



HAL
open science

Does Foreign Direct Investment Promote Political Stability? Evidence from Developing Economies

Assi Okara

► **To cite this version:**

Assi Okara. Does Foreign Direct Investment Promote Political Stability? Evidence from Developing Economies. 2022. hal-03617085

HAL Id: hal-03617085

<https://hal.science/hal-03617085>

Preprint submitted on 23 Mar 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Centre d'Études
et de Recherches
sur le Développement
International

CERDI WORKING PAPERS

2022/2

Does Foreign Direct Investment Promote Political Stability? Evidence from Developing Economies

Assi Okara

To cite this working paper:

Okara, A. (2022) "Does Foreign Direct Investment Promote Political Stability? Evidence from Developing Economies", CERDI Working Papers, 2022/2, CERDI

CERDI, Pôle tertiaire, 26 avenue Léon Blum, 63000 Clermont-Ferrand, France.

The author

Assi Okara

Former PhD student at CERDI, currently Research Consultant at the African Development Bank.

Email address: okaraassi@gmail.com



This work was supported by the LABEX IDGM+ (ANR-10-LABX-14-01) within the program “Investissements d’Avenir” operated by the French National Research Agency (ANR).

CERDI Working Papers are available online at: <https://tinyurl.com/2xwfw8s>

Director of Publication: Grégoire Rota-Graziosi

Editor: Catherine Araujo-Bonjean

Publisher: Aurélie Goumy

ISSN: 2114 - 7957

Disclaimer:

Working papers are not subject to peer review, they constitute research in progress. Responsibility for the contents and opinions expressed in the working papers rests solely with the authors. Comments and suggestions are welcome and should be addressed to the authors.

Abstract

This paper investigates the potential of Foreign Direct Investment (FDI) to counter socio-political instability, one of the most pressing challenges faced by developing countries. Socio-political (in)stability is approached from an institutional perspective and linked to one particular type of FDI, greenfield FDI, for its more direct socio-economic externalities and their influences on greed and grievance. The issue of causality is primarily addressed using a gravity-based instrumental variable for FDI, taking advantage of bilateral greenfield projects data. The empirical results using data over the period 2003-2017 for a large sample of developing countries show that FDI favors institutional development not only in terms of overall socio-political stability but also human rights compliant socio-political stability. The results are robust to a range of specifications and alternative identification strategies, as well as to a series of sensitivity tests. Overall, this study highlights the promotion of political stability as another channel through which FDI can contribute to development.

Keywords

Greenfield FDI; institutions; political stability; developing countries

JEL Codes

L33, H54, C71, G32, O40, H63

Acknowledgments

I would like to thank my thesis supervisor, Patrick Plane, Marie-Ange Vengazonis (OECD), Kodjo Adandohoin (CERDI), and all participants in CERDI's seminars series, in particular Marie-Franoise Renard and Camille Laville for their precious comments. Any remaining errors are mine.

1 Introduction

Social and political stability, viewed as the absence of conflict and various forms of social unrest, is key to economic development. However, the world is still prone to political violence of different forms and manifestations. A quarter of the world’s countries witnessed a dramatic surge in civil unrest in 2019 and that figure was projected to rise, as reported by [Maplecroft \(2020\)](#), which also predicted the 2020s as a decade of rage, unrest, and shifting geopolitical sands¹. Politically motivated violence has been common in many places in the world in recent years. The Center for Systemic Peace’s 2017 global report indicated an increase in the global magnitude of societal warfare² since 2011, after a declining trend from 1991. Similarly, [Pettersson et al. \(2019\)](#) document that the years from 2013 to 2018 recorded higher levels of non-state violence than any other year since 1989. Whether in the form of inter-rebel or state vs. rebel conflicts in Syria, communal confrontation in Ethiopia, political protests in Lebanon, cartel-related violence in Mexico, or terrorist attacks in Nigeria, socio-political instability remains pervasive in the developing world.

A growing body of research has investigated the causes of political instability and conflicts ([Collier and Hoeffler, 1998, 2004](#); [Collier et al., 2009](#); [Elbadawi and Sambanis, 2002](#); [Fearon and Laitin, 2003](#)). Overall, the determinants of political violence and instability are grouped into two main factors: political grievances and economic conditions – or the “greed” argument. Political grievances refer to unfair, oppressive, or discriminatory treatment of groups of people, susceptible to lead them to revolt. From the standpoint of economic conditions and in line with the “greed” argument, poverty and bad economic prospects have been found to spark protests and conflict. As pointed out by [Acemoglu and Robinson \(2012\)](#), the roots of discontent in countries shaken by the Arab Spring lie in poverty. Likewise, the ideology of terrorism is thought to thrive in environments of despair and misery due to a lack of economic opportunities. In this regard, factors with the potential to improve economic opportunities are expected to favor socio-political stability by eliminating reasons for grievance and alleviating greed among people.

Foreign Direct Investment (FDI) is considered to be an important driver of growth for developing economies through channels including technology transfer and productivity spillovers. It also generates social development opportunities through job creation and poverty reduction. Three main types of FDI can be distinguished, namely cross-border mergers and acquisitions (M&A), the creation of a firm from scratch by a foreign investor and the extension of existing capacity by a non-resident investor. The first type is often referred to as brownfield FDI, while the last two types are referred to as greenfield FDI³. More practically, brownfield FDI encompasses not only M&A, but also privatization and

¹See <https://www.maplecroft.com/insights/analysis/download-the-political-risk-outlook-2020-executive-summary/>.

²Societal warfare includes civil, ethnic, and communal conflicts.

³This classification is in line with the definition of the data source pertaining to the paper.

alliances. Therefore, it does not imply an immediate increase in capital stock. On the contrary, greenfield FDI implies an expansion of the capital stock, directly generating new activities and jobs, and therefore greater socio-economic opportunities. In this respect, greenfield FDI deserves particular attention given its higher socio-economic externalities and their influences on political stability. From the population side, greenfield FDI can thus support socio-political stability, by improving economic conditions. From the government side, strengthening competitiveness to attract FDI has become a policy of great interest in many countries. In some cases, Investment Promotion Agencies (IPAs) are dedicated to this objective. As a result, there has been a rush in many countries to promote a more favorable environment for foreign investors. For example, in 2016, 108 countries, including 106 developing countries, adopted a total of 111 investment laws that promote investment (UNCTAD, 2017). Socio-political stability is key to the success of FDI-driven institutional reforms because a turbulent environment renders investment risky and uncertain for investors. In consequence, by triggering institutional reforms, greenfield FDI can increase governments' willingness to promote a stable socio-political environment and reduce political risk for foreign investors.

This close relationship between FDI and political stability is evidenced by Figure 2 (section 3.3) which shows a close association between greenfield FDI inflows as a percent of GDP and the socio-political institutional environment as measured by the *political stability and absence of violence index* of the Worldwide Governance Indicators (WGI) database over the period 2003-2017 for the full set of the study's sample of developing countries. The overall steady deterioration in political stability was accompanied by a corresponding decrease in FDI over the period. In line with the above arguments, it appears relevant to investigate whether this positive relationship between FDI and political stability can receive a causal interpretation.

This paper examines the impact of FDI on socio-political stability in developing countries with a focus on FDI's socio-economic influences on greed and grievance. Literature on the institutional impact of FDI is relatively new and weakly explored. Some studies like Demir (2016) approached institutions from a global perspective using aggregate institutional measures such as the International Country Risk Guide (ICRG) composite index of political risk. Others focused on specific aspects of institutions including corruption, political institutions, and market institutions (e.g., Ali et al., 2011; Dang, 2013; Kwok and Tadesse, 2006; Larraín B and Tavares, 2004; Long et al., 2015). The political stability aspect per se has not been explored. Following the literature on the effects of globalization on conflict, in which the focus has been on trade, a few studies, such as Bussmann (2010) and Mihalache-O'Keef (2018), have investigated the particular role of FDI along with various measures of conflict (onset, occurrence, intensity, etc.) This study rather examines how FDI can shape the institutional environment of destination countries in terms of its capacity to promote socio-political stability conditions and absence of violence (hereafter

political stability). This includes not only a low risk of armed conflicts, but also government instability, terrorist threat, protests and riots, violent demonstrations, and social unrest. These factors also pose serious threats to development by preventing the economy from working effectively as they are associated with greater uncertainty, disruption of economic activity, loss of human life, infrastructure damage, and destruction of human capital, to name a few. In addition, these factors are also subject to the political agency of Multi-national Corporations (MNCs) and FDI socio-economic influences on greed and grievance. Accounting for them gives a more complete sense of the institutional change potential of FDI with regard to political stability.

The present study adds to the literature on the institutional impact of FDI in a number of aspects. First, it extends existing work by exploring the political stability aspect of institutions in the developing world, thereby emphasizing the stability-related political institutional environment required to promote socio-economic development. Second, while previous studies in this literature use total FDI, this paper departs from them by looking at greenfield FDI to better test the above hypotheses. Not all types of FDI are equal in their capacity to generate economic opportunities and therefore to temper greed and grievance. I am interested in greenfield FDI for its more direct impact on economic growth and job creation (e.g., [Financial-Times, 2019](#); [Harms and Méon, 2018](#); [Wang and Wong, 2009](#)). As regards methodology, addressing the endogeneity issue of FDI with respect to political stability is crucial for achieving the goal of this paper. Taking advantage of the bilateral structure of the greenfield FDI data used in this study, I develop a gravity-based instrumental variable approach a la [Frankel and Romer \(1999\)](#) and [Feyrer \(2019\)](#), never used before in this literature. I supplement this approach with the System Generalized Method of Moments (SYS-GMM) for comparison purposes and also to account for the potential inertia nature of political stability through a dynamic model. The results clearly evidence that greenfield FDI favors political stability, and are robust to various specifications and estimations methods, as well as a series of sensitivity tests.

The rest of the paper is organized as follows: the next section revisits the links between FDI and institutions with a focus on political stability. Section 3 introduces the empirical methodology and describes the data. In section 4, I present and discuss the empirical results followed by robustness tests in section 5. The final section concludes.

2 Literature review

The link between institutions and FDI has been extensively investigated in literature. As FDI was becoming an important source of capital formation, scholars have explored factors that strengthen countries' attractiveness. Attention was initially given to economic factors such as infrastructure, market size, exchange rates, and labor costs ([Bailey, 2018](#)). Institutions have progressively been considered an equally important source of comparative

advantage in FDI attractiveness since the work of [North \(1990\)](#) explaining how influential institutions and institutional change are on economic performance. This new consideration of FDI determinants has led to a series of papers exploring the effects of institutional variables on FDI inflows. Factors like democracy, rule of law, property rights, low levels of corruption, and political stability have been identified as being positively associated with FDI.

With the growing influence of foreign direct investors in developing countries, research interest has emerged in new aspects of FDI impact, including the institutional dimension. As a matter of fact, exploring the reverse direction of causality (i.e., the influence of foreign investment on the institutional environment), brings useful additional insights into the linkage between FDI and institutions as (i) MNCs do not always adapt to the local environment, given their potential for political agency according to the profit-maximizing environment they need, in particular in developing countries where they are known to have high bargaining power, (ii) FDI has induced institutional reforms in countries competing to attract foreign investment, (iii) FDI socio-economic effects can trigger institutional change.

In this context, some studies, albeit comparatively few, have explored the reverse link by investigating how FDI affects institutions in destination countries. A body of this research argues that MNCs engage in lobbying and pressure activities on investment countries' policymakers. Using firm-level data in China's regions, [Long et al. \(2015\)](#) found that FDI improved institutional quality – measured with the tax and fee burden and the quality of rule of law experienced by Chinese domestic firms – in host regions. They pointed out lobbying and negotiation by foreign investors to influence local governments as one potential channel explaining this effect. Similar previous results on the same mechanisms were found by [Dang \(2013\)](#) in his study of FDI effect on institutional quality across Vietnam's provinces. [Malesky \(2009\)](#) also resorted to investors' lobbying efforts to demonstrate how FDI has contributed to economic reforms in Eastern Europe. These empirical evidences follow prior political strategy analyses which argued that investors can individually or collectively interact with government officials to reduce the risks they face ([Hahn, 1999](#); [Hillman and Hitt, 1999](#)). If the main motive behind MNCs' attempts to bring about institutional change clearly appears to be the increase in profit margins, the outcome is however uncertain. As suggested by [Hewko \(2002\)](#), two mechanisms serve to predict if MNCs can succeed or not in influencing prevailing institutions: (i) the ability to provide local policy-makers with information on laws and regulations in other countries, (ii) the ability to coerce them by threatening to leave for more hospitable investment environments.

