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# Inward FDI and the quality of domestic institutions: A cross-country panel VAR analysis

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ABSTRACT

Domestic institutions are recognized as important factors in attracting foreign direct investment (FDI), and spurring economic development in host countries. There is increasing evidence, however, that FDI may in turn affect and shape domestic institutions, and it is generally difficult to disentangle these two effects. The present paper aims to shed light on this issue using extensive data on the quality of institutions and on inward FDI in 102 countries over a period of 25 years. We distinguish between different types of institution, FDI, and country, and we adopt a panel vector autoregression (VAR) approach to identify the direction of causality between the two variables. Our findings suggest that the quality of institutions matters for attracting FDI, but also that higher inflows of FDI have a significant short-term impact on the institutional quality of recipient economies. We also find that such a relationship varies with the type of FDI considered, and differs between transition and developing economies.



## 1. Introduction

In the last two decades, the international economics and business literature has amply explored the determinants of inward foreign direct investment (FDI) and acknowledged the relevance of host countries' institutions, in the sense of "*the systems of established and embedded social rules that structure social interactions*" (Hodgson, 2006, p.13).[3] Although most of the literature has focused

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[3] The concept of institution used throughout this paper is based on Hodgson's definition. Property rights, rule of law, political rights and corruption are typically considered examples of institutions. The extent of corruption can be captured by an indicator that measures the control of corruption (like the WGI that we use in this analysis), or by an index referring to perceived corruption (like the Corruption Perception Index). The control of corruption is generally regarded as a formal institution, while perceived corruption is typically considered an informal institution. This work focuses mainly on formal institutions, namely those founded on codified, explicit rules and standards that shape the interaction between members of society by promoting stability and regulation (North, 1990; Scott, 2008a)

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on how institutions influence inward FDI (see Bailey, 2018, Tokunaga and Iwasaki, 2017 and Mondolo, 2019 for a review), institutions are unlikely to be unaffected by the strategies of multinational enterprises (MNEs), and consequently by FDI. Foreign firms generally attempt to adapt to local institutions to overcome the "liability of foreignness" and obtain legitimacy in the host markets (Kostova and Zaheer, 1999; Dahan et al., 2006). They also typically try to shape the local business environment in their favor (Boddewyn, 1988; Hillman and Hitt, 1999). Meanwhile, countries sensitive to the benefits of inward FDI, and committed to gaining legitimacy and international reputation within the bigger, global business community will deliberately endorse policies to attract foreign investment (Martin and McKibbin, 1999; Kwok and Tadesse, 2006). The reason why, and the extent to which national governments are willing to modify their institutions or policies, either to influence the behavior of MNEs, or as a result of MNEs' increasing presence in the global economy, can be found in Dunning's eclectic OLI paradigm. According to this approach, the probability of domestic governments taking such action is a positive function, ceteris paribus, of the number of distinctive ownership-specific advantages of MNEs, and of their ability to augment or combine these assets with local resources and skills. This probability rises with the appeal of a given country's own location-specific assets to inward investors, and with the competition between MNEs for the host country's resources, capabilities or markets (Dunning, 2000; Dunning and Lundan, 2008).

In the last twenty years or so, a growing number of empirical studies have looked at what Kwok and Tadesse (2006, p. 767) call *"the other side of the picture"* in the relationship between inward FDI and institutions. Most of the existing works focus only on one institutional factor or policy at a time, however (such as corruption or environmental regulation), on a specific country or geographic area, and/or on narrow time frames, and they present quite heterogeneous results.

This study adds to the extant literature by providing a more global assessment of the causal effects of inward FDI on the quality of the domestic institutional framework, and by taking a different approach to account for simultaneity. Specifically, we test whether, how and to what extent inward FDI affects transition and developing economies. Taking a sample of 102 countries and 25 years, we distinguish between developing and transition economies, we apply two different measures of FDI, and we consider six different institutional dimensions: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. To properly address the simultaneity issue in the relationship between FDI and institutions, we adopt a panel vector autoregression (VAR) approach, which allow us to assess both directions of causality in the link between FDI and the quality of domestic institutions. Finally, we test for the robustness of our results using alternative measures of institutional quality.

Our analysis reveals that FDI and institutions influence each other: higher-quality institutions help countries to attract larger amounts of foreign investments; the latter, in turn, affect the average institutional quality of recipient economies. We also find that total and greenfield FDI affect institutional quality variables differently, and this difference also depends on whether we consider a transition or a developing country. Voice and accountability, regulatory efficiency, and the rule of law are the traits of institutional quality most affected by inward FDI in both types of country.

The paper is organized as follows: Section 2 discusses the conceptual framework, showing the mechanisms through which MNEs affect domestic institutions (2.1), and reviewing the literature on the effects of inward FDI on certain types of institution (2.2); Section 3 describes the empirical strategy and the data; Section 4 presents the results of the estimates; Section 5 concludes.

## 2. Conceptual framework

### *2.1. The main mechanisms through which MNEs affect domestic institutions*

In recent decades, the literature has increasingly acknowledged the role of multinational companies, and consequently of inward FDI, in influencing the institutional framework of host countries, to such a degree that MNEs have sometimes been defined as "agents of change" (Kwok and Tadesse, 2006; Neffke et al., 2018), "agents of economic transition" (Malesky, 2009), and "institutional entrepreneurs" (DiMaggio, 1988; Dahan et al., 2006).

Multinationals can often shape local business environments because they generally exert more political influence (typically over public officials) than domestic firms for two main reasons. One is the host country's belief that the MNE will contribute to domestic economic growth, which increases the latter's bargaining power when negotiating the terms of its entry in the host market. The other is the international dimension of the MNE, which implicitly means lower costs of moving to another country (Desbordes and Vaudey, 2007); knowledge of sophisticated market rules; the opportunity to adopt transfer pricing schemes and benefit from subsidies unavailable to local firms (Ramirez and Kwok, 2009); more experience in managing institutional idiosyncrasies (Henisz, 2003). MNEs thus often resort to lobbying to influence governmental policies that matter to their activities, such as regulations concerning trade protection and the local environment (see Section 2.2.2), or taxation.

MNEs may also affect a local government's activity and responsibility through its corporate social responsibility (CSR) activities, which – according to Rodriguez et al. (2006, p. 733) – represent a *"unique 'lens' through which to understand how [multinational corporations] influence and relate to their global economic and political environments"*. Since CSR addresses the interests of agents other than the owners, the CSR practices of MNEs should also benefit the local government. For instance, adopting conflict-sensitive CSR policy frameworks can contribute to peace-building processes in conflict or post-conflict zones (Nelson, 2000; Banfield et al., 2005; Shankleman, 2007). Such activities sometimes favor the corporation, but may not be helpful, or may even be detrimental to the host economy, especially in resource-abundant developing countries. To give an example, when Wiig and Kolstad (2010) conducted an in-depth case study on multinational oil companies' CSR activities in Angola, they found that these firms sometimes use CSR strategically to increase their chances of obtaining licenses and winning contracts, without considering the governance problems in Angola. Such practices may exacerbate patronage problems and the resource curse in resource-rich countries.

Additionally, foreign investors may collaborate with local firms and policymakers by providing information on laws adopted in other recipient countries, actively collaborating with local actors in the provision of services (see Section 2.2.2), and creating or participating in policy networks within transnational social and economic systems. Dahan et al. (2006, p.1578) define a policy network as a *"self-organizing group that coordinates a growing number of public (decision-makers) and private (interest groups) actors for the purpose of formulating and implementing public policies"*. They also provide several examples of international organizations that can be described as policy networks, such as the Transatlantic Business Dialogue, the World Commission on the Social Dimension of Globalization, and the Global Climate Change Coalition.

As well as affecting the local institutional environment in the ways described above, MNEs typically also exert a more indirect influence on the host country via their effects on their subsidiaries. Starting from an analysis of the concepts of institutional isomorphism and disembeddedness[4] (see DiMaggio and Powell, 1983, and Dacin et al., 1999), Kwok and Tadesse (2006) identify three main effects of MNEs on host countries, mainly through their impact on domestic firms, and on local workers hired by foreign companies: (i) the regulatory pressure effect, (ii) the demonstration effect, and (iii) the professionalization effect. The *regulatory pressure effect* derives from subsidiaries being exposed to political and economic pressures exerted by the host country, the parent company's home country, and the international business community, where the latter tends to delegitimize questionable activities and introduce compulsory requirements and norms of conduct (Sandholtz and Gray, 2003; Kwok and Tadesse, 2006). To give an example, the regulatory pressure effect can make foreign companies' employees more reluctant to offer bribes, and this helps to discourage corruption.

Foreign firms may also show domestic firms how to conduct business differently – and potentially more efficiently, effectively, and transparently. This *demonstration effect* is fueled by the spread of MNEs' standardized business procedures and corporate lifestyles across the world, which tend to replace local firms' organizational patterns (DiMaggio and Powell, 1983). This explains why Westney (1993) claims that such local organization patterns undergo a process of de-institutionalization. Historical examples include the transfer of US management models and incentive structures to Europe in the 1950 s and '60 s, and of Japanese work practices and quality control procedures to the US and Europe in the '80 s (Dunning and Lundan, 2008).

Finally, there is *professionalization effect* due to the ability of MNEs to attract talented young workers. This is because they typically rely on cutting-edge technologies and more advanced managerial techniques, and they offer better working conditions and salaries. To increase their chances of being recruited, some young people attend business schools, obtain international certifications, and join professional associations. In doing so, they not only gain professional skills, but also become increasingly open-minded and reluctant to adopt obsolete ways of doing business and conservative values. They can thus contribute to gradually updating their country's business culture, which – over time – may shape personal values, human motivation, and the social organization of production (DiMaggio and Powell, 1983; Kwok and Tadesse, 2006).

In addition to affecting local authorities' business practices and decision-making processes to their advantage, foreign MNEs can also trigger a gradual, positive process of adaptation to higher standards of governance and regulation in the host country (Hewko, 2003; Malesky, 2009).

### 2.2. The effects of inward FDI on host countries' institutions: literature review

The mechanisms outlined in Section 2.1 help to clarify why and how MNEs' inward FDI can influence various aspects of recipient countries' institutional environment. This section briefly reviews the literature on this topic.

#### 2.2.1. FDI and corruption

Several researchers have investigated the impact of inward FDI on corruption, broadly definable as *"the use of public office for private gains"* (Bardhan, 1997, p. 1321). According to Kwok and Tadesse (2006), increasing inward FDI reduces the host country's level of corruption over time by means of the demonstration effect, and especially of the regulatory pressure effect. The authors' quantitative analysis, conducted on a large sample of countries over 30 years, provides empirical support for this claim.

Whether more inward FDI discourages or stimulates corruption is much debated, however. On the one hand, FDI can reduce a country's propensity to engage in illegal activities because corruption-averse foreign investors – like American and European investors (Wei, 2000) – can easily quit the market. Countries more integrated in international society, and where FDI is important to the local economy, are also more exposed to economic and normative pressures against corruption (Sandholtz and Gray, 2003; Larrain and Tavares, 2004). Since the introduction of the OECD Convention against bribery, foreign firms from OECD countries are increasingly likely to engage in legal lobbying activities (Desbordes and Vauday, 2007). As suggested by the demonstration effect, moreover, inward FDI may promote the diffusion of pro-business norms and the adoption of new values and ideas, especially from developed countries with more solid and transparent institutions. This inclines recipient countries more towards good governance practices and the strengthening of property rights protection and the rule of law, while discouraging illicit activities (Gerring and Thacker, 2005; Lee and Lio, 2016). Finally, corruption generally acts as a disincentive for investments because it increases the risk and uncertainty for potential investors and raises the costs of doing business (Getz and Volkema, 2001; Robertson and Watson, 2004).

[4] Starting from the concept of "embeddedness of organizations", Dacin et al. (1999) argue that globalization may be regarded as a disembedding process that strips individuals and firms of their local structures and allows for restructuring at a more global level. A concept related to disembeddedness that helps us understand firms' behavior is what DiMaggio and Powell (1983) called *institutional isomorphism*: organizations tend to consider and imitate the behavior of other organizations faced with a similar set of environmental conditions.

As Rose-Ackerman (1975) posits, corruption may become less common if it has long-term negative consequences for the firms and individuals involved, as is the case with FDI projects.

