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Beyond Capital

Monitoring Development Outcomes of Multinational Enterprises

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Abstract

This study presents a novel set of indicators on outcomes of foreign direct investment spanning 63 developing countries and 10 areas that matter for development. Building on decade-long data collection by the World Bank Enterprise Surveys, the indicators highlight systematic differences between foreign multinational enterprises and domestic firms across countries in competitiveness outcomes such as productivity, innovation, export orientation, as well as the extent to which they promote inclusiveness through job creation, gender empowerment, or supply linkages. Although there appears to be no striking trade-off between competitiveness and inclusiveness of foreign multinational enterprises, their premia differ substantially across regions and income groups. Differences in some key drivers of competitiveness, such as productivity, innovation, and skills transfer, appear to be increasing with income, although premia in most outcomes are stronger in lower-middle-income or low-income markets, highlighting the relevance of foreign multinational enterprises for socioeconomic progress in these contexts. Moreover, outcomes of foreign multinational enterprises in areas such as export orientation, skills transfer, and physical capital accumulation are more consistent across countries, whereas in other areas the outcomes display wide variation, suggesting potentially higher sensitivity to investor motivations, sectors, seasonal trends, and business environments. Policy efforts should take these differences into account, to devise investment strategies that not only seek to increase capital flows, but also enhance the benefits that could be derived from them.

Beyond Capital: Monitoring Development Outcomes of Multinational Enterprises

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1. Introduction

Beyond attracting higher levels of foreign direct investment (FDI), developing countries are increasingly concerned with investment that helps advance their socio-economic development and environmental sustainability. Calls for "quality FDI" or the "right kind of FDI" reflect a desire that goes beyond attracting foreign capital, to creating more and better jobs, skills and know-how, opportunities for women and domestic firms and respect for the environment. These expectations have not always been realized or have not been evenly distributed across the population in a country. Worse still, at times foreign multinationals have been associated with environmental and social costs (UNCTAD, 1999). While FDI is generally associated with positive effects on development, there is a broad consensus in the literature that materialization of these effects is neither automatic (Alfaro and Chauyin 2018) nor monotonic; it varies considerably across various types of enterprises, sectors, regions and countries. Moreover, even when FDI supports development in the aggregate, it does not ensure that everyone benefits from the activities of foreign multinationals.

In this context, investment promotion and strategy require nuance, and above all, a solid empirical framework to monitor the contribution of investment to a broad-based development agenda. This need is even greater in the context of the ambitious set of Sustainable Development Goals (SDGs) looking forward to 2030, which will require bridging an acute investment gap in the range of trillions—by some conservative estimates, USD 2.5 trillion annually for developing countries (UNCTAD 2014)—and, importantly, finding ways to make the most of incoming capital for social and economic progress, often by changing established ways of doing business. While public investments will continue to play a central role for most developing countries, for least-developed countries (LDCs) especially, the role of private—notably foreign—investment will be indispensable to advance developmental objectives.

But how do we measure the contributions of foreign multinationals to development? While there has been a proliferation of cross-country indicators related to investment policies and business environment conditions, a lot fewer indicators exist on measurements of investment outcomes across countries and sectors—a compass to tell how different multinational firms fare in one country versus another, and where each country stands relative to its own development objectives. An ample amount of literature has demonstrated the direction and magnitude of effects of foreign multinationals on job creation, wages, productivity, and innovation in specific contexts, periods, or sectors. Yet, what is lacking to date are consistent measurement and benchmarking of these development outcomes of international business across countries.

This study aims to fill this information gap. It takes advantage of rich sources of data collected by the World Bank Enterprise Surveys over the past decade to measure differences between foreign multinational and domestic firms consistently across 63 countries over 10 dimensions that matter for development. These dimensions have been selected based on their importance

for fulfilling both economic and social objectives, as well the availability and quality of the data. By augmenting the set of publicly available information on differences between plants of multinational and domestic firms, this study paints a picture that contributes to a better understanding of what multinational firms bring to advance various development outcomes, and the differences across countries.

Compiling indicators of development outcomes at the level of firms is predicated on the understanding that differences between firm outcomes are a driving force behind development impact at the level of the economy. Outcomes of foreign-owned firms are however not to be confused with aggregate development impact of international business; they are one among a number of such drivers that shift macro-economic and social outcomes of host countries. In addition to the variety of characteristics of firms presented in this work, the actual aggregate impact of foreign multinationals on host countries remains dependent on the volume of investment, local conditions, spillovers to domestic firms, and government policies.

The picture this exercise unveils is highly heterogeneous. While there appears to be no striking trade-off between competitiveness and inclusiveness of foreign multinationals, contrary to the efficiency-equity trade-off that fuels intense debates (WEF & EIB, 2017), one can observe systematic differences in how pronounced their premia are across regions and income groups. Relative to other regions, foreign MNEs established in Eastern Europe and Central Asia, for example, exhibit higher premia over domestic firms in the majority of outcomes relating to competitiveness and inclusiveness. Foreign MNEs established in Latin America stand out in terms of productivity and skills transfer while the opposite pattern is observed in Sub-Saharan Africa, where foreign multinationals stand out with respect to job expansion and wages. The mix appears to be highly specific to the type of multinationals each region attracts, including the industry and investor motivations, as well as the host economy conditions. In the Middle East and North Africa, for example, multinationals differ significantly in terms of export propensity and geographical diversification due to the concentration of FDI in natural resource sectors. Meanwhile they also contribute more in these regions than anywhere else to gender empowerment by employing significantly more women in managerial positions, potentially due to social and cultural differences between the home and host countries.

Differences in some key areas that drive competitiveness, such as productivity, innovation, and skills transfer, appear to increase with income, while premia in all other areas would reach a maximum in lower-middle or low-income markets, highlighting the relevance of foreign multinationals for socio-economic progress in these contexts. Outcomes in export orientation, skills transfer, and investment in physical capital are more consistent across some countries, whereas in others they display wide variations, suggesting potentially higher sensitivity to investor motivations, sectors, seasonal trends and business environments.

Interpretation of these patterns requires caution, due to the limitations of the underlying analysis. Indicators are static, non-exhaustive on dimensions of sustainable development, and cover only part of developing-country economies in terms of sectors, formality, and firm sizes according to survey design. In addition, the underlying surveys are not conducted simultaneously across countries and therefore are prone to seasonal bias. The deliberate focus on developing countries makes the results less generalizable to the global economy. In

particular, different patterns may be observed in terms of the contributions of foreign multinational enterprises in more advanced OECD economies.

Still, the piece of the puzzle we present in this report is the most difficult to measure consistently and reliably across countries; thus, we note the value of future refinements of this work for governments and development institutions. The analysis breaks some new ground that can serve as the basis for policy discussions. The policy and development strategy package must find ways to unlock the resulting opportunities from *all* incoming foreign investment— as opposed to picking the right or wrong FDI---by addressing the market and government failures that may be preventing firms from delivering expected gains.

The rest of the report is structured as follows: Section 2 describes our thinking about development aspects of FDI and outlines the main evidence and knowledge gaps with respect to a selection of development outcomes of foreign MNEs. Section 3 presents the indicators of competitiveness and inclusiveness of foreign MNE activities, while making a first attempt at a synthesis across both indicators and countries. Concluding remarks and avenues for future work are offered in the last section.

2. How do we think about development outcomes of FDI? Facts and knowledge gaps

The Sustainable Development Goals (SDGs) reflect a vision of the future that goes beyond economic growth to decent jobs, education, health, security and many other benefits. This set of objectives illustrates the breadth and complexity of the development agenda, which is increasingly multifaceted.

But how do we think about the development outcomes of multinational firms in particular? Foreign direct investment is about growth rather than substitution of domestic capital; but it is also about enabling more firms and households to benefit from the resulting opportunities. The extent to which multinational firms contribute to growth and aggregate income   is associated with more broad-based opportunities and firm-level outcomes that can be grouped into two broad pillars: Competitiveness (C) and Inclusiveness (I), referred to hereafter as the CI pillars.

The two pillars follow conceptually the pillars of sustainable development: economic and social, to which typically one would add environmental outcomes as a third. The section below lays out the main channels through which foreign MNEs can contribute to these outcomes and takes stock of the existing evidence and knowledge gaps. The list is neither exhaustive nor sufficiently comprehensive to address all the SDGs, which would notably require addressing also the environmental impacts from the activities of MNEs. Its objective is to serve as a starting point in the effort to develop indicators that can inform discussions and motivate extensions.

2.1 Two pillars of development outcomes: Competitiveness and inclusiveness

The first pillar relates to measurements of competitiveness of multinational enterprises (see Table 1 for selected examples of outcomes in that category). In effect, a nation's standard of living is increasingly dependent on the competitiveness of its firms. In most countries, high and rising standards of living can only be sustained by continuous improvements in productivity, either through achieving higher productivity in existing enterprises or through the entry of new enterprises such as MNEs with higher levels of productivity. Closely related to productivity, the level of physical and human capital, combined with the level of innovation, determines the output of the economy in terms of the 'size of the pie'. Productive and innovative firms arguably generate spillovers and contribute, for example, towards a more sophisticated business activity that generates high returns. Finally, export orientation and diversification have been associated with higher levels of productivity growth while contributing to resilience by mitigating risks associated with domestic business cycles. Increasing the ability of a country's enterprises to deepen their integration in world markets through trade and FDI provides substantial leverage for efficiency gains and productivity growth.

Table 1. Selected outcomes of foreign MNEs

Competitiveness	Inclusiveness
Productivity	Job creation
Export-orientation	Wages
Capital Accumulation	Gender Inclusion and Empowerment
Innovation	Supply Linkages
Skills utilization and transfer	Geographical Spread
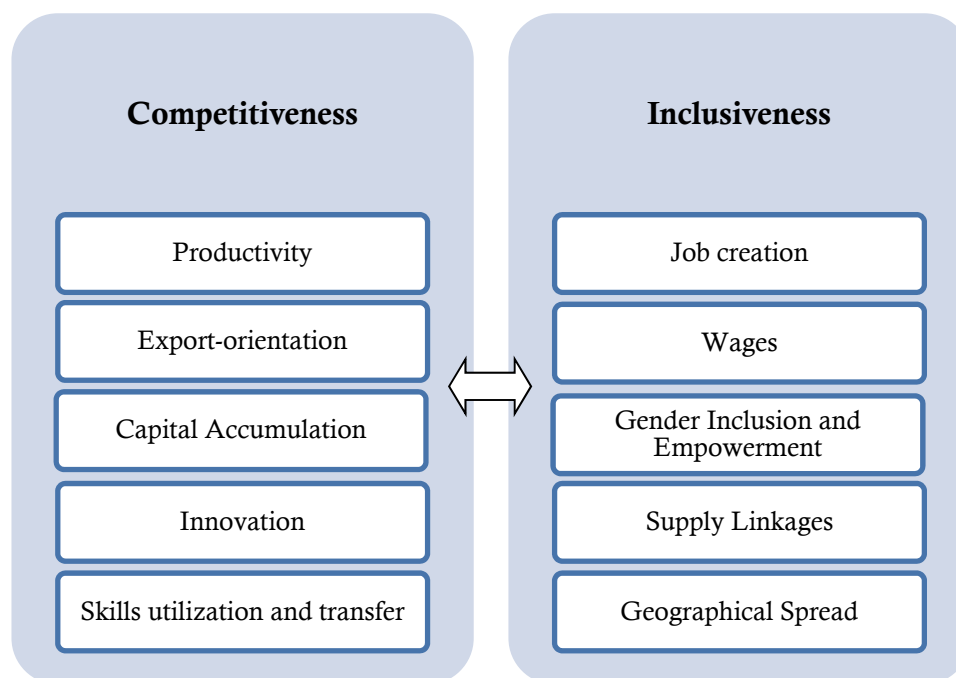
Note: The selection of outcomes presented in this table reflects data availability in the Enterprise Surveys and is non-exhaustive on firm outcomes associated with sustainable development. *Source:* Authors' Elaboration of an earlier version prepared for the Investment Committee in October 2016.

The second pillar regards the inclusiveness of FDI. This, in turn, captures the extent to which the activities of foreign MNEs are contributing to desirable distributional outcomes. Inclusive investment can be seen as investment that contributes to reducing inequalities in terms of income and gender, as well as through integration between economic activities and subnational regions. Arguably, the activities of foreign MNEs can drive aggregate outcomes in different directions. Higher wages than local firms pay for skilled workers, for example, can increase within-labor income inequality, at least partly offsetting the higher labor share of national income. Yet, this is not a generalized case: MNEs in sectors such as textiles or tourism employ unskilled labor and contribute to higher wages at the lower end of the income distribution scale in many developing countries.

Not all FDI increases employment, particularly when investment targets existing operating companies. However, if foreign MNEs represent 'greenfield investment' that expands net aggregate employment—particularly for unskilled labor—that may, other things being equal, help parts of the population move out of poverty and close within-labor income disparities. The extent to which MNEs employ women, including at senior positions, can also contribute to gender empowerment. Finally, the extent to which the activities of foreign MNEs are spread spatially across the territories of developing countries makes a difference in reducing regional disparities. And the extent to which there are well-developed linkages of MNEs with local suppliers ensures that there is a larger pool of beneficiaries from economic growth due to foreign investment.

