1,204 billion made by 7,818 companies out of a total 92,781 companies investing in FDI globally. Of all projects in the region, 94% of projects were new investments, with an average capital investment of USD 85 million, and 6% encompassed expansions. Table 3 describes the distribution of the investment flows based on source world regions. In terms of capital expenditures, Middle East is the region's main source of FDI in the Arab countries accounting for 29% of total capital investment. Western Europe, the second major source, accounts for 28% of total FDI, followed by Asia-Pacific (19%) and North America (14%).

Table 4 outlines the distribution of FDI flows across Arab countries and broad economic sectors defined according to Jensen and Kletzer (2005)'s classification (Presented in Annex 2): resources and energy, tradable non-resource manufacturing, tradable services, and non-tradable manufacturing and services. For the whole considered period, most capital was invested in non-tradables (38.6%), followed by, resources and energy (31.5%) and non-resource manufacturing (24%). Tradable services category represents only 5.9% of total flows. The dominant non-tradables category corresponds to a residual group covering, mostly investments in non-tradable services such as utilities, real estate, construction, and the financial services sector.

As a preamble to the main econometric investigation, and to gain more insight into the nature of the relationship between political risk and FDI into the Arab countries, the scatterplots of aggregate log-greenfield FDI against composite proxy of PR are shown in Figures 1 and 2. Both figures exhibit a negative correlation between the two variables. However, the scatterplots appear less informative due in particular to the large number of observations, many of which close to zero. To address this issue, binned scatterplots are used as a parsimonious way of visualizing and summarizing large data sets in regression settings (Chetty et al. 2011 and 2013; Stepner 2014). For this purpose, the PR index-axis values are grouped into equal-sized bins, the means of the PR index-axis and log greenfield FDI-axis variables within each bin are calculated, a scatterplot of these data points is generated with the population regression line. Figure 2 collapses all the individual variation, showing only the mean within each bin. It is clear from the binned scatterplots that there is a negative correlation between log greenfield FDI and PR composite index.

Figure 3 plots the relationship between greenfield FDI flows and PR by sector. It reveals a significant sectoral heterogeneity in the relationship between the two variables that the aggregate relationship presented in figure 2 hides. The negative association between PR and GFDI appears to be particularly meaningful for manufacturing and tradeable services. This association is less tangible for the non-tradeable sector. It is, however, almost non-existent for the resources sector.

II.3. Defining Control Variables

Apart from the variable of interest PR and the log population weighted **distance** between home and host countries, this paper considers the following control variables to account for:

i. Macroeconomic considerations: **relative size** (**size**) of home and host markets in terms of real GDP, defined as the difference between the log of Y_i and log of Y_j expressed at constant 2010 prices (the log of the sum of source and destination country real GDP), and log of real industry value added in the host country (**industry**).

ii. Trade considerations: **trade intensity** index, defined as the share of one host country's exports going to a partner divided by the share of world exports going to the partner, is a measure of the strength of bilateral trade ties between countries.

iii. Proximity between countries: common dummy variables used in conventional gravity equations to identify particular links between countries that encompass the existence of **colonial link**, common official or primary languages (**common language**), conclusion of **Bilateral Investment Treaty** or **Regional Trade Agreement** between the country pair.

iv. Global effect of FDI: to explore whether the association between PR and new FDI depends on the supply of greenfield funds, the log of **interaction** of PR with aggregate new FDI into the Arab region is introduced as a control variable (Méon and Sekkat 2012). The components of the log of interaction term were demeaned prior to interacting them in order to facilitate interpretation. If the sensitivity of greenfield FDI flows to local PR decreases when greenfield financing in the region is abundant, the impact of the interaction term should be positive. If, however, foreign investors are more sensitive to local political risk when capital in the Arab region abounds, then the impact should be negative.

These control variables have been taken from several sources including CEPII (Centre d'Etudes Prospectives et d'Informations Internationales) database (for distance, colonial link, common language and Regional Trade Agreement), ICSID (International Centre for the Settlement of Investment Disputes) database (for Bilateral Investment Treaty) and official UNCTAD online database (for relative size, trade intensity and industry).

III. Estimation Issues and Results

III.1. Baseline Estimation Results

Logarithm of greenfield FDI inflow per capita in constant million US dollars is employed as the dependent variable in the following regressions based on equation (6)[11]. Normalizing by adjusting for population size instead of GDP is a preferable strategy, since many of the independent variables typically included in FDI analyzes can be expected to influence GDP (Harms, 2002). The estimation of the dynamic gravity equation (6) requires to address some important econometric challenges, such as heteroscedasticity of FDI data, the dynamic panel bias from the use of a lagged dependent variable or the Nickell (1981) bias, and the treatment of zero bilateral FDI flows on data (see Cheng and Wall 2004; Santos Silva and Tenreyro 2006, 2011; Anderson 2011; Gómez Herrera 2013; Martínez Zarzoso 2013; Head and Mayer 2014). Wherever possible, these challenges are gradually addressed in the rest of the paper.

In this paper, both linear (least square dummy variable or **LSDV** and Systems GMM or **S-GMM**) and nonlinear methods (Poisson Pseudo Maximum Likelihood or **PPML** and Heckman sample selection model or **Heckman**) were considered, in order to give proper account for the patterns of heteroscedasticity characteristics in FDI data, and also for the protrusion of the occurrence of zeros in the considered greenfield FDI database.

Equation (6) is first estimated using LSDV and S-GMM. Estimation results reported in columns 1 to 5 of Table 5 are obtained with destination-time and source-time fixed effects to control for the multilateral resistances of Anderson and van Wincoop (2003) and to absorb any other observable and unobservable country-specific characteristics on the host and home (investor) side, respectively.

Several findings stand out. First, starting with the result of main interest, political risk is negatively correlated with greenfield FDI flows per capita regardless of the estimation method used. The effect of PR is consistently statistically significant at 1% significance levels, even though the economic impact remained relatively low; a 1% increase in political risk score will result in only a 0.16% decrease in investment flows per capita. Furthermore, including economic control variables, as is done in specifications (3) to (5), does not attenuate this relationship and, quite the contrary, significantly strengthens it; the absolute value of greenfield per capita FDI flows elasticity to PR score more than a four-fold increase for the S-GMM estimates. Furthermore, based on the full specification, the estimates from columns 3 to 5 on the standard gravity variables are mostly as expected.

Second, the results shown in columns (3) to (5) reject the null hypothesis that risk-taking is independent of the aggregate FDI flows into Arab countries. The estimated sign of the interaction term between the demeaned PR variable and the demeaned total volume of greenfield FDI flows into the considered Arab countries is actually significantly positive. Accordingly, in line with the results obtained by Méon and Sekkat (2012), the impact of PR on a country's real GFDI per capita is smaller when the global volume of FDI in the Arab region is larger. In other words, greenfield FDI is less sensitive to political risk when capital is more abundant. This suggest that relationship between new FDI and PR in the Arab region may be unstable across years.

Next, the estimates from column (4) suggest that neglecting the dynamic features of the model may have significant impact on the effects of both time-invariant regressors and time-varying covariates. The introduction of the lagged dependent variable significantly improves the overall adequacy and explanatory power of the model, which is supported by the R^2. The coefficients of the lagged dependent variable are positive and strongly significant, confirming the persistency of bilateral FDI flows. However, as in the LSDV estimator the lagged variable is correlated with the fixed effects in the error term, this estimator does not eliminate the bias. To overcome this inconvenient, S-GMM estimator is generated as an alternative to LSDV. By including lagged bilateral FDI in the right hand side of the equation, it is possible to control for the time-varying components of the multilateral resistance term. Accordingly, neither time-varying host/source dummies nor other explicit fixed effect dummies are included in the S-GMM regression (column 5). The latter confirms the existence of significant persistence in bilateral FDI but with a quite small magnitude (0.28 instead of 0.43). The Arellano-Bond test for autocorrelation, reported on the bottom of Table 5 column 5, indicates that second order correlation is not present.