That said, FDI is vulnerable to corrupt activities because it is typically associated with large infrastructure projects and privatization programs involving sizable economic rents. This vulnerability is generally greater where there are lax regulatory frameworks, discretionary decision-making, and imperfectly accountable public officials. In such cases, foreign investors are more likely to conform to the local culture and business practices, including any illegal behavior (Larrain and Tavares, 2004; Lee and Lio, 2016). The eagerness of foreign investors to enter the market may also tempt host-country nationals to use corruption as a means of sharing the local opportunities for profit with the investors (Robertson and Watson, 2004). Drawing on their advanced knowledge of international business and vast international networks, MNEs may also develop sophisticated bribery schemes and "import" them in the host countries (Kwok and Tadesse, 2006). The effects of FDI might be affected by the nature of the recipient country. For instance, when Pinto and Zhu (2016) assess the influence of inward FDI on the perception of corruption in 95 countries during the years 2000–2004, they contend that whether FDI has a positive or negative effect on corruption levels depends mainly on the host country's economic and political conditions, and on the availability of local resources. Malesky, Gueorguiev, and Jensen (2014) also find that more FDI reduces corruption in sectors that are open to competition, but not in areas where profitability is high, and so are rents, due to government controls on investment that limit competition. According to Culver (2021), however, these findings are influenced by the historic prevalence of FDI emanating from developed economies that have relatively low levels of corruption; they do not consider how FDI from less developed countries with high domestic corruption, such as China, affects corruption in host countries. Culver suggests that the effect of FDI on corruption depends on the source of the investment, and then shows that Chinese FDI does not lower corruption in Africa, and this is due more to investors behaving differently than to the nature of the host economy.

Another relevant issue concerning FDI and corruption is endogeneity. Most of the empirical studies on the influence of FDI on corruption take endogeneity into account, typically by implementing an instrumental variable approach. Craigwell and Wright (2011) use linear and non-linear Granger causality tests instead to see which direction of causality prevails. Their findings suggest that most markets show a two-way causal link between FDI and corruption when linear panel methods are used, but the link from FDI to corruption dominates when nonlinear tests are used.

#### *2.2.2. FDI, local governance, and reform processes*

Foreign firms generally attempt to influence some host government policies because the profitability of their FDI largely depends on the business environment in which they operate. Such corporate political strategies have been investigated mainly in the endogenous protection literature (Desbordes and Vaudey, 2007). As an illustration, MNEs may influence the level of trade protection by undertaking "quid pro quo" direct investments (which alleviate protectionist pressures), and by lobbying (see, for instance: Grossman and Helpman, 1996; Blonigen and Figlio, 1998; Gawande et al., 2006). FDI can also affect local environment regulation, but whether for better or for worse has long been the object of debate. According to a widely held view, mostly known as the "pollution haven hypothesis" (Cole et al., 2006; Copeland, 2008), pollution-intensive firms tend to open subsidiaries in countries with less stringent environmental regulations. On the basis of the so-called "trade-up hypothesis", which has recently been gaining ground, FDI may even contribute to improving local environment protection. It has been claimed that international integration gives developing countries the opportunity to learn advanced environmental technologies, standards and management systems, and the incentive to use them (Lin et al., 2014). To give an example, Zeng and Eastin (2012) conclude that MNEs from the least developed countries find it increasingly advantageous in financial terms to signal their commitment to environmental protection to consumers, investors, and potential business partners by embracing sound environmental practices. These authors thus judge that FDI from such countries can positively affect local environment protection. Whether the "pollution haven" or the "trade-up" hypothesis dominates depends on the characteristics of the countries and firms involved. In particular, Cole et al. (2006) suggest that the positive impact of inward FDI on the stringency of environmental regulations is higher, the lower the local government's corruptibility. Bouzahzah (2022) investigates the impact of FDI inflows on carbon dioxide (CO2) emissions for a set of 40 African countries, reporting that inward FDI significantly reduces CO2 emissions in countries with a high level of corruption, while it increases CO2 emissions in countries of low institutional quality. In a similar vein, Muhammad and Long (2021) examine the determinants of C02 emissions in 65 belt and road initiative (BRI) countries, and find that FDI has mixed effects on carbon emissions across different income groups. The type of FDI matters as well. For instance, Dash et al. (2020) assess the impact of various factors, including FDI, on CO2 emissions in 61 developing economies of the global south region of Asia, Africa and Latin America during the years 1990–2015. They find that FDI guided by the Clean Development Mechanism established by the Kyoto Protocol, and involved in emission reduction projects in developing economies, has contributed significantly to curbing CO2 emissions, pollution and environmental degradation. Finally, when Bardi and Hfaiedh (2021) analyze the impact of FDI and corruption on the quality of the environment in the MENA region using an Autoregressive Distributed Lag (ARDL) approach and Granger causality tests, they argue for a two-way long-term causality between CO2 emissions and FDI.

As well as influencing specific regulations such as those concerning trade and environmental protection, foreign investors may also have a broader impact on domestic governance. For instance, they may boost the process of transition towards more modern and market-oriented economies in post-communist Eastern European countries or rapidly growing South-Eastern Asia economies, such as China and Vietnam. To give an example, Malesky (2009) provides empirical evidence of a positive impact of FDI on economic transition, using as the dependent variable the EBRD ranking of countries based on eight different economic reform policies (namely, price liberalization, foreign exchange and trade liberalization, privatization of small state-owned enterprises [SOEs], privatization of large SOEs, enterprise reform/corporate governance, competition policy, bank reform, and reform of nonbank financial institutions) between 1992 and 2004. Using dynamic generalized method of moments (GMM) and 2SLS models, Karavardanyan (2021)

demonstrates that openness to FDI has a positive effect on democracy levels in African countries in the long run, as the revenue spillovers from the investment projects reach society, empowering the middle class to demand better institutional qualities.

The process of economic and institutional transition triggered by FDI and integration in the world economy can also take the form of *de facto* decentralization. Foreign investments can provide subnational actors with resource flows that make them more independent of central government authorities, reinforcing the importance of subnational policies for economic development (Malesky, 2008). This "empowerment of local leaders" effect has been detected, for instance, in Kazakhstan (Jones-Luong, 2003), Mexico (Diaz-Cayeros et al., 2003),[5] and Vietnam (Malesky, 2008; Do and Park, 2022). While Jones-Luong (2003) and Diaz-Cayeros et al. (2003) did not submit their theories to rigorous empirical testing, Malesky (2008) provides quantitative evidence of the influence of FDI on local autonomous economic reform experiments in 61 Vietnamese provinces between 1990 and 2000 using a simultaneous equation model to control for the fact these experiments may in turn attract FDI in subsequent years. More recently, Do and Park (2022) empirically show that inward FDI in Vietnam can be a high-powerful channel through which fiscal and administrative decentralization may have a positive impact on the economic growth of local economies. They consequently argue that policies to make the environment more attractive to FDI should be strongly recommended.

According to Dang (2013), Vietnam represents a suitable background for studying the impact of FDI on province-level institutional quality for two reasons: because the amount of foreign investment increased rapidly along with the signing of trade agreements, particularly after Vietnam joined the WTO in early 2007; and because the quality of institutional development has been uneven across provinces, creating a good opportunity to study the impact of foreign investment on different local institutions coming under the same political system and government structure. Using an instrumental variable (IV) approach, Dang (2013) demonstrates that provinces receiving larger amounts of disbursed FDI exhibit better-quality institutions. Data on this latter factor are obtained from the Vietnam Provincial Competitiveness Index (PCI) survey, which assesses and ranks provincial governments according to the quality of their regulatory systems for private sector development (mainly regarding post-registration policies, regulation in the provincial business environment, issues relating to property rights, and entry barriers to private entrepreneurs).

Fukumi and Nishijima (2010) assess both directions of the causal relationship between FDI and an index of institutional quality based on the average of the three ICRG indexes "Law and Order", "Bureaucratic Efficiency" and "Corruption" in 19 countries in Latin America and the Caribbean. They come to the conclusion that FDI could improve the quality of institutions, and regions with better institutions attract more FDI.

While Malesky (2009) and Fukumi and Nishijima (2010) examine cross-country data, and Malesky (2008), and Dang (2013) employ province-level data, Long et al. (2015) provide firm-level empirical evidence of the positive effect of inward FDI on local institutional quality in China. To be more specific, Chinese domestic firms located in regions with higher levels of FDI tend to enjoy lower and less arbitrary burdens of taxes and fees, and better legal protection.

MNEs can contribute to improving local governance, and they can inject and disseminate a business culture in host countries by collaborating with their enterprises to provide local services, such as training for human resources, to improve and strengthen these businesses (Dunning and Lundan, 2008). The case of Vietnam is a useful example in this regard too. Since the end of the 1980 s, the country has introduced and implemented a series of investment-related rules and regulations (e.g., the Law on Foreign Investment in 1988 and 1996, and the Law on Investment in 2005 and 2014). It has been claimed that local governments have also resorted to policies not permitted by national legislation to attract foreign investors, such as excessive incentives relating to long tax holidays, free land rental, and very low taxes on profits (Dung et al., 2018; Malesky, 2009). At the same time, multinational firms located in Vietnam have increasingly demanded a workforce equipped not only with modern occupational qualifications and professional skills, but also with soft skills in such areas as teamwork, problem-solving, and critical thinking (Quang and Metzger, 2007). Despite some improvements, the local vocational training does not fully meet the MNEs' requirements, however. This is largely because there is little communication between the business sector and vocational colleges, and because the latter typically lack the resources needed to update their equipment and provide further teacher training (Hargreaves et al., 2001). To partially offset these shortcomings, some MNEs have taken steps to upgrade the locally available human skills themselves. An interesting study was conducted on this subject by Wrana and Revilla Diez (2016), who investigated whether MNEs in Vietnam can positively influence the quality of local education, mainly by introducing institutional elements of their home country's skill formation system. Using qualitative content analysis on 19 in-depth interviews with staff members of German and Japanese MNEs operating in Vietnam, and with other stakeholders, the authors find that MNEs cooperating with development agencies are able to create proto institutions that originate from their own home country's skill formation system. Although this study is exploratory in nature, it offers some useful insight on this interesting phenomenon. Phan and Nguyen (2020) provide quantitative evidence of the role of FDI in developing local services: they find that inward FDI contributes strongly and positively to the development of public service sectors in the ten ASEAN economies, but this beneficial effect vanishes in highly corrupt environments.

Finally, FDI can trigger an ideological convergence across countries by means of the professionalization effect. When Yang et al. (2013) interviewed North Korean workers at the Gaeseong Industrial Complex (GIC; see Section 2.2.3) to identify changes in their

[5] Analyzing the causes and consequences of economic decentralization in Kazakhstan, Jones-Luong (2003) argues that, while the central government could use its monopoly to control scarce resources and expenditure distribution during the Soviet period, the arrival of foreign investment projects empowered local leaders vis-à-vis the central authority, and the regions became more financially independent and powerful. Diaz-Cayero et al. (2003) study the long-standing hegemony of the Institutional Revolutionary Party (PRI) in Mexican politics, positing that the most internationally integrated municipalities were the most likely to defect to the opposition party because they were less dependent on federal transfers (controlled by the PRI).

attitude to South Korea, they find that the North Korean workers' initial antipathy and skepticism regarding South Korea, and South Korean businesspeople, turns over time into a more favorable stance. In empirical analyses of attitudes to freedom of speech and other related human rights, drawing on individual-level data from the Chinese General Social Survey 2013, Lin (2018) shows that people who work for enterprises controlled by foreign investors (especially when the latter are not from Hong Kong, Macao, and Taiwan) tend to be more in favor of freedom of speech than those working in non-multinational domestic firms. With time, more liberal values and open-minded perceptions may spread, gradually giving rise to a country-level ideological upgrade process.

