

# Economic Integration of Venezuelan Immigrants in Colombia

## A Policy Roadmap

DANY BAHAR, JOSÉ MORALES-ARILLA, SARA RESTREPO

### Abstract

This paper studies the formal labor market integration and firm creation of Venezuelan immigrants and refugees in Colombia between late 2019 to late 2021. It applies a novel framework to identify segments of the Colombian economy where Venezuelan immigrants and refugees are lagging behind. When it comes to labor market dynamics, we identify professional services as one of the sectors where Venezuelan workers are not integrating fast enough consistently across different parts of the country, hinting that the recognition of professional credentials might be an important bottleneck to effective integration. As for entrepreneurship, we find that sectors where there are fewer firm creations by foreigners as compared to locals include commerce and service industries all across the nation. This paper is accompanied by a set of downloadable files which list sectors of the economy in each geographic department with poor integration of Venezuelan immigrants both for labor markets and firm creation. These lists are meant to be used by national and local policymakers for further investigation of possible market failures or distortions hindering immigrant integration, given our results.

## **Economic Integration of Venezuelan Immigrants in Colombia: A Policy Roadmap**

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This paper is accompanied by a set of downloadable spreadsheets useful for policymakers. The spreadsheets list for each of the 32 departments of Colombia the different economic sectors according to their performance when it comes both to labor market integration of Venezuelans and firm creation of foreigners in recent years, as measured by the methodology exposed in this paper. The files can be downloaded [here](#).

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# 1 Introduction

As of October of 2022, 7.1 million Venezuelans had fled their home country, turning into the largest displaced population in the world, surpassing the Syrian and Ukrainian crisis (R4V, 2022). With little expectation of significant changes in the political situation in Venezuela anytime soon, this displacement situation may continue to unravel in the foreseeable future.

But the nature of the Venezuelan migration and refugee situation has changed. During the first few years of this massive outflow, Venezuelans fleeing needed a welcoming community and sufficient humanitarian assistance to make up for the vulnerabilities originated in Venezuela's complex humanitarian crisis. For instance, in Venezuela, according to the ENCOVI surveys, 96 out of 100 Venezuelans lived in poverty and 79 out of 100 in extreme poverty by 2019. Venezuelans living in extreme poverty also suffer from food insecurity IIES (2020).

A few years into this situation, new challenges have arisen. With the obvious understanding that nearly 7 million people will remain in their host countries for the foreseeable future, the most important challenge is to put forward public policies that facilitate the socioeconomic integration of Venezuelans in their receiving communities, offering the opportunity for them to reach their full potential win-win opportunities.

Colombia, being the largest hosting nation of Venezuelans –with nearly 2 million Venezuelan migrants and refugees– is at the forefront of this challenge. As such, the government of Colombia has put forward efforts to promote the economic integration of immigrants as an important priority. This is evidenced by, among other facts, the planning document by the National Council of Economic and Social Policy in Colombia (known by its Spanish acronym CONPES) released in June of 2022 outlining a strategy for socioeconomic integration of Venezuelan migrants as a determinant of economic development CONPES (2022).

The process to design policies to achieve socioeconomic integration of immigrants, however, requires a granular understanding of the current bottlenecks in the Colombian economy keeping Venezuelans out of the formal labor market or from starting new firms. In that context, this paper analyzes several sources of data at a very granular level, and proposes a data-driven framework to identify segments of the Colombian economy that require the attention of policymakers to boost economic integration of Venezuelan migrants. In particular, we use a variety of sources, that range from household surveys to administrative data, to offer policy insights on two fronts: labor market integration and entrepreneurial activity of Venezuelan immigrants in Colombia.

In terms of labor market integration, we first offer aggregate stylized facts on the situation of Venezuelan migrant workers in Colombia, touching upon aspects such as their participation in the labor force and the extent to which they enjoy the benefits of formal employment. Second, we put forward a data-driven framework to identify particular industrial sectors and departments where Venezuelan workers are lagging behind in terms of integration in formal labor markets.

It is important to note that the challenges in terms of labor market integration for Venezuelans in Colombia are, in a sense, not unique to Venezuelans. This is given the structural issues of the Colombian labor market, characterized by high degrees of informality. Thus, it is important to recognize that while targeted policies for Venezuelans can indeed facilitate their socioeconomic integration, there are larger structural issues in Colombia as a whole that require comprehensive reforms above and beyond the situation of Venezuelan immigrants.

In terms of entrepreneurial activity, we use the totality of the business registry of Colombia, known through its acronym in Spanish RUES, and identify firms created by Colombian vs. foreign citizens in the country.<sup>1</sup>

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<sup>1</sup>Unfortunately, we are unable to identify Venezuelan owners from the subset of

With this, we offer a comprehensive landscape of the type of firms created by foreigners in the country –most of them Venezuelans– and study some important policy-related aspects of these firms, mainly their levels of capital investments, which speak directly of the ability of their owners to access credit in the country.

In our methodology, we compare the growth in formal employment and entrepreneurship between Venezuelans with that of the overall population. Importantly, we correct for the fact that the prevalence of Venezuelans in Colombia is growing, and assess the growth in the relative participation of Venezuelans in each “segment” of the Colombian economy (different industrial sectors in each Colombian department). Benchmarking the performance of Venezuelans to the rest of the population helps estimate the number of Venezuelan agents that would have been expected had their participation remained unaltered. This allows us to estimate the number of “missing Venezuelan formal workers” and firms, which are our proposed measures to guide policy-makers’ attention in tackling constraints to Venezuelans’ labor and entrepreneurial inclusion. In essence, the number of “missing Venezuelan formal workers” captures the difference between the forecast number of Venezuelan formal workers in a given segment given the overall employment growth in that segment between 2019 and 2021 and the actual number. Our measures adjust for the fact that the number of Venezuelans in the population is growing over that time period.

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foreigner-owned companies in Colombia. This data is not immediately available in the RUES itself. In an attempt to address this methodological issue, we formally requested Migración Colombia to identify which firms were led by Venezuelan owners in the RUES in March, 2022. However, after months of interaction with the entity, we were denied access to this information without agreeing to a highly restrictive data user agreement that jeopardized our ability to perform independent research. We are confident, however, that by limiting our analysis to firms owned by foreigners, we are capturing informative patterns about the broader trends faced by Venezuelan business owners. This is because, simply put, the fast growing number of Venezuelans already captures the largest foreigner group in the country, and as such it is reasonable to assume that policy prescriptions based foreign-owned firms - as those introduced in this brief - are relevant for the Venezuelan population of potential entrepreneurs.

Our main findings suggest that overall Venezuelans are lagging behind in a number of labor market integration indicators, especially as their labor informality rates are about 7 percentage points higher than for Colombians. When looking at granular data, using our methodology, we find that departments such as Bogotá and Valle del Cauca, Antioquia, and Risaralda are Colombian departments where labor market integration of Venezuelans is falling behind as they have the largest numbers of “missing Venezuelan formal workers”. These “missing workers” are across different in the services industry, as well as industries such as communications, construction and commerce. Some of our results might suggest that accreditation of Venezuelan professionals might be an important barrier to their integration in the labor force. More generally, though, there could be reasons other than distortions or market failures that keep immigrants from integrating and are reflected in our figures. In that sense, our figures are not meant to be a definitive indication of the existence of market failures, but rather a first step to identify segments where there might be distortions, and as such, are meant to provide guidance to policymakers on where to invest efforts for further targeted investigations.

From the perspective of formal entrepreneurship, we find that, indeed, the share of foreign-owned firms has been increasing over time, as more Venezuelans arrive in Colombia. However, we also find evidence supportive of the hypothesis foreign-owned firms have been experiencing constraints in access to credit and other hurdles, as their initial capital investments and their survival rates have been decreasing over time, relative to comparable Colombian-owned firms. Through our more granular analysis we show that the places where we identify important constraints to firm creation as proxied by our measure of “missing firms” (analogous to our “missing workers” metric) are Bogotá, Atlántico, Cundinamarca, Valle del Cauca, and Norte de Santander. These “missing firms”, across the territory, are more prevalent in economic sectors such as commerce, services,

arts and agriculture.

An important contribution of this brief is a set of accompanying downloadable files which, using the methodologies we detail below, helps policymakers identifying segments of the economy –each a combination of 22 economic sectors and 32 departments of Colombia– where we find negative trends in terms of formal labor market integration of Venezuelan workers and of entrepreneurial activity of foreigners. We truly hope that this file can assist policymakers in their own jurisdictions to identify the possible constraints and subsequently provide policy solutions facilitate the socio-economic integration of Venezuelan immigrants in the country.

This document is structured as follows. First, we outline the data sources upon which we base our analysis. We then provide stylized aggregate indicators of Venezuelans' participation in Colombia's labor market. Next, we explain our methodology to detect the number of missing Venezuelan workers in each segment of the Colombian economy. We then shift attention to formal entrepreneurship, documenting stylized facts about firm creation by immigrant entrepreneurs. We then implement our diagnostics framework to estimate missing foreign formal firms across different segments of the Colombian economy. Finally, we conclude with a discussion about the implications of our findings and policy recommendations. Our report is accompanied by a methodological appendix that explains in detail the calculations we perform on the data as part of our analysis.

## **2 Data Sources**

In this exercise, we are focusing on the evolution of Venezuelans' labor and entrepreneurial participation between 2019 and 2021. We believe that focusing on this window can provide the most helpful sense about the absorption of the Venezuelan population in the Colombian economy. First, while the Venezuelan presence in Colombia continued to grow after 2019,

the peak of the migration shock had already stabilized by 2019. Therefore, we believe that focusing on events starting in 2019 narrows the attention to the absorption of a more stable group of inhabitants in the Colombian population. Second, the Special Permanence Permit (PEP) was created through Resolution 5797 of 2017, and was granted to Venezuelans registered in the National Registry of Venezuelans until December 2018. Since this was a key mechanism for the formalization of Venezuelan workers, we consider it prudent to analyze patterns of labor integration after the closure of the registry. Finally, we decide to focus on changes between 2019 and 2021 to assess Venezuelans' labor and entrepreneurial performance before the COVID-19 pandemic, and after its peak.

We leverage a few primary data sources in our analysis.

The first one is the Colombian household survey, the Gran Encuesta Integrada de Hogares (GEIH), collected by the Colombian statistical Department (DANE), which surveys a representative sample of 50,000 households every month. This survey is mainly used to generate labor market and poverty indicators, but it captures information about the nationality of surveyed households, among other characteristics. Starting in 2018, the DANE included a module of immigration in the GEIH that allows for a representative sample of Venezuelan immigrants and refugees in the survey. Thus, using these data, we can understand various stylized facts about Venezuelan immigrants and refugees regarding labor market participation in both formal and informal labor markets. Importantly, we identify Venezuelan migrant in the data as those individuals who declare having been born in Venezuela and also declared having lived in Venezuela five years prior to the survey date.

We further zoom into the formal labor market leveraging the administrative census of social security labor registries. The Planilla Integrada de Liquidación de Aportes (PILA) is collected by the Ministry of Health, and allows us to see nationals and foreigner workers in the formal labor



market. We work with an aggregated version of the PILA that provides the total number of employees by economic segment (industrial sectors by department) for each ID type used by employees. We acquired this data from the Ministry of Health through a formal data petition request. We identify Venezuelans in the PILA as those that register under the Permiso Especial de Permanencia (PEP) and the Permiso por Protección Temporal (PPT). While formal workers under these ID types are Venezuelan, we do not observe returning Colombian migrants, Venezuelan-born Colombian citizens, or Venezuelans that regularized their migration status through means other than the PEP and PPT. All in all, this data shows that as of the end of 2021, there were about 100,000 Venezuelans working in the formal sector in Colombia.

Finally, we leverage data from the entire Colombian business registry, known as Registro Unico Empresarial y Social (RUES). This include the universe of all firms created in Colombia since they were registered the first time, and information of their yearly registration<sup>2</sup> The RUES was obtained by us directly from CONFECAMARAS (the federation of chambers of commerce of Colombia) after a formal petition. It includes a information about firms in every year of registration, such as self-reported assets and employment.<sup>3</sup> This sample contains about 2 million firms, all created between 2015 to 2021, which implies the rate of firm creation is about 285,000 firms per year on average. We merge this sample to a version of the RUES from Colombia's open data portal (<https://www.datos.gov.co/>) which includes details on the type of identification of the owner of firms of sole proprietorship, but also of the legal representative of more complex

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<sup>2</sup>If a firm stops registering for several continuous years, it is possible to assumed the firm ceased to exist. Yet, it does happens that firms skip registration for a number of years and there are gaps in the information.