In addition, the estimates from column (4) imply that Trade Intensity and Bilateral Investment Treaty do not have a significant impact on bilateral FDI, but they also support a negative and statistically significant Regional Trade Agreement (RTA) effect. This would seem a reasonable result given that RTAs liberalize trade in the first place, if no measures specific to foreign investors in terms of FDI liberalization were in place. It is consequently more likely that source-country exports replace FDI flows from the source country to host country parties of the RTA. In this regard, previous literature provides a highly ambiguous picture on the impact of trade and investment agreements on FDI (for overviews of the relevant literature, see UNCTAD 2009 and Sauvant and Sachs 2009).

Linear gravity estimates, like the ones presented in Table 5, have been criticized on the grounds that they produce biased estimates in the presence of heteroscedasticity often involved in trade and FDI data. Another important challenge in common with much of the gravity literature concerns the zero values for which truncation and censoring procedures have been proposed, at significant cost in terms of efficiency due to the loss of information and biased estimates due to the omission of data. Furthermore, the elimination of FDI flows when zeros are not randomly distributed leads to sample selection bias. Accordingly, recent literature relating to estimation techniques recommends instead the use of nonlinear methods as well as two-step models for estimating the gravity equation (6). Among the most common nonlinear estimation methods available, Santos Silva and Tenreyro (2006) advocate the use of the Poisson Pseudo-Maximum-Likelihood (PPML) estimator that estimates static gravity in multiplicative form and simultaneously controls for heteroscedasticity and takes into account the information contained in the zero FDI flows. Two-step estimation methods, such as Heckman sample selection model, have also been proposed. In the first step, a Probit equation is estimated to define whether FDI inflows between two countries exist or not and in a second step, the expected values of the FDI inflows (outcome equation), conditional on that country receiving FDI, are estimated using OLS. In this respect, most papers use a maximum likelihood procedure in which the selection and outcome equations are estimated simultaneously. The identification of the parameters on both equations require at least one selection or exclusion variable that should be correlated with a country's propensity to invest but not with its current levels of FDI.

Table 6 presents the estimation outcomes resulting from the PPML and Heckman techniques. Overall, compared to the linear estimates, the estimation procedures PPML and Heckman seem to affect the magnitude but not the sign of the parameters for most gravity variables and in particular the parameters of interest in the evaluation of PR impact. As expected, the perceived political risk in the Arab host-country reduces significantly greenfield FDI inflow regardless of the estimation method used, while the sensitivity of FDI to local political risk decreases when global volume of foreign investment in the considered Arab region is abundant. However, the interaction term is highly significant only when the Heckman model is considered. The main differences among PPML and Heckman estimators are revealed in the magnitude of the coefficients in general and PR coefficients in particular.

Turning to Heckman estimates, as indicated in the Table 6 (column 3), industry, regional trade agreement, bilateral investment treaty, colonial link and common language are used as excluded variables to the extent that they are expected to affect the probability of positive bilateral FDI, but not the size of investment. In this regard, one of the advantages of Heckman selection model comes from the fact that the decision on whether to invest or not (Probit equation) and the decision on how much to invest (outcome equation) are not modelled as completely independent. The model allows for some positive correlation between both error terms to reflect more accurately the real decision process. Furthermore, Martin and Pham (2008) have shown that the Heckman method performs better if true identifying restrictions are available. Conversely, the PPML solves the heteroscedasticity problem, but yields biased estimates when zero trade observations are frequent, which is the case in this paper since the censored observations represent three-fourths of the total observations.

The first part of the output presented in Table 6 column 2 is the outcome equation, i.e. the usual gravity model. Even though the estimated coefficients match the expected signs, the magnitude of the coefficients are significantly different to their LSDV counterparts (Table 5 column 3), except for the interaction variable, which has the positive value close to the LSDV's. It clearly appears far more significance in the Heckman estimated coefficients compared to those obtained with other techniques.

The Heckman model predicts that PR affect negatively and significantly both the likelihood of a non-zero bilateral source-host greenfield FDI, and the volume of FDI flows within the pair. The sensitivity of new FDI flows to local PR decreases when FDI is abundant since the coefficient of the interaction variable is significantly positive. In the selection stage, all the explanatory variables are highly significant. Higher parent country real GDP to host real GDP ratio, higher sum of source and destination country real GDP, higher host industrial activity, higher trade intensity within the pair, larger global capital flows in the region, smaller political risk, smaller distance, absence of RTA and existence of bilateral investment treaty or colonial link or common language make greenfield FDI into Arab countries more likely.

The last row of Table 6 provides information on the relationship between the outcome and Probit or selection equations. Sample selection only creates bias if the error terms of the two equations are correlated. That information is contained in the parameter ρ whose estimate (0.66) is statistically highly significant (Wald test rejecting the hypothesis of $\rho = 0$), suggesting that sample selection is a major issue in the considered dataset.

Four variables, including PR, appear in both the selection and outcome equations. Consequently, the estimated coefficients of these variables cannot be interpreted as the marginal effect of a one-unit change in the corresponding variable on the dependent variable. Only conditional marginal effects are comparable with the coefficients of the LSDV model.

As shown in column 4 of Table 6, results of the LSDV (column 3 of Table 5) and Heckman models are significantly different with regards to significance level and magnitude of considered independent variables. This is due to the significance and magnitude of the selection bias expressed by the relatively large estimated coefficient ρ (0.66). Therefore, one percent increase in the PR score results in a decrease of 0.55% in bilateral greenfield FDI as predicted by the LSDV model and of 0.9% instead as predicted by the Heckman model.

Drawing upon the magnitude of coefficients, their economic implication, and previous findings in the literature, the Heckman maximum likelihood estimations appear to provide ranges for plausible estimates. Insofar as the correlation coefficient in the Heckman Model between the selection equation and outcome equation is large, dropping zero bilateral FDI values does result in serious bias. The Heckman estimation is superior to the other implemented methods since it offers two other dimensions, the statistical inference to the full population and the extensive margin of FDI (the probability for positive bilateral FDI being observed). The remainder of the paper will therefore focus on the implementation of this model.

III.2. Risk Heterogeneity

In what follows, the Heckman regression is replicated considering three major categories or components of *PR* as independent variables rather than one composite indicator. The purpose is to identify the components of *PR* that matter most for bilateral greenfield FDI. The rationale behind such test is the argument that the effect of political risk depends upon the extent to which a specific components of PR pose a continuous risk to business activities. Only these types of PR may affect foreign firm's location choice strategies and/or the level of capital expenditures.

Table 7 reports the estimates of Heckman sample selection model using three components of PR as exogenous variables in both outcome and Probit equations. In line with intuition, the three components expropriation/breach of contract, transfer/convertibility and war/political violence risks have a negative and 1 per cent statistically significant impact on the probability that bilateral investment takes place. However, only the transfer/convertibility risk negatively and significantly affects the level of foreign investments made. The conditional marginal effect of this component of PR is very close to that of the composite index: one percent increase in the transfer/convertibility risk score results in a decrease of 0.82% (compared to 0.9% when the composite index in considered) in bilateral greenfield FDI. It is worth remembering that reliance upon exchange controls and restrictions has played and continues to play an important part in the economic policies of the Arab countries, with the exception of the Gulf Cooperation Council (GCC) countries and Lebanon. This is particularly the case of countries with a dominant public sector and balance of payments concerns. The estimate of the parameter ρ (0.63), very close to the previous regression reported in Table 6, is statistically highly significant, suggesting again that sample selection is a major issue.