*2.2.3. FDI, political stability, and conflict*

Multinational enterprises can also contribute to preventing military conflicts, and to improving countries' bilateral relations. In conflict-prone areas, MNEs typically have both the motivation and the means to help prevent conflict in the area where they have invested, because of the potential costs incurred by lost productivity due to delays or shutdowns, lost value of future projects and plans in the region, and reputational damage (Wengler and Möckli, 2003). Some MNEs, such as those developing infrastructure projects or working in extractive industries, will have made substantial investments in highly asset-specific, immovable resources, so there would be high exit costs should they decide to leave the country. Local embeddedness may help the firm to contain employee turnover rates, increase the willingness of good employees to relocate, avoid losses of assets or cash-flow interruptions, reduce risk insurance premiums, improve relations with the community or host government, and thereby strengthen its legitimacy (Getz and Oetzel, 2009). Oetzel et al. (2007) classify MNEs' conflict-preventing efforts along two dimensions, namely direct or indirect, and unilateral or collaborative. Direct actions focus on stopping ongoing violence or preventing an imminent outbreak of violence. They include negotiation, arbitration, and mediation, withholding payments or refraining from selling goods or services to conflict-promoting parties, transacting business with those working for peace, and participating in multitrack diplomacy. Indirect strategies comprise developing long-term approaches to address the issues motivating the conflict (e.g., human resource practices aimed at minimizing ethnic or religious divisions within the firm's workforce), establishing strategic philanthropic schemes to support social organizations engaging in conflict-solving activities, facilitating the setup of small businesses in post-conflict settings (through microfinance and skills training, for instance), and participating in global multilateral agreements that promote social responsibility, such as the UN Global Compact. According to Getz and Oetzel (2009), even the decision to carry on with business as usual can be seen as a valid indirect strategy. The importance of conflict prevention in decisions regarding foreign investments is also reflected in various national investment guarantee programs that insure against political risks. For example, the US government (through the Overseas Private Investment Corporation) and the German government (through PwC Deutsche Revision) enable the risks of expropriation, currency inconvertibility, and war to be insured against (Wells, 1998).

Generally speaking, trade and FDI flows between countries increase their economic interdependence, promoting better bilateral political relations, and making military conflict more costly because it would disrupt the economic gains deriving from trade. In other words, FDI, and international openness more generally, can indirectly have the effect of a detente (Russett and Oneal, 2001; Kahler and Kastner, 2006; Levy, 2003; Gartzke et al., 2001).

While an abundance of literature on topics ranging from international business and management to political science and development studies has examined how international trade might promote cooperation and peace among states potentially in conflict, empirical research exploring the pacifying effects of FDI is still relatively limited. Earlier contributions from Gasiorowski (1986), and Gartzke, Li and Boehmer (2001) use monadic FDI data, which cannot shed light on how FDI can induce a given country to have both cooperative and hostile relations with another at the same time, nor can they thoroughly account for the simultaneity problem. These issues are addressed by Polacheck, Seiglie and Xiang (2012), who use dyadic FDI flows regarding a total of 53 countries. They adopt a simultaneous equations model that accounts for both the effect of FDI on conflict and the effect of conflict on FDI. Drawing on information for the 1990 s, the Authors' empirical analysis shows that FDI flows reduce the degree of international conflict, and encourage cooperation between dyads during the decade considered. More specifically, a 10% growth in FDI is associated with a 3.3% increase in net cooperation. Conducting similar analyses on both monadic and dyadic data, and using both a single and a simultaneous equations model, Bussmann (2010) shows that inflows and stocks of foreign investment reduce the risk of an outbreak of a fatal dispute.

An interesting case study on this issue comes from what is often considered the most centralized economy in the world, North Korea. In 2004 the country opened a special economic zone (the GIC), which has attracted investments from other countries, and South Korea in particular. Kim (2016) claims that the GIC could act as a conflict management tool and help to contain the military tensions between the two countries, not only by increasing their economic interdependence, but also by influencing North Korean people's opinions of South Korea (see also Section 2.2.2).

*2.2.4. FDI and human rights*

Although it is beyond the scope of this work to properly delve into this interesting but also long-debated issue, it is worth briefly recalling the large and heterogeneous body of literature that attempts to clarify whether and how FDI affects a host government's willingness to respect and protect local people's human rights. While advocates of globalization have argued that market liberalization and economic integration will strengthen human rights by promoting economic development and facilitating the diffusion of rights-supportive norms and values, critics contend that the same processes threaten to undermine human rights through economic exploitation and the repressive actions of pro-growth governments (Kim and Trumbore, 2010). Economic globalization places more and more power in the hands of economic actors like multinationals, which focus on maximizing profits, often neglecting the needs and rights of ordinary citizens (Donnelly, 2007; Forsythe, 2000; Meyer, 1998). At the same time, local governments' policy decisions may serve the economic interests of MNEs and domestic elites to the overall detriment of average citizens (Cingranelli and Richards,

1999). To contribute to this debate, Kim and Trumbore (2010) empirically examine the relationship between one aspect of economic globalization, FDI, and countries' human rights performance. In particular, they investigate the effect of transnational mergers and acquisitions (M&As) on two main categories of human rights, namely empowerment rights (e.g., freedom of movement, freedom of speech, workers' rights, political participation, and freedom of religion) and physical integrity rights (including levels of torture, extrajudicial killings, political imprisonments, and disappearances). The authors consider the years from 1981 to 2006 at global level, and focus on developing countries. Their econometric results suggest that M&As have a positive impact on human rights conditions across several model specifications, and particularly for developing economies. That said, the available evidence on the links between economic globalization and support for or repression of human rights points is contradictory. Some papers report a negligible effect of FDI on some types of human rights. For instance, Hafner-Burton (2005b) finds no statistically significant association between level of foreign investment and extent of government repression (including murder, torture, or other cruel, inhuman or degrading treatment or punishment, prolonged detention without charge, disappearance or clandestine detention, and other flagrant violations of a person's right to life, liberty, and security).

Giuliani and Macchi (2014) published an interesting review on the various contributions to the literature on this topic from the spheres of economics on the one hand, and political science, business ethics and international law on the other. The authors highlight the importance of factors that mediate the impact of MNEs' operations on host countries' human rights, which need to be accurately identified and examined by researchers.

The impact of FDI on human rights may also vary across industries. Vadlamannati et al. (2021) test this hypothesis using data on US FDI, distinguishing between extractive and non-extractive industries, in 157 host countries for the period 1999–2015. After controlling for other factors, including endogeneity concerns, they find extractive FDI associated with more human rights abuse, and non-extractive FDI associated with less abuse. Extractive firms in the oil and mining industries go where the resources are located and are tied to their investments, and this creates a status quo bias when it comes to supporting repressive rulers (the "location-bound effect"). This is not the case for non-extractive MNEs in manufacturing or services, which can exit problematic countries relatively more easily.

### 2.3. Research questions

Many of the studies we reviewed focus on developing and/or transition economies, as the question of how and to what degree FDI affects such countries seems to be of particular interest. In the last few decades, some dynamic developing economies (in South-East Asia, for instance), and most of the transition economies of Eurasia have been catching up and modernizing, and they have more scope for improving the quality of their institutions than advanced countries. Moreover, they often rely on a more malleable institutional framework. At the same time, foreign investors – especially in transition economies like the post-communist countries – generally do not settle for a passive role in the host country's reform process, but work closely with government actors (Malesky, 2009).

The literature suggests that multinationals can affect some relevant institutional dimensions and policies of a host country. The findings are quite mixed, however, in terms of the type(s) of institution under scrutiny, the sample, the level of analysis, the methods used, and also the significance and sign of any effect. Especially in the cases of corruption and human rights, it is hard to predict whether FDI has a positive, negligible or negative impact, since MNEs may take advantage of an improved environment as well as of a malleable, weakly regulated one.

The type of foreign investment may matter as well. While cross-border M&As may involve just a change of ownership between firms, greenfield FDI are investment projects that entail new assets and activities being established in the host country (UNCTAD, 2009), so they can have a greater impact on the host country's economic and institutional framework. MNEs typically prefer greenfield FDI to M&As in developing and transition economies, partly because of a general lack of suitable domestic companies, and partly because any reverse flow of knowledge and technology from the host country to the parent company's country of origin in these areas tends to be relatively limited. This reduces the chances of success for M&As, which rely on significant two-way flows between the acquiring and acquired organizations. On the other hand, creating new greenfield establishments in developing and transition economies enables MNEs (and particularly those from advanced countries) to organize, configure and control all aspects of the production or service process (Iammarino and McCann, 2013). It is also important to bear in mind that the local institutional environment generally plays an important part in determining the amount and type of foreign investment, which means that the causal relationship between the two variables under study is likely to be bidirectional.

In the light of these considerations, we test whether attracting larger amounts of FDI (mainly from advanced countries[6]) affects the quality of an array of institutional aspects in developing and transition economies (taken both together and separately). We focus mainly on greenfield FDI because it forms a relevant proportion of the total FDI in these countries, and it has a potentially greater impact on the local environment than M&As. Finally, to properly account for reverse causality, we take panel VAR and impulse response function (IRF) approaches.

[6] In recent years, there has been a remarkable increase in outward FDI from some countries in South-East Asia, including Singapore, and Hong Kong, and China especially. To give an example, China was the biggest investor in the Developing Asia region in 2015, and the fourth main investor in Africa (UNCTAD, 2018). This phenomenon is quite recent, however, so - for the overall 22-year time frame (1995–2016) considered in this work - most of the FDI in developing and transition economies came from developed countries.

## 3. Empirical analysis

### 3.1. Data

Our sample consists of 102 countries (see Appendix 1, Table A.1, for the full list) observed over 25 years, from 1995 to 2019. The time frame is restricted to the years 2003–2019 when we consider the value of greenfield FDI per capita. The countries are split into two main groups (according to the United Nations classification): developing countries and transition economies.

#### 3.1.1. Institutional quality measures

To measure the quality of institutions we use the six Worldwide Governance Indicators (WGI) produced by Daniel Kaufmann and Aart Kraay and made available by the World Bank Group (data available here: https://datacatalog.worldbank.org/dataset/world-wide-governance-indicators). These widely accepted and often-used indicators are based on a broad definition of governance. Specifically, Kaufmann et al. (2011, p. 222) identify governance as *"the traditions and institutions by which authority in a country is exercised. This includes: (a) the process by which governments are selected, monitored and replaced; (b) the capacity of the government to effectively formulate and implement sound policies; and (c) the respect of citizens and the State for the institutions that govern economic and social interactions among them"*. The six WGI range from approximately − 2.5 (the lowest quality) to + 2.5 (the best quality) and are available for most of the world. They concern the following complementary governance dimensions:

– *Voice and accountability*, which captures perceptions of the extent to which citizens can participate in the selection of their government, as well as freedom of expression, freedom of association, and free press and media;.

– *Political stability and absence of violence/terrorism*, which is related to perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism;.

– *Government effectiveness*, capturing perceptions of the quality of public services, the quality of the civil service, and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;.

– *Regulatory quality*, concerning perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development and market-oriented strategies;.

– *Rule of law*, which reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence;.

– *Control of corruption*, capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the State by elites and private interests.

The WGI condense information from a wide set of perception-based governance data sources (e.g., the World Economic Forum's Global Competitiveness Report, the Institute for Management Development's World Competitiveness Yearbook, and the World Bank/EBRD Business Environment and Enterprise Performance surveys) and measure several relevant types of institution, such as civil liberties, political rights and freedom of the press, property rights, rule of law, and corruption (World Bank Group, 2018). Though widely used by policymakers and academics, the WGI have also attracted some criticism. Notably, Kaufmann et al. (2011) deal in detail with some of the issues raised in a series of Word Bank Working Papers available in the "Critiques and Responses" section of the World Bank website devoted to the WGI. Since the quality of institutions tends to change slowly over time, focusing simply on short-term year-to-year changes for comparisons across countries can generate misleading results. That is why we compute our six indicators in terms of three-year moving averages, so that their variation can reflect trends over longer periods.

Fig. 1 shows the trend of the six indicators of institutional quality between 1995 and 2019 for the developing and transition countries in our sample. We note that the average scores for transition economies' institutional quality are almost always higher than those of developing countries. Transition economies also show a clear positive trend for five out of six institutional quality scores.

Since the WGIs rely on perception-based surveys, we use an alternative set of institutional quality variables – the Index of Economic Freedom co-published by the Wall Street Journal and the Heritage Foundation – to test the robustness of our analysis. We extract information on regulatory efficiency, market openness, and rule of law, which are constructed from different data sources, some of them based on actual data (see Appendix 2).

