

Foreign Direct Investment and Investment Promotion: An Analysis for Colombia to Support the Internationalization Mission

Yue Li and Yago Aranda Larrey*

Global Investment Climate Unit

World Bank Group

February 26, 2021

*The study was prepared as background work for the Colombia Internationalization Mission initiated by the Government of Colombia and as part of the Colombia Trade Engagement analytical project of the World Bank Group.

The preparation of this study is led by Yue Li and Yago Aranda Larrey of the Global Investment Climate unit of the World Bank Group. The team consists of Alvaro Raul Espitia Rueda, Ryan Chia Kuo, Monica Paganini, Mauricio Alejandro Pinzon Latorre, Alex Sanchiz Vicente, Ramprakash Sethuramasubbu and Xiao'ou Zhu.

The preparation of the work greatly benefited from guidance, comments and suggestions by the high-level committee and the technical committee of the Colombia Internationalization Mission, Esperanza Lasagabaster as the reviewer, Christine Zhenwei Qiang and Ivan Anton Nimac from the Global Investment Climate unit, and Nadia Rocha, Mariana Vijil, Paolo Dudine, Donato De Rosa and other members from the World Bank project team.

Key Messages:

As a growth driver for Colombia's economy, multinational firms' performance and impact vary considerably across sectors and across regions. Sector wise, in extractive industries, they are not as productive as domestic firms once capital intensity differences are accounted for, and can contribute to currency appreciation and loss of competitiveness of other sectors. In manufacturing, they outperform Colombian firms on all fronts; their entrance is followed by more job creation, larger efficiency gains and greater international trade at the industry-regional level. In manufacturing, they also generate positive spillovers to Colombian firms in the same industry and through forward linkages. However, the positive spillovers are mainly driven by investment in capital- and skill-intensive industries. Region wise, multinationals' impact also differs between the top FDI destinations and the laggard regions, with their investments in the latter generating more significant efficiency gains, both directly and through spillovers.

Even before the COVID-19 crisis, Colombia was facing three substantial challenges in attracting foreign investment to better leverage the contribution from multinationals. First, inward FDI flow has been on a plateau since the 2014 commodity price crisis, resulting in FDI stock standing for a meager 14 percent of GDP in Colombia, a share significantly smaller than in regional peers and aspirational comparators. Multinationals' investments in manufacturing declined by half from 2013 to 2018, driven by firm exits and slow growth of survival incumbents. Second, overall sectoral composition remains suboptimal and dominated by extractive industries—30 percent of inward flow in 2015-2018—despite a moderate diversification trend since 2015. Within manufacturing, investments in labor-intensive industries, mainly food and beverages, have been on the rise, implying smaller spillovers. And, the typical GVC industries, such as automobiles and electronics, stand for a small share, potentially limiting the country's GVC participation. Finally, regional concentration has been persistent, with six regions capturing nearly 85 percent of FDI in manufacturing for a decade. Both broad-based improvements in the regional investment climate and spatially targeted policies can potentially encourage foreign entrance into a region but the improvements have been too limited to influence the spatial distribution of FDI in Colombia.

The COVID-19 crisis has led to a severe contraction of FDI globally and in Colombia. There are considerable sectoral variations in the adverse impact, and countries' experiences also differ. However, the midterm implication of COVID-19 for FDI in Colombia is ambivalent. A reconfiguration of investment and GVCs is likely underway, as multinationals consider nearshoring and diversification to improve resilience. These considerations seemed to have motivated them to increase investment in the Latin American region.

A policy agenda is proposed for the Colombian Government to further internationalize, create jobs and benefit from technology transfer through FDI while mitigating the possible drawbacks. The agenda endorses the government's strategic objectives of augmenting foreign investment promotion efforts, diversifying away from extractive industries, prioritizing skill-intensive and green investments, and reducing regional unevenness while balancing efficiency and equity concerns. For actions, the agenda specifies six key areas. It proposes a clear cascade approach of strategic planning to better align the objectives of different levels of institutions and encourages articulating Colombia's value proposition in the competitive environment for FDI. Regarding institutions, it calls for enhancing coordination between the national institution and regional networks. On regulations, it suggests providing regulatory certainty and predictability to maintain a strong international image for investors. It stresses the importance of analyzing and strengthening the effectiveness of incentives to reduce potential distortions, and of establishing a dedicated multinational-local supplier linkage program to better nurture spillovers.

1. An uneven growth driver

Foreign direct investment (FDI) can boost productivity growth and promote the economic development of the host economy. It not only can address credit constraints, but also can mitigate the scarcity of technology and managerial skills that limit private sector competitiveness in developing countries. FDI can act as a complement for trade and a catalyst for global value chain (GVC) participation. Evidence from over 100 countries shows that FDI inflows are important in determining GVC participation. Moreover, superstar affiliates of multinationals can help countries reshape their comparative advantage and achieve GVC upgrading (Antras and Helpman 2004; Aitken et al. 1997; Fernandes et al. 2020; Freund and Moran 2017; Javorcik 2004; Keller 2010; Rojec and Knell 2018; World Bank 2020b).

In Colombia, multinational firms' overall performance and impact are consistent with the documented experiences. They contribute to the economy on multiple fronts. Meanwhile, significant heterogeneity exists: their presence, performance, and impact vary considerably across sectors and regions.

Solid aggregate performance

In Colombia, multinationals are important players in the economy. In line with the standard approach in economics, multinational firms are defined here as enterprises that operate in Colombia as affiliates of one or more foreign companies (persons) holding at least half of their equity. Such firms accounted for 17 percent of total fixed asset investment by all formal firms in Colombia in 2018 (Fig. 1). Together, they contributed over 20 percent of total output. They were most prominent in mining industries because of Colombia's rich natural resources and the commodity boom in the early 2000's. In capital- and skill-intensive manufacturing industries and services sectors, they were responsible for less than a fifth of total investment and output.

On average, they outperform formal Colombian firms in job creation and efficiency. Multinationals are on average larger, more capital intensive and more productive than formal Colombian firms (Fig. 2). This is not surprising given their control of proprietary assets, their ability to exploit firm-level economies of scale, and their location-related advantages. Their performance in manufacturing industries is a case in point. Based on the Annual Manufacturing Survey (EAM) over 2007-2018, and taking firm age, macroeconomic shocks and sector-region specific differences into account, multinationals are investing nine times in fixed assets as Colombian manufactures, hiring nearly three times the labor, and producing ten times the output (Fig. 3). Their labor productivity nearly triples that of Colombian firms after controlling for capital intensity, suggesting more advanced technology, effective management knowhow and fruitful marketing strategies.

They are more successful in tapping into GVCs. An analysis based on matched firm and customs data shows that multinationals are much more likely to export and import than average Colombian manufacturers. Even in comparison with Colombian exporters and importers, multinationals trade much more, and export and import more intensively (Fig. 4). Consequently, their probability to participate in GVCs is 22 percentage point higher than domestic firms of similar age, after macroeconomic shocks and sector-region specific differences being accounted for. The probability to participate in GVCs is measured with the fact that firms import no less than ten percent of their intermediates and export no less than ten percent of their outputs.

Smaller spillovers from extractives and labor-intensive industries

However, not all foreign investments are equal in terms of boosting growth and GVC participation. Multinationals in extractive industries are less productive than Colombian firms and can distort the economy. In extractive industries, multinationals show some premium over domestic firms of similar age in terms of labor productivity when not taking capital intensity differences into account. However, once capital intensity differences are controlled for, multinationals are less productive than Colombian firms (Fig. 5). Their superior performance in mining industries is driven more by capital intensity than by technology knowhow and other efficiency gains. Additionally, the spillover effects of FDI are not guaranteed and can vary considerably across sectors and firms as well. Because multinationals are not internalizing the benefits of spillovers to the host economy in their decision making, they may create enclaves with little connections to host markets, which can be particularly salient for extractive industries (Alfaro 2015). Coupled with rising exports derived from natural resource extraction, foreign participation in mining industry is also considered to distort the development of non-mining sectors in Colombia, resulting in currency appreciation and loss of competitiveness of other sectors (e.g. Botta et al. 2016).

In contrast, multinationals in manufacturing increase regional employment, efficiency, and trade in Colombia. At the regional level, the entrance of multinationals in a new manufacturing industry is followed by greater investment, more job creation, and larger sales of the industry (Fig. 6). The analysis compares the performance of an industry at the regional level before and after the entrance of the first multinational during 2007-2018, accounting for macroeconomic shocks and industry-region specific differences. Moreover, the analysis shows that the entrance of multinationals is associated with higher industry-region level labor productivity and significantly more industry-region level exports and imports, indicating improved allocation efficiency and greater GVC participation. For example, industry-regional level employment nearly doubles and labor productivity triples after multinationals enter. Multinational entrance could benefit local industry growth through multiple channels. Directly, because they are larger and more productive their entrance can result in better local outcomes. Multinationals also tend to follow each other, driven by networks and agglomeration forces, leading to greater gains in employment, efficiency and trade. Indirectly, their entrance will likely increase competition faced by domestic firms as well as enhance domestic firm performance through spillovers.

Multinationals in manufacturing generate positive spillovers to Colombian firms in the same industry as well as through forward linkages. For the average Colombian manufacturer, a 10 percent increase in the market share of multinationals in the same industry is associated with an increase of labor productivity by 2 percent (Table 1). The analysis takes macroeconomic shocks and time-invariant firm characteristics into account. The results are robust to the inclusion of capital intensity or firm labor productivity in the previous period as a covariate. It suggests that positive spillovers by foreign firms outweigh their crowding out effects in the same industry. Most notably, a 10 percent increase in the market share of multinationals in the upstream industries leads to an increase of labor productivity by 12 percent. It indicates that Colombia manufacturers obtain substantial efficiency gains from the higher quality intermediate inputs produced by multinationals. However, the analysis also finds that spillovers through backward linkages are insignificant, which contrasts with the experiences of other countries where local manufacturers benefit by supplying to multinationals (e.g. Javorcik 2004). It could be due to a limited use of Colombian inputs by multinationals. It could also be because of a low absorptive capacity of Colombian suppliers for them to leverage foreign technology transfers.

Within manufacturing, multinationals' positive spillovers are driven by their investments in capital- and skill-intensive industries. Following the literature, industries are classified into those relying on labor-intensive production and those with capital- and skill-intensive technology. In both types of industries, multinationals' performance premia over Colombian firms are similar regarding investment, sales, capital intensity and labor productivity. For employment, multinationals' lead over Colombian firms in capital-intensive industries is smaller than in labor-intensive ones but remains positive (Table 2). However, the impact of foreign investments on domestic firms differ significantly between these two types of industries. Significant positive spillovers through forward linkages are only associated with multinationals' investment in capital-intensive industries (Table 3). The finding is consistent with the literature that shows FDI's technology transfers are stronger in capital- and skill-intensive sectors (Keller 2010).

Larger spillovers in laggard regions

Multinationals' impact on employment and efficiency differs between the top investment destinations and the laggard regions in Colombia. Multinationals' entrance in a new industry is associated with more investment and job creation in the top FDI destinations than in other regions, or the laggard regions (Table 4). The top FDI destinations are defined as the six regions that were the hubs for manufacturing production and attracted most multinational investments in 2007. However, multinationals' entrance is followed by a larger increase in labor productivity in the same industry in the laggard regions, implying greater efficiency gains in these destinations. The same conclusion holds after controlling for aggregate capital intensity at the industry-regional level. Domestic firms' productivity and market competition in other regions are lower than in the top FDI destinations. Thus, the marginal contribution on efficiency within the industry by multinationals' entrance can be higher in the laggard regions.

Multinationals' performance edge and spillovers are greater in the laggard regions. Regarding capital intensity and labor productivity, multinationals' lead over Colombia firms is significantly larger in the laggard regions than in the top FDI destinations (Table 5). Further, multinationals' investments in the laggard regions contribute to both horizontal spillovers to Colombian firms in the same industry and vertical spillovers through forward linkages (Table 6). Meanwhile, multinationals' investments in the top FDI destinations are only associated with spillovers through forward linkages. These findings suggest potentially greater efficiency gains when multinationals invest in the laggard regions.

2. Three challenges

Even before the COVID-19 crisis, Colombia faced substantial challenges in foreign investment attraction and retention to better leverage the contribution from multinationals while at the same time contain the possible downside effect. The challenges can be summarized in three aspects: growth trend, sectoral composition, and regional distribution.

Stagnant inward investments

The first challenge has to do with the lackluster growth of FDI inflow. According to the data reported by Banco de la Republica, inward FDI flow to Colombia has been on a plateau around USD 14 billion since 2015 (Fig. 7). Inward flow was adversely affected by the 2008 Global Financial Crisis but rebounded around 2010 and reached a new peak of USD 16 billion in 2013. However, the 2014 commodity price crisis and the sharp drop of foreign investments in the primary sector led to the stagnation of inward FDI. Fundamentally, the plateau is due to the slow growth and even decline of foreign investments in the non-

primary sectors, which fail to fill in the gap left by mining industries and are inadequate to create new sources of investment growth.

Consequently, inward FDI stock stands for a significantly smaller share of the economy in Colombia than in comparator countries. Based on the partner-reported and internationally comparable data from IMF-CDIS, inward FDI stock accounts for a meager 14 percent of GDP in Colombia. In sharp contrast, inward stock is over a quarter of GDP in Brazil, Chile, Mexico and Peru, doubling the ratio observed in Colombia. The ratio is also significantly higher in several aspirational comparators out of the Latin American region: nearly 30 percent in Thailand and Vietnam, and over 40 percent in Canada and Spain (Fig. 8). Not surprisingly, a network analysis of bilateral FDI stocks suggests that Colombia remains at the margin of the global FDI network, lagging both first- and second tier FDI destination countries.

Corroborating the findings of macro-data, the plant-level data of manufacturing industries show a sharp decline in foreign presence since 2013. According to the EAM, the total number of multinationals has dropped nearly by half between 2013 and 2018 and their investment value by 13 percent. While a decline was also observed for Colombian manufacturers, the magnitude was smaller. Consequently, multinationals' share in total manufacturing investment was down from 27 percent in 2012 to 19 percent in 2018 (Fig. 9). Their importance in almost all industries has either declined or stayed at the same level over 2007-2018. Their investment share witnessed a 10-percentage point drop in chemicals and a 20-percentage point drop in basic metals, two capital-intensive industries where they concentrate (Fig. 10a). And, they played a more subdued role across regions in 2018 than in 2007 (Fig. 10b).

The gains in investments, jobs, and production brought by new foreign entrance have been offset by firm exits and the limited growth of survival firms, suggesting constraints faced by foreign investors in Colombia. A decomposition of the change in multinationals' performance in manufacturing over 2007-2018 reveals that new foreign firms brought nearly 10 percent increase in total investment, five percent growth in employment and over 18 percent growth in production (Fig. 11). However, the gains are not large enough. The exits of foreign firm more than offset these gains in investment and job creation, and led to 15 percent decline in production. And, survival foreign firms made limited contributions, including a contraction in production. Admittedly, market competition leads to creative destruction. A greater decline in employment than in investment also suggests multinationals may substitute away from labor, introducing more capital- and knowledge-intensive production process.

However, the lack of sufficient dynamism among foreign manufacturers and the overall fall in production indicate significant constraints faced by foreign firms both in existing industries and to operate in new sectors. An analysis of World Bank Enterprise Surveys shows that over 50 percent of multinationals view issues associated with taxation, corruption, electricity and transportation as major obstacles to their operations in 2017 (Fig. 12). A significant fraction of multinationals also complained about labor skills, business licensing and court system. The pattern is largely consistent with the survey responses by Colombian firms. Additionally, comparing different rounds of surveys indicates multinationals' perception on nearly all aspects of investment climate has deteriorated between 2006 and 2017. For example, 20 percentage points more firms complained about tax rates and about court system in 2017 than in 2006. These findings are in line with the literature on potential reforms areas in Colombia, such as further streamlining of targeted tax incentives for foreign investments, simplification of bureaucratic procedures, improving innovation, and strengthening the technological capacity of domestic firms (Fedesarrollo 2020b; OECD 2019; UNCTAD 2014).

