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Follow the people and the money: Effects of inward FDI on migrant remittances and the contingent role of new firm creation and institutional infrastructure in emerging economies*

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Abstract

We explore how inward Foreign Direct Investment (FDI) influences migrant remittances in forty-six emerging economies. We develop and test new theory that not only explains the mechanisms underlying the above relationship, but also helps us understand how entrepreneurial migrants and investments made by multinational enterprises serve as foundations and determinants of remittances in recipient countries. The empirical evidence supports our hypotheses that inward FDI increases remittances, and that the relationship is positively mediated by new firm creation and negatively moderated by institutional infrastructure in recipient countries (namely, governance and corruption). Policy implications and avenues for new research are discussed.

Keywords: Foreign Direct Investment; Migrant Remittances; Emerging Economies; New Firm Creation; Institutional Infrastructure

INTRODUCTION

Transfers of funds from migrant workers to recipients in their countries of origin (migrant remittances) have increased dramatically (OECD, 2016). In 2018, migrant remittances to emerging countries increased by 9.6% to a record high and have overtaken FDI to become the largest financial flow in emerging economies (World Bank, 2019). They are also disproportionately high as a percentage of gross domestic product (GDP) in smaller emerging countries (World Bank, 2019). Migrant remittances can stimulate economic development by providing access to finance, improving education and funding new businesses, but they may also foster a culture of dependency and conspicuous consumption (Aggarwal, Demirgüç-Kunt, & Pería, 2011; Kapur, 2005; Martinez, Cummings, & Vaaler, 2015).

The surge in migration from 153m people in the 1990s to 270m people in 2018 and the sheer volume of migrant remittances led to calls to integrate the role of people, their movement and the funds they remit in International Business (IB) and International Management (IM) scholarships (Hajro, Zikic, & Caprar, 2018; Kotabe, Riddle, Sonderegger, & Taübe, 2018). Such calls are further strengthened by anticipated increases in migration. For example, 14 percent of adult global population plans to emigrate to another country (The Economist, 15/9/2018, p. 49). The potential benefits of migration include an anticipated increase of the world's GDP by between seven and circa eighteen per cent (Docquier, Machado, & Sekkat, 2015). Despite prior studies on the determinants of remittances in cognate fields like development economics, remittances have been underexplored in the IB and IM literatures (Vaaler, 2011). The relationship between inward FDI and migrant remittances has attracted significantly less attention than other IB issues, such as the determinants of FDI (Wang, Hong, Kafouros, & Wright, 2012) and the impact of FDI on economic performance (Piteli, 2010).

Inward FDI and remittances differ significantly. The former is driven by profitability-related motives and its bulk is undertaken by Multinational Enterprises (MNEs), whereas remittances are undertaken by individuals and driven by more complex motives. However, the two can be linked in important ways. For instance, some MNE managers are migrant-expatriates who are attracted by potentially profitable investments back home and act entrepreneurially to identify, create and seize

investment opportunities. Yet, our understanding of whether and how inward FDI is linked to remittances and how host country-specific factors impact upon their relationship remains rudimentary.

We address this gap in our understanding by examining the mechanisms through which inward FDI influences migrant remittances to emerging countries, particularly through the opportunities it generates for new business creation in related and supporting services and activities, suppliers, buyers, complementors and even competitors; namely, the 'business ecosystem' (Pitelis & Teece, 2010). We also investigate how two key dimensions of institutional infrastructure of recipient countries specifically governance and corruption, moderate this relationship. In doing so, we integrate insights from IB and IM to extend extant work on the determinants of remittances.

The overarching logic in our paper is that inward FDI provides opportunities for the creation of new small business ventures that support the activities of MNEs directly and/or by undertaking activities that support, complement and sometimes compete with what MNEs do and offer. Local entrepreneurs pursue the opportunities that have been created by MNEs, relying on financial support by migrants in the form of remittances. As inward FDI leads to opportunities to set up new business ventures, we anticipate a significant share of remittances to be invested to create formal and informal small businesses that complement MNE activities. Our reasoning is consistent with work showing that remittances finance small firms (Martinez et al., 2015) and help initiate new business ventures (Vaaler, 2011) and global production systems (Saxenian, 2002). This role of remittances is particularly important in emerging country contexts characterised by institutional voids, in which banking systems and financial institutions are not sufficiently developed to provide funding for such activities.

Our analysis offers entrepreneurial individual- (micro) and enterprise- (meso) level foundations to country-level determinants of remittances and explores the role of inward FDI in this context. We develop and test theory and hypotheses using a panel dataset for forty-six emerging countries that are the key recipients of remittances. Our analysis shows that inward FDI strongly predicts how much inflow of remittances countries receive. It therefore provides evidence in support of indirect benefits of FDI that are beyond and above those hitherto documented in the literature and public policy discourse. Our analysis also shows that the role of FDI in determining remittances is positively mediated through the

impact of inward FDI on new firm creation and moderated by the institutional infrastructure of the recipient country, notably by governance and corruption.

Our analysis contributes to IB and IM studies that consider the direct and indirect roles of host-country institutions (Berry, Guillén, & Zhou, 2010; Chari & Banalieva, 2015; Kafouros & Aliyev, 2016; Kwok & Tadesse, 2006; Ngobo & Fouda, 2012), but have not examined how such effects relate to remittances. It also contributes to research (e.g., Coon & Neumann, 2017; Piteli, 2013) that has recently started examining the impact of FDI on remittances, but paid limited attention to IB theory-derived conceptual foundations and the underlying mediating and moderating mechanisms of this relationship. Finally, it complements recent research about the impact of remittances on FDI (Palamuleni, 2018) and lends theoretical foundations to evidence provided by Coon and Neumann (2017) that while the relationship can go both ways, the causal link from inward FDI to remittances is stronger.

THEORETICAL BACKGROUND

Prior research has established that the motive to remit is driven by egoism and altruism (Lucas & Stark, 1985). The former relates to anticipated benefits, while the latter to caring for those left behind (Becker, 1991). The egoistic motive points to entrepreneurial considerations as it includes the desire to channel investments through a family and build a trusted network of potential business collaborators. Remittances can serve as a re-payment to the family for initial investments in the migrant's education and the act of remitting as a combination of 'tempered altruism' and 'enlightened self-interest' that fosters family-wide advantages (Lucas & Stark, 1985). Remittances can therefore represent a consumption transfer to households, an alternative savings mechanism for migrants (Quinn, 2005), investments in social capital through intra-family transfers (Carling, 2008) and payments for services rendered (Bernheim, Shleifer, & Summers, 1985; Cox, 1987).[1] Supporting this view, prior research

[1] In this case, an increase in the sender's income would lead to a higher probability of transfers and larger payments because the sender would be willing to pay more for the services provided by the recipient. However, if the recipient's income rose, the opportunity cost of providing the service would rise, and hence, the recipient would be likely to require a higher price for the service provided. As a result, an increase in the recipient's income would reduce the probability of transfer (Cox, 1987; Cox & Rank, 1992; Cox, Eser, & Jimenez, 1998).

suggests that a family network at the destination increases the level of remittances (Amuedo-Dorantes & Pozo, 2004; Niimi, Pham, & Reilly, 2009; Stark, 1991) and that temporary migrants remit larger amounts (Brown, 1994, 1997; Cai, 2003; Gubert, 2002; Merkle & Zimmermann, 1992).