#### 3.1.2. FDI measures

We measure inward FDI in two ways. The first indicator, labeled simply FDI/POP, refers to inward FDI stock (measured in millions of US dollars) per capita. Data on yearly inward FDI stocks at current prices come from UNCTAD FDI Statistics, while data on countries' total resident population are retrieved from the World Bank's dataset of World Development Indicators. The second measure (GREENFDI) captures the monetary value per capita of inward greenfield FDI projects. As mentioned in Section 2.3, this is often the type of FDI preferred by investors in developing and transition economies. This variable is based on data from the FDI Markets Dataset developed by the Financial Times Group, which collects detailed micro-level information on greenfield projects undertaken all around the world. Aggregate data on this variable are also available in the Annex Tables of the World Investment Reports provided by UNCTAD. To compute the corresponding annual stock value by country, we apply the permanent inventory method to the value of the greenfield FDI projects, using a 5% depreciation rate.[7] The stock value, at time *t,* of inward greenfield FDI projects, equals the stock of greenfield FDI projects at time *t*-1, appropriately depreciated, added to the current flow of greenfield FDI projects at time *t*.

[7] If a 10% depreciation rate is used, the results do not change.

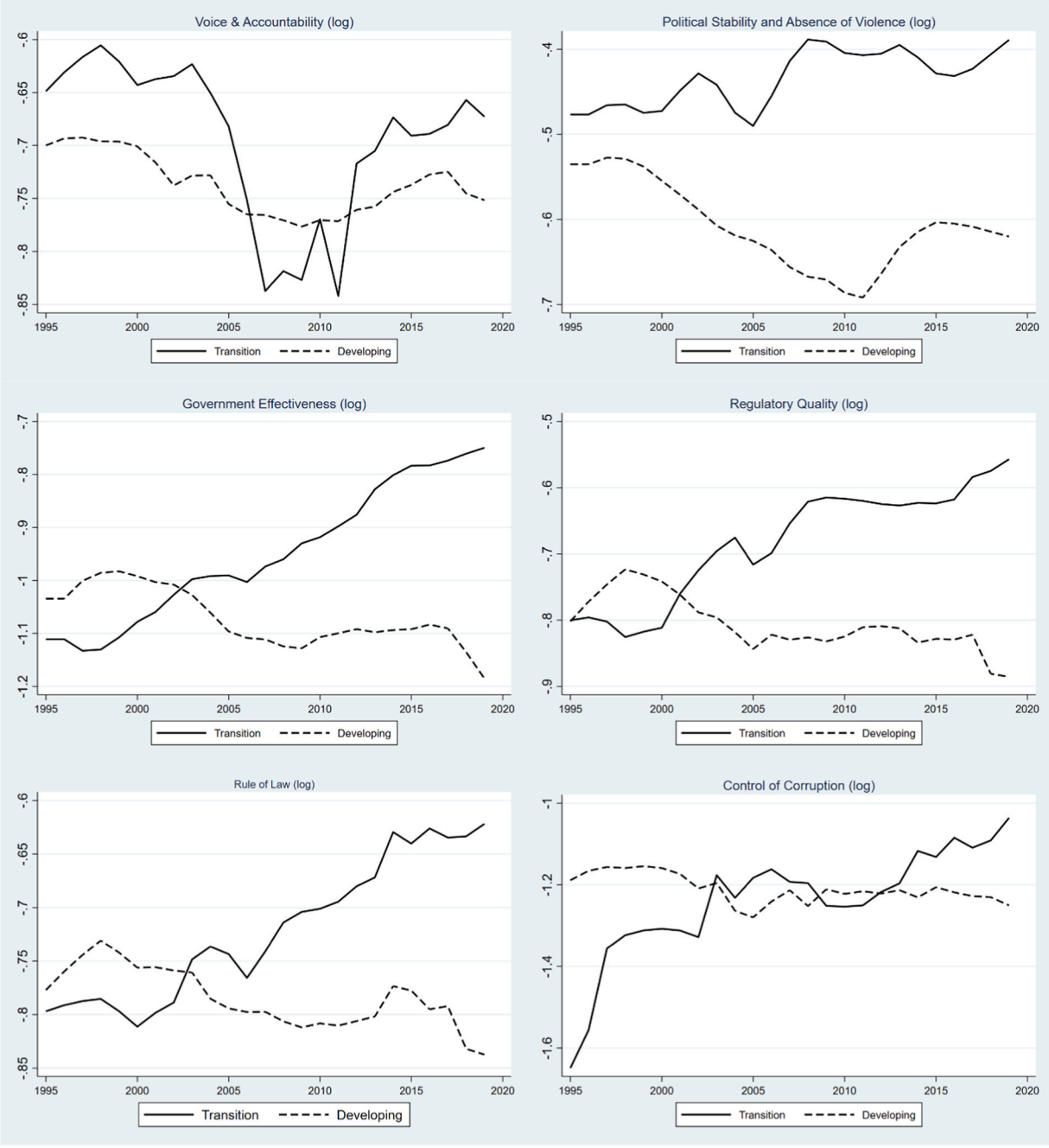


**Fig. 1.** Average quality of institutions between 1995 and 2019,
Source: Authors' elaborations on World Bank data.

Fig. 2 illustrates the dynamics for total inward FDI stock per capita between 1995 and 2019. Fig. 3 shows the stock of greenfield FDI projects per capita. Both figures point to a relevant growth of inward FDI in the sample selected.

### *3.2. Empirical strategy*

To assess the impact of inward FDI on the quality of recipient countries' institutions in a way that properly accounts for reverse causality, we adopt an empirical strategy involving three steps. First, we test for the stationarity of our variables using a unit root test. Then, we examine whether they are cointegrated. Finally, we use a panel VAR approach and a panel Granger causality test and, having established the direction of causality, we estimate the short-term impact of inward FDI on institutional quality using an IRF approach.

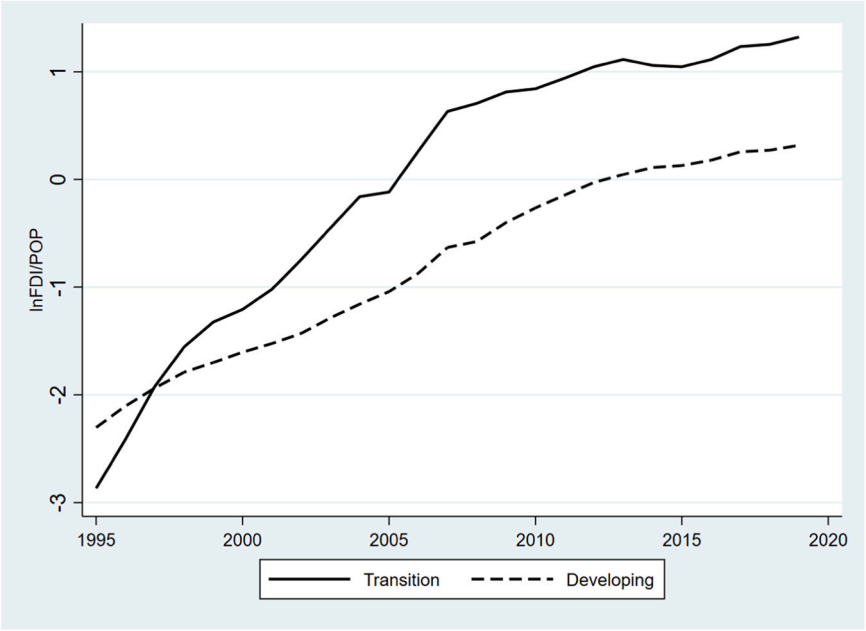


**Fig. 2.** Inward FDI stock per capita between 1995 and 2019,
Source: Authors' elaborations on UNCTAD data.

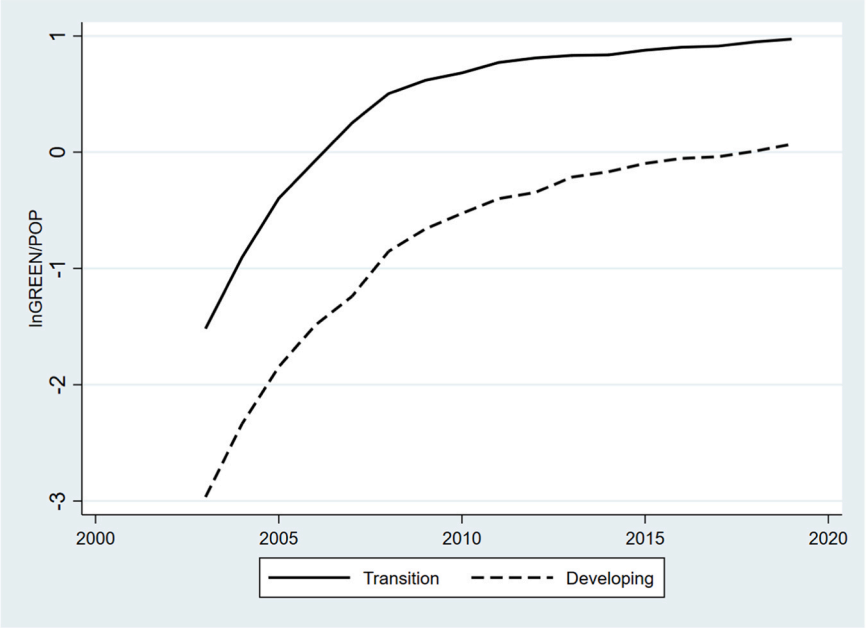


**Fig. 3.** Inward Greenfield FDI stock per capita between 2003 and 2019,
Source: Authors' elaborations on UNCTAD data.

### *3.2.1. Unit root tests*

Although it is common practice to use the so-called first-generation panel unit root tests, they are sensitive to cross-sectional dependence, which emerges because there are common shocks within groups of observations. The asymptotic convergence to normal distribution of the estimators of the first-generation panel unit root tests assumes that all units of the panel are independent, so these first-generation tests are not reliable if there is cross-section dependence. To avoid this problem, we use a second-generation panel unit root test developed by Pesaran (2007). This test is based on the cross-sectional Im, Pesaran and Shin (CIPS) unit root test, and relies on the null hypothesis ($H_0$) that the variable under investigation has a unit root. We first check for the presence of a unit root in

**Table 1**
Unit root tests.

| Variable | Full sample | Transition | Developing |
|---|---|---|---|
| lnFDI | -2.094 | -2.790 ** | -2.053 |
| ΔlnFDI | -4.174 *** | -4.342 *** | -4.228 *** |
| lnGREENFDI | -3.410 *** | -3.907 *** | -3.343 *** |
| ΔlnGREENFDI | -4.350 *** | -4.554 *** | -4.319 *** |
| *Quality of institutions* | | | |
| lnV&A | -2.284 | -2.192 | -2.415 |
| ΔlnV&A | -3.997 *** | -3.978 *** | -4.040 *** |
| lnPOLST | -1.394 | -1.511 | -1.349 |
| ΔlnPOLST | -2.642 * | -2.642 * | -2.623 * |
| lnGOVEFF | -1.209 | -1.237 | -1.128 |
| ΔlnGOVEFF | -2.653 ** | -2.866 *** | -2.668 * |
| lnREGQ | -2.203 | -2.458 | -2.232 |
| ΔlnREGQ | -4.393 *** | -4.432 *** | -4.563 *** |
| lnRLAW | -2.199 | -2.317 | -2.158 |
| ΔlnRLAW | -4.191 *** | -4.139 *** | -4.266 *** |
| lnCORR | -2.163 | -2.303 | -2.334 |
| ΔlnCORR | -4.275 *** | -4.164 *** | -4.297 *** |

Notes: Critical values at: 10% − 2.59; 5% − 2.65; 1% − 2.77. Notes: critical values at: 10% − 2.59; 5% − 2.65; 1% − 2.77. In the sample of transition economies, the critical values are: 10% − 2.58; 5% − 2.66; 1% − 2.81. For GREENFDI the critical values are: 10% − 2.63; 5% − 2.7; 1% − 2.85. * significant at 10% level, * * significant at 5% level, * ** significant at 1% level.

our focal variables in levels, and then in their first difference. If the test does not reject $H_0$ when variables are in levels but does reject it when they are in their first difference, we conclude that they are integrated of order 1, i.e., non-stationary.

More specifically, to detect the presence of a unit root, we estimate the following equation:

$$\Delta y_{it} = \beta_i y_{it-1} + \gamma_i \Delta \bar{y}_{it} + \delta_i \bar{y}_{it-1} + \mu_i + \varepsilon_{it} \tag{1}$$

where the individual augmented Dickey-Fuller (ADF) regressions are extended with the cross-sectional means of the lagged levels and first differences of the individual regressor $y$, which are used as proxy for the unobserved common factors. The null hypothesis is that $\beta_i = 0$, which is tested by averaging the $t_i$ statistics corresponding to $\beta_i$ in Eq. 1 (Pesaran, 2007; Burdisso and Sangiacomo, 2016). The alternative hypothesis is that $\beta_i < 0$ for $i = 1, 2\ldots, M$ and $\beta_i = 0$ for $i = M + 1, M + 2,\ldots, N$ (with $M < N$).

