INTEGRATING VENEZUELAN MIGRANTS IN COLOMBIA'S AGRI-FOOD SECTOR

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EXECUTIVE SUMMARY

By the end of August 2020, five years since the intensification of the Venezuelan humanitarian crisis, 5.2 million Venezuelans had fled their country, in an exodus whose scale and pace closely mirror those of the Syrian refugee crisis – where by 2015, four years into the forced displacement crisis, 4.8 million people had escaped Syria. The recent crisis in Venezuela, resulting in the forced displacement of millions of migrants, continues to place a burden on the financial, economic, and social systems of neighboring Colombia, as the host economy that has received the largest share of migrants. This represents a reversal of the migratory trends of the recent past, which saw millions of Colombians move and settle in oil-rich Venezuela, beginning in the 1960's through Colombia's 50-year armed conflict. Today, many of those Colombian nationals are returning to their country of origin, accompanied by many more Venezuelans who are fleeing deprivation, threat, and insecurity in their country: the suddenness and quickness at which these forcibly displaced migrants have been crossing over from Venezuela to Colombia is unprecedented in the region. The Venezuelan migration crisis threatens to pose serious challenges to Colombia's finances, welfare schemes, and social capital, which could be even further aggravated as the country is confronted with other major developments, such as its own peace transition after decades of internal conflict or the recent unfolding of the COVID-19 pandemic.[1]

In the immediate aftermath of the surge in the number of Venezuelan migrants, the focus of the Colombian government was to register all migrants and provide relief through health and welfare systems. Nevertheless, as time has continued to elapse, the focus has shifted to mechanisms for accommodating the wave of migrants, developing strategies for their successful, sustainable and strategic integration into Colombia's economy. While this could be seen as a challenge for the economy at present, it need not be viewed that way if timely measures are implemented through a longer-term, territorial development lens. Venezuelan migrants can represent a valuable addition to the Colombian labor force, bringing new skills and filling labor gaps in specific territories. This is especially true for Colombia's agriculture and food systems, which face a growing demand both locally and internationally, but at the same time are confronted with low productivity and labor shortages.

This report is intended to reach a broad audience of policy makers, program administrators, development professionals, and academics in Colombia and in the broader development community, and aims to assesses the integration of Venezuelan migrants into Colombian agri-food labor markets through a combination of original micro-level data analysis and in-depth semi-structured field interviews with Venezuelan migrants, producers' associations, and Colombian institutions. The main contributions of the study are three-fold.

First, the report offers a detailed overview of Venezuelan migration into Colombia, spatially and over time, enriching with new, and more detailed, insights the currently available information on migrants' employment outcomes and on their comparison to those of the local Colombian population. The exercise confirms the exponential increase in legal visitors from Venezuela through formal entry ports starting from the year 2017, with 1.3 million entries in just the first quarter of 2018: among these visitors, most are prime-aged men between the ages of 18 and 39. In the wake of the migration crisis, 90 percent of Venezuelan visitors entered Colombia on tourist visas: the number of self-reported "tourists" increased 2.5 times between 2016 and 2017, and by 2018 it almost doubled again. Since visitors on tourist visas are not allowed to work in Colombia, these numbers suggest that many of entrants are probably joining the informal labor force to provide for their livelihoods. Given that official statistics represent only a share of all migrants crossing into Colombia, as they do not account for undocumented migration, it is expected that labor informality among migrants may be even more pervasive. Mapping traveler hotspots shows their clustering in frontier regions located at the Venezuelan border, and in already highly populated urban centers such as Bogotá, Medellín, and Cali. Stronger social networks and migrant communities, as well as ease of access via major transportation routes, can explain why migrants chose to locate in urban centers.

To obtain more detailed insights on migrants' labor-market outcomes, the report exploits several rounds of the national labor force survey, analyzing data on more than 2 million individuals in total, which allow to capture nuances in migrant profiles that would not be available in the aggregate statistics obtainable from administrative data sources. The analysis shows that, prior to the surge in Venezuelan migration, migrants and the local population in Colombia faced similar employment rates, around 60 percent. What is remarkable, however, is that the employment rate of Venezuelan migrants was actually at its highest levels during the height of the migration crisis. Contrary to widespread expectation, the intensification of the migration crisis

1 Other than representing a tragic health crisis, the COVID-19 pandemic will have dramatic socio-economic implications that will affect and to a large extent are already affecting migrant integration as well. This report, which was largely finalized prior to the onset of the disease, does however not seek to address the issues related to the pandemic.

did not substantially affect migrants' likelihood to find employment in Colombia. The complication lies in the quality of jobs migrants are finding, and the related employment conditions: the jobs that Venezuelans are finding tend to be of lower quality if compared to the local population, in terms of wages, working hours, and informality rates. After the surge in migration in 2017, Venezuelan migrants earn 22.7 percent less than the average wage, work 3.2 more hours per week than local Colombians, and are 15 percentage points more likely than locals to work without a formal contract. These results are even more striking considering that a large portion of Venezuelan migrants entering Colombia during the migratory crisis were typically highly educated, with a higher share of individuals with at least high school or tertiary education than the working-age local population. The first part of the report therefore deduces that the average Venezuelan migrant is not really facing better employment prospects in Colombia in the aftermath of the crisis, but rather that they are more willing to take up a job – any job, to survive.

A second contribution of the report is to provide evidence that the agri-food sector in Colombia has a yet unfulfilled potential to support a smoother inclusion of Venezuelan migrants in the labor force. The study characterizes agri-food job markets in Colombia at different stages of the food chain (primary production, agri-food manufacturing, logistics and retailing, food services), and identifies promising opportunities for the agriculture sector in Colombia to expand and absorb new workers, due to the co-existence of unmet labor demand in primary activities, on one side, and the growing importance of downstream activities in the food value chain, on the other.

Migrants, in fact, are already 5 percentage points more likely to be employed in agri-food activities than the local population, and the likelihood has even grown by an additional 3 percentage points after 2017. Nevertheless, unpacking this observation along the value chain reveals that this happens almost exclusively in food service occupations and in urban areas. Crucially, migrants are not more likely to work in primary agriculture even in areas that are predominantly agricultural, despite documented labor shortages in some key primary occupations such as coffee picking. Furthermore, it is remarkable that migrants are not more systematically represented in better-remunerated and more dynamic value-addition activities downstream in the food chain (such as food processing or formal food services), given that their skill set is on average well aligned with that of food processing workers. In line with these observations, job quality in the agri-food sector is still significantly worse for migrants than for the local population: on average, Venezuelans are hired more informally, work 5 more hours per week, and receive 25 percent lower wages than their Colombian counterparts.

Although migrants have concentrated in urban areas taking up sub-optimal food service jobs, they could potentially be better off working in different sub-sectors and in rural areas: migrants that are employed in rural areas on average encounter better-quality jobs in terms of wages, working hours, and informality. Given still high unemployment rates among Venezuelan migrants, the poor labor conditions of those working in urban areas and the pressures exerted on urban systems by sudden and dramatic population increases, the integration of migrants into rural-agroindustrial clusters may represent an important opportunity. In this sense, the analysis shows encouraging signs that, after 2017, Venezuelan migrants have become more likely to be employed in agriculture and food processing in areas with a higher concentration of agro-industrial firms.

The third and final contribution of the report is to identify lessons learned for the inclusion of Venezuelan migrants in the agri-food sector in Colombia. The recommendations flow from the findings of the data analysis, and also draw on two case-studies of successful labor market inclusion programs for Venezuelan migrants and vulnerable populations in the Colombian coffee and cut flowers value chains. The fact that areas with a stronger presence of agro-industry see more Venezuelans employed in agriculture and food processing shows that migrants are not necessarily averse to taking up jobs in these occupations, if the opportunity arises and the right conditions are in place. The case studies shed light on the fact that vulnerable populations, including migrants, are more likely to take up agri-food jobs if specific active labor market mechanisms are activated, including information campaigns, systematic job advertisements, and mobility incentives for facilitating migrant integration into agriculture-linked employment. Similarly, they are more likely to remain in those jobs if employment is supported by a benefit package including health, transportation services, education, parental support, and accommodation.

The report concludes with a look at the path ahead, through practical ideas and operationalization principles for delivering a strategy that includes both supply and demand driven integration of migrants in labor markets, featuring agriculture and food systems more prominently. These principles highlight the need for a coordinated, programmatic strategy that involves inter-institutional cooperation, incentives for agri-business, and a multi-faceted approach to address the specific needs of migrants in agriculture employment.

The proposed ***operationalization principles*** for migrant integration into agriculture and food systems are as follows:

» **Strengthen "labor pull" actions for agri-food jobs.** A targeted agri-food sector strategy for job search and job placement of Venezuelan migrants in rural areas, where migrant to local ratios are low and labor shortages are

observed in the sector, can benefit migrants. This could include job fairs, specialized training for highly demanded skills in agri-food jobs, and placement throughout value chains from farm, to food manufacturing, to warehouses, to transporters and to distributers. Skills matching algorithms could be created to match higher skilled workers with nonroutine, cognitive agri-food sector jobs. Providing young migrants with access to technology-based jobs with opportunities to leverage innovation could provide a rural, agri-food based pull, higher quality income opportunities, and alleviate migrant linked pressures in urban centers.

- **Make the agri-food sector and the rural environment attractive for migrants.** Investing in strengthening services and social protection accessible to migrants, and advertising smaller rural economies among migrants, could provide an incentive for moving to these areas. Benefits like health insurance, social protection schemes, transportation, accommodation, study benefits, parental help, permanency, and security for migrants who may have otherwise relied on strong social networks in larger urban areas could tip migrant preference towards rural areas. Local authorities could also provide relocation services to support migrant transitions to these areas. Options include (i) creating rural hubs for migrants, to ensure migrants are not scattered, have dedicated service delivery help, and feel more integrated into communities; (ii) replicating, for the migrants' case, the structure of social programs currently targeting other vulnerable groups.

- **Smooth labor demand frictions by channeling information to agribusiness employers and providing business incentives.** First, information asymmetries could prevent Colombian employers with high labor demand and labor shortages, but little supply side information on the attributes of migrant workers from hiring migrants. Providing agribusiness with list and availability of migrant worker pool would smooth demand frictions. Second, clear information and guidance on hiring migrants, as well as streamlined hiring processes could provide the impetus for employers in the agri-food sector to process migrant workers as employees. Third, incentives for agribusiness for hiring Venezuelan migrants including tax breaks and appealing to corporate social responsibility programs with the promotion of social responsibility certifications can promote the use of migrants.

- **Streamline the institutional approach.** The public sector, institutional approach to Venezuelan migrants could be strengthened by broadening the scope of the CONPES 3950 strategy to include participation of the Ministry of Agriculture and Rural Development more centrally through policies and programs. This includes specific provisions for the inclusion of migrants in agriculture and food systems, especially in rural areas. The report recommends an ambitious initiative, creating targeted employer-bases PEP schemes specifically directed at jobs in the agri-food sector.

Operationalizing the above proposed principles requires a spatial territorial development lens, and local context specific customization that takes into account the geography of migrants' distribution across the country, local to migrant population ratios, attitudes to migrant integration and local labor demand. Any measures should be considered as longer-term solutions that give migrants the opportunity to assimilate to the socio-cultural context of local communities. This effort would require national and sub-national institutional participation and cooperation, to ensure that locals and migrants are all winners and inclusion strategies are mutually beneficial opportunities for stimulation of local rural economies, job creation and improved welfare.

Box ES1 COVID-19 and Venezuelan displacement in Colombia

The COVID-19 health emergency is creating further challenges to an already complex situation, exacerbating the vulnerability of Venezuelan refugees and migrants and at the same time hampering the ability of host countries to cater to the needs of the displaced population – by slowing local economies, causing job frictions especially in informal markets, and exacerbating social tensions and anti-migration sentiments. This report was finalized before the contagion spread to Colombia, so the empirical analysis does not quantify the effect of the pandemic on the migrants' integration. Nonetheless, evidence is emerging on the deep challenges that Venezuelan refugees and migrants in the country are increasingly facing due to the COVID-19 outbreak and response.

Precarious livelihoods and informality are making Venezuelans even more vulnerable to the current context, in particular in terms of job loss, access to food, and personal safety. The economic contraction has especially impacted those working in the informal sector, in the service sector (especially hospitality), and in construction – all sectors where Venezuela migrants and refugees are disproportionately represented. Many workers have lost their jobs, are on unpaid leave, or have seen a drastic reduction in their working hours, which is dramatically increasing unemployment and underemployment, and pushing many migrant and refugee families in poverty. Furthermore, the invisibility generated by high informality compounded by social distancing and mobility restrictions creates serious information gaps that stifle the ability of existing public programs to reach refugees and migrants.[2]

Over half of Venezuelan households interviewed for a Rapid Needs Assessment carried out in April 2020 by the national coordination platform *(Grupo Interagencial sobre Flujos Migratorios Mixtos, GIFMM)* in Colombia reported problems complying with quarantine measures, mainly due to the need to generate income to cover their basic needs. Roughly 95 percent of interviewees ranked food among their main concerns in the context of COVID-19, 53 percent expressed concerns with housing, 45 percent with finding employment and 26 percent with receiving medical attention.[3]

The difficulty in attending to their basic needs has been pushing an increasing number of Venezuelans to cross the border back into their home country, despite unchanged socio-economic challenges and threats to their safety and health. At the end of April 2020, around 12,000 Venezuelans had crossed the border back into their home country, where they face confinement and worrying conditions in improvised camps lacking basic hygiene and safety standards.

The health emergency is profoundly affecting the entire economy with changes that will likely be long-lasting, including in the agri-food sector, and it is highlighting even more painfully the need for inclusive solutions to the Venezuelan displacement crisis, now and in future.

The findings of this report are likely to be exacerbated by COVID-19 and the recommended operationalization principles will be essential to prevent an undoing of Colombia's huge efforts to accommodate Venezuelan migrants. Mechanisms to smooth refugees' and migrants' integration in rural areas and in Colombia's agriculture and food systems, such as the ones proposed in this report, can decongest urban spaces, ease pressure on local economies, and provide essential livelihood support through the creation of more and better jobs.

2 Coordination Platform for Refugees and Migrants in Venezuela. 2020. *COVID19: Venezuelan Refugee And Migrant Response Plan 2020. May 2020 Revision.* R4V.info

3 *https://r4v.info/en/documents/details/76031*

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I INTRODUCTION

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1. At the end of August 2020, the number of Venezuelans living abroad reached 5.2 million, up from 3.3 million in December 2018 (Coordination Platform, 2019a and 2019b).[4] The main destination of Venezuelan migrants is Colombia. The country has been hit by more than a third of this exodus: as of August 2020, the Colombian Statistical Institute (DANE) counted around 1.8million Venezuelans living in the country. This includes Venezuelan legal and illegal migrants, and migrants transiting through Colombia towards other destinations. Adding to the Venezuelans moving to Colombia, many Colombian citizens, who during Colombia's internal conflict and Venezuela's boom years crossed the Venezuelan border in search of a better life, are now returning home: by the end of 2018, between 300,000 and 500,000 Colombians had been reported to have returned from Venezuela since the start of the crisis (GRID, 2019).

2. In the last five years, migration from Venezuela to Colombia has been directed mostly to Bogotá, the frontier zones (Norte de Santander, Arauca, La Guajira), and the Atlantic Coast, with 80 percent of the migrants concentrated in these areas (World Bank, 2018).[5] Many factors make Colombia the safest option and most common destination for Venezuelan migrants (International Organization for Migration, 2018). Among these, particularly relevant are cultural similarity, geographic proximity, and social networks (the presence of family or friends): in a recent survey of 15,000 Venezuelan migrants crossing the Venezuela-Colombia border in a municipality in Norte de Santander (Bermudez et al., 2018), around 95 percent of the interviewed claimed they would already have a place to stay once in Colombia.

3. The sudden surge in migrants' influx in Colombia has required changes to the country's policies and regulations (Universidad del Rosario and Konrad Adenauer Foundation, 2018), and is imposing a burden on public expenditure: overall, the expected cost to the Colombian government of hosting the migrant population is roughly 0.2 to 0.4 percent of GDP (Reina, Mesa and Ramírez, 2018; World Bank Group, 2018; OECD, 2019). Apart from imposing a high fiscal cost, the Venezuelan migration crisis poses serious challenges to Colombia's welfare schemes and social capital, especially in the short run. For example, it exerts pressure on social services such as healthcare and education and contribute to the congestion of cities, in particular posing additional challenges as the country strives to preserve public health and food security in light of the recent COVID-19 pandemic. Colombian authorities, for example, have recently been stressing how the response to the COVID-19 emergency aims to cover the local and migrant populations alike, but that resources are insufficient to cover all existing demand.[6]

4. It is also very likely that migration might continue to exert short-run pressure on Colombian local labor markets: estimates by the World Bank (2018) highlight, for instance, the risk of an increase in informality and under-employment, as well as a reduction in real wages. A recent study on the spillover effects of the Venezuelan crisis on Colombian labor markets (Caruso et al., 2019) presents evidence of negative recent wage effects of Venezuelan immigration on local workers, in particular in the informal sector, in urban areas and for low-skilled jobs.

5. These impacts are expected to be particularly strong in Colombian departments bordering Venezuela, which are not only strongly hit by the migration surge but are also historically lagging regions from a socio-economic perspective. An influx of migrants is likely to jeopardize their already strained local economies and social protection systems. These challenges are even more salient as Colombia transits out of the internal conflict that plagued the domestic scene for more than 50 years and strives to rebuild national cohesion and heal the civil and social wounds that the conflict left as its legacy. The COVID-19 pandemic, which is imposing dramatic socio-economic impacts worldwide and is likely to hit hardest on the most vulnerable segments of the population, adds complexity to an already strained situation – by slowing local economies, causing job frictions especially in informal markets, and exacerbating social tensions and anti-migration sentiments.[7] Even though this report, which was finalized before the contagion spread to Colombia, does not attempt to quantify the compounded effect of the pandemic on the migration crisis, the health emergency and the complications it triggers make it even more necessary to find viable solutions for the thousands of Venezuelans currently in the country.

4 The refugee crisis in Syria, which began in 2011, caused more than 6.3 million people to be displaced by 2017. The speed in the growth of the total number of Venezuelan migrants and refugees is as high as that of the Syrian crisis during its first years (cf. Bahar and Dooley, 2019) .

5 Data sources for the report: Border Management. RAMV (Administrative Registry of Venezuelan Migrants). Report to June 12, 2018, and Own estimates based on official data from DANE (National Administrative Department of Statistics) and Migration Colombia.

6 Cf. interviews in the news e.g. *https://www.eltiempo.com/politica/gobierno/entrevista-con-el-gerente-del-gobierno-para-la-frontera-con-venezuela-481306; https://elpais.com/internacional/2020-04-12/desandar-el-camino-en-medio-de-la-pandemia-el-drama-de-los-venezolanos-que-regresan-por-falta-de-recursos.html.*

7 Cf. news reports e.g. *https://www.ntn24.com/america-latina/venezuela/america-latina/venezuela/fedenaga-informa-que-han-reportado-intentos-de-invasiones-en-fincas; https://migravenezuela.com/web/articulo/xenofobia-el-otro-contagio/1842.*

6. International experience shows that migration can also be an important source of growth in the medium term. The OECD, for example, highlights how the increase in labor supply could help raise productivity and boost the growth potential of the Colombian economy (OECD, 2019). Migrant flows can generate growth in host economies by bringing in investment capital and entrepreneurship opportunities, and traditional economic activities by supplementing demand in local economies (Kerr and Kerr, 2011).

7. The extent to which these benefits materialize depends however on the ability of domestic labor markets to successfully integrate the influx of migrant workers. To mitigate the impacts on civil security and labor markets, active social integration programs can play an important role (FIP, 2018; World Bank Group, 2018). Mitigating vulnerabilities that can become poverty traps and prioritizing the rapid incorporation of migrants and returnees into the labor market is therefore a key element to turn the challenges of Venezuelan migration into a growth opportunity for Colombia.

8. The Colombian government has been taking a series of measures aimed at facilitating the integration of Colombian returnees into the labor force and social protection system, as well as at promoting migrants' self-sufficiency and mitigating impacts in the receiving areas. Moreover, it has adapted its legal and institutional framework to stimulate the country's response capacity in the face of the migratory crisis. An example in this sense is the 3-year strategy delineated by the CONPES[8] plan no. 3950 for the years 2018-2021, which is specifically intended at creating integrated solutions to the migration crisis, including measures to facilitate migrants' inclusion in the labor force (cf. Box 1).

9. Yet, de facto, access to employment for Venezuelan people remains limited: estimates from DANE, for instance, reveal that, of the 773,000 working-age Venezuelans who arrived in Colombia between September 2018 and September 2019, 19.2 percent have no job, almost twice the unemployment rate among Colombians in the same period (10.1 percent). Illegal migration, difficulties to obtain the necessary documents (e.g. passports, birth certificates, conversion of education titles), limited or incomplete knowledge on the part of employers of existing integration programs and related bureaucratic requirements, and practical challenges in opening bank accounts and receiving payments, are among the factors that hinder an efficient and productive inclusion of migrants into the Colombian workforce.

10. This report seeks to understand the integration of migrant workers into Colombian labor markets, and into agriculture and food systems in particular, to inform decisions on how best to create mechanisms and incentives towards mobility and job take-up in the sector. The main objectives of the report are three-fold. First, it is to provide greater detail than is currently available on migrants and their characteristics. Such profiling provides a clear vista of a range of migrant attributes relative to local Colombians and gives a temporal picture of how these profiles have evolved in the aftermath of the surge of Venezuelan migrants in Colombia. To do so, the report analyzes a rich set of detailed micro-level data at a high level of spatial and temporal disaggregation. The study of migrant skills, gender and age profiles is important for assessing the potential for their integration into labor markets, as well as understanding any possible local labor displacement effects.[9] The study of the Venezuelan population in Colombia also allows to identify an exponential surge in migrants' numbers starting in the first quarter of 2017 and lasting until 2019. Even though the observation is based on official migration data and may or may not be mirrored by a parallel increase in irregular migration, this surge can be used as a quasi-natural experiment for understanding migrant integration into local labor markets. From the perspective of the migrant, some initial correlations are therefore established to understand how Venezuelan migrants have been faring in Colombia's labor markets after 2017, during the migrant surge into Colombia.[10]

11. Second, an objective of the report is to characterize the agri-food sector in Colombia and to assess whether Colombia's agriculture and food systems can provide quality job opportunities to Venezuelan migrants, in particular as the sector faces a strong push towards modernization and growth, on the one hand, and important labor shortages threatening its productivity and future performance, on the other. Understanding the labor dynamics associated with the growth and transformation of agriculture and food systems, as well as the likely areas of unmet labor demand that could be potentially filled by Venezuelan migrants, holds promise for a successful migrant integration strategy that can benefit the entire country.