III.3. Sectoral Heterogeneity

Having proved a robust negative impact of higher PR on FDI flows, this section turns to the sectoral heterogeneity issue and presumes that the relationship between PR and new FDI projects depends upon characteristics of the FDI-receiving industry. For that purpose, the preferred Heckman sample selection specification is separately estimated for greenfield FDI projects into natural resources and energy, non-resource manufacturing, tradable services, and non-tradable activities. Table 8 exposes the results that can be used to test the presumed sectoral heterogeneity. Table 9 presents the conditional marginal effects derived from Heckman sample selection model

The findings, controlling for size of the market, bilateral trade, language, geographic distance, regional trade agreement, industrial activity and bilateral investment treaty, reveal striking differences from sector to sector as concerns the relevance of home country political risk components in the two-step decision of foreign firms on FDI in the Arab countries. While FDI participation probability is strongly negatively correlated with at least two of the three PR components, irrespective of the investment sector, the size of the FDI projects in resources and energy sector has the particularity of being insensitive to any component of PR. Referring to the marginal effects exposed in Table 9, the main component of PR that seems to impact the size of FDI in non-tradables and tradeable services sectors on the one hand, and in non-resource manufacturing on the other is transfer convertibility and expropriation-breach of contract, respectively. Therefore, one percent increase in the transfer/convertibility risk score results in a decrease of 1.68% and 0.4% in bilateral greenfield FDI in non-tradables and tradeable services sectors, respectively. On the other hand, only the expropriation/breach of contract risk seems to have a significant detrimental conditional marginal effect on the FDI size in non-resource manufacturing sector; one percent increase in this type of risk score results in a decrease of 0.86% in bilateral greenfield FDI in the concerned sector.

These findings seem to support some researches based on real options models of irreversible investments, where the increased uncertainty increases the option value of waiting and thereby discourages investment (see Dixit and Pindyck 1994), and where the effect of uncertainty on investment is contingent on the growth prospects of the foreign firm, as the option value of waiting is especially high when returns are expected to rise rapidly. In this regards, the growth prospects of foreign firms fundamentally in the resources and energy sector are constrained by limited investment opportunities due to the limited number of locations that can satisfy the criteria of requirements on input or natural resources (see Burger et al. 2013). By contrast, foreign firms producing tradeable manufacturing goods and services are not subject to these geographical constraints on location choice. Accordingly, based on growth prospects, it is not surprising to empirically ascertain an especially negative effect of some components of PR on FDI flows into non-resource manufacturing, non-tradables and tradable services, as the option value of waiting is higher in these sectors.

Another plausible explanation of the results obtained is that the expected returns on the investment may critically depend on their timing. As shown by Mason and Weeds (2010), the possibility of pre-emption can have significant qualitative and quantitative effects on the relationship between uncertainty, including PR, and investment. In fact, greater uncertainty can lead the leader or the first mover to invest earlier. The leader advantages may be particularly important in a sector characterized by high entry costs and a limited supply of required inputs, such as resources and energy sector. In that case, foreign firms may have strong incentives to secure exclusive extractive permits (rents) ahead of competitors and to obtain preferential treatment from governments. When expected returns in a particular sector are high, foreign firms are willing to take additional risk to capture these rents and are hence more likely to invest in countries affected by PR.

Conclusions and Policy Implications

The main objective of this paper was to test if political risk act as barriers to bilateral FDI inflows into Arab countries. The empirical estimation results confirm this hypothesis and are robust to the linear as well as alternative non-linear zero-accounting gravity models such as the Heckman maximum likelihood procedure and the Poisson regressions. Increasing the institutional instability or political risk perceptions in Arab countries has negative impacts on their bilateral FDI inflows.

The paper contributes to the existing literature by testing several hypotheses that help explain the mixed results of previous studies regarding the foreign investor's responses to political risk in developing countries. It establishes in particular that there is considerable heterogeneity in foreign firms' investment responses to political risk in Arab countries. This heterogeneity reflects differences in the type of political risk and sectoral characteristics. The findings show that the considered three political risk components, expropriation/breach of contract, transfer/convertibility and war/political violence risks, have a negative and statistically significant impact on the probability that bilateral investment takes place. However, only the transfer/convertibility risk negatively and significantly affects the size of foreign investments made. In addition, the findings reveal striking differences from sector to sector as concerns the relevance of home country PR components in the two-step decision of foreign firms on FDI in the Arab countries. While the FDI participation probability is strongly negatively correlated with at least two of the three PR components, irrespective of the investment sector, the size of the FDI projects in resources and energy sector has the particularity of being insensitive to any component of PR.

Several policy implications emerge from this study:

1. First, because political uncertainties vary by sector and political risk component, it is imperative to collect and examine disaggregated new FDI projects and political risk data when analyzing FDI in Arab countries.
2. Second, institutions offering investment guarantees must recognize the differential exposure and sensitivity of foreign firms to political and institutional fragility when pricing risk.
3. Third, as pointed out by Burger et al. (2016), political risk appears most detrimental to those types of investments that the Arab region most needs, notably in labor-intensive and high technology tradeable manufacturing and tradable services industries. Greenfield FDI in these activities could foster structural change and help countries create middle to high-skilled and higher wage jobs. FDI in non-tradables is also sensitive to political and institutional uncertainties, particularly those relating to transfer and convertibility risks, however this type of investment is largely based on market-seeking motives and hardly contributes to structural change. Likewise, FDI to resource-rich countries can hamper rather than facilitate countries' efforts to escape the resource trap or Dutch disease.
4. And last but not least, the efforts of Arab countries to diversify and attract FDI into manufacturing and tradable services sectors has to be accompanied by efforts to improve political stability and institutional quality. An adapted political risk insurance targeting prospective investors in a specific sector is an additional important factor worth looking into when balancing the risks investors face and the gains they anticipate.

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Tables and Figures

Table 1: Broad categories of PR suggested by the PCA

Component	1	2	3
Law and Order	✓		
Socioeconomic Conditions	✓		
Corruption	✓		
Property Rights	✓		
Bureaucracy Quality	✓		
Investment Profile	✓		
Democratic Accountability		✓	
Investment Freedom		✓	
Internal Conflict			✓
External Conflict			✓
Military in Politics			✓

Table 2: Components extracted and associated risk

Component 1 *PR_EBC*	**Component 2** *PR_TC*	**Component 3** *PR_WPV*
Socioeconomic Conditions Investment Profile Corruption Law and Order Bureaucracy Quality Property Rights	Democratic Accountability Investment Freedom	Internal Conflict External Conflict Military in Politics

Table 3: Greenfield FDI Structure by Source Region in Arab Countries, 2003-2018
(% except Total in Current USD Billion)

Source World region	2003	2008	2013	2018	2003-2018
Middle East	6.10	35.93	23.35	31.55	28.83
Western Europe	30.98	28.24	24.50	35.30	27.87
Asia-Pacific	25.04	10.70	11.09	20.56	19.30
North America	28.02	20.81	10.02	6.88	14.34
Emerging Europe	3.61	1.83	29.19	5.26	6.71
Africa	4.22	2.04	1.42	0.41	2.39
Latin America & Caribbean	2.03	0.45	0.44	0.04	0.55
Total (USD Billion)	**46.7**	**171.4**	**55.2**	**83.5**	**1,204**

Source: fDI Markets, database consulted August 4, 2019.