<sup>3</sup>About 1.5 percent of the observations of the RUES are duplicates. We decide to drop duplicates keeping the copy that corresponds to the earliest year of firm creation when there is conflict in that variable. In about 1 million observations firms report zero employment, which limits our ability to perform rigorous analysis that relies on that variable.

firm structures known as *Sociedades* (e.g., are akin to a corporation or an LLC in the United States).<sup>4</sup> In the sample, the most common type of identification is the *cédula de ciudadanía*, the national identification document of Colombians citizens. Yet, there are a sizable amount of firms for which the type of identification of their legal representatives is a passport or *cédula de extranjería*, the alien resident identification document, which implies these individuals are foreigners.<sup>5</sup> With this distinction between firms, our focus is on foreign-owned firms as our best approximation to the entrepreneurial activity of Venezuelans. We believe this is a good –though imperfect– approximation, particularly in the most recent years as the majority of foreigners in the country are Venezuelans.

### **3 Labor Market Integration of Venezuelans**

#### **Stylized facts and overview**

We start our analysis by focusing on patterns of labor integration of Venezuelans in the Colombian economy. This section first provides a brief analysis of recent trends in the main indicators of Venezuelans' broad position in Colombia's labor market. This analysis suggests that Venezuelans' relative informality remains the most worrisome marker of potential labor exclusion.

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<sup>4</sup>Sociedades register their National Tax Identity (NIT by its acronym in Spanish) as the type of identification in their registration. Yet, for those firms that list NIT the database has information on the identification type of a legal representative. Using this identification is how we identify Sociedades as foreign-owned or not. For Sociedades for which there is missing data on the type of identification of their legal representative, we assume the firm is not foreign-owned. We believe our assumption is a good approximation given than in our data, about 3 percent of all Sociedades are foreign-owned.

<sup>5</sup>For just a few dozen observations out of the 2 million data points we observe an identification type that corresponds to the special visas issued by the Colombian government to Venezuelan citizens, such as the PEP and the PTP. Given the small number, there is little analysis we can do with that sub-sample.

We leverage information from the Colombian Household Surveys, the GEIH, and measure the number of Venezuelans in Colombia, as well as their rates of economic activity, unemployment and informality. Moreover, we compare these rates to the broader Colombian population, and evaluate their evolution by benchmarking indices from 2021 to their values in prior years.<sup>6</sup>

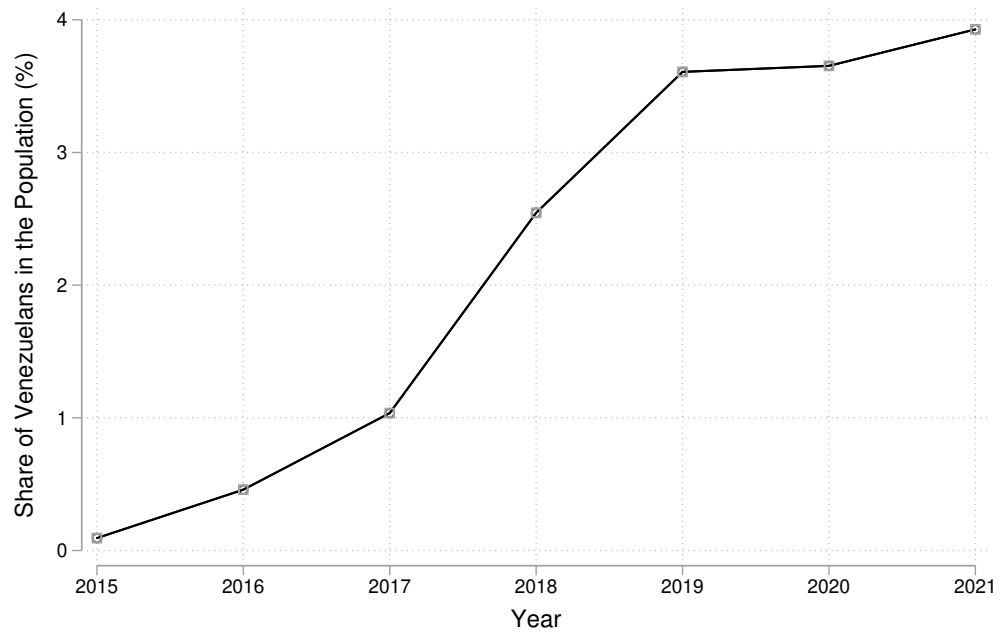
According to the GEIH, there were about 2 million Venezuelans living in Colombia 2021. Figure 1 shows that this number adds to about 3.9 percent of the population in the country, a share which was only 1 percent of the population in December of 2017 and close to zero in 2015. While the rate of migration inflows started to slow after 2019, the number and proportion of Venezuelans in Colombia continued to grow during the pandemic, perhaps contrary to the conventional wisdom. In fact, the number of Venezuelans grew by 11 percent between 2019 and 2021, as the total Colombian population remained largely unaltered, increasing the share of Venezuelans in the population from just over 3.5 percent to almost 4 percent.

According to the data, 73 percent of Venezuelans in Colombia were economically active by the end of 2021, which is defined as the share of Venezuelans that declare having a job or are looking for one. This contrasts with the rest of the population, as the overall rates of economic activity in the Colombian population was 67% 2021. As shown in Figure 2, these rates stood at over 80 and about 71 percent in 2017, respectively, and have been declining since then. But overall, the rate of Venezuelan immigrants active in the economy is slightly higher than the totality of the

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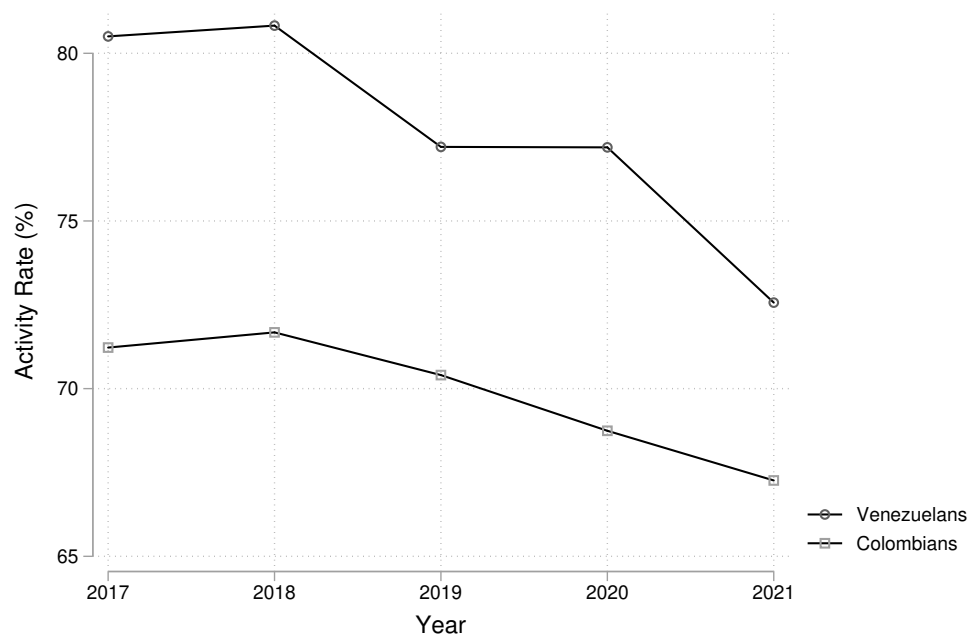
<sup>6</sup>We identify Venezuelan migrants as individuals born in Venezuela who were living in Venezuela 5 years before the interview. While the GEIH introduced its migration module that allows for a more accurate and representative picture of the Venezuelan population only in 2018 (which also allows to distinguish between Venezuelan citizens or returning Colombian citizens), we use the same definition of Venezuelan migrants for the years before 2018.

Figure 1: Venezuelans' share in the Colombian population



This figure shows the proportion of Venezuelans in the Colombian population each year between 2015 and 2021. Source: GEIH and authors' calculations.

Figure 2: Economic activity rates among Venezuelans and Colombians



This figure shows the proportion of economically active Venezuelans and Colombians between 2017 and 2021. Source: GEIH and authors' calculations.

population in Colombia.<sup>7</sup>

There are several possible reasons for the higher participation of Venezuelans in the labor force. For instance, migrants are younger, on average, than the Colombian population (which is the case according to the GEIH) and therefore, younger people are more likely to be part of the labor force. Another potential reason is economic need: migrants come in vulnerable situations and more people within a household must work in order to make ends meet.

As hinted above, a subset of those economically active participants might be looking for a job, or in other words, unemployed. By the end of

<sup>7</sup>Labor market figures for Venezuelans in Colombia for years before 2017 are highly distorted given the very few Venezuelan immigrants in the population in those years.

2021, the unemployment rate of Venezuelans in Colombia was 11.7 percent, while this rate stood at 11 percent for the rest of the economically active population in the country. As shown in Figure 3, these rates stood at above 12 percent and nearly 9 percent, respectively, by the end of 2017. While the overall increase in unemployment between 2019 to 2021 points to broader trends of the Colombian economy –potentially partly explained by the COVID-19 shock– Venezuelans are still lagging behind in terms of employment. However, the increase in unemployment for Venezuelans was smaller than the one for the rest of the population, which is perhaps “good news” from the perspective of labor integration. Yet, it is unclear to what extent these unemployed Venezuelans are protected by unemployment benefits or other safety nets that Colombians would receive when transitioning between jobs. Note that during the COVID-19 pandemic, in 2020, Venezuelan unemployment was below that of Colombians, and interesting stylized fact worth studying to better understand it.

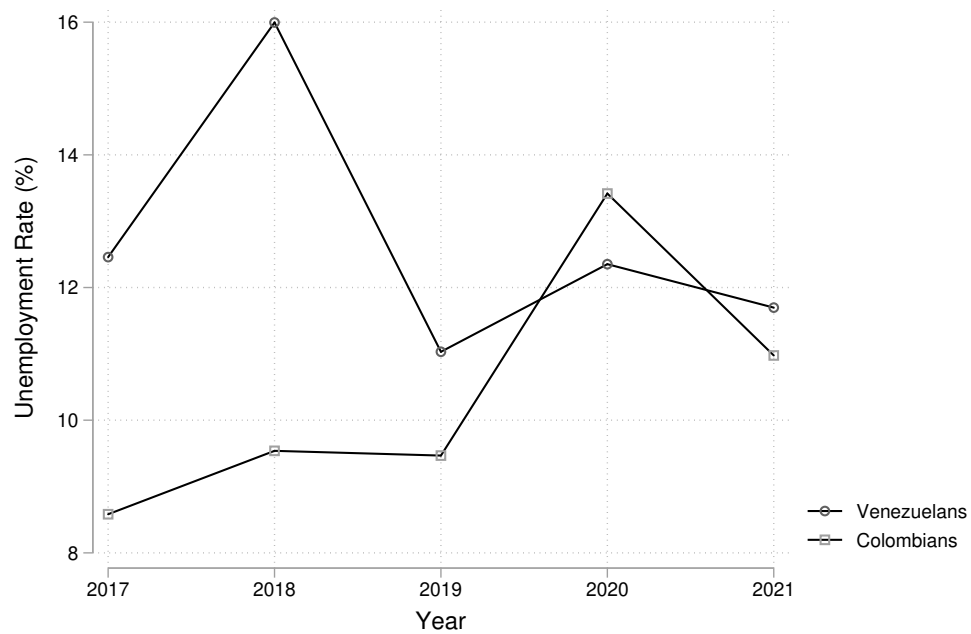
Perhaps the biggest “elephant in the room” when it comes to the situation of Venezuelans in the Colombia labor force is their rates of informality. By the end of 2021, about 51 percent of economically active Venezuelans in the Colombian labor force are in the informal sector according to the definition of DANE (Colombia’s Statistical Agency)<sup>8</sup>, while informal work rates were 44 percent for the rest of the labor market.