12. The third objective is to identify existing programs and policies that could be used to provide employment opportunities for migrants in the agri-food sector. This is highlighted through two case studies in the coffee and flower subsectors, with additional in-the-field grounding

8 CONPES (Consejo Nacional de Política Económica y Social) is Colombia's highest national planning authority and serves as an advisory body to the Government in all aspects related to the economic and social development of the country. To this end, it coordinates and guides the agencies responsible for economic and social management in the Government, through the study and approval of documents on the development of general policies.

9 For example, evidence from the recent Syrian refugee crisis shows that in the short term the large influx of informal labor availability led to employment losses among native informal workers and declining earnings opportunities (Del Carpio and Wagner, 2015; Cerioglu et al, 2017).

10 Nonetheless, it is acknowledged that the analysis provided in the report establishes correlations and not causation, as the endogeneity of migrant locales is not fully dealt with.

of the existing reality and potential for migrant labor integration along the coffee and flower value chains. Field interviews and information for this analysis was gathered from Venezuelan migrants, producer associations, and the ministry of Agriculture in Colombia.

13. The rest of the report is organized as follows. Section 2 provides a general overview of Venezuelan migration in Colombia, spatially mapping migrants and characterizing their profiles with respect to migration reason, permanency status, and basic socio-demographic characteristics. This section also highlights the key characteristics of the permit policy put in place by the Colombian government in the face of the crisis, and it characterizes the profiles of Venezuelan migrants with respect to human capital and current employment outcomes (including occupational categories, temporality and wages). The analysis devotes a special emphasis to rural areas, skill mismatch, and outcomes of vulnerable groups such as women and youth. Section 3 characterizes agri-food job markets in Colombia, identifying challenges and opportunities specific to the different stages of the food chain (primary production, agri-food manufacturing, logistics and retailing, food services). Section 4 tests whether the agri-food sector in Colombia is working as a catalyst for the inclusion of Venezuelan migrants in the labor force, with a focus both on employment (overall as well as at various stages of the agri-food value chain) and on job quality; the section also touches on the additional challenges presented by post-conflict mitigation, studying whether Venezuelan migrants face further difficulties integrating in areas with a higher concentration of conflict-related vulnerable populations. Section 5 presents two successful labor market inclusion programs for Venezuelan migrants in Colombian agriculture and food systems, summarizing lessons learned that could be relevant for the broader inclusion of Venezuelan migrants in the agri-food sector and discussing potential implementation challenges. Section 6 provides some suggestions on operationalization of the findings for public policy makers and private agricultural and food system actors.

II VENEZUELAN MIGRANTS IN COLOMBIA

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A. CHARACTERIZING VENEZUELAN MIGRATION

14. Quantifying and characterizing Venezuelan migrants in Colombia is a challenge, first because there is no unified definition of a migrant. Even in terms of nationality, migrants can be Venezuelan, dual nationality, former Colombians returning to Colombia after living in Venezuela for years, or migrants coming from Venezuela with other nationalities. More importantly, irregular migration poses additional challenges to migrant accounting. In June 2019, according to Colombia's Government, there were 1,408,055 Venezuelan living in Colombia, of which only 53 percent were regular migrants. Of these, 66,297 had permits under three months, 78,390 had work permits and 597,583 transitory special work permits. The remaining 47 percent of migrants, however, were irregular: 240,276 overstayed their three-month permits, and 445,389 entered Colombia through irregular channels altogether (Obsevatorio, 2019). By the very nature of the irregular migration phenomenon, this information is very likely to underestimate substantially the real magnitude of migration.

15. Data from the Colombian Migration Authority (Migración Colombia) provide a first snapshot of the profiles of all formally registered Venezuelan who visited Colombia through all ports from 2012 to 2019. Keeping in mind that this information (i) is not restricted to migrants only (visitors could have different motives for travelling to Colombia); and (ii) does not account for irregular migrants, these data provide a useful macro vista of all regular entrants at Colombia's borders.

16. Figure 1 shows the number of formal Venezuelan visitors to Colombia from 2012 first quarter to 2019 first quarter, and very clearly visualizes the magnitude of the recent surge in Venezuelan migration. Prior to the first quarter of 2017, the average number of Venezuelan visitors entering Colombia was less than 200,000 per trimester (around 500,000 per year). In the first quarter of 2017, this number started to increase, and after the second quarter of 2017 it began growing exponentially: during 2018, around 1,500,000 Venezuelans entered Colombia. The gender composition of Venezuelan travelers shows a pronounced male bias: during the peak of Venezuelan migration in 2018, approximately six out of ten migrants were male.

17. The data from Migración Colombia also allow an exploration of the main reasons for their trip declared by visitors upon entering Colombia from Venezuela over the years (see Figure 2). In 2017, 2018, and the first half of 2019, a total of 11,145, 70,719, and 27,069 travelers entered Colombia in order to benefit from the PEP (Permiso Especial de Permanencia), a special permit introduced in 2017 by the Colombian government to allow Venezuelan migrants to legally work in Colombia (cf. Box 1). These small numbers show that not many migrants are really aware of the program, or that in any case it does not represent the main motive for their arrival from Venezuela. At the same time, however, it must be acknowledged that these numbers only represent a subset of all Venezuelan travelers into Colombia.

18. As it appears, the predominant declared motivation for entry into Colombia has in recent years always been tourism. Even though this has consistently be the case since

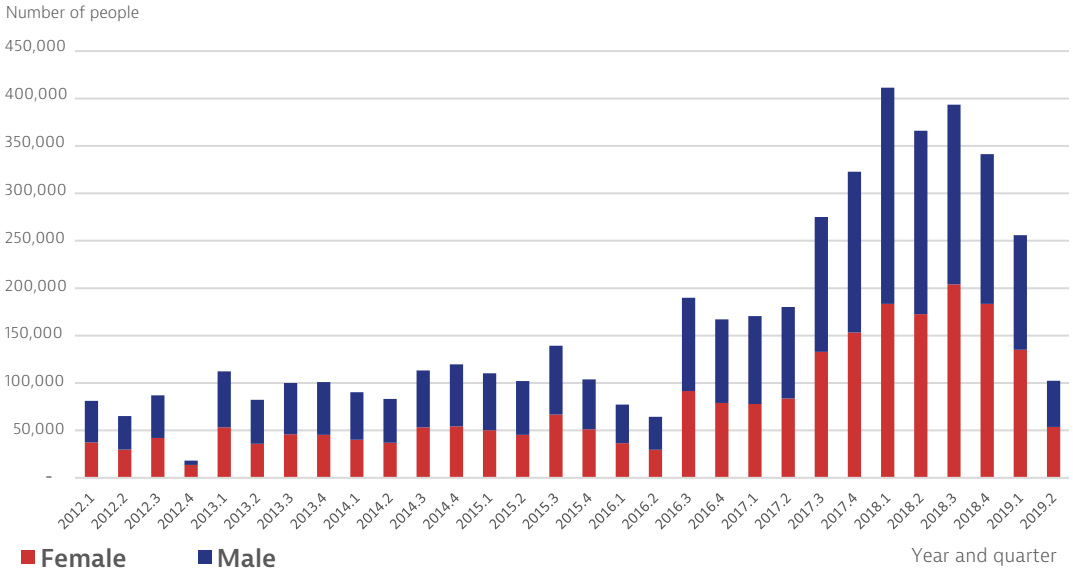


Figure 1

Temporal shift in formal Venezuelan visitors entering Colombia, by gender 2012-1 – 2019-2

Data source: *Colombian National Migration Statistics, 2019*

2012, however, Figure 2A. shows that in 2017 and 2018 there was a further, more than proportional surge in the number of travelers declaring tourism as the main motive for their visit. While 70 percent of Venezuelan visitors who entered Colombia self-identified as tourists between 2012 and 2017, after 2017 the corresponding share reached 90 percent. The fact that the number and percentage of Venezuelan "tourists" jumps so visibly in the wake of the migratory crisis is extremely relevant, suggesting that, very likely, the generic category of tourism masks a number of other deeper reasons for entry into Colombia. Without a regular work or residency permit, tourism might for many migrants be the only way to legally cross the Colombian border. As visitors entering Colombia for tourism are by law not allowed to perform any kind of work, it is also likely that many of the self-reported tourists are in fact joining the informal labor force (working without a contract) to provide for their livelihoods.

19. In terms of the broad compositional change of the migrant pool, from Figure 2B. another development worth highlighting is the recent exponential increase in the number of migrants entering Colombia in transit to another country, which from almost negligible levels skyrocketed to 300,000 individuals in the first half of 2019. This loosely reflects the changing geography of Venezuelan migration, with migrants now moving further away from their country and spreading throughout the Latin America and Caribbean region.

20. Figure 3A and 3B show the destination within Colombia declared by Venezuelans entering Colombia – which, allowing for a certain degree of discretion in final location decisions, can be used to map the major hotspots of migrant settlement over time. The comparison of Figure 3A and 3B indicates a shift and a higher spatial concentration of migrants destinations, with cities and smaller areas near the border receiving large migrant inflows. After 2017, the frontier regions located at the Venezuelan border were receiving more, and a larger share, of migrants, as well as main urban centers such as Bogotá, Medellín, Cali, Bucaramanga and Cúcuta.

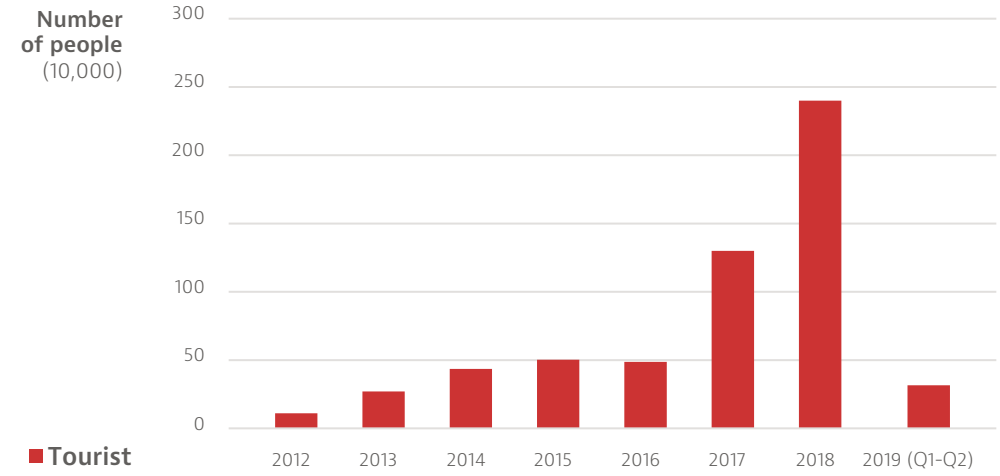


Figure 2 A

Main reason for entry declared at Colombia's immigration port by Venezuelan travelers

Entry type: Tourist

Data source: *Colombian National Migration Statistics, 2019*

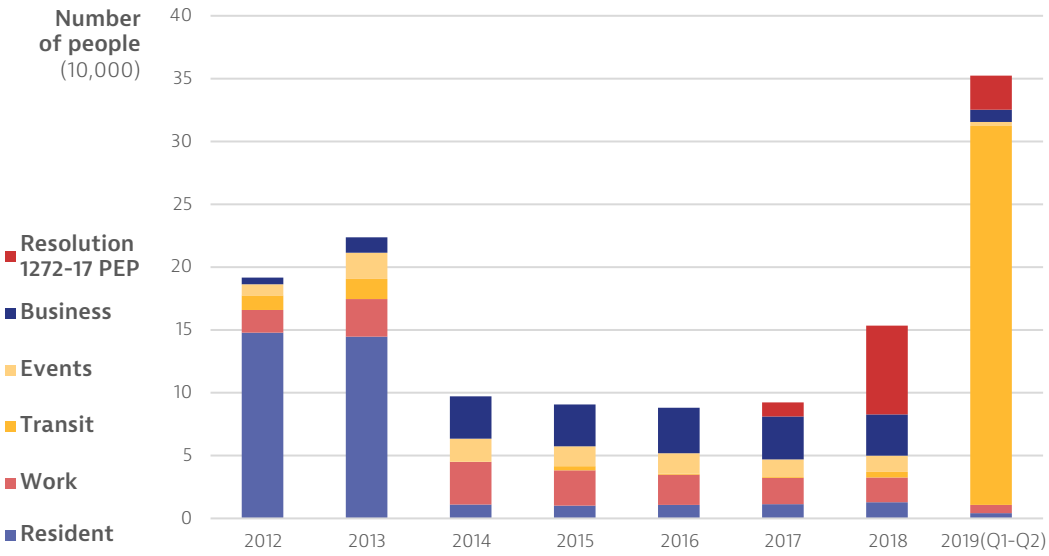


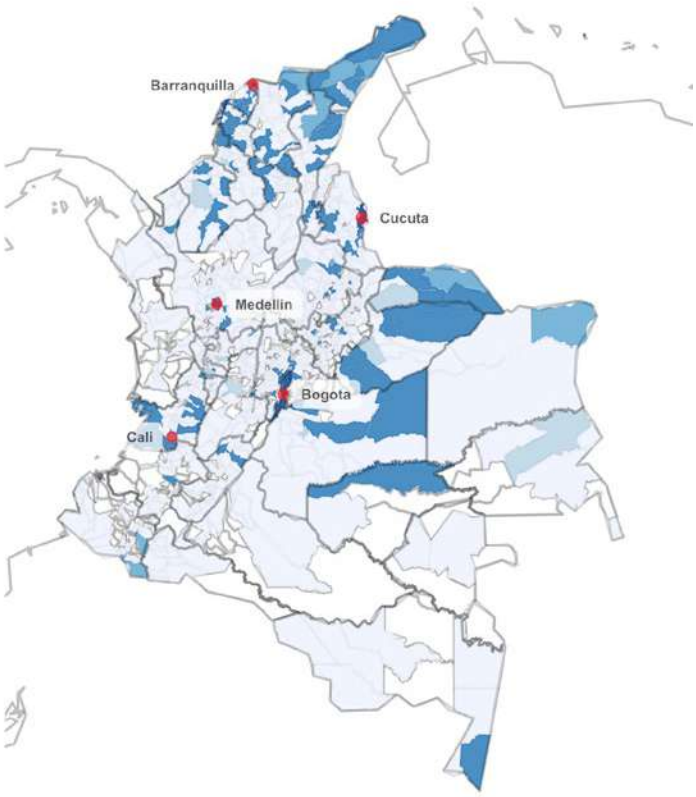
Figure 2 B

Main reason for entry declared at Colombia's immigration port by Venezuelan travelers

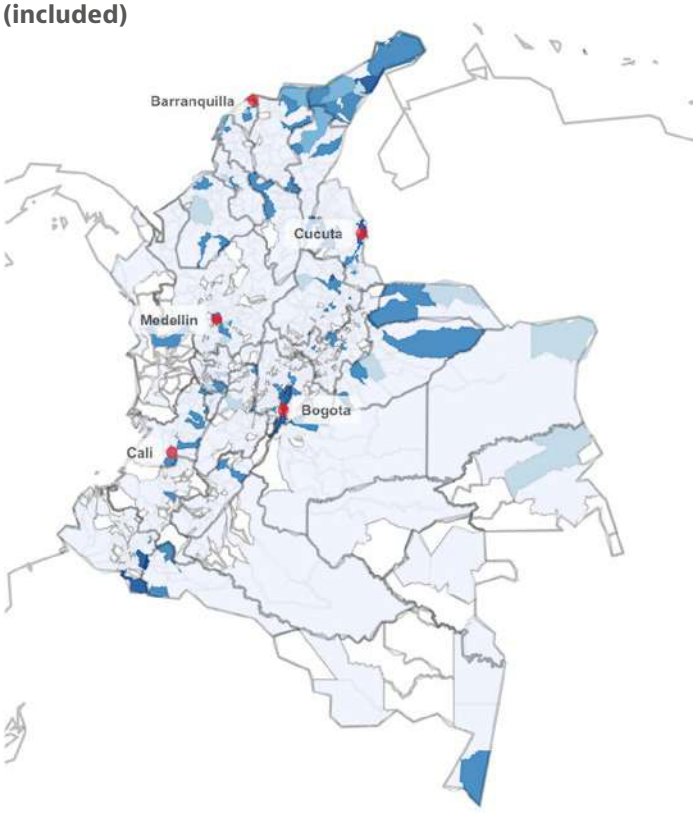
Entry Type: Resident, Work, Transit, Events, Business, PEP

Data source: *Colombian National Migration Statistics, 2019*

3A | Pre 2017 Q1



3B | Post 2017 Q1 (included)



People <=100 | > 100 - <=1.000 | > 1.000 - <=10.000 | > 10.000 - <=50.000 | > 50.000 | NA

Figure 3A / 3B

Main destination of Venezuelan Migrants, by number of migrants, 2012 Q1 - 2019 Q1

Data source: *Colombian National Migration Statistics, 2019*

21. In order to characterize the travelers entering Colombia from Venezuela, Figure 4 compares the age and gender decomposition of Venezuelan visitors before and after the start of the migration crisis in the first quarter of 2017, on a time span ranging between the first quarter of 2012 to the second of 2019. The pyramids show a swelling in the proportion of visitors within the prime age groups (18-29 and 30-39-year-olds): before 2017, most Venezuelan visitors were already male aged 30-39 and 18-29 (14.2 and 12.3 percent, respectively), and women aged 18-29 (12.1 percent). After 2017, however, the share of the 18-29 age group boomed (35 percent of all migrants), increasing by more than 50 percent for both genders.

22. Another relevant characterization of Venezuelan travelers is by occupational category at time of entry, as declared by 18+ year old (Figure 5). Over time, the most frequently reported occupations are housewife and merchant. However, recent years have been witnessing a surge in a mishmash of professional workers, mostly highly skilled, as well as in adult students. Interestingly, although the related numbers are small,[11] a detectable increase can also be observed in the number of low-skill agri-food system workers.

23. As a necessary caveat, although this preliminary evidence suggests some change in the profiles of migrants over time, it has to be pointed out that the skills disaggregation in Figure 5 cannot postulate strongly on the shift in the skills mix of all migrants, as it just accounts for regular (formal) migrants. This is all the more relevant as migrants who entered Colombia as the Venezuelan crisis deepened have been reported to be more vulnerable and poorer than in previous migratory waves (World Bank, 2018), and might for the same reason be also lower skilled. If this were correlated with a higher likelihood of entering Colombia through informal channels, the information in Figure 5 might provide a very incomplete picture of the real situation, and warrant a more in-depth analysis using alternative, more comprehensive data sources.

B. CHARACTERIZING VENEZUELAN MIGRANTS: PROFILES

24. Who are the Venezuelan migrants entering Colombia, how similar are they to the local population in the host country, and how are they integrating into local labor markets? Detailed answers to these questions can be obtained from the *Gran Encuesta Integrada de Hogares* (GEIH), a household survey collected monthly in the Colombian territory.[12] The GEIH database has a specific migration module, which can be merged to the main modules to obtain a general overview of Venezuelan migration into Colombia, as well as of migrants' labor-market outcomes.[13] Crucially, the survey is by design also able to capture irregular migration and informal labor market participation.

25. Using the GEIH survey, it is possible to classify Venezuelan migrants[14] in two mutually exclusive ways. First, ***recent migrants*** can be identified as those individuals who claimed that 12 months or less before the interview they were living in Venezuela. Second, ***longer-term migrants*** are those who were living in Colombia 12 months before the interview, but in Venezuela up to five years before that.

26. Figure 6 plots the patterns of migration over time for the two categories of migrants just described. Reassuringly, these patterns are very similar to those obtained using official migration records in Figure 1. For instance, Figure 6 clearly identifies the sudden surge in migrants after 2017. Crucially, however, it is not only the visual, qualitative migration trends that are similar between the two datasets, but the migration magnitudes themselves: for example, if the official national migration statistics count 1,408,055 Venezuelan migrants living in Colombia by June 2019, estimation from GEIH identifies 1,506,270 migrants[15] in the same period.

For individuals who migrated in the last 12 months, a follow-up question gathers information on the main reason for migration. Figure 7 depicts the main responses obtained from migrants who entered Colombia in recent years. Here, it can be inferred that the recent migration wave is a phenomenon involving entire families, and not single individuals moving by themselves: most migrants

11 The numbers of agri-food low-skilled workers is likely reported with measurement error in the data from Migración Colombia. Certain categories like waiter for example appear to be severely underreported. This underrepresentation in official migration statistics is in great part due to the fact that many of these workers are likely to enter Colombia informally rather than through official border posts.

12 A clarification: the GEIH survey is representative of the Colombian population as a whole. More information about the sampling can be found at this link. Nonetheless, it is not representative of migrants per say, it would represent the average migrant in Colombia, yet we cannot say anything about the representativeness among sub-samples.

13 The survey includes respondents over age 12, as it is the legally acceptable age to be employed in Colombia.

14 This study does not distinguish between Venezuelan nationals and Colombian returnees whenever GEIH data is used. The migration module captures country of birth but not nationality which makes identification very imprecise. The data reveals that among migrants, the share that identify as being born in Colombia is 67% from 2012 to 2016, and 28% since the start of the migration crisis in 2017. As such, it is very likely that the analytical evidence presented, on migrant integration into labor markets, are robust and represent Venezuelan nationals only, as well.