The literature on the macroeconomic determinants of remittances suggests that migrants remit for the domestic consumption needs of recipients, to repay borrowed funds (Chami, Fullenkamp, & Jahjah, 2005) and for investment purposes including property, businesses and stocks (Gupta, 2006). Therefore, macroeconomic determinants of remittances include the conditions in the recipient and host countries, such as GDP, investment, productivity and educated human capital (Buch & Kuckulenz, 2010; Glytsos, 2002; Gupta, 2006), as well as rate of return factors such as interest rates, exchange rates, inflation rates, and political stability (El-Sakka & McNabb, 1999; Faini, 1994; Glytsos, 1997, 2002; Higgins, Hysenbegasi, & Pozo, 2004; Swamy, 1981). Other studies suggest that poverty encourages migrants to remit funds and that the level of per capita remittances received by a country increases until a country reaches a certain level of GDP per capita and it then starts to decline (Adams, 2006). Remittances also vary counter-cyclically, can act as a buffer during economic shocks (Singh, Haacker, Lee, & Le Goff, 2010) and depend on the business cycles and political climate of the recipient country (Coulibaly, 2009).

Despite recognition of portfolio and investment-related motives (Elbadawi & Rocha, 1992), extant literature has largely ignored the role of migrants as entrepreneurs and entrepreneurial managers of MNEs. This is an important omission as entrepreneurial motivations can provide micro-foundations of countrywide determinants of remittances and allow us to consider the role of FDI. Indicatively, the finding that highly skilled migrants remit less (Adams, 2006) may relate to the possibility that skilled migrants choose instead to invest (i.e., undertake FDI). Similarly, the finding that short-term workers remit less after the first three years (Freund & Spatafora, 2008) could suggest that after a certain time and amassed resources, migrants choose to invest directly in their home country.

Despite the fact that remittances (like FDI) may be motivated by investment motives (Flisi & Murat, 2011), the link between FDI and remittances has received very little attention. The same is true of mediating factors, notably new firm creation in support of FDI. Last but not least, while the literature

acknowledges the importance of institutions in determining both behaviour and a wide range of outcomes, the moderating role of host-country institutional infrastructure, particularly that of governance and corruption, has not been explored. These research omissions offer valuable opportunities for cross-fertilisation between economics and IB-informed approaches in terms of:

1. Providing IB theory-informed entrepreneurial migrant (micro-level) and enterprise/MNE (meso-level) conceptual foundations of macroeconomic country-level determinants.
2. Considering key mechanisms through which FDI influences remittance inflows, and in particular the mediating role of new firm creation.
3. Accounting for the moderating role of country-specific institutional infrastructure, notably governance and corruption.
4. Exploring further research opportunities and avenues.

We pursue these opportunities in the following sections.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The hypothesised effects of our framework are summarised in Figure 1. In summary, we propose that FDI increases migrant remittances directly and through the mediation of new firm creation. We discuss the distinct mechanisms underlying this relationship in the next section. Moreover, our framework suggests that two key aspects of institutional infrastructure in recipient countries, namely governance and corruption, affect remittances not only directly but also by moderating the relationship between FDI and remittances. Figure 1 also presents the key control variables that our analysis employs based on our critical appraisal of prior literature.

------ Figure 1 around here **-----**

Effects of Inward FDI on Migrant Remittances

Drawing on the work of scholars such as Penrose (1959) and Doz (2004), the IM literature explains how entrepreneurs and entrepreneurial managers operating under incomplete information, bounded and procedural rationality and uncertainty, leverage internal and external resources and

opportunities to generate profit (Jones & Pitelis, 2015; Kwok & Tadesse, 2006).[2] Entrepreneurs aim to leverage new opportunities domestically and abroad (Alvarez & Barney, 2007; Doz, 2004; Oviatt & McDougall, 2005). Migrant entrepreneurs pursue business opportunities both in the country to which they emigrate and in their home country (Elo, Sandberg, Servais, Basco, Cruz, Riddle, & Täube, 2018). Such opportunities arise when the country to which they emigrate provides opportunities to transfer diverse ideas, business models and activities not hitherto available in migrants' (usually poorer) home country. A way to achieve this is by leveraging their family and other networks (Shukla & Cantwell, 2018). On other occasions, family or network members in the home country identify an opportunity and share this with a migrant who can take advantage of it and/or provide the local entrepreneur financial support by remitting. This can confer benefits to the remitters in their capacity as co-owners, partners and/or lenders, even by the mere fact that this can create goodwill and trust and invite reciprocity. In many cases, opportunities are co-spotted and/or co-created by the migrant, her family and network members back home (Elo et al., 2018).[3]

Migrants can also help MNEs identify opportunities for FDI in their countries of origin in their capacity as MNE managers, consultants or through social interaction and exchange of information. For instance, a former employee of an MNE can spot an opportunity back home and share the idea with an MNE. In such cases, the MNE or the migrant-former employee may seek to invest independently and/or together. In many ways, this is the story of IT outsourcing in India (Hill, 2019). Kapur (2005) and Leblang (2010) among others, provide detailed examples of how the diaspora can facilitate FDI by

[2] This IB focus on entrepreneurial agency is closely related to the International Entrepreneurship literature (Ellis, 2011; Oviatt & McDougall, 2005). In both cases, entrepreneurial behaviour can be either individual or organisational, i.e., driven by entrepreneurial managers within MNEs.

[3] For instance, a recent AIB (2020) panel discussed the case of a Somali migrant who missed his home-country bread and received Somali flour and instructions from his mother to bake Somali-type bread. Other migrants and locals liked the bread, and the migrant started a new bakery business in the host country. From this income, the migrant remitted to his mother who purchased a washing machine. The mother identified the potential for a laundrette back home and the migrant remitted more funds so that his mother could start a new laundrette business. In this and such cases, entrepreneurial migrant motivations and activities can explain increasing demand for remittance flows to finance new firm creation (Martinez et al., 2015; Vaaler, 2011, 2013).

MNEs to their home countries and how the reduction in transaction and information costs of diaspora networks can help to support such investments.

Entrepreneurial managers of MNEs, some of which may be migrants themselves, who decide where to invest, factor in their decision the extent to which operations in the host country are supported by the country's ecosystem (Ellis, 2011; Leblang, 2010) and the way in which they may be able to contribute towards the co-creation of such an ecosystem. For example, the expansion of McDonald's in Russia started with in-house production of the vast majority of ingredients and most activities were gradually outsourced to independent entrepreneurs. Some suppliers grew to become major players in their own right (Pitelis & Teece, 2010). In many countries, the entry of major fast food and beverage chains such as McDonalds and Starbucks has led local competitors to leverage their knowledge of local preferences to either support or compete with MNEs (Hill, 2019). While some investment opportunities can be funded by external finance such as from banks, this is not always possible in emerging economies characterised by underdeveloped financial institutions. In such cases, support through remittances is an important (and sometimes the only) alternative. While precise figures are not readily available, this is supported by substantial anecdotal evidence (Leblang, 2010).