Suboptimal sectoral composition

The second challenge concerns the suboptimal sectoral composition of foreign investments. Extractive industries remain dominant in Colombia's inward FDI, despite the diversification since the 2014 commodity price crisis. Relative abundance of endowment remains a fundamental factor driving investments, trade and GVCs. Natural resources, in particular, play an important role. It is not surprising that Colombia's composition of inward flow resembles other resource-rich countries (Chile, Peru, Australia and Canada) more than manufacturing hubs (Indonesia, Thailand and the Republic of Korea) (Fig. 13a). Based on financial flow data compiled by the International Trade Center, the share of mining and quarrying industries in total inward FDI flow remained around 30 percent in 2015-2018 despite dropping from 50 percent in 2010-2014 (Fig. 13b). The diversification leads toward three broad service sectors: financial, utilities, and transportation, storage and communication.

Data on cross-border mergers and acquisitions (M&A) and on greenfield investment announcements point to a similar pattern, with a more promising trend in greenfield investments. The share of extractive industries remained over one fifth of M&A in Colombia in 2015-2019, while falling from 30 percent in the previous five years and consistent with the global trend of contracting M&A in these industries (Fig. 14). Utilities, and wholesale and retail services saw the largest increases and emerged as the two new broad sectors of concentration. Greenfield investments exhibited a stronger diversification trend, especially toward manufacturing. The share of mining industries fell from nearly a half of all greenfield investment values in 2010-2014 to 10 percent in 2015-2018 (Fig. 15). In contrast, the share of manufacturing industries increased from 20 percent to around 30 percent.

Within manufacturing, multinationals concentrate in a handful of industries, with a rising importance of labor-intensive sectors and a small share of the typical GVC industries with extensive supply chains. Regarding capital-intensive industries, chemicals and basic metals take the lion's share at over 35 percent of total multinationals' investment in 2018, declining slightly from 38 percent in 2007 (Fig. 16). Food and beverages are the major labor-intensive sectors, rising from 20 percent of investments in 2007 to 28 percent in 2018. However, the differences in multinationals' spillovers across industries suggest the potential benefit of shifting foreign investment from labor-intensive toward capital- and skill-intensive industries in Colombia. Moreover, the typical GVC industries with the most complex up- and down-stream linkages, such as automobiles and electronics, account for much smaller shares in multinationals' investments in Colombia (5 percent and less than 1 percent, respectively), potentially limiting the country's GVC participation and upgrading opportunities.

Continued regional concentration

Last but not the least, multinationals' investments in manufacturing have been geographically concentrated for over a decade. Agglomeration forces and networks tend to pull multinationals into places with location advantages and high economic density. In particular, manufacturing industries have high intra- and inter-industry productive externalities, through input-output linkages, labor pooling and knowledge spillovers. As a result, foreign investments in manufacturing have been unevenly distributed geographically in Colombia (Fig. 17). Out of the 33 regions, Antioquia, Bogota, Bolívar, Cordoba, Cundinamarca and Valle del Cauca stand out as Colombia's manufacturing hubs and the top FDI destinations, accounting for nearly 85 percent of total multinational investments in manufacturing industries in 2007. After a decade, their total share barely changed in 2018, testifying the economic strength of these places but also indicating the limited impact of past efforts in attracting and retaining investment in the laggard regions.

Both improvements in the regional investment climate and spatially targeted policies can potentially encourage foreign entrance into a region but the improvements have not been large enough. The government has paid considerable attention to regional competitiveness (CPC 2019). To understand how regional policies have affected the dynamics of foreign investment, this study assesses the relationship between different types of regional policies and the net entrance of multinationals at the industry-region level over 2013-2018. The conclusions are suggestive because the analysis focus on one type of policies at a time to avoid collinearity between policy measures. But it also takes existing number of multinationals, aggregate labor productivity and trade value at the industry-region level, regional population, sector specific differences and macroeconomic shocks into account. The analysis shows that broad-based improvements in the regional investment climate matters for multinationals' entry, including greater institutional efficiency, reduced regulatory barriers, increased access to electricity and broader secondary education coverage (Table 7). It also finds that the number of regional free trade zones positively correlates with multinationals' entry, implying the potential effects of spatial policies. However, the limited entrance and continued regional concentration of FDI suggest the magnitude of institutional improvements, policy reforms and infrastructure investment at the regional level have been too limited to influence multinationals' spatial distribution.

3. The ambivalent midterm implication of COVID-19

The COVID-19 crisis came as both a supply and a demand shock, and adversely affected foreign investments in Colombia. The crisis hit almost simultaneously global economic powerhouses, with a still unknown duration. Based on available official FDI statistics of 95 countries, global FDI inflows contracted sharply in the first half of 2020: down by nearly 50 percent in the first quarter year-on-year (YoY) and by over 60 percent in the second quarter (Fig. 18a). In the Latin America and Caribbean region, the decline of FDI inflows closely follows the global trend and is worse than what is observed in developing East Asia and Europe and Central Asia. Colombia particularly witnessed a large decrease in the FDI inflow: over USD 2.8 billion and nearly 70 percent YoY in the second quarter (Fig. 18c). Data on M&A and on greenfield investment announcements confirm the same pattern of a severe decline of FDI in 2020 globally and in Colombia, though with a slight easing in the third quarter.

The impact of COVID-19 varies significantly across sectors and countries. According to greenfield investment announcements, construction, extractives and automobile industries have been hit the hardest since the onset of COVID-19, seeing the announced investment values down by 50-75 percent in the first three quarters of 2020 relative to the same periods over the previous five years (Fig.19a). In contrast, announced investment values for IT services, chemicals and computers are in line with the previous five years. Investments in the Latin America and Caribbean region resemble the global pattern but with its own characteristics. Interestingly, in Colombia, announced greenfield investments for extractive industries in 2020 more than doubled the average value in the previous years (Fig. 19b). While the pattern is driven by a mega deal initiated by a Canadian mining company it illustrates the heterogeneous impact of the crisis across sectors and countries.

However, COVID-19's midterm implication for FDI in Colombia is unclear as a large fraction of multinationals are reevaluating investment locations and considering nearshoring and diversification. A reconfiguration of global economic landscape is potentially underway, as COVID-19 has prompted businesses to give greater priority to supply-chain resilience over the current focus on efficiency (Economist 2020). Based on the 2020 October – November World Bank Investor Confidence Pulse Survey,

globally, nearly 40 percent of 305 developing-country based multinationals planned to invest less in the current host economy while only 13 percent expected to increase investment. The distribution of the responses is similar for multinationals based in the Latin America and Caribbean region (Fig. 20a). Multinationals' responses also confirm the relative importance of nearshoring and diversification strategies in driving the changes of investment plans. For the Latin America and Caribbean region, nearshoring, diversification and reshoring emerged as the most significant reasons for multinationals to increase investments in the current hosting economies (Fig. 20b).

4. A policy agenda

Strategic objectives

Overall, for Colombia's economy to further internationalize, create jobs and benefit from technology transfer, strategic efforts to attract more FDI and stimulate its growth need to be augmented. The Government of Colombia has undertaken positive efforts in elaborating a comprehensive National Economic Development Plan for the period 2018-2022, with high-level FDI objectives such as attracting six mega investments and 15 anchor companies, and promoting high-impact investments. The COVID-19 crisis presents substantial challenges for Colombia to achieve these objectives. But, the crisis also brings potential opportunities to countries that stand ready. As indicated by the Investor Confidence Survey responses, a reconfiguration of GVCs is likely underway as companies try to diversify their suppliers and improve resilience. Actively adapting to the post-COVID economic landscape as well as addressing existing structural weaknesses to provide a more conducive environment for investors will be essential.

To achieve new dynamism in its FDI, Colombia needs to continue diversifying away from the extractive industries to capital- and skill-intensive sectors. While seeking new sectors of growth, prioritizing green investments can contribute to transform the investment potential of Colombia into a force that not only promotes economic development, but also ensures inclusive and environmental sustainability. Colombia, via its National Economic Development Plan, has also set to reach USD 11.5 Billion of FDI in non-extractive activities and pays especial attention to sustainability. These are commendable objectives in responding to the current suboptimal sectoral composition. The COVID-19 crisis, again, has ambivalent implication on Colombia's efforts toward diversification in the midterm. It has brought down demand and foreign investments in extractive industries significantly but China's rising position in international trade and continued demand for energy may reverse the trend. Meanwhile, COVID-19 has exposed the fragility of our socioeconomic system and the impact that natural threats can impose on vulnerable populations. Many of the pandemic's impacts mirror potential climate change impacts (e.g. illness, disruptions in supply chains). The policy actions that the Colombian Government will take to drive the recovery from the current crisis will shape environmental outcomes for the future (Box 1).

Reducing persistent regional unevenness in foreign investments can contribute to efficiency but requires a right mix of policies, balancing efficiency and equity concerns. Colombia has signaled its desire to attract investment into the less affluent regions, through place-based instruments such as special tax regimes (the Economic and Special Areas, and Economic Zones for Areas Most Affected by the Armed Conflict). As shown by the previous analysis, foreign entrance in viable industries in some laggard regions can generate efficiency gains, both directly and through spillovers. Place-based policies can be part of the solution to attract investments to some laggard regions. However, it is also worth noting that place-based policies can create distortions. Without a viable regional industrial base, targeting FDI alone with these policies can also be ineffective. The effectiveness of spatially targeted fiscal incentives and other spatial

policies should be assessed and monitored to inform decision making in a timely manner. The previous analysis also testifies that broad-based improvements in regional investment climate are important, such as infrastructure, human capital, institutional efficiency and regulatory quality. Finally, other policies may be better at addressing equity concerns. Thus, the Government needs to be clear on its objectives, recognize the tradeoffs between efficiency and equity, and use a combination of tools.

Box 1 Environmentally sustainable private sector investment and the role of government

While no single definition of sustainable investment exists, the term can encompass any private sector investment that contributes to a more environmentally sustainable economy, including:

- Investments in more sustainable and efficient production practices.
- Investments in new firms and products that are more sustainable than competitors.
- Investments in the research and development of sustainable technologies.

Some of these investments may have direct benefits for businesses, such as the energy cost savings that arise from a more efficient plant or office building. Others may provide businesses with access to new market opportunities or reputational advantages over competitors that attract new customers. In fact, empirical studies suggest firms' environmental performance is related to better financial performance.

However, sustainable investments also generate positive externalities (or reduce negative externalities), which are the wider benefits to society that arise from a better environment. As these benefits do not necessarily accrue to firms in the form of revenue or profits, the level of sustainable private investment will generally fall short of the optimal level for society overall. As such, some government intervention is needed to incentivize firms to account for environmental impacts and undertake the optimal level of investment.

Common environmental policies used by governments include pollution and technology standards, permitting and approvals processes, pollution taxes, green subsidies, and information disclosure requirements. In general, market-based mechanisms such as taxes and tradeable permits are considered the most efficient approach, although uniform standards are less complex and often are seen as more equitable, which can make them easier to implement.

Governments can consider introducing measures that incentivize sustainability-enhancing investment. Such measures can target firms in new, more sustainable sectors, or firms within an established sector that meet higher standards for environmental performance. In fact, a recent review found that 97 countries have some form of investment program in place relevant to the Sustainable Development Goals (SDGs), including 40 with investment incentives related to climate change mitigation (UNCTAD 2020). These include special economic zones with facilities for sustainable industries, financial incentives conditional on environmental performance, and risk-sharing approaches such as public-private partnerships and investment guarantees.

Source: Authors based on World Bank 2021.

Beyond the reforms targeted to FDI, dedicated efforts toward domestic markets, such as on greater domestic competition and stronger linkages, would enhance the contribution of multinationals to the Colombian economy through spillovers. Multinationals' positive spillovers in Colombia cannot be taken for granted as proven by the previous analysis. Even in non-extractive sectors, multinationals do not seem to benefit Colombian firms through backward linkages, despite significant positive spillovers in the same industry and through forward linkages. To nurture spillovers through backward linkages, domestic conditions, such as competitive markets and financial sector development, are important. Sufficient firm capability to form supplier linkages with multinationals and benefit from economies of scale and

technology spillovers are needed as well (Alfaro 2015; Rojec and Knell 2018). In Colombia, there is scope to strengthen multinational-domestic supplier linkages to set the stage for more technology transfers. And, there is significant potential for Colombian companies to further integrate into GVCs through supplying to multinationals.

From vision to action

Results from a gravity modelling analysis of global bilateral foreign investment stocks suggest FDI entry restrictions, institutional and regulatory quality, international investment agreements and investor risks matter significantly for FDI attraction and retention, in addition to market size, development stage, endowment and bilateral frictions (Li and Kher 2020, World Bank 2020a). These are also the critical policy areas pointed out by the literature as mattering for multinationals' location decisions and their performance (Antras et al. 2009; Alfaro et al. 2007, 2008; Benassy-Quere et al. 2007; Bloom 2014; Fournier 2015; Hallward-Driemeier 2009; Mistura and Roulet 2019; Stein and Stone 2012).

Colombia has a liberal regime toward foreign investment, accepting investors in almost all sectors and industries and ranked as one of the least restrictive economies toward FDI.¹ However, there is considerable scope for Colombia to improve on all the other fronts (Fig. 21). Actions are needed regarding implementation approach, institutional coordination, regulatory framework and tax incentives. Opportunities also exist to enhance linkages between multinationals and domestic economy.

A cascading approach

Taking a clear and sophisticated cascading approach for investment policy strategic planning could be the first step toward better investment promotion. An efficient strategic framework needs a clear alignment with a national level economic plan or strategy. Beyond overarching FDI objectives, the National Economic Development Plan should further detail the role of FDI in the economic development plan, including: what the main shared objectives for FDI attraction and retention are; and how they should be achieved. More critically, there are different levels of strategic planning and all of them should be aligned and coordinated appropriately. Colombia should try to always follow a cascading approach from the NDP and clearly connect with and refer to lower levels of strategic planning—to the level of outreach and investment generation activities (Fig. 22).

Colombia should define the roles and responsibilities of various government agencies and other stakeholders. The guiding document for the national investment promotion efforts, the FDI strategy, should steer the execution of the investment promotion role of Colombia's national investment promotion agency (IPA) - ProColombia. It would also formulate its goals (including sectoral targeting) based on an objective assessment of the IPA's context, and location's strengths and weaknesses, and global trends. It would boost the IPA's chances of success by charting a path towards the achievement of these goals, identifying the resources and collaborations that are necessary for success. It has to provide information in the following key aspects: (i) a long-term vision that supports and contributes to national development goals; (ii) clear, time-bound objectives and key performance indicators (KPIs) for FDI, to track and monitor the progress of the implementation of the strategy, as well as evaluate its effectiveness; (iii) a list of prioritized sectors based on competitive benchmarking; and (iv) clear, time-bound

¹ Investors interested in investing in mining, hydrocarbons, insurance, and financial sectors do require prior authorization. Other investors need only to register with the monetary authority.

implementation plans, together with the realistic identification of the specific human and financial resources that will be needed for execution.

Identifying niche sectors with high growth potential away from extractive industries and articulating Colombia's value position is important in the competitive environment for FDI. With a clear investment diversification objective, Colombia, via ProColombia, has developed investment attraction strategies with regional focuses (such as Asian and European investors) and is targeting companies that might consider near-shoring propositions to serve North American and Latin American markets. The approach is supported by the previous qualitative evidence on multinationals' near-shoring strategy to improve supply chain resilience. However, in such a competitive environment of lower FDI and intense uncertainty, other countries in the region are also adopting similar investment promotion measures. ProColombia will need to be very sophisticated in focusing investment promotion activities on segments where the country has a strong competitive advantage and high potential to attract investors interested in its near-shoring value proposition. It is therefore proposed that ProColombia conducts detailed sector assessment benchmarking against relevant competitors with similar value propositions in the priority sectors to clearly demonstrate Colombia's higher attractiveness in the long term.

In addition, any FDI attraction strategy should be adapted to the post-COVID economic landscape. This includes reviewing the previous FDI target segments. Emerging competitive segments that may arise soon from the GVC/FDI footprint remapping could also be identified. For instance, the crisis has raised concerns in some countries about dependence on imports of some critical products and services. ProColombia could help promote sectors that foster resilience, such as food and pharmaceuticals, which already stood for a large share of multinationals' investment in manufacturing prior to COVID-19.