Table 4: Greenfield FDI Structure by Destination and Broad Sector in Arab Countries, 2003-2018

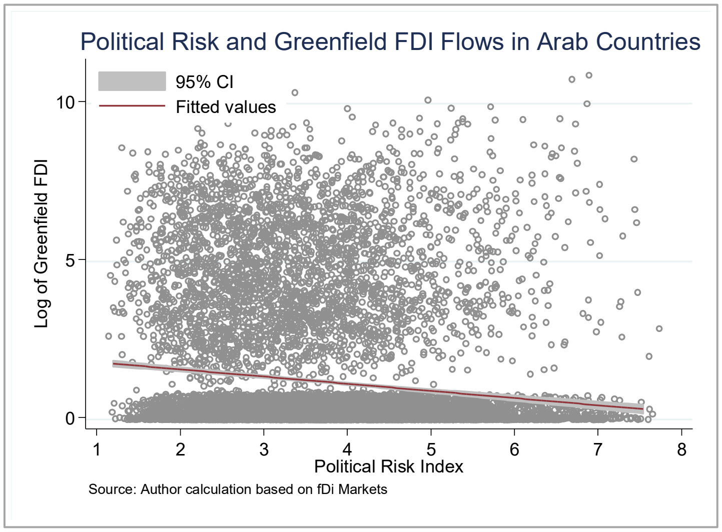
(% except Total column in Current USD Billion)

	Non-resource Manufacturing	**Non-tradables**	**Resources and Energy**	**Tradable Services**	**Total** (USD Billion)
Algeria	41.3	28.3	23.5	6.9	**75.4**
Bahrain	23.6	52.9	14.8	8.7	**36.4**
Egypt	17.2	41.0	38.8	3.0	**236.0**
Iraq	13.3	28.5	54.7	3.5	**64.7**
Jordan	15.9	45.9	34.5	3.7	**48.1**
Kuwait	23.5	69.7	0.7	6.1	**13.3**
Lebanon	10.1	83.4	0.5	5.9	**15.6**
Libya	5.4	77.1	13.1	4.3	**32.7**
Mauritania	1.0	4.4	87.8	6.9	**5.4**
Morocco	25.7	41.1	22.4	10.8	**71.9**
Oman	26.2	48.4	22.0	3.3	**75.2**
Qatar	20.9	23.0	53.2	2.9	**91.5**
Saudi Arabia	44.2	23.9	28.1	3.7	**179.7**
Sudan	15.4	25.4	56.2	3.0	**8.9**
Syria	12.3	43.5	42.3	1.9	**28.4**
Tunisia	19.5	43.5	32.1	4.9	**28.2**
UAE	21.4	45.4	18.9	14.4	**171.3**
Yemen	4.9	17.4	73.5	4.2	**13.7**
Total	**24**	**38.6**	**31.5**	**5.9**	**1,196**[a]

Source: fDI Markets, database consulted August 4, 2019.

[a] GFDI flows into Djibouti, Palestine, Somalia and Comoros were not taken into account, which results in the difference with the total flows in Table 3.

Figure 1: Scatterplots of Aggregate GFDI flows against PR Composite Index



Because the distribution of greenfield FDI flows is skewed, they are log-transformed, using the logarithm of the inverse hyperbolic sine: $y = \ln(x + \sqrt{x^2 + 1})$.

Figure 2: Binscatter of Aggregate GFDI flows against PR Composite Index

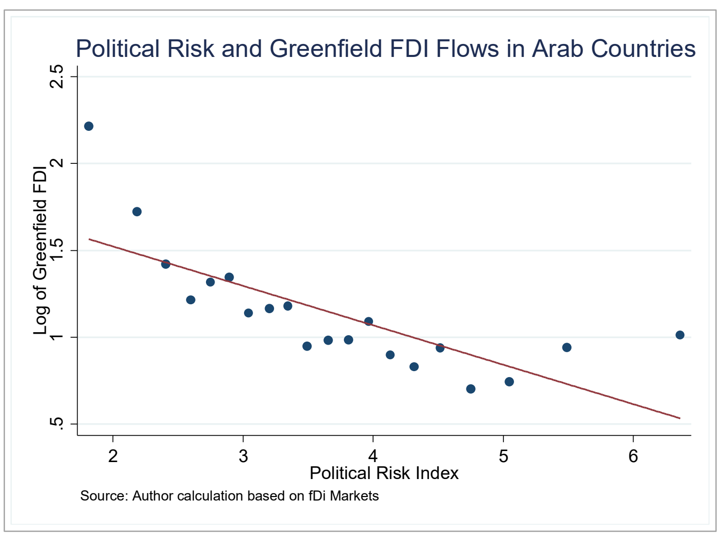


Figure 3: Binscatter of Aggregate GFDI flows against
PR Composite Index by Broad Sector

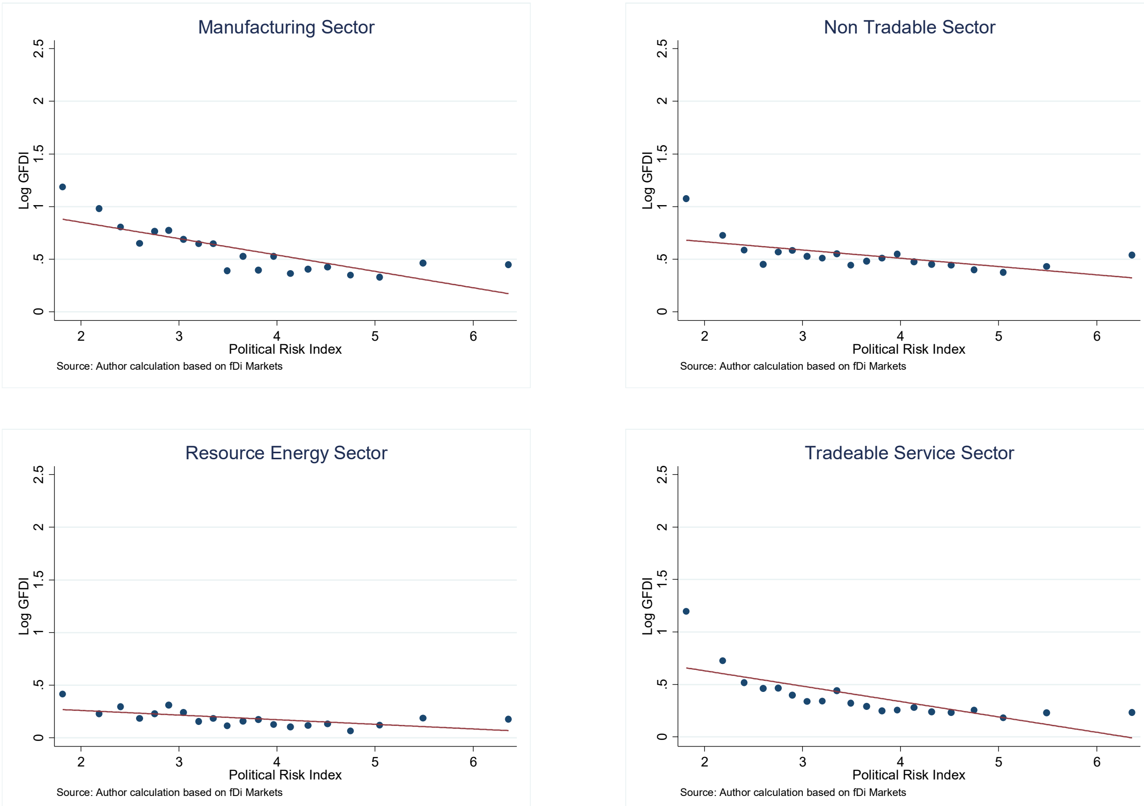


Table 5: Determinants of Greenfield FDI Flows into Arab Countries, Baseline Linear Regressions

Dependent variable Log of GFDI per capita (in USD, constant prices 2010)