Economic exchanges have the potential to generate institutional spillovers between countries ([Bahar et al., 2014](#); [Bergstrand and Egger, 2013](#); [Cheong et al., 2015](#)). The existence of these spillovers is another channel through which FDI can influence institutions. Naming it the demonstration effect, [Kwok and Tadesse \(2006\)](#) proposed this channel to demonstrate a significant negative effect of FDI on corruption in a large sample of host

countries. They argued that the presence of MNCs in a country challenges the usual (bad) way business is done by demonstrating how business rooted in an environment built on trust and ethical conduct can be more efficient in the long run. Their findings echo [Larraín B and Tavares \(2004\)](#)'s assessment of the effect of openness on corruption which showed that FDI is significantly associated with lower corruption levels. However, [Webster and Piesse \(2018\)](#) found no difference in the behavior of foreign-owned firms and domestic firms with respect to corrupt practices based on firm-level data in emerging countries.

Research on the effect of FDI on political instability has been limited to a specific aspect of instability: internal or inter-state conflicts. This research follows the broader literature on globalization and conflicts with the prominence given to trade. According to proponents of globalization, whose view I refer to as the liberal position, economic integration reduces the likelihood of international conflict as countries would avoid militarized disputes to maintain their mutually beneficial economic exchanges. Economically integrated countries will then tend to give preference to peaceful solutions to disputes given the extensive exchange of goods, services and capital between their private economic agents ([Russett and Oneal, 2001](#)). With the exception of studies such as [Magee and Massoud \(2011\)](#), [Sorens and Ruger \(2014\)](#), and [Olzak \(2011\)](#) who find either the opposite or no significant effect, the liberal proposition has found massive empirical support. Many of these studies have either focused on the trade component of globalization or resorted to a composite measure of globalization, (e.g., [Barbieri and Reuveny, 2005](#); [Blanton and Apodaca, 2007](#); [Reed, 2003](#); [Russett and Oneal, 2001](#)). Only a few have examined the effect of FDI, either along with various indicators of globalization ([Gartzke and Li, 2003](#); [Gartzke et al., 2001](#)), or as focus point ([Bussmann, 2010](#)), and they tend to find a tempering effect of FDI on inter-state conflicts. For instance, [Bussmann \(2010\)](#) found that inflows and stocks of FDI reduce the risk of an outbreak of a militarized conflict between countries.

The effect of globalization on civil conflicts has been analyzed in light of its socio-economic externalities and the political agency potential of foreign investors. From the socio-economic externalities perspective, globalization affects civil strife through its socio-economic influence on greed and grievance, the two main determinants of internal conflict ([Collier and Hoeffler, 2004](#); [Collier et al., 2009](#); [Miguel et al., 2004](#)). Depending on its effects on economic opportunities, inequalities, and welfare, globalization can either exacerbate or temper greed and grievance and thus feed or counter civil conflicts. From the liberal position, globalization is argued to favor economic growth, improve the efficiency of redistribution, and generate welfare for the entire population. Accordingly, it is expected to be a boon to domestic peace by eliminating reasons for grievance and alleviating greed ([Mihalache-O'Keef, 2018](#)). On the other hand, globalization critics, in particular the structuralist position, are skeptical about this effect as they point out that globalization-driven opportunities are associated with a discriminative redistributive process, paving the way to discontent (e.g., [Koubi and Böhmelt, 2014](#); [Olzak, 2011](#)). The empirical investigation of these two

contradictory claims through the lens of FDI is very sparse. While [Barbieri and Reuveny \(2005\)](#) and [Blanton and Apodaca \(2007\)](#) found results consistent with the liberal position, [Sorens and Ruger \(2014\)](#) concluded that FDI has no effect on civil conflict. Accounting for the sectoral distribution of FDI, [Mihalache-O'Keef \(2018\)](#) argued that the effect of FDI on intra-state conflict depends on the sector of investment. She found that primary sector FDI exacerbates the risk of civil conflict, supporting the structuralist position, while service sector FDI alleviates that risk, in line with the liberal position.

The political agency perspective relates to the lobbying and pressure activities discussed earlier. FDI implies establishing a lasting interest by the direct investor in the host country through the control or a significant degree of influence over the management of the direct investment enterprise⁴ ([IMF, 2009](#)). This characteristic of FDI makes it particularly sensitive to the political environment of investment destinations. Cognizant of foreign investors' need for a stable political climate, governments are pushed towards providing such an environment in order to attract and maintain foreign capital. The investigations following the Watergate scandal which reported American corporations paying bribes to foreign officials also revealed foreign investors to be strategic players with direct actions in the political sphere of host countries. This political agency potential was evidenced in studies including [Dang \(2013\)](#), [Long et al. \(2015\)](#), and [Malesky \(2009\)](#), following prior political strategy analyses contending that investors may individually or collectively interact with government officials to reduce the risks they face ([Hahn, 1999](#); [Hillman and Hitt, 1999](#)). However, the stabilizing role of FDI is sometimes questioned through allegations against MNCs that they contribute to undermining local institutions in order to ensure control over local resources. An example of this is the financial and logistical support provided by the mining company AngloGold Ashanti in 2003-2004 to a rebel group operating in the gold-rich district of Ituri in The Democratic Republic of Congo ([Berman et al., 2017](#)).

Following dimensions of institutions such as corruption ([Kwok and Tadesse, 2006](#); [Larraín B and Tavares, 2004](#); [Webster and Piesse, 2018](#)), tax burden and rule of law ([Long et al., 2015](#)), market conditions ([Ali et al., 2011](#); [Malesky, 2009](#)), this paper complements research on the institutional impact of FDI by examining the political stability dimension of institutions. In the body of work on FDI and its institutional effects, there is a quasi-systematic resort to total FDI, comprising greenfield FDI, and mergers and acquisitions. The framework of analysis in this paper aims to emphasize the socio-economic externalities of FDI as the dominant mechanism relating FDI to political (in)stability of recent decades. Consequently, it focuses on greenfield FDI for its more direct impact on economic conditions

⁴As defined by the Balance of Payments and International Investment Position Manual: Sixth Edition [IMF \(2009\)](#), FDI arises when a unit resident in one economy makes an investment that gives control or a significant degree of influence over the management of a company that is resident in another economy. This concept is operationalized where a direct investor owns equity that entitles it to 10% percent or more of the voting power (if it is incorporated, or the equivalent for an unincorporated company) in the direct investment enterprise.

through growth and job creation (e.g., [Financial-Times, 2019](#); [Harms and Méon, 2018](#); [Wang and Wong, 2009](#)).

3 Empirical methodology

This section presents the econometric approach guiding the empirical analysis of the effect of FDI on political stability. Section 3.1 introduces the model, followed by the identification strategy in section 3.2, and section 3.3 describes the data.

3.1 The model

To investigate the effect of FDI on developing countries' institutions in terms of political stability, the following linear specification is used, relating political stability to its determinants:

$$Polstab_{it} = \alpha + \beta_1 FDI_{it} + \sum_{k=2} \beta_k X_{it} + \varepsilon_{it} \quad (1)$$

where i and t refer to countries and time period respectively, $Polstab_{it}$ is a measure of political stability, FDI_{it} is greenfield FDI inflows as a percent of GDP, α a constant, ε_{it} represents the error term capturing omitted factors and noise, and X_{it} a vector of control variables reflecting the main time-varying determinants of political stability. These include:

The (log) real per capita GDP ($LogGDP_{PC}$) to control for income. Low per capita GDP has been found to be positively associated with civil conflicts as reduced income opportunities make people more likely to take up arms ([Collier and Hoeffler, 1998, 2004](#); [Miguel et al., 2004](#)). In addition, some degree of political centralization is needed for law and order to prevail ([Acemoglu and Robinson, 2012](#)), an important prerequisite for political stability. And poor countries may face resource constraints in building such states.

The real per capita GDP growth rate ($Growth$) controls for the effects of income variations. Declining growth perceived as a negative income shock is disruptive to political stability as it makes it easier to recruit fighters from a growing pool of unemployed people. It also may increase income inequality and generate tensions across social classes or with the state [Miguel et al. \(2004\)](#).

The (log) commodity exports as a percent of GDP ($LogCommod$): this variable relates to the resource curse literature, which highlights how detrimental natural resources can be to institutions and development. Moreover, it is considered a common source of rebellion financing, matching the greed motive of conflicts ([Collier and Hoeffler, 2004](#)).

Unemployment ($Unemp$) captures in part economic opportunities. Jobless people constitute a potential pool for recruitment in armed groups and growing unemployment

rates have traditionally been at the core of social protests⁵.

Democracy (*Polity2*) is considered an inclusive political institution (Acemoglu and Robinson, 2012), and has the potential to prevent political exclusion and repression of certain groups of the society, therefore limiting grievance-driven political instability.

Ethnic and religious cleavages have been given attention as potential sources of instability (e.g., Collier and Hoeffler, 1998, 2004; Fearon and Laitin, 2003), and they are controlled for, using variables which capture ethnic tensions (*Ethnicity*) and religious tensions (*Religion*), respectively. These tensions are likely to result from the size of the population as larger population countries are more likely to have higher religious and ethnic fragmentations, which may cause religious and ethnic tensions (Alesina and Ferrara, 2005). Accordingly, I also include the (log) total population (*LogPop*) as an additional control in some estimations.

Education, proxied with the (log) secondary school enrolment (*LogEduc*), may affect the risk of social unrest and conflict through changing attitudes. Collier and Hoeffler (2004) noted that some conflict episodes started from lower school enrollment.

3.2 Identification strategy

Eq. 1 will be first estimated using OLS regressions. As it is not straightforward to interpret OLS estimates of β_1 as a causal effect, addressing the endogeneity issue of FDI with respect to political stability is crucial for achieving the goal of this study. Institutional quality is found to be a strong predictor of FDI location in the literature on FDI determinants. Countries with a better political environment in terms of political stability appear to be more attractive to investors and tend to be the top destinations of FDI. This means that the coefficient of FDI – β_1 – can be driven by reverse causality. Another source of identification issue is omitted factors that could jointly affect the socio-political environment and FDI inflows but are not captured by the control variables. The challenge is then to formulate a strategy suitable for identifying the causal effect of FDI on political stability. I rely on two alternative identification strategies: the Instrumental Variable method (IV) and the System Generalized Method of Moments (SYS-GMM) in a dynamic specification. The SYS-GMM will also serve for comparison, following, among others, Murtin and Wacziarg (2014) and Docquier et al. (2016).

3.2.1 The gravity-based instrumental variable approach

Finding good instruments in a panel setting is a daunting task, given that these instruments must vary over time. Pinto and Zhu (2016), in their analysis of the effect of FDI on corruption, constructed an instrument for FDI using the sum of the bilateral geographic

⁵As robustness check, I also consider measures of poverty and inequality in some estimations (see section 4.2.1 and Table A4 in Appendix).

distance between the host countries and the 20 wealthiest economies, weighted by their average real GDP per capita. They explain the logic of the instrument with these words: “on the one hand, investors are more likely to invest in those destinations that are close to their home country; and on the other hand, wealthier countries (those with higher GDP per capita) are more likely to be better endowed with capital and hence more likely to invest abroad”. They drew on [Larraín B and Tavares \(2004\)](#) who had developed the same instrument, adding cultural proximity in the construction of the variable. Taking note of these attempts to provide a reliable instrument for FDI and also taking advantage of the bilateral structure of the greenfield FDI data used in this study, I follow [Frankel and Romer \(1999\)](#) and [Feyrer \(2019\)](#)’s approach to construct a gravity-based instrumental variable for FDI.