The above discussion is supported by the literature on institutional voids (Kafouros & Aliyev, 2016; Khanna & Palepu, 1997; Ngobo & Fouda, 2012). Poor institutions can deter investment by MNEs but not so much by the diaspora that has closer ties, knowledge and networks that can help them overcome such voids (Shukla & Cantwell, 2018). This means that the diaspora can have a comparative initial advantage in investing back home directly or in collaboration with an MNE. Importantly, the very presence of institutional voids motivates MNEs to enter new markets through collaborations with local firms (Hitt, Dacin, Levitas, Arregle, & Borza, 2000). In Ireland, the diaspora has also contributed to FDI through public-private partnerships (Poliakova, Riddle, & Cummings, 2020). [4]

Coon and Neumann (2017) have also argued that increases in FDI signal that investment

[4] The opportunities created by FDI and development can also motivate direct investments by the diaspora back home (Rabbiosi, Gregorič, & Stucchi, 2019). While from an individual portfolio point of view, this implies short-term substitutability between remittances and FDI, over time the crowding in of funds to accompany FDI and MNE activities helps engender complementarity.

opportunities are rising, motivating migrants to send remittances to take advantage of such opportunities. They also referred to debates on "Diaspora Direct Investment" (DDI) and ways in which DDI may be preferable to other investments, including that migrant entrepreneurs who invest in their home countries have a deep understanding of the culture and business idiosyncrasies that make their ventures more successful than similar projects led by foreign investors. Coon and Neumann (2017) also suggest that the sentimental attachment to their home countries decreases the motives of diaspora investors to divest during economic recessions. This also points to the complementarity between FDI and remittances and hence to a direct positive link between the two (Piteli, 2013). New firm creation is funded through remittances especially when institutional voids are more pronounced. This in turn helps foster financial development (Sobiech, 2019) and economic performance (Piteli, Buckley, & Kafouros, 2019).

The above reasoning is in line with an ecosystem orchestration and production networks creation and co-creation-based approach to the MNE (Pitelis & Teece, 2018; Saxenian, 2002). FDI creates opportunities for related and supporting activities that involve suppliers, providers of professional services (accountants, lawyers, estate agents etc.) as well as competing activities, thus leading to new ventures.

In summary, migrant remittances are important in initiating and developing new venture production networks, clusters and business ecosystems (Pitelis, 2012; Pitelis & Teece, 2010; Saxenian, 2002, 2005), some of which are financed through migrant remittances (Vaaler, 2011, 2013). This is particularly important in emerging country contexts where the banking system and financial institutions are not sufficiently developed to provide adequate support to new ventures, and the co-creation of business ecosystems and local networks motivates cross-border collaborations. In this context, new FDI creates opportunities for supporting, complementing and even competing activities and demand for new remittances. Accordingly, we hypothesise that inward FDI has a positive direct effect on remittances and that this relationship is mediated through the positive impact of inward FDI on new firm creation. Hence:

H1a: *Inward FDI has a direct positive effect on migrant remittances in emerging economies.*

H1b: *The relationship between inward FDI and migrant remittances is positively mediated by*

new firm creation.

The role of institutional infrastructure

We further hypothesise that the effects of FDI on remittances are moderated by the institutional infrastructure of the host country. Although the IB literature has shown that institutions have a profound effect on societies and organisations (Wang, Kafouros, Yi, Hong, & Ganotakis, 2020) by influencing the incentive-constraint structures of the context in which firms and individuals operate (Chari & Banalieva, 2015; Estrin, Baghdasaryan, & Meyer, 2009; Kafouros & Aliyev, 2016), the role of the host country institutional infrastructure has received limited attention in the remittances literature (Miotti, Mouhoud, & Oudinet, 2009; Singh et al., 2010), both in general and particularly in the context of our focus on the impact of FDI on remittances.

In this paper, we focus on two key aspects of host-country institutional infrastructure that are particularly relevant and theoretically valuable in the context of IB scholarship, namely governance as captured by political and regulatory institutions, and corruption (North, 1981). These are well established in the IB literature and their importance has been emphasised by international organisations, such as the World Bank. We argue that host country institutional infrastructure and in particular governance and corruption influence remittances directly, but also indirectly by moderating the effects of FDI.

Starting with the direct effect of governance on remittances, the absence of strong governance in emerging countries may favour remittances for consumption given the uncertainty over the returns from their investment. Accordingly, weak governance should be expected to foster consumption-related remittances, whereas strong governance should attract investment-motivated ones. Consumption can be conspicuous, especially in emerging economies trying to emulate the lifestyles of developed countries. The economics literature suggests that while consumption is a part of effective demand and may help increase GDP, it is associated with lower multiplier effects than investment (Mankiw, Romer, & Weil, 1992). This argumentation would imply a positive link between remittances and strong governance. On the other hand, the strength of governance is linked to (and can be seen as a proxy for) economic

development (North, 1991). Considering that remittances tend to decline after a certain level of development, this would suggest a negative relationship between the strength of governance and inward migrant remittances in emerging economies.

Based on the above theoretical predictions we recognise that the overall effect of governance on remittances depends on the strength of the two opposing forces. Hence, this is principally an empirical question that requires econometric testing. Following convention, we state our null hypothesis as being a positive one:

> ***H2:*** *The stronger the quality of governance in emerging economies is, the higher the level of migrant remittances will be.*

We further hypothesise that stronger governance weakens the effects of FDI on remittances (i.e., it negatively moderates the effect). Strong governance is associated with stability and protection of rights. It signals a degree of economic development that both encourages and enables local entrepreneurs to access funds from their country or to borrow through traditional channels such as banks. This weakens the link between FDI and remittances in activities by local entrepreneurs in support of FDI-related activities. For example, a local entrepreneur who might otherwise have no choice than to share ownership in order to receive funding through remittances may instead choose to borrow and maintain full ownership and control. Relatedly, a local entrepreneur may choose to borrow from banks than rely on remittances. This will therefore weaken the effects of FDI on remittances. Strong governance also signals to both migrant entrepreneurs and entrepreneurial MNE managers the opportunity for choosing wholly-owned FDI, as opposed to FDI through remittances and local partners. As such, the need to invest through remitting to local network-entrepreneurs weakens. Hence, we expect governance to moderate negatively the effects of FDI on remittances:

> ***H3:*** *The stronger the quality of governance in emerging countries is, the weaker the effect of inward FDI on migrant remittances will be.*

A second important component of institutional infrastructure is corruption (Galang, 2012). Corruption is associated with underdevelopment and can be both its cause and effect. Corruption in emerging countries may represent an advantage for those with local knowledge and ties, particularly for the diaspora and firms that are more embedded in the local context. We anticipate that diaspora members would channel funds for investment partly through FDI and partly through remittances for domestic investment. In this context, corruption can have a positive effect on consumption and domestic investment of remitted funds by the diaspora and by MNEs that can navigate the local context.