	Only political risk	Only economic controls	Full specification		
	(1)	(2)	(3)	(4)	(5)
	LSDV	LSDV	LSDV	LSDV	S-GMM
Political Risk$_{j,t}$	-0.16***		-0.55***	-0.28***	-0.67***
	(0.04)		(0.12)	(0.07)	(0.10)
Dependent Variable$_{i,j,t-1}$	0.55***	0.43***		0.43***	0.16***
	(0.01)	(0.02)		(0.02)	(0.02)
Dependent Variable$_{i,j,t-2}$					0.12***
					(0.02)
Interaction$_{j,t}$			0.62***	0.24*	0.19***
			(0.19)	(0.14)	(0.03)
Relative Size$_{i,j,t}$		0.23***	0.39***	0.23***	0.08*
		(0.01)	(0.03)	(0.01)	(0.04)
Distance$_{i,j}$		-0.20***	-0.36***	-0.22***	-0.11
		(0.04)	(0.07)	(0.04)	(0.14)
Industry$_{j,t}$		0.14***	0.31***	0.26***	
		(0.04)	(0.05)	(0.05)	
Trade Intensity$_{i,j,t}$		0.01*	0.01	0.01	0.002
		(0.01)	(0.01)	(0.01)	(0.01)
Regional Trade Agreement$_{i,j}$		-0.08*	-0.36***	-0.19***	-0.12
		(0.05)	(0.09)	(0.05)	(0.27)
Bilateral Investment Treaty$_{i,j}$		-0.02	-0.03	-0.02	-0.18
		(0.04)	(0.07)	(0.04)	(0.25)
Colonial Link$_{i,j}$		0.54**	0.96***	0.51***	3.22***
		(0.22)	(0.37)	(0.21)	(1.31)
Common Language$_{i,j}$		0.30***	0.56***	0.33***	1.02***
		(0.05)	(0.09)	(0.05)	(0.24)
Number of observations	11592	11424	11424	11424	10608
Number of clusters	816	816	816	816	816
R^2	0.37	0.42	0.28	0.42	
Arellano-Bond AR-2 (p-value)					0.30

Notes: Robust-clustered (by country pair) standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.10. The interaction term is demeaned. The dependent variable in each estimation is the logarithm of the capex per capita at constant 2010 prices (using the GDP deflator in the destination country) transformed using an inverse hyperbolic sine transformation (Burbidge et al. 1988) in order to deal with country-years in which no investments were made.

Table 6: Determinants of Greenfield FDI Flows into Arab Countries, Baseline PPML and Heckman Regressions

Dependent variable real GFDI per capita and Log of real GFDI per capita for PPML and Heckman, respectively

	PPML Model	Heckman MLE Model		
	(1)	(2)	(3)	(4)
		Outcome Equation	Probit Equation	Conditional Marginal Effect
Political Risk$_{j,t}$	-0.45***	-1.71***	-0.85***	-0.90***
	(0.19)	(0.41)	(0.10)	(0.39)
Interaction$_{j,t}$	0.80	0.55***		0.55***
	(2.49)	(0.07)		(0.07)
Relative Size$_{i,j,t}$	0.94***	1.98***	0.12***	1.86***
	(0.16)	(0.29)	(0.04)	(0.30)
Size$_{i,j,t}$			0.55***	
			(0.06)	
Distance$_{i,j}$	-0.45**	-0.44***	-0.42***	-0.04
	(0.22)	(0.12)	(0.05)	(0.09)
Trade Intensity$_{i,j,t}$	0.02	0.05***	0.02**	0.03***
	(0.02)	(0.02)	(0.01)	(0.01)
Industry$_{j,t}$			0.22***	
			(0.05)	
Regional Trade Agreement$_{i,j}$	-1.36***		-0.29***	
	(0.35)		(0.08)	
Bilateral Investment Treaty$_{i,j}$			0.17***	
			(0.06)	
Colonial Link$_{i,j}$	-0.41		0.29**	
	(0.57)		(0.15)	
Common Language$_{i,j}$	1.58***		0.78***	
	(0.54)		(0.09)	
Constant	7.23***	3.89***	-6.26***	
	(2.09)	(1.12)	(0.61)	
Number of observations	12240	12240		
Censored observations		9191		
Number of clusters	816	816		
Country fixed effects	Yes	Yes		
Pseudo R^2	0.56			
ρ		0.66		
Wald Test ($\rho = 0$)		33.96***		

Notes: Robust-clustered (by country pair) standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.10. The interaction term is demeaned. The PPML estimator is implemented by the Stata module -PPML- developed by Santos Silva, JMC. and Tenreyro, S., (2015). "PPML: Stata module to perform Poisson pseudo-maximum likelihood estimation," Statistical Software Components S458102, Boston College Department of Economics. The Heckman model is estimated by maximum likelihood procedure. Accordingly, the Probit and outcome equations are estimated simultaneously by implementing Stata's heckman command. All specifications include source and host country effects.

Table 7: Determinants of Greenfield FDI Flows into Arab Countries, Three components of PR

Heckman MLE Model, Dependent variable Log of real GFDI per capita

	(1) Outcome Equation	(2) Probit Equation	(3) Conditional Marginal Effect
Expropriation/Breach of Contract$_{j,t}$	-0.16	-0.49***	0.28
	(0.49)	(0.18)	(0.48)
Transfer Convertibility$_{j,t}$	-1.02***	-0.22***	-0.82***
	(0.19)	(0.08)	(0.18)
War Political Violence$_{j,t}$	-0.14	-0.27***	0.10
	(0.17)	(0.04)	(0.16)
Interaction$_{j,t}$	0.52***		0.52***
	(0.07)		(0.07)
Relative Size$_{i,j,t}$	1.57***	0.11***	1.47***
	(0.32)	(0.04)	(0.33)
Size$_{i,j,t}$		0.55***	
		(0.06)	
Distance$_{i,j}$	-0.42***	-0.41***	-0.05
	(0.12)	(0.05)	(0.09)
Trade Intensity$_{i,j,t}$	0.05***	0.02**	0.03**
	(0.02)	(0.01)	(0.01)
Industry$_{j,t}$		0.22***	
		(0.05)	
Regional Trade Agreement$_{i,j}$		-0.25***	
		(0.09)	
Bilateral Investment Treaty$_{i,j}$		0.18***	
		(0.06)	
Colonial Link$_{i,j}$		0.31**	
		(0.16)	
Common Language$_{i,j}$		0.79***	
		(0.09)	
Constant	2.92**	-6.05***	
	(1.38)	(0.64)	
Number of observations	12240		
Censored Observations	9191		
Number of clusters	816		
ρ	0.63		
Wald Test (ρ = 0)	23.65***		

Notes: Robust-clustered (by country pair) standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.10. The interaction term is demeaned. The Heckman model is estimated by maximum likelihood procedure. Accordingly, the Probit and outcome equations are estimated simultaneously by implementing Stata's heckman command. All specifications include source and host country effects.

Table 8: Determinants of Greenfield FDI Flows into Arab Countries by Broad Sector