Institutional coordination

Better coordination between the national institution and regional networks can play a crucial role in attracting and retaining FDI. As the national IPA, ProColombia is not only responsible for promoting foreign investment, but also for tourism, non-traditional exports and the international image of the country. At the regional level, 22 agencies have an investment promotion-related mandate in the country, of two types: the economic development agencies (called 'PROs') which have a broader mandate, and more dedicated IPAs (known as 'Invest in'). Evidence shows that strong national IPAs in larger countries tend to have a more systematic working relationship with regional IPAs (Box 2). The national IPA is usually best placed to coordinate and interact with investors during the attraction stages but could decrease its role and dedicate to regional IPA once investors get established in a location. In Colombia, the uneven distribution of investments across regions and significant local impact of multinational entrance suggest the need for a better coordination between national and regional agencies as well.

There should be a transitioning role to different intensity levels for ProColombia and regional IPAs at different stages of investment (Fig. 23). It is more efficient for ProColombia to dedicate resources to nation branding and overall marketing efforts. On the other hand, the day-to-day problem solving for an established investor is better dealt with at the subnational level.² The Government could initiate discussions on the need for more strategic coordination at both national and regional levels, design and implement a coordination mechanism that ensures efficient and effective use of resources (Box 3).

² This is compatible with a national level Ombuds type of agency.

Box 2 Key principles for effective FDI institutional arrangements

1. Strong alignment across government that stems from a clear national development plan or objective, vision, or strategy—including FDI—with clear priorities and sequencing;
2. Government support for FDI promotion from the highest level (for example, the president or prime minister) that directly or indirectly champions the needed policy, legal, regulatory, and institutional reforms;
3. Systematic and reform-oriented consultation with the private sector;
4. A strong, clear, and uncontested mandate for each institution that also stems from the national development objectives and avoids any possible conflicts of interest;
5. Sufficient and sustained financial and human resources to properly deliver the mandate of each agency;
6. A clear focus on results management; and
7. Strong partnerships and coordination mechanisms with both public and private sectors at both national and subnational levels to ensure consistency between institutions.

Source: Authors based on World Bank documents.

Box 3: The case of Spain: A successful story of national-subnational coordination to the benefit of international investors

While Spain has one of the highest levels of administrative decentralization in the world, it is also very active in undertaking investment promotion efforts. These efforts are executed by the national IPA, ICEX-Invest in Spain, dependent on the Ministry of Industry, Trade and Tourism, as well as by the different subnational IPAs operating in the country. In order to respond to the need for coordination, ICEX-Invest in Spain, in conjunction with subnational IPAs, have developed several mechanisms, tools and activities that have enabled good collaboration between the central government and the regional governments.

In Spain, investment promotion policies rest both on the Central Administration and the autonomous communities (Comunidades Autónomas - CCAAs) and involve a clear distribution of tasks as well as adequate communication and coordination between administrations. This affects investment attraction, entry and establishment, and retention and expansion stages, and involves the development of a complementary service offering by both national and subnational IPAs to ensure investors are accompanied by a competent and reassuring guide during their journey. The main coordination tools between ICEX-Invest in Spain and the CCAA's investment promotion bodies are:

- 1) **The Investment Attraction Committee (CAI):** the main channel of communication between the different administrations and the forum in which they discuss investment promotion issues in detail. Among the many aspects covered, joint pro-motion activities abroad, technical workshops, business missions, improvements of the investment environment and the analysis of sectors hold prominent places. For example, in distant markets where some Spanish CCAAs are not very well-known, joint promotional actions have been carried out, which favors positioning strategies; and
- 2) **Interactua ICT tool:** an innovative CRM-type software that integrates key stakeholders, has become a fundamental tool in the articulation of ICEX-Invest in Spain and CCAAs' IPAs interrelationships, which also allows the joint management of numerous activities related to investment projects.

This efficient collaboration between national and regional IPAs has resulted, among other advantages, in an improvement in the services offered to foreign companies and an enhanced perception from international investors about the country as an investment location.

Source: Authors based on Fernández, Blanco and Aranda Larrey. 2021.

Domestic regulations

Building a perception of regulatory certainty and predictability will be essential. Multinationals need to undertake high fix costs before they can exploit the benefits of owning proprietary technology or know-how. And, the dynamic inconsistency problems between foreign investors and their local subsidiaries are salient. Therefore, multinationals are especially sensitive to additional costs, such as the those due to policy inconsistency. According to the private sector operating in Colombia, frequent changes in the tax law resulting in lack of predictability of the public agencies have partially eroded investors' confidence in the recent past. The recent *Ley de Crecimiento Económico* (Ley 2101 de 2019) implied a fiscal reform modifying a law enacted only a year before, in 2018. In addition, and according to the Government, there might be further changes in the very short term. Regardless of the legitimacy of policy objectives the Government is trying to pursue, the efforts towards establishing a perception of certainty and predictability will be essential for the country to attract the type of investment it is targeting. Improving regulatory predictability requires close coordination between authorities, consultation with key stakeholders and strong adherence to good regulatory practices. Transparency and meaningful notice and comment procedures, evidence-based rulemaking, monitoring and evaluation will be required in order to sustain these actions.

Tax incentives

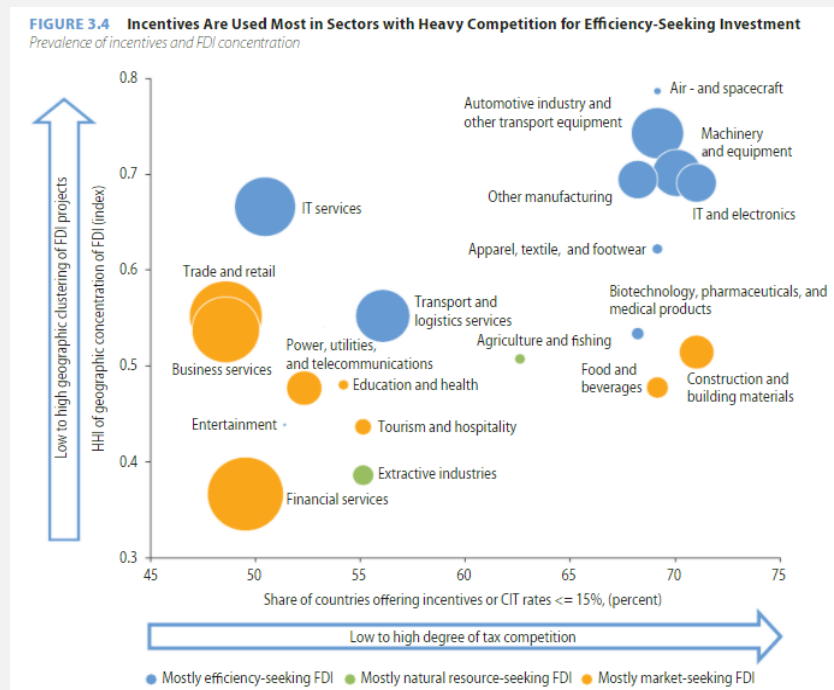
Better alignment of incentives with high-level strategies is needed. Colombia, as many other economies in the region, offers generous incentives programs to attract FDI. As such, the incentives offering of Colombia is broad and diverse, applying to a long list of sectors and economic activities. It is ambiguous how the incentives are aligned with the investment promotion strategies and high-level development objectives. While there is some scattered evidence of incentives or lower tax rates leading to higher FDI in some cases, there are also significant indications of redundant and ineffective incentives. Hence, revising existing incentives and creating new schemes will also be important in the context of the economic recovery process post COVID-19 given that some sectors and investors will be more affected than others (Box 4).

Analyzing and enhancing the effectiveness of incentives should be a priority to improve the targeting, design, transparency, and administration of tax incentives. ProColombia has a centralized inventory of the incentives available for investors at a national level, which provides transparency and it is aligned with international best practices. However, there is little evidence of systematic assessments of the cost-effectiveness of these incentives in achieving targeted policy objectives. The persistent geographic and sectoral concentration of foreign investments in manufacturing industries suggests limited impact of these incentives. A cost-benefit analysis should cover the relevance of these incentives for established investors and the cost in terms of foregone revenue of the existing investment incentives. Possible areas for reform include the more effective targeting of incentives, selection of appropriate instruments (including behavioral and non-fiscal incentives), design of and implementation of a cost-benefit M&E system, and improvement of administrative practices for specific incentive offering processes (Box 5).

Box 4: Tax incentives and efficiency-seeking FDI

In sectors where FDI is predominantly efficiency-seeking, competition for FDI is high and incentives are commonly offered by developing countries. Tax incentives are more effective in attracting efficiency-seeking FDI motivated by lowering production costs than for other types of investment, particularly for in countries with better infrastructure, reasonable transport costs, and a policy framework favoring investment (Bellak, Leibrecht, and Damijan 2009; Kinda 2014).

These incentives are also more effective in attracting FDI in countries with good investment (James 2014). Investors that are more internationally mobile (such as globally oriented manufacturing and financial services firms) have also been found to be more responsive to tax incentives (Zolt 2013). While tax incentives are common in developing countries, they vary at the sector: Across sectors, most of developing countries offer tax holidays, preferential or very low general tax rates, or tax allowances. These are common for biotechnology and pharmaceuticals, information technology (IT) and electronics, construction, machinery and equipment, automotive, air- and space-craft, and other manufacturing sectors (where most FDI projects are clustered in a limited number of host countries). See Figure below.



Source: Authors based on Andersen, Kett, and von Uexkull. 2017.

Box 5 International good practices on incentives' governance and design

1. **Simplicity and access to information:** The incentives regime should be simple, and information provided in a user-friendly and accessible format.
2. **Streamlined procedures and minimal discretion:** The process for applying for and granting investment incentives should be simple and minimize discretion. In the case of tax incentives, the approval process should be automatic (with verification).
3. **Consolidation of tax incentives in law:** Tax incentives should be clearly laid out in the relevant law, ideally the Tax Law, and should not be negotiated on a case by case basis.
4. **Regular assessment of fiscal cost:** The fiscal cost of incentives should be systematically tracked and published, including through tax expenditures.
5. **Consistency with international investment regimes and minimizing distortions to competition:** Incentives should be designed in a way that minimize distortions to competition and follow international investment regimes.
6. **Defining policy objectives:** Incentives should be linked to clearly defined policy objectives and instruments tailored based on these.
7. **Targeting the marginal investor:** To optimize benefits, incentives should be precisely targeted, focusing on marginal investors (those who would not have invested had it not been for the incentive). In the context of incentives used to attract FDI (locational incentives), incentives targeting efficiency-seeking investment should be prioritized.
8. **Monitoring & Evaluation:** Monitoring and evaluation mechanisms should be in place to verify whether the policy objective of incentives is accomplished and to evaluate the cost-effectiveness.

Source: Authors based on World Bank documents.

Linkages

A dedicated multinational-local supplier linkage program can better set the stage to leverage spillovers.

Given the dual mandate on export and investment promotion of ProColombia, the Government is in a good position to design a very coordinated interagency mechanisms between ProColombia, MIPYMES and other SME-related bodies to promote linkages between domestic and multinational firms for domestic production and for inclusion in GVCs. Governments that have been successful in overcoming market failures and managed to promote backward linkages, such as Singapore, Vietnam or Czech Republic all have taken a pro-active and systematic approach to the introduction of FDI linkages policies. Well-designed linkages programs broadly comprise of four related strands of action: (1) creating an enabling policy environment; (2) strategic attraction of FDI; (3) backward linkages promotion services; and (4) upgrading of local firm capabilities. Colombia would benefit from first conducting a demand-supply assessment of existing linkages between domestic and multinational firms, which would illuminate the needs and potential for increasing local inputs and services of key players in strategic sectors. Based on the assessment, ProColombia could develop a program to strengthen multinational-local supplier linkages, and could design and implement a comprehensive database with accurate and updated information on existing suppliers that could satisfy investors' needs (Box 6).

Box 6 International good practice on FDI-supplier linkages program

1. A demand-supply gap analysis

Vietnam is implementing efforts for attracting a “second generation of FDI”, in which the government aims to attract foreign capital and jobs to linking local firms to the existing FDI stock and foster participation in regional value chains.

The World Bank Group currently supports the government’s thinking through a market-based linkages strategy to better connect local firms to MNEs in sectors that are showing a critical mass of FDI (e.g. apparel, electronics, automotive). In addition to investment policy interventions for improved market entry for investors and increased alignment of institutional roles and capacities, the design of a tailored linkages, incentives and supplier development program forms the core of the Vietnam’s initiative in order to help local firms improve their competitiveness and better link to MNEs.

The implementation of a linkages program like the one Vietnam requires governments to have a deep understanding of the opportunities for backward linkages, and it was designed after conducting a demand-supply gap analysis.

2. A database of local suppliers

Once demand and supply needs and gaps are properly identified it is key to have a comprehensive and updated database to maximize linkages opportunities.

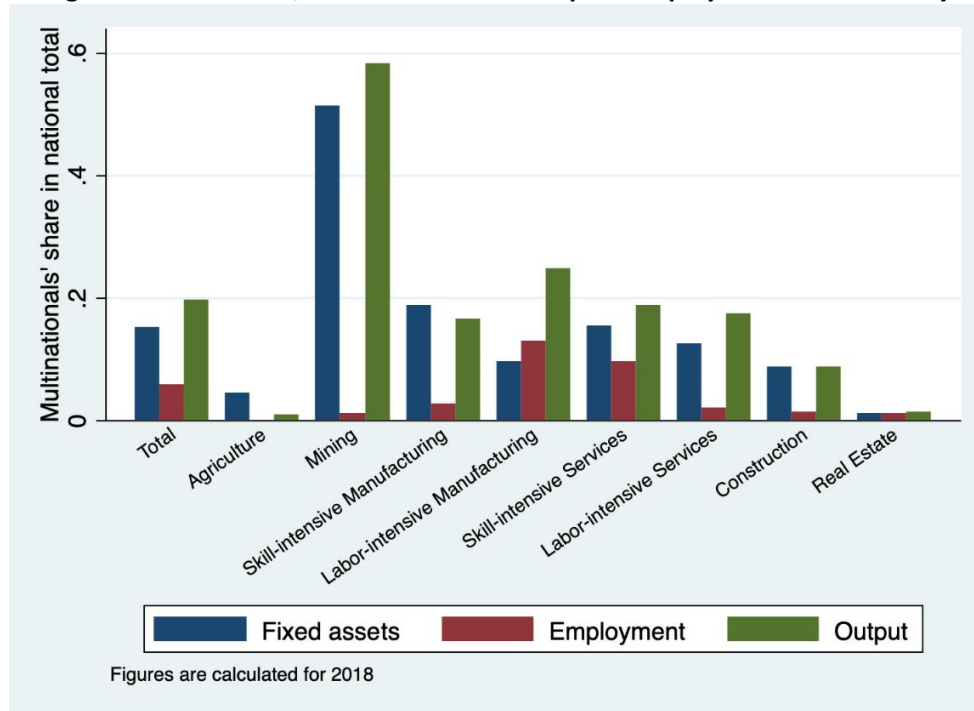
In Czech Republic, CzechInvest’s (national IPA) database of local suppliers is the central tool used by its Sourcing Department (it measures its performance by value of contracts facilitated) to promote linkages. It contains more than 3,500 high-quality records of Czech suppliers interested in long-term cooperation with foreign partners. Contracts concluded between Czech suppliers and MNEs between 2001 and 2011 amounted to USD 586 million.

In Costa Rica, CINDE (national IPA) reports that its directory of local suppliers has also been a key component in helping companies start operating in Costa Rica. In 2015, CINDE attracted a total of 39 new projects in the services, advanced manufacturing, life sciences, light manufacturing and food industry sectors. Each of the new investors made use of the directory of service providers during their scoping and establishment phases.

Source: Authors based on World Bank documents.