As shown in Figure 4, the rate of informality of Venezuelan workers in Colombia has always been significantly higher than for Colombians. In 2017, about half of Venezuelan workers were in the informal sector, whereas the same figure for Colombians was about 45 percent. The rate

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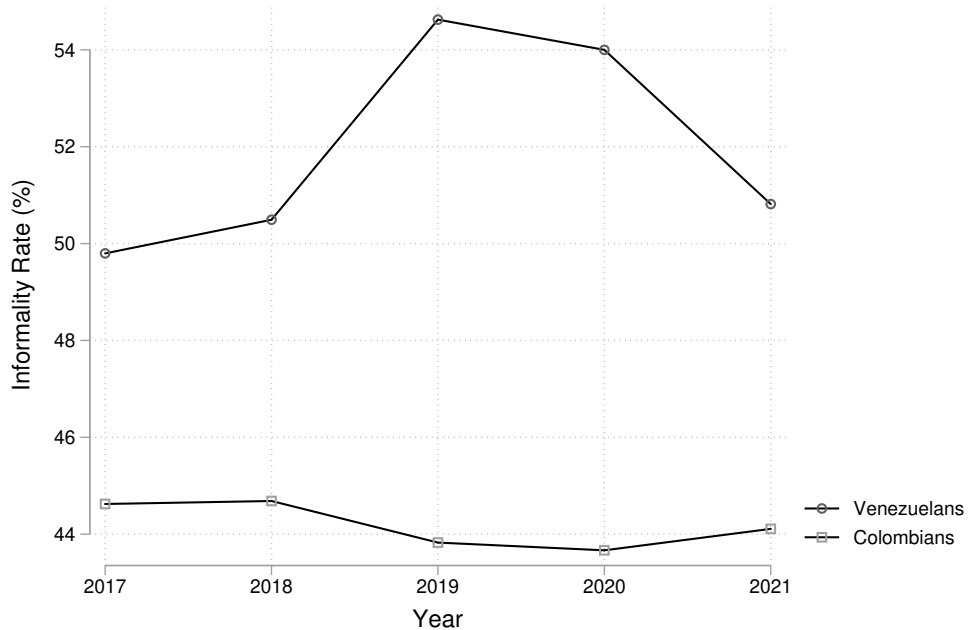
<sup>8</sup>Until 2021, DANE calculated informality according to the company’s size and the respondent’s occupational situation. According to their definition, which we use in this study, the definition of informality includes a worker who works in establishments, businesses or companies that employ up to five people in all their agencies and branches, except for self-employed professionals. It also includes unpaid family workers, unpaid workers in companies or businesses belonging to other households, domestic employees, day-laborers.

Figure 3: Unemployment rates among Venezuelans and Colombians



This figure shows the proportion of unemployed Venezuelans and Colombians between 2015 and 2021 as captured in the Gran Encuesta Integrada de Hogares (GEIH) of Colombia's Statistical Agency (DANE).

Figure 4: Informality rates among Venezuelans and Colombians



This figure shows the proportion of Venezuelans and Colombians working on the informal sector between 2015 and 2021 as captured in the Gran Encuesta Integrada de Hogares (GEIH) of Colombia's Statistical Agency (DANE).

of informality among Venezuelans increased overtime to a high of 54.6 percent in 2019, and while it has dropped since to the current levels of 51 percent, informality was largely unchanged for Colombians during that period.

While the growing formality rates among Venezuelans between 2019 and 2021 are an encouraging sign of the Government's decision to grant them protected status, the almost 7 percentage point difference in formality between Venezuelans and the rest of the Colombian labor market stands out to us as the most worrisome sign of constraints to the labor inclusion of Venezuelans in the Colombian Economy.

Therefore our focus in this brief is particularly on formal labor markets.



Not only because that is where we see the largest gap in terms of labor market integration, but also for the simple reason that successful integration includes having employment that encompasses not only payment but also the benefits, the stability and the certainty that simply is almost nonexistent in the informal sector. Moreover, through integration in the formal labor markets immigrants can also pay their fair share of taxes and augment their already rich contribution to society.

According to our sample from the PILA database, the number of Venezuelans that appear in such database –a proxy for their participation in the formal labor force–since mid 2017 to late 2021. As of December of 2021, the number of Venezuelan workers in PILA reaches almost 100,000. The positive trend throughout the time depicted in the graph is encouraging, but of course, during this same period Venezuelan immigrants kept flowing into the economy, so the trend is to be expected.

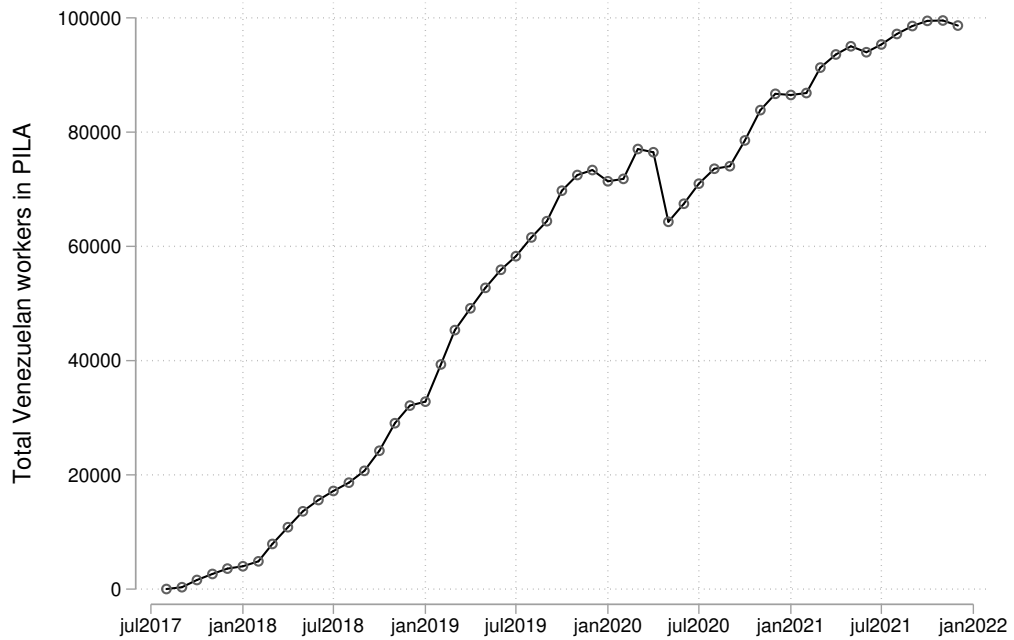
More generally, labor market integration of Venezuelans into the formal labor market, is not only the greatest challenge but also represents the greatest opportunity, and a win-win-win situation for the migrants themselves, their receiving communities, and the country.

## **A framework to assess and identify obstacles on labor integration of Venezuelans immigrants**

While gaps in economic activity, unemployment and informality rates seem to be converging between Colombians and Venezuelans, as shown above, the large and chronic lag in the participation of Venezuelans in Colombia's formal economy remains as the most worrisome aggregate sign of their potential labor exclusion.

Thus, in this section we describe and apply a methodology devised by us to identify constraints to labor market inclusion of Venezuelans. In particular, we use patterns of formal employment growth across segments

Figure 5: Number of Venezuelan workers in PILA



This figure plots the total number of Venezuelan workers, month by month, that appear in the PILA database, which is a proxy for working in the formal sector, since mid 2017 to late 2021. Source: PILA and authors' calculations.

(defined as economic sectors in each department) of the Colombian Economy for both Venezuelans and compare them to those of the rest of the population. This allows us to identify segments where labor market integration for Venezuelans was slower than for the rest of the population, hinting of important bottlenecks, though we do acknowledge that probably there might be other reasons that Venezuelans are not being hired at the same pace of others in the labor force, such as their set of skills or experiences. Yet, with these patterns we then calculate a number of “missing” Venezuelan formal workers per segment, which can be used for policy-makers to prioritize their attention in further assessing constraints to the labor integration of Venezuelans in particular 32 Colombian departments and 22 economic sectors (defined as "sectors" in the International Standard Industrial Classification) <sup>9</sup>.

Benchmarking Venezuelans to the performance of Colombian workers is important, as the latter capture the evolution of local and industrial labor market demands in the absence of the potential regulatory and social constraints that Venezuelans may be facing. Nevertheless, an adequate comparison of the employment growth observed between Venezuelans and Colombians in these narrow segments should consider the structural growth in the Venezuelan presence across the country. This is critical since, as we mentioned above, the number of Venezuelans in Colombia grew by 11.2% between December 2019 and December 2021, while the overall population in the country remained largely unaltered.

To perform this analysis, we will use data from the PILA, which is akin to the administrative census of all formal workers in Colombia, provided in aggregate form to us by the Colombian Ministry of Health (who administer the dataset). We use the aggregates of the number of workers in each

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<sup>9</sup>The sectors are Agriculture, Arts, Business Services, Commerce, Communications, Construction, Education, Electricity, Extraterritorial, Finance, Government, Health, Hotels/Restaurants, Household Employment, Manufacturing, Mining, Other Services, Real Estate, Professional Services, Transportation, and Water.

department and industrial segment for December of 2021 and December of 2019. Importantly, we classify these aggregates according to nationality, separating Venezuelans from the rest of the formal workforce.

Since the number of Venezuelans is also changing in that period of time (and therefore total employment of Venezuelans will also grow, naturally), we measure the relative importance of Venezuelans in a given segment of the formal economy. We do this by dividing the Venezuelan workers in that segment as a share of total workers in that same segment by the share of Venezuelans in the total population (see the Methodological Appendix for the formal equations).

For example, in the year 2021, Venezuelan workers made up 3 percent of total formal employment in the Hotels and Restaurant sector in Bogotá; while Venezuelans in that same year represented about 0.8 percent of all formal employment in the country. Therefore, in this case, the relative importance of Venezuelans in that segment is 3.75 ( $3/0.8$ ). This essentially means that Venezuelan formal workers are overrepresented in the Hotels and Restaurant sector in Bogotá by 3.75 times, given their share in the overall population of relevance.

While this sounds like a good example of labor market integration, interestingly enough, this same figure for 2019 was 4.25, implying that there was a drop in the relative presence of Venezuelan formal workers in this sector, implying that this is a sector where Venezuelans became worse off in terms of labor market integration throughout the two years. Our methodology thus takes into account the growth rate in the relative importance of Venezuelan formal workers in each segment as an input in identifying bottlenecks. In the case of Hotels and Restaurants in Bogotá, this growth rate is about -11 percent.

In addition, as part of our methodology we also compute the overall growth of formal employment for each segment based on formal employment numbers for all workers in the economy (also from PILA). This is

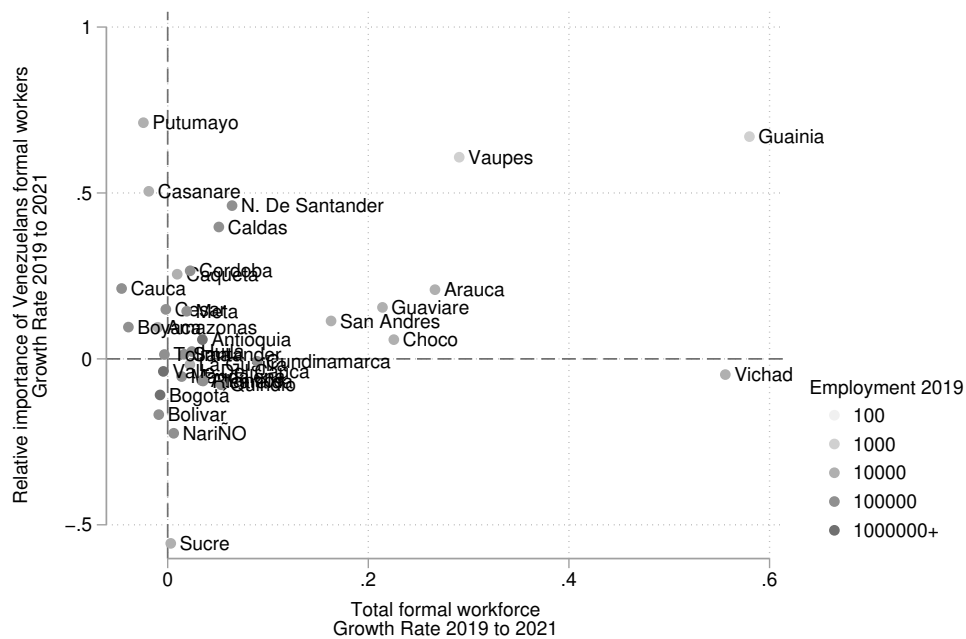
crucial as it serves as a benchmark measure that puts in context the relative presence of Venezuelans given overall labor market trends in that same segment. To continue with the example of the Hotels and Restaurants sector in Bogotá, formal employment fell by about 14 percent in that segment between 2019 and 2021. This implies that Venezuelan formal workers lost importance in that segment in similar (even slightly smaller) proportion than the segment as a whole. Thus, this puts in context the fact that while Venezuelans became worse off in terms of their presence in that segment, it is possibly an artifact of the economic shock to the sector as a whole and not driven by Venezuelan specific performance in that segment.

For example, Figure 6 plots these two growth rates for each of the 32 geographic entities (departments) in Colombia, while Figure 7 visualizes these two measures using the 22 economic sectors in our sample for Colombia as a whole.

In both figures the vertical axis measures the growth rate of our measure on the relative importance of Venezuelans in the segment explained above (and detailed in the Methodological Appendix). Following the same logic, the horizontal axis is the growth rate of total formal employment in that segment between 2019 and 2021. The markers are colored according to the size of the total size of the segment in 2019 in common logarithmic (10-based), such that the number 4 implies a sector that had 10,000 workers in 2019, and 5 that it had 100,000 workers in 2019, as detailed in the legend.