Heckman MLE Model, Dependent variable Log of real GFDI per capita

	(1) Non-resource manufacturing	(2) Non-tradables	(3) Resources and energy	(4) Tradeable services
Outcome Equation				
Expropriation/Breach of Contract$_{j,t}$	-1.10**	0.32	1.96	-0.66
	(0.56)	(0.73)	(1.67)	(0.53)
Transfer Convertibility$_{j,t}$	-0.65***	-1.70***	-0.67	-0.54***
	(0.22)	(0.28)	(0.58)	(0.19)
War Political Violence$_{j,t}$	-0.03	0.41	-0.56	-0.40***
	(0.20)	(0.29)	(0.48)	(0.16)
Relative Size$_{i,j,t}$	1.69***	1.57***	1.86***	0.69***
	(0.36)	(0.41)	(0.74)	(0.23)
Distance$_{i,j}$	-0.58***	0.14	-0.26	-0.36***
	(0.16)	(0.15)	(0.32)	(0.09)
Trade Intensity$_{i,j,t}$	0.06***	0.02	0.08	0.07***
	(0.02)	(0.03)	(0.06)	(0.01)
Constant	4.19***	-4.31**	-7.57*	0.35
	(1.39)	(1.93)	(4.11)	(1.47)
Probit Equation				
Expropriation/Breach of Contract$_{j,t}$	-0.18	-0.48***	0.30	-1.13***
	(0.19)	(0.20)	(0.23)	(0.20)
Transfer Convertibility$_{j,t}$	-0.31***	-0.37***	-0.32***	-0.12
	(0.08)	(0.10)	(0.11)	(0.09)
War Political Violence$_{j,t}$	-0.24***	-0.10**	-0.10**	-0.30***
	(0.04)	(0.05)	(0.05)	(0.05)
Size$_{i,j,t}$	0.45***	0.37***	0.25***	0.53***
	(0.06)	(0.07)	(0.07)	(0.06)
Relative Size$_{i,j,t}$	0.20***	0.15***	0.18***	0.07
	(0.04)	(0.05)	(0.05)	(0.04)
Distance$_{i,j}$	-0.43***	-0.35***	-0.07	-0.31***
	(0.05)	(0.06)	(0.06)	(0.06)
Trade Intensity$_{i,j,t}$	0.02**	0.02**	0.02**	0.02**
	(0.01)	(0.01)	(0.01)	(0.01)
Industry$_{j,t}$	0.35***	0.23***	0.34***	0.18***
	(0.05)	(0.07)	(0.06)	(0.06)
Regional Trade Agreement$_{i,j}$	-0.26***	-0.15	0.21*	-0.00
	(0.09)	(0.12)	(0.11)	(0.09)
Bilateral Investment Treaty$_{i,j}$	0.18***	0.08	0.01	0.07
	(0.06)	(0.07)	(0.07)	(0.06)
Colonial Link$_{i,j}$	0.20	0.74***	0.19	0.01
	(0.14)	(0.22)	(0.19)	(0.13)
Common Language$_{i,j}$	0.63***	0.86***	0.31***	0.77***
	(0.09)	(0.10)	(0.12)	(0.10)
Constant	-6.99**	-5.02***	-8.82***	-5.93***
	(0.69)	(0.75)	(0.72)	(0.80)
Number of observations	12240	12240	12240	12240
Censored Observations	10410	10807	11825	10914
ρ	0.81	0.03	0.88	0.90
Wald Test (ρ = 0)	14.94***	0.02	29.34***	91.17***

Notes: Robust-clustered (by country pair, 816 clusters) standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.10. The Heckman model is estimated by maximum likelihood procedure. Accordingly, the Probit and outcome equations are estimated simultaneously by implementing Stata's heckman command. All specifications include source and host country effects.

Table 9: Conditional Marginal Effects Derived from Heckman Sample Selection Model

	(1) Non-resource manufacturing	(2) Non-tradables	(3) Resources and energy	(4) Tradable services
Outcome Equation				
Expropriation/Breach of Contract$_{j,t}$	-0.86**	0.34	1.29	0.75
Transfer Convertibility$_{j,t}$	-0.24	-1.68***	0.03	-0.40***
War Political Violence$_{j,t}$	0.29	0.41	-0.33	-0.03
Relative Size$_{i,j,t}$	1.43***	1.57***	1.46**	0.60***
Distance$_{i,j}$	-0.01	0.16	-0.11	0.03
Trade Intensity$_{i,j,t}$	0.04***	0.02	0.03	0.04***

Notes: Robust-clustered (by country pair, 816 clusters) standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.10.

Annex 1: PCA Analysis

Table A1: Components, broad categories of PR and scale

Component	Rating	Re-scaled	Expropriation/Breach of Contract Risk *PR_EBC*	Transfer/ Convertibility Risk *PR_TCR*	War and Political Violence Risk *PR_WPV*
LO- Law and Order	0-6	0-12	✓		
SC- Socioeconomic Conditions	0-12	0-12	✓		
CC- Corruption	0-6	0-12	✓		
PRt-Property Rights	0-100	0-12	✓		
BQ- Bureaucracy Quality	0-4	0-12	✓		
IP- Investment Profile	0-12	0-12	✓		
DA- Democratic Accountability	0-6	0-12		✓	
IF- Investment Freedom	0-100	0-12		✓	
IC- Internal Conflict	0-12	0-12			✓
EC- External Conflict	0-12	0-12			✓
MP- Military in Politics	0-6	0-12			✓

Table A2: Correlations

		SC	IP	IC	EC	CC	MP	LO	DA	BQ	PR	IF
SC	Pearson Correlation	1	.722**	.489**	.247**	.696**	.654**	.670**	.396**	.763**	.759**	.496**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
IP	Pearson Correlation	.722**	1	.505**	.378**	.630**	.657**	.548**	.473**	.641**	.746**	.621**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
IC	Pearson Correlation	.489**	.505**	1	.499**	.462**	.603**	.450**	.330**	.402**	.463**	.354**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
EC	Pearson Correlation	.247**	.378**	.499**	1	.321**	.482**	.129**	.328**	.323**	.350**	.347**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
CC	Pearson Correlation	.696**	.630**	.462**	.321**	1	.594**	.659**	.522**	.753**	.834**	.605**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
MP	Pearson Correlation	.654**	.657**	.603**	.482**	.594**	1	.573**	.556**	.667**	.664**	.540**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
LO	Pearson Correlation	.670**	.548**	.450**	.129**	.659**	.573**	1	.286**	.567**	.644**	.363**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
DA	Pearson Correlation	.396**	.473**	.330**	.328**	.522**	.556**	.286**	1	.587**	.580**	.584**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
BQ	Pearson Correlation	.763**	.641**	.402**	.323**	.753**	.667**	.567**	.587**	1	.792**	.565**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
PRt	Pearson Correlation	.759**	.746**	.463**	.350**	.834**	.664**	.644**	.580**	.792**	1	.714**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
IF	Pearson Correlation	.496**	.621**	.354**	.347**	.605**	.540**	.363**	.584**	.565**	.714**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920

**. Correlation is significant at the 0.01 level (2-tailed).

Table A.3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.910
Bartlett's Test of Sphericity	Approx. Chi-Square	16060.933
	df	55
	Sig.	.000

Table A4: Anti-image Matrices

		SC	IP	IC	EC	CC	MP	LO	DA	BQ	PR	IF
Anti-image Covariance	SC	.254	-.090	-.048	.061	-.004	-.033	-.057	.069	-.097	-.033	.026
	IP	-.090	.336	-.035	-.042	.021	-.039	-.010	-.003	.017	-.051	-.075
	IC	-.048	-.035	.519	-.190	-.036	-.102	-.061	-.012	.057	.016	.015
	EC	.061	-.042	-.190	.613	-.027	-.111	.125	.014	-.020	-.013	-.014
	CC	-.004	.021	-.036	-.027	.251	.035	-.089	-.022	-.058	-.081	-.026
	MP	-.033	-.039	-.102	-.111	.035	.326	-.089	-.095	-.051	.003	-.025
	LO	-.057	-.010	-.061	.125	-.089	-.089	.402	.064	.021	-.038	.060
	DA	.069	-.003	-.012	.014	-.022	-.095	.064	.498	-.089	-.026	-.102
	BQ	-.097	.017	.057	-.020	-.058	-.051	.021	-.089	.252	-.041	.022
	PRt	-.033	-.051	.016	-.013	-.081	.003	-.038	-.026	-.041	.163	-.087
	IF	.026	-.075	.015	-.014	-.026	-.025	.060	-.102	.022	-.087	.409
Anti-image Correlation	SC	.904[a]	-.306	-.132	.155	-.017	-.115	-.178	.195	-.384	-.161	.081
	IP	-.306	.942[a]	-.083	-.093	.071	-.118	-.027	-.008	.057	-.218	-.202
	IC	-.132	-.083	.893[a]	-.337	-.099	-.249	-.134	-.024	.156	.056	.033
	EC	.155	-.093	-.337	.817[a]	-.070	-.248	.252	.025	-.050	-.042	-.029
	CC	-.017	.071	-.099	-.070	.920[a]	.122	-.279	-.061	-.230	-.399	-.081
	MP	-.115	-.118	-.249	-.248	.122	.919[a]	-.246	-.236	-.177	.012	-.069
	LO	-.178	-.027	-.134	.252	-.279	-.246	.893[a]	.144	.065	-.150	.147
	DA	.195	-.008	-.024	.025	-.061	-.236	.144	.904[a]	-.250	-.090	-.227
	BQ	-.384	.057	.156	-.050	-.230	-.177	.065	-.250	.912[a]	-.200	.069
	PRt	-.161	-.218	.056	-.042	-.399	.012	-.150	-.090	-.200	.914[a]	-.339
	IF	.081	-.202	.033	-.029	-.081	-.069	.147	-.227	.069	-.339	.918[a]

a. Measures of Sampling Adequacy(MSA)