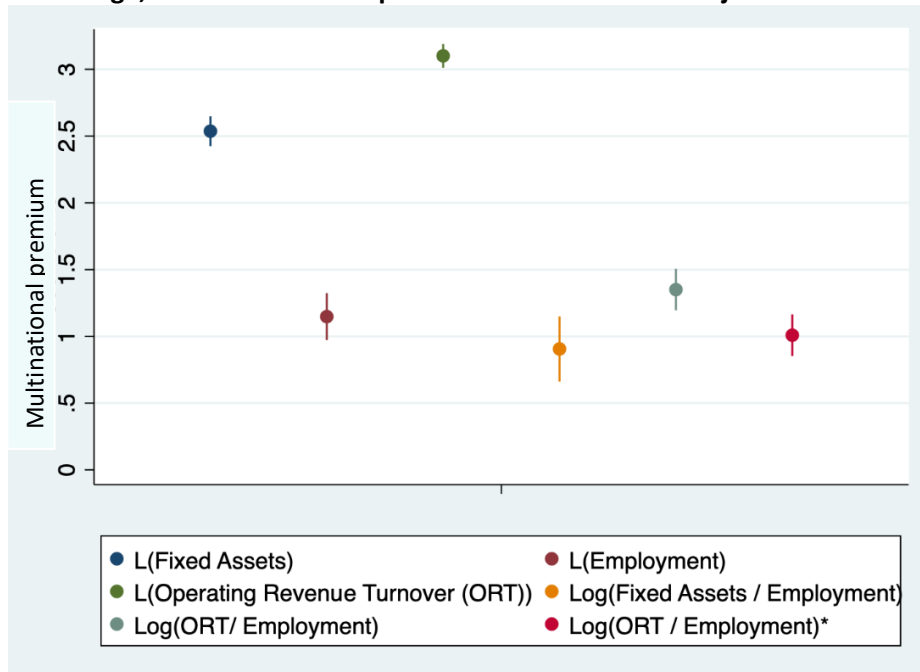
Figures and tables

Figure 1 In Colombia, multinationals are important players in the economy



Source: Authors based on data of formal firms from Orbis database.

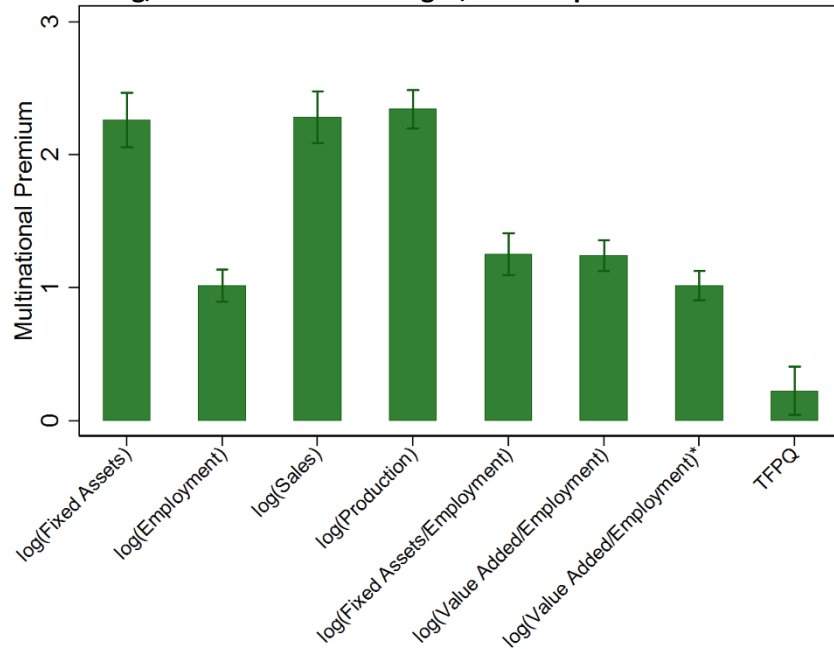
Figure 2 On average, multinationals outperform Colombian firms in job creation and efficiency



Source: Authors based on data of formal firms from Orbis database.

Note: * indicates the regression controlling for capital intensity. The dots represent the performance premia of multinationals over domestic firms. The capped spike reports the 95% confidence interval.

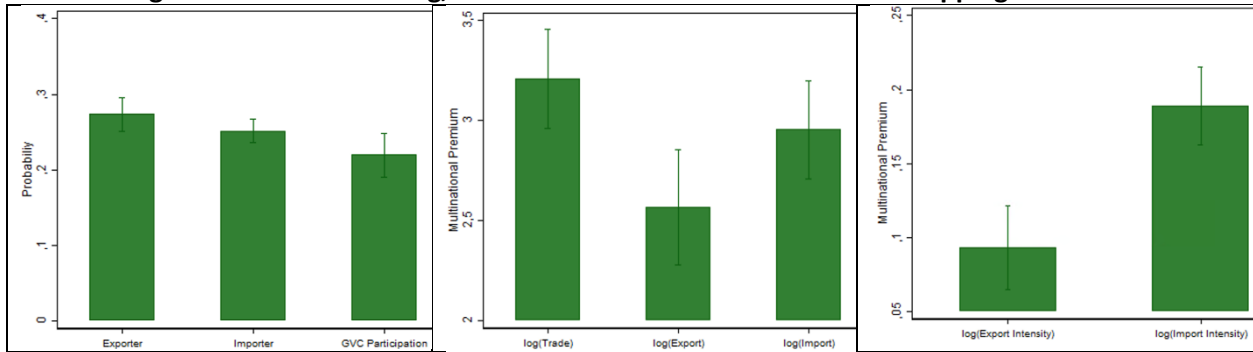
Figure 3 In manufacturing, multinationals are larger, more capital intensive and more productive



Source: Authors based on data from EAM.

Note: * indicates the regression controlling for capital intensity. The bars represent the performance premia of multinationals over domestic firms. The capped spike reports the 95% confidence interval.

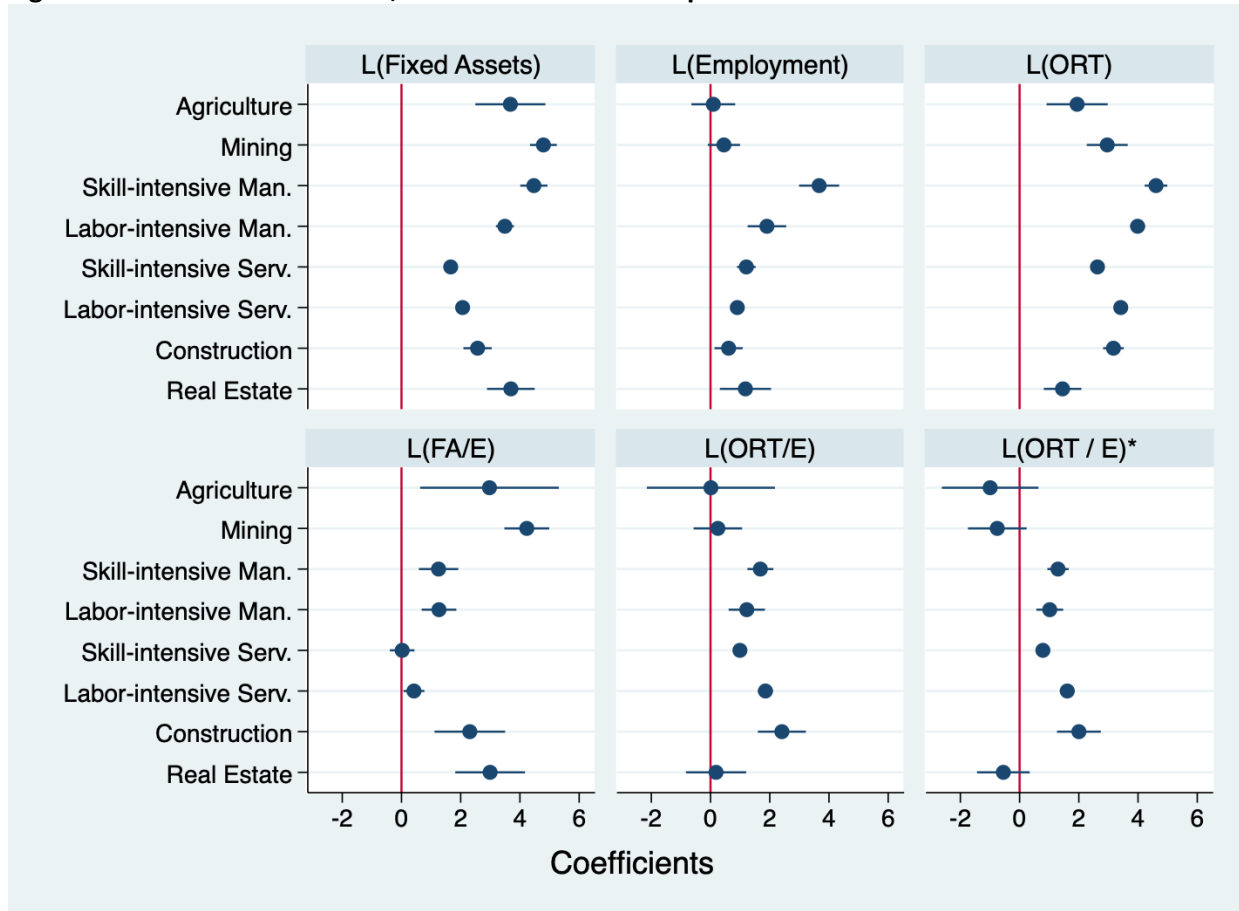
Figure 4 In manufacturing, multinationals are more successful in tapping into GVCs



Source: Authors based on data from EAM.

Note: The bars represent the performance premia of multinationals over domestic firms. The capped spike reports the 95% confidence interval.

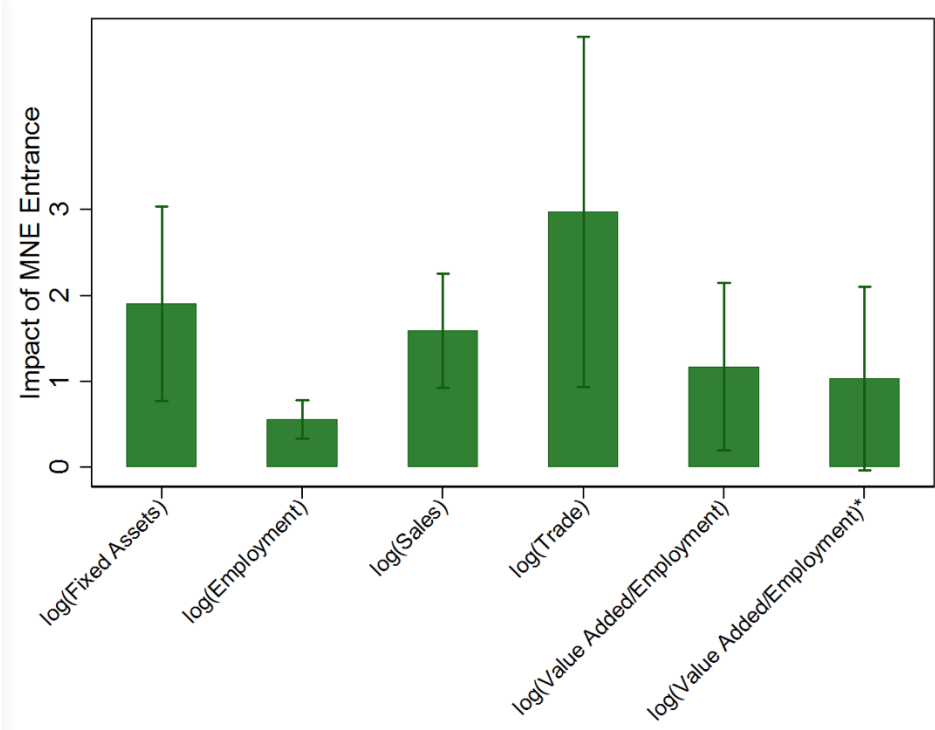
Figure 5 In extractive industries, multinationals are less productive than Colombia firms



Source: Authors based on data of formal firms from Orbis database.

Note: * indicates the regression controlling for capital intensity. The dots represent the performance premia of multinationals over domestic firms. The capped spike reports the 95% confidence interval.

Figure 6 At the regional level, the entrance of multinationals in a new manufacturing industry is followed by greater investment, more job creation, and higher labor productivity



Note: The bars represent the estimated impact of multinationals' entrance at the industry-region level. The capped spike reports the 95% confidence interval. * indicates the regression controlling for capital intensity and the point estimate for the impact of MNE entrance in this specification is significant at the 0.1 level.

Table 1 Multinationals in manufacturing generate positive spillovers to Colombian firms in the same industry as well as through forward linkages

a. Without additional controls

VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L
Horizontal = L,	0.202* (0.109)	0.088 (0.104)		
backward = L,	0.465 (0.312)		0.316 (0.312)	
Forward = L,	1.297*** (0.362)			1.002*** (0.342)
Constant	10.244*** (0.085)	10.537*** (0.032)	10.521*** (0.042)	10.409*** (0.053)
Observations	83,557	83,557	83,557	83,557
R-squared	0.745	0.745	0.745	0.745
Year Dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y

b. With additional controls

VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L	(5) lnVA_L	(6) lnVA_L	(7) lnVA_L	(8) lnVA_L
Horizontal = L,	0.195* (0.109)	0.084 (0.103)			0.181** (0.089)	0.094 (0.084)		
backward = L,	0.476 (0.310)		0.332 (0.310)		0.410 (0.255)		0.295 (0.255)	
Forward = L,	1.259*** (0.363)			0.970*** (0.343)	0.986*** (0.290)			0.724*** (0.271)
lnK_L	0.059*** (0.005)	0.059*** (0.005)	0.059*** (0.005)	0.059*** (0.005)				
lnVA_L = L,					0.275*** (0.010)	0.275*** (0.010)	0.275*** (0.010)	0.275*** (0.010)
Constant	9.670*** (0.103)	9.956*** (0.063)	9.937*** (0.066)	9.832*** (0.077)	7.403*** (0.126)	7.630*** (0.106)	7.619*** (0.104)	7.549*** (0.115)
Observations	83,557	83,557	83,557	83,557	82,556	82,556	82,556	82,556
R-squared	0.747	0.747	0.747	0.747	0.770	0.770	0.770	0.770
Year Dummies	Y	Y	Y	Y	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y	Y	Y	Y	Y

Source: Authors based on data from EAM.

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. lnVA_L refers to value added per worker (log) and lnK_L refers to fixed assets per worker (log). The left-hand variable of the regression is domestic firm's value added per worker (log) in a year. Horizontal measures the output share of multinationals in the same industry as the domestic firm, backward measures the weighted output share of multinationals in the downstream industries of the domestic firm and forward measures weighted output share of multinationals in the upstream industries of the domestic firm. The weights are input-output table coefficient.

Table 2 Within manufacturing, multinationals' performance edge over Colombian firms in capital-intensive industries is similar to that in labor-intensive industries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	lnK	lnL	lnYsale	lnYprod	lnK_L	lnVA_L	lnVA_L
Multinationals	2.455*** (0.182)	1.331*** (0.099)	2.380*** (0.170)	2.509*** (0.112)	1.119*** (0.131)	1.135*** (0.089)	0.942*** (0.083)
Multinationals#sector	-0.323 (0.219)	-0.471*** (0.124)	-0.156 (0.210)	-0.253* (0.146)	0.169 (0.164)	0.141 (0.118)	0.104 (0.110)
Observations	102,409	102,420	102,420	102,420	102,281	100,266	100,255
R-squared	0.152	0.140	0.137	0.178	0.112	0.100	0.178
Age dummies	Y	Y	Y	Y	Y	Y	Y
Sector-Region Dummies	Y	Y	Y	Y	Y	Y	Y
Year Dummies	Y	Y	Y	Y	Y	Y	Y

Source: Authors based on data from EAM.

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. The left-hand variable of the regression is the performance of a firm in a year. Multinationals#sector indicates the interaction term between the dummy of being a multinational firm and the dummy of a capital- and skill-intensive industry.