The instrument is obtained in two steps. First, I construct gravity-based predicted bilateral FDI flows by regressing actual bilateral FDI on exogenous variables which are unlikely to directly affect political stability (see Eq. 2 below). Second, the fitted bilateral FDI, \widehat{FDI}_{ijt} , are aggregated over source countries for each destination country and time period, $\widehat{FDI}_{it} = \sum_j \widehat{FDI}_{ijt}$, to obtain the exogenous component of destination countries’ total FDI for every time period. The instrument for aggregate actual FDI as a percent of GDP in Eq. 1 is the aggregate predicted FDI inflows expressed as a percent of destination countries’ GDP: $(\widehat{FDI}_{it}/GDP_{it}) \times 100$. Following [Frankel and Romer \(1999\)](#), the gravity-based instrumental variable method has been extended in numerous studies, especially in the trade and migration literature, among which [Alesina et al. \(2016\)](#) and [Ortega and Peri \(2014\)](#). To my knowledge, this is the first time this approach has been used to study the effects of FDI. The “pseudo” gravity equation from which the predicted FDI are computed is given by:

$$\text{Log}(FDI_{ijt}) = \alpha_0 + \alpha_j + \alpha_t + \beta_1 \text{Lang}_{ij} + \beta_2 \text{Log}(GDP_{jt}) + \beta_3 \alpha_t \text{Log}(Dist_{ij}) + \varepsilon_{ijt} \quad (2)$$

where $\text{Log}(FDI_{ijt})$ is the natural logarithm of greenfield FDI received from country j by host country i at time t ; Lang_{ij} measures language links between both countries: a common language shared by two countries is expected to ease their transborder investments; $\text{Log}(GDP_{jt})$ represents the natural logarithm of GDP⁶ of the investing country as richer countries are more likely to invest abroad; $\text{Log}(Dist_{ij})$ is the natural logarithm of the geographical distance between the partner countries which I interact with time period dummies (α_t): beyond the logic behind [Pinto and Zhu \(2016\)](#) and [Larraín B and Tavares \(2004\)](#)’s instrument that outflows from a country are negatively related to distance to partner countries, the interaction of distance with time dummies accounts for common shocks in communication and technologies which have alleviated physical distance barriers

⁶FDI and GDP values are expressed in nominal terms. They are effectively deflated by the multilateral resistance terms. Deflating them by some factor such as the CPI or the GDP deflator to express them in real terms could produce misleading results.

to transborder investment over time, or transaction costs. Like the dependent, the resulting variable has a three-dimension variability (destination country, origin country, and time.) While all these independent variables have been commonly used in research on FDI determinants based on a gravity model, including [Bergstrand and Egger \(2013\)](#), [Di Giovanni \(2005\)](#), [Head and Ries \(2008\)](#), and [Stein and Daude \(2007\)](#), they are unlikely to affect (at least directly) political stability. They may not represent a perfect exogenous source of variation in FDI to make the gravity model-based predicted FDI reduce the actual FDI bias to zero, however they are exogenous enough to at least allow the instrument to mitigate the endogeneity bias. α_0 is a constant, and α_j an origin country fixed effect (FE). Following [Docquier et al. \(2016\)](#), I do not include destination country fixed effect because it could capture the influence of host countries' institutions on foreign investors' investment decisions.

3.2.2 The System Generalized Method of Moments (SYS-GMM)

For comparison purposes and also to account for the potential persistence in institutional factors, I supplement the gravity-based instrumental variable approach with the SYS-GMM proposed by [Blundell and Bond \(1998\)](#) using a dynamic specification (i.e., adding the lagged dependent to the set of regressors in Eq. 1). The SYS-GMM estimator has the property to address the so-called Nickell bias ([Nickell, 1981](#)) which arises from including the lagged dependent variable as a regressor in a fixed effects regression, and also to account for potential endogeneity of the controls. The SYS-GMM technique combines the equation in first differences with the equation in levels in a system. Under the assumption that lagged variables are not reacting to current changes, it instruments for the equation in levels with first differences of variables and for the equation in first differences with lagged levels of variables.

It is worth noting that the effect of FDI on political stability to be obtained from the different estimations (OLS, IV, and SYS-GMM) might be underestimated. FDI affects some of the covariates in the same direction as it is expected to influence political stability. Based on the main argument that by generating economic opportunities greenfield FDI can promote political stability, it appears that FDI is expected to affect both political stability and some of the covariates, including real per capita GDP and (un)employment, in the same direction. Consequently, the coefficient of FDI might be underestimated, as some of the effect is also likely to be captured by the covariates. As a result, the coefficient of FDI might reflect a lower-bound estimate of FDI impact on political stability.

3.3 Data and sample

The determination of FDI impact on political stability is based on a sample of 116 developing economies. The gravity model is estimated on these 116 countries (host countries) and 158

home countries (developing and developed countries)⁷. The data span the period between 2003 – the first year for which greenfield FDI data are provided – and 2017. Given the relatively little variation over time of the institutional quality variable, I use three-year averages of the data, resulting in 5 time periods. The selected countries as well as the time period depend on data availability. The full sample of countries is provided in Appendix, Tables A1 and A2.

3.3.1 Data for the gravity model (Eq. 2)

The bilateral FDI data are obtained from the fDi markets database of the Financial Times. The database provides information on greenfield FDI worldwide, including the source market, the destination market, and the capital investment. The values are in current US dollars. The sample dataset consists of 4,204 country pairs from 116 destination developing countries and 158 source countries. Data on language and geographical distance are taken from the CEPII database. Language is a dummy variable equal to 1 if a language is spoken by at least 9% of the population in both investing and recipient countries. Geographical distance measures the simple distance between the most populated cities of the country pairs, in kilometers. The source country’s GDP data are from the World Development Indicators (WDI) of the World Bank, in current USD.

3.3.2 Data for the baseline model (Eq. 1)

Political stability is measured with the political stability and absence of violence index of the Worldwide Governance Indicators (WGI). This is one of the 6 dimensions of governance reported by the WGI and captures the institutional environment in terms of perceptions of the likelihood of political instability and/or politically motivated violence. The dimensions of (in)stability captured by the index include, among others, armed conflicts, government stability, terrorism, international tensions, protests and riots, violent demonstrations, and social unrest⁸. The index is generated in such a way that it approximately ranges from -2.5 to +2.5, with higher values corresponding to better institutions. For the econometric estimations, I rescale the index so that it lies between 0 and 1, with 1 reflecting the highest political stability for the purposes of this study. The sample within and between standard deviations of the rescaled index are about 0.07 and 0.20, respectively. The WGIs are now widely used by academics (recent papers include [Alquist et al. \(2019\)](#); [Batista and Vicente](#)

⁷The paper follows UNCTAD’s classification of countries to distinguish between developed and developing countries (including transition economies.) Developed countries are Australia, Austria, Belgium, Canada, Switzerland, Cyprus, Germany, Denmark, Spain, Finland, France, Greece, Hong Kong, Ireland, Iceland, Israel, Italy, Japan, Luxemburg, Netherlands, Norway, New Zealand, Portugal, Sweden, United Kingdom, and the USA. Developing economies include all other countries. See <https://unctadstat.unctad.org/EN/Classifications.html>.

⁸For the methodology and list of the individual variables as well as data sources used to construct the index, see <https://info.worldbank.org/governance/wgi/Home/Documents>.

(2011); Deng et al. (2018)) and policymakers (for example, the Millennium Challenge Corporation relies on 4 of the WGI measures for determining country eligibility⁹, and the WGI's index of political stability appears to closely match the goal of this study. As a robustness check, I construct another index of political stability from 3 indicators of the International Country Risk Guide (ICRG)¹⁰, namely government stability, internal conflict, and external conflict, each with a minimum score of 0 and a maximum score of 12. Following the ICRG methodology, the index is computed as the sum of the 3 indicators. As previously, I transform the scores so that they range between 0 and 1 for the econometric estimations.

FDI inflows as a percent of GDP: for a given year and from the bilateral FDI flows presented above, I compute total FDI received by a country from all source countries to obtain the aggregate FDI inflows for that country and year. The aggregate FDI is then expressed as a percent of the host country's current GDP using WDI data. In order to explore possible heterogeneity regarding the type of source country, I also distinguish between flows from developed countries and flows from developing countries.

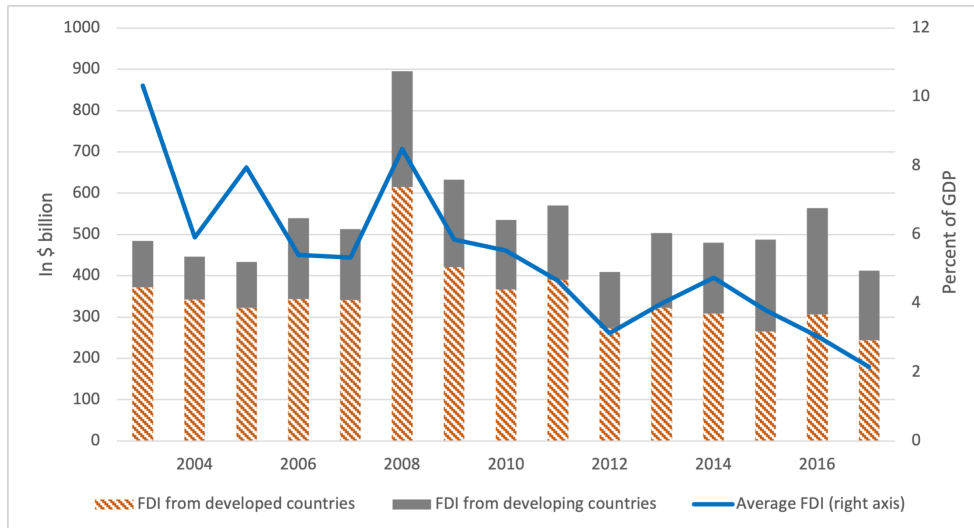
Real per capita GDP, real per capita GDP growth, commodity exports as a percent of GDP, unemployment (rate), population size, and education (measured by the gross enrolment rate in secondary education) data are all obtained from the WDI. ***Democracy*** is measured with the Polity2 variable of the POLITY IV dataset. Widely used in literature, it ranges between -10 and +10, with +10 equating to very democratic institutions. ***Religious tensions*** and ***ethnic tensions*** are taken from the ICRG database. They range from 0 to 6, higher ratings are given to countries where tensions are minimal. For ease of interpretation, I rename them religious cohesion, and ethnic cohesion, respectively.

3.3.3 Some descriptive statistics

During the period of analysis, total greenfield FDI flows to the sample of developing countries averaged about \$527 billion, with a peak of over \$895 billion in 2008. Apart from the 2008 peak, FDI inflows fluctuated around \$500 billion over the period, alternating phases of rise and fall, with 2012 registering the lowest amount of \$410 billion. The surge observed in 2008 demonstrates the importance of the developing region as host for FDI during the 2007-2008 global financial crisis UNCTAD (2010). Developed economies have remained the largest source of FDI to developing countries, but with a declining share as South-South FDI has been growing over time (Figure 1). For example, while the share of greenfield FDI from developing economies in total FDI was 24% over the first 3 years, it almost doubled over the last 3 three years (44.2 %), virtually equally important as flows

⁹See <https://www.mcc.gov/resources/doc/report-selection-criteria-methodology-fy19> for details.

¹⁰For details on the variables, see <https://www.prgroup.com/wp-content/uploads/2012/11/icrgmethodology.pdf>.



Source: Author's calculations, based on data from fDi Markets.

Figure 1: FDI inflows dynamics

from developed economies. This growing role of developing countries as new sources of investment within the developing world is driven by outflows from Asia; with China¹¹, Republic of Korea, Singapore, India, and Malaysia accounting for over 50% of greenfield FDI outflows over the period¹².

Greenfield FDI inflows within developing countries are unevenly distributed. The top 10 largest recipients accounted for more than half of the total inflows during the period, with China taking the lead. Most of them are emerging or high-income economies¹³. In particular, all BRIC countries are among the top 5 FDI destinations. In contrast, the bottom countries are generally low-income economies, most of them from Sub-Saharan Africa. However, the picture is different for inflows as a percent of GDP. Greenfield FDI represented a big share of GDP for small economies, with countries such as Mozambique, Liberia and Mongolia where average FDI over the period was more than 20% of GDP, outperforming China with an average FDI of less than 3% of GDP. While Sub-Saharan Africa was the smallest recipient of FDI in absolute terms, the region turned to be the second-largest host for FDI as a percent of GDP (almost 6%). Like flows in current USD, the average share of greenfield FDI in host countries' GDP fluctuated over the period, but with an overall downwards trend, from a high of 10.3% in 2003 to a low of 2.2% in 2017 (Figure 1).

Turning to the developing countries' institutions, the data indicate that political stability went deteriorating over the period with 2014 registering the lowest average score of -0.4 on a worldwide approximate scale from -2.5 to 2.5 (Figure 2). In spite of some improvements in years such as 2006 and 2015, the developing countries sample have never witnessed a

¹¹Including Taiwan.

¹²Other countries such as the United Arab Emirates, Russia, and South Africa are also major investors.

¹³Based on the World Bank income group classification.