Table A5: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.518	59.258	59.258	6.518	59.258	59.258	3.856	35.050	35.050
2	1.111	10.097	69.355	1.111	10.097	69.355	2.787	25.334	60.385
3	.912	8.291	77.646	.912	8.291	77.646	1.899	17.261	77.646
4	.502	4.564	82.210						
5	.454	4.124	86.334						
6	.412	3.749	90.084						
7	.333	3.031	93.115						
8	.272	2.472	95.587						
9	.198	1.799	97.386						
10	.159	1.448	98.834						
11	.128	1.166	100.000						

Extraction Method: Principal Component Analysis.

Table A6: Communalities

	Initial	Extraction
SC	1.000	.811
IP	1.000	.693
IC	1.000	.785
EC	1.000	.821
CC	1.000	.770
MP	1.000	.736
LO	1.000	.798
DA	1.000	.750
BQ	1.000	.772
PRt	1.000	.871
IF	1.000	.734

Extraction Method: Principal Component Analysis.

Table A.7: Rotated Component Matrix [a]

	Component		
	1	2	3
SC: Socioeconomic Conditions	**.836**		
IP: Investment Profile	**.629**		
IC: Internal Conflict			**0.757**
EC: External Conflict			**0.862**
CC: Corruption	**.750**		
MP: Military in Politics			**0.524**
LO: Law and Order	**.883**		
DA: Democratic Accountability		**0.832**	
BQ: Bureaucracy Quality	**.665**		
PRt: Property Rights			
IF: Investment Freedom		**0.775**	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Annex 2: Broad Sector Categories

Subsectors in data	Broad Sector
Agriculture, construction, & mining machinery	Manufacturing
Aircraft	Manufacturing
Aircraft engines, other parts & auxiliary equipment	Manufacturing
All other electrical equipment & components	Manufacturing
All other food	Manufacturing
All other industrial machinery	Manufacturing
All other transportation (Automotive OEM)	Manufacturing
Alumina & aluminium production and processing	Manufacturing
Animal food	Manufacturing
Animal production	Manufacturing
Animal slaughtering & processing	Manufacturing
Apparel accessories & other apparel	Manufacturing
Apparel knitting	Manufacturing
Architectural & structured metals	Manufacturing
Artificial & synthetic fibres	Manufacturing
Asphalt paving, roofing, & saturated materials	Manufacturing
Audio & video equipment	Manufacturing
Automobiles	Manufacturing
Bakeries & tortillas	Manufacturing
Basic chemicals	Manufacturing
Batteries	Manufacturing
Biological products (except diagnostic)	Manufacturing
Boiler, tank, & shipping container	Manufacturing
Breweries & distilleries	Manufacturing
Building material & garden equipment & supplies dealers	Manufacturing
Cement & concrete products	Manufacturing
Clay product & refractory	Manufacturing
Clothing & clothing accessories	Manufacturing
Coating, engraving, heat treating, & allied activities	Manufacturing
Coffee & tea	Manufacturing
Commercial & service industry machinery	Manufacturing
Communication & energy wires & cables	Manufacturing
Computer & peripheral equipment	Manufacturing
Converted paper products	Manufacturing
Cosmetics, perfume, personal care & household products	Manufacturing
Crop production	Manufacturing
Cut & sew apparel	Manufacturing
Cutlery & handtools	Manufacturing
Dairy products	Manufacturing
Dolls, toy, & games	Manufacturing

Electric lighting equipment	Manufacturing
Electrical equipment	Manufacturing
Electromedical and Electrotherapeutic Apparatus	Manufacturing
Electronics & appliances stores	Manufacturing
Engines & Turbines	Manufacturing
Food & Beverage Stores (Food & Tobacco)	Manufacturing
Food product machinery	Manufacturing
Food services	Manufacturing
Footwear	Manufacturing
Forging & stamping	Manufacturing
Foundries	Manufacturing
Fruits & vegetables & specialist foods	Manufacturing
Furniture, homeware & related products (Consumer Products)	Manufacturing
Furniture, homeware & related products (Textiles)	Manufacturing
Furniture, homeware & related products (Wood Products)	Manufacturing
General purpose machinery	Manufacturing
Glass & glass products	Manufacturing
Grains & oilseed	Manufacturing
Guided missile & space vehicles	Manufacturing
Hardware	Manufacturing
Heavy duty trucks	Manufacturing
Household appliances	Manufacturing
In-Vitro diagnostic substances	Manufacturing
Iron & steel mills & ferroalloy	Manufacturing
Jewellery & silverware	Manufacturing
Laminated plastics plates, sheets & shapes	Manufacturing
Leather & hide tanning and finishing	Manufacturing
Light trucks & utility vehicles	Manufacturing
Measuring & control instruments	Manufacturing
Medical equipment & supplies	Manufacturing
Medicinal & botanical	Manufacturing
Metalworking machinery	Manufacturing
Military armoured vehicle, tank, & components	Manufacturing
Motor vehicle & parts dealers (Automotive Components)	Manufacturing
Motor vehicle & parts dealers (Automotive OEM)	Manufacturing
Motor vehicle body & trailers	Manufacturing
Motor vehicle brake systems	Manufacturing
Motor vehicle electrical & electronic equipment	Manufacturing
Motor vehicle gasoline engines & engine parts	Manufacturing
Motor vehicle seating & interior trim	Manufacturing
Motor vehicle stamping	Manufacturing
Motor vehicle steering & suspension components	Manufacturing
Motorcycle, bicycle, & parts	Manufacturing

Nonstore retailers	Manufacturing
Office supplies	Manufacturing
Other (Aerospace)	Manufacturing
Other (Building materials)	Manufacturing
Other (Business machines & equipment)	Manufacturing
Other (Ceramics & glass)	Manufacturing
Other (Consumer electronics)	Manufacturing
Other (Consumer products)	Manufacturing
Other (Metals)	Manufacturing
Other (Paper, printing & packaging)	Manufacturing
Other (Pharmaceuticals)	Manufacturing
Other (Space & defence)	Manufacturing
Other (Textiles)	Manufacturing
Other chemical products & preparation	Manufacturing
Other fabricated metal products	Manufacturing
Other leather & allied products	Manufacturing
Other motor vehicle parts	Manufacturing
Other plastics products	Manufacturing
Other rubber products	Manufacturing
Paints, coatings, additives & adhesives	Manufacturing
Pesticide, fertilisers & other agricultural chemicals	Manufacturing
Pharmaceutical preparations	Manufacturing
Plastic bottles	Manufacturing
Plastic pipes, pipe fitting & unlaminated profile shapes	Manufacturing
Plastics & rubber industry machinery	Manufacturing
Plastics packaging materials & unlaminated film & sheets	Manufacturing
Power transmission equipment	Manufacturing
Printing machinery & equipment	Manufacturing
Pulp, paper, & paperboard	Manufacturing
Railroad rolling stock	Manufacturing
Resin & artificial synthetic fibres & filaments	Manufacturing
Rubber hoses & belting	Manufacturing
Seafood products	Manufacturing
Seasoning & dressing	Manufacturing
Semiconductors & other electronic components	Manufacturing
Ships & boats	Manufacturing
Sign manufacturing	Manufacturing
Snack food	Manufacturing
Soap, cleaning compounds, & toilet preparation	Manufacturing
Soft drinks & ice	Manufacturing
Sporting goods, hobby, books & music	Manufacturing
Spring & wire products	Manufacturing
Steel products	Manufacturing