Table 3 Multinationals' spillovers are driven by their investments in capital-intensive industries

VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L
Horizontal = L,	0.220** (0.109)	0.088 (0.104)		
Backward: Capital-intensive = L,	0.497 (0.435)		0.290 (0.440)	
Forward: Capital-intensive = L,	1.409*** (0.366)			1.116*** (0.346)
Constant	10.263*** (0.078)	10.537*** (0.032)	10.539*** (0.037)	10.408*** (0.049)
Observations	83,557	83,557	83,557	83,557
R-squared	0.745	0.745	0.745	0.745
Year Dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y

VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L
Horizontal = L,	0.073 (0.105)	0.088 (0.104)		
Backward: Labor-intensive = L,	1.106 (0.832)		1.161 (0.823)	
Forward: Labor-intensive = L,	-4.216* (2.536)			-4.099 (2.536)
Constant	10.551*** (0.061)	10.537*** (0.032)	10.506*** (0.041)	10.624*** (0.039)
Observations	83,557	83,557	83,557	83,557
R-squared	0.745	0.745	0.745	0.745
Year Dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y

Source: Authors based on data from EAM.

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. lnVA_L refers to value added per worker (log) and lnK_L refers to fixed assets per worker (log). The left-hand variable of the regression is domestic firm's value added per worker (log) in a year.

Table 4 The impact of multinationals' entrance on employment and efficiency differs between the top FDI destinations and the laggard regions

VARIABLES	(1) lnK	(2) lnL	(3) lnYsale	(4) lntrade	(5) lnVA_L	(6) lnVA_L
Multinational entrance	2.290*** (0.707)	0.627*** (0.137)	1.544*** (0.433)	3.422*** (1.196)	0.826 (0.561)	0.470 (0.507)
Multinational entrance#region	-1.560** (0.780)	-0.274* (0.166)	0.198 (0.571)	-1.795 (2.020)	1.416* (0.845)	2.279** (0.974)
lnK_L						0.238*** (0.042)
Constant	14.723*** (0.047)	4.360*** (0.022)	15.766*** (0.035)	4.302*** (0.157)	10.511*** (0.043)	8.062*** (0.438)
Observations	13,440	13,440	13,440	13,440	13,440	13,440
R-squared	0.826	0.907	0.863	0.773	0.483	0.503
Year Dummies	Y	Y	Y	Y	Y	Y
Sector-region Dummies	Y	Y	Y	Y	Y	Y

Source: Authors based on data from EAM.

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. The left-hand variable of the regression is the performance of an industry at a region in a year. Multinaitonal entrance#region indicates the interaction term between the dummy on multinational entrance and the dummy of a laggard region.

Table 5 Regarding capital intensity and labor productivity, multinationals' lead over Colombia firms are significantly larger in the laggard regions than in the top FDI destinations

VARIABLES	(1) lnK	(2) lnL	(3) lnYsale	(4) lnYprod	(5) lnK_L	(6) lnVA_L	(7) lnVA_L
Multinationals	2.285*** (0.119)	1.106*** (0.068)	2.255*** (0.116)	2.366*** (0.082)	1.185*** (0.092)	1.157*** (0.067)	0.947*** (0.064)
Multinationals#region	-0.107 (0.247)	-0.448*** (0.150)	0.147 (0.198)	-0.106 (0.187)	0.356* (0.183)	0.454*** (0.139)	0.378*** (0.130)
Observations	102,409	102,420	102,420	102,420	102,281	100,266	100,255
R-squared	0.152	0.137	0.137	0.178	0.108	0.097	0.176
Age dummies	Y	Y	Y	Y	Y	Y	Y
Sector-Region Dummies	Y	Y	Y	Y	Y	Y	Y
Year Dummies	Y	Y	Y	Y	Y	Y	Y

Source: Authors based on data from EAM.

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. The left-hand variable of the regression is the performance of a firm in a year. Multinaitonals#region indicates the interaction term between the dummy of being a multinational firm and the dummy of a laggard region.

Table 6 Multinationals' investments in the laggard regions contribute to both horizontal spillovers and vertical spillovers while their investments in the top FDI destinations only to vertical spillovers

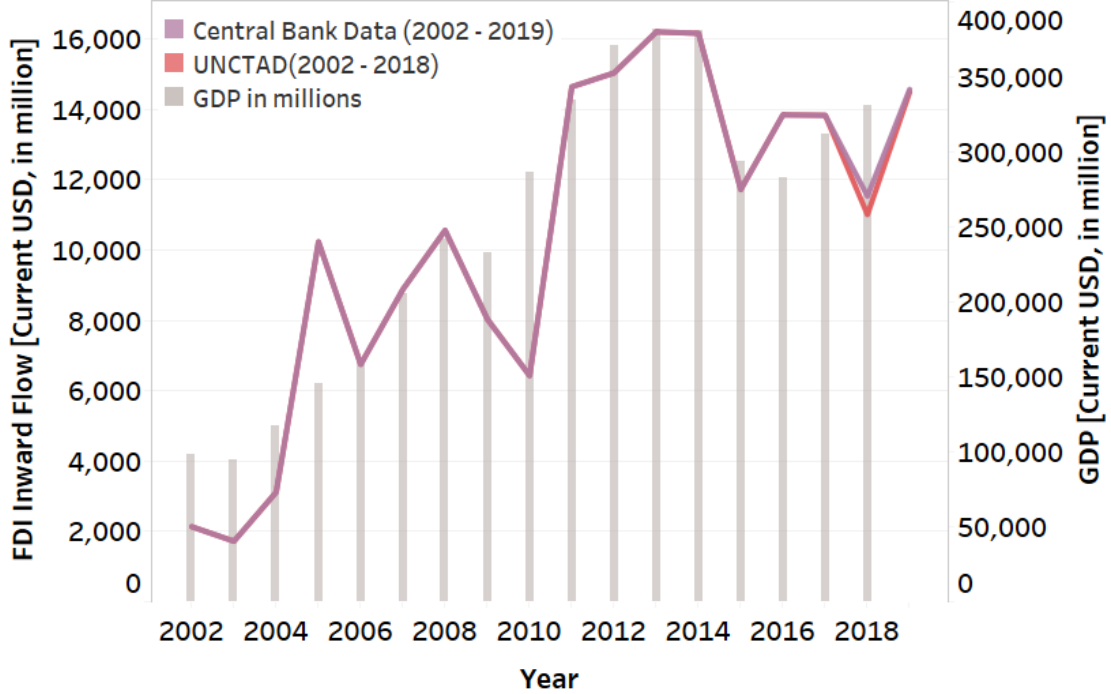
VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L
Horizontal: Laggard regions = L,	0.775*** (0.270)	0.677*** (0.261)		
Backward: Laggard regions = L,	0.761 (1.120)		-0.130 (1.101)	
Forward: Laggard regions = L,	2.904** (1.269)			1.996 (1.249)
Constant	10.441*** (0.046)	10.531*** (0.015)	10.565*** (0.027)	10.515*** (0.031)
Observations	83,557	83,557	83,557	83,557
R-squared	0.745	0.745	0.745	0.745
Year Dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y

VARIABLES	(1) lnVA_L	(2) lnVA_L	(3) lnVA_L	(4) lnVA_L
Horizontal: Top destinations = L,	0.064 (0.119)	-0.015 (0.114)		
Backward: Top destinations = L,	0.621 (0.392)		0.526 (0.387)	
Forward: Top destinations = L,	1.255*** (0.407)			1.139*** (0.390)
Constant	10.317*** (0.078)	10.566*** (0.029)	10.506*** (0.043)	10.414*** (0.051)
Observations	83,557	83,557	83,557	83,557
R-squared	0.745	0.745	0.745	0.745
Year Dummies	Y	Y	Y	Y
Firm fixed effects	Y	Y	Y	Y

Source: Authors based on data from EAM.

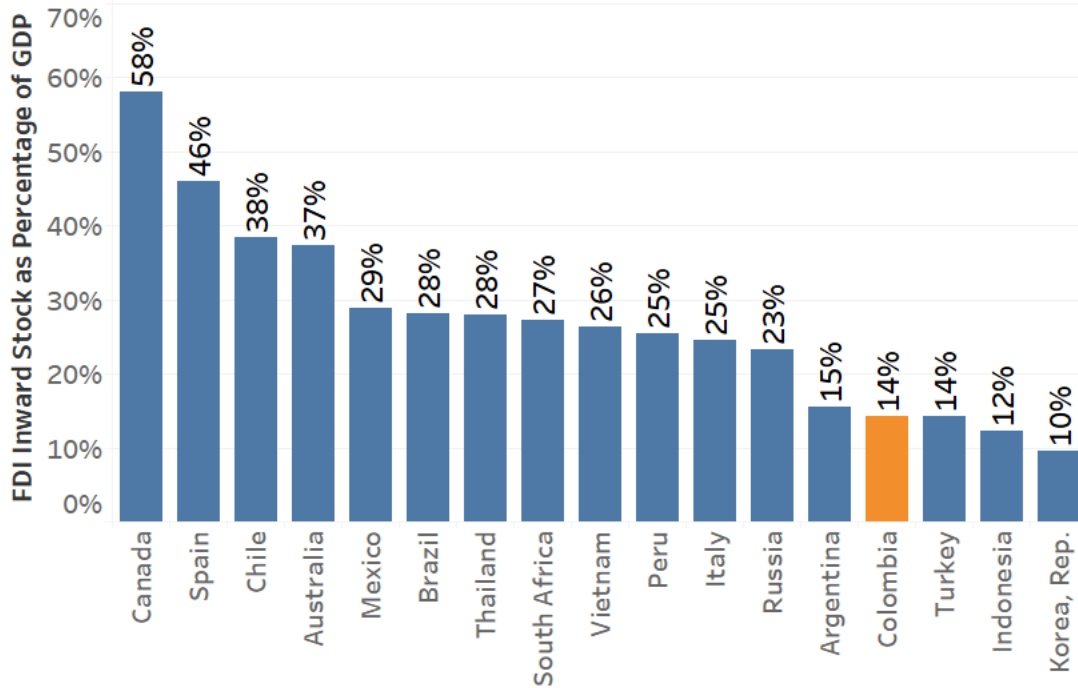
Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01. lnVA_L refers to value added per worker (log) and lnK_L refers to fixed assets per worker (log). The left-hand variable of the regression is domestic firm's value added per worker (log) in a year.

Figure 7 Inward FDI flow to Colombia has been stagnant since 2015



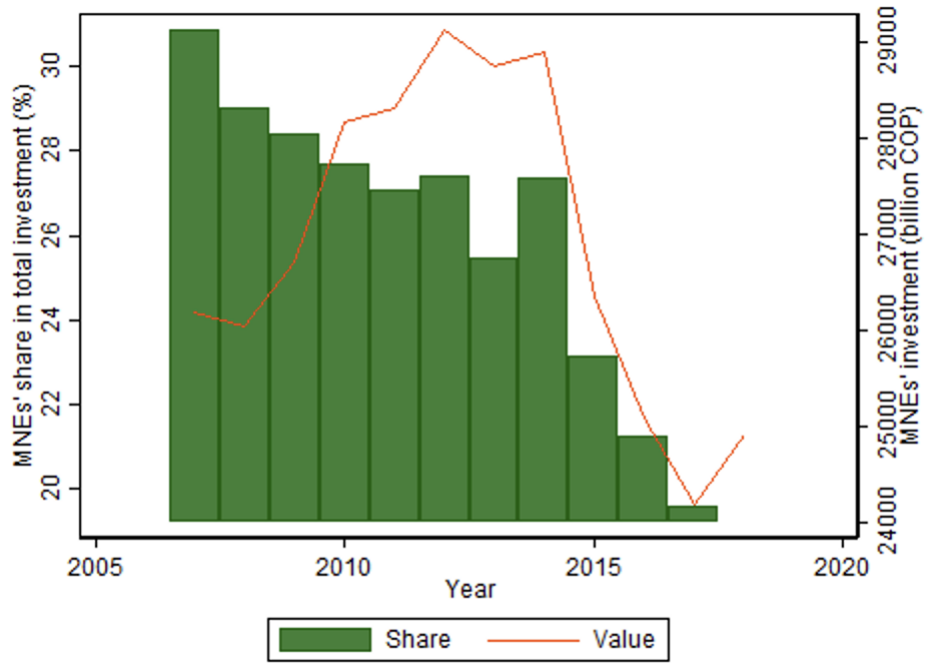
Source: Authors based on data from Banco de la Republica, UNCTAD, World Development Indicators.

Figure 8 Inward FDI stock accounts for a much smaller share of GDP in Colombia than in regional peers and several other aspirational comparators



Source: Authors based on data from IMF CDIS.

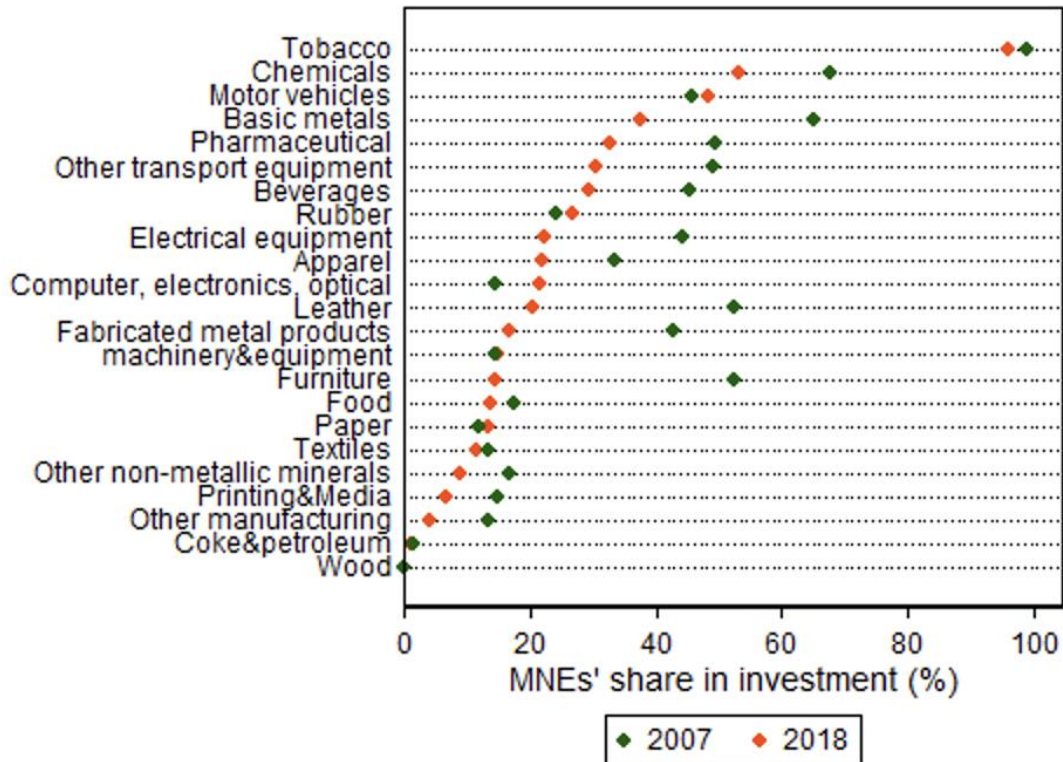
Figure 9 In manufacturing, there has been a sharp decline of foreign presence since 2013



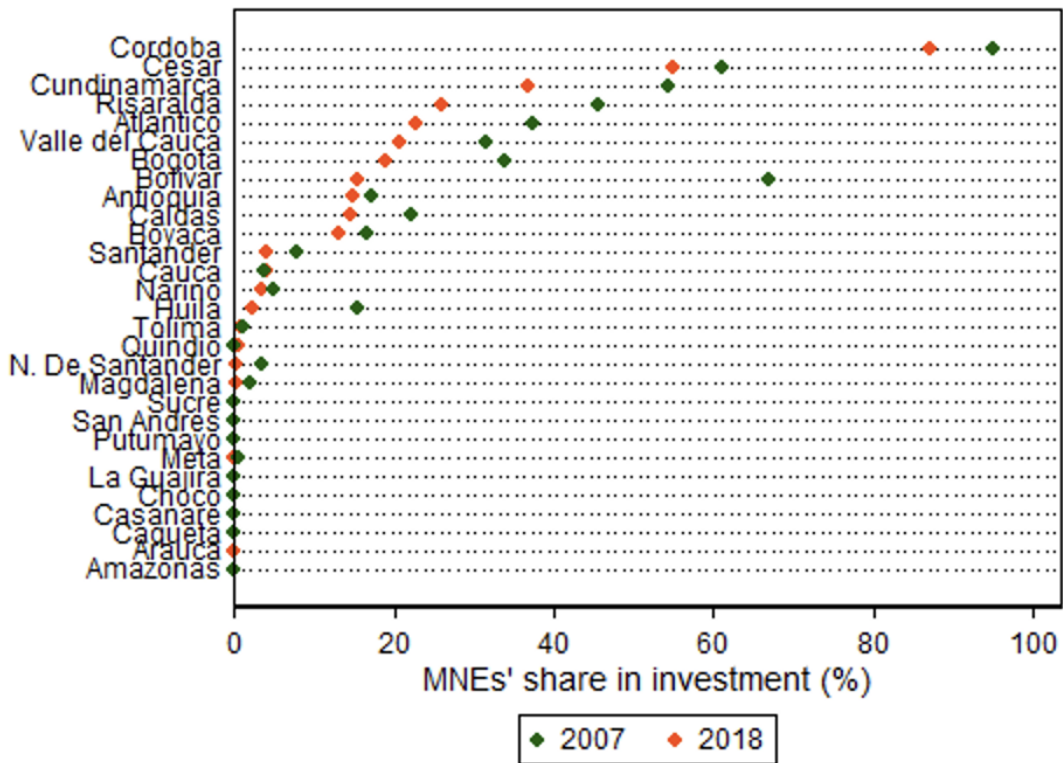
Source: Authors based on data from EAM.