The two pillars often mutually reinforce each other but also trade off each other in different areas. If the activities of foreign MNEs contribute to productivity growth, for example, efficiency improvements will support national income that offers the potential to benefit the poor. Similarly, if foreign MNEs expand their sales to foreign markets through exports, this is likely to create additional opportunities for growth for their domestic suppliers. These indirect knock-on effects, from competitiveness to inclusiveness, should be fostered.

In other areas, there may be tensions between the two pillars. That is to say, while FDI may bring positive effects for the economy as a whole by raising overall competitiveness, these net effects can mask differences across income groups. In particular, because of the skill bias of FDI in many sectors and countries, skills and training may increase wage differentials between workers in the short term, thereby increasing within-labor income inequality. If foreign MNEs are more capital-intensive than domestic firms, employment levels may not increase at the same pace, reducing opportunities for the population to benefit from the capital growth. These negative cross-effects can be mitigated with policies, including effective education and transfers.

2.2 How much do we know about FDI development impact?

The effect of FDI, and specifically that of multinational firms on host economies, has been extensively researched to date, creating a large body of evidence on the topic. However, this

research has traditionally focused on competitiveness dimensions such as productivity and some general firm attributes such as employment and wages. Gender, innovation, and value chain linkages have received inadequate attention in that body of literature until recently. Additionally, the studies have always been constrained by available data across countries and over time.

A key insight from that body of literature concerns the conditionality of the effects of foreign investment. FDI can have significant positive effects on host economy development, but these benefits are not automatic. The extent to which benefits are realized, and any risks are palliated, will depend on an alignment among four dimensions: host economy framework conditions and policies on the one hand; investor motivation and sector composition on the other (Echandi et al., 2015).

An overview of the literature allows us to identify where the evidence is relatively deep and the conclusions are relatively clear: i.e., productivity, wage and employment effects of foreign multinationals. By contrast, in the areas of economic complexity, gender and innovation evidence is relatively scarce and warrants more investigation. Table 2 presents this information in color-coded manner across the different dimensions identified above. For those dimensions where our understanding of FDI's effect on the host economy is low, medium, or even non-existent, further work is required, in particular regarding external validity, i.e., the extent to which results from one country or sector can extend to the aggregate of developing countries.

Estimates of the magnitude of the effect FDI has over every dimension of impact vary widely between studies (see Box 1 for selected examples). Where there is insufficient empirical work to suggest such estimates, namely FDI's effect on host economic complexity and integration into Global Value Chains (GVCs), one can only infer the direction of the effect. For the rest, estimates do exist. Table 2 provides a comparison of their magnitude on host economies according to a selection of recent such investigations. What is particularly noteworthy is that the potential effect is much more positive than negative: across some economic dimensions, FDI only produces positive effects on the host economy, and when both positive and negative effects are reported in the literature, the latter are much weaker than the former.

It is often challenging to assess the positive effects of FDI on host economies, mainly due to the difficulty of determining the scope of desirable outcomes of such an intervention. For example, FDI's effect on host labor markets needs to consider not only job creation, but also job quality, since what people care about is not just jobs per se, but 'good' jobs (Cazes, Hijzen and Saint-Martin, 2015). The OECD has developed a framework to measure job quality based on three dimensions: wages, labor market security, and the work environment (also known as non-wage working conditions) (OECD, 2008). While there is clear evidence of FDI's impact on wages, there is mixed evidence regarding its impact on both labor market security and working conditions. And within this last category, there is no universally accepted understanding of what constitutes good working conditions. There is some evidence that FDI leads to more training – one dimension of working conditions – but also evidence that FDI leads to longer working hours – another dimension of working conditions that is often involuntary in high-income countries (Filer et al., 1995; Markey and Ravenswood, 2009;

OECD 2008; World Bank, 1997). The lack of clear thinking around the scope of desirable outcomes across these different dimensions as well as limited comparability between different estimates makes it difficult to evaluate whether FDI leads on aggregate to positive, negative or neutral outcomes.

Another challenge lies in incompleteness of analysis at both the micro and macro levels (e.g. at the level of the firm vs. the industry or the economy). An aggregate effect at the industry or country level could hide substantial heterogeneity across sectors, regions, and individual firms which is critical for assessing FDI development outcomes. Evidence at the level of firms or individual transactions is, however, often incomplete, non-representative or confidential, suggesting problems in the validity of results and the ability to generalize conclusions. For a number of effects of interest, analysis at the levels of the economy, the sector or the firm choice is constrained by the availability of data: that is, data only exist from one source at a specific level. The choice is therefore guided by the degree of confidence in that source.

Table 2. How clear is the evidence? FDI's impact in selected categories

	Competitiveness				Inclusiveness			
	Productivity & Growth	Exports & Diversification	Innovation	Domestic investment	Jobs	Wages	Gender inclusiveness	Supply Linkages
Number of studies	High	Low	Low	Medium	High	High	Low	Medium
Geographic range of studies	High	Medium	Low	High	High	High	Medium	Medium
Conclusiveness of results	High	Medium	Low	Low	Medium	Medium	Low	Low

Source: Authors' elaboration.

Note: The estimates come from an overall view of the literature while relying in part, though not entirely, on the leading or most complete study considered in this review, the study with the longest time horizon, the greatest number of economies sampled, or the most complete data [1]

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[1] For productivity, see Havranek and Iršová (2011), which finds strong evidence of positive vertical productivity effects, but no evidence of significant horizontal productivity effects; the potentially negative effects in the figure come from negative horizontal spillovers in other leading studies (e.g. Wooster and Diebel, 2010). For exports, see Harding and Javorcik (2012). For wages and employment, see Hijzen et al. (2013), though the possibility for negative effects come from other leading studies (e.g. Heyman et al., 2007). For women's employment, see Chen et al. (2012), though again the possibility for negative effects comes from other studies (e.g. Braunstein and Brenner, 2007). For domestic investment, see Wang (2010). Finally, for innovation see Cheung and Lin (2004).

Box 1. How strong is the impact of foreign MNEs? Numbers from selected studies

1. A 10% increase in foreign presence in customer sectors is followed by an **11%** average increase in productivity of domestic suppliers. *Havranek and Iršová (2011) meta-analysis of studies covering 47 countries; 17 of them European.*

2. Sectors prioritized in national efforts to attract FDI are found to have **11%** higher unit values of exported products than other sectors. *Harding and Javorcik (2012) covering a global sample of 105 countries.*

3. The FDI wage premia range from **2%** in Germany to **5%** in the United Kingdom, **8%** in Portugal, **16%** in Brazil and **21%** in Indonesia. *Hijzen et al. (2013).*

4. Female employment is **13%** higher in foreign and exporting firms than in non-exporting firms. *Chen et al. (2012) covering China.*

5. Foreign takeovers of firms tend to have no or even a negative effect on wages. Specifically, wages are **2%** less in acquired firms compared to similar non-acquired firms. *Heyman et al. (2007) covering Sweden.*

6. In 1995, women experienced larger gains from FDI than men, but those gender-based advantages had reversed by 2002. A 10% increase of FDI as a proportion of investment in 1995 was estimated to raise female wages by **3.7%** and male wages by **2%**, as opposed to **1.3%** and **2.4 %** respectively in 2002. *Braunstein and Brenner (2007) covering China.*

7. A 1% increase in FDI as a share of GDP leads to an increase of **0.323%** in domestic investment as a share of GDP over four years. For LDCs, the same increase is associated with a **0.767%** increase in domestic investment as a share of GDP over three years, and a **1.116%** increase over four years. *Wang (2010) covering 50 countries, both developed and developing.*

8. A 1% increase in FDI can lead to a **0.12%** increase in the number of applications for invention patents, a **0.18%** increase for utility model patents, and around **0.47%** increase for design patents. *Cheung and Lin (2004) covering China.*

9. Over **86%** of the total FDI inflow in China has been concentrated in the coastal region. *Cheung and Lin (2004) covering China.*

10. An increase of US$1 billion in FDI stock has been associated with approximately **232** new export lines. For high natural resource countries, the net effect of an increase of US$1 billion in FDI is much lower, at 44 and 18 new export channels, respectively. *Shasheen Jayaweera (2009) covering 29 low-income countries.*

11. A 10% increase in foreign presence in downstream sectors is associated with an increase in the average complexity of newly introduced products by **0.297**. This corresponds to about 30% of the standard deviation in the sample. *Javorcik, et al. (2017) covering Turkey.*

12. Moving from a very low level of GVC participation in a country such as Mali to the levels of participation recorded in Vietnam, the share of intermediate products bought locally increases by **6.4 %.** *Amendolagine et al. (2017), Sub-Saharan Africa and Vietnam.*

13. A one standard deviation increase in share of sales to foreign multinationals can raise our measures of innovation by about 0.015 to 0.030, or approximately **4% to 7%.** *Gorodnichenko et al. (2015) covering transition economies and Turkey.*

14. Local pollution decreases with the scale of foreign investment: for a 1 percent increase in foreign direct investment, sulfur dioxide emission intensity decreases by **0.6-0.7** percent. *Feng Helen Liang (2006) covering China.*

External validity becomes even more difficult when evidence is confined to specific countries or markets at only a certain level of income, since FDI's impact may vary with development level. In general, FDI's effect on host economies is stronger for developing economies and weaker for developed economies. Such differences may be due to levels of knowledge and technology between developing and developed countries, so that developing countries can use FDI to close this gap, while high-income countries may already be at the frontier. FDI's differential effect across development levels is well illustrated in the case of foreign multinationals' wage premium (Hijzen et al., 2013) as well as the impact on exports, whether unit value of exports (Harding and Javorcik, 2012) or diversification and sophistication (Iwamoto and Nabeshima, 2012). The implications are that any potential conclusions regarding FDI and host economies need to control for development levels in destination economies.

In addition, FDI's effect may vary by the income level of the source economy. The evidence shows that developed source economies may be associated with much higher MNE wage premia than developing source economies, the latter of which can even result in significant negative effects in host economies (Coniglio et al., 2015). Any conclusions regarding FDI's impact on host economies may therefore need to factor in the development level of both source and target economies.

Finally, a critical challenge to measuring FDI's effect on host economies is variation by investor motivation. For instance, efficiency-seeking FDI is most likely to lead to export-oriented diversification, while market-seeking FDI is most likely to generate immediate linkages with the domestic economy (Farole and Winkler, 2014). The two may have very different effects on factor incomes, such as wages (Alfaro, 2016). In contrast, natural resource-seeking FDI may generate the fewest linkages with host economy firms, while strategic asset-seeking FDI may hold relatively less productivity potential (Amendolagine et al., 2013). However, there is no clear methodology to classify a certain FDI flow or stock using this typology. Attempts to do so exist: one study tries to disaggregate market-seeking FDI and efficiency-seeking FDI by using four-digit sector-level information along with input-output tables (Alfaro and Charlton, 2009). However, this approach may suffer inaccuracies, as FDI types can cut across sectors. In addition, there is growing evidence that FDI may be responding to more than one motivation at a time, demonstrating mixed motives, further challenging the analysis.

3. Cross-country benchmarking of MNE development outcomes

There are several ways of measuring the competitiveness and inclusiveness of foreign multinationals. A precise approach focuses at the level of firms by highlighting differences in relevant characteristics of those that are foreign and those that are domestically-owned. Data availability at the level of firms and their representativeness are major challenges in that approach. Another approach is to work at the macro-level by combining information on FDI

flows with industry characteristics. Measurements in that approach highlight the characteristics of industries where foreign investment is concentrated. Table 3 presents an illustrative, non-exhaustive set of indicators that could be developed based on the two approaches.

Table 3. Macro and micro-based approach to measuring development aspects of FDI

Pillar	Area	Indicator type	Strategic question	Indicator's description
Competitiveness	Productivity	Macro-based	Is foreign investment directed towards productive activities?	Concentration of FDI flows into sectors with high labour productivity.
		Micro-Based[+]	Are foreign-owned firms contributing to higher productivity in the economy?	Productivity wedge between foreign-owned and domestic-owned firms.
	Innovation	Macro-based	Does FDI contribute to growth of innovative activities in the economy?	Concentration of FDI flows in sectors where innovation takes place intensively.
		Micro-Based	Are foreign-owned firms innovating more than domestic firms?	Difference between shares of foreign and domestic firms reporting some form of innovation.
	Skills	Macro-based	Is foreign investment directed towards skill-intensive activities?	Concentration of FDI flows into sectors with high skill intensity.
		Micro-Based	Do foreign multinationals employ relatively more skilled workers?	Wedge between shares of skilled workers in foreign-owned and domestic-owned firms.
Inclusiveness	Job creation	Macro-based	Is foreign investment directed towards sectors that rely on labour rather than capital?	Concentration of FDI flows in labour-intensive sectors.
		Micro-Based	How many jobs do foreign-owned firms create?	Wedge of employment growth between foreign and domestically-owned firms.
	Wages	Macro-based	Is FDI going to sectors with better paid jobs?	Concentration of FDI flows into sectors with high paying jobs
		Micro-Based	Do foreign-owned firms contribute to better paid jobs?	Average wage difference offered by foreign-owned firms compared to domestically-owned firms
	Gender inclusion	Macro-based	Is FDI going to sectors that employ women?	Concentration of FDI flows into sectors with high shares of female employment.
		Micro-Based	How gender-friendly are foreign-owned firms relative to domestic firms?	Difference in the share of female workers between foreign and domestically-owned firms
	Domestic Linkages	Macro-based	Does FDI foster integration in global value chains?	Concentration of FDI flows into sectors sourcing inputs domestically.