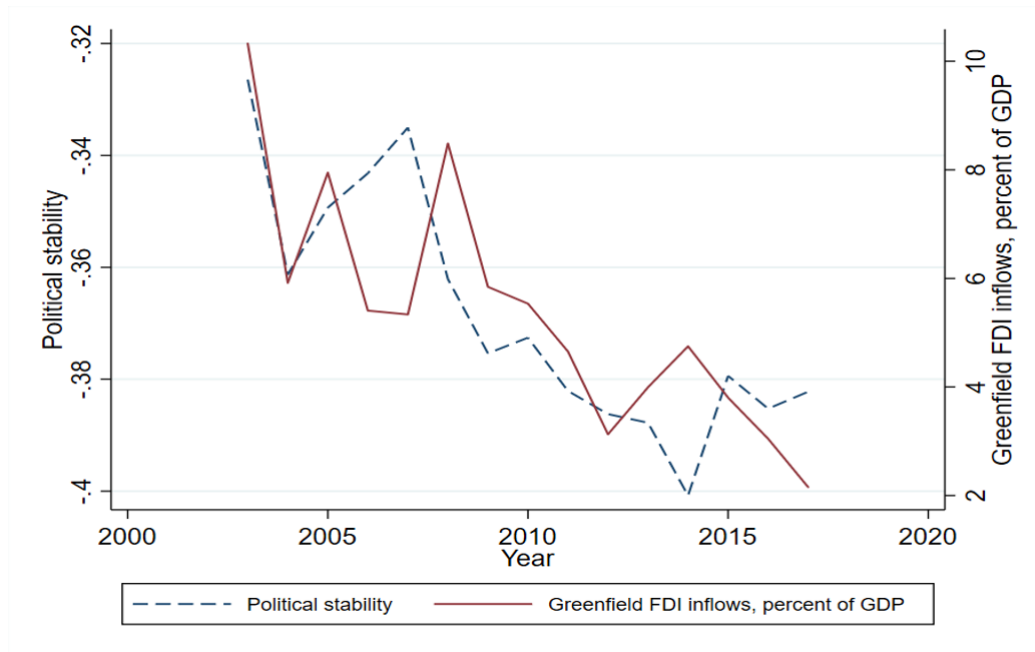
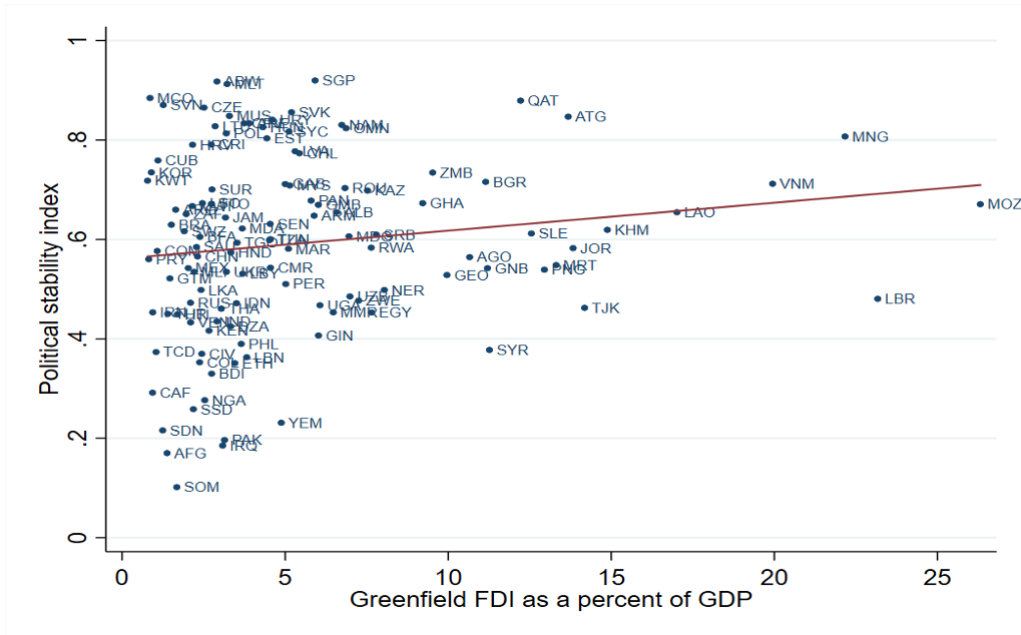


Figure 2: Political stability and Greenfield FDI inflows (as a percent of GDP) dynamics.

political environment more stable than that of the beginning of the period. While the highest level of institutional quality in terms of political stability was in Europe & Central Asia, the most unstable environment was observed in South Asia, with a score of -1.7, far below the sample average of -0.37. The data highlight the scope for substantial improvement in developing countries' institutions in terms of political stability. As a first step towards exploring the possible contribution of FDI to achieving this, Figure 3 shows that greenfield FDI is positively correlated with political stability. Table 1 provides summary statistics on the variables used in the regression analysis.



Note: The political stability index is rescaled between 0 and 1. One point represents a country's average over the period.

Figure 3: Correlation between political stability and FDI

Table 1: Summary statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Polstab	588	0.605	0.206	0	1
FDI (total)	577	5.321	7.368	0	59.189
FDI (from the North)	577	3.071	5.035	0	45.329
FDI (from the South)	577	2.25	4.422	0	54.349
LogGDPPC	571	8.094	1.36	5.364	11.879
Growth	584	2.748	3.748	-20.148	27.736
LogCommod	487	1.135	2.056	-10.673	4.232
Unemp	570	7.734	5.707	0.147	32.989
Polity2	558	3.025	6.092	-10	10
Religion	485	4.348	1.327	1	6
Ethnicity	485	3.864	1.236	1	6
LogPop	595	16.105	1.803	10.415	21.044
LogEduc	472	4.154	0.548	1.786	4.825

4 Estimations results

The results are organized in two main sections. I first estimate the gravity model of Eq. (2) which will serve to derive the instrumental variable for FDI inflows. Second, I investigate the link between FDI and political stability using the OLS method and the two identification methods, namely the IV-2SLS and the SYS-GMM.

4.1 PPML estimates of the gravity equation

Given the large number of zeros in the bilateral FDI data, OLS estimates of the gravity equation parameters are likely to be inconsistent. The Poisson regression by pseudo maximum likelihood appears to be the most appropriate method to estimate the above gravity model. More precisely, I rely on the Stata PPML command based on the method of [Silva and Tenreyro \(2011\)](#) to identify and drop regressors that may cause the nonexistence of the (pseudo) maximum likelihood estimates. The results are given in [Table 2](#) with robust standard errors (clustered by country pairs). Overall, the regressors are strong predictors of bilateral FDI flows as all coefficients are highly significant. In addition, the coefficients have the expected signs: language links favor greenfield projects, countries tend to receive more investments from richer economies, and countries invest less in more remote destinations, everything else being equal. These results are consistent with the findings of previous studies including [Bergstrand and Egger \(2013\)](#), [Di Giovanni \(2005\)](#), [Head and Ries \(2008\)](#), and [Stein and Daude \(2007\)](#). [Table A3](#) (in Appendix) reports the first-stage regression results of the IV-2SLS estimation of political stability using the baseline specifications. The results show that the predicted FDI obtained from the PPML estimation of the gravity model is a strong predictor of actual FDI as the coefficients are all positive and highly significant. In addition, [Figure 4](#) (in Appendix) displays a strong positive correlation between the FDI variable and its instrument with a correlation coefficient of 0.34.

Table 2: PPML estimates of the pseudo-gravity equation

Dependent:	Bilateral Greenfield FDI flows
Language	0.3599** (0.1830)
LogGDP_Origin	0.8032*** (0.1350)
LogDist × Period1	-0.3338*** (0.1179)
LogDist × Period2	-0.5290*** (0.0794)
LogDist × Period3	-0.3609*** (0.0933)
LogDist × Period4	-0.3425*** (0.0883)
LogDist × Period5	-0.4132*** (0.0856)
Constant	-1.4549 (3.1974)
Observations	20,839
Destination FE	Yes
Time FE	Yes

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The sample includes 116 destination countries and 158 developing and developed source countries. Robust standard errors clustered by country pairs are in parentheses.

4.2 Investigating the effect of FDI on political stability

The panel structure of the data allows exploring the effect of greenfield FDI on political stability using only its time-varying determinants as time-invariant factors are captured by country fixed effects (FE). The model is first estimated with OLS regressions. 2SLS and SYS-GMM are then employed to address possible endogeneity of FDI in specific ways discussed earlier.

4.2.1 OLS estimations

Table 3 reports the OLS estimates of the political stability model. I start by relating political stability only to economic variables, in columns (1) and (2), as they have proved to be more important determinants of socio-political instability than measures of political grievance (Collier and Hoeffler, 1998, 2004; Fearon and Laitin, 2003; Miguel et al., 2004). The results indicate that FDI is positively and significantly related to political stability. On average, a 100-point increase in FDI inflows as a percent of GDP is associated with an improvement in institutions of about 0.2. Higher income as well as a positive shock to income favor stability as per capita GDP and its growth rate have the expected signs and are highly significant, except growth in column (2). The negative coefficient of commodity exports is consistent with the “resource curse” hypothesis and the greed motive of instability, however, it is not statistically significant. Unemployment is significant with the expected sign: higher rates of unemployment breed political instability.

From column (3) to column (12), I gradually add the non-economic determinants of political stability. FDI remains positively associated with institutional quality. The coefficient is not significant only in columns (9), (10), and (11) after adding the population and education variable as final additional controls. Overall, the link between the economic variables and political stability is robust to the inclusion of non-economic variables. The economic variables tend to keep their sign and statistical significance of columns (1) and (2). Turning to the non-economic variables, democracy has a positive association with political stability, although not significant. Religious cohesion and ethnic cohesion have the expected signs with statistical significance at conventional levels. Population has a negative coefficient and is significant in specifications without time FE, suggesting that larger populations increase the risk of political instability. Education is negatively and significantly related to institutional quality: educated people might be more demanding of the government and resort to protest to get things changed.

Table 3: OLS estimates of the political stability model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Dependent:</i>	Political stability											
FDI	0.0024*** (0.0008)	0.0019** (0.0008)	0.0025*** (0.0008)	0.0019** (0.0008)	0.0023*** (0.0008)	0.0016* (0.0009)	0.0023*** (0.0009)	0.0016* (0.0009)	0.0013 (0.0009)	0.0014 (0.0009)	0.0016 (0.0010)	0.0016* (0.0010)
LogGDPPC	0.0798*** (0.0270)	0.1770*** (0.0389)	0.0764*** (0.0271)	0.1753*** (0.0395)	0.0680*** (0.0257)	0.1762*** (0.0396)	0.0703*** (0.0256)	0.1794*** (0.0379)	0.0891*** (0.0248)	0.1668*** (0.0419)	0.1115*** (0.0340)	0.1697*** (0.0401)
Growth	0.0026*** (0.0009)	0.0012 (0.0012)	0.0026** (0.0010)	0.0009 (0.0013)	0.0022** (0.0011)	0.0004 (0.0013)	0.0021** (0.0010)	0.0003 (0.0013)	0.0018* (0.0011)	0.0006 (0.0012)	0.0006 (0.0012)	-0.0008 (0.0016)
LogCommod	-0.0036 (0.0045)	-0.0055 (0.0041)	-0.0026 (0.0048)	-0.0046 (0.0045)	-0.0050 (0.0055)	-0.0070 (0.0053)	-0.0059 (0.0056)	-0.0079 (0.0053)	-0.0078* (0.0046)	-0.0079 (0.0051)	-0.0041 (0.0033)	-0.0037 (0.0040)
Unemp	-0.0044** (0.0020)	-0.0055** (0.0021)	-0.0046** (0.0019)	-0.0059*** (0.0021)	-0.0046** (0.0019)	-0.0059*** (0.0021)	-0.0042** (0.0019)	-0.0055** (0.0021)	-0.0048** (0.0019)	-0.0056*** (0.0020)	-0.0042** (0.0021)	-0.0052** (0.0023)
Polity2			0.0016 (0.0049)	0.0033 (0.0049)	0.0012 (0.0047)	0.0030 (0.0048)	0.0015 (0.0044)	0.0033 (0.0046)	0.0027 (0.0045)	0.0033 (0.0046)	0.0017 (0.0048)	0.0021 (0.0049)
Religion					0.0488*** (0.0150)	0.0543*** (0.0141)	0.0398** (0.0166)	0.0451*** (0.0159)	0.0432** (0.0165)	0.0457*** (0.0160)	0.0363* (0.0194)	0.0399** (0.0188)
Ethnicity							0.0287 (0.0176)	0.0297* (0.0155)	0.0284* (0.0167)	0.0294* (0.0155)	0.0289* (0.0157)	0.0271* (0.0147)
LogPop									-0.1253** (0.0534)	-0.0413 (0.0604)	-0.1132* (0.0628)	-0.0655 (0.0623)
LogEduc											-0.1122** (0.0502)	-0.0963* (0.0496)
Observations	472	472	465	465	415	415	415	415	415	415	346	346
R-squared	0.096	0.151	0.098	0.156	0.121	0.189	0.140	0.209	0.179	0.212	0.238	0.263
Countries	106	106	105	105	92	92	92	92	92	92	87	87
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes: *** p<0.01, ** p<0.05, * p<0.1. All standard errors (in parenthesis) are heteroskedasticity robust. Political stability is measured with the “political stability and absence of violence index” index of the WGI rescaled between 0 and 1. FDI represents greenfield FDI inflows as a percent of GDP. All regressions include a constant.

The previous regressions excluded two major factors of resentment, poverty and inequality, because of too many missing observations (using WDI data on the poverty headcount ratio at \$1.90 and the Gini index, respectively). In Table A4 in Appendix, I disregard this concern and extend the last two specifications by adding them. Including these two variables almost halves the number of observations. This extension does not affect the relationship between FDI and political stability as the coefficient remains positive, albeit not significant. In the following estimations, I then use models from columns (7) and (8) of Table 3 as the preferred specifications, including both economic and political grievance-related predictors of political stability.