Figure 10 The investment shares of multinationals' in almost all industries and all regions have either declined or stayed at the same level over 2007-2018

a. By sectors

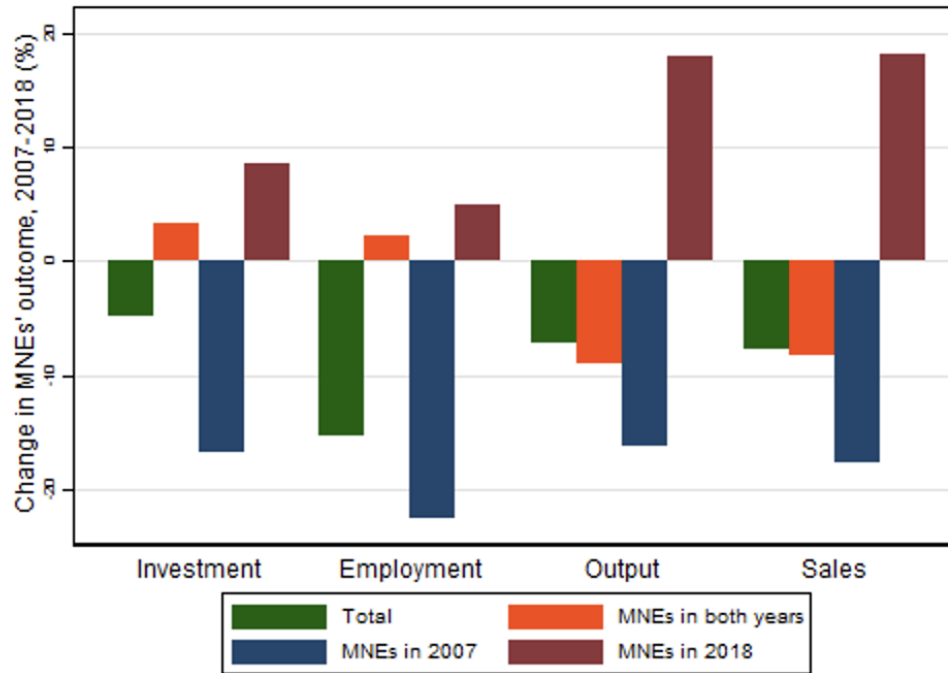


b. By regions



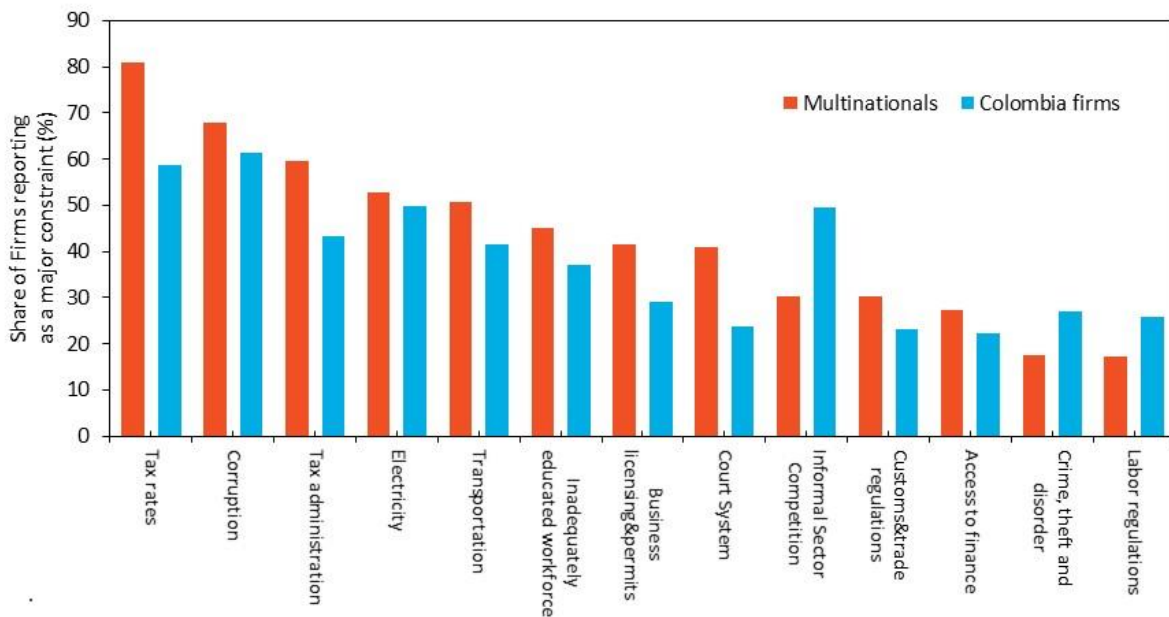
Source: Authors based on data from EAM.

Figure 11 The decline in multinationals' performance is driven by firm exits and slow growth of survival incumbents



Source: Authors based on data from EAM.

Figure 12 Multinationals face significant constraints



Source: Authors based on data from World Bank Enterprise Survey-Colombia 2006, 2017.

Figure 13a Colombia's composition of inward flow resembles other resource-rich countries more than manufacturing hubs

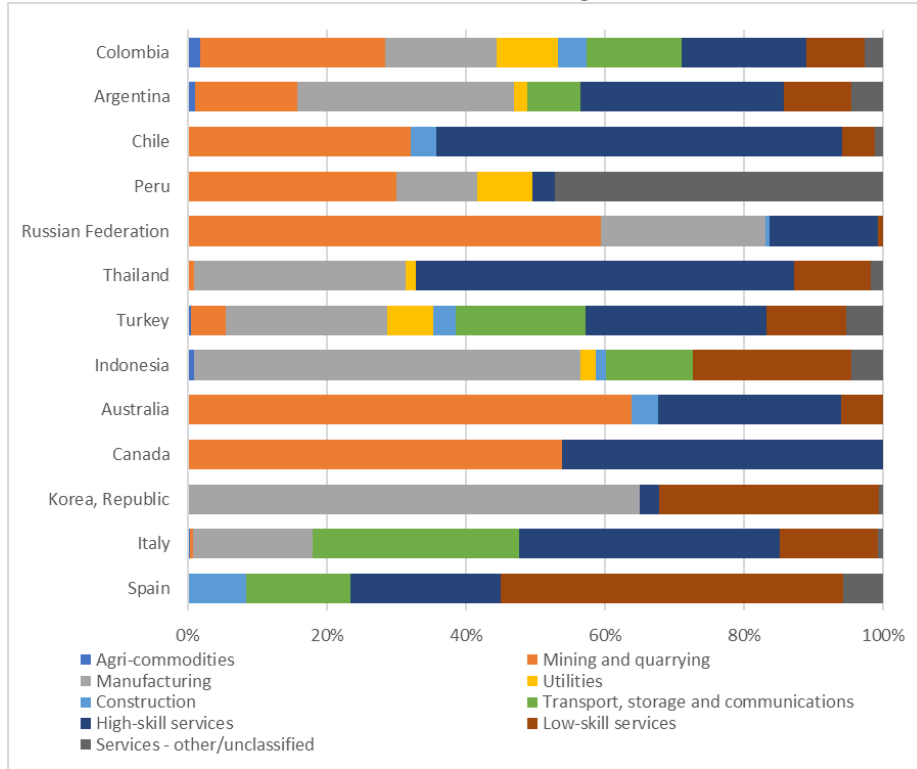
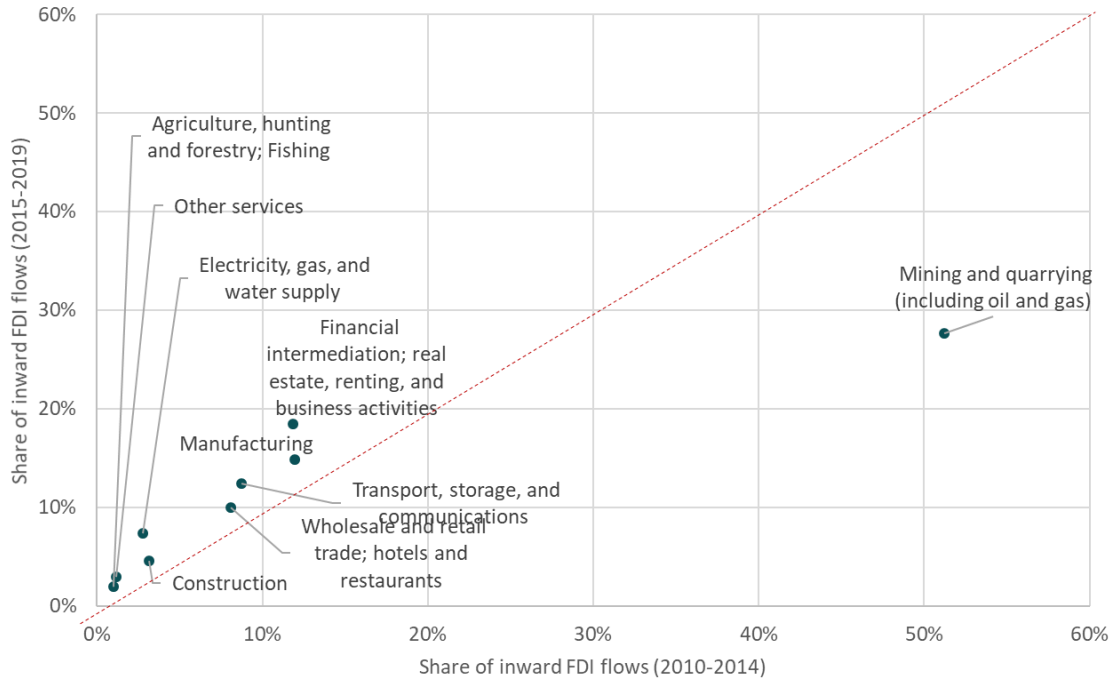
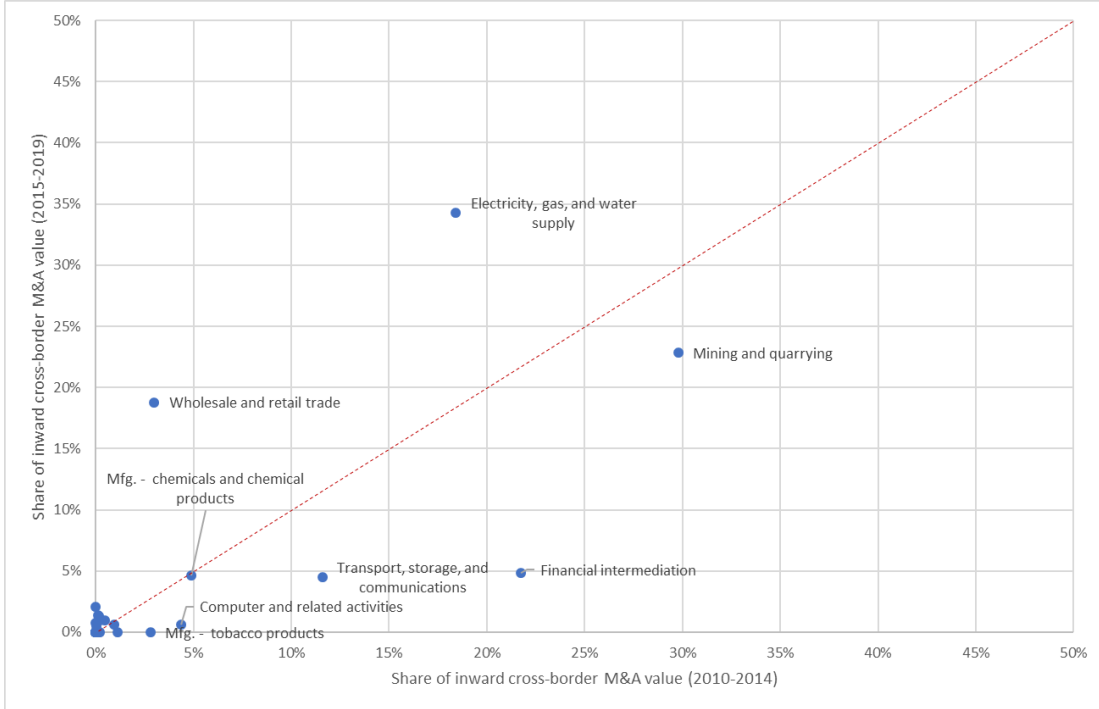


Figure 13b Extractive industries remain dominant in Colombia's inward FDI, despite the diversification since the 2014 commodity price crisis



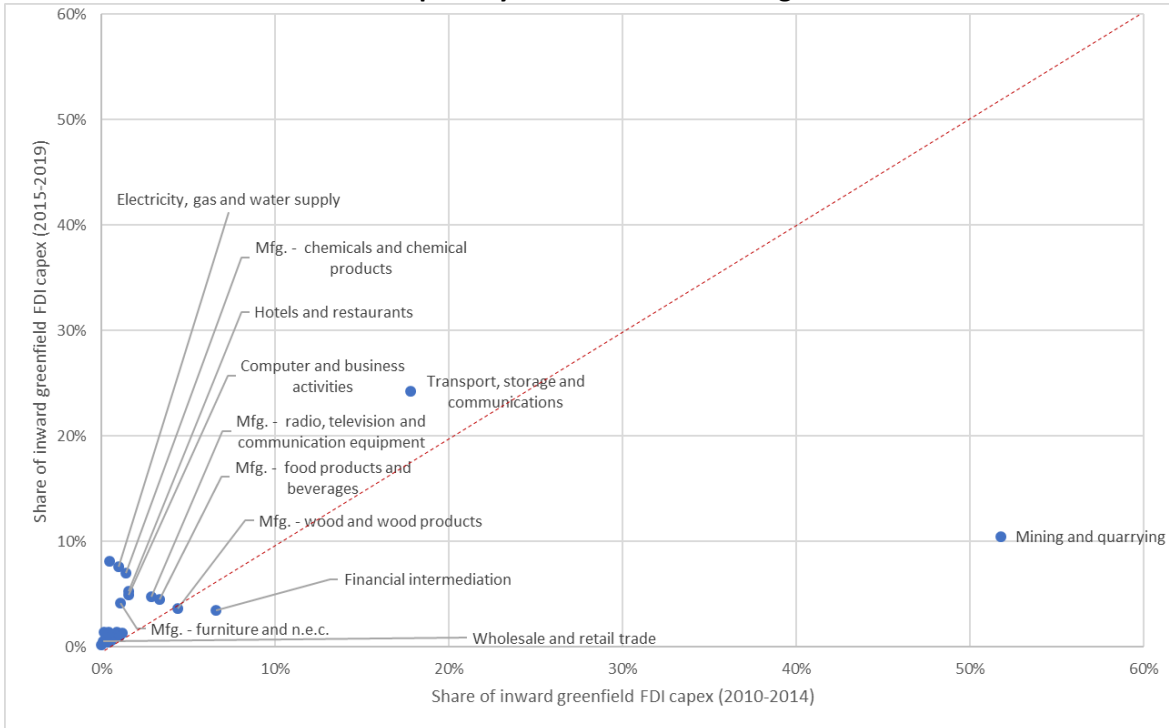
Source: Authors based on data from Banco de la Republica and International Trade Center.