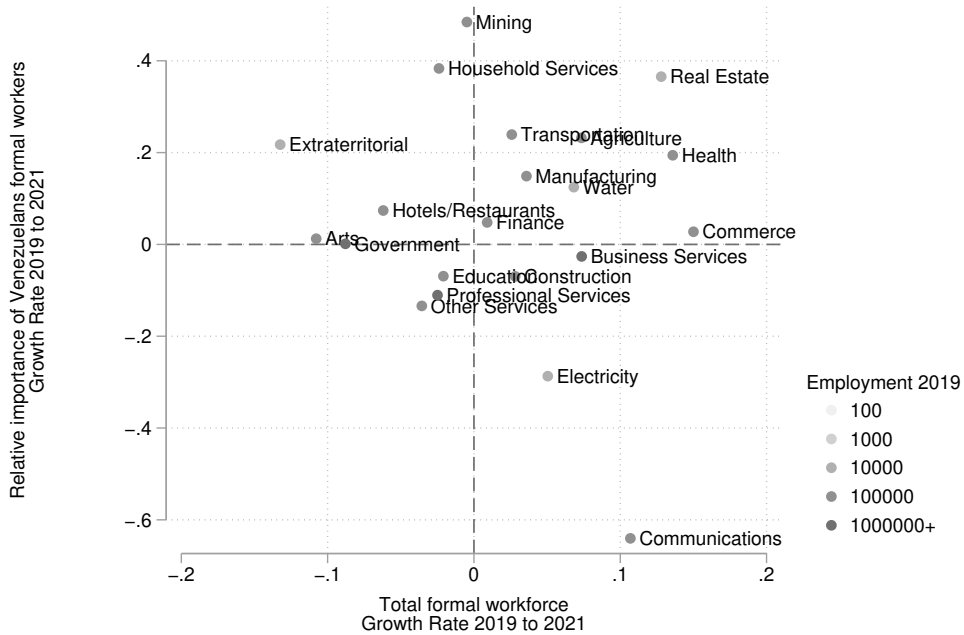
Dashed lines mark instances of no growth in the relative importance of venezuelans or in the size of the formal labor market (at values zero for both). Values to the left (right) of the vertical line are those where Venezuelans reduced (increased) their relative importance between 2019 and 2021, where values above (below) the horizontal dashed line are those where total employment in that segment grew (shrank) between 2019 and 2021.

Figure 6: Indicators of labor market integration of Venezuelans, by department



This figure plots the national growth between 2019 to 2021 of the total formal workforce (horizontal axis) and of the relative importance of Venezuelans in its formal workforce (vertical axis) by economic activity. The horizontal and vertical dashed lines represent no growth marks. The color of the markers resemble size of workforce at baseline (year 2019), with lighter (darker) colors representing smaller (larger) workforce sizes. Source: PILA and authors' calculations.

Figure 7: Indicators of labor market integration of Venezuelans, by sector



This figure plots the national growth between 2019 to 2021 of the total formal workforce (horizontal axis) and of the relative importance of Venezuelans in its formal workforce (vertical axis) for each department in Colombia. The horizontal and vertical dashed lines represent no growth marks. The color of the markers resemble size of workforce at baseline (year 2019), with lighter (darker) colors representing smaller (larger) workforce sizes. Source: PILA and authors' calculations.

Based on the dashed lines we can describe the four resulting quadrants as follows:

- **Win (upper right):** Segment grew and presence of Venezuelans also increased.
- **Resilience (upper left):** Segment shrunk, yet presence of Venezuelans increased.
- **Missed opportunity (lower right):** Segment grew and presence of Venezuelans dwindled.
- **Loss (lower left):** Segment shrunk and presence of Venezuelans dwindled.

While both lower segments are worrisome from the perspective of inclusion, we argue that policy makers should pay most attention to the “Missed Opportunity” quadrant, as prior observed patterns of Venezuelan participation should have led to increased employment opportunities for Venezuelans given the observed performance of a given segment.

Therefore, according to data in Figure 6, departments like Atlantico, Cundinamarca, La Guajira, Magdalena, Nariño, Quindio, Risaralda, Sucre, and Vichada experienced slow growth of Venezuelan integration in the formal labor force while the formal economy as a whole grew in terms of employment. These are missed opportunities for labor market integration of Venezuelans and are cases worth studying to identify possible bottlenecks at the departmental level. According to Figure 7, which looks at broader sectors for the national market, economic activity in sectors Communications, Construction, Electricity, and Business Services represent instances where Venezuelan formal labor market integration lagged behind the overall trend in the market during 2019 to 2021.

However, according to both figures, there are also good news. Observations in the upper right quadrant (or in both upper quadrants, in



fact) show positive signs of labor market integration of Venezuelans. This includes industries such as Manufacturing, Commerce, Real Estate, Finance, Agriculture and Transportation, among others; as well as places such as Norte de Santander, Arauca, Boyaca, and others.

Yet, this is an analysis that is worth doing at a much granular level. This is what is shown in Figure 8 which visualizes 503 points for combinations of 32 departments and 22 economic sectors in our dataset for which employment at baseline in 2019 had at least one formal employee (for points with zero formal employment in 2019 we cannot compute growth rates). One of these points, for example, is Hotels and Restaurants in Bogotá.

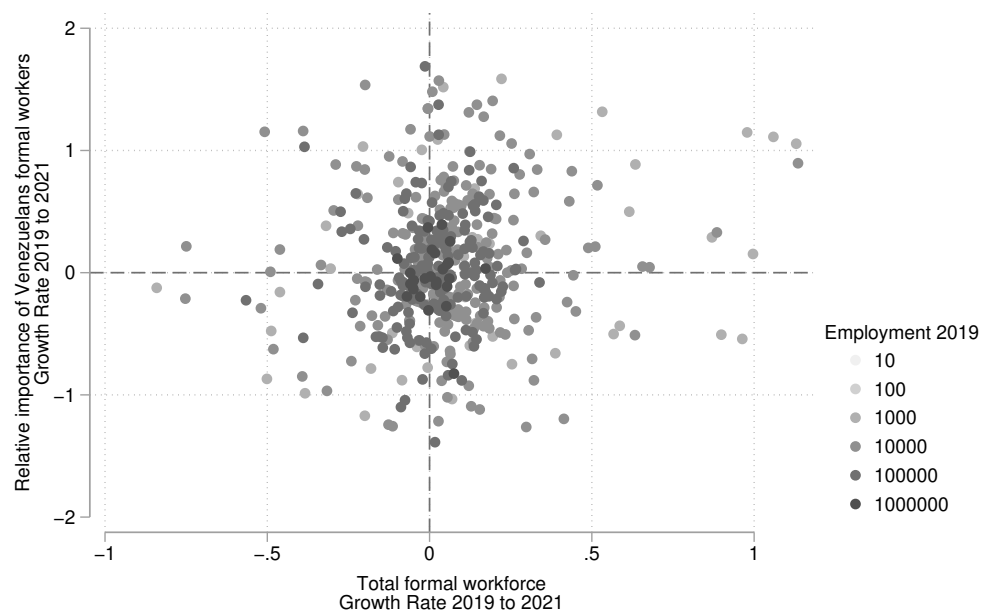
There are a 140 segments in this visualization that fall into the "missing opportunity" lower right quadrant. These, as explained above, are segments for which the formal labor market grew but the relative importance of Venezuelans in those segments, in contrast, shrank. But more generally, there could be segments in all other quadrants in which the growth in relative presence of Venezuelans has been underwhelming compared to the benchmark. In our next subsection we devise a methodology to rank all segments according to labor market integration of Venezuelans (or lack of thereof) according to a simple calculation, to provide policymakers with a list of segments that might require attention given possible bottlenecks keeping immigrants from integrating.

### **Computing the “*missing Venezuelans*”: identifying underperforming segments**

We can use relative importance rates per segment from 2019 to estimate the number of Venezuelans that would have been employed in a given segment in 2021 had it shown the same overall performance, but with unaltered Venezuelan participation rates.

This approach is helpful because it builds on the patterns described in

Figure 8: Indicators of labor market integration of Venezuelans, by segment



Note: For visualization purposes only values between the 1st and 99th percentile are shown.

This figure plots for each combination of 32 departments and 22 economic activities (e.g., segments) the growth factor between 2019 and 2021 total formal workforce (horizontal axis) and of the relative importance of Venezuelans in its formal workforce (vertical axis). The horizontal and vertical dashed lines represent no growth marks. The color of the markers resemble size of workforce at baseline (year 2019), with lighter (darker) colors representing smaller (larger) workforce sizes. Source: PILA and authors' calculations.

our framework, but weighs the events in a given segment by its relative size, allowing policymakers to rank them considering their performance, their inclusion of Venezuelans and their relative overall importance.

For example, according to our method the construction sector in Bogotá has 321 *missing Venezuelan formal workers*. The way we get to this number starts with the fact that we identify 2535 Venezuelans working in that segment in 2019. We multiply this by the growth factor of the overall employment in that segment between 2019 and 2021, which is 1.021 (i.e., a growth of about 2 percent). We then multiply again by the growth of Venezuelans in the formal labor market as a whole relative to the growth of the formal labor market as a whole, which corresponds to 1.312 (i.e., growth of about 30 percent), to make sure we account for the continuous growth of Venezuelans in the relevant population. This gives us 3395 workers. Since in reality, by 2021, there were only 3074 Venezuelan formal workers in that segment, we conclude that there were 321 missing Venezuelan workers. For the formal equations behind the calculation, we refer the reader to our Methodological Appendix.

These calculations allow policy makers to focus on a limited number of segments that display disproportionate levels of missing Venezuelans. Moreover, we believe that these estimates are helpful to rank segments ordinal to guide further quantitative and qualitative analyses to further assess patterns of exclusion and consider policies to address them. It is important to notice that these numbers are meant to serve as an ordinal guideline, not a cardinal one. While the calculation we make is based on real numbers, there are other factors (such as more flow from informal to formal labor markets, for instance) that could significantly affect the number of missing Venezuelans, which we unfortunately do not observe on the data. But to the extent that the patterns of labor market inclusion growth are indeed represented by the dynamics we see in the formal labor markets, our numbers do serve to prioritize certain segments over others.

The more granular analysis in the visualization presented in Figure 8 above allows us to list in Table 1 the ten combinations of department and economic activity with the largest numbers of *missing Venezuelans* according to our methodology. The communications sector in Bogotá stands out, by being a segment with overall growth in formal employment of about 8 percent between 2019 to 2021, whereas Venezuelan formal employment in that sector in 2021 was at 44 percent of the level it was in 2019 (e.g., a drop of 66 percent) with about 1800 *missing Venezuelans*. As explained above, this means that if the relative presence of Venezuelans in that segment would have evolved in the same way as the overall growth of the segment, we would have seen 1800 more Venezuelans employed than what we actually see, as of the end of 2021. This segment would be represented in the dot that is in the lower right quadrant of Figure 8 above. It is worth mentioning again that the numbers of missing Venezuelans (in the last column of the table) are only meant to serve as a uni-dimensional ordinal measure that allows us to identify sectors according to their performance in terms of labor market integration of Venezuelan immigrants. The actual number of Venezuelans that could be absorbed in that segment might be larger or smaller than that given a whole set of economic conditions.

Other economic sectors in Bogotá where there are important gaps between the overall growth and the integration of Venezuelans include administration (e.g., business services), science, construction, commerce and services, including professionals. It is no surprise that Bogotá appears so many times in this list, since the ranking takes into account the overall size of the segment. Bogotá being the largest city in the country, thus, would naturally tend to rank higher across all industries. However, there are other department and sector combinations in that list, such as Construction and Science in Valle del Cauca, As well as Professional Services in Antioquia and Administration in the Department of Risaralda.

Table 1: Worst performing segments integrating Venezuelans workers

Department	Sector	Growth Venezuelans	Growth Total	Missing Venezuelans
Bogotá	Communications	0.44	1.08	1,807
Bogotá	Business Services	0.89	1.06	842
Bogotá	Professional Services	0.91	0.94	520
Valle Del Cauca	Construction	0.70	1.05	506
Bogotá	Other Services	0.82	0.97	426
Bogotá	Construction	0.91	1.02	321
Valle Del Cauca	Professional Services	0.82	0.93	240
Antioquia	Professional Services	0.93	1.02	230
Bogotá	Commerce	0.95	1.06	220
Risaralda	Business Services	0.63	1.12	207

This table lists the ten worst performing segments (combinations of economic sectors and geographic departments) in terms of labor market integration for Venezuelan immigrants between 2019 to 2021, according to our measure of *missing Venezuelans*.

It is important to note that the prevalence of professional and business services in this list might hint that an important bottleneck keeping Venezuelans from integrating could be the difficulties immigrants encounter in terms of validating their professional credentials, which is an important requisite to work in the formal sector in many industries in professional occupations.