Pillar	Area	Indicator type	Strategic question	Indicator's description
		Micro-Based	Do foreign-owned firms source inputs more intensively from abroad?	Wedge between foreign-owned and domestically owned firms in their intensity of sourcing domestic inputs

Source: Authors' elaboration of an earlier version prepared jointly with the OECD for the Investment Committee in October 2016.

The indicators presented in this study are all compiled at the level of production establishments. They adopt the first approach of measuring the differences between foreign multinational and domestic firms by employing two thresholds of foreign ownership: 10 percent and 50 percent.

3.1 The data: Foreign-owned firms in World Bank Enterprise Surveys

The World Bank Enterprise Survey (WBES) is a unique source of economic data, which has a pool of 131,000 firms from 139 countries, mostly developing nations. The data have been collected since 2006 using a harmonized methodology to ensure cross-country comparability.

The surveys only represent a country's non-agricultural economy. Thus, the sectoral scope of the surveys is not comprehensive. Manufacturing and services are the primary sectors of focus, with services including construction, retail, wholesale, hotels, restaurants, transport, storage, and telecommunications. Mining and financial services, which attract significant foreign investment, are excluded. This also excludes firms that employ fewer than five workers, as well as wholly state-owned enterprises. All these factors affect the benchmark for evaluating the differences between foreign multinational and domestic firms.

But how accurate is the WBES when it comes to foreign multinationals? The sampling follows frames provided by national statistical offices or other official sources over three dimensions: firm size, business sector, and geographic region, but does not consider domestic or foreign ownership. However, to the extent that variation in foreign ownership is driven by characteristics the survey is stratified on - such as sector of activity, scale of production, and location, all of which are established drivers of foreign multinational activity – then the surveys should exhibit high alignment in terms of representativeness, subject to a sufficient number of observations on both pools. We restrict the sample to surveys conducted after 2010 where at least 30 foreign multinationals with over 50 percent ownership are present, keeping only 63 surveys of the 139 available (see Table 4 for a description of the sample).

Table 4. World Bank Ent. Surveys with 30 or more 50% foreign-owned firms

Country	Year of Survey	Number of Observations			Employment Share		Output Share	
		Total	MNE 10	MNE 50	MNE 10	MNE 50	MNE 10	MNE 50
India	2014	9281	85	34	1.8%	0.6%	3.0%	0.8%
Russia	2012	4220	116	82	21.6%	19.7%	7.7%	6.0%
China	2012	2700	161	89	5.9%	3.9%	6.3%	4.9%
Nigeria	2014	2676	320	64	23.2%	11.4%	12.0%	4.8%
Egypt	2016	1814	120	83	12.7%	6.2%	9.8%	4.4%
Mexico	2010	1480	139	118	36.6%	35.6%	31.4%	29.9%
Philippines	2015	1335	293	226	24.3%	19.0%	24.9%	23.6%
Indonesia	2015	1320	137	51	13.1%	7.2%	37.2%	6.1%
Chile	2010	1033	132	115	19.9%	14.2%	33.9%	27.2%
Peru	2017	1003	90	77	22.7%	19.7%	26.1%	20.8%
Malaysia	2015	1000	181	45	87.0%	1.9%	14.4%	3.6%
Vietnam	2015	996	82	69	41.3%	14.2%	23.0%	15.4%
Argentina	2017	991	40	34	14.1%	13.8%	28.6%	28.4%
Colombia	2010	942	86	68	41.2%	11.8%	53.7%	28.6%
Ethiopia	2015	848	86	70	22.3%	15.3%	22.9%	19.9%
Kenya	2013	781	89	56	32.5%	16.9%	44.3%	25.3%
Uganda	2013	762	108	100	18.3%	17.2%	53.5%	52.4%
South Sudan	2014	738	292	252	57.6%	50.3%	59.1%	55.2%
Zambia	2013	720	200	183	35.0%	29.3%	30.3%	26.4%
Ghana	2013	720	115	106	39.8%	37.6%	55.5%	55.2%
El Salvador	2016	719	97	88	25.8%	25.3%	42.9%	41.9%
Senegal	2014	601	70	50	26.2%	10.4%	31.0%	18.7%
Zimbabwe	2016	600	116	45	37.4%	9.3%	26.0%	16.5%
Sweden	2014	600	155	130	42.2%	40.9%	30.9%	29.6%
Tunisia	2013	592	87	59	21.7%	16.3%	15.7%	9.6%
Guatemala	2010	590	77	64	13.8%	7.9%	18.7%	4.6%
Jordan	2013	573	65	51	27.6%	24.8%	27.7%	23.2%
Poland	2013	542	39	34	24.1%	21.5%	21.5%	15.0%
Romania	2013	540	71	65	18.1%	14.8%	27.2%	26.5%
Costa Rica	2010	538	87	83	15.8%	12.5%	14.9%	10.4%
Madagascar	2013	532	145	137	60.2%	58.2%	40.6%	39.0%
DRC	2013	529	89	78	42.6%	39.3%	48.6%	46.1%
Malawi	2014	523	100	88	64.5%	59.3%	20.7%	16.9%
Morocco	2013	407	53	40	9.7%	6.8%	6.4%	4.5%
Uzbekistan	2013	390	50	33	26.1%	21.1%	28.7%	23.3%
Jamaica	2010	376	52	35	21.3%	14.1%	21.2%	12.1%
Cambodia	2016	373	36	31	57.9%	55.8%	64.4%	62.8%
Lao PDR	2016	368	46	44	20.8%	19.4%	15.1%	13.1%
Panama	2010	365	71	39	28.1%	18.6%	8.7%	5.7%
Ecuador	2017	361	55	47	18.4%	17.3%	36.4%	35.5%
Côte d'Ivoire	2016	361	95	73	38.8%	32.5%	58.0%	50.9%
Belarus	2013	360	42	32	21.9%	16.8%	23.6%	20.1%
Croatia	2013	360	34	32	24.5%	14.0%	31.5%	16.4%
Angola	2010	360	104	48	43.2%	18.2%	9.0%	0.9%
Uruguay	2017	347	50	43	36.9%	36.2%	42.6%	42.0%
Latvia	2013	336	38	34	24.6%	18.8%	31.0%	24.2%
Nicaragua	2016	333	61	53	24.6%	19.3%	32.5%	27.8%
Honduras	2016	332	38	37	14.5%	14.4%	20.2%	20.2%
Venezuela	2010	320	40	37	10.8%	10.2%	2.7%	2.7%
Estonia	2013	273	35	30	31.9%	28.4%	36.9%	34.7%
Slovenia	2013	270	44	37	29.0%	19.8%	40.7%	32.7%
Kyrgyz Republic	2013	270	47	35	43.2%	34.6%	43.5%	37.5%
Slovak Republic	2013	268	38	34	26.8%	24.9%	50.7%	45.6%
Botswana	2010	268	129	116	44.9%	31.3%	70.0%	48.8%
Czech Republic	2013	254	38	35	31.5%	31.4%	41.0%	41.0%
Rwanda	2011	241	50	42	36.6%	33.1%	65.0%	61.7%
Mali	2016	185	65	41	65.2%	46.9%	78.4%	67.1%
Guyana	2010	165	42	34	38.5%	22.1%	46.7%	30.7%
Liberia	2017	151	40	38	24.3%	22.8%	17.1%	16.4%
Solomon Islands	2015	151	70	63	61.4%	49.8%	60.5%	56.9%
Togo	2016	150	51	45	60.2%	57.4%	85.4%	79.7%
Central African Rep	2011	150	64	53	54.1%	48.0%	76.8%	73.0%
Papua New Guinea	2015	65	45	42	80.8%	49.0%	82.0%	68.0%
Average					32.4%	24.1%	34.5%	28.5%

Source: Calculations on World Bank Enterprise Surveys (2010-2018); *Note*: MNE 10 and MNE 50 refer to establishments of firms with >10% and >50% foreign ownership respectively. Resampling weights have been used to generate shares of foreign multinationals in total employment and output.

At present, there is still no official source of information for the number of foreign multinationals in developing countries that can be used to verify the representativeness for the entire sample. The information available is compiled by the OECD in its Activities of Multinational Enterprises (AMNE) database. It contains the official data published by National Statistical Offices and Central Banks on activities of foreign multinationals. The coverage of AMNE data has been good for the United States and several European countries, none of which has a publicly available World Bank Enterprise Survey.

Recent analytical work at the OECD, however, has produced estimates of the share of foreign multinationals in total output for many more economies by combining information from two official sources: the AMNE analytical statistics and the Inter-Country Input-Output (ICIO) tables (Cadestin et al., 2018). This new data set highlights the contribution of domestic firms and foreign multinationals, as well as their foreign affiliates, to global trade and production. It essentially brings to enterprise analysis the same conceptual shift introduced by Trade in Value-Added statistics (TiVA) in trade analysis. Nineteen of the countries in the new data set have a World Bank Enterprise Survey, 14 of which we use in this study – BRICS and a number of economies in Eastern Europe, conducted in their majority around the same year, 2014 – offering a unique opportunity to assess the representativeness of foreign multinationals.

The share of foreign multinationals in aggregate output calculated by the World Bank Enterprise Surveys and the OECD are largely aligned (see Fig. 1), with a 45-degree line indicating equal shares from the two sources. The Pearson correlation coefficient, which measures the strength of association between two continuous variables (ranging from -1 to +1) reaches 0.86, statistically significant at the 1% level, indicating a high degree of correlation. However, this exercise only accounts for a limited number of countries in the sample. It also considers only a single dimension – output – with many structural elements in the two statistics, such as the selective sectoral scope of the WBES and year mismatch, justifying systematic bias in some countries over other ones. Rather than validating the sample of foreign multinationals in WBES as a whole, the alignment serves primarily not to reject the WBES as a valuable source of information for foreign multinationals based on the information we have available. The true numbers and weight of multinationals in these countries remains to be evaluated in the future.

The indicators reported in this study correspond to weighted averages across establishments using sampling weights w_i of the Enterprise Surveys that are based on the frame provided by official sources, as well as their differences across groups in absolute and/or relative terms. Every data point $\bar{x}$ is calculated over the total of n firms i in each country for the national average, the subsample of foreign multinationals defined using a 10 percent threshold and then the subsample using a 50 percent threshold.

$$\bar{x} = \sum_n w_i' x_i \text{ where } w_i' = \frac{w_i}{\sum_n w_i} \quad (1)$$

For selected indicators corresponding to fractions over employment (specifically the shares of skilled and semi-skilled workers in the workforce, employment expansion, and average wage) the average is taken over the population of workers rather than number of firms, using the weighted sum of employment E_i in each subgroup (national total, foreign multinationals with 50 percent and 10 percent ownership) as the basis for the calculation:

$$w_i' = \frac{w_i}{\sum_n E_i w_i} \quad (2)$$

Figure 1. Representativeness of Foreign MNEs in World Bank Enterprise Surveys

Share of MNEs in Aggregate Output
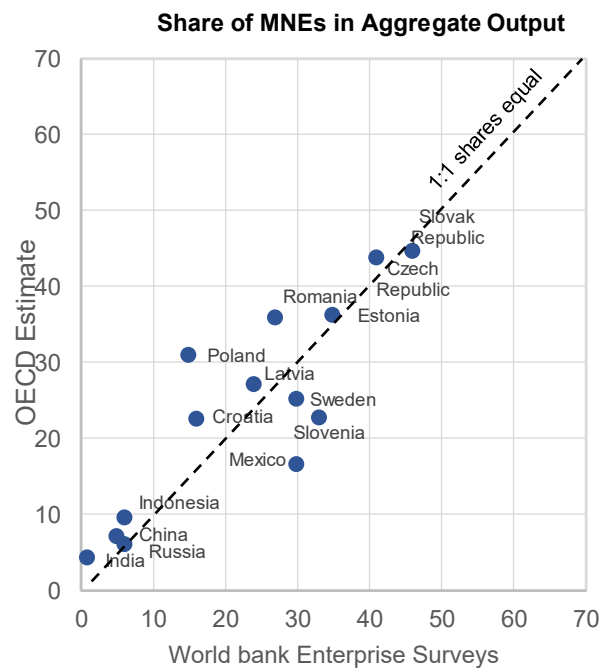
Source: Calculations on World Bank Enterprise Surveys; Cadestin et al., 2018 for OECD estimates based on official AMNE data and WIOD. *Note*: Resampling weights have been used to generate shares of foreign multinationals in output in World Bank Enterprise Surveys.