Table 1 shows the results of the CIPS test for institutional quality and the two FDI variables. Due to the limited number of years available, we restrict the number of lags to 1, and we include a linear trend and an intercept.

The table shows that the test does not reject the null hypothesis of serial autocorrelation for all the variables in levels except GREENFDI, whereas it strongly rejects the null hypothesis when all the variables are put in their first difference. This means that greenfield FDI per capita is stationary, or I(0), while all the other variables are not, or I(1).

### 3.2.2. Cointegration analysis

The second step in our empirical analysis involves assessing whether inward FDI and the quality of institutions are linked by a non-spurious long-term relationship or, in other words, whether they are cointegrated. To this end, we use the second-generation panel cointegration test developed by Westerlund (2007). The Westerlund tests are a class of tests based on the conditional error correction model (ECM) that assume the following data-generating process (Persyn and Westerlund, 2008):

$$\Delta y_{it} = \delta' d_t + \alpha_i (y_{it-1} - \beta_i' x_{it-1}) + \sum_{j=1}^{k_i} \alpha_{ij} \Delta y_{it-j} + \sum_{j=0}^{k_i} \gamma_{ij} \Delta x_{it-j} + \varepsilon_{it} \tag{2}$$

where $d_t$ is the deterministic component (that is, generated by a constant and a time trend), and $k$ is the maximum number of time lags, which we set to 1 for the sake of simplicity. After a shock, the speed at which the system corrects to the long-term equilibrium $(y_{it-1} - \beta_i' x_{it-1})$is given by the parameter $\alpha$: if $\alpha < 0$, then there is error correction and the variables $y$ and $x$ are cointegrated (namely, they share a common unit root); if $\alpha = 0$, then there is no error correction and consequently no long-term relationship between $y$ and $x$. The Westerlund test enables us to test for a null hypothesis of $\alpha = 0$ (i.e., absence of cointegration) against an alternative hypothesis of $\alpha < 0$ (i.e., presence of cointegration).

Westerlund (2007) develops two types of test: group-mean ($G_t$ and $G_\alpha$) and panel tests ($P_t$ and $P_\alpha$). The former does not need $\alpha$ to be equal across cross-sectional units (i.e., countries), so the null hypothesis is tested for at least one country. The latter does require that $\alpha$ be equal across all the units. To account for possible cross-sectional dependence, we use the bootstrap approach with 500 replications. Table 2 reports the results of the panel cointegration tests. In the regression of most interest to us, the dependent variable is an institutional indicator, while in the reverse regression, it is FDI per capita. To save space, we present the results only for the full sample because the results of the test do not change when we consider transition and developing economies separately.

**Table 2**
Westerlund (2007) cointegration test: Full sample.

| | $G_t$ | $G_\alpha$ | $P_t$ | $P_\alpha$ |
|---|---|---|---|---|
| lnFDI → lnV&A | -2.389 | -7.636 | -15.13 | -3.933 |
| lnV&A → lnFDI | -2.207 | -7.862 | -25.77 *** | -8.122 |
| lnFDI → lnPOLST | -3.272 *** | -8.553 | -23.53 | -7.023 |
| lnPOLST → lnFDI | -2.266 | -7.561 | -24.98 * | -8.038 * |
| lnFDI → lnGOVEFF | -3.125 *** | -8.591 *** | -31.01 *** | -6.999 |
| lnGOVEFF → lnFDI | -2.278 | -7.011 | -22.98 | -6.758 |
| lnFDI → lnREGQ | -2.436 | -8.112 | -18.06 | -6.939 |
| lnREGQ → lnFDI | -2.205 | -7.438 | -23.04 | -7.803 |
| lnFDI → lnRLAW | -2.471 | -7.108 | -1.928 | -0.544 |
| lnRLAW → lnFDI | -2.342 | -8.050 | -22.85 | -7.663 |
| lnFDI → lnCORR | -2.442 | -7.868 | -23.51 | -7.191 |
| lnCORR → lnFDI | -2.001 | -7.182 | -20.44 | -6.533 |

Notes: * * significant at 5% level, *** significant at 1% level. Number of lags: 1. Number of leads: 1.

As shown in Table 2, the test statistic is not statistically significant for most cases, which means that the test does not reject the null hypothesis of no cointegration. We conclude that inward FDI per capita and institutional quality do not have a long-term relationship.

### *3.2.3. Short-term dynamics: Panel VAR analysis*

Since we are unable to identify a long-term relationship from the cointegration analysis, as a third step we investigate whether inward FDI and institutional quality are linked by a causal relationship in the short run. To do so, we use a panel VAR approach. More specifically, we conduct a panel Granger causality test and then use an IRF approach to visualize the impact of inward FDI on the quality of institutions, and vice versa. The panel VAR model is as follows:

$$y_{it} = \beta_i y_{it-1} + \gamma_i x_{it-1} + \mathbf{Z}_i'\delta_i + \mu_i + d_t + \varepsilon_{it} \tag{3}$$

where $y$ is our variable of institutional quality (inward FDI), $x$ is our variable of inward FDI per capita (institutional quality), $\mathbf{Z}$ is a vector of control variables, $\mu_i$ is a vector of individual fixed effects, $d_t$ are the time-specific dummies, and $\varepsilon_{it}$ are the i.i.d. residuals. We estimate Eq. 3 by going through the following steps. First, we eliminate the fixed effects by first differencing all the variables, thereby making them all stationary. The regressors and the differenced error term might still be correlated, however, so we apply panel GMM, where the instruments are the (up to three) lagged regressors in levels, to account for this simultaneity issue. To do so, we take the approach of Holtz-Ekin et al. (1988), where missing observations in the lagged instruments are replaced with zeros as standard practice. We also cluster the standard errors at the country level.

We estimate Eq. 3 separately for all our variables of institutional quality, using either total inward FDI per capita or inward greenfield FDI per capita as the key regressor and, in the reverse regression, as the dependent variable. We estimate Eq. 3 on the full sample, and also on the two sub-samples of transition and developing economies. For all these specifications, we test for the panel Granger causality using a Wald test for each equation of the panel VAR model. The variable $x$ Granger causes the variable $y$ if the past values of $x$ significantly predict the current values of $y$, even when the latter's past values f have been included in the model.

We also include a set of control variables in Eq. 3. First, we add an indicator of trade openness (TRADE), which is computed as the sum of exports and imports divided by GDP. This variable is expected to correlate positively with institutional quality for much the same reasons as those already discussed regarding inward FDI. Previous studies show, however, that this influence varies with the type of institution (especially after controlling for countries' level of development), and the sample of countries considered (Islam and Montenegro, 2002; Knack and Azfar, 2003).[8] Second, we control for two factors – inflation (INFL) and unemployment (UNEMP) – that can negatively affect institutional quality, especially by raising the risks of conflict, socio-political instability, and insecurity. INFL is measured by the annual GDP deflator, and UNEMP is calculated as the proportion of the total labor force that is unemployed. We also control for the weight of services (SERV/GDP) and industry (manufacturing and construction) (IND/GDP) value added, computed as a share of GDP. The former accounts for a country's level of development, which should be higher the greater the value added of service-related activities. The influence of the latter is more ambiguous because, as Lee and Lio (2016) suggest, industrialization can create many rent-seeking opportunities that may foster corruption. Table 3 shows the panel unit root tests for all these additional variables: apart from INFL, they all have a unit root, so their first difference can be considered stationary, or I(0).[9]

[8] Rigobon and Rodrik (2005) find a weak positive relationship between trade openness and the rule of law, but a negative relationship between trade openness and democracy. The Authors interpret this in terms of distributive tensions generated by economic openness

[9] We also consider other control variables, such as population density and the proportion of internet users, but we do not include them in the regressions because the panel unit root test shows that they are I(2).

**Table 3**
Unit root tests: Control variables.

| Variable | Full sample | Transition | Developing |
|---|---|---|---|
| lnTRADEOPEN | -2.464 | -2.496 | -2.524 |
| ΔlnTRADEOPEN | -4.475 *** | -4.494 *** | -4.523 *** |
| lnUNEMP | -1.959 | -2.366 | -2.223 |
| ΔlnUNEMP | -4.055 *** | -4.032 *** | -4.138 *** |
| INFLATION | -3.855 *** | -4.757 *** | -3.006 *** |
| ΔINFLATION | -5.670 *** | -5.699 *** | -4.975 *** |
| lnIND/GDP | -2.585 | -1.495 | -2.652 ** |
| ΔlnIND/GDP | -4.431 *** | -4.282 *** | -4.442 *** |
| lnSERV/GDP | -2.066 | -2.119 | -2.127 |
| ΔlnSERV/GDP | -4.478 *** | -4.483 *** | -4.521 *** |

Notes: critical values at: 10% − 2.59; 5% − 2.65; 1% − 2.77. In the sample of transition economies, the critical values are: 10% − 2.58; 5% − 2.66; 1% − 2.81. * Significant at 10% level, * * significant at 5% level, * ** significant at 1% level.

**Table 4**
Panel Granger causality test: Total inward FDI per capita and controls.

| Full sample | Transition | Developing |
|---|---|---|
| ΔlnFDI→ΔlnV&A | ΔlnFDI→ΔlnV&A | ΔlnFDI→ΔlnV&A |
| 0.256 | 29.81 * ** | 0.413 |
| ΔlnV&A→ΔlnFDI | ΔlnV&A→ΔlnFDI | ΔlnV&A→ΔlnFDI |
| 21.19 *** | 41.10 *** | 22.59 *** |
| ΔlnFDI→ΔlnPOLST | ΔlnFDI→ΔlnPOLST | ΔlnFDI→ΔlnPOLST |
| 0.867 | 0.519 | 0.712 |
| ΔlnPOLST→ΔlnFDI | ΔlnPOLST→ΔlnFDI | ΔlnPOLST→ΔlnFDI |
| 22.58 *** | 45.45 *** | 1.140 |
| ΔlnFDI→ΔlnGOVEFF | ΔlnFDI→ΔlnGOVEFF | ΔlnFDI→ΔlnGOVEFF |
| 3.471 | 7.559 *** | 2.857 |
| ΔlnGOVEFF→ΔlnFDI | ΔlnGOVEFF→ΔlnFDI | ΔlnGOVEFF→ΔlnFDI |
| 44.84 * ** | 2.637 | 69.89 *** |
| ΔlnFDI→ΔlnREGQ | ΔlnFDI→ΔlnREGQ | ΔlnFDI→ΔlnREGQ |
| 1.562 | 0.915 | 0.034 |
| ΔlnREGQ→ΔlnFDI | ΔlnREGQ→ΔlnFDI | ΔlnREGQ→ΔlnFDI |
| 4.159 ** | 9.970 *** (-) | 31.75 *** |
| ΔlnFDI→ΔlnRLAW | ΔlnFDI→ΔlnRLAW | ΔlnFDI→ΔlnRLAW |
| 0.001 | 0.200 | 2.763 * |
| ΔlnRLAW→ΔlnFDI | ΔlnRLAW→ΔlnFDI | ΔlnRLAW→ΔlnFDI |
| 1.994 | 24.85 *** (-) | 12.74 *** |
| ΔlnFDI→ΔlnCORR | ΔlnFDI→ΔlnCORR | ΔlnFDI→ΔlnCORR |
| 0.229 | 1.622 | 6.763 *** |
| ΔlnCORR→ΔlnFDI | ΔlnCORR→ΔlnFDI | ΔlnCORR→ΔlnFDI |
| 0.568 | 0.046 | 7.897 *** |

Notes: * ** significant at 1% level; * * significant at 5% level.

Having established the existence, and direction of a Granger causality between inward FDI and countries' institutional quality, we analyze the (cumulative) dynamic response of each dependent variable to a one-standard-deviation shock in the main regressor over a period of five years. To do so, we take an IRF approach, and use 200 Monte Carlo simulations to compute the confidence intervals.