Table 2, in contrast, presents the segments for which the integration of Venezuelans in the labor force according to our metrics was the most successful between end of 2019 and end of 2021. Note that in this table, the numbers of *missing Venezuelans* (last column) are always negative, which might be counter-intuitive at first glance. But these are cases where Venezuelan workers overperformed in terms of labor market integration and there was a net gain of Venezuelans in that segment, which is represented by negative missing numbers. These negative missing numbers

Table 2: Best performing segments integrating Venezuelans workers

<b>Department</b>	<b>Sector</b>	<b>Growth Venezuelans</b>	<b>Growth Total</b>	<b>Missing Venezuelans</b>
Antioquia	Manufacturing	1.29	1.07	-864
Bogotá	Transportation	1.48	1.04	-424
Antioquia	Business Services	1.07	1.06	-351
Valle Del Cauca	Manufacturing	1.21	1.01	-188
Antioquia	Hotels/Restaurants	1.06	1.11	-146
Cundinamarca	Manufacturing	1.27	1.05	-144
N. De Santander	Construction	1.82	1.17	-139
Antioquia	Health	1.86	1.16	-138
Antioquia	Transportation	1.17	1.02	-131
Vichada	Commerce	1.39	5.93	-130

This table lists the ten best performing segments (combinations of economic sectors and geographic departments) in terms of labor market integration for Venezuelan immigrants between 2019 to 2021, according to our measure of *missing Venezuelans*.

occasions could serve to policymakers as examples of segments where integration is happening at fast rates, and perhaps there are lessons to be learned from those.

The manufacturing sector in Antioquia, for instance, stands out as a segment where Venezuelans have been successful in integrating in the formal labor market. For instance, the relative presence of Venezuelans in that segment grew by 29 percent between 2019 to 2021 (from the 1.29 figure in Column 7) whereas the segment as a whole grew by 7 percent (from the 1.07 figure in Column 8). In that sense, Venezuelans were able to join that segment faster than the overall formal labor force. The department of Antioquia, in fact, appears several times in the table in several sectors such as Administration, Hotels and Restaurants, Health, and Transportation. Therefore it is worth learning from their experience. Other segments in among the best performers are the transportation sector in

Bogotá, the manufacturing sectors in Valle del Cauca and in Cundinamarca, the construction sector in Norte de Santander and the commerce sector in Vichada.

An important contribution of this report is an accompanying downloadable dataset which provides these estimates of *missing formal Venezuelan* workers for each segment of the Colombian economy, that includes 22 sectors for 32 departments, so that policymakers across the country can use the tools at their disposals to identify possible bottlenecks to integration in their own jurisdictions.

Importantly, our identification of segments is by no means a definitive claim of the existence of market failures or distortions affecting integration in those same segments. We hope that a deeper analysis, including perhaps more data analysis alongside focus groups and interviews can distinguish between cases where there are prevalent distortions and market failures keeping Venezuelan immigrants from integrating, as opposed to other possible explanations which are not necessarily a reflection of a distortion. For instance, it could well be in some cases that Venezuelan immigrants simply do not have the right set of skills to work in a given industry. As such, we invite policymakers to use our results as a starting point of an investigation to identify possible market failures or distortions specific to each segment that could explain poor integration.

## **4 Immigrant Entrepreneurship**

### **Stylized facts on immigrant entrepreneurship in Colombia**

Another important way through which immigrants can participate in economic activity is not as employees but rather as employers. After all, the act of immigrating shares some characteristics as the act of becoming an

entrepreneur, namely the ability to take risks. In fact, in the United States it has been quite documented that immigrants tend to be entrepreneurs at disproportionate rates (e.g., Kerr et al. (2020); Azoulay et al. (2022)). As Bahar et al. (2022b) in their review of the literature also document, refugees show higher rates of entrepreneurship in places like Australia and the United Kingdom, as compared to natives.

However, in developing countries like Colombia, with many hurdles faced by everyone, and perhaps especially so by immigrants, such as limited access to credit markets, limited social networks and lack of understanding of local markets, entrepreneurship might be particularly a very risky proposition. In fact, a recent study by Bahar et al. (2022a) shows that undocumented Venezuelan immigrants who receive a visa increase their rates of entrepreneurship by a factor of ten, hinting that having access to formal markets, as well as more certainty about the length of their stay, is an important factor determining immigrant entrepreneurial activity.

As such, entrepreneurial activity of immigrants can respond to policy levers that aim to solve latent market failures keeping individuals from creating their own businesses. Therefore in this section we focus on patterns and trends in *formal* entrepreneurship amongst Venezuelans in Colombia, to understand, if any, possible bottlenecks that if resolved can boost business creation by these immigrants, that in turn could be engines of job creation.

In particular, we use the RUES, the complete business registry of firms in Colombia to study all the firms created from 2015 to 2021 in order to document trends regarding firm formation in Colombia by foreigners. Unfortunately, we are unable to identify owners of firms as Venezuelans because that data is not available to us.<sup>10</sup> Yet, by understanding and documenting patterns of entrepreneurship by foreigners in Colombia, we are certain we

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<sup>10</sup>As noted in footnote 1, our attempts to get this data from Migración Colombia were unsuccessful.



are documenting evidence that is indicative of the entrepreneurial activity of Venezuelan immigrants, since Venezuelans have become an increasingly larger share of all foreign citizens in the country.

We focus on formal business creation for the same reason that we focus on formal jobs in the previous section. Simply put, because we are interested in understanding bottlenecks to business activity that represent win-win-win situations: For the government, for the immigrants, and for the Colombian people.

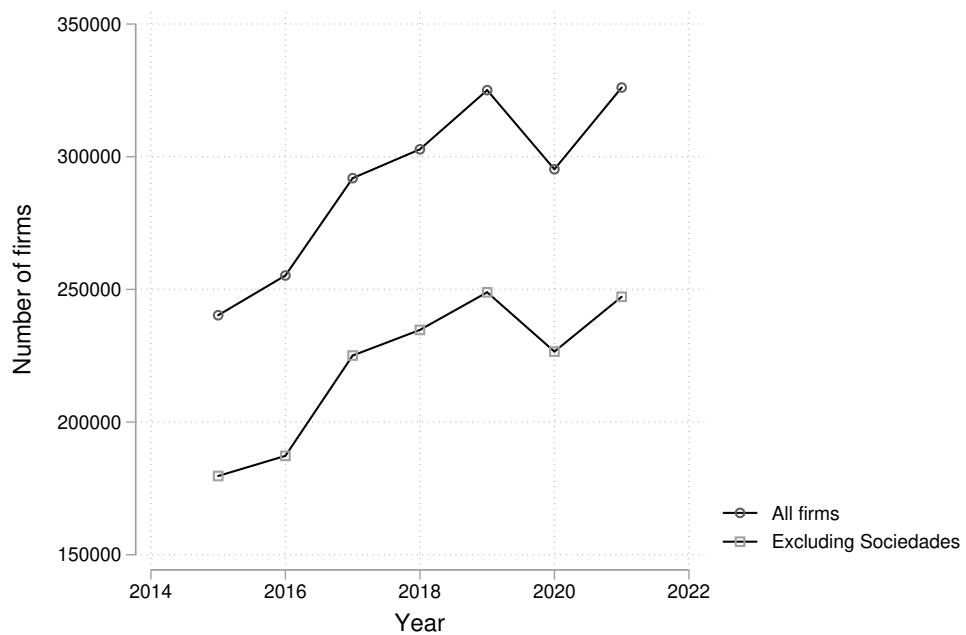
Before applying our framework devised above, we present some basic statistics about the firms in our sample.

Figure 9 presents the count of total firms per year in our sample from 2015 to 2022. The line with round markers counts the total number of firms, whereas the line with squared markers exclude from the count all *Sociedades*, which throughout the analysis we will treat differently since *Sociedades* tend to be much larger and different firms than sole proprietorship ones. The total number of firms in Colombia created is around 300,000 per year, with under 250,000 in 2015 and around 325,000 in 2021 (the evident drop in the figure in 2020 corresponds to the COVID-19 related economic slowdown).

Of all these firms we are able to identify those that are foreign-owned based on the type of identification that its legal representative used during its formal registration. See discussion in the Data section for more details on this.

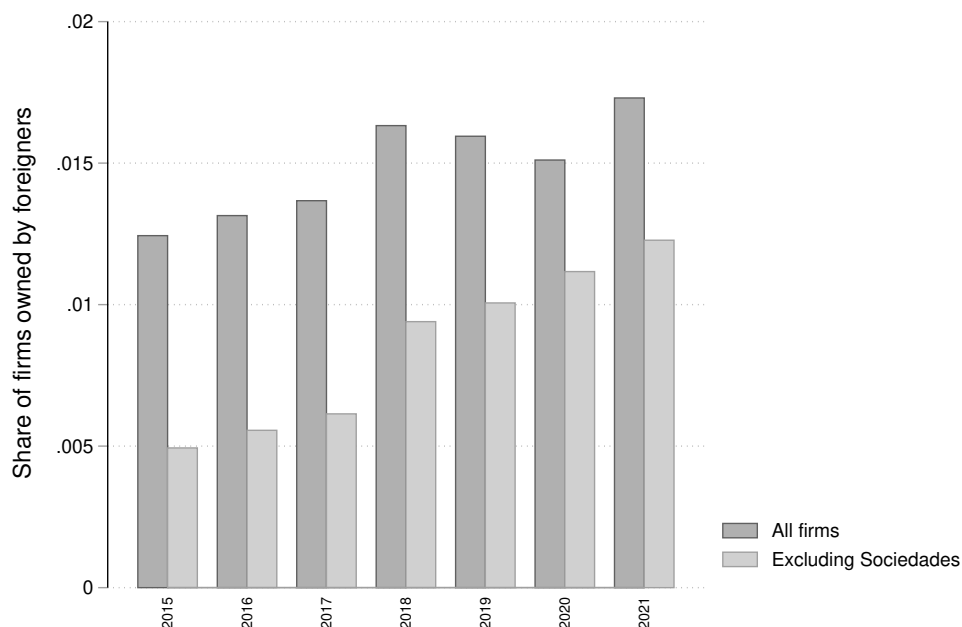
Figure 10 presents this break down, making also the distinction for firms excluding *Sociedades*. The share of all firms by foreigners in Colombia has been growing steadily, from about 1.25 percent in 2015 to about 1.75 percent in 2021. When excluding *Sociedades* this proportion goes down but it is also increasing over time, at an even faster rate. In 2015, about 0.5 percent of all sole proprietorship firms created that year were owned by a foreigner, while that number more than doubles by 2021 to

Figure 9: Count of formal firms, by year of creation



This figure plots the total number of firms created in Colombia for years 2015 to 2022 according to our sample. It includes the count for all firms (line with round markers) and the count excluding *Sociudades* (line with squared markers). Source: RUES and authors' calculations.

Figure 10: Share of formal firms created by foreigners, by year



This figure plots the share of all firms created in Colombia for years 2015 to 2022 that we identify foreign-owned. It includes the share for all firms (darker bars) and the count excluding *Sociudades* (lighter bars). Source: RUES and authors' calculations.

about 1.25 percent. It is likely this growth reflects the large inflow of Venezuelans in the country during those years.

Figure 11 visualizes the intensity of foreign-owned firms created in 2021 across departments in Colombia. Bogotá tops the list with 3.42 percent of the firms created in 2021 belonging to a foreigner, followed by Antioquia with 2.92 percent. La Guajira, a department bordering Venezuela, ranks also high with 2.25 percent whereas the same figure for Norte de Santander, another large bordering department is 1.56, below the national average.<sup>11</sup> Bolivar is another department with a relatively large share of foreign-owned firms created in 2021 with 1.95 percent. For the rest of

<sup>11</sup>Note that in Figure 10 it was established that in 2021 about 1.75 percent of all firms created in the country were created by a foreign entrepreneur.