On the other hand, a higher level of corruption decreases the set of opportunities available in a given market and leads to a less reliable institutional framework. Corruption can also deter entrepreneurial activity by some MNEs because of the high uncertainty of returns to their investment. Such MNEs can choose to operate in other countries with lower corruption. For the reasons that we have already discussed (such as multiplier effects), this implies that corruption will have a negative direct effect by affecting the opportunities created by FDI for new firm creation and the remittances aimed to fund the creation of such firms. We recognise that the overall effect of corruption on remittances will depend on the strength of the two opposing forces. Accordingly, we follow convention to state our null hypothesis as being a positive one:

> ***H4:*** *The higher the level of corruption in emerging economies is, the higher the level of migrant remittances will be.*

Furthermore, we expect corruption to moderate negatively the impact of FDI on remittances. The literature on institutional voids and the liability of foreignness (Khana & Palepu, 1997; Zaheer, 1995) suggests that many foreign firms face disadvantages in emerging markets. This would favour the use of remittances for consumption and/or for domestic investment, as well as FDI by the diaspora, as opposed to the more substantial FDI by MNEs.[5] Importantly and as we have already suggested, it is

[5] As already noted, the above is qualified in case the MNEs are adept in navigating corrupt systems and taking advantage of institutional voids. We expect that instead of getting involved in a race to the bottom, foreign MNEs will be less keen to invest in emerging countries that exhibit high levels of corruption.

mostly FDI by MNEs that creates opportunities for new firm creation in related, competing and supporting activities and therefore, production systems and business ecosystems, parts of which are funded to some extent by remittances (Saxenian, 2002). This in turn will lead to a lower level of remittances aimed at supporting FDI engendered activities (i.e., it will have a negative moderating effect). Hence:

H5: *The higher the level of corruption in emerging countries is, the weaker the effect of inward FDI on migrant remittances will be.*

EMPIRICAL INVESTIGATION

Sample and Data

We collected data for a sample of 46 emerging economies on fifteen variables informed by our literature survey and on which reliable data were available for the period 2006 to 2016. Our key variables are remittances, FDI, and institutional infrastructure proxied through governance and corruption. Our control variables include new firm creation, economic performance related variables, the business cycle, rate of return factors, as well as human capital/education, the dependency ratio and official development assistance. We have discussed the reasons for their inclusion in the previous sections. Our dataset was collected primarily from the World Bank and is rather comprehensive. For the institutional infrastructure variables, we used the Worldwide Governance Indicators available from the World Bank, and the Corruption Perception Index from Transparency International. Table 1 provides definitions for the variables, their measurement and data sources. For our statistical investigation, we employed panel data and panel data estimating techniques. All variables are in constant prices.

Dependent Variable

For our dependent variable of migrant remittances, we gathered data on total workers' remittances, compensation of employees and migrants' transfers, as defined by The *Balance of Payments Manual* (IMF, 1993), to include goods and financial instruments transferred by migrants living and working (are residents) in a new country, to residents of the country in which the migrants formerly

resided. A migrant must live and work in the new country for more than one year to qualify as resident. We used the World Bank to collect remittance data, which were based on World Bank - *Migration and Remittances* and IMF - *Balance of Payments Statistics*.

Independent Variables

The operationalisation of the key independent variables is derived from the literature on remittances we have already discussed, the established literature on FDI (see Dunning & Lundan, 2008; Lucas, 1988; Mankiw et al., 1992; Ozturk, 2007) and on institutions (Catrinescu, Leon-Ledesma, Piracha, & Quillin, 2009; Estrin et al., 2009; Kafouros & Aliyev, 2016; Ngobo & Fouda, 2012; Peng, Wang, & Jiang, 2008). These are described below.

Inward FDI (inflows): These are investments involving a long-term relationship and reflecting a lasting interest in and control by a resident entity in one economy (defined as a foreign direct investor or parent enterprise) of an enterprise resident in a different economy (defined as FDI enterprise, affiliate enterprise or foreign affiliate) (UNCTAD, 2005). FDI refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. We have gathered data from the World Bank for the purposes of consistency between the variables employed.

Governance: Governance consists of the institutions and traditions through which authority is exercised in a country. They include the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement policies; and the mutual respect by the citizens and the state for the institutions that govern their economic and social interactions (Kaufmann, Kraay, & Mastruzzi, 2010). In order to capture the effect of governance on remittances, we employed data from the World Bank's Worldwide Governance Indicators (WGI) project, which reports aggregate and individual governance indicators for various dimensions of governance that capture government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law and voice and accountability (Catrinescu et al., 2009). We consider the WGI project to be one of the best proxies available for governance. We have created one major group of governance indicators, derived by estimating the average of the individual dimensions.

Corruption: To measure the level of corruption in each country, we used the Corruption Perception Index (CPI) provided by Transparency International. This is employed widely in the literature (Catrinescu et al., 2009). CPI ranks countries based on perceptions of corruption in their public sectors. In our model, the measure ranges from 0 (little corruption) to 10 (highly corrupt).

Control Variables

Our extensive list of control variables derives from our coverage of the literature in our previous sections. It includes key proxies for new firm creation, economic performance (GDP, domestic investment, productivity), the business cycle, rate of return factors, notably interest, exchange and inflation rates, human capital/education, the dependency ratio and overseas development aid.

We start with the variable that captures new firm creation. A number of earlier studies have discussed the relationship between remittances and new firm creation in emerging economies (Vaaler, 2011, 2013), rendering it important to control for its potential impact on remittances. In addition to using it as a control variable, we have also tested for the direct impact of inward FDI on new firm creation, (see below). Data on new firm creation were obtained from the World Bank.

In order to capture the overall size of the economy and its efficiency we used total GDP, domestic investment and productivity. GDP measures the total size of the economy. Domestic investment is a key sign of the overall health of an economy and of demand conditions. Productivity is widely regarded as the key proxy for efficient use of resources, hence economic efficiency and long-term performance (Krugman, 1994; Piteli, 2010).

For GDP data, we used the World Bank's calculations based on World Bank and OECD National Accounts data. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes, minus any subsidies not included in the value of the products. For domestic investment (gross capital formation), we gathered data from the World Bank. Gross capital formation (formerly gross domestic investment) is a widely used proxy for investment and comprises all outlays or additions to the fixed assets of the economy, plus net changes in the level of inventories. For productivity, we have employed data from the World Bank dividing GDP by employment in each

country. Data on the employment rate, used as a proxy for the business cycle (Kudina & Pitelis, 2014), were derived from the World Bank by dividing the total labour force of a given country by its total population.