The results are discussed in three parts: (i) the relationship between foreign ownership and the firm; (ii) cross-country differences found in the World Bank Enterprise Surveys; and (iii) implications of these differences for the local economy based on what is known.

3.2 Competitiveness proxies: Productivity, trade performance, skills, and innovation

Competitive investment, often associated with foreign multinationals, drives economic growth. This lies with the type of foreign multinational and its ability to compete and grow in global markets. Whether by boosting labor productivity, enhancing innovation, or utilizing skills, developing countries need a bigger pie to be able to advance the development agenda, and need to compete with established producers abroad in an increasingly globalized context.

In the following, we examine some of the fundamental characteristics of competitive firms – productivity, export orientation, investment in R&D, skills utilization and transfer – and compare their incidence across foreign multinational and domestic firms in the 30 most populous developing countries in the sample of the World Bank Enterprise Surveys on which we have information.

Productivity

Foreign-owned firms tend to be more productive than domestically-owned firms. Numerous studies have highlighted this pattern in the past, as well as its effects on the productivity of domestic firms. The reason for the productivity premia of foreign firms lies in their possession of more advanced technology and managerial know-how than local firms. To be competitive in markets outside of their home economy, foreign multinationals need to have some competitive advantage, thereby overcoming their 'liability of foreignness' (Zaheer, 1995). The cost of entering a foreign market, their lack of local networks and customer knowledge mean that foreign firms require other firm-specific assets to overcome these liabilities. Such assets can take the form of knowledge-related capacities, which can ultimately enhance productivity in the host economy.

The picture that emerges in two simple indicators of productivity is broadly consistent with these premia (see Fig. 2). Total Factor Productivity (TFP) differences in manufacturing across firms vary considerably across countries, reflecting the level of sophistication, the scale as well as the structure of manufacturing production, that more intensively attracts foreign investors. Markets that stand out by attracting productive foreign multinationals tend to combine large size and high integration into global value chains, such as China, Indonesia, Mexico and Ethiopia. Examples of countries where the average foreign multinational firm would appear to be less productive than domestic ones, such as the Russian Federation, are an exception, while in a number of cases, such as Malaysia, Nigeria, or Kenya, joint ventures with some foreign participation stand out with higher productivity than majority-owned foreign establishments.

How do these productivity premia of foreign MNEs translate into development effects? The question has been extensively studied, with the largest body of evidence pointing to productivity increases to local firms (Alfaro, 2015; Blalock and Gertler, 2009; Echandi et al., 2015; Havranek and Iršová, 2012; Meyer and Sinani, 2009; Wooster and Diebel, 2010). This can take place through different channels – labor mobility, demonstration and competition

effects, but also vertical supply linkages. Between 2000 and 2010, there were more than 100 studies carried out on FDI and productivity (Havranek and Iršová, 2011); that number is now much higher. Meta-analysis studies of FDI and productivity provide strong evidence on vertical effects, but weak or no evidence through horizontal effects. The average vertical productivity effects are significant for both upstream (to suppliers) and downstream (to buyers), although the effect is greater for the former (Havranek and Iršová, 2011). A 10% increase in foreign presence through FDI is associated with a 9 percent increase in the productivity of domestic suppliers.

Figure 2. Total Factor Productivity (Manufacturing Sector)
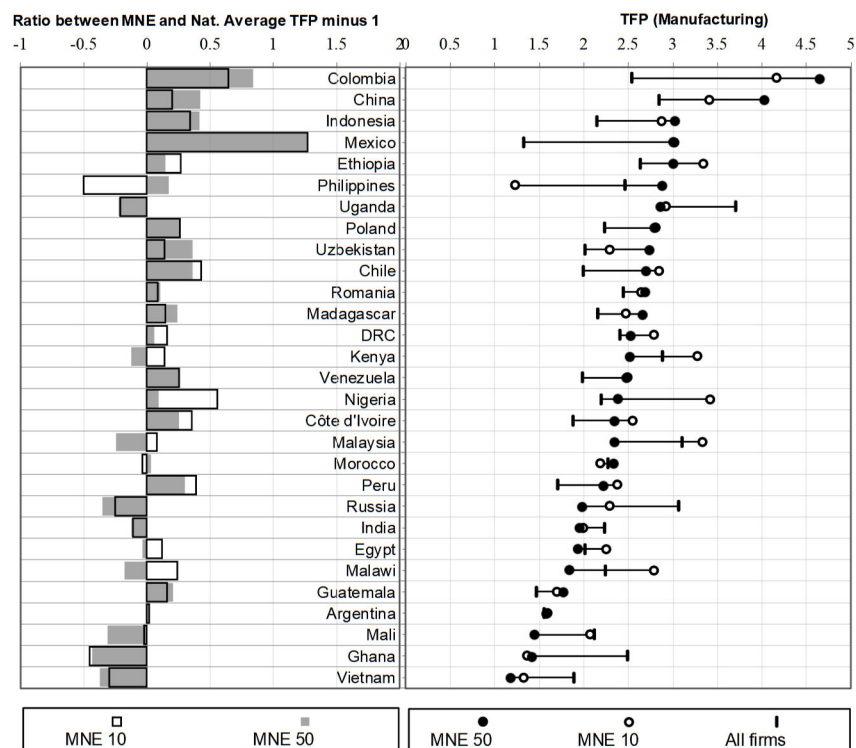
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries in the sample sorted by absolute performance of MNE 50. *Note:* TFP Estimates for Argentina and Peru are provisionary pending confirmation.

While there is clear evidence that FDI can have a positive impact on the domestic productivity of host countries, this depends on certain 'mediating factors' such as the productivity potential of foreign investors, the absorptive capacity of host firms, and host economy institutional frameworks, inspired by the empirical model developed by Farole and Winkler (2014). All three affect the extent and direction of FDI effects on domestic firm and host economy productivity.

Skills

FDI tends to flow increasingly into higher-skilled activities[2] over lower-skilled activities. In the manufacturing sector, the global inflow of investment to higher-skilled activities from 2009 to 2011 was nearly 10 times larger per year than that of lower-skilled activities. Moreover, the skill bias of FDI seems to be accelerating over the years. The annual average between 1990 and 1992 was about five times larger, and between 2005 and 2007 about 14 times larger (Moran, Gorg and Seric, 2016).

Overall, while there exist stark differences in skill utilization across countries as revealed by the shares of skilled workers in the sample of Enterprise Surveys, the majority of foreign multinationals in most countries offer training in much greater numbers than domestic firms (see Fig. 3 and 4). In countries where services and high-tech manufacturing FDI take place, foreign multinationals rely much more on skilled workers for their activities. This would be the case of Poland, Indonesia or the Philippines, which have already significantly upgraded their industrial capabilities and expanded services FDI over the last decade. On the other hand, in Mexico, Ethiopia, Romania, or Vietnam, foreign multinationals employ significantly higher shares of unskilled employees in low-technology manufacturing, while in Nigeria and the Democratic Republic of Congo low skill intensity reflects concentration of foreign MNEs on natural resource sectors. All these are examples of markets where efficiency-seeking FDI or resource-seeking investment is taking place on a larger scale.

Training offers across firms also vary substantially across countries, although there seems to be a consistent premium in shares of foreign multinationals that offer it relative to their domestic competitors.

Whether these differences in skill utilization and transfer translate into substantial effects on the aggregate level of skills in the workforce depends not only on the volume of investment activity, but also on initial skills endowments. In fact, there may be a cyclical relationship between FDI types and skill endowments in the economy: certain skill endowments attract certain FDI types, and certain FDI types help develop certain skill endowments.

Evidence over a large number of years shows that FDI amplifies differences in initial skill endowments between countries: in those that are relatively well-endowed with skills, FDI enhances skill development by increasing enrollment in secondary and tertiary education relative to the sample average. However, in countries that are relatively poorly endowed with skills, FDI is more intensively directed towards low-skilled activities, creating a low-skill equilibrium or trap (Te Velde and Xenogiani, 2007).

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[2] In the manufacturing sector, lower-skilled activities are defined as: food, beverages and tobacco; textiles, clothing and leather; and wood and wood products. Higher-skilled activities are defined as publishing, printing and reproduction; coke, petroleum products and nuclear; chemicals and chemical products; rubber and plastic products; non-metallic mineral products; metals and metal products; electrical and electronic equipment; precision instruments; and motor vehicles and other transport (Moran, Gorg and Seric, 2016: 24).

Figure 3. Skilled Workforce (high and semi-skilled)
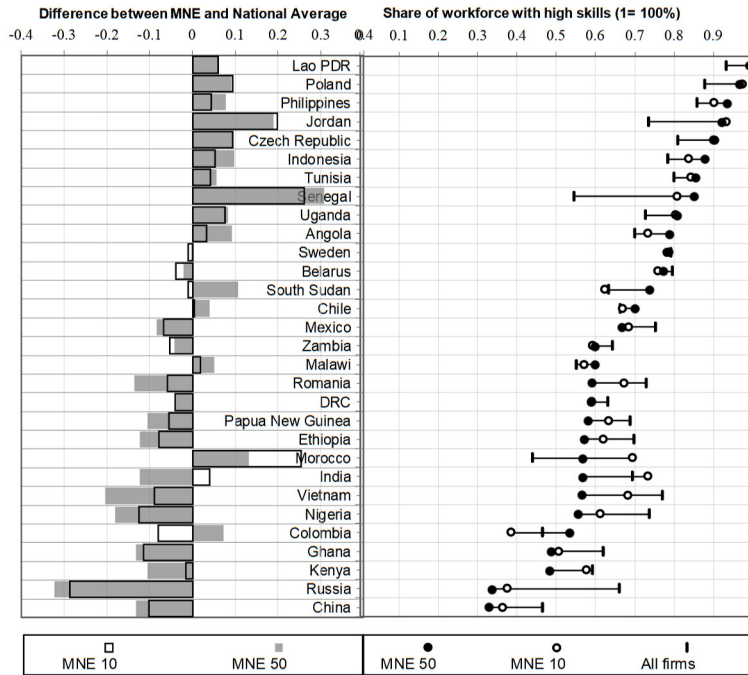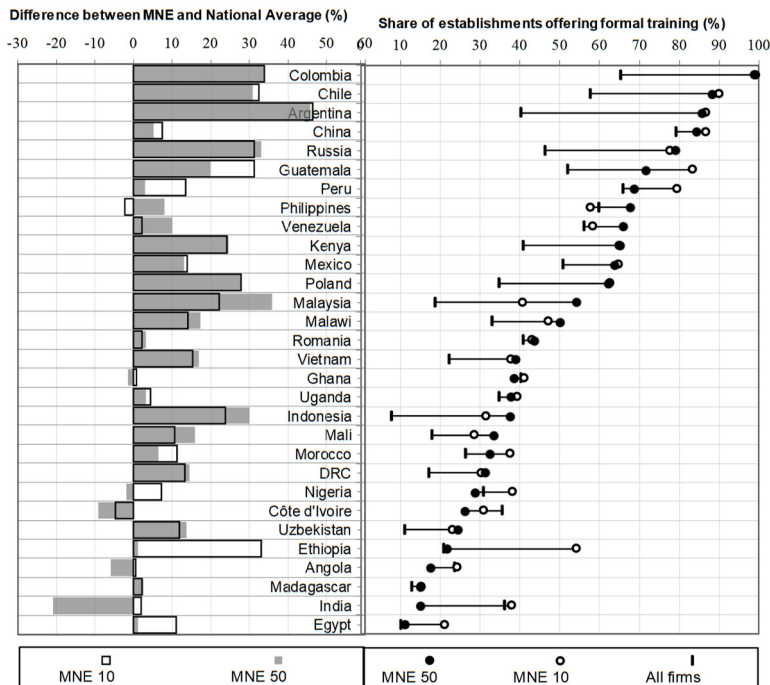

Figure 4. Skills Transfer (Training)

Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries in the sample sorted by absolute performance of MNE 50. Note: High skills refers to the aggregate of high and semi-skilled workers.

Trade performance

Modes of firm internationalization are highly correlated: FDI can not only lead to host economy export growth, but also to export sophistication and diversification. On the one hand, export-platform firms can use their advantages to produce with the sole purpose of shipping and selling back home or in third markets. On the other hand, foreign MNEs can generate knowledge and technology spillovers to local firms, especially suppliers in the production process, facilitating product upgrading and the exports of local firms (Harding and Javorcik, 2012).