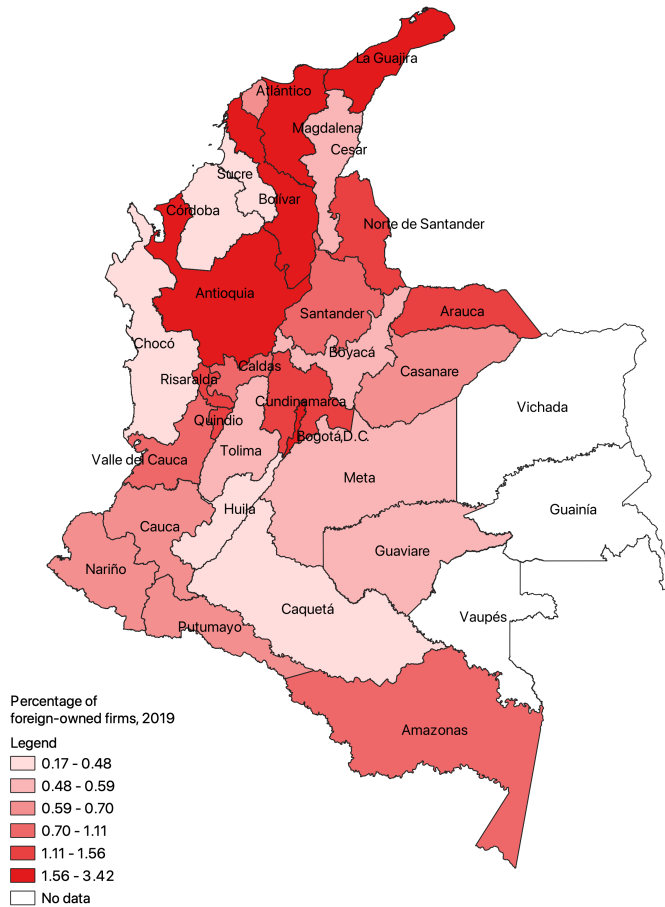
the country, the numbers tend to be below the national average. Perhaps Atlántico stands out as a department with a large economy (concentrated mostly around Barranquilla) and yet a very low share of foreign-owned firms created in 2021, standing at 0.7, half the national average.

Table 3 presents a distribution of the economic activity of the foreign-owned firms born in 2021, compared to the distribution of industries of firms owned by Colombians. Nearly 30 percent of all firms created by foreigners in 2021 are in the commerce sector (retail and wholesale), compared to 42 percent of Colombian-owned firms. In addition, 17 percent of foreign-owned firms founded in 2021 are in the hotels and restaurant sector, while the corresponding number for Colombian-owned firms is 15 percent. Other important sectors for foreign-owned firms founded in 2021 are services (business, professional, real estate, and others) accounting in total for over 24 percent, compared to just over 15 percent for Colombian-owned firms. Foreign entrepreneurs are 3 times more likely to start business in the communication sector, with 6.5 percent of firms created in 2021 by foreigners belonging to this sector, as compared to 2.3 percent of firms by Colombian entrepreneurs. In terms of the manufacturing sector and the construction sector the share of both foreign and Colombian entrepreneurial ventures created in 2021 are similar, standing at about 9 to 10 percent (manufacturing) and about 3 to 4 percent (construction). The table details all other sectors in the economy.

An important analysis to consider in the case of firms is the extent to which foreign-owned firms stand out in terms of performance. Here we are limited by the data since we do not observe important characteristics such as sales or profits, but we do observe assets and employment.

Thus, one important question we want to address is to what extent foreign-owned firms are more or less capital intensive than comparable firms owned by Colombians. This is an important policy matter, because to the extent that foreigners –Venezuelans among them– have limitations

Figure 11: Percentage of foreign-owned firms, 2021



This figure visualizes the percentage of foreign-owned firms in each department of Colombia the geographic distribution of foreign-owned firms. Source: RUES and authors' calculations.

Table 3: Share of firms formed in 2021 by economic activity and type of owner

<b>Sector</b>	<b>% Foreign</b>	<b>% Colombian</b>
Commerce	27.37	42.07
Hotels/Restaurants	17.05	15.10
Other Services	9.32	4.54
Manufacturing	9.20	9.81
Professional Services	7.35	4.76
Communications	6.51	2.30
Business Services	4.95	4.18
Real Estate	3.57	1.76
Construction	3.12	4.21
Transportation	1.72	2.70
Arts	1.68	2.35
Agriculture	1.60	1.76
Electricity	1.51	0.11
Education	1.45	0.89
Health	1.40	1.36
Finance	1.29	1.03
Mining	0.54	0.30
Water	0.34	0.70
Government	0.05	0.05
Household Services	0.00	0.01
Extraterritorial	0.00	0.00

This table breaks down for both firms created by foreigners and by Colombians, the share of those firms by economic activity, based on the totality of firms created in 2021. Source: RUES and authors' calculations.

on access to capital, this could be reflected in the ratio of capital (e.g., assets) to employees in their establishments at the moment of a firm's birth. More generally, if this is the case, this distortion on the market could be keeping these entrepreneurs from reaching their full potential and potential entrepreneurs from emerging.

In order to address this question, we perform a regression analysis in which we estimate the average difference of assets per employee at the year of birth of the firm between firms owned by foreigners and those owned by Colombians. We do estimate this regression including a battery of fixed effects, which helps us (albeit imperfectly) to compare foreign-owned with a set of comparable Colombian-owned firms defined by being active in the same (four digit) industrial code, located in the same department and founded in the same year (see our Methodological Appendix for more information).

A word of caution is important here, since these two variables obtained from the RUES through CONFECAMARAS, assets and employment, are self-reported at time of firm registration, and therefore their accuracy can be questioned. However, for this analysis we use data for years 2019, 2020, and 2021 only. We do this because it is in 2019, following a government decision detailed in CONPES (2019) that it was mandatory for firms registering in their respective chambers of commerce to report employment on a yearly basis, among other indicators of the firm.

Yet, about half of the sample of firms being born between 2019 and 2021 report having zero employees.<sup>12</sup> One reason is that these firms are one-employee firms, typically the owner being that only employee, and these owners are not counting themselves as employees when processing the registration of the firm, given the nature of the question. In the results we show below we assume this is the case and add one to all of

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<sup>12</sup>This is consistent with Confecámaras (2018) who find that that a large proportion of firms in Colombia –about 65 percent by 2017– do not have employees according to PILA records (and not to self-reporting).

the employment figures for all firms (regardless on whether it was zero or not). However, this is not a critical assumption given that our results are qualitatively the same if we exclude firms with zero employment from the estimation or through other forms of estimation, which we discuss in more in detail in our Methodological Appendix.

The results of the estimation are illustrated in Figure 12. The figure shows two very interesting patterns. First, foreign-owned firms seem to be more capital intensive than comparable Colombian-owned firms, overall. This might not be surprising, as foreigners, who tend to be highly entrepreneurial by nature as evidenced in the literature, might also represent a more attractive proposition to investors, and therefore their firms are, on average, better equipped with assets. Also, it is not surprising that this pattern is augmented when including *Sociedades* (darker bars) since these tend to be larger than sole proprietorship firms.

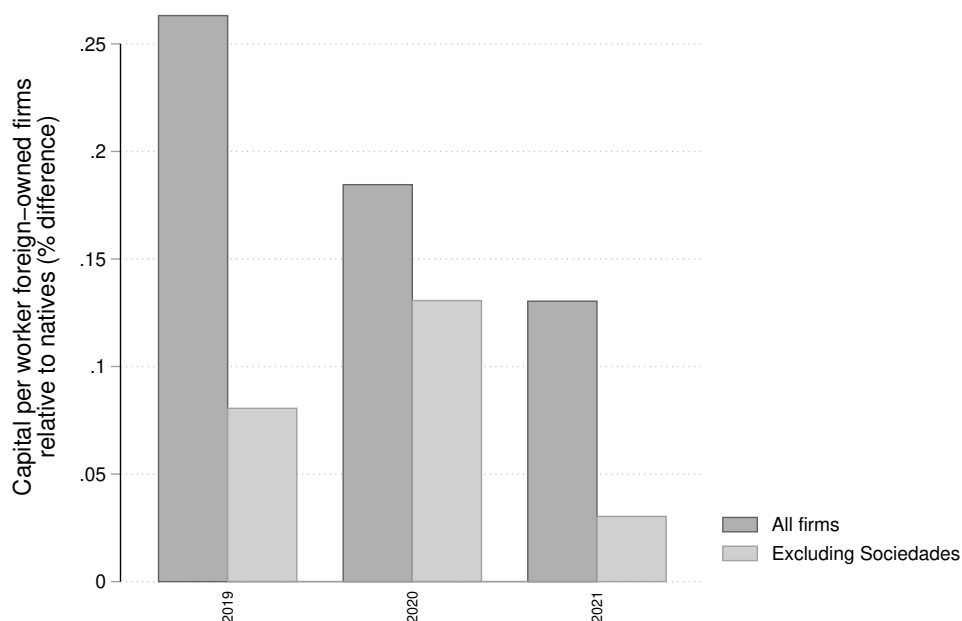
But across time, there is a very interesting pattern worth noting. For example, according to our estimator, foreign-owned firms created in 2019 are about 10 to 25 percent more capital intensive (as measured by assets per employee) than peer firms owned by Colombians. In 2020, foreign-owned firms, on average, remain more capital intensive than comparable Colombian-owned firms but less so, with the premium being just about 18 percent when including *Sociedades* and about 10 percent when looking only at sole-proprietorship firms. In 2021, however, this premium becomes much smaller particularly when excluding *Sociedades* from the sample as can be seen in the figure. In fact, the estimator in 2021 for the sample without *Sociedades* is only about 3 percent, and it is statistically insignificant<sup>13</sup> meaning that for firms created in 2021 we cannot distinguish, statistically speaking, any difference in the capital intensity between firms that are foreign-owned and Colombian-owned, whereas for slightly older firms the difference was much larger.

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<sup>13</sup>This is not visible in the figure, but it comes from the calculations to create the figure.



Figure 12: Capital per employee foreign-owned firms, by year of formation



This figure presents the estimates of an OLS estimation of capital per worker on whether a firm is foreign-owned for firms created in years 2019, 2020, and 2021. The estimation includes fixed effects for every combination of 4-digit industrial code, department, and year of creation. The dark bar performs the estimate on the sample with all firms, while the light bar does so on a sample that excludes *Sociudades*. The estimation that uses all firms does include a controls for whether the firm is a *Sociedad* since these ones tend to be larger in size. See the Methodological Appendix for more information on our estimation. Source: RUES and authors' calculations.

We see in this last piece of evidence a very important empirical fact which hints that, as more foreigners (likely Venezuelans) become entrepreneurs, their firms over time are becoming less equipped (e.g., with less assets), which in turn is likely a reflection of difficulties of these entrepreneurs to raise capital and, more generally, to access credit markets. If this is the case, it is a call for policymakers to understand possible bottlenecks in credit markets for Venezuelans, which could results in many possible entrepreneurs possibly not launching their ventures, a lose-lose proposition.

Another stylized fact that is consistent with a story that foreign entrepreneurs –Venezuelan among them– have had a harder time as entrepreneurs over the past year is the survival rate of their firms. Figure 13 presents the differential in survival rates between firms registered to a foreigner and firms registered to a Colombian by year of birth of the firm. The line with round markers plots estimated differentials for 2-year survival rates whereas the line with squared markers estimates differentials for 3-year survival rates. We consider that a firm has not survived 2 (3) years after its birth if it reports missing values for both employment and assets 2 (3) years later and all years after that until 2021, the last year for which we have data. For instance, for a firm born in 2015, we consider it did not survive 2 years later if it does not report assets nor employment in 2017, but also in 2018, 2019, 2020, and 2021. In the case of the 3-year survival rate, we consider the 2015 firm not to survive if it does not report assets nor employment in years 2018, 2019, 2020, and 2021. The figure plots estimates that are based on the full sample of firms born between years 2015 and 2018 (the last year for which we can compute 3-year survival) that originate in a regression analysis that effectively compares foreign-owned firms to Colombian-owned firms within the same industry classification, department and year of birth (see our Methodological Appendix for more details on the estimation).

A point of caution is worth mentioning here. As noted above it was only in 2019 that it became mandatory to report certain financial indicators of the firm when registering every year, such as employment, according to (CONPES, 2019). Thus, it might seem as incorrect to use the full sample from 2015 to 2021 for survival calculations given that missing information pre-2019 might not indeed imply that the firm ceased to exist. However, we still choose to use the full sample of firms between 2015 to 2021 for several reasons. First, the larger sample allows us to be more precise with survival calculations given that we need observations for the same firm

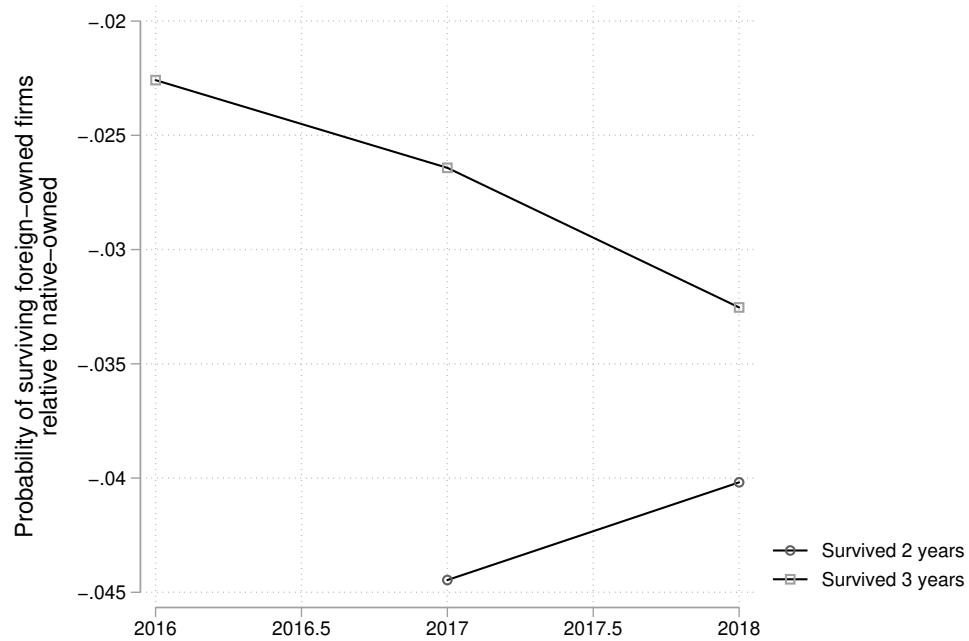
over time. Second, in our calculations, if a firm founded in 2015 does not report employees/assets in 2017 nor 2018, because it was not mandatory then, but yes in 2019 and on, we are considering this firm as still active. So we are always relying on data points post-2019 when it became mandatory to report. Thus, while we acknowledge there could be measurement error, as long as this measurement error is not systematically different between foreign-owned and Colombian-owned firms (which is our assumption), our estimation should be a good approximation of reality.