Sugar & confectionary products	Manufacturing
Textile machinery	Manufacturing
Textiles & Textile Mills	Manufacturing
Tobacco	Manufacturing
Tyres	Manufacturing
Urethane, foam products & other compounds	Manufacturing
Ventilation, heating, air conditioning, and commercial refrigeration	Manufacturing
Wineries	Manufacturing
Wiring devices	Manufacturing
Wood products	Manufacturing
Accommodation	Non-Tradables
Accounting, tax preparation, bookkeeping, & payroll services	Non-Tradables
Amusement & theme parks	Non-Tradables
Business schools, computer & management training	Non-Tradables
Business support services	Non-Tradables
Commercial & institutional building construction	Non-Tradables
Corporate & investment banking	Non-Tradables
Educational support services	Non-Tradables
Environmental consulting services	Non-Tradables
General medical & surgical hospitals	Non-Tradables
Home healthcare & all other ambulatory health care services	Non-Tradables
Industrial building construction	Non-Tradables
Machine shops, turned products, screws, nuts & bolts	Non-Tradables
Newspaper, periodical, book, & directory publishers	Non-Tradables
Nursing & residential care facilities	Non-Tradables
Offices of physicians, dentists, & other healthcare practitioners	Non-Tradables
Other (Healthcare)	Non-Tradables
Other (Hotels & tourism)	Non-Tradables
Other (Real estate)	Non-Tradables
Other amusement & recreation industries	Non-Tradables
Other support services	Non-Tradables
Outpatient care centres & medical & diagnostic laboratories	Non-Tradables
Performing arts, spectator sports, & related	Non-Tradables
Printing & related activities	Non-Tradables
Professional, scientific & technical services	Non-Tradables
Psychiatric & speciality hospitals	Non-Tradables
Radio & TV broadcasting	Non-Tradables
Real estate services	Non-Tradables
Rental & leasing services	Non-Tradables
Residential building construction	Non-Tradables
Retail banking	Non-Tradables

Schools, colleges, universities, & professional schools	Non-Tradables
Technical, trade & other schools	Non-Tradables
Travel arrangement & reservation services	Non-Tradables
Waste management & remediation services	Non-Tradables
Water, sewage & other systems	Non-Tradables
Wholesale Trade (Consumer Goods)	Non-Tradables
Wholesale Trade (Food & Tobacco)	Non-Tradables
Wireless telecommunication carriers	Non-Tradables
Biomass power	Resources & Energy
Copper, nickel, lead, & zinc mining	Resources & Energy
Fossil fuel electric power	Resources & Energy
Geothermal electric power	Resources & Energy
Gold ore & silver ore mining	Resources & Energy
Hydroelectric power	Resources & Energy
Iron ore mining	Resources & Energy
Lime & gypsum products	Resources & Energy
Natural, liquefied and compressed gas	Resources & Energy
Nonferrous metal production & processing	Resources & Energy
Nonmetallic mineral mining & quarrying	Resources & Energy
Nuclear electric power generation	Resources & Energy
Oil & gas extraction	Resources & Energy
Other (Transportation)	Resources & Energy
Other electric power generation (Coal, oil and gas)	Resources & Energy
Other electric power generation (Renewable Energy)	Resources & Energy
Other metal ore mining	Resources & Energy
Other non-metallic mineral products	Resources & Energy
Other petroleum & coal products	Resources & Energy
Other pipeline transportation	Resources & Energy
Petroleum bulk stations & terminals	Resources & Energy
Petroleum refineries	Resources & Energy
Pipeline transportation of crude oil	Resources & Energy
Pipeline transportation of natural gas	Resources & Energy
Solar electric power	Resources & Energy
Support activities for mining & energy	Resources & Energy
Wind electric power	Resources & Energy
Advertising, PR, & related	Tradable Services
Air transportation	Tradable Services
All other information services	Tradable Services
Architectural, engineering, & related services	Tradable Services
Cable & other subscription programming	Tradable Services

Communications equipment	Tradable Services
Computer facilities management services	Tradable Services
Computer systems design services	Tradable Services
Couriers & messengers	Tradable Services
Custom computer programming services	Tradable Services
Data processing, hosting, & related services	Tradable Services
Employment services	Tradable Services
Freight/Distribution Services	Tradable Services
Gambling industries	Tradable Services
Gasoline stations	Tradable Services
General merchandise stores	Tradable Services
Health & personal care stores	Tradable Services
Heavy & civil engineering	Tradable Services
Insurance	Tradable Services
Internet publishing & broadcasting & web search	Tradable Services
Investment management	Tradable Services
Legal services	Tradable Services
Management consulting services	Tradable Services
Miscellaneous store retailers	Tradable Services
Motion picture & sound recording industries	Tradable Services
Navigational instruments	Tradable Services
Other (Financial services)	Tradable Services
Other (Software & IT services)	Tradable Services
Other computer related services	Tradable Services
Other telecommunications	Tradable Services
Postal service	Tradable Services
Rail transportation	Tradable Services
Satellite telecommunications	Tradable Services
Software publishers, except video games	Tradable Services
Specialised design services	Tradable Services
Speciality trade contractors	Tradable Services
Support activities for transportation	Tradable Services
Transit & ground passenger transportation	Tradable Services
Truck transportation	Tradable Services
Video games, applications and digital content	Tradable Services
Warehousing & storage	Tradable Services
Water transportation	Tradable Services
Wired telecommunication carriers	Tradable Services

[1] This refers to the fact that colonial ties, religious affinity and common language are especially influential on FDI.
[2] See, for example, Abadie and Gardeazabal 2008; Dai et al. 2013; Driffield et al. 2013; Witte et al. 2017
[3] See, for example, Schneider and Frey 1985; Wheeler and Mody 1992; Jun and Singh 1996; Henisz 2000; Globerman and Shapiro 2003; Jensen 2003; Li and Resnick 2003; Egger and Winner 2005; Aguiar et al. 2006; Biglaiser and DeRouen 2006; Jensen 2006; Le and Zak 2006; Busse and Hefeker 2007; Daude and Stein 2007; Alfaro et al. 2008; Peng et al. 2008; Meyer et al. 2009; Méon and Sekkat 2012; Burger et al. 2016; Bailey 2018.
[4] Such as Noorbakhsh et al. 2001, Campos and Nugent 2003, Li and Vashchilko 2010 and Blonigen and Piger 2014.
[5] See, for example, Biglaiser and DeRouen 2006 and Asiedu and Lien 2011 as regards the positive relationship between conflict and FDI, and Witte et al. 2017 as regards the insensitivity of resource-related FDI to political conflict.
[6] The source-country characteristics are considered only for robustness check and the results are significantly different from those obtained with the baseline model.
[7] The four broad sectors are resources and energy, non-tradable manufacturing and services, tradable manufacturing and tradable services.
[8] Theoretical foundations for the gravity model have been established by a series of papers, in particular Anderson and van Wincoop (2003). As regards the FDI flows, intuition and theory suggests that MNE and FDI behavior is likely much more complicated to model than trade flows (Blonigen, 2005).
[9] One drawback of using the ICRG is that it may suffer from potential perception bias, since it only draws information from one source. For a discussion on the shortcomings with these type of data, see, for example, Svensson (2003).
[10] For details, see: https://unctad.org/en/PublicationChapters/wir2018chMethodNote_en.pdf
[11] Greenfield FDI series are deflated using the GDP deflator in the host country (2010 = 100).