To capture for *return factors* in recipient (home) countries we employed data on the real interest rate, defined as the lending interest rate adjusted for inflation though the GDP deflator. We gathered data from the World Bank World Development Indicators (WDI). We have also employed data on the real effective exchange rate, namely the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs. In our dataset the base year is 2000. We have gathered data from the World Bank. We have also controlled for inflation, as this impacts on the economy as a whole, including rates of return and investment (Fischer, 1993; Mankiw et al., 1992). That was measured through the Consumer Price Index (CPI). This is a measure of inflation that considers the weighted average of prices of a basket of consumer goods and services purchased by a consumer. It is calculated by taking price changes for each item in the predetermined basket of goods and services during a year. Changes in CPI are used to assess price changes associated with the cost of living. We have employed data on inflation rates from the World Bank.

Education is a proxy for learning and quality of human capital, a key predictor of economic growth in endogenous growth theory (Lucas, 1988). The economics literature has suggested that higher levels of education accelerate the pace of technological diffusion (Nelson & Phelps, 1966) and boost economic growth by improving productivity (Romer, 1994). Human capital is therefore crucial for an economy's overall absorptive capacity (Benhabib & Spiegel, 1994; Nelson & Phelps, 1966). Importantly, it has been considered an important determinant of the level of migrant remittances (Alcaraz, Chiquiar, & Salcedo, 2012; Hanson & Woodruff, 2003; Yang, 2011). Data on education expenditure refer to the current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment (World Bank, 2020a). We gathered data from the World Bank, WDI and Global Development Finance (GDF).

The dependency ratio, widely seen as a key proxy for the strength of the *altruism* motive for remitting (Lueth & Ruiz-Arranz, 2006). It is defined as the ratio of dependents (people younger than 15 or older than 64 to the working-age population – those from 15 to 64) and aims to illustrate the dependency load on those of working-age in respect to children and the elderly. We gathered data from the World Bank, WDI. Data are depicted as the proportion of dependents per 100 working-age population.

Overseas aid is third key financial flow to emerging economies alongside remittances and FDI (Nwaogu & Ryan, 2015). We gathered data on net official development assistance ODA) from the World Bank. ODA consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent). We have also included a dummy variable to capture the Great Financial Crisis of 2008.

Method and Results

Table 2 reports descriptive statistics and pairwise correlations. Table 3 reports the results using two different estimating techniques. First, a two-stage IV model using lagged values of FDI inflows and GDP as instruments, therefore controlling for potential endogeneity of both variables. Second, the Arellano-Bond and Arellano-Bover/Blundell-Bond Generalised Method of Moments (GMM) approaches. Both estimation methods aim at addressing potential problems of endogeneity and/or reverse causality of FDI to remittances, but also account for heteroscedasticity and serial correlation. In particular, the Arellano-Bover/Blundell-Bond GMM estimator is an extension of the Arellano-Bond method. Both methods employ past values and different transformations of past values of the potentially problematic independent variable as instruments. The Arellano-Bover/Blundell-Bond estimator extends Arellano-Bond by adding instruments and building a system of two equations – the original equation and the transformed one – hence it is also known as system GMM (Engblom & Oikarinen, 2015). In

particular, GMM makes use of the orthogonality conditions to allow for efficient estimation, when there exists heteroscedasticity of unknown form. In terms of diagnostics, in our models the Hansen text had the right value of one, in support of the null hypothesis that the over-identifying restrictions are valid. Despite the popularity of the GMM approach in cases such as ours, we also employ the two-stage IV model for robustness (Baum, Schaffer, & Stillman, 2003). The results are robust to these changes in specification.

------ Tables 2 and 3 around here -----

Below we focus on the results of the two-stage IV models fully specified Models 1-3. Overall, the findings are in line with our Hypotheses and support the key Hypotheses (H1a, H3 and H5). In all three models, FDI has a positive and significant effect on remittances, hence supporting Hypothesis 1a.

The impact of governance on remittances is insignificant throughout. This supports the view that the negative economic development effects are offset by the positive risk of investment return-related effects. This is in line with Ngobo and Fouda (2012). Hypothesis 3 is supported. In all three models, strong governance moderates negatively the impact of FDI on remittances. Corruption is insignificant, also suggesting that the two opposing forces we have discussed appear to offset each other. On the other hand, the results show that higher levels of corruption in emerging countries decrease the impact of FDI on the level of remittances. This finding supports Hypothesis 5 and suggests that, on average, emerging countries that exhibit high corruption levels benefit less from the impact of FDI on inward remittances.

Furthermore, we test the hypotheses using dynamic panel-data estimators (the Arellano-Bond and Arellano-Bover/Blundell-Bond linear estimators). Models 4 and 5 report one-step results using the default one-year lags. The results are similar to those reported in Models 1-3. Specifically, the direct effect of FDI remains positive and statistically significant. Concerning the interaction terms, both governance and corruption have a negative moderating effect on the impact of FDI on the level of remittances. The similarity between the results further supports our hypotheses.

In terms of control variables, the impact of new firm creation on remittances is found to be positive and significant. From the other controls, GDP was found to be negative and significant while

investment and productivity positive and significant. The dependency ratio and human capital have negative and positive effects respectively, in line with the literature. Rate of return factors have less clear effects. Overseas aid appeared on balance to be insignificant.

In summary, our key findings are that investment, notably FDI but also domestic investment and related factors, such as productivity, are important in predicting remittances. Once a comprehensive set of controls is included, as well as mediating and moderating factors are considered, the hitherto underexplored role of FDI is found to be important in predicting remittances. The complementarity between remittances and FDI is important and suggests that the two key capital flows are reinforcing each other. This is in line with, and supports arguments linking local to global, for example local production systems to global value chains (UNCTAD, 2013). This in turn, supports the importance of adopting an IM-informed perspective as complement to the development economics and studies approach.

As we have already noted above, missing in our empirical results thus far is an examination of the direct impact of FDI on new firm creation, namely Hypothesis 1b. This is a hitherto underexplored relationship, the full substantiation of which warrants a different investigation. However, and with an eye to closing the loop and supporting our conceptual framework, we have collected data and tested for this relationship, by employing some key potential determinants of new firm creation such as GDP and institutional infrastructure as control variables. We tested a few specifications using the relevant control variables, i.e., GDP, governance, corruption among others. The results are reported in Table 4. They show a robust positive and significant effect of inward FDI on new firm creation at the 0.1% level of significance. The results confirm our argument that inward FDI's effect on remittances is facilitated by its positive mediating impact on new firm creation.

------ Table 4 around here -----

DISCUSSION AND CONCLUSION

Theoretical contributions and implications for practice and policy

Increases in migration and the size of migrant remittances have made the understanding of what

factors determine remittances and their interrelationship with other capital flows such as FDI relevant and pertinent (Hajro et al., 2018). Although migrant remittances and FDI can be linked in important ways, we have a rather limited understanding of how exactly they are linked and why some countries are able to attract a higher level of remittances whereas other countries cannot. By addressing these limitations, the current study cross-fertilises IB, IM and development economics, adds conceptual foundations and empirical support to earlier studies, and makes a number of contributions that distinguish it from prior work.