Based on our estimation, the results plotted in the figure show that foreign-owned firms born in 2015 had a similar survival rate as Colombian-owned firms. However, over time, the 2-year survival rate of foreign-owned firms have shrank significantly to be about 3 percentage points below the rate of Colombian-owned firms, while the gap between the 3-year survival rates is about 4 percentage point. Consider that, on average, in our sample, the 2-year and 3-year survival rates are about 57 and 45 percent, respectively. Therefore these differentials account for 5 to 8 percent, which are not trivial.

This results, thus, suggests the possibility that being an entrepreneur, for foreigners, is becoming harder over time, both in terms of access to finance, and perhaps related to it, to survival.

Consistent with these overall hurdles, and under the understanding that immigrant entrepreneurship is key for overall integration and can in turn bring important gains to their receiving communities, next we adapt the same framework we designed to identify segments underperforming in terms of labor market integration of Venezuelans to entrepreneurial activity.

Figure 13: Survival rate of foreign-owned firms relative to Colombian-owned



This figure presents the estimates of an OLS estimation of 2 and 3-year survival rates on whether a firm is foreign-owned for firms created in 2015 to 2018. The estimation includes fixed effects for every combination of 4-digit industrial code, department, and year of creation, as well as a control for whether a firm is a *Sociedad*. See the Methodological Appendix for more information on our estimation. Source: RUES and authors' calculations.

## **A framework to assess and identify obstacles on firm creation for Venezuelan entrepreneurs**

To further identify in which segments of the Colombian economy Venezuelan immigrants might be facing constraints to engage in entrepreneurial activity, limiting economic contributions of their arrival to the broader Colombian economy, we adapt the framework presented above to identify segments where entrepreneurial activity of foreigners has shown signs of significant slowdown between 2019 and 2021, by leveraging levels and trends of Venezuelan formal entrepreneurship vis-a-vis entrepreneurship levels of Colombians.

To pursue this analysis, we use data on firms creation in 2019 and in 2021 in each segment of the Colombian economy. Now again, we focus on the growth in the relative importance of foreign-owned firms in a given segment as our main outcome of interest, given the likely secular growth in the presence of Venezuelan entrepreneurs, and benchmark this to the overall growth of firm creation in that same segment.<sup>14</sup>

Figure 14 visualizes our framework using growth rates for firm creation. The vertical axis measures growth in the relative importance of foreign-owned firms, and the horizontal axis measures growth of overall entrepreneurial activity, across 634 segments of the Colombian economy, that arise from combination of 22 economic activities and 32 geographic departments.<sup>15</sup>

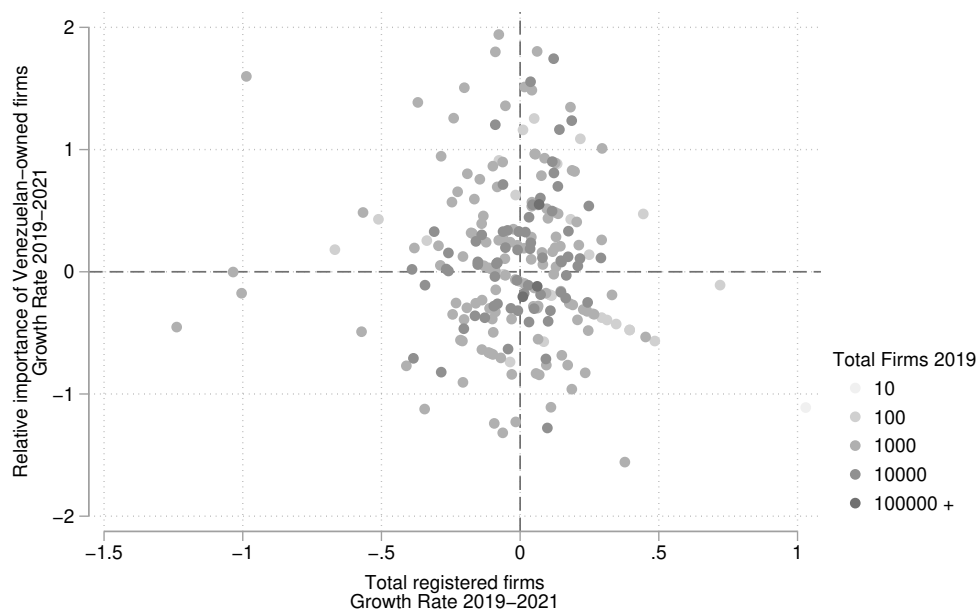
In the figure we observe substantive variation across the four quadrants of analysis. Again our focus is on the lower right quadrant, which we coined above the "missing opportunity" quadrant. This quadrant has 58 seg-

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<sup>14</sup>For this part of the analysis we include all types of firms and do not distinguish between sole proprietorship firms and *Sociedades*.

<sup>15</sup>Importantly, the reader may notice a relatively lower number of segments in comparison to Figure 8. This is due to the fact that there are many more segments without formal foreign entrepreneurship than there are segments without formal Venezuelan employment.

Figure 14: Indicators of firm creation by foreigners, by segment



Note: For visualization purposes only values between the 1st and 99th percentile are shown.

This figure plots for each combination of 32 departments and 22 economic activities (e.g., segments) the growth factor between 2019 and 2021 total formal firm creation (horizontal axis) and of the relative importance of foreigners in firm creation (vertical axis). The horizontal and vertical dashed lines represent no growth marks. The color of the markers resemble size of total firms at baseline (year 2019), with lighter (darker) colors representing smaller (larger) workforce sizes. Source: RUES and authors' calculations.

ments –combinations of economic sectors and locations– with fast overall entrepreneurial growth but a drop in the relative prevalence of Venezuelan entrepreneurs between 2019 and 2021. The drop in the creation of foreign-owned firms in these segments, where overall entrepreneurship increased, deserve a deeper look to understand whether any prevalent market failures or other constraints are keeping Venezuelan migrants from engaging in entrepreneurial activity (or alternatively, these drops are to be expected for other reasons that have nothing to do with market failures or other distortions, which is also a possibility)

### **Computing the "*missing foreign-owned firms*"**

To identify segments lagging behind in terms of firm creation by foreigners we adapt our calculation of *missing Venezuelans workers* to create a metric of *missing foreign-owned firms*. This metric estimates the number of foreign-owned firms in each segment of the economy had the relative importance of foreign-owned firms in that segment remained as it was in 2019, augmented by the size of that segment (in terms of number of firms) at baseline.<sup>16</sup> It is meant to serve as an ordinal measure.

Table 4 lists the ten combinations of department and economic activity with the largest numbers of *missing foreign-owned firms* according to our methodology. Bogotá tops the list in the commerce sector. There, overall firm creation was 1 percent larger in 2021 than in 2019 (the table reports the growth factor of 1.01 in Column 4), where as the number of foreign-owned firms in that same segment shrank by 18 percent (the table reports a growth factor of 0.82 in Column 3) between 2019 and 2021, resulting in 134 *missing foreign-owned firms* (Column 5). As explained above, in our calculations segments that have a large number of firms at baseline (year 2019 in this case) rank higher. Thus it is not a surprise that indeed the

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<sup>16</sup>See the Methodological Appendix for a formal definition.

Table 4: Worst performing segments for foreign entrepreneurs

Department	Sector	Growth Foreign	Growth Total	Missing Firms
Bogota	Commerce	0.82	1.01	134
Bogota	Business Services	0.69	0.88	45
Atlantico	Commerce	0.49	1.10	29
Bogota	Other Services	0.90	0.71	28
Cundinamarca	Other Services	0.66	1.03	25
Cundinamarca	Commerce	0.81	1.18	24
Valle del Cauca	Other Services	0.44	0.75	18
Bogota	Arts	0.70	0.85	16
N. de Santander	Commerce	0.85	1.16	16
Bogota	Agriculture	0.40	0.81	15

This table lists the ten worst performing segments (combinations of economic sectors and geographic departments) in terms of foreign entrepreneurship (as measured by creation of firms owned by foreigners) between 2019 to 2021, according to our measure of *missing foreign-owned firms*. Source: RUES and authors' calculations.

commerce sector in Bogotá, with nearly 24,000 firms in 2019, tops the list. However, the commerce sector also stands out as under-performing not only in Bogotá, but also in places like Atlántico, Cundinamarca and Norte de Santander.

Our methodology also identifies important gaps in this list on the services sector overall, in places like Bogotá, Atlantico, Cundinamarca, and Valle del Cauca.

Overall, Bogotá seems to be a place where foreign entrepreneurship is falling behind, according to our methodology.

We also present the contrasting list in Table 5, which lists the segments for which entrepreneurial activity of foreigners according to our metrics



Table 5: Best performing segments for foreign entrepreneurship

<b>Department</b>	<b>Sector</b>	<b>Growth Foreign</b>	<b>Growth Total</b>	<b>Missing Firms</b>
Antioquia	Commerce	1.74	1.07	-107
Antioquia	Hotels/Restaurants	2.04	0.94	-90
Antioquia	Other Services	3.33	0.91	-53
Santander	Commerce	5.72	1.13	-52
Antioquia	Manufacturing	1.73	1.05	-46
Santander	Hotels/Restaurants	10.41	0.94	-29
Santander	Other Services	29.15	0.95	-29
Antioquia	Business Services	1.40	0.96	-23
Bolivar	Commerce	1.71	1.28	-21
Bogota	Communications	1.08	0.86	-16

This table lists the ten best performing segments (combinations of economic sectors and geographic departments) in terms of foreign entrepreneurship (as measured by creation of firms owned by foreigners) between 2019 to 2021, according to our measure of *missing foreign-owned firms*. Source: RUES and authors' calculations.

was the most successful between end of 2019 and end of 2021. Similarly than in the labor integration section, note that in this table the numbers of *missing foreign-owned firms* (last column) are always negative, which simply implies that there was more growth than expected given the changes in overall growth and the relative presence of foreign-owned firms across time. Again, we believe these segments could serve to policymakers as success stories with possible lessons to be learned.

In this table, we see an interesting contrast. Antioquía stands out as a department in Colombia with high levels of foreign-owned entrepreneurship in industries such as commerce, hotels and restaurants, manufactur-

ing and all sorts of services. Bolivar in the commerce sector seems to be also an interesting case worth studying. We also note places like Santander in the list, though the particularly large growth factors for foreign-owned firms, often double-digits, reflects segments with very low levels of foreign-owned firms in 2019 and nothing much beyond that.

As mentioned above, an accompanying downloadable file to this report includes the full list of segments to allow policymakers to understand their relative position and identify possible bottlenecks in their particular jurisdictions.

## **5 Conclusions and Policy Recommendations**

It is not trivial what Colombia has gone through over the past few years. Out of the sudden, with the humanitarian and political crisis in Venezuela, it became a country of immigrants receiving 2 million Venezuelans in just a few years, reaching 4 percent of its population. This all happen, too, in parallel to a global pandemic that generated an adverse global and local economic shock.

Despite this, Colombia has welcomed Venezuelan immigrants with open arms, and has never considered restricting that flow. Colombia has, in fact, become an example to the world on how to treat immigrants and refugees in a humane and smart way, at the same time. And it has done it despite the significant lack of international funding documented by Bahar and Dooley (2021).

But the nature of the challenges Colombia faces today are very different than the ones it did during the peak of the rapid inflow of immigrants and refugees from Venezuela a few years back. Many of these immigrants and refugees fled needing of humanitarian assistance, and therefore, Colombia had to quickly provide health, food, education, and housing services to many of these immigrants in need. Today, as flows have slowed down, and

as the reality on the ground indicates that these immigrants are there to stay for the long run, the new enormous challenge is about how to facilitate the proper integration of Venezuelans in the Colombian economy.