Figure 14 Cross-border merge and acquisition (M&A) deals point to the continuing dominance of extractive industries despite some diversification



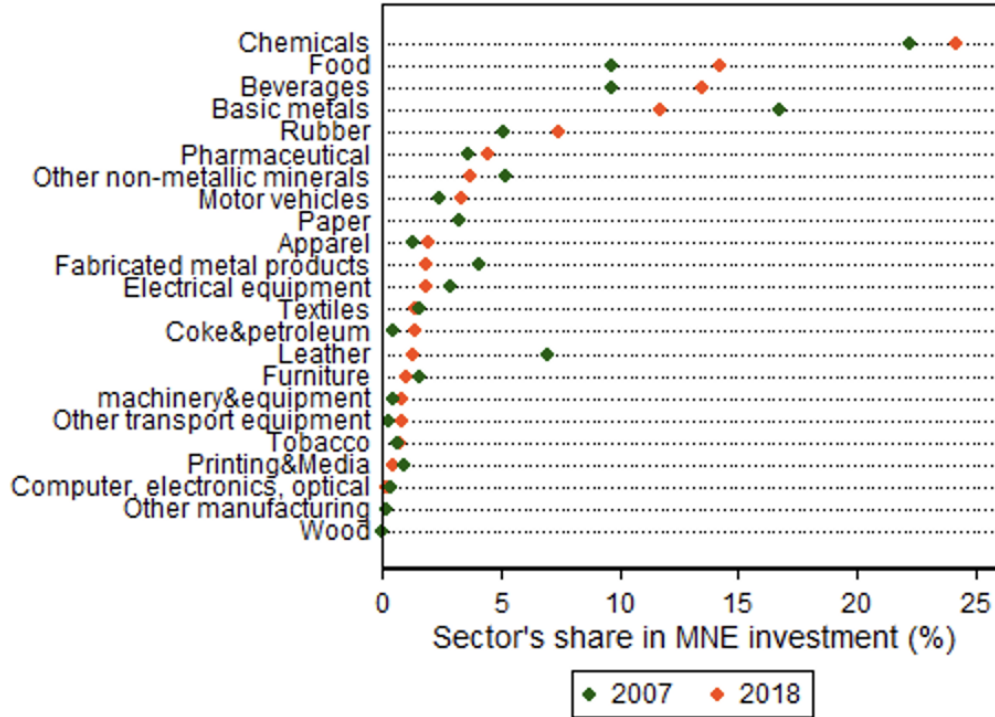
Source: Authors based on data from data from Thomson Reuters.

Figure 15 Greenfield investment announcements exhibited a stronger diversification trend, especially toward manufacturing



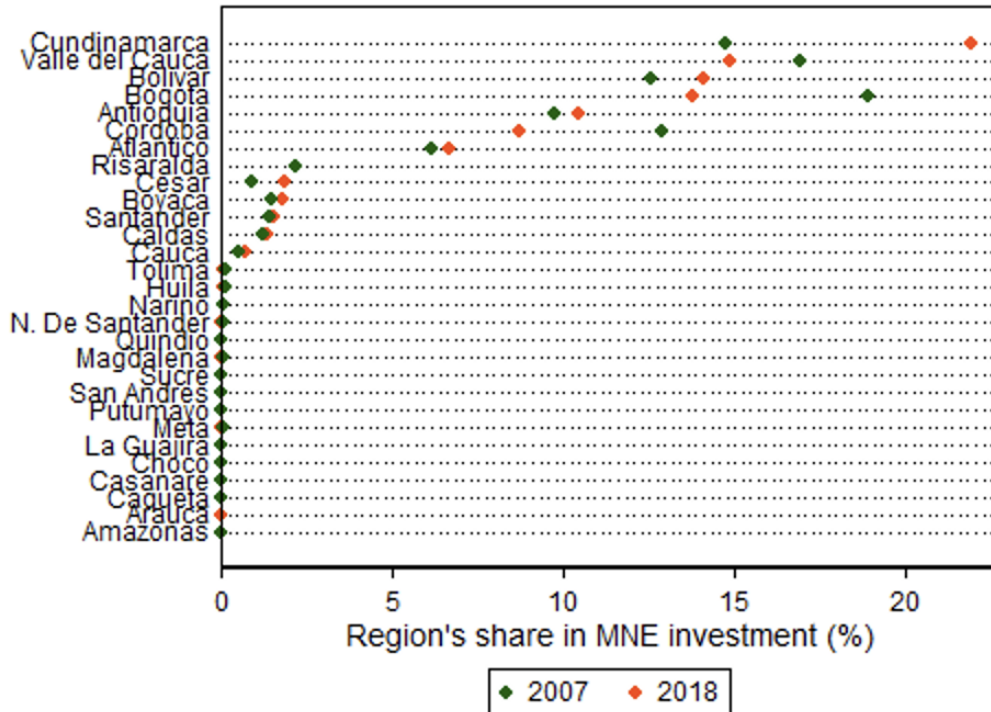
Source: Authors based on data from the Financial Times' fDi Markets Database.

Figure 16 Within manufacturing, multinationals also concentrate in a handful of industries, both capital- and labor-intensive but not the typical GVC industries



Source: Authors based on data from data from EAM.

Figure 17 Multinationals' investments in manufacturing have been geographically concentrated for over a decade.



Source: Authors based on data from data from EAM.

Table 7 Both broad-based improvements in regional investment climate and spatially targeted policies can potentially encourage foreign entrance into a region

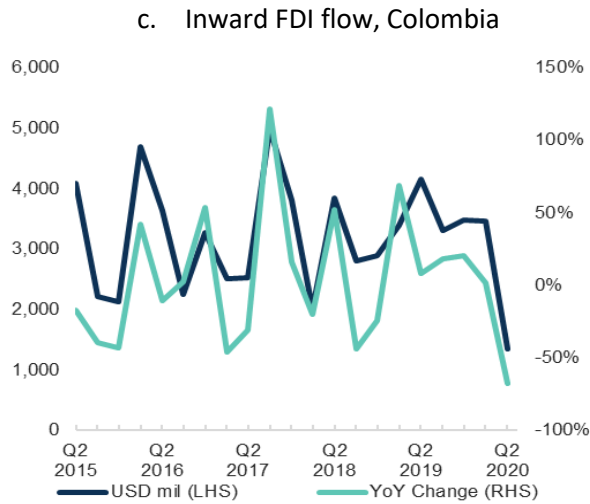
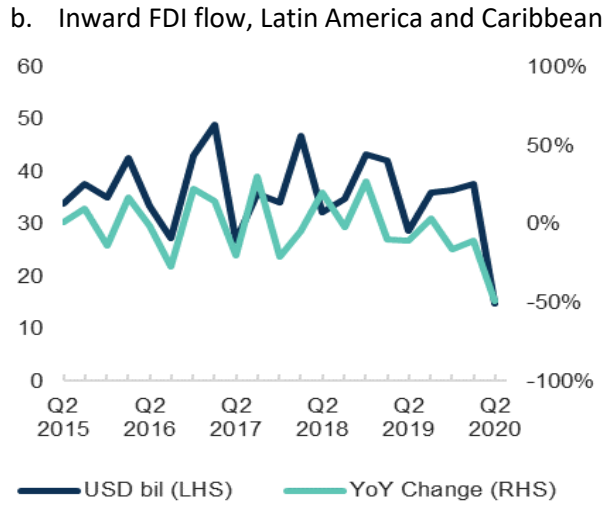
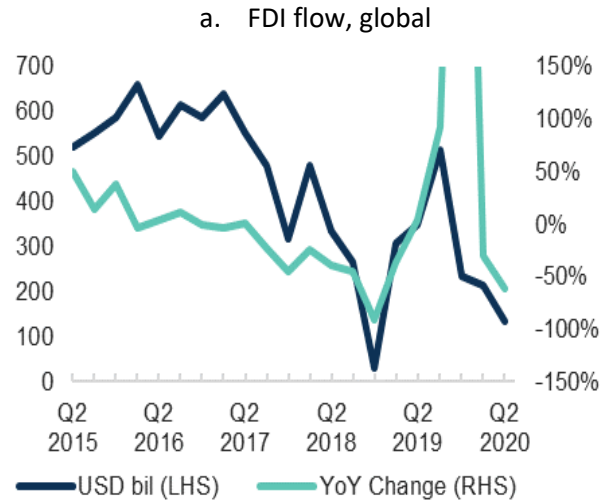
VARIABLES	(1) No. of MNE Entrance	(2) No. of MNE Entrance	(3) No. of MNE Entrance	(4) No. of MNE Entrance	(5) No. of MNE Entrance	(6) No. of MNE Entrance
Institutional efficiency	0.077** (0.032)					
Homicide rate	0.012 (0.020)					
Free trade zones		0.105** (0.044)				
Taxes			0.129 (0.117)			
Ease of business entry				0.165* (0.096)		
Ease of property registration				0.080 (0.073)		
Electricity coverage					0.351* (0.204)	
Road density					0.024 (0.021)	
Road quality					-0.025 (0.021)	
Internet penetration					-0.113 (0.108)	
Secondary education coverage						0.129** (0.057)
Observations	1,392	1,392	1,392	1,392	1,392	1,392
Year Dummies	Y	Y	Y	Y	Y	Y
Sector Dummies	Y	Y	Y	Y	Y	Y

Source: Authors based on data from data from EAM and CPC (2019).

Note: Standard errors are reported. Significant levels: *0.1 **0.05***0.01.

The analysis applies a poisson regression model to assess the association between regional policies and the industry-region level entrance of multinationals over 2013-2018. Only industry-region with any multinational presence over 2013-2018 is considered. Additional controls include the number of multinationals in the previous year, aggregate labor productivity and trade value at the industry-region level, and population at the regional level.

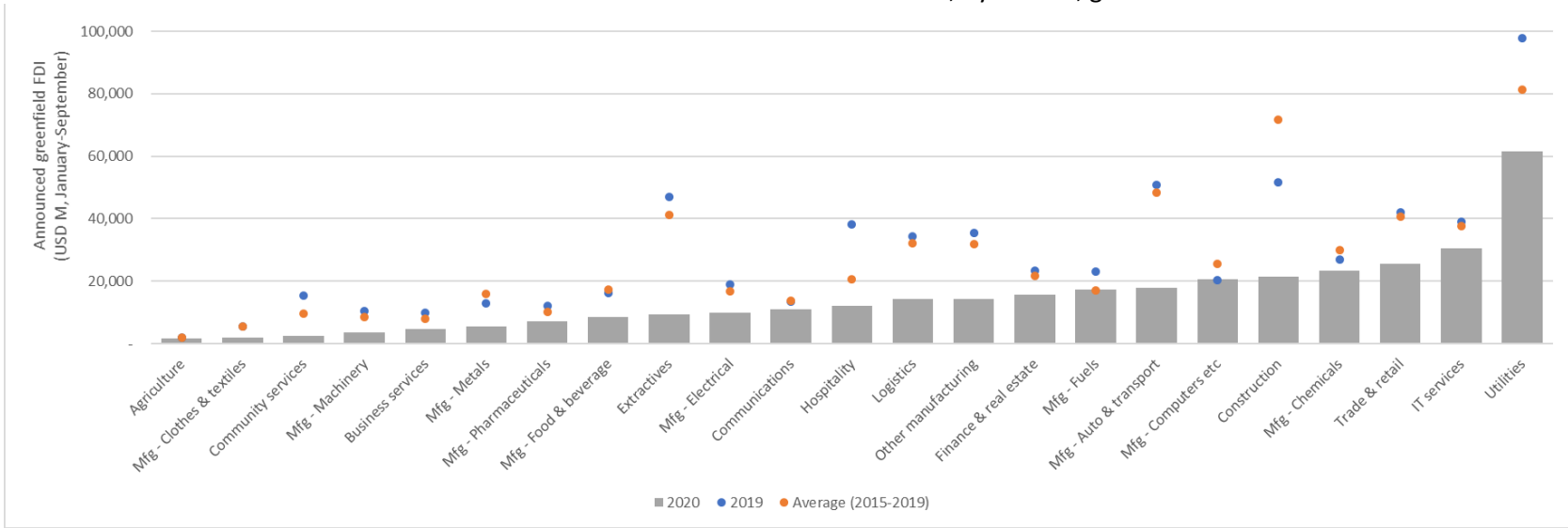
Figure 18 COVID-19 has led to a severe contraction of FDI globally and in Colombia



Source: Authors based on data from data from IMF.

Figure 19 There are considerable sectoral variations in the adverse impact of COVID-19 and countries' experiences also differ