In terms of theory, we have argued that inward FDI provides new opportunities for the creation of new small business ventures that support the activities of MNEs directly, by competing with or by complementing MNEs' activities. Inward FDI creates opportunities to set up new businesses and hence help co-create business ecosystems as well as local and global production systems. We argued that the opportunities created by FDI and MNE investment create in turn demand for remittances, leading to a positive relationship between the two financial flows. The relationship is mediated by the impact of FDI on new firm creation and moderated by the financial infrastructure of the recipient country. Our analysis of institutional infrastructure, as captured by governance and corruption, aids the appreciation of the role of institutions and institutional voids, not least by pointing to the way in which institutional voids favour collaborations between MNEs and local partners. This adds to prior research that examined the direct and indirect roles played by institutions in host countries. Overall, we contribute to earlier research on FDI and remittances (Coon & Neumann, 2017; Piteli, 2013) by providing conceptual foundations, adding new evidence, introducing the mediating role of new firm creation and improving understanding of the moderating role of institutional infrastructure.

Our empirical analysis shows that FDI is a strong predictor of the remittances that countries receive. This finding enriches the literature on remittances and the broader IB and IM literatures by showing that FDI provides indirect benefits that go beyond the benefits that were documented by prior studies. It therefore helps us bridge the two literatures and increase knowledge of how the activities of the diaspora and MNE managers are linked to migrant remittances. It also helps us integrate insights from international entrepreneurship and IM to extend prior work in providing micro- and meso-level

foundations to county-level determinants of remittances. Our findings support our Hypotheses, confirming that the role of FDI in determining remittances is mediated through the impact of FDI on new firm creation and moderated by a recipient country's institutional infrastructure. Support for our arguments about the role of new firm creation, in particular, was received both by employing it as a control variable in the analysis about the determinants of remittances and from the separate analysis about the direct effect of inward FDI on new firm creation.

Our analysis has important policy implications at the individual, organisational and country levels. The family and wider networks of migrants can benefit from knowledge obtained by migrants and vice versa. Diaspora members can leverage networks in their host country, as well as information about investment intentions by MNEs to determine future investment opportunities. A more cosmopolitan outlook can help identify and predict future trends and target remittances to human capital and other opportunities as opposed to conspicuous consumption. These can help offset the negative consequences of brain drain (Gamlen, Murray, & Overton, 2017; Saxenian, 2002) in that returning migrants can contribute and invest back home.

Entrepreneurial managers of MNEs can factor in remittances and their use in target countries to invest in activities most likely to be supported by remittances, in terms of human capital, availability of funds, networks and business ecosystems. Migrants can complement MNEs in terms of co-investing in (the conditions that foster) FDI. MNE managers can benefit by factoring in their investment decisions the role of remittances and their relation to FDI, new firm creation and institutional infrastructure. Public policy makers should try to leverage complementarities, providing information and support that helps marry local opportunities to FDI. They should also try to engender investment-friendly institutional infrastructure mechanisms and measures to turn brain drain into brain gain to mutual advantage (Gamlen et al., 2017; Saxenian, 2002). They should also align FDI with locally appropriate and value adding activities by providing incentives to remitters.

Limitations and future research

First, despite their prominence for many emerging economies, the quality of data on remittances requires improvement. The heterogeneous nature of remittances, the large number of remittance transactions and the variety of channels, as well as the small size of individual transactions that are usually 'hidden' by typical data source systems, constitute a challenge in effectively measuring remittances and compiling a comprehensive dataset.

Second, although the World Bank provides comprehensive data compiled by a variety of specialised organisations and offices, it employs different sources, classification of economies, and methods to adjust and disaggregate reported information. For example, data on dependency ratio may fail to reflect accurately the actual age composition of the countries. The quality of data on gross capital formation depends on the quality of a government's accounting system. However, some of the data in emerging countries tend to be less reliable. Further examination of the institutional determinants of remittances for individual countries and of their interrelationship with FDI will help extend our findings, provide insights in more fine-tuned policymaking and help emerging economies devise targeted policies. It will also help us consider the relative importance of both recipient country and the country of residency of the migrants' related factors.

Another limitation relates to difficulties to distinguish between remittances to accompany inward FDI (implying a complementary relationship) and remitted funds that count directly as FDI (suggesting short-term substitutability, albeit consistent with longer-term complementarity). In this sense, we appreciate this is both a theoretical and an empirical issue (Piteli, 2013) that necessitates careful econometric investigation. The separation of consumption from investment related remittances and their comparative roles is also challenging.

Despite such limitations, and in part because of them, our work opens up a set of opportunities for IB and more widely. Particularly interesting would be an exploration of local-foreign as well as public-private interactions (Poliakova et al., 2020) in helping devise remittance-FDI-domestic investment policies and strategies (Barnard, Deeds, Mudambi, & Vaaler, 2019) such as diaspora investment vehicles (Cummings & Gamlen, 2019) that may help foster sustainable development. The

use of migration as a development tool can also be explored much further. For instance, some skills of migrants in developed countries have been obtained at home, often subsidised by public funds in emerging economies. Yet, the benefits of these investments often accrue to developed countries. Arguably, this increases the need for international coordination and regulation as opposed to being left at the private migrant-country bilateral level where bargaining-related factors may play a stronger role. Moreover, while our understanding of bilateral links between pairs of the education, migration and development triad have improved, the complex interrelationship between the three remains largely underexplored (Gamlen et al., 2017).

Another key research opportunity relates to climate change. This is a key factor motivating migration especially from sub-Saharan and East Asian countries to the Western more developed economies (The Economist, 15/9/2018, p. 49). In most cases, such migration increases imply that people with a lower carbon footprint relocate to countries with a much higher carbon footprint. Yet, the interrelationship between migration and climate change is all but ignored; so is the role of remittances. We need to explore the relationship between increasing migration and the environment and analyse how public policy can be factored in such effects and try to optimise it in terms of net benefits. In addition, it is important to explore and explicate how the gains from immigration and remittances can help compensate the losers, both countries and individuals.

Finally, the recent COVID-19 pandemic is having a dramatic negative effect on both FDI and remittances. Unlike the case of purely economic recessions, the combination of health and recession-related factors, alongside the re-surfacing of trade relations and geopolitical tensions and the rise of protectionism, are likely to have a very potent negative effect on remittances. The decrease in remittances for 2020 is estimated by the World Bank to be in the region of 20% (World Bank, 2020b), the biggest year on year ever. The OECD (2020) predicts an even higher decline in FDI of circa 30% in 2020. Our analysis and evidence for a complementary relationship suggests that this would be a major blow to all involved. These and many other challenging questions are currently receiving increasing attention and provide huge opportunities to be explored by IB scholars, MNE managers and public policy makers.