4.2.2 2SLS estimations

In Table 4, I re-estimate the preferred specification by 2SLS using the gravity-based instrument. The Kleibergen-Paap Wald F statistic (KP) for weak identification is always very large in the baseline model from columns (1) and (2), at least 22.7, far above the most demanding Stock-Yogo critical value of 16.38. The KP in columns (3) and (4) is above the critical value of 8.96 for 15% maximum IV size. Overall, the KP statistics suggest that the instrument is strong and performs well in the second stage.

Previous results from the OLS estimations are confirmed by the IV-2SLS estimations regarding the effect of greenfield FDI on institutional quality in terms of political stability. In all columns, except column (2), FDI exerts a significant and positive effect on political stability. The effect is about a 0.8-point increase in the score of the institutional quality index for a 100 percentage-point increase in FDI inflows. This coefficient is much larger compared to that of table 3, suggesting that the OLS coefficients were downwards biased. With the exception of per capita GDP growth and population which become non-significant, the other predictors follow their patterns of earlier results: GDP per capita, religious cohesion, and ethnic cohesion have a positive and significant association with the institutional index; the link is negative and significant for unemployment and education; commodity exports and democracy are not significant with expected signs (negative for the former and positive for the latter). These results highlight a causal and strong impact of greenfield FDI on political stability.

Table 4: 2SLS estimates of the political stability model

	(1)	(2)	(3)	(4)
<i>Dependent:</i>	Political stability			
FDI	0.0077*** (0.0028)	0.0046 (0.0030)	0.0083* (0.0047)	0.0080* (0.0048)
LogGDPPC	0.0987*** (0.0288)	0.1731*** (0.0313)	0.1354*** (0.0412)	0.1770*** (0.0447)
Growth	0.0002 (0.0014)	-0.0002 (0.0013)	-0.0016 (0.0018)	-0.0021 (0.0017)
LogCommod	-0.0068 (0.0052)	-0.0076 (0.0051)	-0.0018 (0.0055)	-0.0012 (0.0060)
Unemp	-0.0054*** (0.0020)	-0.0063*** (0.0020)	-0.0050** (0.0022)	-0.0064*** (0.0023)
Polity2	0.0017 (0.0031)	0.0030 (0.0030)	0.0010 (0.0032)	0.0012 (0.0033)
Religion	0.0391*** (0.0127)	0.0446*** (0.0126)	0.0286* (0.0164)	0.0338** (0.0165)
Ethnicity	0.0270* (0.0162)	0.0288** (0.0138)	0.0311** (0.0146)	0.0292** (0.0134)
LogPop			0.0011 (0.1436)	0.0227 (0.1429)
LogEduc			-0.1507** (0.0706)	-0.1427** (0.0718)
Observations	414	414	340	340
KP	23.45	22.73	10.60	11.19
Countries	91	91	81	81
Country FE	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors (in parenthesis) are heteroskedasticity robust. The excluded instrument is the fitted FDI as a percent of GDP. The Kleibergen-Paap statistics to be compared with the Stock-Yogo critical values to test the instrument's strength.

4.2.3 SYS-GMM estimations

Table 5 reports the SYS-GMM estimates for comparison purposes and also to account for the potential persistence in political stability through a dynamic specification by adding the lagged institutional index to the set of regressors in Eq. 1. The results are based on the preferred specification. Columns (1) and (2) rely on internal instruments only. Columns (3) and (4) use the gravity-based instrument for FDI. Before discussing the estimates, it is noteworthy that the usual diagnostic tests support the quality of the fitting: the AR (2) p-values of the Arellano-Bond test for serial correlation indicate absence of first-order serial correlation in levels (second-order correlation in differences), and the Hansen J test does not reject the null hypothesis that the instruments are valid. Overall, the diagnostic tests at the bottom of the table suggest that the SYS-GMM is correctly specified in all estimations.

The SYS-GMM estimates confirm the results obtained with the 2SLS method. FDI keeps having a positive impact on political stability with statistical significance at usual levels, except for column (1). The magnitudes, varying between 0.3 and 0.6 for a 100-point increase in FDI as a percent of GDP are smaller than the 2SLS estimates but remain larger than OLS estimates, thereby confirming the downwards bias of the OLS estimates. Regarding the control variables, the positive and significant coefficient of the lagged dependent suggests inertia in political stability in the developing world. Per capita GDP, per capita GDP growth rate, unemployment, democracy, and ethnic cohesion have the expected signs, although they lose significance in some specifications. Religious cohesion and commodity exports fail to significantly affect political stability.

Table 5: One-step SYS-GMM estimates of the dynamic political stability model

	(1)	(2)	(3)	(4)
<i>Dependent:</i>	Political stability (Polstab)			
	Internal instruments		Gravity instrument	
FDI	0.0029 (0.0019)	0.0052** (0.0024)	0.0034* (0.0020)	0.0058** (0.0026)
LogGDPPC	0.0102 (0.0079)	0.0113 (0.0088)	0.0054 (0.0082)	0.0079 (0.0094)
Growth	0.0037 (0.0023)	0.0046* (0.0027)	0.0032 (0.0024)	0.0042 (0.0028)
LogCommod	0.0082 (0.0075)	0.0078 (0.0074)	0.0066 (0.0072)	0.0072 (0.0072)
Unemp	-0.0019 (0.0027)	-0.0018 (0.0029)	-0.0011 (0.0026)	-0.0013 (0.0029)
Polity2	0.0060*** (0.0022)	0.0060** (0.0023)	0.0052** (0.0022)	0.0054** (0.0023)
Religion	-0.0135 (0.0132)	-0.0172 (0.0147)	-0.0103 (0.0126)	-0.0146 (0.0147)
Ethnicity	0.0161 (0.0100)	0.0218** (0.0110)	0.0140 (0.0091)	0.0202* (0.0105)
Polstab _{t-1}	0.8910*** (0.0844)	0.9043*** (0.0917)	0.9182*** (0.0859)	0.9226*** (0.0950)
Observations	331	331	331	331
AR (2)	0.156	0.178	0.217	0.238
Hansen J	0.391	0.589	0.302	0.602
Instruments/Countries	56/91	59/91	57/91	60/91
Country FE	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors (in parenthesis) are robust to heteroskedasticity and autocorrelation within countries. AR(1) and AR(2): p-values of Arellano-Bond test for serial correlations. Hansen J reports the corresponding test p-value. All regressions include a constant.

4.2.4 Political stability and political repression

The link between violations of basic human rights and political stability can be twofold. On the one hand, human rights abuse is likely to exacerbate grievance and feed protest against governments, negatively affecting political stability. On the other hand, political repression has proved to be a strong instrument in authoritarian countries to instill fear and quell protests. In other words, political terror can be used to enforce political stability, harming individuals' well-being through denial of their civil liberties and political rights. The case of Libya offers an interesting example of this. Under Mouammar Kadhafi, the country enjoyed a quite stable political climate, with positive scores on the stability index, ranging from 0.03 to 0.83 between 2003 and 2010. While a couple of factors contributed to this, including good socio-economic records, many observers noted that the country was ruled by an authoritarian regime with the same president in office since 1969. Libya was considered by many a country with an oppressive regime with the potential to dissuade any attempts at political protest. These included hangings and mutilations of opponents, often broadcast on television, and the repression of those deemed "enemies of the revolution" (academics, journalists, etc.)¹⁴. The relative political stability witnessed by Libya prior to the 2011 civil war, in the wake of the Arab Spring, might have been obtained in part by political terror.

In the analysis of the effect of FDI on political stability, the role of political repression deserves particular attention. If political terror can be used as a dissuasive tool to prevent instability, then it can also serve states' interest in attracting FDI. Because MNCs would be reluctant to invest in an unstable environment, FDI can trigger the use of terror by states to impose stability and favor a competitive environment in terms of political stability. In this way, FDI can promote stability at the expense of individuals' well-being. In line with the dependency school of thought, some authors have argued that the nature of ties between external actors and elites in developing countries gives the elites incentives to repress in order to provide the kind of stable political environment necessary to attract and maintain FDI (e.g., [Maxfield, 1998](#)).

Following this interplay between FDI, political terror, and political stability, it therefore appears important to rule out the influence of political repression from the positive effect of FDI on political stability. To this end, I complement the preferred specification by controlling for human rights conditions using the Political Terror Scale (PTS). In addition, in the sensitivity section, I estimate the preferred models on the subsample of countries with greater respect for human rights (those below the sample median). Housed by the Political Science Department at the University of North California, the PTS project measures violations of physical integrity rights by states or their agents. The violations of personal integrity or security captured by the PTS include torture, excessive use of force, political

¹⁴See for example: <https://www.lefigaro.fr/international/2011/08/22/01003-20110822ARTFIG00596-libye-quatre-decennies-d-exactions-et-de-repression.php>.

assassinations and murder, political imprisonment, arbitrary arrest, and detention¹⁵. Three separate indicators of political terror are provided by the PTS project, each based on yearly reports published by Amnesty International, the U.S. State Department, and recently, Human Rights Watch. The three PTS indicators are highly related and scaled from 1 to 5, with higher scores indicating higher levels of abuse. Following previous work (Blanton and Blanton, 2007; Poe et al., 1999), this study's measure of political terror is the average of the PTS's Amnesty International and US State Department indicators¹⁶ (the Human Rights Watch-based score is excluded because of its limited time coverage, starting from 2013.)

The estimations results are provided in Table 6. Columns (1) and (2) report 2SLS estimates using the gravity instrument. Columns (3) and (4) show SYS-GMM estimates based on internal instruments only, and columns (5) and (6) provide SYS-GMM estimates relying on the gravity instrument as an external instrumental variable for FDI. The results stress a negative link between political terror and political stability. In all columns, the PTS coefficient is negative and significant at conventional levels. This result aligns with the grievance motive for instability. Increased offenses against physical integrity rights might stimulate opposition to governments and provoke unrest, posing a threat to political stability.

Turning to the coefficients of FDI, they are positive as in previous findings and very significant, confirming that greenfield FDI has a positive impact on political stability. Moreover, they show that greenfield FDI promotes human rights compliant political stability. The magnitudes range from about 0.4 to 0.7 increase in the political stability index for a 100 percentage points increase in greenfield FDI as a percent of GDP. Put differently, the findings reveal that for the same level of FDI/GDP ratio, countries with greater political repression suffer more instability than others. This means that overall, FDI does not inhibit instability when repression is used by governments as an instrument to bring about a stable political climate. Political stability can be obtained without resort to intimidation as long as people are provided with good economic opportunities – one of the main potentials of greenfield FDI – and foreign investors require a stable socio-political climate as part of their decision to invest abroad. This makes FDI a strong determinant of

¹⁵The PTS is not limited to politically motivated violence and intimidation, but captures any repression by state agents, regardless of the motivation. Not only does politically motivated violence have the potential to intimidate people and muzzle protests, other forms of violence, such as the assassination of a random bystander, also do. As such, the PTS is advantageous as it captures a more comprehensive scope of the use of intimidation as a tool to provide a stable political climate.

¹⁶Polity2, the democracy variable used in the specification, is based on coding of legal documents and can be interpreted as an indicator of *de jure* political institutions. It can, therefore, be associated with PTS which refers to *de facto* human rights conditions. The Freedom House civil liberties indicator captures facets of human rights such as freedom of speech and assembly, commonly incorporated into measures of democracy indicators such as Polity2, while this section focuses on repression-driven political stability. Moreover, the correlation coefficient between PTS and Polity2, -0.3, suggest using PTS, as it is smaller (in absolute value) than the correlation coefficient between Polity2 and the civil liberties indicator (-0.8).