15 This statistic is the number of migrants who would have stated living in Venezuela under 5 years ago.

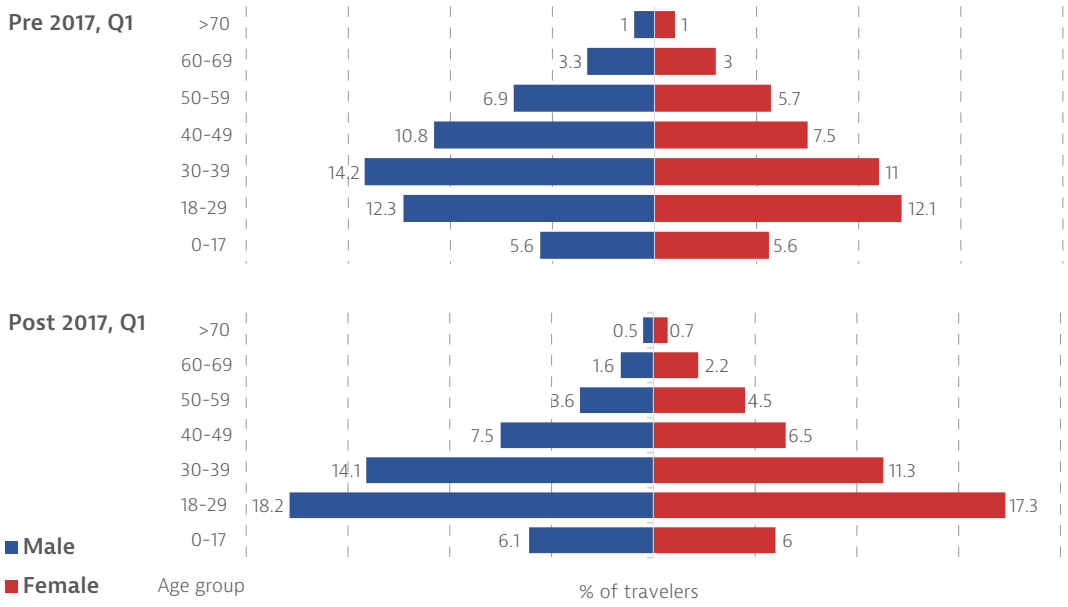


Figure 4

Age and gender disaggregation of Venezuelan visitors, before and after the 2017 surge in migration

Data source: *Colombian National Migration Statistics, 2019*

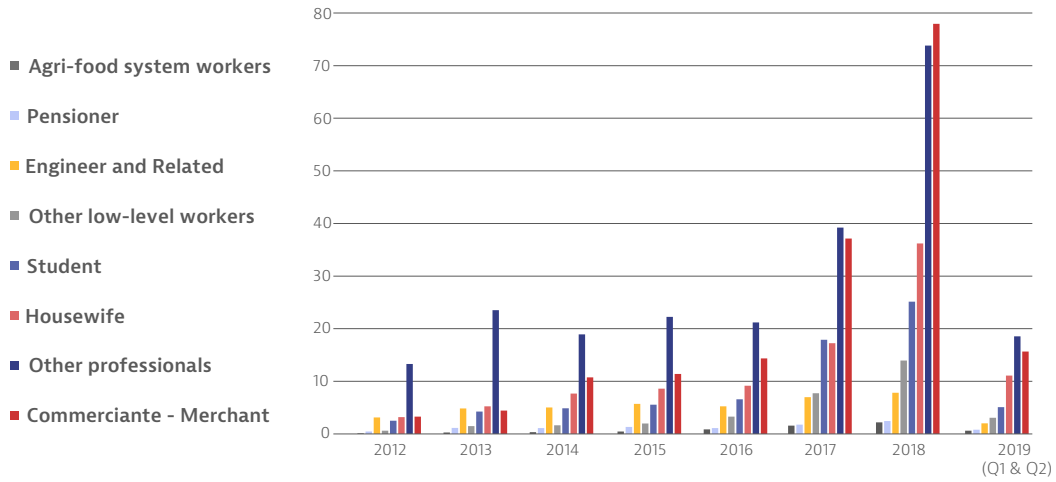


Figure 5

Main Occupations* of the Venezuelan visitors (per 10,000 people, aged 18+)

Data source: *Colombian National Migration Statistics, 2019*

Note: **The chart disaggregates between agri-food workers (Farmer, Beekeeper, Coffee grower, Butcher, Chef, Breeder, Livestock and Related, Cultivator, Dairy Farmer, Baker and Related, Fisherman, Cowboy, Waiter) and Other low-level workers (Driver, Builder, Domestic, Electrician, Stylists and Related, Mechanic and Related, Operators and Related, Seller and Related, Other workers). However, this occupation field is very imprecisely defined, and as such only provides a lower bound for number of food-system workers.*

after 2017, in fact, claim that the main reason for leaving Venezuela was because their family moved. Predictably, however, the second most frequently cited reason is finding a job, followed by facing a (non-conflict-related) threat in Venezuela. Here, it is important to notice the limited overlap with the responses identified at port of entry by the Colombian migration authorities, shown in Figure 2. This observation confirms the concern expressed in Section II.A above, that the generic "tourism" motivation signaled at border authorities could mask other reasons for migration. As the GEIH survey includes regular and irregular migrants alike, the discrepancy between Figure 1 and Figure 7 is also informative about the potential bias arising from focusing the analysis on legal migration alone.

27. Table 1 provides a dynamic comparison of the characteristics of recent Venezuelan migrants vis-à-vis local Colombians. To investigate shifting characteristics of the migrant pool over time, we include both longer-term and recent migrants. We do nonetheless abstract from migrants living in Colombia more than five years prior because the latter definition does not allow us to identify individuals who moved during the recent Venezuelan crisis. On average, new migrants are younger than local Colombians. In 2014-2016, whereas 25 percent of Colombians were between 15-25 years old, 33 percent of recent Venezuelan migrants were 15-25. While this is true over time, the increase in this share during the Venezuelan crisis peak is remarkable: recent migrants aged 15-25 were 36 percent of the total in 2017, and 39 percent in the first two quarters of 2019. The number of Venezuelan migrants, both short and longer-term, in the 26-

35 age group is also significantly higher than for Colombian locals and increased especially for longer-term migrants (35 percent in the first two quarters of 2019).

28. Quite expectedly, local Colombians are much more likely on average to be enrolled in school than Venezuelan migrants, whose average enrollment rates are abysmal in the crisis period (with a 3-percentage points difference between recent and longer-term migrants). In educational attainment, there are distinct differences in how Venezuelan migrants compare to local Colombians over time. In 2014-2016, prior to the migration crisis, migrants were less educated than local Colombians: a larger share of them only had basic education, whereas a bigger share of local Colombians had tertiary education. It can be postulated that prior to the peak of the Venezuelan crisis those crossing the border to Colombia were the less educated, who enjoyed fewer opportunities in Venezuela. From 2017 to 2019, on the other hand, the share of Venezuelans with high school (10-11 grade) and superior or university education increased dramatically. The combined proportion of high school and tertiary educated recent Venezuelan migrants outweighed the less educated strata and was higher than the baseline 2014-2016 share for local Colombians. In other words, more recent waves of Venezuelan migrants have higher rates of education and literacy than previous

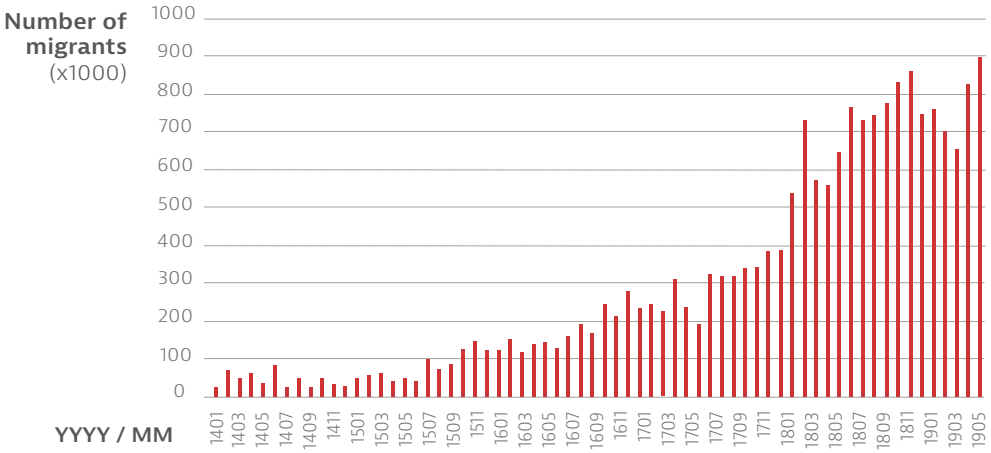


Figure 6

Venezuelan Migration of recent and longer-term migrants from GEIH, 2014 - 2019 (trimester)

Data source: *GEIH, 2019*

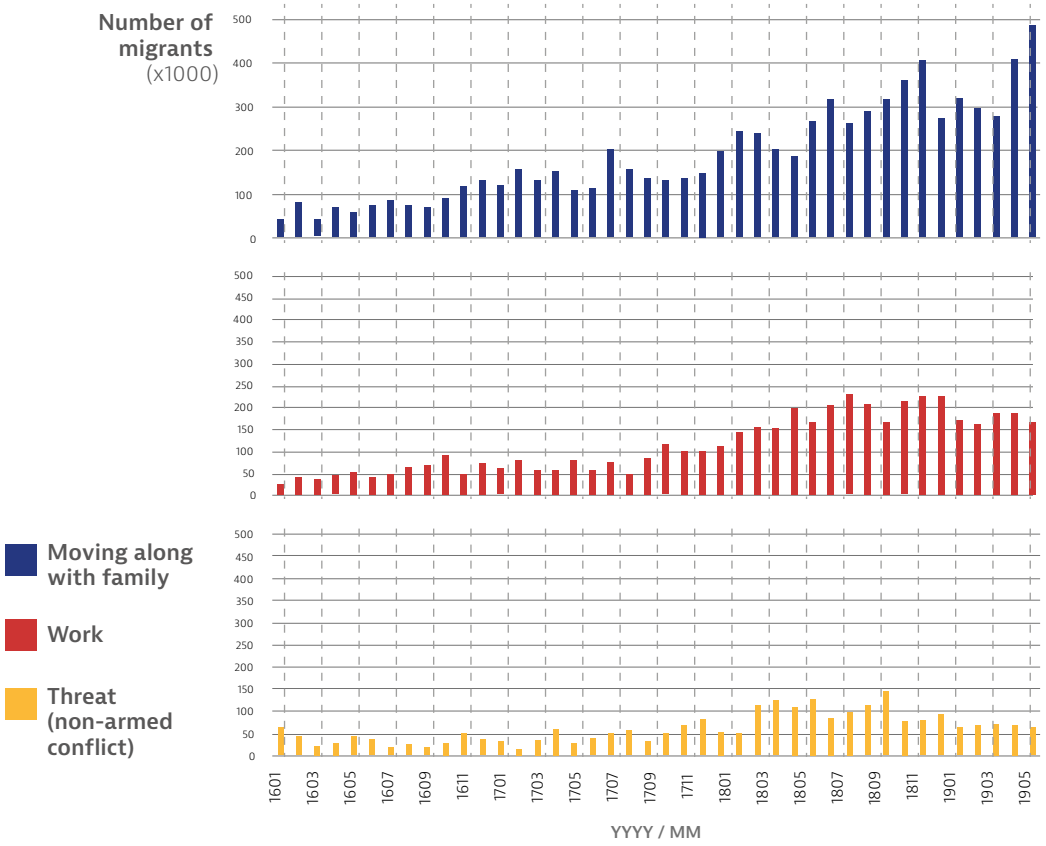


Figure 7

Main Reason for Migration in the last 12 months [16]

Data source: *GEIH, 2019*

16 For these figures, data is shown from 2016 onwards because the way in which the question was phrased changed between 2014 and 2016. Therefore, it is difficult to cleanly match the main reason for migration variable pre and post 2016.

migrants and the local Colombian population. This result is in line with recent anecdotal evidence that, at the height of the Venezuelan crisis, its residents leaving for Colombia have been on average more educated and literate than the local Colombian population – even without controlling for the fact that recent Venezuelan migrants are on average younger than Colombian locals.

29. As could be expected, even at baseline in 2014-2016, the proportion of local Colombians with access to social security in health[17] (92 percent) was higher than for longer-term migrants (71 percent) and for recent migrants (46 percent). The fact that longer-term migrants enjoyed a better coverage than recent migrants is also intuitive, considering their longer exposure to Colombian services. With the intensification of the Venezuelan crisis, however, migrants' access to healthcare deteriorated consistently, resulting in a much lower coverage by 2019: among recent migrants, only 11 percent had access healthcare services (a quarter of what it used to be in 2014-2016), while the share dropped to 42 percent for longer-term migrants.

30. A broad view of labor market outcomes portrays a less intuitive picture. Traditionally, the employment rate of Venezuelan migrants appears to have been not too far from that of local Colombians (66 and 56 percent for longer-term and recent migrants respectively vs. 61 percent for locals in 2014-2016). What is remarkable, however, is that the employment rate of Venezuelan migrants peaked in 2018, at the apex of the migration crisis, when it reached 67 and 64 percent for longer-term and recent migrants, respectively. Similarly, the unemployment rate[18] of longer-term migrants at baseline was quite close to that of Colombian locals (9.5 vs. 8.7, respectively). The rate increases substantially for recent migrants (21 percent), which is fully consistent with the fact that migrants who have been in the host country for less than one year might still be searching for employment in Colombia. Mirroring the trends observed for employment, the unemployment rates of migrants did not escalate during the Venezuelan crisis: in 2018, for example, the unemployment rate among longer-term and recent migrants was 10 and 18 percent respectively. Countering the widespread perception of Venezuelan migrants incurring high shoe leather costs in search of jobs, the numbers in Table 1 seem to suggest that the intensification of the migration crisis did not substantially affect migrants' prospects to find employment in Colombia.

31. This could in part be explained by the Colombian government's efforts to develop different strategies to attend to the needs of Venezuelans migrants into Colombia. In addition to recent, emergency programs for immediate attention to migrants arriving into urban centers (providing for example basic services such as housing, food, and healthcare in centers or refugee camps), the government is also creating a number of regularization programs so that migrants can legally participate in formal labor markets and access social security and healthcare (see Box 1).

32. The finding that migrants appear to be doing relatively well on labor markets needs to be better understood. For example, it is important to assess whether migrant labor supply is acting as a complement or a substitute to local labor. New migrants could potentially fill labor shortages in certain sectors, by bringing new skills to the host country, or by otherwise accepting to downgrade their skills in occupations for which they are overqualified. Maystadt and Verwimp (2014), for example, consider whether migrants from Burundi and Rwanda in the '90s and early 2000s filled labor shortages in labor-intensive primary agriculture in Tanzania, and find that non-agricultural workers and self-employed farmers were well-positioned to benefit from the refugee inflow. On the other hand, migrants might well be more willing to accept worse salaries and working conditions, reducing average wages and exacerbating disparities (Orrenius and Zavodny, 2012).

33. To shed light on this question, Table 2 provides summary statistics for Venezuelan migrants employed in Colombia,[19] again comparing their profiles with those of employed Colombians. In terms of gender composition, the migrant labor force has over time featured a lower share of women than the Colombian one. As the overall migrant pool in Table 1 is roughly equally split between men and women, Table 2 suggests that in recent times it has mostly been men who migrated to engage in labor markets, while women might have traditionally been more motivated to migrate to accompany their families. The share of employed female migrants, however, has been consistently growing during the Venezuelan crisis, and in 2019 it almost reached the level observed at baseline among non-migrants (40 vs. 43 percent, respectively).

34. In line with the overall age composition of the migrant pool, employed Venezuelan migrants are younger than local Colombians. The share of migrant workers in the age groups 15-25 and 26-35 has been consistently higher than for Colombians, both before and after the start of the migration crisis in 2017. While in 2014-2016 workers in the age groups 15-25 and 26-35 represented 18 and 26 percent of the employed Colombian population, for example, they accounted for 28 and 36 percent of the employed recent Venezuelan migrants. The share of youngest workers

17 This was defined as a positive answer to the question whether the respondent is affiliated, is a contributor or is a beneficiary of any entity of social security in health?

18 The unemployment rate is defined as defined as the share of people not in employment but looking for jobs over the total labor force.

19 Descriptive statistics for the unemployed and inactive populations are provided in Annex C.

Table 1 Locals vs. Venezuelan migrants – Descriptive statistics

	2014 – 2016			2017		2018		2019 (Q1 & Q2)	
	Locals (born in Colombia)	Venezuelan Migrants							
		5 Years	12 Months	5 Years	12 Months	5 Years	12 Months	5 Years	12 Months
1. General Characteristics									
1.1 Gender									
Female (%)	51.70	45.73	45.80	48.11	49.93	48.27	49.51	48.28	52.75
1.2 Age (years)									
15 – 25 (%)	24.54	26.13	33.43	28.04	35.48	31.94	38.29	31.90	38.96
26 – 35 (%)	22.08	32.12	31.73	30.09	32.66	32.78	31.36	34.79	30.35
36 – 45 (%)	19.15	20.62	18.32	23.62	16.81	18.73	17.09	17.91	16.39
46 – 55 (%)	17.71	12.69	10.00	11.06	9.26	10.48	7.69	9.40	8.86
56 – 70 (%)	16.52	8.45	6.52	7.20	5.78	6.06	5.57	6.00	5.45
2. Education									
2.1 Literacy Rate (%)	95.75	95.43	96.44	96.79	97.19	97.98	98.58	97.90	98.71
2.2 Currently in school (%)	13.06	8.30	5.32	8.43	2.90	5.80	2.06	5.12	2.22
2.3 Highest Educational Level									
None (%)	4.24	4.40	3.59	3.21	2.79	1.98	1.46	2.13	1.29
Preschool (%)	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00
Basic Primary (1-5) (%)	25.68	26.90	24.52	21.36	17.52	17.15	12.84	15.37	11.01
Basic Secondary (6-9) (%)	17.78	23.86	24.78	24.34	21.52	25.80	25.07	24.82	25.28
High School (10 -11) (%)	27.08	26.14	30.98	31.35	33.70	35.40	35.93	35.94	37.43
Superior or University (%)	25.21	18.70	16.13	19.74	24.47	19.65	24.69	21.72	24.99
3. Health and Social Security									
3.1 Access to Healthcare									
Yes (%)	91.51	72.28	46.20	65.79	25.24	51.27	16.71	42.05	11.34
3.2 Type of Social Security									
Contributive (%)	51.28	37.34	29.89	38.80	38.55	38.74	37.98	41.33	42.16
Special (%)	3.83	0.50	0.31	0.60	0.17	0.29	0.02	0.20	0.12
Subsidiary (%)	44.83	62.08	69.69	60.60	61.28	60.86	61.97	58.47	56.73
4. Labor Market									
Employment Rate (%)	61.04	65.48	56.00	64.34	57.71	66.75	64.04	66.32	56.96
Unemployment Rate (%)	8.67	9.53	20.84	9.83	21.71	10.08	18.01	12.07	21.26

Note: *The employment rate is the percentage of employed over the working age population. The unemployment rate is the percentage of individuals not in employment but looking for work, over the economically active population (employed+unemployed). As the two rates are computed over different totals (working-age vs. economically active) they do not sum to 100.*

(15-25 age group) has however risen considerably after the inception of the crisis: in 2018, this group represented almost 35 percent of all employed recent migrants.

35. The higher levels of education identified for migrants in the wake of the Venezuelan crisis (cf. Table 1) are also reflected among the employed sub-group. Before the crisis, average years of schooling was around 8.5 for employed migrants in comparison to 9.2 for employed Colombians, but this jumped to more than 10 in the crisis years.

36. In terms of distribution of workers across urban and rural areas, Table 2 shows no substantial differences between migrants and local Colombians before the start of the migration crisis: while 40 percent of Colombian locals were working in rural areas in 2014-2016, the share was 36-39 percent for recent and longer-term Venezuelan migrants in the same years. The wave of migration, however, shattered this trend, and today three out of four recent migrants work in urban areas.

37. As for job quality, it is apparent that migrants enjoy overall significantly worse working conditions. Even though Caruso et al. (2019) show that migration increased the hours worked by locals, which suggests that work pressures have increased on average for all workers, Table 2 shows that migrants are comparatively worse-off than their local counterparts. Despite their higher education and presumably higher skills, both recent and longer-term migrants work longer hours for much less pay, suggesting they are willing to accept more tenuous labor market conditions. Despite the PEP permits and regularization programs described in Section II.B, for example, Table 2 unequivocally shows that migrants are much more likely than Colombians to be informal workers, and even more so after 2017: in 2018 and 2019, the share of recent migrants in the informal labor force was as high as 77 percent. Migrants are also significantly more likely to be working in temporary occupations. In recent periods, migrants have worked nearly 4 hours more per week than both local Colombians and migrants in the pre-crisis baseline period.

38. Interestingly, migrants today are also earning much lower wages, both if compared to Colombians, and to migrants before the peak of the Venezuelan crisis. While in the 2014-2016 period local Colombians earned on average COP 825,000, in 2018 recent migrants earned just COP 438,500, about half of what local Colombians earned. Even more conspicuous is that, while at baseline longer-term migrants were even earning COP 105,700 more than local Colombians, by 2019 their average earnings had dropped by almost 50 percent, to COP 566,900.[20]

20 Wages are calculated in 2010 real terms.

Box 1 Integrating Venezuelan Migrants in Colombia: Regularization Programs and integration strategies

A significant step in the integration of migrants into Colombia's labor markets was the launch in 2017 of the Special Permit of Permanence (PEP), which seeks to facilitate the integration and regularization of Venezuelan migrants regardless of their migration status (regular and irregular migration) and grants its beneficiaries permission to legally work in Colombia. In parallel, the government created the Venezuelan Migrants Administrative Registry (RAMV, from its Spanish acronym) between May and June 2018, which targets irregular migrants in the country and grants them access to basic health, education, and other services.