Figure 5. Exports
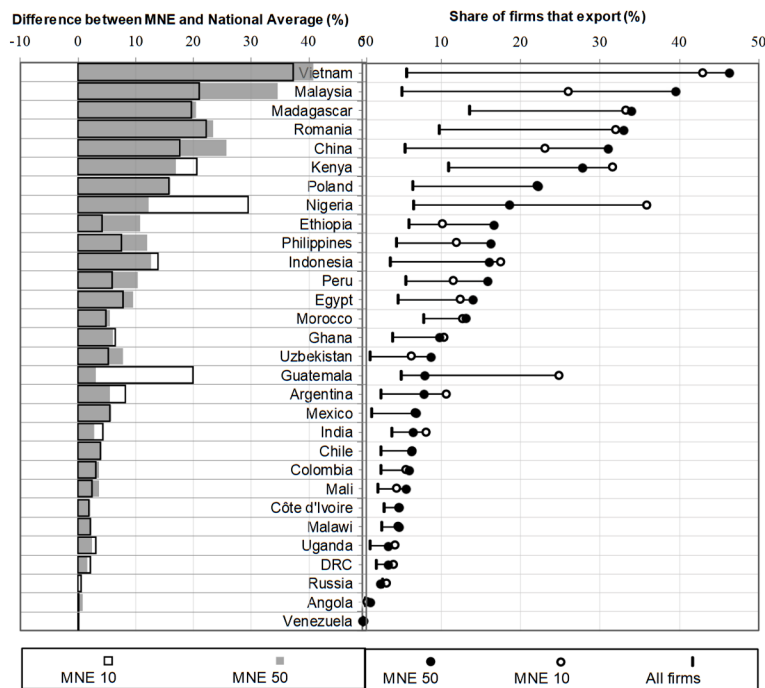
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries in the sample sorted by absolute performance of MNE 50.

The numbers of foreign multinationals that export confirm a consistent premium in most developing countries, including in markets where domestic firms are already highly export-oriented (see Fig. 5). Asian countries, such as China, Vietnam, and Malaysia, and emerging manufacturing hubs, such as Romania and Indonesia, that are highly integrated in GVCs lead the way with significantly higher shares of foreign multinationals that export relative to domestic firms.

What impact do these differences have on domestic firms? Export-oriented foreign multinationals help improve the sophistication and diversification of domestic firms in developing countries through supply and demand linkages with more advanced markets.

Looking specifically at China, the developing country example of using FDI for export upgrading *par excellence*, evidence has shown that a one standard deviation increase in foreign MNE presence is associated with a 6.3 percent increase in transaction unit values and a 1.3 percent increase in exports (Chen and Swenson, 2014). For high-income economies there is often a smaller technology gap to close, and so the presence of foreign MNEs has a smaller effect on the sophistication of domestic production (Harding and Javorcik, 2012).

Innovation input

The strong association of foreign investment with productivity improvements suggests a direct link with innovation – both by the foreign multinational firm and its domestic competitors and suppliers. Channels of such effects could take place through adaptation of foreign multinational firm practice to local context and exposure of domestic firms to foreign production processes and practices.

Yet, empirical work on the relationship between FDI and host economy innovation, whether measured by input or output (R&D intensity or patents), is scarce. Most of the existing literature on China's experience has found a positive relationship between FDI and domestic firm innovation. Looking at Chinese provincial-level data from 1995 to 2000, evidence shows positive effects of FDI on the number of domestic patents across three different kinds of patents (Cheung and Lin, 2004; Xian and Yan, 2005), though these effects are strongest for minor rather than major innovations. Separate evidence, from Mexico, finds that the entry of a foreign multinational retailer caused market share reallocations, exit patterns, and adjustments in innovative effort that increased both productivity and the rate of innovation (Iacovone et al., 2009).

The Enterprise Surveys confirm that the innovation input intensity of foreign multinationals is higher than that of domestic firms in most countries, and even more often in countries highly integrated in global value chains with significant upgrading taking place over the last years (see Fig. 6). Innovation intensity is also associated with the size of foreign multinationals, and by extension the size of the markets they operate in across a wide range of sectors. For example, foreign multinationals operating in Latin America also report high rates of innovation input despite the lower focus on high technology manufacturing.

The fact that the propensity of firms to invest in innovation appears to be also correlated with capital accumulation confirms the association with scale as part of the strategy for firms' expansion (see Fig. 7 and Annex Table 1). Countries where foreign multinationals acquire fixed assets intensively are generally large emerging markets, such as China and India where investment takes place in large ventures across a number of sectors.

Figure 6. Investment in Innovation

Difference between MNE and National Average (%)

Share of firms with positive spending on R&D (%)

MNE 10 □   MNE 50 ▪   MNE 50 ●   MNE 10 ○   All firms |

Figure 7. Investment in Physical Capital

Difference between MNE and National Average (%)

Share of firms acquiring fixed assets (%)

MNE 10 □   MNE 50 ▪   MNE 50 ●   MNE 10 ○   All firms |
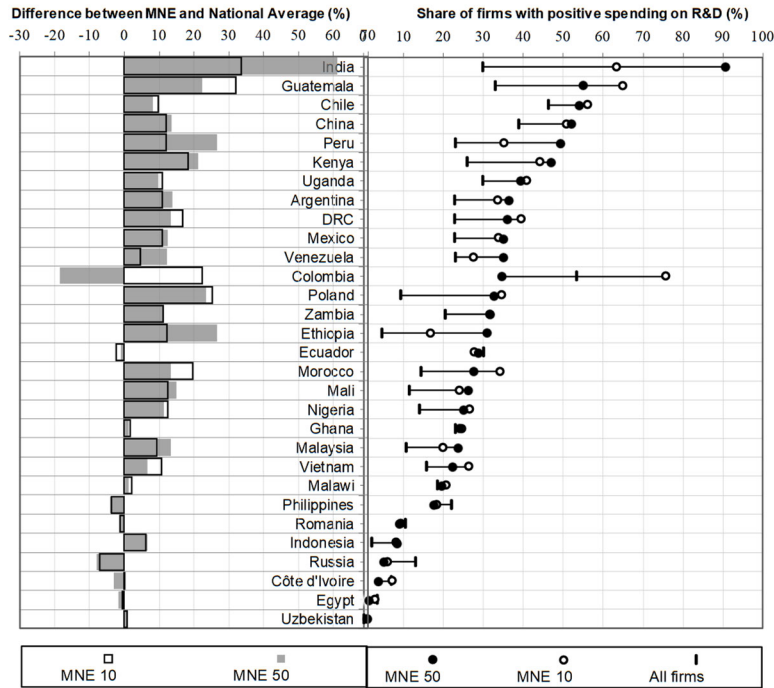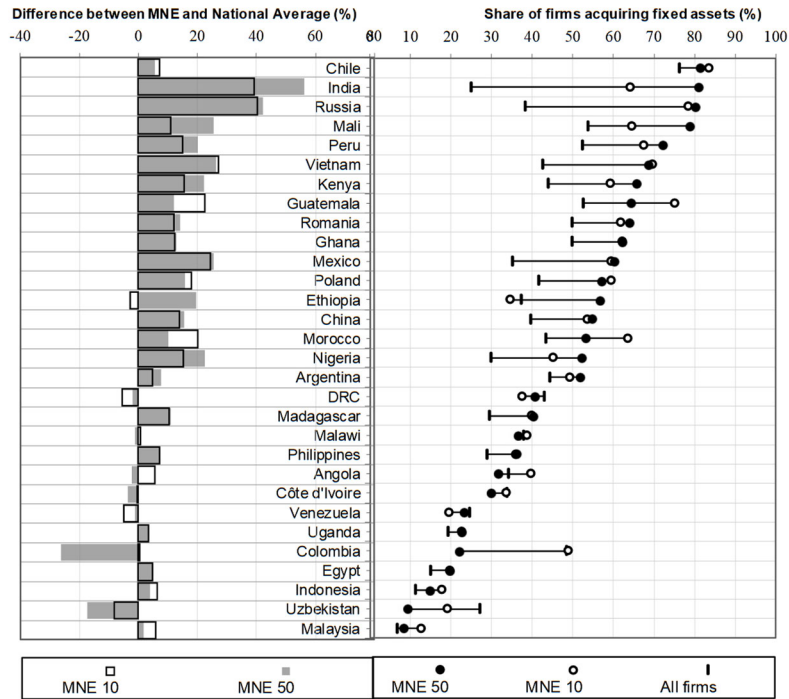
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries

3.3. Inclusiveness proxies: Jobs, income, linkages, gender, and geographic spread

Inclusive investment is associated with foreign multinational activity that aims – by structure or purpose – to maximize benefits to the local economy and people. Whether it be providing jobs for the local workforce or opening up activities to local firms, inclusive investment is a fundamental element of what developing countries need to grow sustainably. How inclusive foreign multinationals are in their activities depends on a combination of four factors: what they do, how they do it, how much of it grows in the local economy, and what the local conditions are.

In the following, we examine the first two aspects: structural and behavioral differences of foreign multinational activity for which data are scarce in developing countries. In particular, we present indicators on job creation, geographical spread, gender empowerment, and linkages with domestic suppliers. The actual impact of foreign multinationals remains dependent on the volume of investment and local conditions, aspects about which we already know a fair amount.

Job creation and wages

Foreign direct investment generates employment in two ways. First, foreign-owned firms are generally larger than domestic firms and have the capacity to employ more workers (Hijzen et al., 2013). Greenfield investments tend therefore to create more jobs than any domestic new ventures. Second, employment can increase through growth of existing ventures when a foreign takeover takes place, although the evidence on the direction of change in employment in that case is not clear cut. Most of the existing evidence suggests that firm-level employment levels remain unchanged or increase following foreign acquisition.[3] Variation in the impact of foreign investment on host employment could depend on the source country and its level of development: South-South FDI appears to generate more jobs than North-South FDI (Coniglio et al., 2015). Drilling down to specific countries and regions within South-South FDI, FDI from China seems to generate the largest employment increase, followed by FDI from South African firms and from the MENA region. Importantly, these differences are not driven by sectoral specialization of firms – FDI from other developing countries seems to target blue-collar, relatively less-skilled jobs, and generate relatively more of such employment.

The World Bank Enterprise Surveys confirm that growth in full-time employment in foreign multinationals occurs at a larger scale as a whole (see Fig. 8), yet not necessarily more frequently than employment contraction in several developing countries. As differences

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[3]See, for example, Girma (2005) for the United Kingdom; Bandick and Karpaty (2007) for Sweden; Balsvik and Haller (2010) for Norway.

observed on aggregate with domestic firms do not appear to be substantial, job creation also appears to be associated with seasonal dynamics; that is, business cycles and varying global macro conditions specific to the time period of the surveys.

The debate, however, tends to focus not just on any job creation, but on "good" jobs associated with high wages, labor market security, and quality of the working environment. And while there is no strong evidence that FDI also improves non-wage working conditions (OECD, 2008), there is evidence that foreign-owned firms pay higher average wages --10 to 70 percent higher, according to estimates.[4] This finding is corroborated across countries, development levels, sectors, skill level and over time, with developing countries enjoying much larger premia than developed countries.

Several factors justify higher wages by foreign multinationals, all related one way or another to productivity advantages. Firms acquired or established through FDI may be more productive than other domestic firms, thus earning higher profits and paying higher wages. Second, foreign affiliates may pay more because their parent firms are relatively more productive (having had to overcome the liability of foreignness to undertake FDI), and thus have higher profits and can pay higher wages. Third, foreign firms might try to prevent technological spillovers through labor turnover by paying higher wages. Fourth, the FDI wage premium may compensate for higher labor demand volatility in foreign plants or for a higher foreign plant closure rate. Fifth, non-market forces, such as equity considerations, could also play a role (Bernard and Sjöholm, 2003; Egger and Kreickmeier, 2013; Fabri et al., 2003; Fosfuri et al., 2001; Heyman et al., 2007; Javorcik, 2014; Tomohara and Takii, 2011).

The World Bank Enterprise Surveys confirm the existence of substantial aggregate wage premia in the majority of developing countries (see Fig. 9). The levels of premia seem to be associated with intensity of skill use and existing wage gaps, ranging from high levels in countries where unskilled labor is more intensively employed in foreign multinationals to lower levels where skilled labor is abundant. A concentration of foreign MNEs in activities with higher returns or skill intensity could well explain aggregate differences between multinational and domestic firms; i.e., differences within sectors might be much less pronounced. The fact that average wages hide variations across skill remuneration in developing countries does not invalidate the findings of the literature; it rather shows that foreign multinationals' wage advantages do not accrue automatically.

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[4] Heymanet et al. (2007) draw from the following studies in estimating this range: Aitken et al. (1996), Bandick (2004), Conyon et al. (2002), Doms and Jensen (1998), Driffield and Girma (2001), Girma et al. (2001), Griffith (1999), Görg et al. (2002), Haddad and Harrison (1993), Lipsey (1994), Lipsey and Sjöholm (2004), and Sjöholm and Lipsey (2006).