Table 6: FDI and political stability, accounting for political terror

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Dependent:</i>	Political stability (Polstab)					
<i>Method:</i>	IV-2SLS		One-step SYS-GMM			
			Internal instruments		Gravity instrument	
FDI	0.0069*** (0.0022)	0.0043* (0.0024)	0.0047** (0.0019)	0.0062*** (0.0022)	0.0050** (0.0019)	0.0063*** (0.0021)
LogGDPPC	0.0670*** (0.0232)	0.1237*** (0.0271)	0.0137** (0.0070)	0.0128* (0.0072)	0.0120* (0.0072)	0.0126 (0.0077)
Growth	-0.0002 (0.0011)	-0.0005 (0.0011)	0.0022 (0.0017)	0.0037* (0.0021)	0.0020 (0.0017)	0.0037* (0.0021)
LogCommod	-0.0082* (0.0045)	-0.0095** (0.0045)	0.0065 (0.0062)	0.0052 (0.0063)	0.0057 (0.0059)	0.0051 (0.0062)
Unemp	-0.0042** (0.0020)	-0.0044** (0.0020)	-0.0026 (0.0020)	-0.0023 (0.0023)	-0.0023 (0.0020)	-0.0022 (0.0022)
Polity2	-0.0010 (0.0025)	0.0001 (0.0024)	0.0038 (0.0025)	0.0034 (0.0027)	0.0032 (0.0023)	0.0033 (0.0024)
Religion	0.0301** (0.0129)	0.0335*** (0.0116)	-0.0034 (0.0109)	-0.0056 (0.0109)	-0.0013 (0.0103)	-0.0053 (0.0107)
Ethnicity	0.0103 (0.0139)	0.0121 (0.0123)	0.0058 (0.0090)	0.0094 (0.0086)	0.0041 (0.0082)	0.0091 (0.0080)
PTS	-0.0839*** (0.0119)	-0.0810*** (0.0113)	-0.0280* (0.0167)	-0.0325* (0.0194)	-0.0321** (0.0155)	-0.0332* (0.0176)
Polstab _{t-1}			0.7566*** (0.0831)	0.7610*** (0.0853)	0.7526*** (0.0822)	0.7603*** (0.0844)
Observations	412	412	331	331	331	331
KP	22.56	21.53	.	.	.	.
AR(2)	.	.	0.192	0.186	0.221	0.193
Hansen J	.	.	0.301	0.601	0.260	0.545
Instruments	.	.	62	65	63	66
Countries	90	90	91	91	91	91
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors are heteroscedasticity robust. KP (Kleibergen-Paap Wald F) to be compared with the Stock-Yogo critical values to test the instrument's strength. AR(1) and AR(2): p-values of Arellano-Bond test for correlation. Hansen J reports the corresponding test p-value. All regressions include a constant.

political stability in general, and human rights compliant political stability in particular, contributing to individuals' well-being. Greater religious cohesion translates into a more stable socio-political climate. Unemployment and commodity exports are negatively related to the institutional quality index.

5 Sensitivity checks

This section conducts a series of robustness tests to explore the sensitivity of the main results. First, the results discussed above are based on the measure of institutional quality as provided by the WGI political stability and absence of violence index. As I noted earlier, this measure is a composite index of a range of indicators of socio-political stability from various sources. In Table 7, I repeat the 2SLS and SYS-GMM estimations of the baseline specification using an alternative measure of political stability obtained from three indicators of the International Country Risk Guide (ICRG)¹⁷, namely government stability, internal conflict and external conflict, in the way discussed in section 3.3. The results support the previous findings. While the 2SLS estimation in column (2) fails to detect a statistically significant effect of FDI on political stability, column (1) shows that FDI contributes to institutional development in terms of political stability. The results from the SYS-GMM estimations are more compelling. The effect is positive and highly significant in all specifications, whether based on internal instruments only or using the gravity instrument as an external instrument for FDI. Here again, the KP statistics in the IV estimations indicate that the instrument is strong enough.

Second, following Demir (2016), I explore whether there is any differential impact of FDI on institutions depending on the origin of investments: developed countries (North) vs. developing countries (South), given allegations against South investors of undermining North investors' achievements in improving institutional quality in the developing world. In Table 8, I replicate the 2SLS and SYS-GMM estimations after splitting the source countries into North and South to distinguish between FDI from the North and FDI from the South¹⁸. Columns (1) through (4) report the 2SLS estimates; columns (5) to (12) show the SYS-GMM estimates with internal instruments only (the first four columns) and gravity-based instrument for FDI (the last four columns). The results do not suggest any particular differential effect according to the provenance of FDI flows, thereby resonating with previous findings by Demir (2016). Like the main results, the coefficient of FDI is positive no matter where FDI originates from. FDI from the North significantly affects political stability in column (1), while FDI from the South is significant in columns (7) and (11).

¹⁷For details on the variables, see <https://www.prsgroup.com/wp-content/uploads/2012/11/icrgmethodology.pdf>.

¹⁸The gravity-based instruments are obtained from the estimation of the gravity model for each subsample (FDI flows from the North and FDI flows from the South), results available upon request.

Table 7: 2SLS and SYS-GMM estimates using an alternative measure of political stability

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Dependent:</i>	Political stability (Polstab)					
<i>Method:</i>	IV-2SLS		SYS-GMM			
			Internal instruments		Gravity instrument	
FDI	0.0091** (0.0042)	-0.0065 (0.0042)	0.0056*** (0.0019)	0.0030* (0.0018)	0.0059*** (0.0020)	0.0033* (0.0019)
LogGDPPC	-0.1370*** (0.0415)	0.1378*** (0.0467)	0.0096 (0.0093)	0.0041 (0.0083)	0.0031 (0.0092)	-0.0029 (0.0082)
Growth	0.0062*** (0.0023)	0.0053*** (0.0017)	0.0040** (0.0019)	0.0047** (0.0020)	0.0035* (0.0020)	0.0041** (0.0020)
LogCommod	0.0152** (0.0074)	0.0081 (0.0060)	0.0127* (0.0067)	0.0144*** (0.0053)	0.0124* (0.0072)	0.0140** (0.0057)
Unemp	-0.0053* (0.0028)	-0.0033 (0.0026)	-0.0009 (0.0021)	-0.0009 (0.0019)	0.0001 (0.0021)	0.0001 (0.0019)
Polity2	-0.0066** (0.0031)	-0.0005 (0.0030)	0.0021 (0.0014)	0.0026* (0.0014)	0.0018 (0.0015)	0.0023 (0.0014)
Religion	0.0429* (0.0236)	0.0510*** (0.0181)	0.0047 (0.0083)	0.0034 (0.0079)	0.0092 (0.0090)	0.0088 (0.0088)
Ethnicity	0.0284* (0.0166)	0.0343** (0.0133)	0.0106 (0.0108)	0.0121 (0.0107)	0.0116 (0.0117)	0.0131 (0.0115)
Polstab _{t-1}			0.6807*** (0.0630)	0.7246*** (0.0680)	0.6664*** (0.0647)	0.7095*** (0.0693)
Observations	414	414	331	331	331	331
KP	23.45	22.73	.	.	.	.
AR(2)	.	.	0.732	0.947	0.709	0.864
Hansen J	.	.	0.273	0.381	0.306	0.355
Instruments	.	.	78	81	79	82
Countries	91	91	91	91	91	91
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors (in parenthesis) are heteroscedasticity robust. IV-2SLS in columns (1) and (2). KP (Kleibergen-Paap Wald F statistic) to be compared with the Stock-Yogo critical values to test the instrument's strength. One-step SYS-GMM estimator in columns (3)-(6). AR(1) and AR(2): p-values of Arellano-Bond test for serial correlations. Hansen J report the corresponding test p-value.

Table 8: Effects of FDI on political stability: flows from the North vs. flows from the South

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Dependent:</i>	Political stability (Polstab)											
<i>Method:</i>	IV-2SLS				One-step SYS-GMM							
					Internal instruments				Gravity instrument			
FDInorth	0.0125*** (0.0043)	0.0079 (0.0050)			0.0006 (0.0029)	0.0034 (0.0040)	0.0018 (0.0029)	0.0049 (0.0040)				
FDIsouth			0.0059 (0.0057)	0.0041 (0.0061)					0.0064* (0.0036)	0.0057 (0.0036)	0.0066* (0.0039)	0.0058 (0.0038)
LogGDPPC	0.1224*** (0.0321)	0.1749*** (0.0327)	0.0589** (0.0230)	0.1782*** (0.0317)	0.0052 (0.0079)	0.0054 (0.0086)	-0.0009 (0.0079)	-0.0001 (0.0090)	0.0108 (0.0084)	0.0089 (0.0083)	0.0099 (0.0084)	0.0087 (0.0082)
Growth	0.0002 (0.0014)	0.0000 (0.0013)	0.0021* (0.0012)	0.0002 (0.0012)	0.0055** (0.0021)	0.0063** (0.0025)	0.0046** (0.0022)	0.0056** (0.0025)	0.0033 (0.0022)	0.0047* (0.0025)	0.0032 (0.0022)	0.0047* (0.0025)
LogCommod	-0.0065 (0.0053)	-0.0074 (0.0052)	-0.0060 (0.0054)	-0.0080 (0.0049)	0.0095 (0.0077)	0.0085 (0.0075)	0.0074 (0.0075)	0.0069 (0.0071)	0.0082 (0.0074)	0.0070 (0.0073)	0.0080 (0.0073)	0.0070 (0.0073)
Unemp	-0.0050** (0.0021)	-0.0059*** (0.0020)	-0.0044** (0.0018)	-0.0057*** (0.0020)	-0.0014 (0.0027)	-0.0012 (0.0029)	-0.0005 (0.0026)	-0.0005 (0.0028)	-0.0022 (0.0028)	-0.0019 (0.0029)	-0.0021 (0.0027)	-0.0019 (0.0028)
Polity2	0.0022 (0.0032)	0.0030 (0.0031)	0.0012 (0.0031)	0.0032 (0.0030)	0.0053** (0.0021)	0.0053** (0.0022)	0.0042** (0.0020)	0.0043** (0.0021)	0.0066*** (0.0025)	0.0060** (0.0026)	0.0065*** (0.0024)	0.0060** (0.0025)
Religion	0.0373*** (0.0133)	0.0424*** (0.0134)	0.0407*** (0.0127)	0.0462*** (0.0125)	-0.0138 (0.0129)	-0.0175 (0.0138)	-0.0078 (0.0123)	-0.0115 (0.0135)	-0.0044 (0.0121)	-0.0081 (0.0117)	-0.0043 (0.0120)	-0.0081 (0.0117)
Ethnicity	0.0337** (0.0160)	0.0329** (0.0143)	0.0256 (0.0159)	0.0275** (0.0136)	0.0190* (0.0101)	0.0232** (0.0104)	0.0154* (0.0091)	0.0199** (0.0097)	0.0172* (0.0089)	0.0242*** (0.0087)	0.0171** (0.0087)	0.0241*** (0.0086)
Polstab _{t-1}					0.9248*** (0.0834)	0.9322*** (0.0864)	0.9485*** (0.0827)	0.9505*** (0.0878)	0.8482*** (0.0909)	0.8803*** (0.0933)	0.8538*** (0.0900)	0.8813*** (0.0925)
Observations	414	414	414	414	331	331	331	331	331	331	331	331
KP	26.62	13.62	4.895	3.633	.	.	.	.	.	.	.	.
AR(2)	.	.	.	.	0.0762	0.0739	0.116	0.113	0.268	0.140	0.284	0.141
Hansen J	.	.	.	.	0.402	0.621	0.305	0.605	0.346	0.385	0.314	0.386
Countries	91	91	91	91	91	91	91	91	91	91	91	91
Instruments	.	.	.	.	56	59	57	60	56	59	57	60
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

***p<0.01, **p<0.05, *p<0.1. Heteroscedasticity robust standard errors. IV-2SLS in columns (1)-(4). KP Wald F statistic to be compared with the Stock-Yogo critical values. SYS-GMM estimations in columns (5)-(12). AR(1) and AR(2): p-values of Arellano-Bond test for serial correlations. Hansen J is the corresponding test p-value.

Third, I examine whether the results are conditional on income level by excluding upper-middle and high-income countries, based on the World Bank classification. While they witnessed the weakest institutional development, low-income and low-middle income countries registered the largest greenfield FDI inflows as a percent of GDP during the period of study¹⁹. The 2SLS estimates given in Table 9 show that the results are robust to the exclusion of upper-middle and high-income countries. The effect is positive in both specifications (1) and (2) and statistically significant in specification (1).²⁰

Next, to investigate again the finding that greenfield FDI promotes human rights compliant institutional quality, I re-estimate the models using the sub-sample of countries with greater respect for people's physical integrity rights, that is, countries below the full sample median of the political terror scale. The results are given in Table 10 and confirm the previous results. Columns (1) and (2), which report the 2SLS estimates, show that greenfield FDI positively and significantly affects political stability in countries where protests are not under heightened threat of political terror. Therefore, they confirm that greenfield FDI does not favor a stable socio-political climate at the expense of human physical integrity rights. The SYS-GMM results from columns (3) and (4) also display a positive coefficient of FDI but are not statistically significant.

Lastly, given that the instrument used throughout the paper is obtained from predicted values, I question the robustness of the FDI coefficients significance by testing their sensitivity to bootstrap wherever the instrumental variable was used in the baseline specification. The results, which are available upon request, support the robustness of the statistical significance of the FDI coefficients.

¹⁹Average FDI: 6.7% for low income, 6.6% for low-middle income, 4.1% for upper-middle income, and 4.2% for high income. Average political stability index: -1.02 for low income, -0.64 for low-middle income, -0.42 for upper-middle income, and 0.71 for high income.

²⁰I do not show the SYS-GMM-based results because the AR(2) tests and the coefficients on the lagged dependent above 1 suggest that the data for the subsample of low and low-middle income countries do not fit the SYS-GMM estimations, though the coefficients remain positive.