Figure 1 Conceptual Framework and Hypothesised Relationships

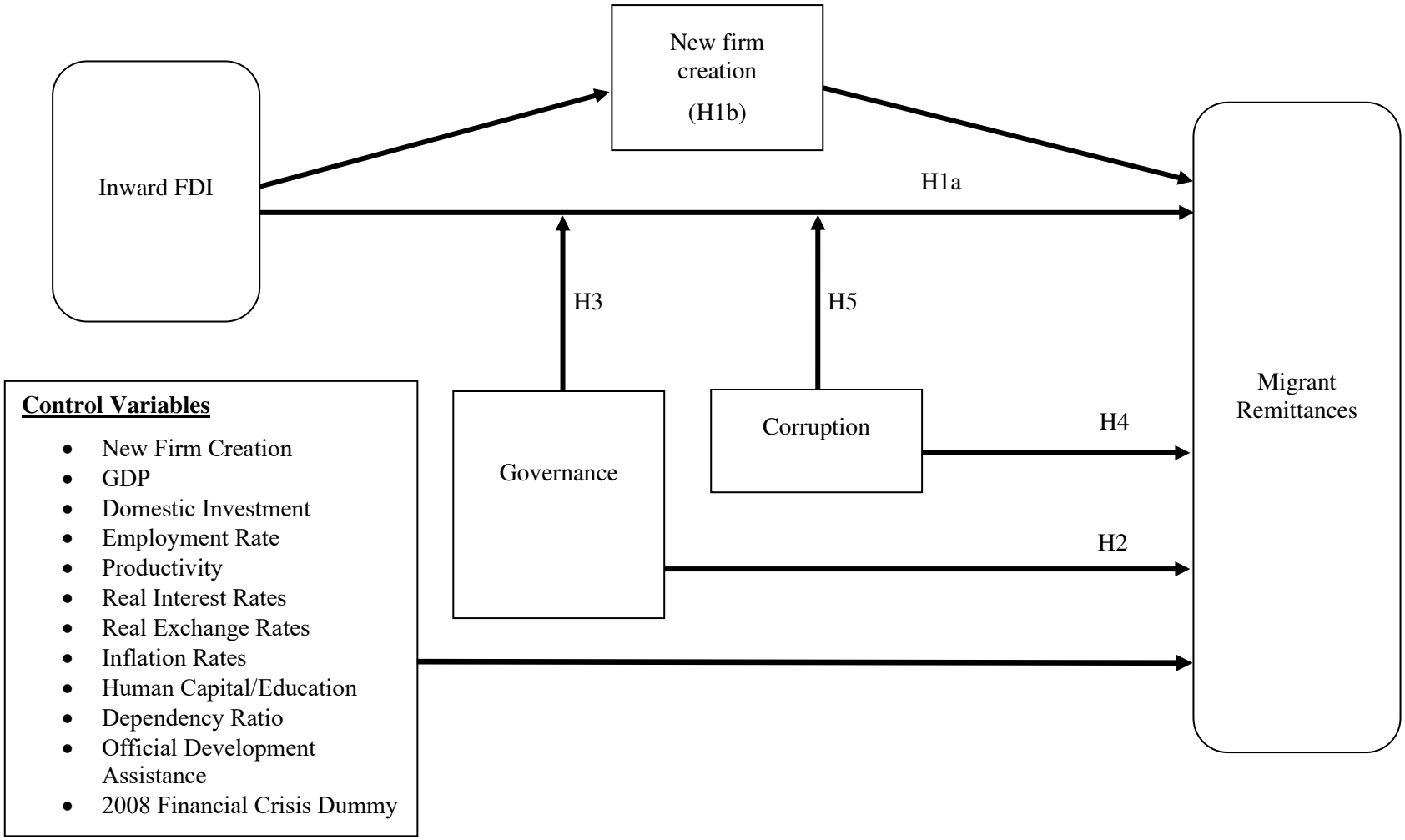

Table 1 Sources and Formulas of Variables

Variables	Source	Formula
Dependent Variable		
Migrant Remittances	World Bank staff estimates based on IMF balance of payments data.	A series on remittances expressed in millions of dollars. Migrants' remittances are the sum of workers' remittances, compensation of employees and migrants' transfers. Migrants' transfers cover for flows of goods and changes in financial items that arise from migration (change of residence for at least one year).
Independent Variables		
FDI, Inward	International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources.	Private financial flows - equity and debt - account for the bulk of development finance. Equity flows comprise foreign direct investment (FDI) and portfolio equity. Debt flows are financing raised through bond issuance, bank lending, and supplier credits.
Governance	World Governance Indicators - Kaufmann, D., Kraay A. and M. Mastruzzi (2010), "The Worldwide Governance Indicators: Methodology and Analytical Issues", World Bank Policy Research Working Paper No. 5430.	Author's Calculations: Mean number of Control of Corruption, Government Effectiveness and Political Stability and Absence of Violence/ Terrorism, Regulatory Quality, Rule of Law and Voice and Accountability.
Corruption Perception Index	Transparency International	Scores countries on how corrupt their public sectors are perceived to be, using multiple criteria.
Control Variables		
New Firm Creation	World Bank's Entrepreneurship Survey and database (doingbusiness.org/data/exploretopics/entrepreneurship).	New business density (new registrations per 1,000 people ages 15-64). New businesses registered are the number of new limited liability corporations registered in the calendar year.
GDP	World Bank national accounts data, and OECD National Accounts data files.	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of

		fabricated assets or for depletion and degradation of natural resources.
Domestic Investment	World Bank national accounts data, and OECD National Accounts data files.	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.
Employment Rate	World Bank – (i) Total population is based on the de facto definition of population. Sources: (1) United Nations Population Division. World Population Prospects: 2019 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. (ii) Total labour force expressed in thousands. Derived using data from International Labour Organization, ILOSTAT database and World Bank population estimates.	Author's Calculations: Total Labour Force/Total Population
Productivity	World Bank	Author's Calculations: GDP/Employment Rate
Real Interest Rates	World Bank based on International Monetary Fund, International Financial Statistics and data files using World Bank data on the GDP deflator.	Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator. The terms and conditions attached to lending rates differ by country, however, limiting their comparability.
Real Exchange Rates	World Bank based on International Monetary Fund, International Financial Statistics.	Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.
Inflation Rates	International Monetary Fund, International Financial Statistics and data files.	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.

Human Capital/Education	World Bank staff estimates using data from the United Nations Statistics Division's Statistical Yearbook, and the UNESCO Institute for Statistics online database.	Education expenditure refers to the current operating expenditures in education, including wages and salaries and excluding capital investments in buildings and equipment.
Dependency Ratio	World Bank staff estimates from various sources including census reports, the United Nations Population Division's World Population Prospects, national statistical offices, household surveys conducted by national agencies, and ICF International.	Age dependency ratio is the ratio of dependents--people younger than 15 or older than 64--to the working-age population--those ages 15-64. Data are shown as the proportion of dependents per 100 working-age population.
Overseas Development Assistance	World Bank based on Development Assistance Committee of the Organisation for Economic Co-operation and Development, Geographical Distribution of Financial Flows to Developing Countries, Development Co-operation Report, and International Development Statistics database.	Net official development assistance (ODA) consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent).