Figure 8. Employment Expansion

Difference between MNE and National Average
-0.6 -0.5 -0.4 -0.3 -0.2 -0.1 0 0.1 0.2 0.3 0.4 0.5 0.6

Employment Expansion, 3 years (1=100%)
-0.6 -0.4 -0.2 0 0.2 0.4 0.6 0.8 1 1.2 1.4

Angola, Madagascar, Mali, India, Ghana, Uganda, Côte d'Ivoire, DRC, Nigeria, Chile, Colombia, Russia, Vietnam, Morocco, China, Peru, Indonesia, Philippines, Ecuador, Senegal, Mexico, Poland, Ethiopia, Egypt, Romania, Argentina, Malawi, Zambia, Kenya, Zimbabwe

MNE 10 | MNE 50 | MNE 50 | MNE 10 | All firms

Figure 9. Average Wage

Ratio between MNE and Nat. Average minus 1
-1.5 -1 -0.5 0 0.5 1 1.5 2 2.5

Average Real Wage (USD 2009)
5000 10000 15000 20000 25000 30000

Argentina, Nigeria, Chile, Philippines, Colombia, Romania, Côte d'Ivoire, Mexico, Poland, Peru, Mali, India, Morocco, China, Ghana, Kenya, Angola, Uzbekistan, Guatemala, Egypt, Russia, Indonesia, Ethiopia, DRC, Vietnam, Madagascar, Uganda, Malawi, Malaysia

MNE 10 | MNE 50 | MNE 50 | MNE 10 | All firms
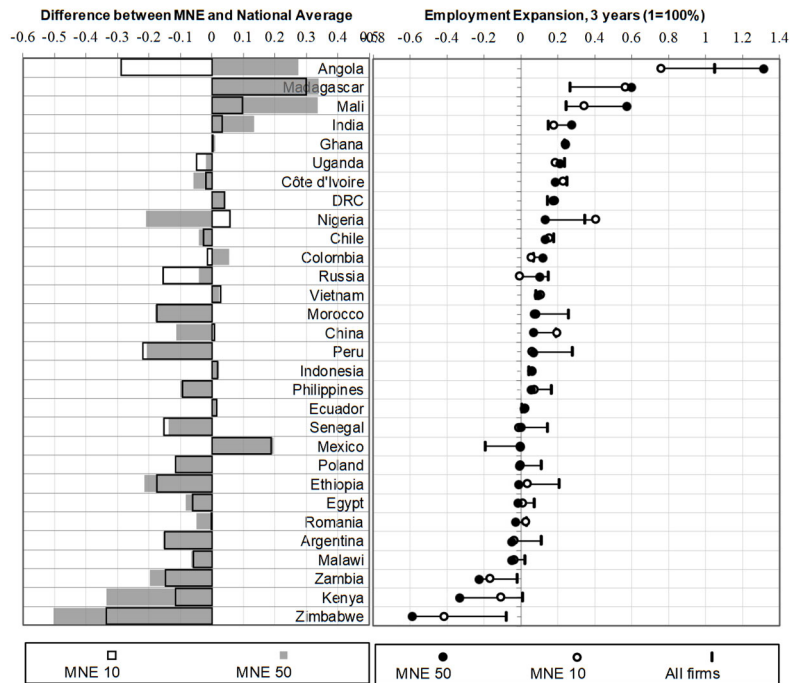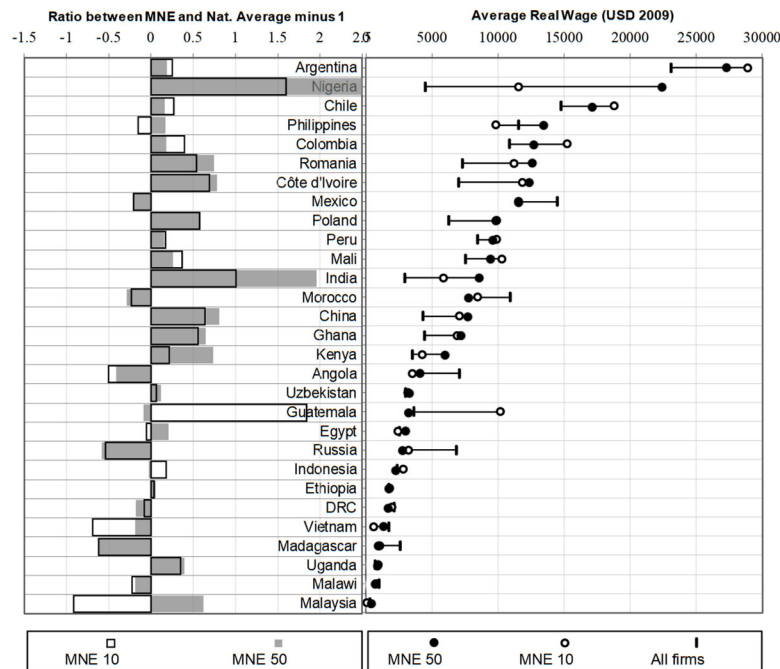
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries in the sample sorted by absolute performance of MNE 50. Note: Venezuela is excluded from the wage sample because of outlying values subject to significant price changes since the time of the survey.

Lastly, on the question of how these wage differences spill over to domestic firms, the evidence is mixed. Foreign investment may induce wage increases in domestic firms by shifting up the labor demand curve, thereby increasing equilibrium wages (a so-called 'reference wage effect') or 'wage spillovers', which can operate through labor mobility and bargaining (Tomohara and Takii, 2011). As an example, studies have found that a 10% increase in the share of former foreign MNE workers in domestic firms increases an incumbent worker's wage in domestic firms by approximately 0.6% (Poole, 2013). Negative effects have also been identified in the literature; for example, to wages paid by domestically owned enterprises. The possible reason for negative wage spillovers is that foreign firms 'steal' the best workers, i.e., high wage workers from the local firms (so-called "labor-market crowding out"); moreover, the competition between local and foreign firms in the product market decreases the profitability of local firms which, in turn, may lead to wage reductions in these firms (so-called "product-market crowding out") (Pittiglio et al., 2014).

Geographical Diversification

Marked regional differences in the distribution of foreign investment are a fact in most developing countries and have motivated a substantial stream of literature on the choice of FDI location within countries. Access to customers as well as suppliers of intermediate inputs (Amiti and Javorcki, 2005); institutions and risk appetite due to cultural differences among investors (Du, Tao and Lu, 2012); agglomeration effects, follow-the-leader strategies (Deichmann, Karidis and Sayek, 2003; Hilber and Voicu, 2010) as well as the availability of qualified labor and good infrastructure have all been identified as strong determinants of MNE spatial concentration or diversification in various contexts.

The Enterprise Surveys confirm that foreign multinational activity tends to be less widespread than domestic activity, either concentrated in industrial or economic hubs within the tertiary sector of host countries (see Fig. 10 using the share of the top subnational region in MNE output and aggregate economy output as a proxy for concentration). The concentration can be in stark contrast with domestic activity such as in the cases of Angola, Russia, India, and China, or in line with domestic economic activity, such as is the case in smaller African countries, Mexico or the Arab Republic of Egypt.

The positive relationship between FDI agglomeration and local economic activity leads to a multiplier effect that can benefit countries in terms of competitiveness: the more the latter grows, the greater the likelihood of that region attracting further FDI inflows and vice-versa. This partly explains why large cities such as those in China are foreign investment hubs, continually attracting FDI (Huang and Wei, 2011). The effect of such agglomeration on inclusiveness can be ambiguous to the extent that supply linkages extend to more remote areas and activities, and redistribution policies are in place.

Figure 10. Geographical Concentration
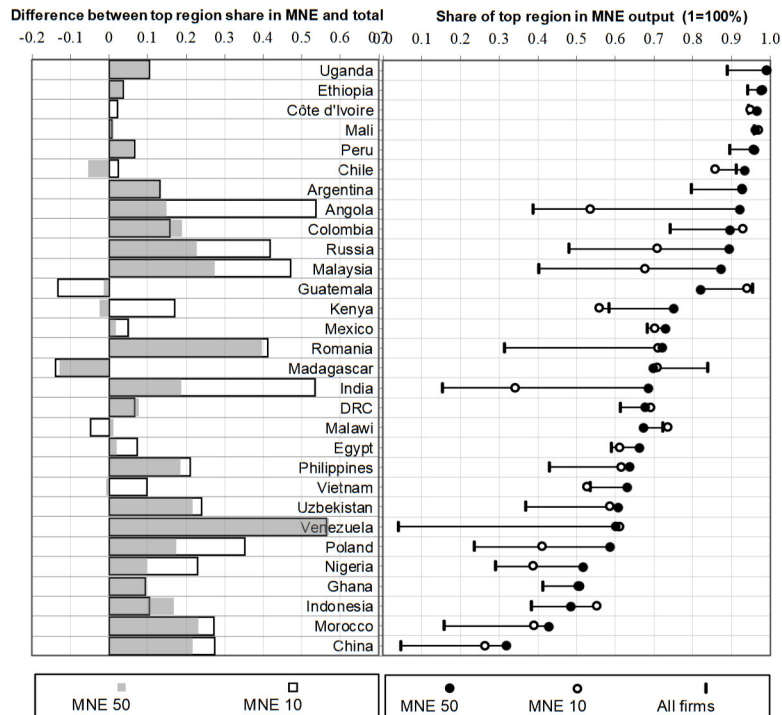
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries

Gender

The relationship between foreign multinational activity and gender empowerment has not been discussed extensively in the literature, especially compared to the amount of evidence in other areas. Existing evidence points to a positive impact on both, although this varies depending on FDI type, skill level of women, development level in the host economy, and over time.

In particular, the literature has identified two effects that are associated with different stages of industrial development. In many developing countries, women are relatively unskilled compared to men and are relatively overrepresented in the informal sector, which is poorly remunerated. More formal employment opportunities brought by MNEs thus present a significant step up in pay for women compared to informal employment. Empirical studies

from three different parts of the world, China, Honduras, and Madagascar, provide strong supportive evidence.[5]

However, as economies upgrade their industrial capabilities, women may be left out of higher quality jobs (described in the literature as a "technology effect"). In developing countries, women may be disproportionately assigned to low-value added, low-tech, and low-training tasks in foreign and exporting firms, a phenomenon described as 'within-firm segregation of tasks' (Chen et al., 2012). This seems to indicate an 'up-down' dynamic to the effect of FDI on women's employment and wages in developing countries. It initially benefits women as they enter the formal labor market for the first time, but as foreign firms require greater skilled labor, women's employment and wages may decline relative to men's, or even reverse, following either declining returns of their employers' activities or greater segregation within firms. China provides some evidence of this dynamic dimension (Braunstein and Brenner, 2007; Chen et al., 2012).

Figure 11. Gender Empowerment

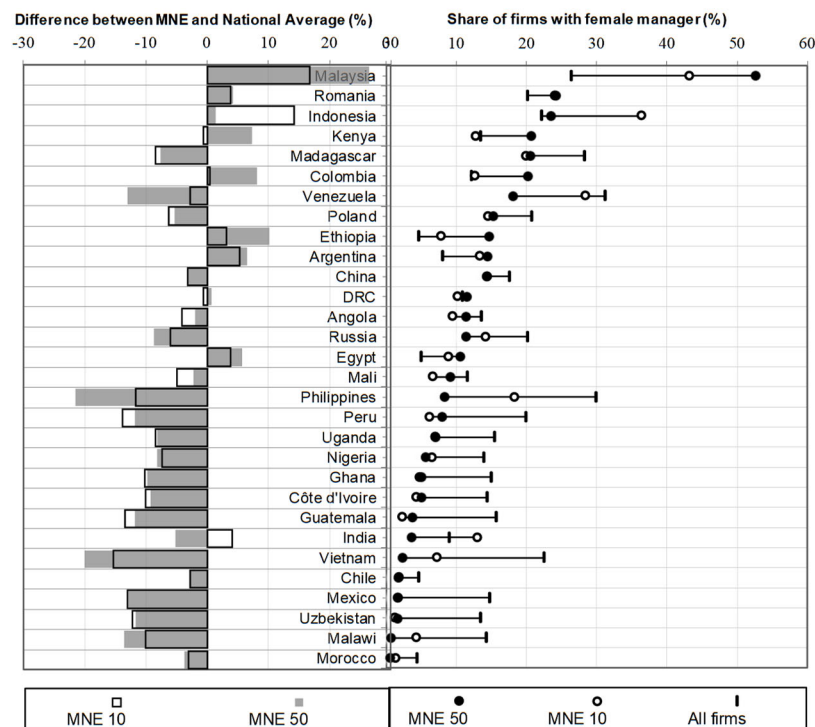Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries

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[5] In the 1990s, these women were able to earn more in one month than a man in their home village could make in an entire year (Davin, 2001). A later study of Chinese gender composition differentials in 2004 finds that female employment is 13% higher in foreign and exporting firms than in non-exporting firms, significant at the 1% level (Chen et al., 2012).

A snapshot of differences in the ratio of woman-owned or managed foreign multinationals relative to domestic firms highlights the lower numbers of women in managerial positions (see Fig. 12). Firm scale, skills mismatches, and the nationality of managers often expatriated could explain these patterns. Although in countries where high positive differences are observed local conditions seem to be an important driver: Malaysia and Indonesia are good examples of high differences in female managerial responsibilities.