Table 9: Effect of FDI on political stability:
subsample of low-income countries

	(1)	(2)
<i>Dependent:</i>	Political stability (Polstab)	
<i>Method:</i>	IV-2SLS	
FDI	0.0109** (0.0045)	0.0024 (0.0039)
LogGDPPC	0.0630 (0.0461)	0.2592*** (0.0627)
Growth	0.0028 (0.0029)	0.0023 (0.0024)
LogCommod	-0.0099 (0.0080)	-0.0199*** (0.0070)
Unemp	-0.0154** (0.0066)	-0.0122** (0.0059)
Polity2	0.0024 (0.0046)	0.0083* (0.0046)
Religion	0.0470* (0.0273)	0.0544** (0.0237)
Ethnicity	0.0164 (0.0334)	0.0217 (0.0255)
Observations	167	167
KP	20.66	16.66
Countries	38	38
Country FE	Yes	Yes
Time FE	No	Yes

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors (in parenthesis) are heteroscedasticity robust. KP (Kleibergen-Paap Wald F statistic) to be compared with the Stock-Yogo critical values to test the instrument's strength. All regressions include a constant.

Table 10: Effect of FDI on political stability: subsample of countries with lower PTS

	(1)	(2)	(3)	(4)
<i>Dependent:</i>	Political stability (Polstab)			
<i>Method:</i>	IV-2SLS		SYS-GMM	
			Internal	Gravity
FDI	0.0098** (0.0042)	0.0096* (0.0050)	0.0002 (0.0030)	0.0001 (0.0028)
LogGDPPC	0.1301** (0.0582)	0.1649*** (0.0583)	0.0157 (0.0160)	0.0158 (0.0159)
Growth	-0.0014 (0.0018)	-0.0017 (0.0020)	-0.0015 (0.0022)	-0.0015 (0.0023)
LogCommod	-0.0139* (0.0079)	-0.0142 (0.0086)	0.0039 (0.0113)	0.0040 (0.0117)
Unemp	-0.0013 (0.0025)	-0.0024 (0.0028)	0.0000 (0.0025)	-0.0001 (0.0021)
Polity2	0.0080 (0.0083)	0.0091 (0.0083)	-0.0022 (0.0034)	-0.0021 (0.0034)
Religion	0.0291 (0.0292)	0.0386 (0.0301)	0.0659* (0.0366)	0.0658* (0.0364)
Ethnicity	0.0364** (0.0178)	0.0372** (0.0175)	0.0062 (0.0241)	0.0067 (0.0230)
Polstab _{t-1}			0.7357*** (0.1027)	0.7351*** (0.1033)
Observations	208	208	166	166
KP	13.95	14.47	.	.
AR(1)	.	.	0.0565	0.0568
AR(2)	.	.	0.105	0.104
Hansen J	.	.	0.499	0.441
Instruments	.	.	43	44
Countries	45	45	45	45
Country FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors (in parenthesis) are heteroscedasticity robust. IV-2SLS in columns (1)-(2). KP (Kleibergen-Paap Wald F statistic) to be compared with the Stock-Yogo critical values to test the instrument's strength. One-step SYS-GMM estimator in columns (3)-(4). AR(1) and AR(2): p-values of Arellano-Bond test for serial correlations. Hansen J reports the corresponding test p-value.

6 Conclusion

Following the strong emphasis on institutional quality in comparative development, its determinants have received growing attention in recent research. This paper contributes to this research by examining the potential of FDI to favor socio-political stability in developing countries. The developing world has been prone to socio-political instability of different forms and manifestations over recent decades, and identifying factors susceptible to improve their institutional environment in terms of political stability is key to development. Drawing on research on the causes of political instability which has identified economic conditions as a strong determinant of conflicts, this paper focuses on greenfield FDI for its more direct impact on growth and job creation. To convincingly establish a causal relationship, the study basically relies on a gravity-based instrumental variable to determine the impact of FDI on political stability using a large sample of developing countries.

The results clearly evidence that FDI favors political stability as measured by the political stability and absence of violence index of the WGI. Greenfield FDI flows appear to be positively and significantly related to institutional quality in most of the estimations. As for political-terror-driven stability, the results also indicate that greenfield FDI tends to promote political stability compliant with governments' respect for human rights, therefore preserving individuals' well-being. Overall, the results are robust to various specifications and estimations methods, as well as a series of robustness tests including the use of an alternative measure of political stability, the source of FDI flows (North vs. South), the use of different sub-samples according to income level, and level of political terror.

Beyond FDI direct economic effects, these findings highlight another channel through which FDI can contribute to development: the promotion of political stability. The empirical framework underpinning the results focuses on FDI's socio-economic influences on greed and grievance as the main channel through which greenfield FDI affects political stability. Further research could be useful in investigating more indirect mechanisms such as the political agency potential of foreign direct investors, and investment promotion policies by host countries' policymakers to attract FDI.

References

- Acemoglu, D. and Robinson, J. A. (2012). *Why Nations Fail: The Origins of Power, Prosperity and Poverty*, 1st edn, Crown, New York.
- Alesina, A. and Ferrara, E. L. (2005). Ethnic diversity and economic performance, *Journal of economic literature* **43**(3): 762–800.
- Alesina, A., Harnoss, J. and Rapoport, H. (2016). Birthplace diversity and economic prosperity, *Journal of Economic Growth* **21**(2): 101–138.
- Ali, F., Fiess, N. and MacDonald, R. (2011). Climbing to the top? foreign direct investment and property rights, *Economic Inquiry* **49**(1): 289–302.
- Alquist, R., Berman, N., Mukherjee, R. and Tesar, L. L. (2019). Financial constraints, institutions, and foreign ownership, *Journal of International Economics* **118**: 63–83.
- Bahar, D., Hausmann, R. and Hidalgo, C. A. (2014). Neighbors and the evolution of the comparative advantage of nations: Evidence of international knowledge diffusion?, *Journal of International Economics* **92**(1): 111–123.
- Bailey, N. (2018). Exploring the relationship between institutional factors and fdi attractiveness: A meta-analytic review, *International Business Review* **27**(1): 139–148.
- Barbieri, K. and Reuveny, R. (2005). Economic globalization and civil war, *The Journal of Politics* **67**(4): 1228–1247.
- Batista, C. and Vicente, P. C. (2011). Do migrants improve governance at home? evidence from a voting experiment, *The World Bank Economic Review* **25**(1): 77–104.
- Bergstrand, J. H. and Egger, P. (2013). What determines bits?, *Journal of International Economics* **90**(1): 107–122.
- Berman, N., Couttenier, M., Rohner, D. and Thoenig, M. (2017). This mine is mine! how minerals fuel conflicts in africa, *American Economic Review* **107**(6): 1564–1610.
- Blanton, R. G. and Apodaca, C. (2007). Economic globalization and violent civil conflict: Is openness a pathway to peace?, *The Social Science Journal* **44**(4): 599–619.
- Blanton, S. L. and Blanton, R. G. (2007). What attracts foreign investors? an examination of human rights and foreign direct investment, *The Journal of Politics* **69**(1): 143–155.
- Blundell, R. and Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models, *Journal of econometrics* **87**(1): 115–143.
- Bussmann, M. (2010). Foreign direct investment and militarized international conflict, *Journal of Peace Research* **47**(2): 143–153.
- Cheong, J., Tang, K. K. et al. (2015). Heterogeneous effects of preferential trade agreements: How does partner similarity matter?, *World Development* **66**: 222–236.
- Collier, P. and Hoeffler, A. (1998). On economic causes of civil war, *Oxford economic papers* **50**(4): 563–573.

- Collier, P. and Hoeffler, A. (2004). Greed and grievance in civil war, *Oxford economic papers* **56**(4): 563–595.
- Collier, P., Hoeffler, A. and Rohner, D. (2009). Beyond greed and grievance: feasibility and civil war, *oxford Economic papers* **61**(1): 1–27.
- Dang, D. A. (2013). How foreign direct investment promote institutional quality: Evidence from vietnam, *Journal of Comparative Economics* **41**(4): 1054–1072.
- Demir, F. (2016). Effects of fdi flows on institutional development: Does it matter where the investors are from?, *World Development* **78**: 341–359.
- Deng, Z., Sinkovics, R. R. et al. (2018). Rapid expansion of international new ventures across institutional distance, *Journal of International Business Studies* **49**(8): 1010–1032.
- Di Giovanni, J. (2005). What drives capital flows? the case of cross-border m&a activity and financial deepening, *Journal of international Economics* **65**(1): 127–149.
- Docquier, F., Lodigiani, E., Rapoport, H. and Schiff, M. (2016). Emigration and democracy, *Journal of Development Economics* **120**: 209–223.
- Elbadawi, I. and Sambanis, N. (2002). How much war will we see? explaining the prevalence of civil war, *Journal of conflict resolution* **46**(3): 307–334.
- Fearon, J. D. and Laitin, D. D. (2003). Ethnicity, insurgency, and civil war, *American political science review* **97**(1): 75–90.
- Feyrer, J. (2019). Trade and incomeexploiting time series in geography, *American Economic Journal: Applied Economics* **11**(4): 1–35.
- Financial-Times (2019). The fdi report 2019, global greenfield investment trends, *Financial Times* .
- Frankel, J. A. and Romer, D. H. (1999). Does trade cause growth?, *American economic review* **89**(3): 379–399.
- Gartzke, E. and Li, Q. (2003). War, peace, and the invisible hand: Positive political externalities of economic globalization, *International Studies Quarterly* **47**(4): 561–586.
- Gartzke, E., Li, Q. and Boehmer, C. (2001). Investing in the peace: Economic interdependence and international conflict, *International organization* **55**(2): 391–438.
- Hahn, C. H. (1999). The role of foreign direct investment in international capital flows, *International capital flows*, University of Chicago Press, pp. 350–357.
- Harms, P. and Méon, P.-G. (2018). Good and useless fdi: The growth effects of greenfield investment and mergers and acquisitions, *Review of International Economics* **26**(1): 37–59.
- Head, K. and Ries, J. (2008). Fdi as an outcome of the market for corporate control: Theory and evidence, *Journal of International Economics* **74**(1): 2–20.
- Hewko, J. (2002). Foreign direct investment in transitional economies: Does the rule of law matter, *E. Eur. Const. Rev.* **11**: 71.

- Hillman, A. J. and Hitt, M. A. (1999). Corporate political strategy formulation: A model of approach, participation, and strategy decisions, *Academy of management review* **24**(4): 825–842.
- IMF (2009). Balance of payments and international investment position manual 6th ed, *Washington, D.C.: International Monetary Fund* .
- Koubi, V. and Böhmelt, T. (2014). Grievances, economic wealth, and civil conflict, *Journal of Peace Research* **51**(1): 19–33.
- Kwok, C. C. and Tadesse, S. (2006). The mnc as an agent of change for host-country institutions: Fdi and corruption, *Journal of International Business Studies* **37**(6): 767–785.
- Larraín B, F. and Tavares, J. (2004). Does foreign direct investment decrease corruption?, *Cuadernos de economía* **41**(123): 199–215.
- Long, C., Yang, J. and Zhang, J. (2015). Institutional impact of foreign direct investment in china, *World Development* **66**: 31–48.
- Magee, C. S. and Massoud, T. G. (2011). Openness and internal conflict, *Journal of Peace Research* **48**(1): 59–72.
- Malesky, E. J. (2009). Foreign direct investors as agents of economic transition: An instrumental variables analysis, *Quarterly Journal of Political Science* **4**: 59–85.
- Maplecroft, V. (2020). Political risk outlook 2020, *Verisk Maplecroft* .
- Maxfield, S. (1998). Understanding the political implications of financial internationalization in emerging market countries, *World Development* **26**(7): 1201–1219.
- Miguel, E., Satyanath, S. and Sergenti, E. (2004). Economic shocks and civil conflict: An instrumental variables approach, *Journal of political Economy* **112**(4): 725–753.
- Mihalache-O’Keef, A. S. (2018). Whose greed, whose grievance, and whose opportunity? effects of foreign direct investments (fdi) on internal conflict, *World Development* **106**: 187–206.
- Murtin, F. and Wacziarg, R. (2014). The democratic transition, *Journal of Economic Growth* **19**(2): 141–181.
- Nickell, S. (1981). Biases in dynamic models with fixed effects, *Econometrica: Journal of the econometric society* pp. 1417–1426.
- North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*, Political Economy of Institutions and Decisions, Cambridge University Press.
- Olzak, S. (2011). Does globalization breed ethnic discontent?, *Journal of Conflict Resolution* **55**(1): 3–32.
- Ortega, F. and Peri, G. (2014). Openness and income: The roles of trade and migration, *Journal of international Economics* **92**(2): 231–251.