In fact, part of what the Colombian government is already doing, described and envisioned in CONPES (2022), goes to the heart of that effort. Indeed, the provision of ten-year protected status to all Venezuelans in the country is meant to do just that: providing immigrants and refugees with the legal tools –including a regular migratory status– to reach their full potential in their new homes. Other policies, such as the creation of *Centros Intégrate* to assist immigrants in their job searches and other aspects of integration are important resources that hopefully will expedite the process. Civil society organizations, many of them run by immigrants themselves such as *Coalición Por Venezuela*, are playing an important role, too, in assisting immigrants' integration efforts.

In this context the value added of our work is that it provides a granular look that encompasses the country as a whole, and tries to identify bottlenecks on that reflect market dynamics more broadly. It is crucially important to help immigrants to look for jobs or to assist with the red-tape that takes becoming an entrepreneur, but that needs also to be informed by what are the hurdles in the market that are keeping these jobs or new firms from emerging. Our method, which we apply to the Colombian context in this report, can be in fact applied to any country and any situation where immigrants, or disadvantage groups, are facing difficulties in economic integration. We encourage others to use our method in other contexts, and use it as a way to identify bottlenecks in different contexts.

We hope this report helps policymakers at all level of government to identify the places and sectors of the economy where, despite the demand for workers or for new firms, Venezuelans workers and entrepreneurs are lagging behind. As such, we envision that using the information we present in this report policymakers around the country, when appropriate, can fol-

low up with more data analysis, interviews and focus groups with stakeholders in the places and sectors we identify as problematic to diagnose the actual market failure keeping Venezuelans from integrating, which we see reflected in the differential growth dynamics for Venezuelans and Colombians. Then and only then, after diagnosing the problem for each specific location and economic activity, proper public policy can be designed and implemented. As such we hope the findings in this report leads to a number of further investigations in the hope of designing policies to complement all the other efforts being done by different government entities, at the national or local level, as well as by civil society, aimed at boosting the socioeconomic integration of Venezuelan immigrants and refugees.

Having said that, we must also admit that our methods presented in this report aren't flawless. The occupational structure of Venezuelans in some places might be different than that of the local Colombian labor force. As such some of the segments we identified as problematic might not actually have an underlying market failure, but rather Venezuelan workers are not a good match for them, which would be reflected in different growth dynamics for both groups. Yet, our goal is to raise a red flag, hoping that the deeper analysis we described above –more data analysis alongside focus groups and interviews– can distinguish between those cases (where there are no market failures) from others where the lack of labor market integration or entrepreneurial activity of Venezuelans do respond to structural issues that policy can address.

Overall, however, we believe that indeed many of the segments where we have identified as problematic there are market failures to be addressed.

Our focus is on market failures and distortions because we believe that fixing those is the main role of government when it comes to labor market integration. The immigrants themselves have the ability to reach their full potential once they have full agency and the same opportunities as others. Those opportunities, in many cases, which might have to do with stream-

lining the validation of educational credentials (and given the prevalence of professional services as one of the sectors where Venezuelans are lagging behind consistently makes us think this is a matter worth investigating further) or expanding access to credit for potential Venezuelan entrepreneurs. It will depend on the particular locality and economic activity under consideration.

The socioeconomic integration of Venezuelans is the key to maximize the gains from migration, as it allows migrants to reach their full potential. Furthermore, it is not only beneficial for the migrants and for all Colombians, but it is also beneficial for the future of Venezuelans, as many of these migrants gain experience and skills that they will be able to transfer back home whenever the process of reconstruction of their country starts.

Colombia has served as a global example of responsible, human and effective migration policy. It can continue to serve as a global reference, too, in terms of socioeconomic integration. We hope our paper helps in that mission.

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# Methodological Appendix

## A Labor Market and Entrepreneurial Integration

This section formulates the equations used to compute the several indicators used in our analysis above. Note that in the main body of the paper, as explained, we are unable to identify firms owned by Venezuelans, but rather by foreigners. For simplicity, however, in this methodological appendix, we ignore that distinction and refer to those firms as Venezuelan-owned.

The relative importance of Venezuelan formal workers or Venezuelan-owned firms in a given economic segment compares the proportion of Venezuelans in that segment to their overall presence in the relative markets as a whole (the total formal labor market or the total number of firms). Formally, for each industrial/department segment ( $s$ ) of a given year ( $y$ ) we have:

- $V_y^s$ : The number of Venezuelan formal workers or Venezuelan-owned firms.
- $E_y^s$ : The number of formal workers or firms.

We then compute:

- $Sh_y^s = \frac{V_y^s}{E_y^s}$  : Share of Venezuelan workers or Venezuelan-owned firms in segment  $s$  in year  $y$ .
- $Sh_y = \frac{\sum_{s=1}^S V_y^s}{\sum_{s=1}^S E_y^s}$  : Overall share of Venezuelan workers or Venezuelan-owned firms in the market in year  $y$ .
- $R_y^s = \frac{Sh_y^s}{Sh_y}$  : Relative importance of Venezuelan workers or Venezuelan-owned firms in  $s$  for year  $y$ .



Because the share of Venezuelan workers or Venezuelan-owned firms are growing across all segments of the Colombian economy during the period of our study (given the continuous influx of immigrants), we measure growth of Venezuelan workers and Venezuelan-owned firms in each segment based on their levels of relative importance across years:

- $\Delta R^s = \frac{R_{2021}^s}{R_{2019}^s}$ : Growth factor in relative importance of Venezuelan workers or Venezuelan-owned firms in  $s$ .

Finally, we measure the overall performance of a given economic segment as a measure of the growth in that segments' workforce or new firms outside of the potential constraints faced by Venezuelan workers or entrepreneurs:

- $G^s = \frac{E_{2021}^s}{E_{2019}^s}$ : Growth factor performance of segment  $s$ .

Our diagnostic figures plot the values of  $\Delta R^s$  on the vertical axis against  $G^s$  in the horizontal axis.

## Missing workers or firms

To calculate the number of missing Venezuelan formal workers or missing Venezuelan-owned firms, we first calculate a reference number of Venezuelan workers or Venezuelan-owned firms for 2021 in a given segment had their relative importance in that segment remained as in 2019, as follows:

- $ZV_{2021}^s = V_{2019}^s \times G^s \times \frac{Sh_{2021}}{Sh_{2019}}$ : Reference number of Venezuelan workers or Venezuelan-owned firms in  $s$ .

This number essentially augments the number of Venezuelan workers or Venezuelan-owned firms in 2019 by the overall growth rate of the segment between 2019 and 2021, and then, by the relative change in the

number of Venezuelan workers or Venezuelan owned-firms between 2019 and 2021.

Finally, we estimate the number of missing Venezuelan workers or missing Venezuelan-owned firms as the difference between the observed and reference number of Venezuelan workers or Venezuelan-owned firms in a given segment in 2021, as:

- $M_{2021}^s = ZV_{2021}^s - V_{2021}^s$  : Estimated *Missing Venezuelan* workers/firms in  $s$ .

## Capital Intensity of foreign-owned firms

In order to estimate whether foreign-owned firms open with differential levels of capital (assets) per worker compared to natives across time, we estimate the following equation using ordinary least squares:

$$IHS\left(\frac{Asset_{i,s,d,t}}{Workers_{i,s,d,t}}\right) = \beta \times Foreign_i \times \sum 1(year_t = t) + sociedad_i + \Phi_{s,d,t} + \varepsilon_{i,s,d,t}$$

Where  $i$  indexes the firm,  $s$  indexes the economic activity (using ISIC code 4-digits),  $d$  indexes the department where the firm is located, and  $t$  the year where the firm is created.  $IHS\left(\frac{Asset_{i,s,d,t}}{Workers_{i,s,d,t}}\right)$  is the inverse hyperbolic sine of the ratio between the total assets and the total number of workers the firm reported having the year it was formed. For this exercise, we are only keeping firms that were created between 2019 and 2021, since it was during these years that it became mandatory for firms to report employment and other indicators when registering firms (CONPES, 2019).  $Foreign_i$  is a dummy variable that takes the value of 1 if the firm was created by a foreigner and 0 otherwise. Interacting this coefficient by year dummies (as represented by the interaction between  $Foreign_i$  and  $\sum 1(year_t = t)$ ) allows us to have an estimator that varies with time.

The point estimates of  $\beta$  are presented in Figure 12.

Our estimations include the control  $sociedad_i$  to account for differential survival rates for firms identified as a *Sociedades*, since these firms are in essence different than sole proprietorship firms. However, we often present results for a sample that excludes *Sociedades* (in which case we omit this control).

We included fixed effects  $\Phi_{s,d,t}$  at a 4-digit industry, year and department level. Finally  $\varepsilon_{i,s,d,t}$  is the error term, our coefficient of interest is  $\beta$ . An important detail is that in our sample of about 2 million observations, around 1 million firms declare having zero employees the year the firm was founded. We presume this means that many firm owners, when declaring the number of employees of the firm, did not include themselves as an employee, which would mean that, in essence, this are one-employee firms. We thus, compute assets per worker after correcting for this by adding 1 to all of the employment registers in the data (regardless whether they report zero or not). Nevertheless, our results are qualitatively consistent whether we do or do not correct for the zeros in employment (despite that in the latter case we use a much reduced sample given that assets divided by employees would be undefined when employment is zero). Our results are also robust to an alternative specification that uses assets on the left hand side and employees as a control.

## Survival of foreign-owned firms

In order to estimate the rate of survival of foreign-owned firms relative to firms owned by Colombians we estimate the following equation using ordinary least squares:

$$survival_{i,s,d,t+T} = \beta \times Foreign_i \times \sum 1(year_t = t) + sociedad_i + \Phi_{s,d,t} + \varepsilon_{i,s,d,t}$$

Where  $i$  indexes the firm,  $s$  indexes the economic activity (using ISIC code 4-digits),  $d$  indexes the department where the firm is located,  $t$  the year where the firm is created, and  $T$  is either 2 or 3 which are the number of years since firm's birth we use to evaluate its survival.

More precisely,  $survival_{i,s,d,t+T}$  is a binary variable that takes the value 1 if the firm reports a non-missing value on either assets or employment in year  $t + T$  and all years after that until 2021 (the last year of our sample). Thus, for a year born in 2015, we consider it has not survived after 2 years if it reports missing values for both employment and assets in years 2017, 2018, 2019, 2020 and 2021. When looking at 3-year survival rate, for a firm born in 2015, we assign a value 0 (e.g., it did not survive) if it reports missing employment and assets in years 2018, 2019, 2020, and 2021. We do this in this way because often firms do report with gaps and marking a firm born in 2015 as not surviving 3 years if it reports missing values in 2018 but it does report in 2019 or 2020 or 2021 would be a mistake. In any case, we are aware that firms might still be alive even if they stop reporting for several years, and hence our indicator of survival is an approximation, and not perfectly accurate.

For this exercise, we are only keeping firms that were created between 2015 and 2018, since we cannot measure survival for firms born after that. Similarly to above,  $Foreign_i$  is a dummy variable that takes the value of 1 if the firm was created by a Foreigner and 0 otherwise. Interacting this coefficient by year dummies (as represented by the interaction between  $Foreign_i$  and  $\sum 1(year_t = t)$ ) allows us to have an estimator that varies with time.

All of our estimations include the control  $sociedad_i$  to account for differential survival rates for firms identified as a *Sociedades*, since these firms are in essence different than sole proprietorship firms. In this exercise, as opposed to previous ones, we do not report results excluding *Sociedades* because our results are robust to their exclusion and as such excluding

those does not add anything fundamental to our conclusions.

We also included fixed effects  $\Phi_{s,d,t}$  at a 4-digit industry, year and department level. Finally  $\varepsilon_{i,s,d,t}$  is the error term.

Our coefficient of interest is  $\beta$ , which represents the differential probability in survival rate for firms owned by foreigners and firms owned by Colombians. The point estimates of  $\beta$  are presented in Figure 13.

An important caveat is that, as explained in the report, it was only in 2019 that it became mandatory to report certain financial indicators of the firm when registering every year, according to (CONPES, 2019). Thus, it might seem as incorrect to use the full sample from 2015 to 2021 for survival calculations. Yet, we do this to have enough power in our calculations. In addition, our way of computing survival takes into account all of the years in the sample, reducing the concern that. For example, we are marking a firm born in 2016 as not surviving after 2 years if it does not report employees and assets in 2018, but also in the following years, when it was mandatory to report those indicators. Whatever noise in measurement there could be –and we acknowledge there could be– we are assuming that it is not systematically different for foreign-owned firms than for Colombian-owned firms.