So far, there have been four rounds of PEP:

- PEP I: Resolution 1272 of 2017 (July 31)
- PEP II: Resolution 0361 of 2018 (February 8)
- PEP III: Resolution 2033 of 2018 (August 2)

Only for those who were registered in RAMV, known as PEP-RAMV:

- PEP IV: Resolution 3317 of 2018 (December 2018)

The Colombian government is now currently drafting a new PEP round focused on workers that have an employment contract, which will be open to companies that have registered their Venezuelan employees in the Single Registry of Foreign Workers in Colombia (RUTEC)[21].

In total, 596,077 migrants have received the PEP over the years (Figure 8). In keeping with the age decomposition of (formal) migrants shown in Figure, males and females between 18 and 29 years are the most prevalent age group of migrants with PEP permits (22 percent and 20 percent, respectively), followed by migrants between 30 and 39 years old (14 and 11 percent for males and females).

Figure 9 maps the spatial distribution of Venezuelan migrants with PEP in Colombia. Predictably, Bogotá is the city with the largest number of Venezuelan migrants with PEP (169,000), followed by Medellín (44,030), Barranquilla (31,798) and Cúcuta (31,370). In general, there is an important concentration of PEPs around the frontier zone,[22] as well as in the central area of the country where most economic activity takes place, and in agricultural zones like coffee regions.

In 2018, the Colombian government developed the CONPES plan no. 3950, *Colombia Response Strategy to the Venezuelan Populatio*n, to serve as a guide for the integration of the Venezuelan population in the various socio-economic systems of the country. Backed by a budget of approximately US$ 125 million, CONPES 3950 builds an action plan for the years 2018 – 2021 and presents a total of 68 strategic actions ranging from healthcare, education, childhood, to work, accommodation, security and coexistence. Accordingly, the CONPES provides from action by the Ministry of National Education, the Ministry of Health and Social Protection, the Ministry of Labor, the Ministry of Housing, City and Territory, the Ministry of Foreign Affairs, the Ministry of the Interior, the Ministry of Education, the Ministry of Defense, the Ministry of Mines and Energy, the Ministry of Commerce, Industry and Tourism, the Administrative Department of the Presidency of the Republic and the National Planning Department. Implementation is left to the various ministries and government institutions involved.

21 The Unique Registry of Foreign Workers in Colombia (RUTEC) is a registry in which Colombian companies must register their foreign workers.

22 Bahar, Dooley and Huang (2018) note how the presence of Venezuelans in these areas is already changing the demographic composition of small villages.

Box 1 continued Integrating Venezuelan Migrants in Colombia: Regularization Programs and integration strategies

In the strategies to improve the labor situation of the migrant population from Venezuela, the CONPES contemplates two lines of action:

» Line of action 12: Reduce access barriers to the formal labor market. This line envisages actions from the National Apprenticeship Service (SENA) for the certification of apprenticeships and organization of job fairs, as well as from the Public Employment Service to facilitate access to employment.

» Line of action 13: Support for entrepreneurship and business development. Under this line of action, the Ministry of Commerce, Industry and Tourism is required to support Venezuelan migrants in processes of entrepreneurship and business development.

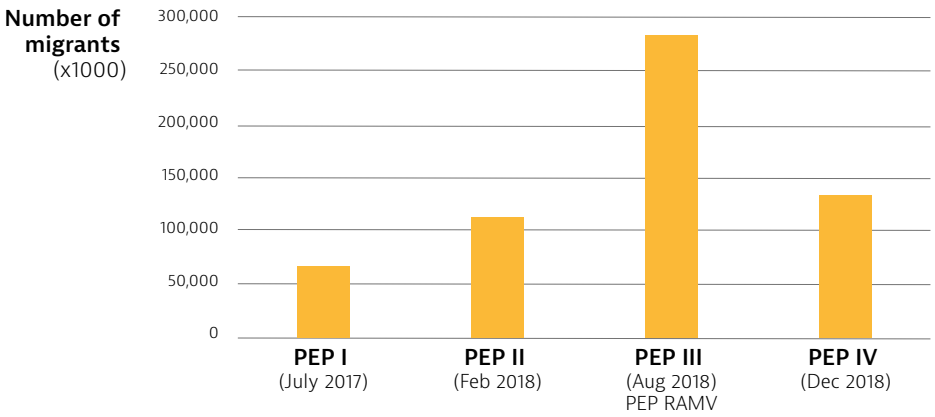


Figure 8

Number Special Permits of Permanence (PEP) issued for Venezuelan's migrants

Data source: *Colombian National Migration Statistics, 2019*

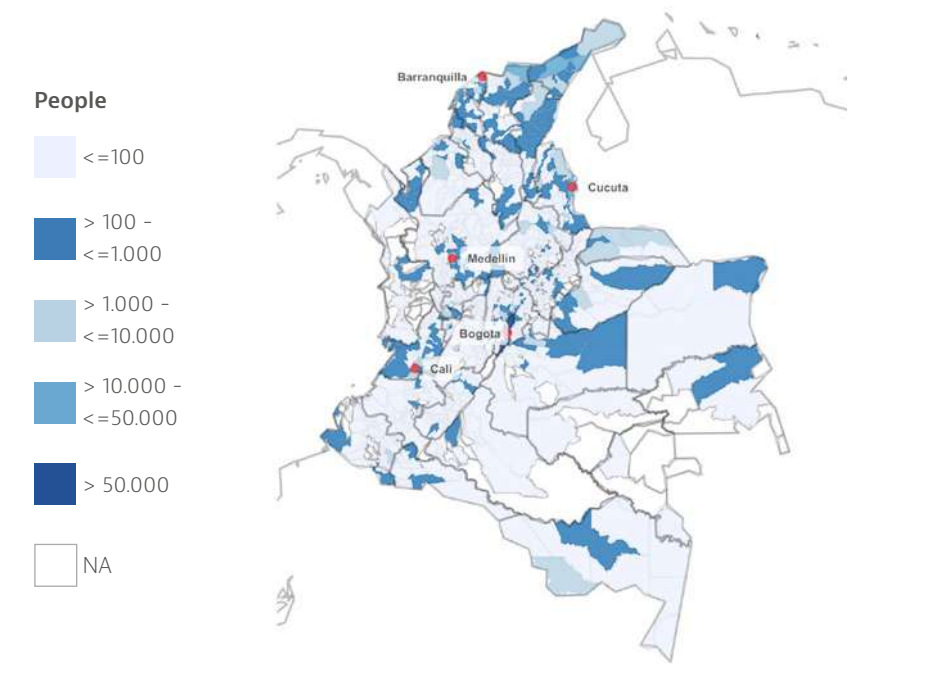


Figure 9

Spatial distribution of migrants with legal working permits (PEP)

Data source: *Colombian National Migration Statistics, 2019*

Table 2 Locals vs. Venezuelan migrants: Labor market characteristics of the employed population

	2014 – 2016			2017		2018		2019 (Q1 & Q2)	
	Locals (born in Colombia)	Venezuelan Migrants							
		5 Years	12 Months	5 Years	12 Months	5 Years	12 Months	5 Years	12 Months
1. General Characteristics									
1.1 Gender									
Female (%)	42.51	35.19	31.62	37.56	38.40	37.54	38.66	36.39	40.24
1.2 Age (years)									
15 – 25 (%)	17.73	20.56	28.03	20.78	29.82	25.72	34.80	25.32	33.96
26 – 35 (%)	25.62	35.62	35.47	33.58	37.04	35.81	34.50	39.11	35.71
36 – 45 (%)	23.00	22.50	21.81	26.99	19.21	21.21	18.80	20.29	18.76
46 – 55 (%)	20.26	14.50	10.21	11.87	9.59	11.60	8.13	10.22	7.87
56 - 70 (%)	13.40	6.82	4.49	6.79	4.34	5.66	3.77	5.07	3.69
1.3 Education									
Avg. years of schooling	9.24	8.51	8.67	9.16	9.65	9.60	10.20	9.98	10.18
1.4 Rural									
Rural Worker (%)	39.87	39.20	35.98	40.08	34.30	30.24	16.89	37.93	25.24
2. Job Quality									
Informal Worker (%)	58.88	71.12	74.40	66.75	73.53	70.84	77.25	69.54	76.98
Temporary Worker (%)	9.56	10.54	18.98	9.13	16.85	10.19	21.18	12.85	24.35
Avg. hours worked per week	45.70	47.03	45.75	47.28	48.44	48.63	49.58	49.77	48.37
Avg. wage (in 100 COP, at fixed 2010 prices)	8249.78	9307.26	5549.56	6808.46	4882.08	6133.48	4384.50	5668.60	4468.65

Source: *Authors' calculations using GEIH, various years.*

39. To an extent, the differences in the job profiles observed both between Venezuelan migrants and local Colombians and for migrants over time could be the result of a number of factors, including the differences in individual characteristics presented above in Table 1. To better understand how Venezuelan migrants are integrating into Colombia's labor markets vis-à-vis the local population, accounting for observable socio-demographic characteristics and for location and time fixed effects, Table 3 presents the results of simple multivariate regression analysis. Regressions allow to explore the effect of a certain variable on an outcome of interest, conditional on a set of given covariates.[23] Specifically, Table 3 sheds light on how the fact of being a migrant is correlated to changes in typical employment outcomes, with a special emphasis on differential outcomes during the migration crisis (post 2017). It is important to highlight that, even though the estimation is based on a quasi-experimental framework (as the Venezuelan crisis causing the sudden surge in migration is plausibly exogenous to local conditions in Colombia), the results presented in Table 3 are to be interpreted as simple correlations, and do not establish causality. Migrants' choices, for example regarding location within Colombia, are likely to be linked to several confounding factors that are not accounted for in the estimation, such as existing social networks or local labor market dynamics. With this caveat in mind, the exercise is nonetheless useful in better qualifying the experience of Venezuelan migrants trying to integrate in Colombian labor markets.

40. The first coefficient reported in Table 3 shows that Venezuelan migrants are in general 2.3 percentage points more likely to be employed than other workers, controlling for other individual characteristics and department-year-month fixed effects. The coefficient on the interaction between being a migrant and the post-2017 period, moreover, shows that migrants are 4 percentage points more likely to find employment after 2017. The crisis can be associated with a statistically significant increase in labor market participation of Venezuelan migrants over the pre-crisis level by 74 percent. The magnitude of impacts on the employed outcome are significant for both longer-term and recent migrants, although substantially bigger for the latter.

41. At the same time though, migrants are also 5 percentage points more likely than non-migrants to be unemployed, as the first coefficient in Column 3 shows. Although this result may appear counter-intuitive at first, it is very telling. By definition, an individual is unemployed if they are not working but are actively looking for a job.[24] The fact

23 Cf. Appendix B for details.

24 In the GEIH data, this is defined over a standard 7-day recall period.

that migrants are more likely to be both employed and unemployed implies they are less likely to be inactive, i.e., out of the labor force, as Column 5 confirms. In practice, Venezuelan migrants are on average more motivated than the local population to pursue a job. During the migration crisis, the increase in migrants' employment accounts for a reduction in both their unemployment and inactivity.

42. The rest of Table 3 confirms migrants' willingness to endure less than ideal labor conditions and earn low wages than the local population. This is even more true during a forced displacement migratory crisis. Columns 7 and 8 in Table 3, for example, show that Venezuelan migrants typically earn less than local Colombians in the labor market, and that this disparity is greatly heightened in the crisis period. Longer-term migrants do not typically earn less than local Colombians in labor markets, but both longer-term and recent migrants are burdened with lower earnings post 2017. Furthermore, Venezuelan migrants work about 1.6 to 1.8 hours more per week than local Colombians, and the difference increases during the crisis. Similarly, migrants are 11 percentage points more likely to be informal workers, and informality rises significantly by an additional 5.5 percentage points for Venezuelan migrants during the crisis. While temporality is also significantly higher among Venezuelan migrants relative to local Colombians, there is no significant rise in this type of employment post 2017.

43. Considering the dynamics of migration, and the fact that migrants seem to be mostly clustering in cities, Table 4 assesses whether there are any differences in the employment outcomes of migrants in urban and rural areas. Predictably, migrants are more likely to be employed in cities and out of the labor force in rural areas, as expressed by the coefficients on the migrant-rural interaction term in Columns 1-3. However, working conditions seem to be better for migrants in rural areas: here, they earn comparatively higher wages, and are less likely to be hired informally (Columns 3 and 5), even after the migration surge post 2017.

44. Table 5 presents the results of further heterogeneity analysis of employment outcomes, this time focusing on migrants' individual characteristics such as gender, age, and education. Specifically, Table 5 explores whether the likelihood among migrants of being employed differs between (i) men and women; (ii) younger and older workers; and (iii) workers with at least secondary education and workers with lower education. Overall, the results in the table are quite compelling: among migrants, women, youth, and low-educated individuals are in general more likely to be employed than men, the elder, and better-educated workers. Most of these results are not affected by the start of the migration crisis, as shown by the insignificant coefficients on the interactions with the post-2017 period. Interestingly, however, female migrants are instead less likely to be employed during the most recent surge of Venezuelan migrants into Colombia. This result could be interpreted by noting that, before the migration crisis, the likelihood that a woman migrant would have left her country to find employment was higher than during the crisis, when many migrants moved with the principal motivation to be with their families. Absent further analysis, however, interpretations can only be tentative.

45. Similar results to the ones presented in Table 4 can be observed when longer-term and recent migrants are separated in the estimation (Annex Table C2). Tables C3 to C8 in the Annex, instead, show distinct and statistically significant results for other outcomes – real wages, weekly hours worked, informality for specific categories of workers. On wages, for example, there is a positive coefficient for low educated workers in the post-2017 period. The effect is specific to longer-term migrants and mitigates the earnings reduction that they suffered during the migration crisis. As for working hours, it looks like longer-term female migrants work approximately one hour more in the post 2017 period, adding to the already higher hours of work incurred by migrants during the migration surge.

46. This chapter, by comparing Venezuelan migrants and their Colombian peers in terms of their micro-level characteristics and labor market outcomes, allows a first assessment of migrants' integration in the labor force of their host country, in particular as a result of the recent migration crisis. Overall the analysis implies that Venezuelan migrants are broadly likely to find employment, but that this is often accompanied by poorer working conditions. The next chapter delves deeper into an analysis of integration of Venezuela's forced migrants into Colombia's labor markets, identifying opportunities and constraints for migrants' integration specifically in agri-food jobs.

Table 3 Labor outcomes of Venezuelan migrants in most recent migrant surge

	Employed		Unemployed		Inactive		Real Wage (100 COP, at fixed 2010 prices)		Weekly Hours of Work		Informal Worker		Temporary Worker	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Venezuelan Migrant	0.023 ***		0.049 ***		-0.0712 ***		-676.935 ***		1.620 ***		0.111 ***		0.033 ***	
	[0.007]		[0.007]		[0.005]		[147.754]		[0.345]		[0.008]		[0.009]	
Migrant* Post 2017	0.040 ***		-0.010 **		-0.030 ***		-1057.827 ***		1.599 ***		0.055 ***		0.001	
	[0.005]		[0.005]		[0.005]		[219.618]		[0.285]		[0.008]		[0.004]	
ST Migrant		-0.017		0.087 ***		-0.070 ***		-1389.639 ***		1.830 ***		0.153 ***		0.062 ***
		[0.011]		[0.008]		[0.006]		[149.617]		[0.360]		[0.012]		[0.015]
LT Migrant		0.058 ***		0.015 **		-0.074 ***		-153.670		1.462 ***		0.080 ***		0.012 **
		[0.005]		[0.007]		[0.004]		[265.339]		[0.358]		[0.007]		[0.005]
ST Migrant* Post 2017		0.061 ***		-0.018 **		-0.043 ***		-1026.578 ***		1.510 ***		0.060 ***		-0.001
		[0.009]		[0.006]		[0.006]		[150.208]		[0.300]		[0.013]		[0.006]
LT Migrant* Post 2017		0.020 ***		0.000		-0.020 ***		-1116.627 ***		1.674 ***		0.054 ***		0.004
		[0.006]		[0.007]		[0.006]		[301.445]		[0.351]		[0.011]		[0.004]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Department *Year* Month FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.624	0.624	0.078	0.078	0.297	0.297	7538.482	7538.482	45.084	45.084	0.578	0.578	0.047	0.047
Observations	1912237	1912237	1912237	1912237	1912237	1912237	1018859	1018859	1192979	1192979	1192979	1192979	1192979	1192979
R-squared	0.225	0.225	0.024	0.024	0.259	0.259	0.285	0.286	0.111	0.111	0.277	0.277	0.052	0.052

Source: *Authors' calculations using GEIH, various years.*

Table 4 Labor outcomes for migrants in the most recent surge – Urban vs. rural areas

	Employed	Unemployed	Inactive	Real Wage (100 COP, at fixed 2010 prices)	Weekly Hours of Work	Informal Worker	Temporary Worker
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Venezuelan Migrant	0.027***	0.051***	-0.079***	-729.615***	1.722***	0.118***	0.034***
	[0.006]	[0.007]	[0.006]	[162.969]	[0.387]	[0.008]	[0.010]
Migrant*Post 2017	0.036***	-0.013**	-0.023***	-1007.181***	1.496***	0.048***	0.000
	[0.004]	[0.005]	[0.006]	[233.208]	[0.315]	[0.008]	[0.005]
Migrant * Rural	-0.053*	-0.036**	0.088***	628.189**	-1.306	-0.090***	-0.014
	[0.027]	[0.014]	[0.029]	[240.566]	[0.832]	[0.015]	[0.022]
Migrant* Rural* Post 2017	-0.049	-0.006	0.054	744.912	2.182	-0.041	-0.070**
	[0.092]	[0.031]	[0.079]	[504.431]	[3.201]	[0.047]	[0.026]
Individual controls	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.624	0.078	0.297	7538.482	45.084	0.578	0.047
Observations	1912237	1912237	1912237	1018859	1192979	1192979	1192979
R-squared	0.225	0.024	0.259	0.285	0.111	0.277	0.052

Source: *Authors' calculations using GEIH, various years.*

Dependent Variable: Worker is employed			
	(1)	(2)	(3)
Venezuelan Migrant	0.050***	-0.014*	0.021***
	[0.011]	[0.007]	[0.007]
Migrant* Post 2017	0.051***	0.031***	0.040***
	[0.008]	[0.004]	[0.005]
Migrant*Female	-0.052***		
	[0.012]		
Migrant *Female*Post 2017	-0.020*		
	[0.011]		
Migrant* Youth		0.124***	
		[0.015]	
Migrant*Youth*Post 2017		0.013	
		[0.012]	
Migrant*No Diploma			0.062*
			[0.033]
Migrant* No Diploma* Post 2017			0.009
			[0.033]
Individual controls	YES	YES	YES
Department*Year*Month FE	YES	YES	YES
Dep Var – Mean	0.624	0.624	0.624
Observations	1912237	1912237	1912237
R-squared	0.225	0.226	0.225

Table 5

Migrants' employment in the most recent surge – Heterogeneity analysis

Source: *Authors' calculations using GEIH, various years.*

III COLOMBIA'S AGRI-FOOD JOBS

III COLOMBIA'S AGRI-FOOD JOBS

47. The evidence presented in Chapter II shows that Venezuelan migrants' likelihood to participate in labor markets is even higher than local Colombians' themselves. At the same time however, the jobs that Venezuelans are finding appear to be of much lower quality if compared to the local population, with important heterogeneity across urban and rural areas. A simple descriptive analysis of employment patterns by sector and over time (Table 6) also shows that a higher percentage of migrants is employed in occupations that can be ascribed to the agriculture and food sector, and that the share is increasing substantially over time. This begs the question: could Colombia's agriculture and food sector provide good employment for Venezuelan migrants? What are the characteristics of agri-food labor markets that could make them conducive (or not) to the integration of the Venezuelan workforce into Colombian labor markets? This chapter offers an overview of recent trends in agri-food performance in Colombia, as well as the characteristics and composition of the associated labor markets.

48. Agriculture and food systems encompass a broad range of actors, processes, and value-adding activities involved in the production, aggregation, processing, distribution, and consumption of agricultural and food products. As such, not only do agriculture and food systems comprise the agriculture and food products originating from primary production, but also those activities related to the provision of inputs and services which support the flow of goods through the different stages of the food value chain. The remainder of this section provides an account of Colombia's broad agri-food sector, focusing on the four major stages along the food value chain. These include (i) primary, on-farm food production; (ii) food processing (the transformation of primary crops and livestock products); (iii) food distribution (the logistical system including storage, transportation, and distribution of food); and (iv) food services (the final stage of the food system, including restaurants).

Table 6 Sector of employment – employed population

	2014 – 2016			2017		2018		2019 (Q1 & Q2)	
	Locals (born in Colombia)	Venezuelan Migrants							
		5 Years	12 Months	5 Years	12 Months	5 Years	12 Months	5 Years	12 Months
Agri-food sector (%)	**43.7**	**52.0**	**55.1**	**50.6**	**54.7**	**53.9**	**60.7**	**56.0**	**59.6**
Primary agriculture (%)	61.36	54.82	44.90	44.47	23.90	32.52	26.76	28.63	21.48
Food processing (%)	11.64	10.91	8.00	12.93	12.57	15.97	14.06	16.22	12.58
Food services (%)	27.00	34.27	47.10	42.61	63.53	51.52	59.18	55.15	65.94
Non agri-food sector (%)	**56.3**	**48.0**	**44.9**	**49.4**	**45.3**	**46.1**	**39.3**	**44.0**	**40.4**
Manufacturing (%)	69.16	62.95	59.69	58.69	63.41	62.01	62.15	67.16	67.02
Services (%)	30.84	37.05	40.31	41.31	36.59	37.99	37.85	32.84	32.98

Source: *Authors' calculations using GEIH, various years.*

Box 2 Agriculture in Colombia: a macro perspective

Taking into account only primary production, Colombia's agriculture has been second only to services in terms of sectoral growth, with an average annual growth rate of 2.9 percent between 2009 and 2018 (Figure 10). This figure is ahead of what can be observed for a number of agriculture giants in Latin America, such as Brazil, Mexico, and Argentina (Figure 11). The agriculture sector is also well positioned on international markets: in 2018 the value of agriculture, food and beverage exports was 17.5 percent of the country's total export value, and the country displays a positive agri-food trade balance. Colombia has been for decades a leading exporter of coffee, cut flowers, and bananas, which jointly make up for more than 60 percent of Colombia's agri-food export, and there is great potential to further diversify the country's export basket.[25]

Colombia's agri-food sector has potentially much to gain from the combination of a rapidly expanding domestic market and a global growth in food demand originating from increasing global population and rising incomes. With a current population of 45.5 million[26] projected to increase to 53.6 million by 2030,[27] and a sustained urbanization trend, the nature of domestic demand for food and agriculture products in Colombia is evolving – not only because the number of mouths to feed is increasing, but also because urban consumers are increasingly demanding more diversified and nutritious foods, as well as more convenient food available for purchase through retail channels. An important window of opportunity is opening up for Colombia's agricultural products in external markets as well: as the world population grows from 7 billion in 2010 to a projected 9.8 billion in 2050, global food demand is expected to increase by 50 percent in 2050 (WRI, 2018), and global income gains will direct much of this growth towards more diversified diets including better quality staple grains, fruits and vegetables, and animal-source.