Overall, operating with global labor standards in countries where women do not have the same opportunities stands to make a difference for the local populations. Yet while the direction of this effect on gender inequality is undisputed, its magnitude would inevitably vary (Shu, Zhu and Zhang, 2007; Aguayo-Tellez, 2012; Braunstein and Brenner, 2007; Glick and Roubaud, 2006; Siegmann, 2007).

Domestic supply linkages

The strength of linkages between foreign and domestic firms is often shaped by the motivation for foreign investment. In particular, market-seeking FDI is more likely to result in linkages with local firms than efficiency-seeking, natural resource-seeking, or strategic asset-seeking FDI (Farole and Winkler, 2014; Amendolagine et al., 2013; Sánchez-Martín, de Pinies and Antoine, 2015). More generally, what multinationals do – i.e., their industrial activities – largely explains the extent of linkages with local suppliers. The food, wood and furniture, automobile and auto parts industries are structurally more dependent on foreign inputs (Sánchez-Martín, de Pinies and Antoine, 2015). By contrast, in the apparel industry, the presence of rules-of-origin requirements limits their development (Farole and Winkler, 2014). Services may be the most promising sector for local firms to develop and benefit from linkages with FDI activities due to the prevalence of market-seeking motivation and their high labor intensity.

The Enterprise Surveys confirm that domestic linkages of foreign multinationals tend on average to be less strong than those of domestic firms, with only very few exceptions (see Fig. 12). Part of this variation could be due to industrial activities where multinational firms are concentrated. Yet, in countries with large market size, such as China, India, Nigeria, and Indonesia, both multinationals and domestic firms exhibit strong local sourcing. This is due to the availability of local inputs for a variety of activities and also because of the intensity of market-seeking FDI in addition to other types. A number of countries in South East Asia upgrading their GVC participation exhibit very high foreign input use, as well as Vietnam and Poland.

Implications of these differences for domestic economy are vast, as this is one of the main channels for productivity spillovers between foreign firms and their domestic suppliers (Javorcik, 2004).

Figure 12. Domestic Linkages
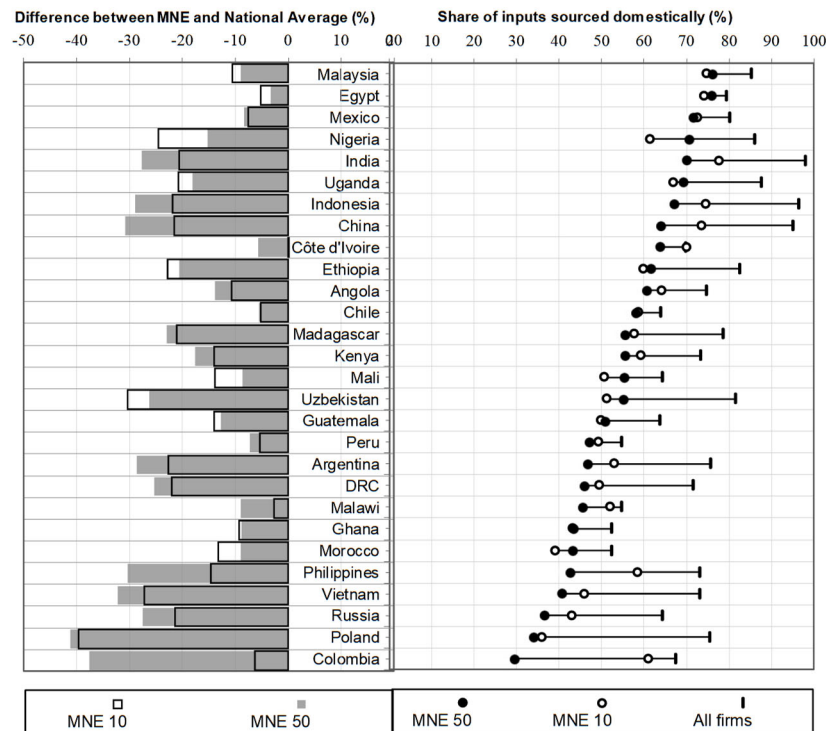
Source: Calculations on World Bank Enterprise Surveys, 2010-2018; 30 most populous developing countries

3.4. Towards a synthesis of patterns across countries

A critical question that arises at the conclusion of this analysis is whether the premia of foreign multinationals over domestic firms are more pronounced in one country, region, or income group relative to another. To answer this question, it is important to compare wedges between domestic and foreign firms in different contexts.

Standardized values, or z-scores, using the distribution of majority-owned foreign MNE premia across countries allow us to make exactly this type of comparison of a country's relative position across indicators. The scores are dimensionless, as they are obtained by subtracting the population mean and dividing the difference by the population standard deviation, where population refers to the 63 countries included in the sample. They essentially describe the positioning of the country in the sample distribution of observations in every characteristic.

An illustration of these scores for six of the most populous developing countries in the world shows significant variation in the positions of each country along the distribution of characteristic differences, reflecting wide variances in outcomes across countries (see Fig.13). In Russia, for example, foreign MNEs are not significantly different in terms of inclusiveness; foreign MNE premia stand out in terms of capital accumulation and skills' transfer.

Figure 13. How do foreign MNE premia compare across countries?
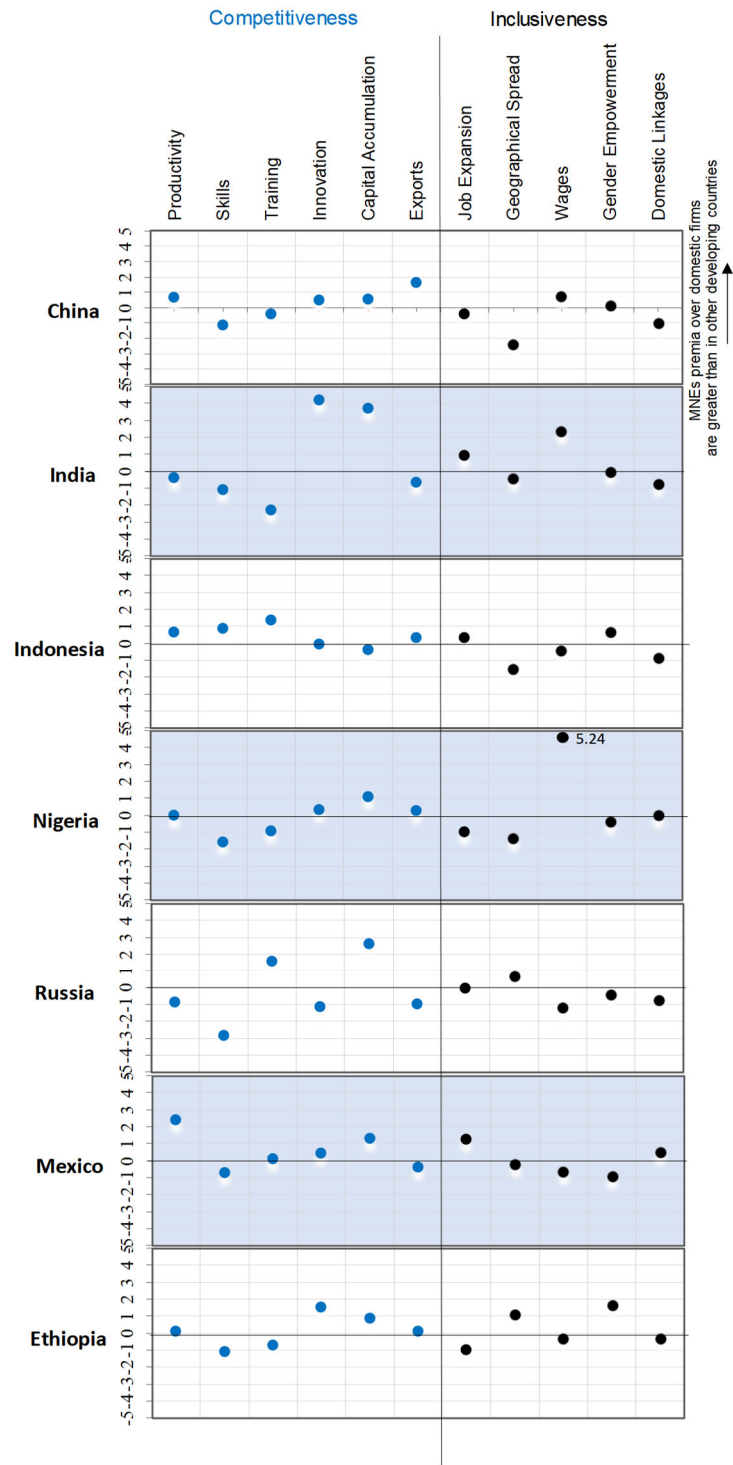
Source: Calculations on World Bank Enterprise Surveys, 2010-2018

Overall, at the levels of countries, there appears to be no striking trade-off between competitiveness and inclusiveness: foreign multinationals which stand out in terms of competitiveness do not systematically appear to underperform in terms of inclusiveness, which is an important finding (see Correlation Matrix in Annex Table 1). It should be recalled, however, that the indicators capture MNE premia—the wedge between foreign-owned and domestically-owned firms in the country—and this should therefore be interpreted in context-specific terms, relative to the performance of domestic firms. The MNE premia will be lower in a country in which domestically-owned firms already perform well in terms of the inclusiveness and competitiveness dimensions.

Competitiveness in terms of innovation and capital accumulation stands out as the strength of foreign MNEs operating in India; export-orientation is a distinct feature of foreign MNEs in China; and the productivity of foreign MNEs in Mexico is a distinct feature with respect to MNEs in the rest of the world.

Yet systematic differences between domestic and foreign firms persist across specific regions and income groups (see Annex Table 2 for averages across income groups and regions). Relative to other regions, foreign MNEs established in Latin America stand out in productivity and skills transfer while the opposite pattern is observed in Sub-Saharan Africa – foreign multinationals there stand out in terms of job expansion and wages. Foreign multinationals in Southeast Asia stand out in terms of export orientation. The mix is highly specific to the type of multinationals each region attracts and the prevalent starting conditions. In the Middle East and North Africa, for example, multinationals differ significantly in terms of export propensity and geographical diversification due to the concentration of FDI in natural resource sectors, but they also promote more than anywhere else gender empowerment due to prevalent societal norms.

In general, differences in some key areas driving competitiveness such as productivity, innovation, and skills transfer appear to be increasing with income, while premia in all other areas would reach a maximum in lower-middle or low-income markets, highlighting the relevance of foreign multinationals for socio-economic progress in these contexts.

4. Concluding remarks

The indicators presented in this paper represent a first step towards internationally comparable, outcomes-based, firm-level metrics on outcomes of foreign multinationals that contribute to development. Their main advantage over existing indicators lies in the scope and country coverage, which allows us to illustrate the heterogeneity of outcomes in a variety of areas– from supply linkages and innovation to gender empowerment – in both absolute and relative terms. This allows us to ascertain what foreign multinationals bring to the domestic economy in terms of technology, managerial practices, and other production assets. The net aggregate effect of international business in every country would be the result of these firm-

level differences, as well as volumes of respective activities, spillovers to domestic firms and local starting conditions. Policy inferences from these indicators must be treated with caution. The exercise does not aim at distinguishing between 'good', 'bad', 'better' or 'worse' foreign investment in any universal way, but rather to enhance understanding around the complementarity of multinational firms in specific contexts and to support the alignment of their outcomes with national development objectives, however diverse and evolving the latter may be. The "quality" of FDI, if there is such a notion, is ultimately highly idiosyncratic and to a large extent independent from capital. The same type of investment will produce different outcomes in different contexts that are more or less desired from a societal, economic and strategic point of view. The policy and strategy package needs to find ways to unlock these opportunities from *all* incoming foreign investment, by addressing the market and government failures that may be preventing multinational firms from delivering expected gains.

Future work can build on several directions, namely, to validate and improve the information presented herein, and to extend the findings to other relevant domains that are not covered in the analysis. In terms of validation, benchmarking the sample of multinational firms against a wide array of other sources, business census and registers as well as industrial surveys conducted in developing countries, would be necessary to validate the sample. In addition, part of the variation in development outcomes of foreign MNEs is also explained indirectly through other prevalent characteristics of these firms, such as production scale – i.e., the fact that they are larger than domestic firms – or their sectoral concentration, which may not be explicitly controlled for due to data limitations. Additional analysis to validate a number of hypotheses on drivers of development outcomes presented in this report would be warranted. Assessing the extent of *seasonal* and *sectoral* influence, which will be possible in future iterations of World Bank Enterprise Surveys, is also essential in order to remove potential biases, improve the quality of information, and unbundle outcomes to what can and cannot be influenced by policy.

Future work can build on several directions to address certain gaps as well. First of all, this study draws on a large and diversified sample of developing economies, with only a few OECD countries represented in the sample. It would be worthwhile to extend these indicators to advanced OECD countries, where premia may well differ considerably, particularly as greater FDI is received from emerging economies with different motivations. In addition to the geographic scope, replicating these patterns over time would allow countries to monitor progress, and assess the impact of specific policy interventions on outcomes. Second, the scope of this work only addresses inward FDI. Future work could focus on differences between domestic multinationals and other domestic firms, highlighting development aspects of outward FDI. Finally, the outcomes assessed relate to economic growth and socio-economic inclusiveness, which are key pillars of development strategies. An extension to environmental outcomes would align the set of indicators more closely to the SDGs and add value to the existing framework.