## 4. Results

### 4.1. Panel Granger causality analysis

Tables 4 and 5 show the results of the Wald test for the panel Granger causality between quality of institutions and total inward FDI per capita, and between quality of institutions and inward greenfield FDI per capita. In estimating Eq. 3, we use a one-year time lag, but if we use the Akaike Information Criterion (AIC) to select the optimum lag order the results do not change.[10]

[10] We also check for the stability conditions of each panel VAR estimate by computing the modulus of each eigenvalue of the estimated model (Lutkepohl, 2005). The results (not reported here) show that all moduli of the companion matrix are below one.

**Table 5**
Panel Granger causality test: Inward *greenfield* FDI per capita and controls.

| Full sample | Transition | Developing |
|---|---|---|
| ΔlnGREENFDI→ΔlnV&A | ΔlnGREENFDI→ΔlnV&A | ΔlnGREENFDI→ΔlnV&A |
| 21.28 * ** | 12.57 *** | 18.94 *** |
| ΔlnV&A→ΔlnGREENFDI | ΔlnV&A→ΔlnGREENFDI | ΔlnV&A→ΔlnGREENFDI |
| 38.33 * ** | 3.789 * | 17.38 *** |
| ΔlnGREENFDI→ΔlnPOLST | ΔlnGREENFDI→ΔlnPOLST | ΔlnGREENFDI→ΔlnPOLST |
| 1.137 | 11.08 *** (-) | 0.031 |
| ΔlnPOLST→ΔlnGREENFDI | ΔlnPOLST→ΔlnGREENFDI | ΔlnPOLST→ΔlnGREENFDI |
| 38.09 * ** | 2.317 | 23.41 *** |
| ΔlnGREENFDI→ΔlnGOVEFF | ΔlnGREENFDI→ΔlnGOVEFF | ΔlnGREENFDI→ΔlnGOVEFF |
| 0.165 | 2.632 | 1.662 |
| ΔlnGOVEFF→ΔlnGREENFDI | ΔknGOVEFF→ΔlnGREENFDI | ΔlnGOVEFF→ΔlnGREENFDI |
| 1.659 | 3.671 | 6.329 ** |
| ΔlnGREENFDI→ΔlnREGQ | ΔlnGREENFDI→ΔlnREGQ | ΔlnGREENFDI→ΔlnREGQ |
| 9.906 * ** | 0.000 | 9.596 *** |
| ΔlnREGQ→ΔlnGREENFDI | ΔlnGREENFDI→ΔlnREGQ | ΔlnGREENFDI→ΔlnREGQ |
| 4.857 * * | 3.804 * | 17.83 *** |
| ΔlnGREENFDI→ΔlnRLAW | ΔlnGREENFDI→ΔlnRLAW | ΔlnGREENFDI→ΔlnRLAW |
| 20.91 * ** | 0.083 | 18.71 *** |
| ΔlnRLAW→ΔlnGREENFDI | ΔlnGREENFDI→ΔlnRLAW | ΔlnGREENFDI→ΔlnRLAW |
| 23.44 * ** | 16.91 * ** (-) | 37.33 *** |
| ΔlnGREENFDI→ΔlnCORR | ΔlnGREENFDI→ΔlnCORR | ΔlnGREENFDI→ΔlnCORR |
| 23.56 * ** | 6.376 * * | 30.39 *** |
| ΔlnCORR→ΔlnGREENFDI | ΔlnCORR→ΔlnGREENFDI | ΔlnCORR→ΔlnGREENFDI |
| 10.27 * ** | 18.42 * ** (-) | 3.797 * |

Notes: *** significant at 1% level; ** significant at 5% level

**Table 6**
FDI and institutions: summary of the panel Granger causality tests.

| | *Transition economies* | *Developing countries* |
|---|---|---|
| Total FDI | Voice and accountability*** Government effectiveness* ** | Rule of law*<br>Control of corruption* |
| Greenfield FDI | Voice and accountability***<br>Political stability (-)***<br>Control of corruption** | Voice and accountability***<br>Regulatory quality***<br>Rule of law***<br>Control of corruption*** |

From the first column of Table 4, it seems that – on average – a higher institutional quality Granger causes inward FDI per capita, but not vice versa. Taking all the countries together, the causality goes only in one direction, from institutions to FDI. The other two columns reveal a more nuanced picture, however. When we consider transition economies, we find that attracting more investments from foreign companies also has an influence on the quality of institutions. We see a mutual Granger causality relationship between inward FDI per capita and voice and accountability, and between inward FDI per capita and government effectiveness. This suggests that foreign investors are attracted to transition economies where there is more freedom of expression and association, a greater government commitment, and a higher quality of public services. At the same time, foreign investors contribute to raising the average perceived quality of these institutions. Interestingly, we also find that inward FDI in transition economies is also Granger caused by greater political stability and a lower quality of regulations and rule of law. This could be interpreted as a sign of 'decreasing returns to institutional quality', as transition economies experience a steep increase in their regulatory quality and rule of law (see Fig. 1), such that further increases might be seen by foreign investors as a sign of 'excessive' government intervention in the economy.

The last column in Table 4 shows the panel VAR results for developing countries. We find that two types of institution are each mutually related to inward FDI, i.e., rule of law and control of corruption. Countries that fare better on voice and accountability, government effectiveness, rule of law, and control of corruption attract more foreign investments. Hence, inward FDI help developing countries to improve their rule of law and control of corruption, making their governments and rules more reliable and transparent.

Table 5 shows the results of the panel Granger causality tests for greenfield FDI per capita. For the whole sample of countries, the first column shows clear mutual (Granger) links between greenfield FDI and four types of institution, namely voice and

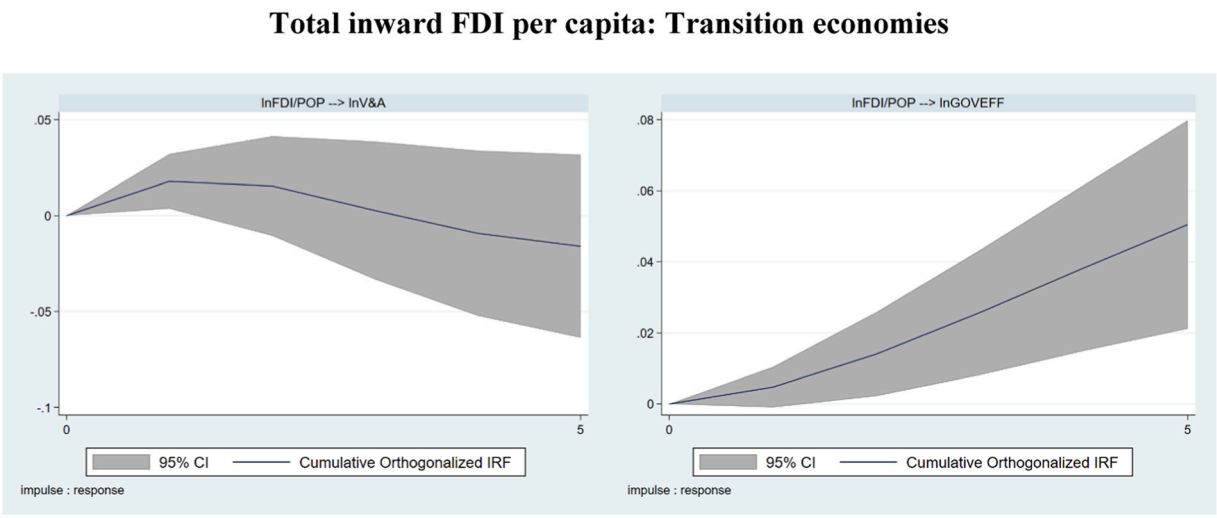


**Fig. 4.** Impulse response functions, Total inward FDI per capita: Transition economies, Total inward FDI per capita: Developing countries, Source: Authors' elaborations, **Greenfield FDI per capita: Transition economies,** Source: Authors' elaborations, **Greenfield FDI per capita: Developing countries,** Source: Authors' elaborations.

accountability, regulatory quality, rule of law, and control of corruption. The third column shows that this result holds for developing countries, while for transition economies there is only a significant bilateral relationship between greenfield FDI and voice and accountability, and between greenfield FDI and control of corruption. We can also see that greenfield FDI is Granger caused by a weaker control of corruption in transition economies. On the other hand, Fig. 1 shows that control of corruption is the type of institution with the highest score in developing countries. Here again, we interpret this negative relationship as a possible sign of decreasing returns to institutional quality, which prompt new investors, or those setting up a brand-new activity in a developing country, to seek countries where control of corruption is not excessively strong.

Table 6 summarizes the main results of the panel Granger causality tests. Analyzing these data, voice and accountability emerge as the type of institution that is Granger caused by both total and greenfield inward FDI in transition economies, while rule of law and control of corruption are promoted by FDI in developing countries. This means that different types of investment do correlate differently with institutions, and these relationships differ between transition and developing countries. Better institutions help countries to attract FDI, and the latter help recipient economies to improve the average quality of their institutions. FDI thus contribute to raising the quality of contract enforcement, (intellectual) property rights, and transparency in developing countries, and of freedom of expression and government reliability in transition economies.

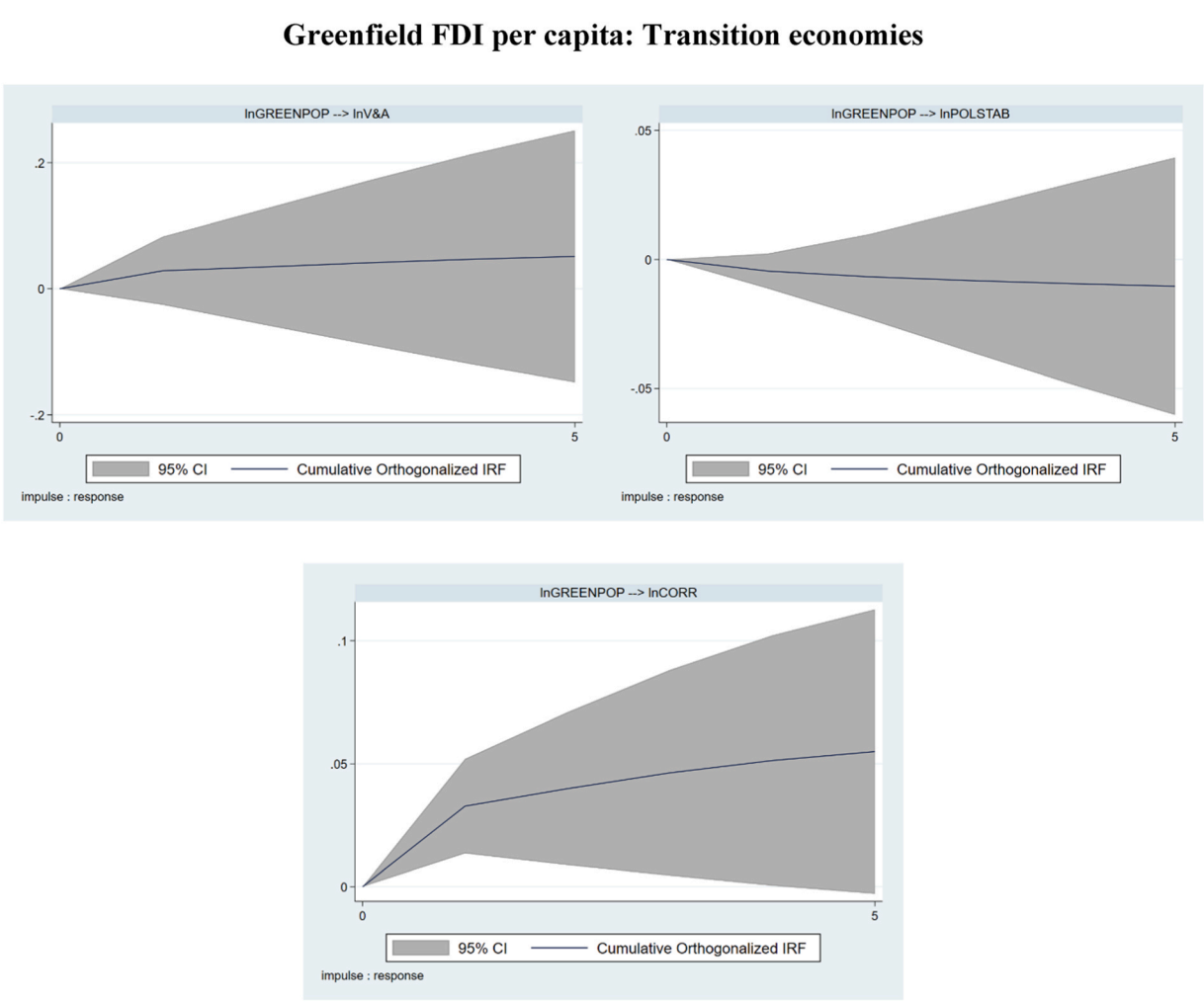


**Fig. 4.** (*continued*)

### 4.2. Impulse response functions

In this section, we analyze the dynamic properties of our model by resorting to an IRF approach. Using the results of the Granger causality test, we show the cumulative dynamic response of a selection of institutional quality variables (those characterized by a statistically significant t statistic) to a one-standard deviation shock in inward FDI. To save space, we report only the cumulative orthogonalized IRFs for the institutional quality variables that are Granger caused by inward (greenfield) FDI, distinguishing between transition and developing economies. The IRFs cover a period of five years. We also use 200 Monte Carlo simulations to obtain the confidence intervals. The IRFs are shown in Fig. 4.