The extent to which this momentum can translate into a boost for agriculture in Colombia will depend on the ability of the sector to keep pace with demand. The recently declining contribution of agri-food to total export earnings (from 22.1 percent in 2016 to 129.4 percent in 2017 to 17.5 percent in 2018),[28] or the fact that the rate of agricultural TFP growth and of agricultural labor productivity in recent years have been among the lowest in the Latin America region (Figure 12 and Figure 13), for example, may threaten the potential of agriculture in the face of favorable domestic and global developments.

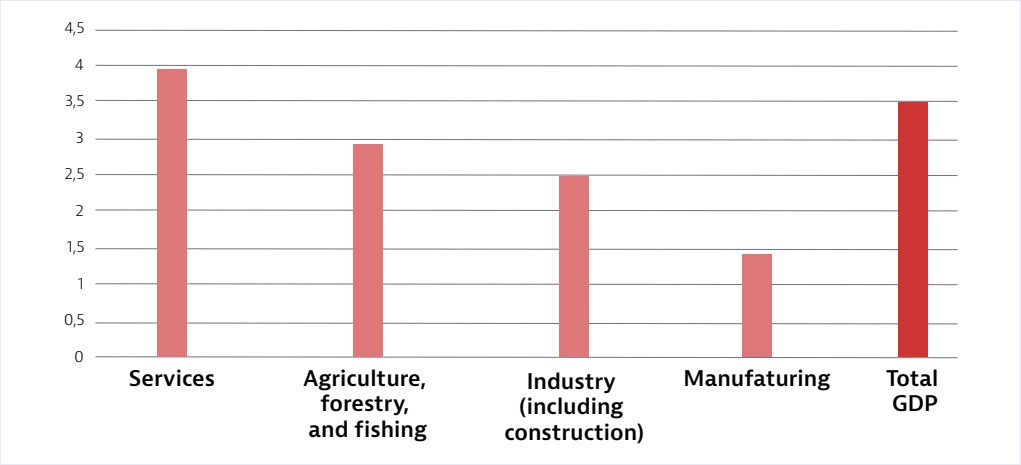


Figure 10

Annual growth of sectoral value added, Colombia, 2009-2018 average (%)

Data source: *World Development Indicators, 2019*

25 Trade data from DANE, 2018.

26 2018 National Census.

27 UN-DESA population estimates.

28 Trade data from DANE, 2018.

Box 2 continued Agriculture in Colombia: a macro perspective

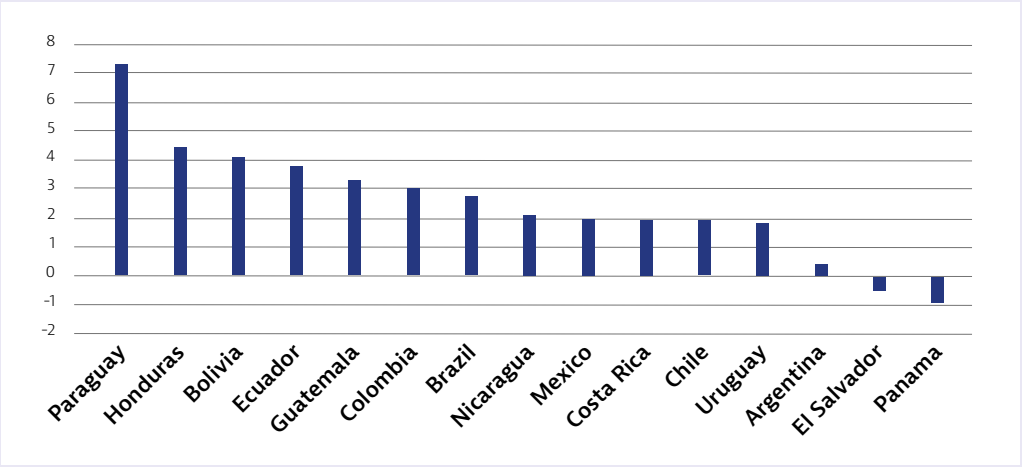


Figure 11

Annual growth of agriculture value added, Latin American countries, 2009-2018 average (%)

***Data source**: World Development Indicators, 2019*

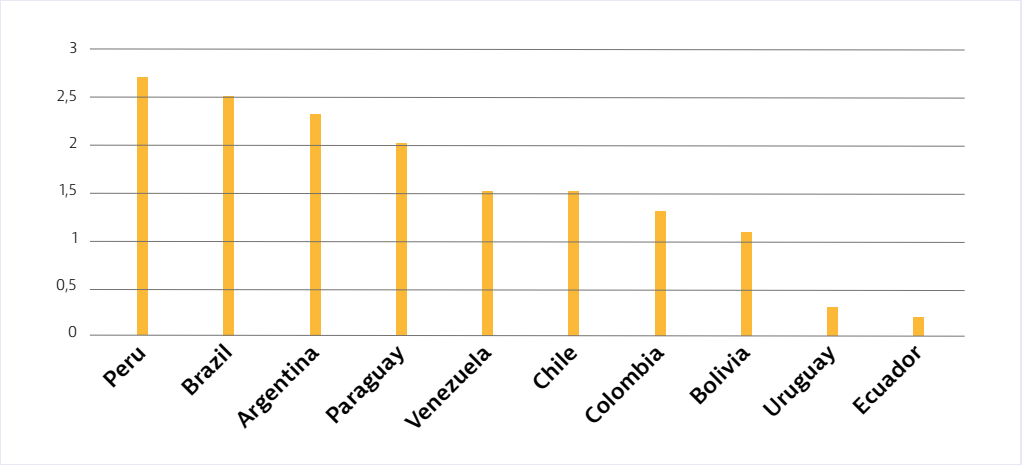


Figure 12

Average annual growth rate of agricultural TFP (%): Latin American countries, 2005-2015

***Data source:** USDA, 2018.*

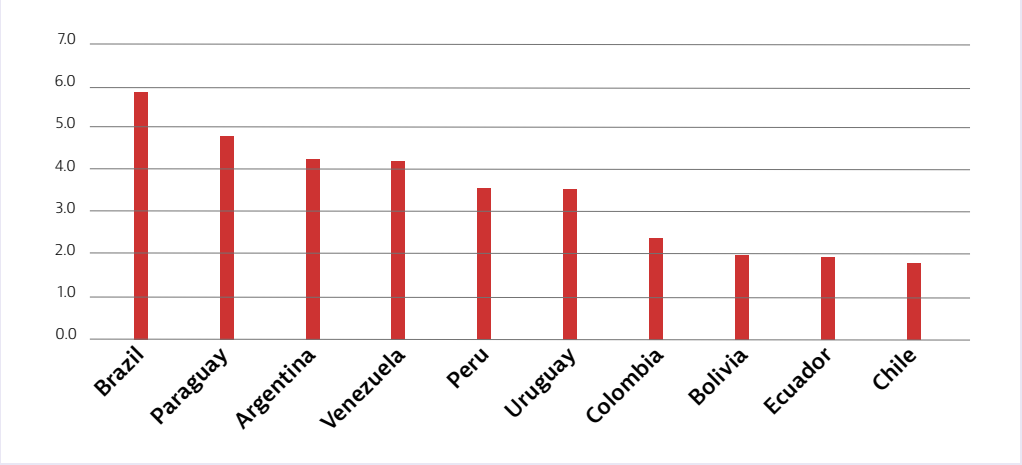


Figure 13

Average annual growth rate of agricultural labor productivity (%): Latin American countries, 2005-2015

***Source:** Calculations from USDA, 2018.*

***Note:** Labor productivity computed as output per worker. Gross agricultural production measured in constant 2004-2006 international dollars; agricultural labor measured in persons aged 15+ economically active in agriculture.*

A. CHARACTERIZING AGRI-FOOD JOBS ALONG THE VALUE CHAIN

I. PRIMARY PRODUCTION

49. After a few years of declining agricultural share of total employment in the early 2010s, agriculture employment has slightly regained momentum in 2015, when both the absolute number of workers employed in agriculture and the agricultural employment share started growing again: as of 2017, primary agriculture in Colombia employed 3.67 million workers and accounted for 16.5 percent of total employment, up from respectively 3.5 million and 16 percent in 2015.[29]

50. Overall, the Andean region is where most land is destined to agri-food uses (Figure 14) and most primary agricultural activities take place, with different departments specializing in the production of specific crops.[30] Cattle ranching, which in 2019 provided about 6 percent of all jobs in the country and about 19 percent of agricultural jobs (FEDEGAN, 2019), is in turn prevalent in the Caribbean and Orinoquía regions, which host most of the country's herd of cattle (Figure 15). Predictably, four out of five primary agriculture workers live in rural areas. Consistent with the spatial distribution of agricultural land, the bulk of these jobs are located in the Andean region (Figure 16).[31]

51. Because of structural transformation, process mechanization, mounting urbanization, and changing aspirations, many workers are increasingly leaving rural areas and moving to cities. If the process is to an extent a physiological component of economic development along Colombia's growth path, it is nonetheless leaving gaps in the size and composition of the labor force in primary agriculture. Many agricultural value chains (most notably coffee, cf. Box 2) have been experiencing significant labor shortages at key stages of the productive process, which significantly raises production costs. At the same time, as young people are more likely to migrate out of rural areas, they are leaving behind an ageing and less skilled on-farm labor supply.

52. The average age of agricultural producers is higher than 40, and their education level is quite low: on average, primary agriculture workers attended 5.5 years of schooling, and more than half of them only attained basic primary education (Table 7). The universe of agricultural producers in Colombia is also predominantly male, with women accounting for only 20 percent of primary agriculture jobs. In terms of job quality, around 5 percent of workers is hired as daily laborer, and another 4 percent as a seasonal worker. Only a third of primary agriculture workers is hired with a regular contract.

Table 7 Worker profiles: primary agriculture, year 2018

Socio-demographic	
Women (%)	19.18
Average age (years)	43.57
Rural area (%)	83.68
Education	
Average years of education	5.49
No education (%)	11.74
Preschool (%)	0.01
Basic primary (%)	51.8
Basic secondary (%)	16.67
High school (%)	15.87
Superior/university (%)	3.88
Job quality	
Average week working hours	40.63
Average salary (COP)	565,626.53
Daily laborer (%)	5.16
Seasonal worker (%)	4.52
Permanent (%)	90.29
Has contract (%)	33.27

Source: *Authors' calculations using GEIH, 2018.*

29 Data from FAOStat.

30 Valle del Cauca, for example, has the highest production of large-scale cash crops, mostly driven by sugarcane production. Coffee, the most prevalent cash crop in Colombia, is instead a special case, as it is harvested across different regions of the country. Cereals are mainly produced in Tolima where most of the rice and maize are cropped, whereas Antioquia and Tolima are the main fruit-producing departments, with most of the land devoted to the production of avocadoes and bananas. Finally, Cundinamarca is the main producer of roots, tubers (potatoes in particular) and plantains as well as other vegetables, beans, and peas. Cf. Appendix D.

31 According to the latest Agricultural Census (2014), in particular, the departments with the highest number of individuals employed in agricultural activities are Nariño (512,500 workers), Boyacá (482,500), Cundinamarca (444,400), and Antioquia (396,700).

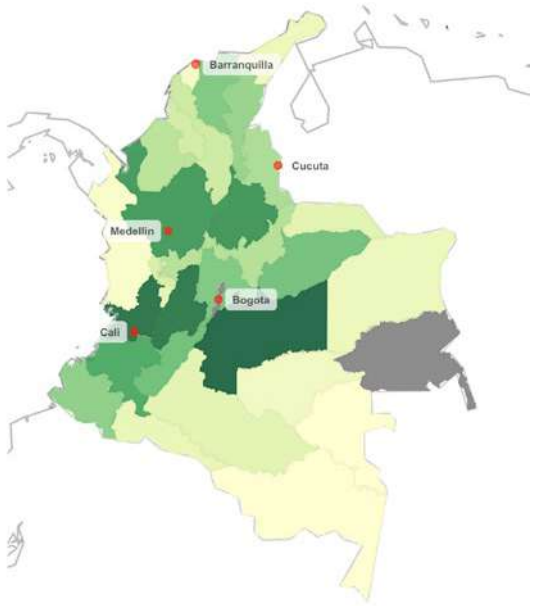


Figure 14

Land used in agri-food activities, by department

Data source: *National Agricultural Survey, 2017*

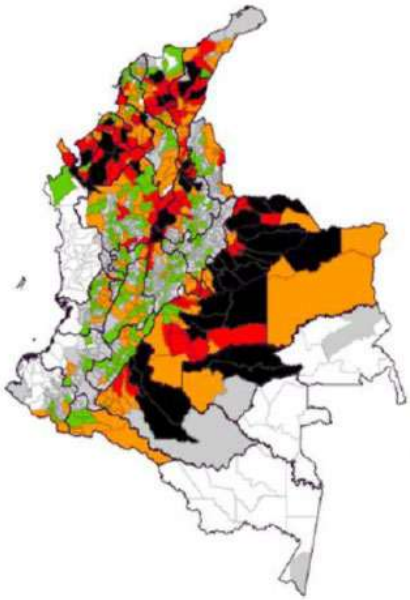


Figure 15

Spatial location of cattle stock in Colombia, 2018

Data source: *FEDEGAN, 2018*

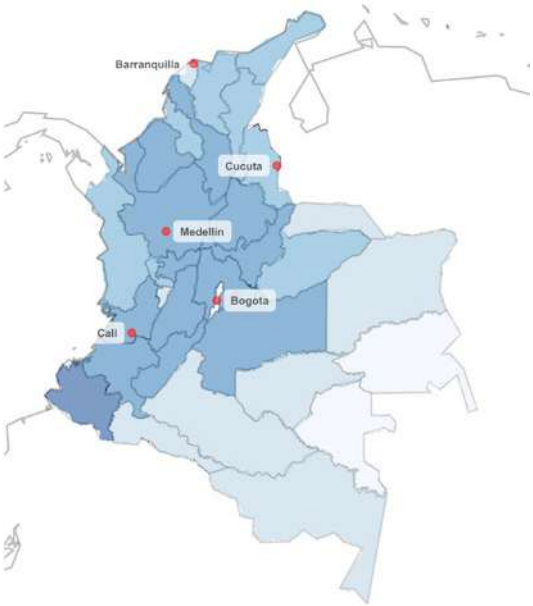


Figure 16

Permanent workers in agriculture, 2014, by department

Source: *Authors' elaboration using data from National Agricultural Census, 2014*

Note: *The sample is composed of workers who reported having worked in the previous 30 days.*

Box 3 Coffee pickers in Colombia: a scarce resource

Labor deficits in in the coffee region have been persistent since 2013 (García et al., 2016). In 2015, Colombia's National Coffee Growers Federation (FNC) estimated that the country's largest coffee regions needed 20 to 40 percent more pickers, a deficit that has been not offset in more recent years: in 2018, the sector still needed around 18 percent more than the existing pool of workers in the occupation, which means a shortage of 60,000-90,000 jobs. As a result, coffee picking accounts nowadays for around 50 percent of total coffee production costs (FNC, 2017). Anecdotal evidence highlights how the coffee industry is perceived by many workers, especially the youth, as antiquated and lacking high-quality employment. The remote location of many coffee farms, away from urban areas and mostly excluded from good connectivity networks, is another element that discourages labor supply in coffee production, as is the seasonality of the crop which keeps workers' salaries (higher than the legal minimum during harvest time) below the minimum wage on an annual basis.Traditionally, many experienced pickers move along the coffee zone (especially to large farms in the North, Centre, and Coffee Region) during the year, following the cyclical behaviour of the crop in order to maximize income from this activity. The main destinations are the departments of Huila, Antioquia and Caldas, whereas the departments that register the highest out-migration rates are El Cauca, Tolima and Valle. Still, in the last few years the labor force deficit in coffee picking throughout the country has been in the order of the tens of thousands (FNC, 2017).

A recent survey on 7,578 coffee pickers conducted in 2016 offers some insights on the demographic, socioeconomic, and labor market outcomes of the workers engaged in this activity, as well as on the aspirations and challenges that affect their decision whether to remain in the coffee industry.

Based on the survey results, the labor force in coffee collection is predominantly male, while women represent only 14.2 percent of the total. Women are particularly active in small farms, where they generally contribute family labor.

The educational level in the survey population is relatively low: 35 percent of the sample had not completed primary school at the time of the interview, and another 29 percent had only received primary education. Women have an average of 1.3 years more education than men, and generally reach a higher level of education. Although the low educational level of the collecting population does not seem to impact significantly the performance of manual labor, it has been found to generate limitations in terms of technology adoption, in the speed of implementation of new practices, and in the social organisation of work.

In terms of work conditions, informality predominates in the coffee collection activity: only 1.5 percent of the interviewed pickers were hired as regular employees, whereas 50 percent had a piecework contract, 37.5 percent were daily hires, and 11 were unpaid family workers. As a result, the rate of enrolment in old-age protection or work insurance schemes is also very low (4 and 3 percent, respectively).

Expectedly, the level of formality also influences workers' earnings: those with a piecework contract have an average monthly income 1.6 times higher than the legal monthly minimum wage, whereas daily laborers only receive on average 0.6 times the minimum wage (and women are on average paid 10.7 percent less than men). There are, however, substantial differences in remuneration across regions of the country. Most workers also receive in-kind benefits such as meals on the job.

The most influential determinants of pickers' decision on where to work are payment level, humane treatment, and food quality; women also consider the proximity of the workplace to their place of residence. Conversely, the major discouraging factors pertain to low employment quality, especially in terms of informality in hiring, seasonality of income, and virtually no social protection. Indeed, the vast majority of collectors agree that they would remain in the work if they had a better income, affiliation to the social protection system and a settlement at the end of the work.

II. FOOD PROCESSING

53. The rapidly expanding agri-food manufacturing sector in Colombia displays important opportunities to increase value addition in the agriculture and food sector by converting raw materials into high-value products.

54. Among the country's rural units of production, the 2014 Agricultural Census reports that 29.3 percent of agricultural units and and 17.3 percent of non-agricultural units perform some kind of on-farm activities related to the processing of agricultural products,[32] mostly in the Andean region (Figure 17).[33]

55. As for off-farm activities, the Colombian agro-industry has recently experienced a sustained increase in market demand for value-added food products, and is undergoing substantial consolidation and structural change through mergers, acquisitions, and foreign investment (USDA, 2019). The food processing industry is ramping up its competitiveness and performance, updating its technological platforms and investing in product and process innovation to boost performance on domestic and international markets (ANDI, 2019). The National Superintendence for Enterprises (Supersociedades)[34] reports 2,032 formally registered commercial agri-food processing firms in 2019, with a very high degree of spatial concentration: almost a third of all registered firms are concentrated in Bogotá, while the departments of Antioquia, Valle del Cauca, and Cundinamarca make up for another 40 percent of the total.

56. Compared to primary agriculture, food processing jobs are equally split between men and women, and they are, predictably, overwhelmingly located in non-rural areas (Table 8). The sector also attracts a better-educated pool of workers, three quarters of whom have at least secondary education. Moreover, food processing seems to offer on average higher-quality employment prospects: in 2018, approximately 58 percent of food processing jobs were in the formal sector, more than 70 percent above the corresponding figure for primary production. The average wage was also 70 percent higher than in primary agriculture.

III. FOOD DISTRIBUTION, RETAIL, AND FOOD SERVICES

57. Food distribution mainly takes place at wholesale food markets *(centros de abasto)* located in the main urban centers. There are in total 30 wholesale food markets in Colombia, mostly spread throughout the North-West of the country (Figure 18).[35] These markets work at both large and small scale (in smaller cities), aggregating food in central markets and then re-distributing back to urban and rural retail points like local markets, shops, and supermarkets. Apart from large agricultural trading, wholesale markets offer job opportunities to bulk loaders or small food retailers, mostly at the informal level.

58. In the final stage of the food value chain, Supersociedades counted 1,128 formal enterprises engaged in food retail and food services in 2019, 57 percent of which located in Bogotá and the Antioquia department.[36] The picture has to be complemented by a broad constellation of informal establishments such and unregistered food retailers. Even though traditional retail remains the most common retail format in the country, especially in smaller, remote towns still excluded from modern networks, the Colombian urban food retail sector is undergoing a "supermarket revolution" similar to many South American countries. Over the last decade, large supermarkets and grocery chains (both domestic and international), as well as cheaper discount outlets, have been opening new stores at intense rates, and food e-commerce has recently been gaining momentum (Euromonitor, 2019).