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Annex I: Data – Standardized scores on foreign MNE premia

Country	Geographical Concentration	Training	Gender Empowerment	Domestic Linkages	Innovation (R&D)	Capital Accumulation	Exporting	Job Expansion	Skills	Wages	Total Factor Productivity
Angola	0.819	-1.242	0.295	0.111				1.661	0.803	-0.939	-2.188
Argentina	0.848	2.432	1.226	-0.842	0.496	-0.094	-0.420	-0.688	-0.007	-0.114	-0.140
Belarus	1.129	-1.253	-0.672	-0.629	-0.687	-0.613	0.167	0.376	-0.198	-0.540	0.183
Botswana	1.102	-0.577	0.205	1.044				0.502	-0.101	-0.476	-0.280
Cambodia	1.200	-0.196	0.721	-2.940	-0.011	0.686	0.269	0.036	-0.144	-0.628	-0.564
CAR	1.212							-0.169			
Chile	0.887	1.378	0.210	0.648	0.051	-0.261	-0.572	-0.075	0.344	-0.146	0.540
China	-2.415	-0.451	0.166	-0.979	0.472	0.513	1.589	-0.460	-1.180	0.747	0.669
Colombia	0.688	1.590	1.409	-1.415	-2.026	-2.706	-0.610	0.465	0.631	-0.129	1.504
Costa Rica	-0.047	0.109	0.922	0.336	1.558	-0.485	0.238	0.008	0.314	0.180	-0.045
Côte d'Ivoire	1.051	-1.477	-0.505	0.634	-0.812	-0.964	-0.769	-0.160	-0.007	0.707	0.324
Croatia	-1.261	1.090	-1.411	1.977	1.296	0.402	-0.037	-0.833	-0.492	-0.287	0.022
Czech Republic	0.468	1.231	-0.200	-0.548	-1.043	-0.631	-0.791	0.033	0.829	-0.043	-1.457
DRC	-0.494	0.201	0.598	-0.630	0.465	-0.833	-0.814	0.372	-0.358	-0.615	-0.069
Ecuador	0.435	-1.643	0.138	0.486	-0.660	-0.686	-0.525	0.255	-0.007	0.140	-0.571
Egypt	-0.575	-0.745	1.138	0.788	-0.719	-0.293	-0.017	-0.295	-0.007	-0.084	-0.250
El Salvador	-0.264	1.686	0.466	-1.159	-0.475	2.168	-0.487	0.700	-0.007	-0.087	-1.111
Estonia	0.185	1.164	0.379	0.083	-0.067	0.025	0.248	0.275	-0.077	-0.028	1.015
Ethiopia	1.115	-0.750	1.634	-0.324	1.490	0.840	0.103	-1.016	-1.100	-0.300	0.110
Ghana	-1.415	-0.927	-0.570	0.437	-0.481	0.307	-0.367	0.214	-1.169	0.517	-1.045
Guatemala	0.278	0.592	-0.793	0.178	1.155	0.249	-0.667	1.981	1.416	-0.499	0.239
Guyana	1.234	-0.215	0.013	2.043	-1.191	-0.884	-0.137	-1.227		-0.465	0.427
Honduras	-1.338	1.577	-1.845	1.026	0.525	0.459	0.477	1.277	-0.007	0.280	2.493
India	-0.446	-2.306	-0.062	-0.780	4.189	3.680	-0.701	0.895	-1.099	2.330	-0.423
Indonesia	-1.523	1.318	0.671	-0.862	-0.062	-0.384	0.282	0.286	0.859	-0.405	0.653
Jamaica	0.671	-1.295	-1.306	-0.286	-1.073	-0.824	-0.894	-0.716	1.653	-0.524	0.403
Jordan	-1.489	-0.949	0.251	0.445	0.383	-1.104	0.050	0.027	1.661	0.025	0.460
Kenya	-0.101	0.927	1.319	-0.129	1.067	1.034	0.723	-1.675	-0.944	0.640	-0.434
Kyrgyz Republic	0.803	-0.311	-0.612	-0.286	-0.710	-0.701	-0.336	0.363	0.616	-0.594	-0.825
Lao PDR	-0.832	-0.408	-2.267	0.113	-0.726	0.341	-0.192	0.124	0.532	-0.655	1.439
Latvia	-0.451	0.539	-1.421	0.255	-0.315	0.937	2.596	-0.219	-2.499	-0.177	-2.205
Liberia	1.065	-0.820	1.309	-0.111	-1.262	-0.269	-0.724	-0.179	-0.007	-0.523	-0.268
Madagascar	-0.383	-0.649	-0.324	-0.470				2.014		-1.233	0.298
Malawi	-0.516	0.408	-0.975	0.426	-0.483	-0.770	-0.747	-0.207	0.440	-0.632	-0.537
Malaysia	0.555	1.731	3.417	0.429	0.461	-0.545	2.478	-0.367	-0.094	0.490	-0.669
Mali	1.037	0.309	0.259	0.442	0.582	1.289	-0.611	1.997	-0.007	-0.009	-0.813
Mexico	-0.211	0.108	-0.905	0.470	0.399	1.289	-0.402	1.230	-0.740	-0.643	2.377
Morocco	-1.827	-0.374	0.099	0.421	0.463	0.102	-0.429	-0.822	1.153	-0.766	-0.115
Nicaragua	0.718	-1.000	-0.628	-0.104	-0.658	-0.629	-0.819	-0.287	-0.007	0.964	1.242
Nigeria	-1.346	-0.960	-0.389	0.022	0.305	1.069	0.245	-0.996	-1.598	5.246	-0.001
Panama	-0.530	0.751	0.909	1.379	2.352	0.073	-0.125	0.937	-0.503	-1.377	-2.188
Papua New Guinea	0.590	-0.317	0.520	0.620	-0.463	-0.760	-0.895	1.073	-0.945	-1.024	-0.382
Peru	1.024	-0.610	-0.785	0.531	1.499	0.871	0.063	-0.975	-0.007	-0.166	0.426
Philippines	-0.705	-0.250	-1.852	-0.947	-0.898	-0.099	0.218	-0.393	0.688	-0.139	0.171
Poland	-0.978	1.142	-0.077	-1.647	1.253	0.535	0.622	-0.473	0.795	0.428	0.340
Romania	-0.250	-0.602	0.970	-0.497	-0.675	0.419	1.362	-0.116	-1.206	0.652	0.026
Russia	0.675	1.535	-0.443	-0.763	-1.193	2.591	-0.994	-0.064	-2.861	-1.181	-0.884
Rwanda	1.234							2.784			
Senegal	0.908	0.678	-0.045	-0.977	-0.918	-0.272	-0.522	-0.598	2.718	1.304	-0.862
Slovak Republic	-1.382	0.587	0.492	-1.074	-0.260	-0.504	0.394	1.624	-0.661	1.576	1.238
Slovenia	0.341	-2.026	-1.441	0.863	0.359	0.944	0.106	0.306	-0.519	-0.294	1.853
Solomon Islands	1.234	-0.547	0.065	0.729	-0.445	-0.988	-0.733	-0.902	0.210	-0.169	-0.816
South Sudan	0.864	-0.427	0.655	0.478	-0.363	-0.338	-0.963	0.783	0.933	-0.339	-0.183
Sweden	-0.470	-0.512	0.412	0.898	0.665	-0.514	-0.353	-0.144	-0.036	-0.544	1.032
Togo	1.234	-1.125	-0.348	0.098	-0.897	0.014	2.111	-0.214	-0.007	-0.045	-0.139
Tunisia	-1.857	0.177	1.247	-0.641	-0.026	-0.243	2.851	-0.170	0.490	-0.529	-0.345
Uganda	1.195	-0.597	-0.393	-0.164	0.174	-0.408	-0.731	0.047	0.730	0.177	-0.631
Uruguay	0.906	0.928	0.013	2.318	-0.158	0.314	1.729	-2.288	-0.007	-0.794	2.136
Uzbekistan	-0.870	0.143	-0.775	-0.683	-0.502	-2.033	-0.195	-1.181	1.184	-0.208	0.548
Venezuela	-0.895	-0.104	-0.917	-2.474	0.380	-0.768	-0.970	-1.492	1.810	1.293	0.327
Vietnam	-0.737	0.374	-1.693	-1.067	-0.060	1.353	3.107	0.284	-1.807	-0.630	-0.933
Zambia	-0.681	0.437	-0.208	0.088	0.313	-0.236	-0.867	-0.926	-0.385	-0.607	0.230
Zimbabwe	-1.423	-0.029	0.516	2.221	-0.629	-0.418	-0.484	-2.598	-0.007	1.889	-1.349

Annex Table 1. Standardized Scores Correlation Matrix

	Geographical Concentration	Training	Gender Empowerment	Domestic Linkages	Innovation (R&D)	Capital Accumulation	Exporting	Job Expansion	Skills	Wages	Total Factor Productivity
Geographical Concentration	1										
Training	-0.106	1									
Gender Empowerment	0.1576	0.2204*	1								
Domestic Linkages	0.0695	-0.103	-0.047	1							
Innovation (R&D)	-0.2314*	-0.046	0.0965	0.0627	1						
Capital Accumulation	-0.092	-0.023	-0.158	-0.074	0.4998*	1					
Exporting	-0.2463*	0.1318	0.1011	-0.031	0.0572	0.1753	1				
Job Expansion	0.1122	-0.046	-0.059	-0.155	0.1195	0.1678	-0.125	1			
Skills	0.0817	0.0101	-0.013	-0.108	-0.149	-0.5603*	-0.3267*	-0.042	1		
Wages	-0.2609*	-0.162	0.034	-0.112	0.1586	0.1612	0.0143	-0.2492*	-0.098	1	
Total Factor Productivity	-0.11	0.0093	-0.2213*	0.0619	-0.03	-0.14	-0.034	-0.017	0.1262	0.0268	1

Source: Calculations on Standardized Scores dataset presented in Annex I.
Note: * indicates statistical significance at 1% level.

Annex Table 2. Average scores and standard errors by region and income level

	Income level			Region				
	Low	Lower Middle	Upper Middle	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	Sub-Saharan Africa
Total Factor Productivity	**-0.404**	**-0.106**	**0.287**	**-0.048**	**0.072**	**0.504**	**-0.063**	**-0.457**
	0.146	0.212	0.200	0.274	0.347	0.313	0.180	0.159
Skills	**0.333**	**-0.072**	**0.073**	**-0.209**	**-0.327**	**0.325**	**0.824**	**0.018**
	0.320	0.185	0.330	0.306	0.361	0.193	0.366	0.257
Training	**-0.255**	**-0.201**	**-0.127**	**0.139**	**0.278**	**0.393**	**-0.473**	**-0.401**
	0.179	0.212	0.260	0.278	0.320	0.294	0.247	0.175
Innovation	**-0.184**	**-0.009**	**-0.080**	**-0.192**	**-0.100**	**0.136**	**0.025**	**-0.137**
	0.268	0.239	0.278	0.161	0.240	0.288	0.270	0.217
Capital Accumulation	**-0.117**	**0.184**	**-0.179**	**0.013**	**0.036**	**-0.120**	**-0.384**	**0.063**
	0.214	0.269	0.317	0.255	0.335	0.273	0.255	0.193
Exports	**-0.338**	**0.065**	**0.050**	**0.680**	**0.119**	**-0.258**	**0.613**	**-0.257**
	0.287	0.235	0.263	0.467	0.263	0.167	0.753	0.223
Job Expansion	**0.232**	**-0.041**	**-0.036**	**-0.036**	**0.005**	**-0.056**	**-0.315**	**0.066**
	0.393	0.181	0.220	0.191	0.203	0.286	0.182	0.308
Wages	**-0.030**	**0.146**	**-0.068**	**-0.268**	**-0.158**	**-0.130**	**-0.338**	**0.316**
	0.271	0.293	0.158	0.191	0.194	0.161	0.186	0.365
Gender Empowerment	**0.262**	**-0.221**	**0.104**	**-0.028**	**-0.481**	**-0.117**	**0.684**	**0.143**
	0.235	0.219	0.294	0.582	0.205	0.238	0.296	0.180
Supply Linkages	**0.090**	**-0.209**	**-0.068**	**-0.545**	**-0.129**	**0.196**	**0.253**	**0.225**
	0.255	0.191	0.265	0.388	0.289	0.313	0.310	0.169
Geographical Diversification	**0.542**	**-0.368**	**0.155**	**-0.292**	**-0.151**	**0.275**	**-1.437**	**0.367**
	0.251	0.216	0.255	0.421	0.248	0.187	0.299	0.230

Source: Calculations on Standardized Scores dataset presented in Annex I.
Note: The bold entry indicates the mean below which standard errors are reported. Geographical Diversification is the negative score of Geographical Concentration.