In each diagram, we can see that the impact of FDI on institutions is greatest in the first two or three years (where the 95% confidence intervals are also narrower) and that it is of relatively small magnitude. While the cumulative effect of an inward FDI shock tends to flatten for most of the institutions, there is an increase over time in the impact of total FDI on government effectiveness in transition economies, and of greenfield FDI on the rule of law in developing countries.

We also conduct a robustness analysis using an alternative set of institutional quality measures extracted from the Heritage Foundation's Index of Economic Freedom (see Appendix 2 for further details), which shows that inward FDI Granger causes the average degree of market openness and rule of law in transition economies, and the average regulatory efficiency in both transition and developing countries.

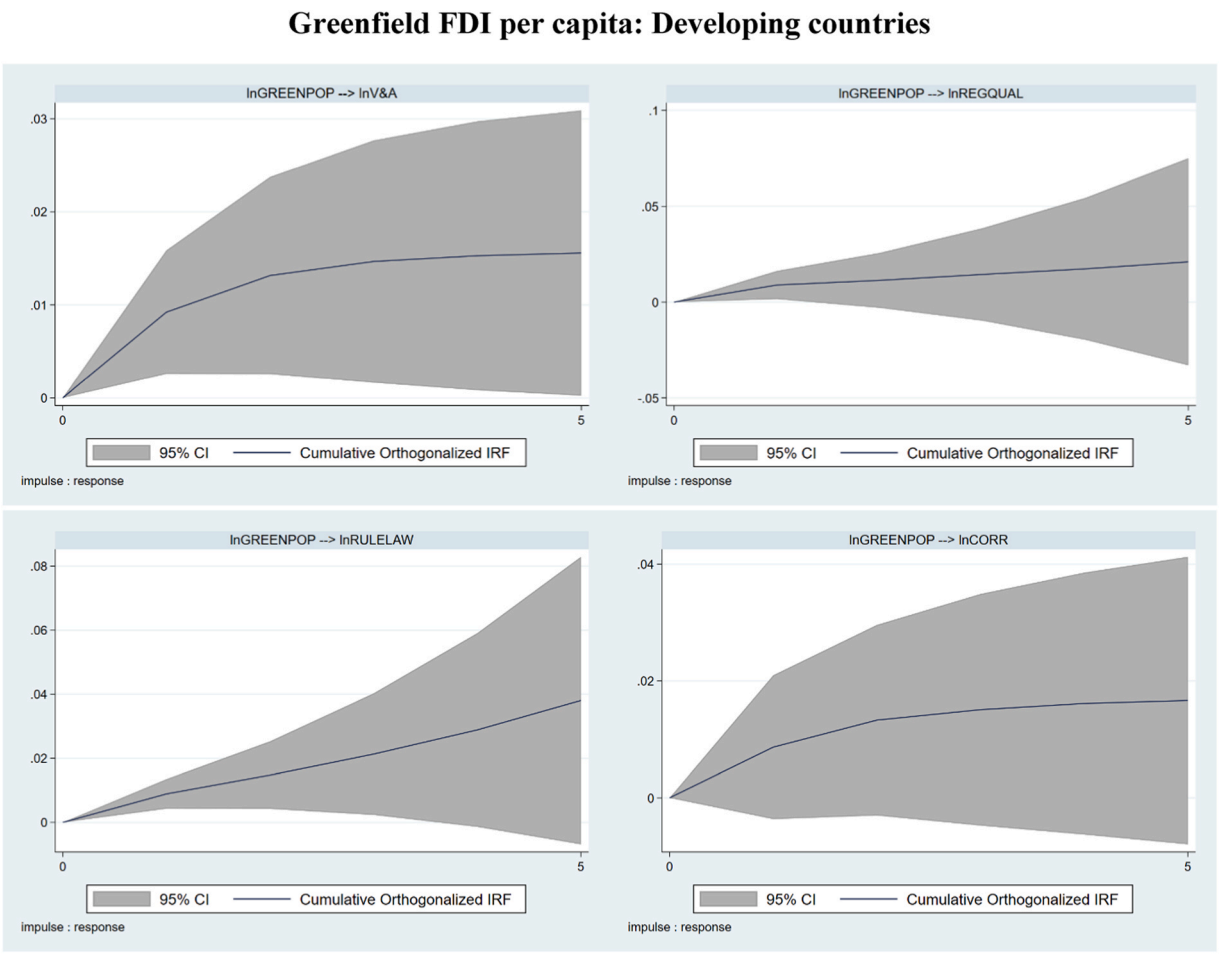


**Fig. 4.** (*continued*)

## 5. Conclusions

In this paper, we examine the short-term impact of inward FDI on recipient countries' institutional quality, an issue that has been less thoroughly investigated than whether high-quality domestic institutions attract FDI. Considering a set of 102 countries and a period of 25 years, and taking a panel VAR approach, we find that larger amounts of inward FDI have a (Granger) causal effect on the quality of domestic institutions. This result is robust to the inclusion of control variables and to alternative measures of institutional quality.

We also find that greenfield FDI affect a wider portfolio of institutions than total inward FDI. Attracting more greenfield projects financed by foreign investors helps to increase the average quality of voice and accountability, and control of corruption in both transition and developing countries. In the latter group, greenfield FDI Granger cause a better regulatory quality and rule of law as well. The positive result for voice and accountability reinforces the findings of the extant literature concerning the positive impact of FDI on some human rights, including freedom of speech (e.g., Lin, 2018; Kim and Trumbore, 2010), while their effect on corruption is consistent with studies reporting that less corruption is associated with larger amounts of FDI (e.g., Kwok and Tadesse, 2006; Larrein and Tavares, 2004; Lee and Lio, 2016).

The positive influence of rule of law – coupled with the beneficial effect of regulatory quality in developing countries, and with that of government effectiveness in transition economies – implies that attracting FDI can improve aspects such as the quality of public services, policy formulation and implementation, contract enforcement and intellectual property rights, and the promotion of private-sector development and market-oriented strategies, as suggested by a number of studies (e.g., Dang, 2013; Fukumi and Nishijima, 2010; Long et al., 2015; Malesky, 2008, 2009; Wrana and Revilla Diez, 2016; Lee and Lio, 2016). As Dang (2013) puts it, countries can use FDI as a catalyst for domestic institutional reform.

We also show that institutional quality Granger causes inward (greenfield) FDI. The number of institutions significantly affecting the attraction of FDI is larger for developing countries, as it includes voice and accountability, government effectiveness, regulatory quality, rule of law, and control of corruption. This suggests that a country with a low level of economic development should improve a wide array of institutions to make it more attractive to foreign investors. In transition economies, FDI is fostered by higher levels of

voice and accountability, and political stability, but we also find evidence to suggest that excessively high levels of regulatory quality, rule of law, and control of corruption can even be associated with fewer foreign investments.

To conclude, our analysis contributes in four main respects to the growing body of literature aiming to explore the influence of FDI on host countries: it considers a large sample of countries (also split into two sub-samples); it employs different broad indicators of perceived institutional quality; it distinguishes between greenfield FDI and total FDI; it adopts an econometric strategy particularly suitable for investigating both directions of the relationship under scrutiny. Although it would be naive to think that the influence of MNEs on recipient countries' institutional environment is always good, their effect on a number of broad institutional dimensions in the selected sample is positive on average. Accordingly, we can posit that not only do MNEs shape the local business environment in their favor, but they can also act as agents of institutional change and transition, as some scholars have argued.

## Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.ecosys.2023.101078.

## References


Bailey, N., 2018. Exploring the relationship between institutional factors and FDI attractiveness: a meta-analytic review. Int. Bus. Rev. 27, 139–148.

Banfield, J., Haufler, V., Lily, D., 2005. Transnational corporations in conflict-prone zones: Public policy responses and a framework for action. Oxf. Dev. Stud. 33 (1), 133–147.

Bardhan, P., 1997. Corruption and development: a review of issues. J. Econ. Lit. 35 (3), 1320–1346.

Bardi, W., Hfaiedh, M.A., 2021. Causal Interaction between FDI. Corrupt. Environ. Qual. MENA Reg. Econ. 9 (1), 14.

Blonigen, B.A., Figlio, D.N., 1998. Voting for protection: does direct foreign investment influence legislator behavior? Am. Econ. Rev. 88, 1002–1014.

Bouzahzah, M., 2022. Pollution haven hypothesis in Africa: does the quality of institutions matter? Int. J. Energy Econ. Policy 12 (1), 101–109.

Burdisso, T., Sangiacomo, M., 2016. Panel time series: review of the methodological evolution. Stata J. 16 (2), 424–442.

Bussmann, M., 2010. Foreign direct investment and militarized international conflict. J. Peace Res. 47 (2), 143–153.

Cingranelli, D., Richards, D.L., 1999. Respect for human rights after the Cold War. J. Peace Res. 36 (5), 511–534.

Cole, M.A., Elliot, J.R., Fredriksson, P.G., 2006. Endogenous pollution havens: does FDI influence environmental regulations? Scand. J. Econ. 108 (1), 157–178.

Copeland, B., 2008. The pollution haven hypothesis. In: Gallagher, K. (Ed.), Handbook on Trade and the Environment. Cheltenham (UK). Edward Elgar pp. 60–70.

Craigwell, R., Wright, A., 2011. Foreign direct investment and corruption in developing economies: evidence from linear and non-linear panel Granger causality tests. Econ. Bull. 31, 2272–2283.

Culver, C., 2021. Chinese investment and corruption in Africa. J. Chin. Econ. Bus. Stud. 19 (2), 119–145.

Dacin, M.T., Ventresca, M., Beal, B., 1999. The embeddedness of organizations: dialogue and directions. J. Manag. 25 (3), 317–356.

Dahan, N., Doh, J., Guay, T., 2006. The role of multinational corporations in transnational institution building: a policy network perspective. Hum. Relat. 59 (11), 1571–1600.

Dang, D.A., 2013. How foreign direct investment promote institutional quality: evidence from Vietnam. J. Comp. Econ. 4, 1054–1072.

Dash, D.P., Behera, S.R., Rao, D.T., Sethi, N., Loganathan, N., 2020. Governance, urbanization, and pollution: A cross-country analysis of global south region. Cogent Econ. Financ. 8 (1), 1742023.

Desbordes, R., Vaudey, J., 2007. The political influence of foreign firms in developing countries. Econ. Polit. 19 (3), 421–451.

Diaz-Cayeros, A., Magaloni, B., Weingast, B.R., 2003. Tragic brilliance: equilibrium hegemony and democratization in Mexico. Working Paper. Hoover Institution. Stanford University (Available at). 〈https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/tragic_ssrn-id1153510._1.pdf〉.

DiMaggio, P., Powell, W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. Am. Sociol. Rev. 48 (2), 147–160.

DiMaggio, P., 1988. Interest and agency in institutional theory. In: Zucker, L.G. (Ed.), Research on Institutional Patterns: Environment and Culture. Ballinger Publishing Co., Cambridge (US).

Do, M.H., Park, S.C., 2022. Factors affecting foreign direct investment and economic performance in developing economies: evidence from Vietnam. Int. J. Public Adm. 45 (1), 64–80.

Donnelly, J., 2007. International Human Rights, third ed. Westview, Boulder (US).

Dung, N.V., Dao, T.B.-T., Nguyen, N.-T., 2018. Economic and non-economic determinants of FDI inflows in Vietnam: a sub-national analysis. Post-Communist Econ. 30 (5), 693–712.