59. On the food services side, the latest Annual Survey of Services (EAS, 2017) reports that restaurants, bars, and catering services account for around 5 percent of all formal employment in the formal services sector. The Colombia Restaurant Association (ACODRES, 2019),[37] estimates that there are currently 44,000 restaurants in the country's formal sector, and that informal establishments could be almost as many. In particular, large cities have recently

32 The Census collects information on the following food processing activities: (i) extraction of oils; (ii) sugar manufacturing; (iii) rice milling; (iv) production of panelas and honeys; (v) processing and transformation of flora products (tubers, fruits, flowers, leaves, bark and resins); (vi) meat products processing; (vii) milk processing; and (vii) production of food for human consumption. Among these, the most prevalent on-farm food processing activity among Units of Non-Agricultural Production (UNAPs) is the production of panelas and honeys (practiced by 11,980 UNAPs), followed by the production of food for human consumption (3,944 UNAPs). For Units of Agricultural Production (UAPs) performing non-agricultural activities, the most popular are elaboration of panelas and honeys, and production of food for human consumption

33 The departments of Boyacá and Huila host the highest number of jobs in on-farm food processing activities, with respectively 302,902 and 123,353 workers.

34 The types of enterprise required to register with Supersociedades are Sole proprietorship, Collective Society, Limited Partnership, simple and by shares, Limited Liability Company, Limited Company. As it ignores the informal sector, this information only constitutes a lower bound for the universe of industrial agri-food activity in Colombia.

35 Data for 2019 from the Information System on Agricultural Prices *(Sistema de Información de Precios Agrícolas, SIPSA)*, which follows the main food markets in Colombia.

36 The picture cannot but be incomplete, as the food service scene is constellated by a much broader net of informal establishments, such as unregistered food retailers and convenience stores, food trucks, and informal restaurants, cafés, and bakeries.

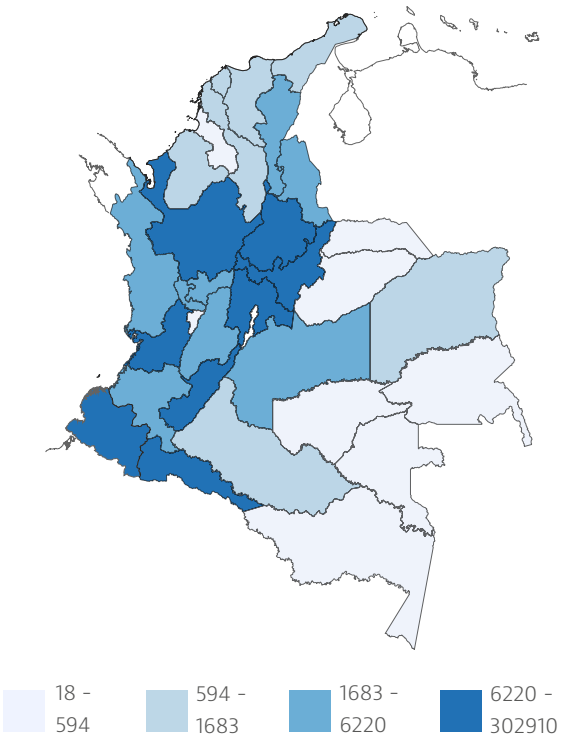
37 *http://acodres.com.co/Bogotá/quienes-somos-2/.*

been experiencing, on one side, the growth of the high-end restaurant niche, and, on the other, a substantial dynamism in the fast food segment. As a result of these parallel tendencies, the food services industry has become a major employer, especially in larger urban centers: in Bogotá alone, the formal branch is estimated to generate around 600,000 direct and indirect jobs (ACODRES, 2019).

60. Among those employed in food retail and services, almost 70 percent are women, and less than 20 percent live in rural areas (Table 9). The overall education level of workers in this sub-sector is slightly lower than in food processing, with a higher prevalence of workers with just basic secondary education, but both educational attainment and years spent in school are still significantly higher than in primary agriculture. Job quality presents a mixed picture, with average wages and informality levels in between those observed for food processing and on-farm agriculture. Interestingly, tertiary food activities show the lowest percentage of permanent employees along the food value chain, with more than 10 percent of workers hired in daily occupations, as well as the highest number of average working hours per week.

Figure 17

Workers in on-farm food processing, 2014, by department

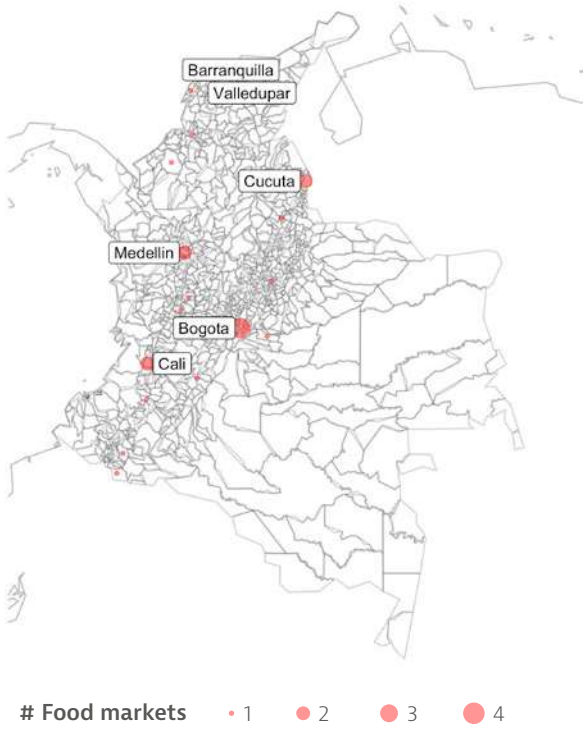


Data source: *National Agricultural Census, 2014*

Note: *the sample is composed of workers who reported having worked in the previous 30 days.*

Figure 18

Location of food markets in Colombia, 2019



Data source: *SIPSA, 2019*

Table 8

Worker profiles: food processing, year 2018

Socio-demographic	
Women (%)	51.79
Average age (years)	40.02
Rural area (%)	24.94
Education	
Average years of education	9.33
No education (%)	3.49
Preschool (%)	0.04
Basic primary (%)	22.06
Basic secondary (%)	14.73
High school (%)	37.65
Superior/university (%)	21.99
Job quality	
Average week working hours	41.93
Average salary (COP)	962,096.92
Daily laborer (%)	9.65
Seasonal worker (%)	0.28
Permanent (%)	90.02
Has contract (%)	57.62

Data source: *GEIH, 2018*

Table 9

Worker profiles: food services and retail, year 2018

Socio-demographic	
Women (%)	69.08
Average age (years)	39.05
Rural area (%)	18.88
Education	
Average years of education	8.94
No education (%)	3.3
Preschool (%)	0
Basic primary (%)	23.95
Basic secondary (%)	19.39
High school (%)	35.57
Superior/university (%)	17.79
Job quality	
Average week working hours	42.7
Average salary (COP)	700,735.77
Daily laborer (%)	11.06
Seasonal worker (%)	0.42
Permanent (%)	88.42
Has contract (%)	47.27

Data source: *GEIH, 2018.*

IV

ARE VENEZUELAN MIGRANTS INTEGRATING INTO COLOMBIA'S AGRI-FOOD SYSTEM?

IV ARE VENEZUELAN MIGRANTS INTEGRATING INTO COLOMBIA'S AGRI-FOOD SYSTEM?

61. Chapter III highlights promising opportunities for the agriculture sector in Colombia to expand and absorb new workers. Agriculture value added has been growing more than most other economic sectors in the country, the agriculture trade balance is positive, and a rapidly increasing demand for food both on international and domestic markets can be a catalyst for further growth in the performance and relevance of the sector in the country. At the same time, certain labor-intensive subsectors are experiencing a shortage of workers for specific primary jobs, for example coffee pickers during peak season. As the country's food systems modernize, moreover, more and more opportunities for jobs beyond primary production are being created downstream along the food value chain, in processing and added-value activities, with on average better wages and work conditions. At the same time, overlaying migration hotspots and agrifood activity disaggregated by subsector evidences opportunities for inclusion in specific territories (Figure 19). Taking stock from this evidence, the current section seeks to respond to the second main objective of this report, and to assess whether Colombia's agriculture and food systems are providing quality job opportunities to Venezuelan migrants.

62. To set the stage for the analysis, it has to be noted that, at the institutional level, inclusion strategies for Venezuelan migrants could be strengthened by targeting the agri-food sector more specifically and decisively. Notably, the main strategy of the Colombian government for the integration of Venezuelan migrants, the CONPES 3950 (cf. Box 1), did not contemplate budget nor action by the Ministry of Agriculture and Rural Development (MADR). There was also no specific mention to initiatives for the integration of Venezuelan migrants into agri-food labor markets in the Impact Plan to mitigate the effects generated by the migration crisis in Colombia's border departments, announced by the Colombian government in mid-2019, even though the plan proposed measures relating to the promotion of investment and employability in the agricultural sector targeting local producers affected by immigration. And the work inclusion programs by the Department of Social Prosperity focused on the Venezuelan population generally abstract from a dedicated coverage of the rural sector or agri-food workers.

63. In a context of relatively mild formal mechanisms specifically designed to facilitate migrants' inclusion in agri-food jobs, are labor markets organically taking care of themselves? Is the agri-food sector able to attract migrant workers, absorbing part of the labor shock induced by the migration wave into Colombia? Simple multivariate regression analysis on the employed labor force[38] in Table 10 reveals a significant, positive correlation between employment in the broad agri-food sector and migration status, conditional on standard socio-demographic characteristics such as gender, age, and education, and time and district fixed effects. In column (1) of the table, the coefficient in the first row means that being a Venezuelan migrant is associated, controlling for covariates, to an increase in 5.2 percentage points in the likelihood of being employed in agri-food activities versus employment in other sectors. Although the number may seem relatively small at first sight, it represents a 31 percent increase with respect to the overall probability of employment in the agri-food sector for the entire working-age population across years (found on the first row of the table's second panel).

64. Crucially, this seems to be the case in the key years of the migration crisis, after year 2017. The coefficient in the second row of column (1) says the probability of being employed in agri-food as a Venezuelan migrant is 3.5 percentage points higher in or after 2017 than before. Venezuelan migrants during the migration surge are therefore 8.7 percentage points more likely to be employed in the Colombian agri-food sector than the average person, a 52 percent increase in the overall probability of employment in agri-food.

65. Interestingly, agri-food employment seems to be a predominantly short-term strategy in general. In fact, although the sector employs both longer-term and recent Venezuelan migrants, it does significantly more so for the latter – almost four times as much (see the magnitudes of the first two coefficients in column 2 of Table 10).[39] In the aftermath of the migration crisis, however, differences between recent and longer-term migrants level up (see the third and fourth coefficients in column 2 of Table 10), a hint that agri-food markets may be playing a significant role in absorbing Venezuelan labor, regardless of their date of arrival.

66. When breaking down of the agri-food sector in primary, processing and services activities, nonetheless, a surprising pattern emerges (columns 3-8 of Table 10). In fact, despite documented labor shortages in primary agriculture, Venezuelan migrants are consistently less likely to be employed in primary activities, and even less so after 2017 if one considers recent migrants. At the same time, there is

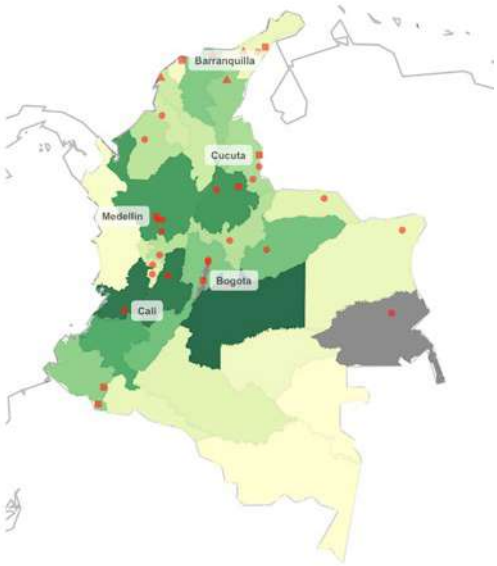
38 Technical details are provided in Appendix section B. Qualitative results stay the same when considering the dependent variable unconditional on being employed.

39 Equality of coefficients has been tested for through standard F-tests on linear restrictions. Cf. Appendix B for details.

(a) Primary agriculture

Land used in Agri-food activities (in 1000 ha)

100
200
300



(b) Food processing

% Food processing enterprises

10
20
30
40

(c) Food services

% Food services enterprises

10
20
30
40

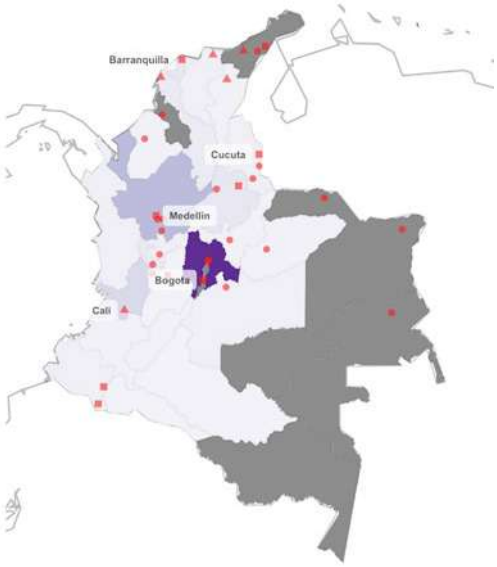


Figure 19

Agri-food activity and migration hotspots

Data source: *National Agricultural Survey, 2017; Supersociedades, 2019; GEIH, 2018. Panels (b) and (c) report the department share of formally-registered food processing and food services firms over the national total.*

#Migrants

> 1.000 - <= 10.000

> 10.000 - <= 50.000

> 50.000

almost no relationship between employment in the food processing industry and the status of Venezuelan migrant, with only a tiny employment probability increase just for recent migrants after 2017. The bulk of the correlation between agri-food employment and Venezuelan migration seems instead to stem almost exclusively from employment in food services.

67. To an extent, this is understandable in the case of recent migrants, who tend to cluster into cities where they are more likely to find informal social networks and flexible labor markets (including in food shops and restaurants). The fact that even longer-term migrants, who presumably have had the time to spread across the country or to obtain a work permit through various regularization programs, are not likely to find employment in primary agriculture activities or food processing however speaks of an unrealized potential in the sector – which is even more remarkable in light of the agricultural labor shortages and agro-industrial growth highlighted in Chapter III.

68. One may still argue that migrants might overwhelmingly locate and remain into areas where agricultural activities are less prevalent, and where agricultural labor markets are therefore already saturated by the local workforce – but that things would be different in more markedly agricultural areas. To account for this possibility, the regressions in Table 11 replicate the specifications in Table 10 with the addition of two measures of agricultural intensity at the department level. Specifically, columns 1, 3, 5, and 7 include the department's share of agriculture land over its total land area, whereas columns 2, 4, 6, and 8 include a binary indicator equal to 1 if a department lies above the 75th percentile of the distribution of agricultural land share across departments in Colombia. In theory, if it were just a matter of saturated agricultural labor markets, one should expect to find a positive and significant coefficient on the interaction between migrant and agriculture intensity in the regression for employment in primary agriculture. As is apparent from the table's results, however, this is not the case in practice. In fact, not only is agriculture intensity relevant for the employment prospects of Venezuelan migrants in the agri-food sector only after 2017 (columns 1-2), but it seems to matter only in the case of employment in food services, rather than in primary agriculture or food processing.

69. What happens in areas with a higher specialization in food processing and food services? Table 12 and Table 13 replicate the exercise in Table 10 using measures relating to the department-level share of, respectively, food processing and food retail and services enterprises over the total of registered firms, using data from Supersociedades. As stressed in Chapter III, this information does not account for the universe of informal or unregistered firms in both sectors and is thus a rather crude proxy of the intensity of

Table 10 Agri-food sector outcomes for migrants in recent migration surge

	Employed in Agri-food sector		Employed in Primary Agriculture		Employed in Food Processing Sector		Employed in Food Services Sector	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	0.052***		-0.020***		0.001		0.071***	
	[0.007]		[0.004]		[0.002]		[0.005]	
Migrant* Post 2017	0.035***		-0.007		0.005**		0.037***	
	[0.007]		[0.005]		[0.002]		[0.007]	
ST Migrant		0.087***		-0.021***		0.000		0.108***
		[0.009]		[0.003]		[0.003]		[0.008]
LT Migrant		0.025***		-0.019***		0.002		0.042***
		[0.008]		[0.006]		[0.003]		[0.006]
ST Migrant*Post 2017		0.022*		-0.011**		0.007*		0.026***
		[0.012]		[0.005]		[0.004]		[0.009]
LT Migrant* Post 2017		0.047***		-0.005		0.004		0.047***
		[0.008]		[0.007]		[0.003]		[0.008]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.168	0.168	0.074	0.074	0.029	0.029	0.065	0.065
Observations	1192979	1192979	1192979	1192979	1192979	1192979	1192979	1192979
R-squared	0.147	0.147	0.303	0.303	0.007	0.007	0.039	0.039

Source: *Authors' calculations using GEIH, various years.*

Table 11 Agri-food employment for migrants in agriculture-intense locations

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	0.059***	0.053***	-0.018**	-0.020***	0.002	0.001	0.076***	0.072***
	[0.014]	[0.007]	[0.007]	[0.004]	[0.003]	[0.002]	[0.009]	[0.005]
Migrant* Post 2017	0.025**	0.030***	-0.001	-0.005	0.006	0.005**	0.019*	0.030***
	[0.009]	[0.008]	[0.007]	[0.005]	[0.004]	[0.002]	[0.010]	[0.006]
Migrant* Share of agriculture in department	-0.090		-0.020		-0.006		-0.064	
	[0.124]		[0.057]		[0.041]		[0.069]	
Migrant*share of ag*Post 2017	0.132**		-0.075		-0.010		0.216**	
	[0.052]		[0.058]		[0.048]		[0.080]	
Migrant*Intensive agriculture in department		-0.016		-0.004		0.000		-0.013
		[0.015]		[0.007]		[0.007]		[0.009]
Migrant*Intense*Post 2017		0.045**		-0.014		0.000		0.058***
		[0.016]		[0.009]		[0.010]		[0.019]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var – Mean	0.168	0.168	0.074	0.074	0.029	0.029	0.065	0.065
Observations	1192979	1192979	1192979	1192979	1192979	1192979	1192979	1192979
R-squared	0.147	0.147	0.303	0.303	0.007	0.007	0.039	0.039

Source: *Authors' calculations using GEIH, various years.*

secondary and tertiary food activities in every department. Absent any readily available data on agri-food informal activities and smaller establishments at the department level for the entire country, the Supersociedades measures still offer useful evidence in this sense.

70. In Table 12, migrants are overall less likely to be employed in agri-food (overall, and in any of the sub-sectors specifically) in areas with a higher presence of food processing firms. In the years of the migration crisis, however, their likelihood to find employment in these areas increases both for food processing and, more surprisingly, for primary agriculture. The latter result speaks interestingly of the linkages that food processing firms might have with agricultural activity on the territory, although this interpretation can only be speculative in the absence of a more formal test of the mechanism.

71. In Table 13, on the other hand, a higher concentration of food retail and services firms does not seem to matter much for the agri-food employment prospects of migrants. If anything, there is a hint that migrants are overall less likely to be employed in food services in areas with a higher share of registered food retail and services firms. For as counterintuitive as this result may seem at first sight, it might nonetheless be rationalized by stressing that the food service-intensity measure is constructed using only registered enterprises in the formal sector. If migrants went into the service sector through predominantly informal channels, the presence of larger registered enterprises would not be able to capture these movements.

72. Clearly, even though the regressions in Table 10-12 control for basic covariates and fixed effects, it is quite likely that at least part of the picture just described might be the result of a number of confounding factors. In this sense, it is important to highlight that the analysis presented in this section is reporting a set of *correlations* and is silent on the causal effect of migration on employment. For example, this section is showing that, conditional on certain explanatory variables, a Venezuelan migrant is more likely to be employed in the agri-food sector than a non-migrant, but there could be a host of reasons for why this may be the case, including unobserved individual heterogeneity – for instance and very possibly, if migrants were on average more willing to endure harder working conditions which in turn might be more prevalent in the agri-food sector. For the sake of this report, nevertheless, it also matters that this relationship exists, even though it may not be driven solely by a person's migrant status *per se*.

73. To gain more insight on relevant characteristics of the agri-food labor force, Table 14 compares migrants and non-migrants on basic descriptive statistics, breaking down the labor force between agri-food and non-agri-food workers, and then further splitting the latter along primary, processing, and services activities for 2018 at the peak of the migrant surge. A gender disaggregation across different

sub-sectors points to a consistent rise in the share of women working in upstream activities in the agri-food sector. Nearly 70 percent of local Colombians working the food services industry are women, relative to 58 and 60 percent of longer-term and recent migrants respectively. Although the shares of women working in food services is lower among migrants compared to local Colombians, it is the sub-sector with the highest participation of women, except for among recent migrants. As a reference, in non-agri food sectors female participation is 44, 35 and 34 percent for local Colombians, longer-term and recent migrants. Among short term migrants' 61 percent of workers are women in food processing. Women are also in the majority among longer-term migrants participating in food processing at 55 percent. On the other hand, migrant Venezuelan women's participation in primary agriculture is lower than women local Colombians and generally very low.

74. Youth participation in different segments of labor markets is at the same time an important indicator of current demographics in a population (or among sub-populations like the migrant one), on the one hand, and of the skills and employability of the younger population, on the other. In this case, given the increasingly high share of young migrants during the Venezuelan crisis, understanding the dynamics of labor market absorption of youth across productive sectors and sub-sectors is essential. The share of youth participating in the non-agri-food sector is 10 and nearly 20 percentage points higher among longer-term and recent migrants, respectively, vis-à-vis the local Colombian population. This gap increases when looking at the agri-food sector, and while 26.9 percent of local agri-food workers are youth, the share rises to 42 and 52 percent for longer-term and recent migrant agri-food workers. Among recent migrants, the share of workers that are youth and participate in food services (55) is higher than for food processing (51) and primary agriculture (48). However, for longer-term migrants a larger share participates in food processing than in services or on farm.