Table 2

Mean, standard deviations, and correlation coefficients.

Variables	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Remittances (m.)	48.8	95.1	0.007	643													
2. Inward FDI (m.)	100	221	-2.46	1890	0.22												
3. Governance	46.29	16.05	14.94	89.65	-0.18	0.26											
4. Corruption	6.16	1.30	1.6	8.1	0.19	-0.28	-0.88										
5. New firm creation (thous.)	45987.54	82950.21	109	456046	0.11	0.61	0.08	-0.09									
6. GDP (m.)	2950	5430	12	33100	0.52	0.66	0.01	0.04	0.7								
7. Domestic Investment (m.)	769	1470	0	8430	0.64	0.6	0.03	0.03	0.59	0.97							
8. Employment Rate	43	7	24	59	-0.13	0.3	0.29	-0.22	0.26	0.21	0.17						
9. Productivity	6580	11600	29.4	62100	0.62	0.62	-0.005	0.04	0.65	0.99	0.98	0.13					
10. Real Interest Rates	5.36	7.05	-17.12	41.24	-0.08	0.07	0.001	0.02	0.12	0.11	0.04	0.08	0.11				
11. Real Exchange Rates	109.46	21.47	55.99	239.46	0.05	-0.04	-0.21	0.15	-0.03	0.02	0.01	0.08	0.02	0.002			
12. Inflation Rates	6.29	5.09	-2.24	44.35	0.03	-0.05	-0.34	0.29	0.08	-0.003	0.0003	-0.06	0.01	-0.13	0.04		
13. Human Capital/Education (m.)	114	221	334937.9	1290	0.41	0.64	0.08	-0.006	0.7	0.97	0.9	0.24	0.94	0.2	-0.0003	-0.04	
14. Dependency Ratio	61.47	16.84	33.11	97.84	-0.11	-0.4	-0.49	0.39	-0.37	-0.38	-0.37	-0.53	-0.35	0.02	0.03	0.33	-0.39
15. Official Development Assistance (m.)	10.3	15.3	-4.91	155	0.17	0.01	-0.39	0.27	0.06	0.06	0.09	-0.1	0.09	-0.18	0.14	0.38	0.004

Table 3

Results from regression analysis of impact of FDI and contingency factors on migrant remittances, 2006-2016.

Eq. 1 Specifications →estimators→ variables ↓	(1) Full model panel 2SLS/IV (1 FDI Lag)	(2) Full model panel 2SLS/IV (2 FDI Lags)	(3) Full model panel 2SLS/IV (1 FDI & 1 GDP Lags)	(4) Full model A-B GMM	(5) Full model A-B/B-B GMM
Lagged Migrant Remittances				0.33*** (0.04)	0.54*** (0.03)
H1a: Inward FDI	1.11*** (0.11)	1.00*** (0.10)	1.11*** (0.11)	0.90*** (0.09)	1.13*** (0.10)
H2: Governance	-58535.31 (394737.7)	72554.84 (339194.4)	-58535.31 (394737.7)	113858.9 (336506.6)	307147.7 (356062.4)
H3: Inward FDI x Governance	-0.01*** (0.001)	-0.01*** (0.001)	-0.01*** (0.001)	-0.009*** (0.001)	-0.01*** (0.001)
H4: Corruption	-4547456 (2892047)	-3814652 (2491146)	-4547456 (2892047)	588872.6 (2631137)	8136649** (2896084)
H5: Inward FDI x Corruption	-0.0005*** (0.00007)	-0.0005*** (0.00006)	-0.0005*** (0.00007)	-0.0005*** (0.00006)	-0.0005*** (0.00006)
New Firm Creation	166.59*** (49.68)	134.00** (43.39)	166.59*** (49.68)	169.76*** (44.19)	130.80** (49.84)
GDP	-0.09*** (0.01)	-0.07*** (0.01)	-0.09*** (0.01)	-0.07*** (0.009)	-0.07*** (0.009)
Domestic Investment	0.01* (0.005)	0.02*** (0.004)	0.01* (0.005)	0.01*** (0.004)	0.03*** (0.003)
Employment Rate	-4835243 (9.76e+07)	-5.57e+07 (8.42e+07)	-4835243 (9.76e+07)	-4.67e+07 (1.04e+08)	6.76e+07 (6.17e+07)
Productivity	0.03*** (0.003)	0.02*** (0.003)	0.03*** (0.003)	0.02*** (0.003)	0.02*** (0.003)
Real Interest Rates	-163812.7 (226205.6)	1160.46 (194299.4)	-163812.7 (226205.6)	-173412.4 (167250.4)	-75450.85 (195063.8)
Real Exchange Rates	55293.93 (100521.4)	83203.58 (90610.45)	55293.93 (100521.4)	179773.4† (96118.3)	-54337.08 (101097)
Inflation Rates	-277338.7 (288858)	-240176.1 (251291.9)	-277338.7 (288858)	-348714.8 (220445.6)	-322922.9 (257782.7)
Human Capital/Education	0.33*** (0.08)	0.27*** (0.07)	0.33*** (0.08)	0.31*** (0.06)	0.29*** (0.06)
Dependency Ratio	-1116213* (544386)	-1038471* (481867.5)	-1116213* (544386)	-1158010* (576705.7)	-3251685*** (499584.4)
Official Development Assistance	0.07 (0.20)	-0.03 (0.19)	0.07 (0.20)	0.07 (0.20)	-0.37† (0.22)
2008 Financial Crisis Dummy	2225327 (2839398)		2225327 (2839398)	-1339514 (2107232)	-2982990 (2384351)
Constant	1.51e+08* (6.67e+07)	1.61e+08* (5.77e+07)	1.51e+08* (6.67e+07)	1.10e+08 (7.42e+07)	1.34e+08** (5.15e+07)
Wald χ^2 (R^2)	0.5682	0.4552	0.5682	448.19	22230.99
Number of observations	271	247	271	233	270

Notes: Standard errors are in parentheses, † p≤0.10, * p≤0.05, ** p≤0.01, *** p≤0.001.

Table 4

Effects of FDI on new firm creation, 2006-2016.

Eq. 2 Specifications →estimators→ variables ↓	Controls, FDI governance panel FGLS
Inward FDI	81.42*** (18.18)
Governance	-840.38† (473.68)
Corruption	-10909.44† (5716.70)
GDP	4.24† (2.23)
Employment Rate	59797.94 (45262.29)
Real Interest Rates	1113.31* (498.30)
Human Capital/Education	90.46† (54.00)
Constant	86574.07 (53981.49)
Wald χ^2 (R^2)	438.77
Number of observations	362

Notes: Standard errors are in parentheses, † p≤0.10, * p≤0.05, ** p≤0.01, *** p≤0.001.

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