Dunning, J.H., Lundan, S.M., 2008. Multinational Enterprises and the Global Economy. Edward Elgar,, Cheltenham (UK) and Northampton (US).

Dunning, J.H., 2000. The eclectic paradigm as an envelope for economic and business theories of MNE activity. Int. Bus. Rev. 9, 163–190.

Forsythe, D.P., 2000. Human Rights in International Relations. Cambridge University Press.

Fukumi, A., Nishijima, S., 2010. Institutional quality and foreign direct investment in Latin America and the Caribbean. Appl. Econ. 42 (14), 1857–1864.

Gartzke, E., Li, Q., Boehmer, C., 2001. Investing in the peace: economic interdependence and international conflict. Int. Organ. 55, 391–438.

Gasiorowski, M., 1986. Economic interdependence and international conflict: Some crosssectional evidence. Int. Stud. Q. 30 (1), 23–38.

Gawande, K., Krishna, P., Robbins, M.J., 2006. Foreign lobbies and U.S. trade policy. Rev. Econ. Stat. 88 (3), 563–571.

Gerring, J., Thacker, S.T., 2005. Do neoliberal policies deter political corruption? Int. Organ. 59 (1), 233–254.

Getz, K.A., Oetzel, J., 2009. MNE strategic intervention in violent conflict: variations based on conflict characteristics. J. Bus. Ethics 89, 375–386.

Getz, K.A., Volkema, R.J., 2001. Culture, perceived corruption, and economics. Bus. Soc. 40 (1), 7–30.

Giuliani, E., Macchi, C., 2014. Multinational corporations' economic and human rights impacts on developing countries: A review and research agenda. Camb. J. Econ. 38 (2), 479–517.

Grossman, G.M., Helpman, E., 1996. Foreign investment with endogenous protection. In: Feenstra, R., Grossman, G., Irwin, D. (Eds.), The Political Economy of Trade Policy: Papers in Honor of Jagdish Bhagwati. MIT Press, Cambridge (US), pp. 199–223.

Hargreaves, E., Montero, C., Chau, N., Sibli, M., Thanh, T., 2001. Multigrade teaching in Peru, Sri Lanka and Vietnam: an overview. International Journal of Educational Development 499–520.

Henisz, W.J., 2003. The power of the Buckley and Casson thesis: the ability to manage institutional idiosyncracies. J. Int. Bus. Stud. 34, 173–184.

Hewko, J. (2003). Foreign direct investment in transitional economies: does the rule of law matter? East European Constitutional Review, Fall2002/Winter2003, 71–79.

Hillman, A.J., Hitt, M.A., 1999. Corporate political strategy formulation: a model of approach, participation, and strategy decision. Acad. Manag. Rev. 24, 825–842.

Hodgson, G.M., 2006. What are institutions? J. Econ. Issues 40 (1), 1–25.

Iammarino, S., McCann, P., 2013. Multinationals and Economic Geography. Edward Elgar, Cheltenham (UK) and Northampton (US).

Islam, R. & Montenegro, C. (2002). What determines the quality of institutions? World Development Report: Building Institutions for Markets. Washington (US): World Bank Group.

Jones-Luong, P., 2003. Economic decentralization in Kazakhstan causes and consequences. In: Jones-Luong, P. (Ed.), The Transformation of Central Asia: States and Societies from Soviet Rule to Independence. Cornell University Press, Ithaca (US), pp. 182–212.

Kahler, M., Kastner, S.L., 2006. Strategic uses of economic interdependence: engagement policies on the Korean Peninsula and across the Taiwan Strait. J. Peace Res. 43, 523–541.
Karavardanyan, S., 2021. Short-term harm, long-term prosperity? Democracy, corruption and foreign direct investments in Sino-African economic relations. Comp. Econ. Stud. https://doi.org/10.1057/s41294-021-00176-x
Kaufmann, D., Kraay, A., Mastruzzi, M., 2011. The Worldwide Governance Indicators: methodology and analytical issues. Hague J. Rule Law 3 (2), 220–224.
Kim, D.-H., Trumbore, P.F., 2010. Transnational mergers and acquisitions: the impact of FDI on human rights, 1981—2006. J. Peace Res. 47 (6), 723–734.
Kim, K., 2016. Impacts of foreign direct investment on the most centralized country: evidence from Gaeseong Industrial Complex in North Korea. Thunderbird Int. Bus. Rev. 58 (4), 305–316.
Knack, S., Azfar, O., 2003. Trade intensity, country size and corruption. Econ. Gov. 4 (1), 1–18.
Kostova, T., Zaheer, S., 1999. Organizational legitimacy under conditions of complexity: the case of the multinational enterprise. Acad. Manag. Rev. 34, 64–81.
Kwok, C.C., Tadesse, S., 2006. The MNC as an agent of change for host-country institutions: FDI and corruption. J. Int. Bus. Stud. 37, 767–785.
Larrain, B., F., Tavares, J., 2004. Does foreign direct investment decrease corruption? Cuad. De. Econ. 41, 217–230.
Lee, M.-H., Lio, M.C., 2016. The impact of foreign direct investment on public governance and corruption in China. China Rev. 16 (2), 105–135.
Levy, J.S., 2003. Economic interdependence, opportunity costs, and peace. In: Mansfield, E.D., Pollins, B. (Eds.), Economic Interdependence and International Conflict: New Perspectives on an Enduring Debate (127–147). University of Michigan Press, Ann Arbor (US).
Lin, F., 2018. Cross-country diffusion of ideology via FDI. Micro-evidence from China. Econ. Transit. 6 (1), 3–34.
Lin, L., Moon, J.J., Yin, H., 2014. Does international economic integration lead to a cleaner production in China? Prod. Oper. Manag. 23 (4), 525–536.
Long, C., Yang, J., Zhang, J., 2015. Institutional impact of foreign direct investment in China. World Dev. 66, 31–48.
Lutkepohl, H., 2005. New Introduction to Multiple Time Series Analysis. Springer, New York (US).
Malesky, E.J., 2008. Straight ahead on red: how foreign direct investment empowers subnational leaders. J. Polit. 70 (1), 97–119.
Malesky, E.J., 2009. Foreign direct investors as agents of economic transition: an instrumental variables analysis. Q. J. Polit. Sci. 4, 59–85.
Malesky, E.J., Gueorguiev, D.D., Jensen, N.M., 2014. Monopoly money: foreign investment and bribery in Vietnam, a survey experiment. Am. J. Polit. Sci. 59 (2), 419–439.
Martin, W., McKibbin, W., 1999. The East Asian crisis: investigating causes and policy responses. World Bank Policy Research Working Paper 2172. World Bank Group, Washington DC (US).
Meyer, W.H., 1998. Human rights and international political economy in third world nations: multinational corporations, foreign aid, and repression. Westport (Ireland). Praeger.
Mondolo, J., 2019. How do informal institutions influence inward FDI? A systematic review. Econ. Polit. J. Anal. Inst. Econ. 36 (1), 167–204.
Muhammad, S., Long, X., 2021. Rule of law and $CO_2$ emissions: a comparative analysis across 65 belt and road initiative (BRI) countries. J. Clean. Prod. 279, 123539.
Neffke, F., Hartog, M., Boschma, R., Henning, M., 2018. Agents of structural change: the role of firms and entrepreneurs in regional diversification. Econ. Geogr. 94 (1), 23–48.
Nelson, J. (2000). The Business of Peace: The Private Sector as a Partner in Conflict Prevention and Resolution. London (UK): International Alert, International Business Leaders Forum and Council on Economic Priorities.
North, D., 1990. Institutions, Institutional Change and Economic Performance. Cambridge University Press, Cambridge (UK).
Oetzel, J., Getz, K.A., Ladek, S., 2007. The role of multinational enterprises in responding to violent conflict: a conceptual model and framework for research. Am. Bus. Law J. 44, 331–358.
Persyn, D., Westerlund, J., 2008. Error-correction-based cointegration tests for panel data. Stata J. 8 (2), 232–241.
Pesaran, M.H., 2007. A simple panel unit root test in the presence of cross-section dependence. J. Appl. Econ. 22 (2), 265–312 Journal of Applied Econometrics, 22(2), 265–312.
Phan, N.H., Nguyen, L.Q.T., 2020. FDI, Corruption and Development of Public Service Sectors in ASEAN Countries. J. Asian Financ. Econ. Bus. 7 (9), 241–249.
Pinto, P.M., Zhu, B., 2016. Fortune or evil? The effect of inward foreign direct investment on corruption. Int. Stud. Q. 60 (4), 693–705.
Polacheck, S.W., Seiglie, C., Xiang, J., 2012. Can foreign direct investment increase cooperation among nations? The Oxford Handbook of the Economics of Peace and Conflict. University Press, Oxford (UK).
Quang, D.T., Metzger, C., 2007. Quality of business graduates in Vietnamese institutions: multiple perspectives. J. Manag. Dev. 26 (7), 629–643.
Ramirez, A., Kwok, C., 2009. Multinationality as a moderator of national institutions: the case of culture and capital structure decisions. Multinatl. Bus. Rev. 17 (3), 2–28.
Rigobon, R., Rodrik, D., 2005. Rule of law, democracy, openness, and income. Estim. Interrelat. Econ. Transit. 13 (3), 533–564.
Robertson, C.J., Watson, A., 2004. Corruption and change: the impact of foreign direct investment. Strateg. Manag. J. 25 (4), 385–396.
Rodriguez, P., Siegel, D.S., Hillman, A., Eden, L., 2006. Three lenses on the multinational enterprise: politics, corruption, and corporate social responsibility. J. Int. Bus. Stud. 37, 733–746.
Rose-Ackerman, S., 1975. The economics of corruption. J. Public Econ. 4 (2), 187–203.
Russett, B., Oneal, J.R., 2001. Triangulating Peace: Democracy, Interdependence, and International Organizations. W. W. Norton & Company, New York (US).
Sandholtz, W., Gray, M.M., 2003. International integration and national corruption. Int. Organ. 57 (4), 761–800.
Scott, W.R., 2008a. Institutions and Organizations: Ideas and Interests, third ed. Sage Publications, Thousand Oaks (CA, US).
Shankleman, J., 2007. Oil, Profits, and Peace. Does Business have a Role in Peacemaking? US Institute of Peace Press, Washington, DC.
Tokunaga, M., Iwasaki, I., 2017. The determinants of foreign direct investment in transition economies: a meta-analysis. World Econ. 40 (12), 2771–2831.
UNCTAD (2009). Training Manual on Statistics for FDI and the Operations of TNCs (Volume 1). Geneva (Switzerland): United Nations Publication.
Vadlamannati, K.C., Janz, N., de Soysa, I., 2021. U.S. multinationals and human rights: a theoretical and empirical assessment of extractive versus nonextractive sectors. Bus. Soc. 60 (8), 2136–2174.
Wei, S.J., 2000. How taxing is corruption on international investors? Rev. Econ. Stat. 82 (1), 1–11.
Wells, L., 1998. God and fair competition: does the foreign direct investor face still other risks in emerging markets. In: Moran, Theodore (Ed.), Managing International Political Risk. Blackwell, Maiden (MA), pp. 15–43.
Wengler, A., Möckli, D., 2003. Conflict Prevention: The Untapped Potential of the Business Sector. Lynne Rienner Publishers, Boulder, Colorado.
Westerlund, J., 2007. Testing for error correction in panel data. Oxf. Bull. Econ. Stat. 69 (6), 709–748.
Westney, E., 1993. Cross-Pacific internationalization of R&D by U.S. and Japanese firms. RD Manag. 23 (2), 171–181.
Wiig, A., Kolstad, I., 2010. Multinational corporations and host country institutions: a case study of CSR activities in Angola. Int. Bus. Rev. 19, 178–190.
Wrana, G., Revilla, Diez, J.R., 2016. Can multinational enterprises introduce new institutions to host countries? Geogr. Z. 104 (3), 158–182.
Yang, M.S., Lee, W.Y., Yoon, C.G., 2013. A study on the effects of the contact in Kaesong Industrial Complex upon North Korean workers: Focusing North Korean workers' attitudes toward South Korea. Unification Study 17, 131–158.
Zeng, K., Eastin, J., 2012. Do developing countries invest up? The environmental effects of foreign direct investment from less-developed countries. World Dev. 40 (11), 2221–2233.