75. Chapter II of this report has already established that migrants typically work longer hours than local Colombians for lower pay. How does this translate by sector of employment? From Table 14 it is evident that migrants on average work almost 5 hours more than the average 45 hours of work per week of local Colombians in the non-agri-food sector. It is interesting that on average migrants and local Colombians work longer hours in the non-agri-food sector than in agri-food. Among local Colombians and longer-term migrants, this holds true for work disaggregated by primary agriculture, food processing and food services, where work in these sub-sectors is 2 to 5 hours less than in non-agrifood. On the other hand, recent migrants work an equivalent 50

Table 12 Agri-food employment for migrants in food-processing-intense locations

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	0.077***	0.060***	-0.006	-0.016***	0.006*	0.003	0.076***	0.073***
	[0.016]	[0.009]	[0.004]	[0.004]	[0.003]	[0.002]	[0.014]	[0.007]
Migrant* Post 2017	0.018	0.027***	-0.024***	-0.013***	-0.003	0.002	0.046***	0.038***
	[0.012]	[0.008]	[0.007]	[0.004]	[0.004]	[0.002]	[0.011]	[0.006]
Migrant* Share of food processing firms in department	-0.393**		-0.224***		-0.079**		-0.090	
	[0.171]		[0.076]		[0.032]		[0.154]	
Migrant*share of food proc *Post 2017	0.245		0.274***		0.137**		-0.166	
	[0.167]		[0.095]		[0.049]		[0.196]	
Migrant*Intensive food processing in department		-0.025**		-0.012*		-0.007***		-0.006
Migrant*Intense*Post 2017		[0.010]		[0.007]		[0.002]		[0.008]
		0.024		0.021***		0.012***		-0.008
		[0.016]		[0.007]		[0.004]		[0.017]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var – Mean	0.167	0.167	0.072	0.072	0.030	0.030	0.065	0.065
Observations	1107113	1107113	1107113	1107113	1107113	1107113	1107113	1107113
R-squared	0.143	0.143	0.301	0.301	0.007	0.007	0.038	0.038

Source: *Authors' calculations using GEIH, various years.*

Table 13 Agri-food employment for migrants in food-retail-intense locations

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	0.058***	0.058***	-0.017***	-0.017***	0.002	0.003	0.074***	0.072***
	[0.009]	[0.009]	[0.004]	[0.004]	[0.002]	[0.002]	[0.007]	[0.007]
Migrant* Post 2017	0.035***	0.029***	-0.009*	-0.013***	0.003	0.002	0.040***	0.040***
	[0.008]	[0.008]	[0.004]	[0.004]	[0.002]	[0.002]	[0.007]	[0.006]
Migrant* Share of food retailing firms in department	-0.084		0.011		0.011		-0.106***	
	[0.060]		[0.020]		[0.021]		[0.034]	
Migrant*share of food retail*Post 2017	-0.107		-0.167**		-0.019		0.079	
	[0.120]		[0.067]		[0.054]		[0.117]	
Migrant*Intensive food retailing in department		-0.015		-0.001		-0.004		-0.010
		[0.012]		[0.004]		[0.002]		[0.010]
Migrant*Intense*Post 2017		0.032		0.004		0.006		0.022
		[0.020]		[0.008]		[0.005]		[0.020]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var – Mean	0.170	0.170	0.076	0.076	0.029	0.029	0.064	0.064
Observations	1086132	1086132	1086132	1086132	1086132	1086132	1086132	1086132
R-squared	0.154	0.154	0.314	0.314	0.007	0.007	0.038	0.038

Source: *Authors' calculations using GEIH, various years.*

hours per week in the non-agri-food and food services sectors, while working 42 and 44 hours in food processing and primary agriculture. Recent migrant respondents would have only been in Colombia for 12 months or less at the time of the survey, and the majority are located in urban centers, working in food services. This special group of migrants are less `settled', and one can postulate they are more likely to work longer hours to compensate for lower wages and greater recent needs.

76. Wages in the agri-food sector are typically lower than non-agri-food, and migrants earn less than local Colombians across the board. As mentioned in Section II, this could signal willingness to work for lower wages, but also lower willingness to pay among employers for migrant labor. Local Colombians in the non-agri-food sector earn around COP 781,200 (2010 real value) in wages per week whereas longer-term and recent migrants in non-agri-food earn 21 and 44 percent less respectively. Quite expectedly, recent migrants fare the worst both in the non-agri-food and in the agri-food sector. Longer-term migrants earn on average COP 613,300 in non-agri-food and COP 478,800 in agri-food. By comparison, recent migrants earn COP 438,500 in non-agri-food and COP 401,500 in the agri-food sector. There is a penalty levied on the value of a recent migrants' work. Further, in wage terms both longer-term and recent migrants fare better in food services than in primary agriculture and food processing. This points to a potential difficulty in integrating migrants into Colombia's upstream agri-food sector, despite documented labor shortages in primary agriculture and potential for inclusion in agriculture value-chains.

77. Table 14 points at evident significant disparities in wage and working hours between migrants and non-migrants employed in agri-food. To further investigate this point, Table 15 takes a closer look at labor conditions for those employed in the agri-food sector, again via multivariate regression analysis. With the same caveat as above that the reported coefficients identify correlations and not causal effects, the picture that is painted in Table 15 is strikingly simple: Venezuelan migrants employed in the agri-food sector are on average facing significantly worse work conditions. Despite working longer hours, they receive a lower wage, and they are more likely to be hired informally or on temporary contracts. Results tend to hold for recent and longer-term migrants alike. Put differently, migrants are willing to fill positions that are not as attractive to Colombian workers. Vulnerability and economic need, and in many cases the lack of a regular residency or work permit, may be making migrants more susceptible to be hired at worse working conditions. Consistently with this view, most results in Table 15 are even reinforced after 2017, with the intensification of the migratory crisis.

Table 14 Characteristics of migrants and local Colombians employed in the agri-food sector in 2018

	Non agri-food	Agri-food Overall	Primary agriculture	Food Processing	Food Services
Local Colombians					
Avg. share female	44.00	34.60	19.19	51.66	70.14
Avg. age	35.00	40.41	41.36	38.72	38.64
Avg. share youth	25.50	26.86	25.47	28.02	30.32
Avg. hours worked per week	45.12	41.11	40.31	43.26	42.10
Avg. wage (in 100 COP, at fixed 2010 prices)	7811.76	4779.26	4151.37	7089.35	5171.59
Migrants 5 year					
Avg. share female	35.34	42.36	12.60	54.57	57.54
Avg. age	34.51	33.47	34.21	32.52	33.30
Avg. share youth	35.95	41.84	40.31	44.70	41.90
Avg. hours worked per week	49.53	45.57	44.35	41.17	47.76
Avg. wage (in 100 COP, at fixed 2010 prices)	6133.48	4788.10	4287.64	4374.92	5264.48
Migrants 12 month					
Avg. share female	34.19	47.98	15.50	61.34	59.90
Avg. age	32.03	31.06	33.17	31.21	30.04
Avg. share youth	44.92	52.30	48.32	50.98	54.46
Avg. hours worked per week	50.48	47.37	44.03	42.36	50.12
Avg. wage (in 100 COP, at fixed 2010 prices)	4384.50	4014.80	3308.19	3902.18	4320.92

Source: *Authors' calculations using GEIH, 2018.*

Table 15 Labor conditions for migrants employed in agri-food sector

	Dependent variable conditional on being employed in agri-food sector							
	Real Wage (in 100 COP, at fixed 2010 prices)		Weekly Hours of Work		Informal Worker		Temporary Worker	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	-696.407***		2.357***		0.080***		0.028***	
	[202.199]		[0.596]		[0.016]		[0.010]	
Migrant* Post 2017	-675.908***		2.396***		0.025*		-0.004	
	[115.069]		[0.614]		[0.014]		[0.006]	
ST Migrant		-1206.444***		3.262***		0.097***		0.041**
		[264.144]		[0.802]		[0.022]		[0.016]
LT Migrant		-245.815		1.512**		0.064***		0.017**
		[176.586]		[0.547]		[0.019]		[0.008]
ST Migrant*Post 2017		-732.916***		1.422		0.047*		0.010
		[162.390]		[0.875]		[0.023]		[0.009]
LT Migrant* Post 2017		-676.881***		3.298***		0.010		-0.013*
		[156.002]		[0.650]		[0.020]		[0.007]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	4864.072	4864.072	42.395	42.395	0.752	0.752	0.044	0.044
Observations	168089	168089	199897	199897	199897	199897	199897	199897
R-squared	0.167	0.167	0.157	0.157	0.197	0.197	0.066	0.067

Source: *Authors' calculations using GEIH, various years.*

A. ADDITIONAL EVIDENCE: THE INTERACTION WITH THE POST-CONFLICT PROCESS

78. The sustained inflow of Venezuelan migrants is not happening in a vacuum. Especially since the Havana peace accords of 2016 with the Revolutionary Armed Forces of Colombia (FARC, from its Spanish acronym), Colombia has been in the delicate process of transitioning out of its decades-long internal conflict. The conflict had been a complex, cyclical phenomenon that permeated the entire national territory and involved multiple actors with different origins and strategies of violence, causing longer-termlasting social, economic, and political impacts and generating deep wounds within the country's civic framework (Ibarra, 2018). The peace process entails the double challenge of catering to the victims of forced displacement, as well as managing the reintegration of ex-combatants into the social and economic life of the country and is clearly a top national priority as the country regains its stability after the fragility and violence that plagued the domestic scene for more than 50 years.[40]

79. For what concerns the management of the Venezuelan crisis, this not only means a likely competition for Colombian social services and social protection systems resources – but also, crucially for this study, potential local labor market challenges, to the extent that the areas most affected by migration also receive significant numbers of demobilized and internally displaced people. While the fair and effective management of the post-conflict transition is clearly a separate question from the response to the migration crisis, there is a non-negligible risk that Colombian resources, social protection systems, and social cohesion may become over-stretched by simultaneously attending these co existing needs.

80. Without attempting to provide an exhaustive account of the peace process in Colombia,[41] this section seeks to understand whether areas hosting conflict-related vulnerable individuals might indeed be facing additional challenges in the integration of Venezuelan migrants.

81. In order to address the question whether the integration of Venezuelan migrants might be more challenging in areas already trying to tackle the labor inclusion of internally displaced and demobilized Colombians, this section replicates the empirical analysis performed in Chapters II and III of this report, accounting for the presence of conflict-related vulnerable populations. As the exact identification of the demobilized and former displaced population is not possible within the GEIH survey, the analysis follows the indirect identification approach proposed by Calderon and Ibañez (2016), which is based on available information on the Colombian population that moves within the country. In particular, this section will consider an internal migrant that reported, as their main reason for migrating, conflict, violence, or other related threats a reasonable proxy for either an internally displaced person or an ex-combatant.

82. Figure 20 plots the number of individuals who reported moving in the last 12 months due to the armed conflict. Even though this method cannot tell the displaced and demobilized apart, it reveals that, on average, these movements have involved 13,562 individuals per year throughout the 2014-2019 period: that is to say, every year 13,562 new people have relocated as a consequence of the conflict.

40 Annex C provides a brief characterization of the two types of conflict-related vulnerable populations (victims of forced displacement and reintegrating ex-combatants), focusing on their geographic concentration and their integration into local labor markets.

41 For excellent reviews, see for example research produced by the Kroc Institute for International Peace Studies of the University of Notre Dame.

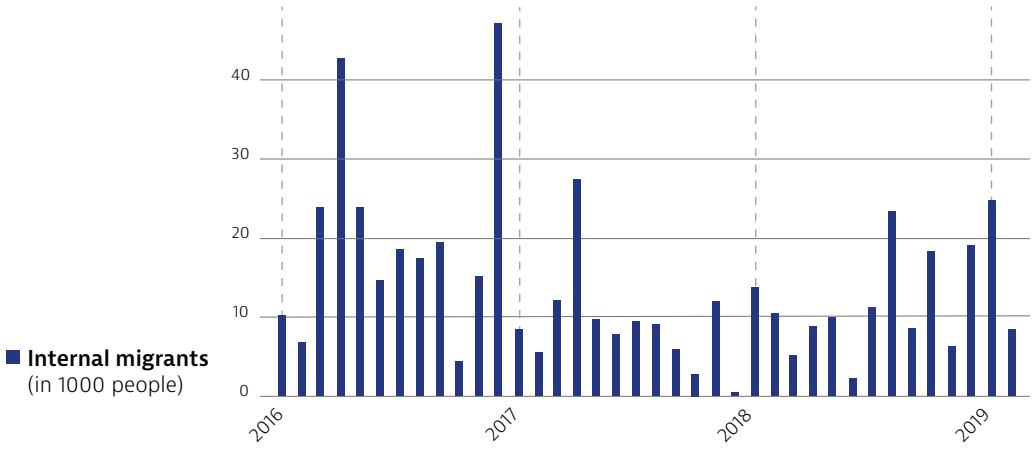


Figure 20

Recent internal migration due to armed conflict, 2014-2019 (by trimester)

Source: *Authors' elaboration, using data from GEIH, various years.*

Table 16 Labor market outcomes for migrants in recent migration surge, accounting for conflict-related internal migration

	Employed	Unemployed	Inactive	Real Wage (100 COP, at fixed 2010 prices)	Weekly Hours of Work	Informal Worker	Temporary Worker
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Venezuelan Migrant	0.023**	0.048***	-0.071***	-647.495***	1.566***	0.105***	0.043***
	[0.008]	[0.008]	[0.006]	[181.464]	[0.359]	[0.007]	[0.009]
Migrant*Post 2017	0.040***	-0.010	-0.030***	-1031.656***	1.385***	0.063***	-0.013*
	[0.008]	[0.007]	[0.005]	[226.556]	[0.361]	[0.012]	[0.006]
Migrant*High share of internal migrants	0.000	0.002	-0.002	-126.892	0.221	0.025	-0.038***
	[0.017]	[0.012]	[0.011]	[205.559]	[0.792]	[0.022]	[0.010]
Migrant*High share of internal migrants*Post 2017	0.001	0.001	-0.001	-96.075	0.891	-0.032	0.058**
	[0.020]	[0.014]	[0.009]	[276.245]	[0.834]	[0.032]	[0.023]
Individual controls	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.625	0.078	0.297	7538.482	45.084	0.578	0.047
Observations	1909259	1909259	1909259	1018859	1192979	1192979	1192979
R-squared	0.224	0.024	0.259	0.285	0.111	0.277	0.052

Source: *Authors' calculations using GEIH, various years.*

83. With these numbers, Table 16 and Table 17 replicate the regression analysis performed in previous sections of this report, with the addition of an indicator for high share of conflict-related internal migrants over total department population.[42] Contrary to widespread concerns, Venezuelan migrants in departments hosting a higher density of conflict-related individuals do not seem to be facing additional issues in employment, either before or after the migration surge. In fact, they are equally likely to be employed as elsewhere, are not more likely to be unemployed, earn similar wages and work comparable hours, and are not more likely to be employed in informal occupations. The only outcome that seems to change significantly in the areas most hit by post-conflict is the likelihood to work in temporary occupations, which decreases overall for migrants in areas with a larger stock of conflict-related individuals but rises substantially in the same locations after 2017.

84. Interestingly, the situation is identical when agri-food labor markets are considered (Table 16). The integration of Venezuelan migrants into a department's agri-food value chains does not seem to be affected at all by a higher concentration of conflict-related populations. Clearly, this is not to say that catering to Venezuelan migrants and to the actors affected by the internal conflict may not be imposing competing claims on public resources, which can in turn call for at times very delicate public spending decisions on the part of local authorities. Nor does this imply that there might not be other potentially serious concerns in terms of overall social cohesion and security. Further caveats arise from the fact that the internal migration indicator does not differentiate between returnees and demobilized individuals, who most certainly rather face very different dynamics on the ground, and that it refers only to internal migration occurred within the 12 months before the survey, when it is very likely that many vulnerable populations would have instead moved at a previous point in time. Finally, as pointed out in previous sections of this report, the estimates reported in Table 16 and Table 17 are simply informative about the (lack of) correlations between the variables analyzed, and do not by any means provide a full assessment of statistically exogenous causality patterns.

85. Even though coming from a simplified descriptive approach, however, the observation that the labor market integration of Venezuelan migrants does not appear to be conflicting with the presence of conflict-related populations is very relevant. Rather than triggering a competition among vulnerable groups, Venezuelan migrants seem to be facing the same labor market conditions throughout the country, regardless of the existence of potential pockets of fragility.

42 This is constructed as a binary indicator equal to 1 if in a certain year a department lies above the 75th percentile of the distribution of share of conflict-related internal migrants over total department population across departments in Colombia for that year. Results stay mostly unchanged if only the fixed, beginning-of-period internal migrant share is used rather than a time-varying measure.

Table 17 Working conditions in agri-food for migrants in recent migration surge, accounting for conflict-related internal migration

	Employed in Agri-food	Employed in Primary Agriculture	Employed in Food Processing	Employed in Food Services	Real Wage (in 100 COP, at fixed 2010 prices)	Weekly Hours of Work	Informal Worker	Temporary Worker
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Venezuelan Migrant	0.050***	-0.019***	0	0.069***	-649.863***	2.148***	0.074***	0.034***
	[0.005]	[0.004]	[0.002]	[0.004]	[179.384]	[0.461]	[0.018]	[0.012]
Migrant*Post 2017	0.035***	-0.007	0.003	0.038***	-735.396***	2.312***	0.036*	-0.015*
	[0.008]	[0.005]	[0.003]	[0.008]	[153.236]	[0.544]	[0.021]	[0.008]
Migrant*High share of internal migrants	0.006	-0.005	0.003	0.008	-192.133	0.846	0.025	-0.024
	[0.018]	[0.009]	[0.005]	[0.017]	[483.697]	[1.666]	[0.025]	[0.015]
Migrant*High share of internal migrants*Post 2017	0.002	-0.001	0.008	-0.004	243.954	0.357	-0.045	0.046*
	[0.026]	[0.009]	[0.007]	[0.024]	[511.994]	[1.905]	[0.041]	[0.023]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*-Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var – Mean	0.168	0.074	0.029	0.065	4864.072	42.395	0.752	0.044
Observations	1192979	1192979	1192979	1192979	168089	199897	199897	199897
R-squared	0.147	0.303	0.007	0.039	0.167	0.157	0.197	0.066

Source: *Authors' calculations using GEIH, various years.*

V

INTEGRATING VENEZUELAN MIGRANTS INTO COLOMBIA'S AGRI-FOOD SYSTEM: TWO CASE STUDIES

V INTEGRATING VENEZUELAN MIGRANTS INTO COLOMBIA'S AGRI-FOOD SYSTEM: TWO CASE STUDIES

86. The conclusion that can be derived from Chapters II, III, and IV is that the position of Venezuelan migrants on Colombian labor markets is not free from contradictions: despite being on average more likely to be employed than local Colombians, migrants tend to work in worse working conditions: typically hired more informally or on temporary occupations, they work longer hours, and they receive a lower wage. The situation is no different in the agri-food sector, despite the growth potential of the sector, and even though migrants seem to be more likely than local Colombians to be employed in agri-food activities compared to other occupations.

87. What can be done to provide good job opportunities for migrants in the agri-food sector in Colombia? What are key factors in successful integration programs? In line with the third objective of this report, to derive lessons for the agri-food inclusion of Venezuelan migrants in Colombia, this chapter tries to answer these questions. To this end, the chapter presents cases studies of programs in Colombia related to labor market inclusion of Venezuelan migrants in two important agriculture and food systems value chains, with an eye to deriving lessons to foster the integration of Venezuelan migrants through job generation in the broader agri-food sector.

A. THE FLORICULTURE SECTOR: CASE STUDIES FROM CUNDINAMARCA

88. This section provides are brief description of the floriculture – cut flower – sector in Colombia, and subsequently describes two programs focused on labor inclusion of vulnerable populations: (i) the Asocolflores program, focused on the vulnerable Colombian population, and (ii) the Sunshine Bouquet program, focused on the Venezuelan migrant population: both programs provides useful insights on the instruments used for labor-market inclusion and on key lessons learned in their application.

89. The floriculture sector is one of the biggest contributors to Colombian agriculture. The sector targets mostly international markets and is currently the country's second largest agricultural export. Colombia is the world's second biggest exporter of flowers, the leading exporter of carnations, and the leading supplier for the United States. According to figures from MADR's Directorate of Agricultural and Forest Chains in 2018, 95 percent of production was exported, representing 75 percent of national exported air freight (between 300 and 400 million dollars a year in air freight). The trade balance in the sector saw growth of 219,219 tons in 2016, grew by almost 4.5 percent in 2017 and 4.2 percent in 2018, with similar growth forecast for 2019[43]. The sector generates considerable income in foreign currencies, with around 1.4 billion dollars in 2018, and contributes almost 17 percent of the income tax for Colombian agriculture.

90. Floriculture in Colombia is a large and growing sector with much potential. As a result, producer participation in the sector is growing exponentially: land area under flower production increased by 20 percent between 2015 and 2019, and the volume of production increased by approximately 10 percent with yields averaging 30 tons per hectare.

91. The department of Cundinamarca is the largest producer of flowers in the country (see Figure 21). Roses and carnations account for the largest production values and are planted mostly in the municipalities of Tabio, Madrid, Facatativá, and Zipaquirá amongst others.

92. Floriculture is the leading agriculture activity in terms of generation of employment per hectare (14 jobs per hectare). The sector's demand for workers is highly seasonal. The seasons for production of cut flowers has peaks of employment in line with significant holidays in which demand for flowers increases. It is a sector with high formality in employability. It generates approximately 90,000 formal direct rural jobs plus 18,000 additional jobs at peak times.[44] Approximately 65 percent of jobs in floriculture are carried out by women who are the head of the household, and account for 25 percent of female rural employment in the country.

93. For years now, it has been difficult to hold onto personnel in the floriculture sector, which is stigmatized as being unattractive because of the difficult and precarious employment conditions and low wages. Growth in industrial activities, like construction, in the traditionally flower-growing municipalities in the Centre-North and Western areas of Cundinamarca, led to major abandonment of employment in the sector. There is also a high level of labor turnover as the seasonal nature leads many workers to seek out alternative employment.