a. Greenfield investment announcements, by sectors, global



b. Greenfield investment announcements, by sectors, in Colombia

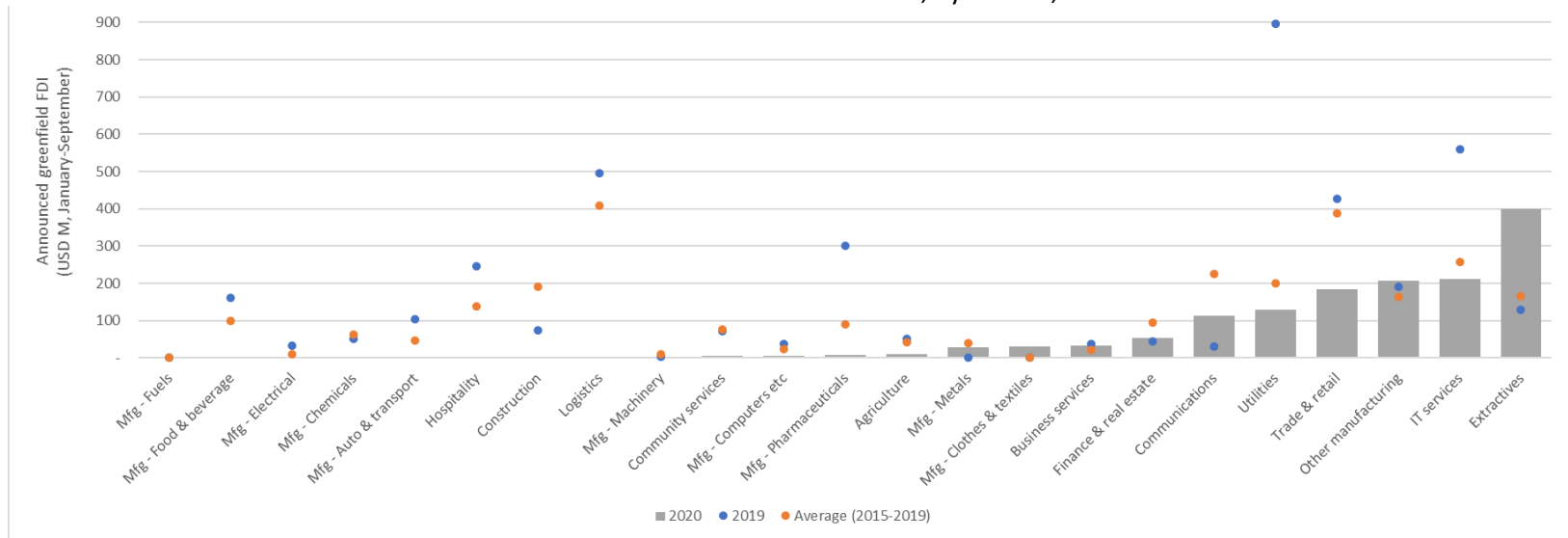
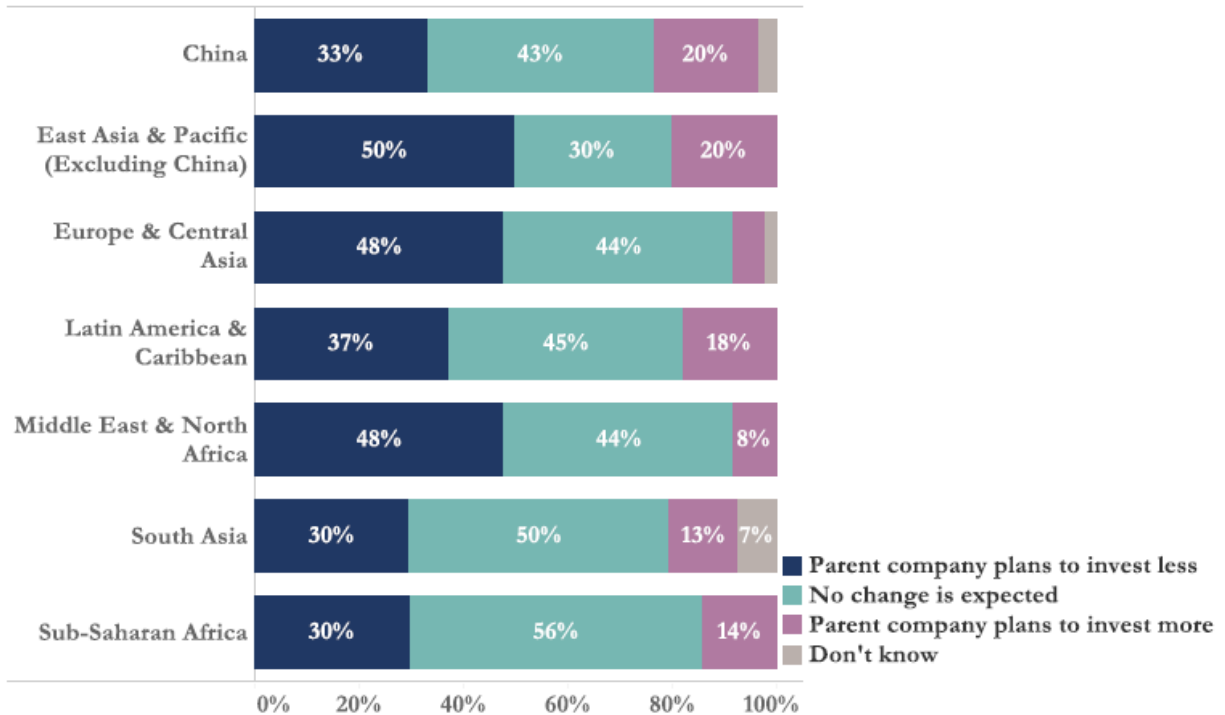
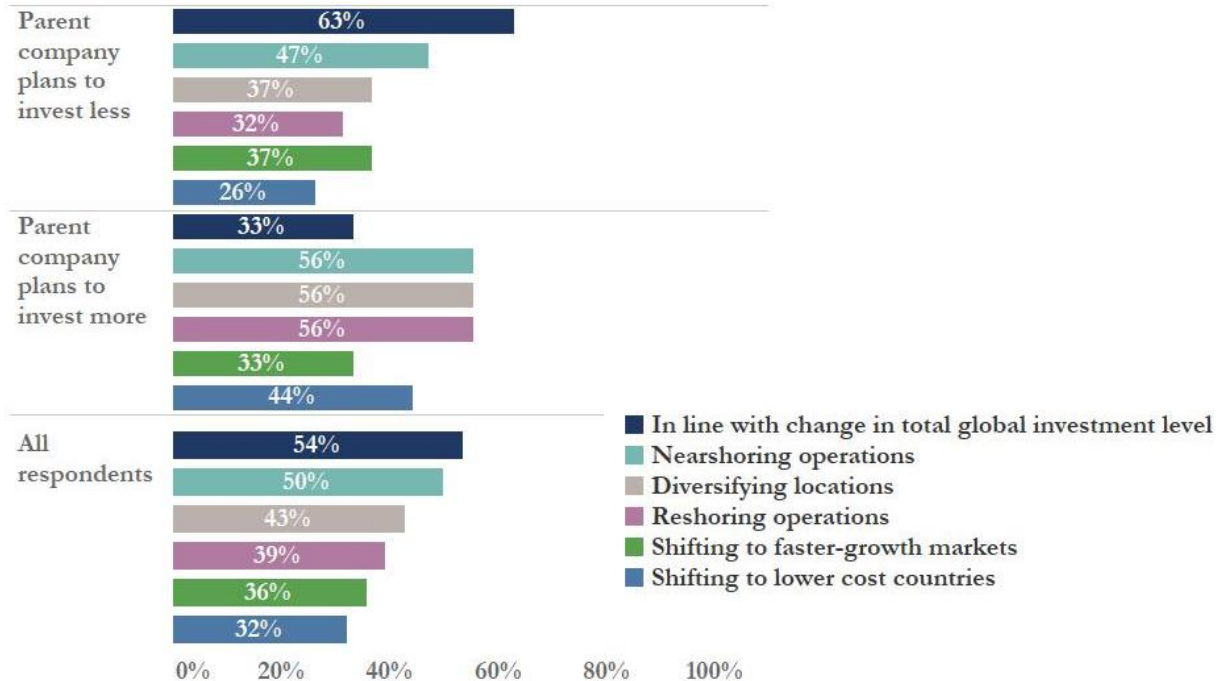


Figure 20 A reconfiguration of global investments and GVCs is likely underway, as multinationals considering nearshoring strategies and diversification needs to improve resilience

a. Distribution of expected changes in investment plans in current host economies, by regions

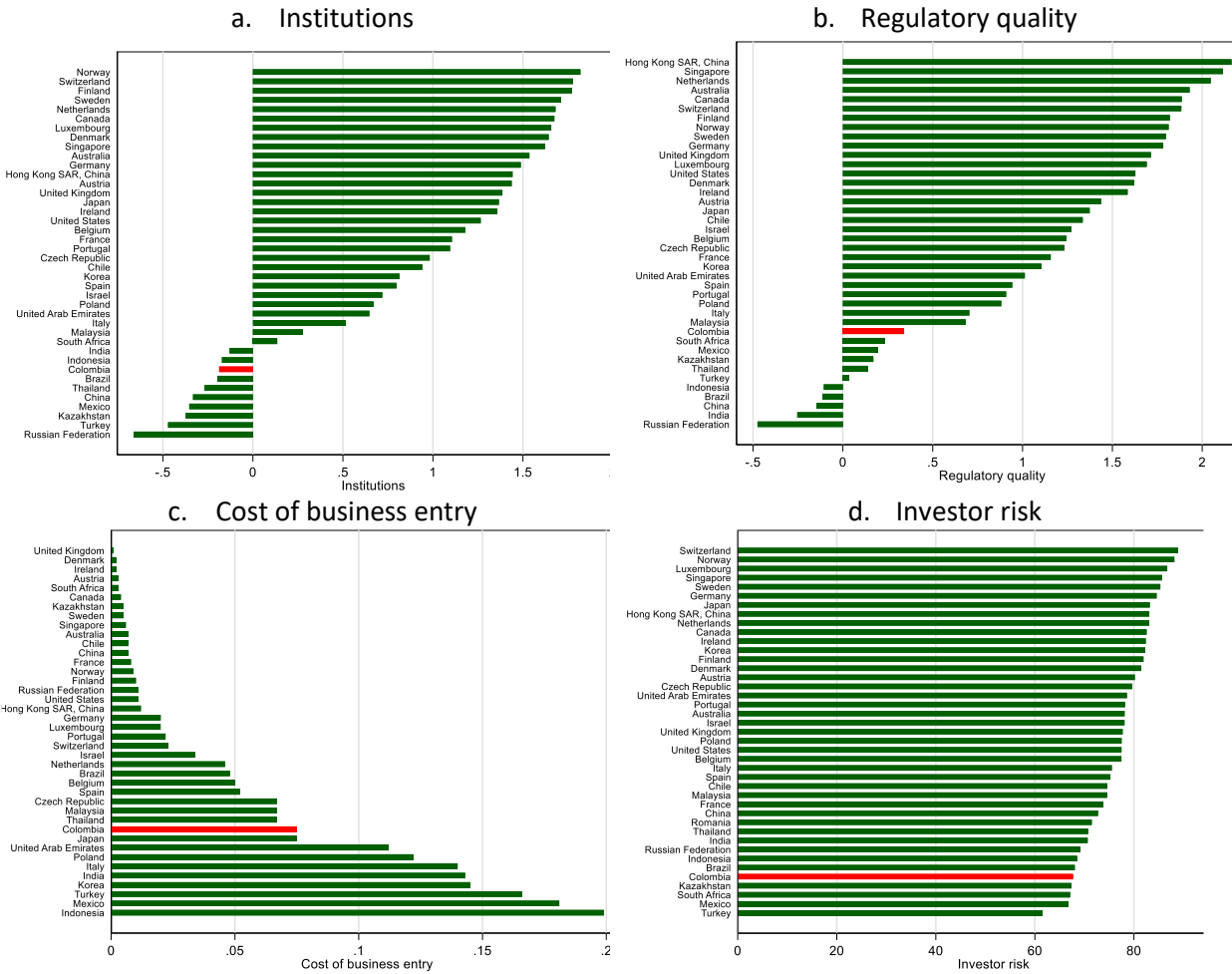


b. Distribution of reasons for changing investment plans, Latin America and Caribbean Region



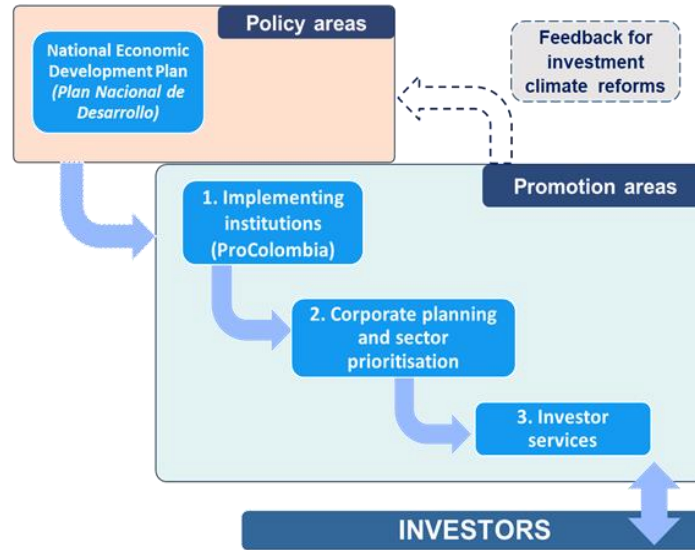
Source: Authors based on data of 305 multinationals located in developing countries from World Bank Investor Confidence Survey (2020, Oct).

Figure 21. Colombia needs to catch up with top FDI destinations on multiple fronts



Source: Authors based on based on data from Doing Business Indicators, WGI, ICRG of the PRS Group.
 Note: For institutions and regulatory quality, indicator ranges between -2.5 and 2.5 and larger numbers represent higher quality. For cost of business entry, indicator ranges from zero to a positive number and larger numbers represent higher costs. For investor risk, indicator ranges from zero to a positive number and greater values indicate lower levels of risk

Figure 22 Taking a cascading approach of investment strategic planning could be the first step toward better investment promotion



Source: Authors based on World Bank documents.

Figure 23 There should be a transitioning role to different intensity levels for ProColombia and regional IPAs in different stages of investment

Service category	Investment life cycle stage			
	Attraction	Entry and establishment	Retention and expansion	Linkages and spillovers
Marketing	National IPA			Subnational IPA
Information				
Assistance				
Advocacy				

Source: Authors based on World Bank documents.

References

- Aitken, Brian, Gordon H. Hanson, and Ann E. Harrison. "Spillovers, foreign investment, and export behavior." *Journal of International economics* 43, no. 1-2 (1997): 103-132.
- Antras, Pol, and Elhanan Helpman. "Global sourcing." *Journal of political Economy* 112, no. 3 (2004): 552-580.
- Bellak, C., M. Leibrecht, and J. P. Damijan. 2009. "Infrastructure Endowment and Corporate Income Taxes as Determinants of Foreign Direct Investment in Central and Eastern European Countries." *World Economy* 32 (2): 267–90.
- Economist, The. *The coronavirus crisis will change the world of commerce* (2020): April 8th 2020 Edition <https://www.economist.com/leaders/2020/04/08/the-coronavirus-crisis-will-change-the-world-of-commerce>
- Eslava, Marcela, John Haltiwanger, Adriana Kugler, and Maurice Kugler. "The effects of structural reforms on productivity and profitability enhancing reallocation: evidence from Colombia." *Journal of development Economics* 75, no. 2 (2004): 333-371.
- Eslava, Marcela, John Haltiwanger, Adriana Kugler, and Maurice Kugler. "Trade and market selection: Evidence from manufacturing plants in Colombia." *Review of Economic Dynamics* 16, no. 1 (2013): 135-158.
- Fedesarrollo 2020. Memorias del evento: "Fedesarrollo: 50 años de influencia en política pública", celebrado en Bogotá el 26 de agosto 2020.
- Fieler, Ana Cecília, Marcela Eslava, and Daniel Yi Xu. "Trade, quality upgrading, and input linkages: Theory and evidence from colombia." *American Economic Review* 108, no. 1 (2018): 109-46.
- Freund, Caroline, and Theodore Moran. "Multinational investors as export superstars: How emerging-market governments can reshape comparative advantage." *Peterson Institute for International Economics Working Paper* 17-1 (2017).
- Hebous, S., M. Ruf and A. Weichenrieder (2010): The Effects of Taxation on the Location Decision of Multinational Firms: M&A vs. Greenfield Investments. CESifo Working Paper. 3076.
- James, S. 2009. Tax and Non-Tax Incentives and Investments: Evidence and Policy Implications. FIAS, the World Bank Group.
- James, S. 2014. "Tax and Non-Tax Incentives and Investments: Evidence and Policy Implications." Foreign Investment Advisory Service, World Bank, Washington, DC.
- Li, Yue and Priyanka Kher. 2020. "Foreign Direct Investment and Investment Policy: An Analysis for the Russian Federation." Internal document. Washington, DC: World Bank. <https://hubs.worldbank.org/docs/imagebank/pages/docprofile.aspx?nodeid=32578985>
- OECD (2019). OECD Economic Surveys: Colombia 2019. <https://read.oecd.org/10.1787/e4c64889-en?format=pdf>

Overesch, M. and G. Wamser (2008): Who Cares about Corporate Taxation? Asymmetric Tax Effects on Outbound FDI. IFO Working Papers. 59.

Smarzynska Javorcik, Beata. "Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages." *American economic review* 94, no. 3 (2004): 605-627.

Kugler, Maurice. "Spillovers from foreign direct investment: within or between industries?." *Journal of Development Economics* 80, no. 2 (2006): 444-477.

UNCTAD. 2014. Report on the implementation of the investment policy review of Colombia.

World Bank. 2018. Global Investment Competitiveness Report 2017/2018: Foreign Investor Perspectives and Policy Implications, Washington, DC: World Bank. © World Bank.

<https://elibrary.worldbank.org/doi/pdf/10.1596/978-1-4648-1175-3>

World Bank. 2020a. Russia integrates: Deepening the country's integration in the global economy. Washington, DC: World Bank.

<http://documents1.worldbank.org/curated/en/921181607959469524/pdf/Russia-Integrates-Deepening-the-Country-s-Integration-in-the-Global-Economy.pdf>

World Bank. 2020b. World Development Report 2020 : Trading for Development in the Age of Global Value Chains. Washington, DC: World Bank. © World Bank.

<https://openknowledge.worldbank.org/handle/10986/32437> License: CC BY 3.0 IGO.

World Bank. 2021.. Catalyzing Investment for Green Growth. EFI Insight-Trade, Investment and Competitiveness. Washington, DC: World Bank.

Zolt, E. M. 2013. "Tax Incentives and Tax Base Protection Issues." Papers on Selected Topics in Protecting the Tax Base of Developing Countries Draft Paper 3, United Nations, New York, NY.