- Pettersson, T., Högladh, S. and Öberg, M. (2019). Organized violence, 1989–2018 and peace agreements, *Journal of Peace Research* **56**(4): 589–603.
- Pinto, P. M. and Zhu, B. (2016). Fortune or evil? the effect of inward foreign direct investment on corruption, *International Studies Quarterly* **60**(4): 693–705.
- Poe, S. C., Tate, C. N. and Keith, L. C. (1999). Repression of the human right to personal integrity revisited: A global cross-national study covering the years 1976–1993, *International studies quarterly* **43**(2): 291–313.
- Reed, W. (2003). Information and economic interdependence, *Journal of Conflict Resolution* **47**(1): 54–71.
- Russett, B. M. and Oneal, J. R. (2001). *Triangulating peace: Democracy, interdependence, and international organizations*, WW Norton & Company Incorporated.
- Silva, J. S. and Tenreyro, S. (2011). Poisson: Some convergence issues, *The Stata Journal* **11**(2): 207–212.
- Sorens, J. and Ruger, W. (2014). Globalisation and intrastate conflict: An empirical analysis, *Civil Wars* **16**(4): 381–401.
- Stein, E. and Daude, C. (2007). Longitude matters: Time zones and the location of foreign direct investment, *Journal of International Economics* **71**(1): 96–112.
- UNCTAD (2010). World investment report 2010 - investing in a low-carbon economy, *UNCTAD Geneva* .
- UNCTAD (2017). World investment report 2017 - investment and the digital economy, *UNCTAD Geneva* .
- Wang, M. and Wong, S. M. C. (2009). What drives economic growth? the case of cross-border m&a and greenfield fdi activities, *Kyklos* **62**(2): 316–330.
- Webster, A. and Piesse, J. (2018). Are foreign-owned firms more likely to pay bribes than domestic ones? evidence from emerging markets, *World Development* **101**: 142–161.

Appendix

Table A1: Host developing countries and number of observations for bilateral FDI flows

Afghanistan	80	Hungary	261	Poland	290
Albania	125	India	406	Qatar	250
Algeria	239	Indonesia	281	Romania	304
Andorra	55	Iran	249	Russia	373
Angola	179	Iraq	244	Rwanda	175
Antigua	25	Jamaica	70	Saudi Arabia	279
Argentina	269	Jordan	190	Senegal	160
Armenia	160	Kazakhstan	260	Seychelles	49
Aruba	25	Kenya	294	Sierra Leone	75
Brazil	313	Kuwait	180	Singapore	369
Bulgaria	255	Laos	100	Slovakia	249
Burkina Faso	60	Latvia	175	Slovenia	165
Burundi	70	Lebanon	185	Somalia	65
Cambodia	176	Lesotho	25	South Africa	330
Cameroon	155	Liberia	80	South Korea	255
Cape Verde	45	Libya	215	Sri Lanka	190
Central African Republic	35	Lithuania	200	Sudan	105
Chad	70	Madagascar	65	Suriname	30
Chile	238	Malawi	65	Syria	185
China	473	Malaysia	320	Tajikistan	110
Colombia	253	Mali	84	Tanzania	195
Comoros	15	Malta	184	Thailand	276
Costa Rica	214	Mauritania	90	Togo	70
Côte d'Ivoire	205	Mauritius	114	Trinidad & Tobago	86
Croatia	195	Mexico	279	Tunisia	210
Cuba	134	Moldova	141	Turkey	296
Czech Republic	274	Mongolia	135	UAE	412
Egypt	293	Morocco	244	Uganda	190
Estonia	174	Mozambique	235	Ukraine	246
Eswantini	50	Myanmar	195	Uruguay	159
Ethiopia	220	Namibia	134	Uzbekistan	190
Gabon	105	Niger	45	Venezuela	176
Gambia	50	Nigeria	295	Vietnam	304
Georgia	215	Oman	214	Yemen	125
Ghana	266	Pakistan	210	Zambia	180
Guatemala	143	Panama	244	Zimbabwe	125
Guinea	100	Papua New Guinea	100	Total	20,839
Guinea Bissau	45	Paraguay	119		
Haiti	54	Peru	234		
Honduras	129	Philippines	249		

Table A2: List of origin countries and number of observations for bilateral greenfield FDI flows

Afghanistan	15	Czech Republic	240	Kuwait	265	Russia	375
Albania	5	Democratic Republic of Congo	15	Kyrgyzstan	20	Rwanda	10
Algeria	40	Denmark	370	Laos	15	Samoa	10
Andorra	15	Djibouti	15	Latvia	130	Saudi Arabia	260
Angola	55	Dominican Republic	15	Lebanon	140	Senegal	30
Antigua	5	Ecuador	40	Libya	30	Seychelles	5
Argentina	135	Egypt	210	Lithuania	110	Sierra Leone	5
Armenia	15	El Salvador	30	Luxembourg	335	Singapore	305
Australia	385	Equatorial Guinea	10	Macau	30	Slovakia	85
Austria	295	Estonia	95	Malawi	5	Slovenia	100
Azerbaijan	65	Ethiopia	15	Malaysia	270	South Africa	370
Bahamas	45	Fiji	10	Mali	20	South Korea	400
Bahrain	170	Finland	310	Malta	110	Spain	435
Bangladesh	65	France	515	Mauritius	125	Sri Lanka	70
Barbados	15	Gabon	10	Mexico	170	Sudan	15
Belarus	140	Gambia	5	Moldova	5	Sweden	385
Belgium	315	Georgia	40	Mongolia	10	Switzerland	455
Belize	25	Germany	485	Morocco	150	Syria	10
Bermuda	152	Ghana	50	Mozambique	5	Tajikistan	15
Bhutan	5	Greece	200	Myanmar	25	Tanzania	75
Bolivia	10	Greenland	10	Namibia	15	Thailand	195
Bosnia-Herzegovina	35	Guatemala	40	Nepal	45	Togo	115
Botswana	50	Guyana	5	Netherlands	420	Trinidad & Tobago	5

Brazil	270	Haiti	5	New Zealand	150	Tunisia	110
Brunei	25	Honduras	15	Nicaragua	30	Turkey	305
Bulgaria	100	Hong Kong	340	Nigeria	170	Turkmenistan	5
Burkina Faso	35	Hungary	155	North Macedonia	40	UAE	400
Burundi	20	Iceland	105	Norway	305	Uganda	20
Cambodia	30	India	480	Oman	105	Ukraine	165
Cameroon	10	Indonesia	120	Pakistan	110	United Kingdom	530
Canada	470	Iran	150	Panama	85	United States	538
Cayman Islands	26	Iraq	30	Papua New Guinea	5	Uruguay	35
Chile	130	Ireland	310	Paraguay	10	Vanuatu	15
China	485	Israel	235	Peru	60	Venezuela	88
Colombia	65	Italy	400	Philippines	150	Vietnam	165
Costa Rica	45	Jamaica	40	Poland	195	Yemen	45
Côte d'Ivoire	90	Japan	435	Portugal	225	Zambia	15
Croatia	100	Jordan	125	Qatar	245	Zimbabwe	40
Cuba	20	Kazakhstan	90	Republic of the Congo	20		
Cyprus	245	Kenya	145	Romania	140	Total	20,839

Table A3: First-stage regression results of the 2SLS estimations of Table 4

	(1)	(2)	(3)	(4)
<i>Dependent:</i>	Greenfield FDI as a percent of GDP			
Instrument	0.1269*** (0.0290)	0.0936*** (0.0201)	0.0834*** (0.0260)	0.0767*** (0.0230)
LogGDPPC	-0.2323 (2.0369)	3.6544 (2.6969)	-1.0350 (2.4828)	0.6128 (3.6075)
Growth	0.3294*** (0.0623)	0.2163*** (0.0720)	0.2889** (0.1132)	0.1848* (0.1041)
Commodity	0.1595 (0.3182)	-0.0927 (0.3762)	-0.2960 (0.3771)	-0.3558 (0.4335)
Unemp	0.3094** (0.1263)	0.3326*** (0.1168)	0.1809 (0.1197)	0.2442* (0.1311)
Polity2	0.0542 (0.1210)	0.1446 (0.1200)	0.1250 (0.1466)	0.1540 (0.1414)
Religion	0.5212 (0.8196)	0.3796 (0.7312)	1.2301 (1.1485)	1.0413 (1.0799)
Ethnicity	0.4668 (0.4901)	0.4005 (0.4999)	-0.1565 (0.7320)	-0.1633 (0.7696)
LogPop			-14.7608* (8.3765)	-12.4670 (9.9893)
LogEduc			6.1680 (5.0925)	7.5243 (5.2067)
Observations	415	415	346	346
R-squared	0.189	0.234	0.248	0.273
Country FE	Yes	Yes	Yes	Yes
Time FE	No	Yes	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors (in parenthesis) are heteroskedasticity robust. The instrument is the predicted FDI (in percent of GDP) from the gravity model. All regressions include a constant

Table A4: OLS estimations of the political stability model, including poverty and inequality as additional controls

	(1)	(2)
<i>Dependent:</i>	Political stability (Polstab)	
FDI	0.0022 (0.0016)	0.0022 (0.0016)
LogGDPPC	0.0824 (0.0614)	0.1545* (0.0777)
Growth	-0.0011 (0.0017)	-0.0018 (0.0019)
LogCommod	-0.0105** (0.0044)	-0.0050 (0.0074)
Unemp	-0.0064** (0.0025)	-0.0070*** (0.0025)
Polity2	-0.0005 (0.0050)	-0.0001 (0.0051)
Religion	0.0595** (0.0297)	0.0615* (0.0312)
Ethnicity	0.0358** (0.0149)	0.0326** (0.0147)
LogPop	-0.2561** (0.1127)	-0.1867 (0.1251)
LogEduc	-0.0830 (0.0590)	-0.0802 (0.0623)
Poverty	-0.0050* (0.0030)	-0.0041 (0.0032)
Gini index	0.0037 (0.0033)	0.0026 (0.0036)
Observations	233	233
R-squared	0.342	0.358
Countries	72	72
Country FE	Yes	Yes
Time FE	No	Yes

*** p<0.01, ** p<0.05, * p<0.1. Standard errors (in parenthesis) are heteroskedasticity robust. All regressions include a constant.

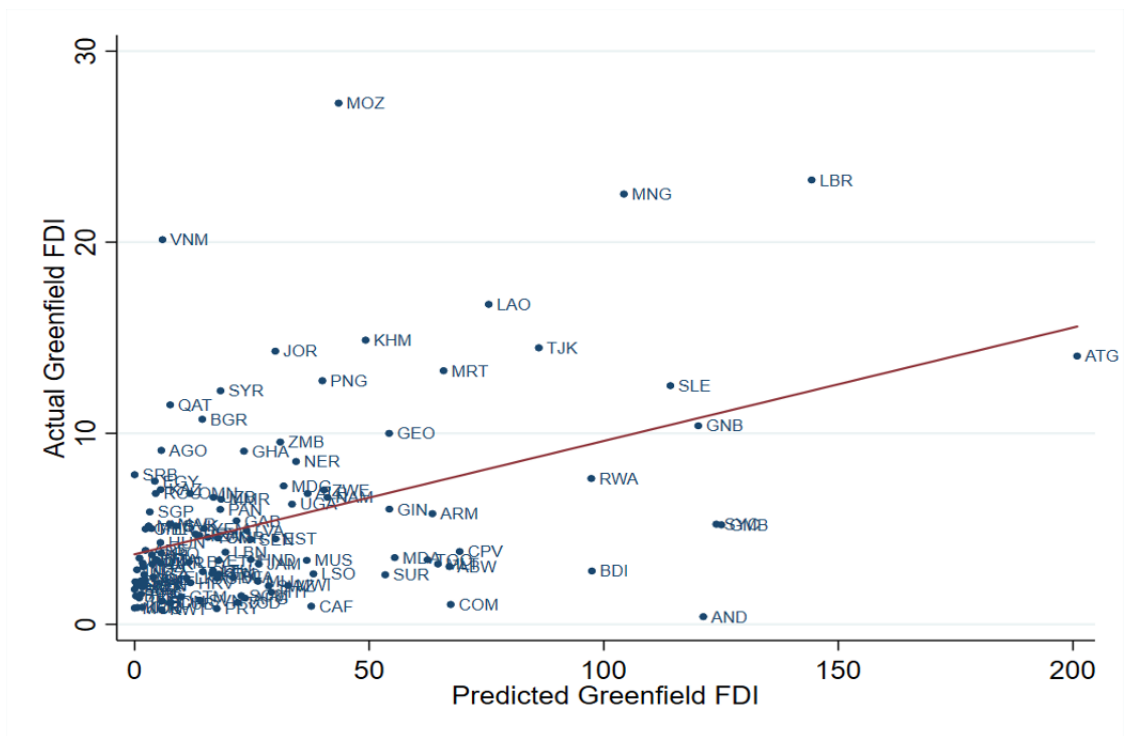


Figure 4: Correlation between Greenfield FDI inflows as a percent of GDP and its fitted values