43 In monetary terms, growth was around 5 percent but is not significant because of the continuous fluctuations in the exchange market in the last period.

44 Data kindly shared by MADR, November 2019.

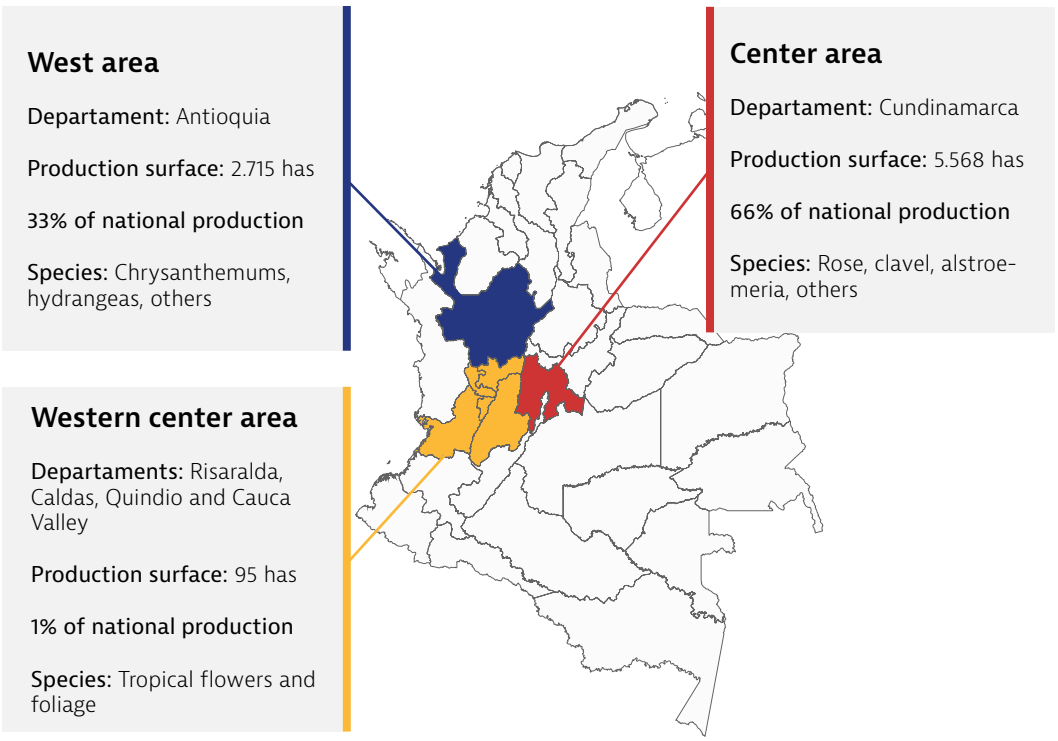


Figure 21

Location map for production of Cut Flowers

Source: *Ministry of Agriculture and Rural Development*

94. The shortage of labor and high rotation has led to high costs for companies in personnel selection and training processes, to the point where this has become one of the bottlenecks for the competitiveness of the sector. As cut-flower production requires a high concentration of labor (albeit seasonal), and in many municipalities labor supply is in shortage, the floriculture sector provides a major opportunity for integration of Venezuelan migrants into jobs in primary agriculture and along the cut-flower value chain.

I. ASOCOLFLORES: PROGRAM FOR LABOR MARKET INCLUSION OF VULNERABLE POPULATIONS

95. Asocolflores is the largest labor union in the sector, with the role of generating more and stable employment and increasing the value of flower production and export in Colombia. It started the Vulnerable Population Labor Inclusion Program (2011-2016) in 2011 to respond to a labor shortage in the flower sector, for which the impetus was the crisis experienced by the sector in the early 2000's. The revaluation of the Colombian peso between 2004 and 2008 led to the loss of more than 22,000 jobs and the closure of dozens of floriculture companies. The principal objective of the program was to generate decent, formal employment, through alliances with the public and private sectors, to strengthen the workforce/labor force in the countryside and provide employment links for the vulnerable population.

96. Forging alliances with government entities was key for the program being able to meet its objective of integrating vulnerable populations in the flower sector. These included first, an alliance with SENA in 2012, to provide technical training for workers in order to increase "*capacidades instaladas*" (productive potential) of workers, and to find mechanisms for labor matching between workers and companies for the sector. To find laborers for the sector SENA worked in several ways with Asocolflores including: (i) mobile labor offices (buses) were sent to municipalities to advertise and recruit workers; (ii) direct calls for employment through the town halls and companies affiliated with Asocolflores; (iii) employment fairs for companies that needed to fill vacancies. Second, an alliance was made with the National Agency to Overcome Extreme Poverty (ANSPE) in 2013, which allowed an increase in the variety of vacant employment positions in the sector to encompass a population in conditions of vulnerability. This initiative impacted 1,200 families through access to formal employment. However, these alliances did not eliminate the issue of high labor turnover and did not generate the expected sustainability.

97. A third alliance was formed with the Colombian Agency for Reintegration in 2014, which directly linked companies in the floriculture sector and the population of ex-combatants. Although the strategy was designed to create employment opportunities for this vulnerable group, it did not generate much success in recruiting and maintaining ex combatants. Retrospective evidence from Asocoflores suggests that this group was not interested in working in rural areas and

Table 18 Sunshine Bouquet's hiring process for migrants through employment postings in Cucuta

	Venezuelan migrant participants in the selection processes	Migrants selected	Migrants hired	Migrants returning the following year to work
2017 – Valentine's Day (February)	1159	737	580	
2017 – Mother's Day (May)	647	406	380	180
2018 – – Valentine's Day (February)	622	451	352	141
2018 – Mother's Day (May)	604	540	361	128
2019 – Valentine's Day (February)	635	500	352	100
TOTALS	3,667	2,634	2,025	549

Source: *Sunshine Bouquet*

preferred to migrate to cities in search of employment opportunities or to receive aid to create their own company.

98. With the lessons learned from all these experiences, the labor union designed a new strategy to attract personnel to offset the high rotation and the lack of workforce in the sector. Employment fairs were created in 2015, designed to bring companies closer to the populations, both in traditionally flower-growing municipalities and in the neighboring areas. In addition, alliances were drawn up with public employment agencies[45] to offer job positions via their platforms.

99. In parallel with the labor union strategy of inter-institutional strengthening of Asocolflores, the affiliated companies were given incentives to carry out a program to promote and implement good employment practices. The objectives of the programs are to provide employees with better conditions, extra-salary benefits and opportunities for promotion in the companies. According to a field study conducted by the *Universidad de Externado* in the companies affiliated with Asocolflores, the initiatives or good employment practices that were most welcomed were on access to health. Around 76 percent of employees agreed that access to health insurance was an important benefit for choosing to work in a floriculture company. Similarly, other services were also considered significant in the decision to contract with a floriculture company: transport services (64 percent), study incentives (58 percent), employee fund (52 percent), maternity aid (25 percent), life insurance (22 percent), paternity aid (19 percent), and daycare and child services (11 percent).[46]

100. Despite all efforts made to integrate vulnerable populations into the floriculture sector through the Asocoflores program, the shortage of workforce and high rotation remained. Both the positive results and the obstacles encountered in the implementation of the program have brought to light the following lessons and recommendations: (i) focus on a potentially interested population that has a lower degree of vulnerability; (ii) improve the awareness of affiliated companies to improve non-income benefits offered to workers, and to invest more in specialized skills; (iii) strengthen the alliance with SENA and with public employment agencies; (iv) organize specialized fairs focused on the floriculture sector with linked/related companies (suppliers and marketers).

II. SUNSHINE BOUQUET: PROGRAM FOR LABOR MARKET INCLUSION OF VENEZUELAN MIGRANTS

101. Sunshine Bouquet is a leading company in the floriculture sector employing 1100 individuals in the municipality of Tabio (Cundinamarca).[47] The company typically requires 9 individuals per hectare for rose production and 10 individuals per hectare for the production of other flower species. There is pronounced seasonality and labor demand peaks during special periods, like the first quarter of the year and a recurring need for a workforce.

102. In 2017 Sunshine Bouquet started a program to employ Venezuelan migrants. The program's objective was to break the stigma around working in the sector, offering improved quality of employment, with better salaries and benefits. The hiring program offers dignified and safe conditions for migrants from Venezuela, who arrive under vulnerable conditions. The hiring process is carried out through employment announcements or calls for employment in which various allies participated. As shown in Table 18, from

45 Work carried out in conjunction with the "compensation funds" *[cajas de compensación]*, organizations in Colombia with a pronounced social character, with the Program as an important ally, with the publication of offers of employment and skills for employees.

46 These results are based on evidence from visits to a number of companies affiliated to Asocolflores. (Systematization recorded in the publication *"Sector privado: pensando en grande. Contribuciones al ODS 8. Universidad de Externado. Colombia"* [Private sector: thinking big.]

47 In Tabio alone the company has 65 hectares of land area under greenhouses in strict conditions of quality, with controls on temperature and humidity. Sunshine has a total of 14,000 employees and 820 hectares under greenhouses throughout the Cundinamarca department, distributed in the municipalities of Tabio, El Rosal, Madrid, Tocancipá, Chía, Nemocón, Tenjo, Facatativá, Chipaque, Soacha, Cucunubá and Bogotá. In Tabio, the company reaches a volume of production of around one million stems per day at peak periods.

2017 to date, 3,667 migrants have participated in selection processes and 2,025 have been hired.

103. The majority of migrants were hired on a temporary basis, and more than 26% have returned to work with the company the following year. Sunshine Bouquet offers the official minimum wage of 925,148 Colombian pesos (274 USD) and at peak periods the workers can earn, with extra hours, up to 1,450,000 Colombian pesos per month (430 USD). The transfer from Cucuta to Bogota, food, and accommodation are provided as additional benefits to the basic salary when hired under the employment relation program. The employment announcements last on average one week, during which the Sunshine Bouquet team (two hiring assistants, two psychologists, two doctors and the head of hiring) interview approximately 120 people a day.

104. Similar to the Asocolflores Program, Sunshine Bouquet has created a series of interinstitutional alliances which have enabled both the selection process and the subsequent skills and specific training process for the Venezuelan workers to be improved.

105. The aforementioned aspects of Sunshine Bouquet's program of Inclusion in the labor Market provide a good example for integration of migrants in an agriculture value chain. Beyond work in primary agriculture, the floriculture sector typically also requires workers to be integrated in the quality control, packaging and other off-farm labor in processing the flowers. As such, this program sends a positive signal on the potential for creating jobs among a marginal population when labor shortages exist and there is less availability of the local population. Sunshine Bouquet intends to continue providing employment opportunities for vulnerable Venezuelan refugees and migrants. In the first quarter of 2020 it plans to hire 1000 people.

106. Results from in-depth semi-structured interviews of actors along the cut flower value chain carried out in November 2019, that provides more details on the profiles of Venezuelan migrant workers and the labor conditions they face are available in Annex E1.

B. THE COFFEE SECTOR: CASE STUDIES FROM RISARALDA AND NORTE DE SANTANDER

107. This section presents the "Harvest Plan 2019" of the Department of Risaralda - an initiative supported by the Departmental Committee of Coffee Growers of Risaralda to attract labor to the coffee sector and provide income generation opportunities to vulnerable populations.

108. Colombia is the third largest producer of coffee after Brazil and Vietnam. In 2018, the coffee-producing area was 877,144 hectares, with national production reaching figures close to 14 million bags, of which 12.7 million bags were exported (Directorate of Agricultural and Forestry Value Chains of MADR). The coffee area extends across all departments of the country. In the last ten years, Colombia has increased coffee yield by 56 percent with a productivity of 10 to 19 bags per hectare, in large part due to the Coffee Renewal Program. The program has improved the average age of the crop, as well as its density and resistance to rust.

109. Smallholders are the cornerstone of Colombia's coffee production: 96.5 percent of coffee growers registered in the National Federation of Coffee Growers (FNC) are small producers, with farm sizes between 3 and 5 hectares. However, these producers are battling against an increasingly larger global coffee footprint, and as markets flood prices decline. Coffee producers in Colombia typically make less than 10 percent in profits, on the price of coffee. This makes coffee production as a livelihood less and less attractive. More than 50 percent of production costs go towards labor, with 80-90 percent of the labor force dedicated to harvesting.

I. HARVEST PLAN 2019 (PLAN COSECHA 2019): LABOR INCLUSION PROGRAM IN RISARALDA

110. The department of Risaralda and the coffee axis has traditionally been a zone of emigration, and shortages of coffee pickers remains a problem for the sector in Colombia. The Harvest Plan is a program in which some departments of the coffee axis participate, to find a solution to this shortage of labor in coffee harvesting. It is a program for coffee producers, facilitated and supported by the FNC through its Departmental Committees.

111. The objective of the 2019 Harvest Plan in Risaralda was to make coffee cultivation and harvesting attractive through: (i) achieving sufficient labor in coffee collection for coffee growers; (ii) ensuring that the price of the collection is reasonable and does not affect the profitability of the coffee grower, and (iii) dignifying the work of the pickers by promoting strategies that contribute to their quality of life.

112. Under the 2019 Harvest Plan, a survey was conducted on coffee pickers in the department. Based on its results, an awareness campaign was implemented on the importance of good treatment of coffee pickers, and the greater needs of facilities and benefits for pickers. Further to this, to attract labor, a dissemination campaign has been launched through the main media, radio and television.

113. The survey of coffee pickers, participating in the 2019 Harvest Plan, showed that 85 percent were men and just 15 percent women. While the composition of laborers is highly gendered, and male-biased, evidence shows that harvest quality is typically higher among female pickers, who collect the best selected grain, with a lower percentage of damage. FNC is aware of the need to establish strategies that attract and maintain female coffee pickers. Coffee pickers are also quite old, per the survey: 72 percent of pickers are over 40 years old and of these, 51 percent are over 50 years old. These data highlight the need to implement initiatives and mechanisms that make the coffee business an appealing option for the young. For example, the National Coffee Growers Federation is currently implementing youth entrepreneurship initiatives,[48] centered on innovation and technology.

114. Coffee pickers had a high level of satisfaction with worker conditions and benefits received through the Harvest Plan; especially for accommodation, food and hygiene, and recreation areas. Connectivity and better communication were shown as priority issues for coffee pickers, as about 60 percent were married or had family commitments. Among the surveyed workers of the Harvest Plan, 74 percent of pickers in Risaralda were covered by subsidized social protection, 8 percent used another system, and 18 percent had no social protection at all.

115. Of the most important factors cited when choosing a coffee farm at which to work, 60 percent of workers considered the accurate measurement of their picked coffee, and the quality and calibration of the measuring weight as most important. Other concerns like quality of accommodation and food, treatment by employers, high production of the farm, and proximity of the farm to their home were lower in relevance. Results also reveal that 47 percent of collectors prefer to work on small farms relative to 7 percent who preferred large, more commercially oriented farms.Of relevance to the employability of Venezuelan migrants, in the visits and in-depth semi-structured interviews, it appeared that large farms were much more willing to hire Venezuelan coffee pickers. Bigger farms were more willing to hire Venezuelans as there was a higher labor need, and these farms showed less suspicion over potential theft and security issues.

116. Based on lessons learned from the results of the Harvest Plan survey and prior actions taken in the program, several recommendations emerge for hiring more workers, particularly Venezuelan migrants, and improving coffee picker conditions. These include: (i) strengthen institutional alliances: the Migration Office was key in managing the arrival of people from Venezuela; (ii) strengthen agreements with the transport sector: bus terminals became the strategic site for picking up collectors; (iii) foster alliances with the media to promote the need for labor on coffee farms: around 46 percent of respondents learned that labor was needed for the coffee harvest in Risaralda by radio, television or press; (iv) improve working conditions offered to collectors, including making conditions more attractive to women whose collection is of higher quality (fruit at the point of maturation and less damage); (v) classify tasks in the harvest according to the worker's profile: include a filter and selection process for workers for differentiation of tasks taking into account age and gender; (vi) strengthen strategies to overcome security problems, specifically, thefts and drug use on farms.

48 RENACER program is launched by Procafecol, company responsible for the development of Tabernacles Juan Valdez and ANDI Foundation. RENACER, seeks to make visible and strengthen the leadership of young farmers in different regions affected by violence in Colombia. The program has 19,531 young people aged 14 to 28, in 22 departments, of which 31% are women and 69% are men

Box 4 An unsuccessful example: the labor inclusion program for Colombian returnees in Norte de Santander

The labor insertion Plan of Colombian Returnees in Norte de Santander (2013-2014) is presented as an interesting case study of a labor inclusion instrument that did not work as intended.

The department of Norte de Santander is composed of 40 municipalities, of which 36 grow coffee. There are 15,600 registered coffee growers and 23,092 hectares of coffee throughout the department. Approximately 24 million kilos of dry parchment coffee are produced every year in the department, for a value of about US$ 4.6 million. The department grows coffee all year round: the seasonality in coffee harvesting is less marked than in the coffee axis departments, implying that the laborers could have a more stable position and source of income, with tasks distributed between collection and processing.

Between 2013 and 2014, the National Federation of Departments funded a program for the inclusion of Colombians returning from Venezuela in coffee jobs in Norte de Santander. With the support and financing of the government, the Coffee Committee of Norte de Santander identified jobs in coffee farms with formal hiring for a duration of at least 4 months.

Through the program, 140 Colombian returnees from Venezuela were hired on coffee farms. The experience, however, highlighted the need of ensuring better training of the newly hired laborers, as well as of additional filters for their selection. From anecdotal evidence, often Colombian returnees had different a skill set from those of traditional agricultural laborers and coffee pickers, leading to demotivation and self-exclusion, and in some cases self-injury to collect disability/accident allowance.

VI CONCLUSION

VI CONCLUSION

117. As the political and socio-economic crisis in Venezuela escalates, the forced displacement of millions of Venezuelans who leave their country to escape violence, insecurity and threats, and to fulfil their basic human rights is posing unprecedented challenges to receiving countries across Latin America and beyond.

118. This study on the labor inclusion of Venezuelan migrants in Colombia's agri-food labor markets thus comes at a time in which Colombia is facing a migration inflow that is unparalleled both in the country and in the Latin America region. As of August 2020, the number of people who had crossed the border between Venezuela and Colombia was estimated at around 1.8 million.

119. The Venezuelan crisis is posing significant internal challenges to the Colombian government, with potential repercussions on economic, institutional, social, and environmental aspects. The challenges have, in turn, been evolving over the last few years, and even months. In the aftermath of the migratory intensification, the immediate priority for the Colombian government had been migrants' registration in the country and the provision of primary care and humanitarian relief. With the passing of time and the deepening of the crisis in Venezuela, however, it has become clearer and clearer that the phenomenon will have implications on a medium-long term horizon, whose successful management will require going beyond immediate social assistance. The recent COVID-19 pandemic, in turn, is exacerbating pressure on local economies and social protection mechanisms, making it even more challenging to cater to the migrant population. Colombian authorities are starting to report that some migrants are even trying to return to Venezuela, despite unchanged threat and misery there, to escape discrimination and arbitrary job loss in Colombia: at the end of April, 2020, some 12,000 Venezuelans had crossed the border back into their home country, where they face confinement and inhuman conditions in improvised camps lacking basic hygiene and safety standards.[49] As this report was completed before the pandemic stroke, it does not provide an assessment of the effect of the health emergency on Colombian labor markets and on the conditions of Venezuelan workers in Colombia: however, the COVID-19 challenge is making it even more painfully evident that the migration crisis needs inclusive solutions now and in future.

120. For as many challenges migration is causing today, in fact, they can be turned into an opportunity for economic growth and social development, if appropriate and timely measures are taken. Apart from its humanitarian value per se, the successful integration of Venezuelan migrants can represent a valuable addition to the Colombian labor force, bringing new skills and filling labor gaps where they exist. This appears to be true for Colombian agriculture and food systems, which face a growing demand at the domestic and international levels, on one side, but stagnant productivity and labor shortages, on the other. Certain agricultural value chains, like floriculture and coffee, in Colombia are particularly in need of a labor influx to fill specific occupations, and the growth of food processing and integrated food retailing and service activities cannot but benefit from a skilled labor pool to boost efficiency and innovation.

121. This report shows, however, that this potential is to an important extent yet to be fulfilled. At the policy-making level, for example, it is notable that the CONPES 3950 strategy for migrant inclusion designed by the Colombian government does not provide any strategic guidance or budget for the Ministry of Agriculture and Rural Development to facilitate inclusion of migrants in the agriculture sector. Looking at individual workers' outcomes, this study does find that Venezuelan migrants tend to find more employment in agri-food activities than in other sectors: however, it also shows that they are mostly doing so at substantially worse working conditions (lower wages, higher working hours) and with a higher likelihood of ending up in the informal labor force when compared to the local population.

122. Importantly, migrants also tend to cluster in urban areas, where they find employment in suboptimal food-service occupations, even though those that are employed in rural areas seem on average to encounter better-quality jobs in terms of wages, working hours, and informality. Crucially, migrants are not more likely to work in primary agriculture even in areas that are predominantly agricultural, and that as such should be better able to absorb agricultural laborers. Considering the high unemployment rate registered among migrants, this may represent an important missed opportunity for matching them into agricultural inclusion programs. Similarly, it is striking that Venezuelan migrants are not more represented in better-remunerated and more dynamic value-addition activities downstream in the food chain (such as food processing or formal food services), which would offer a better match for their skill set. For example, migrants' average years of education are well aligned with the education of the average worker in Colombia's food processing: yet, Venezuelan migrants are significantly less likely to be employed in the sector with

49 Cf. *https://efectococuyo.com/coronavirus/cerca-de-12-000-venezolanos-han-regresado-al-pais-senala-migracion-colombia/; https://www.bbc.com/mundo/noticias-america-latina-52225368; https://elestimulo.com/venezolanos-huyen-del-coronavirus-para-caer-en-refugios/; https://www.theguardian.com/global-development/2020/apr/16/venezuelans-returning-squalid-quarantine-migrants.*

respect to the rest of the population with similar socio-demographic characteristics.

123. These patterns can in part be explained by the fact that many migrants need to provide for their livelihoods regardless of their regularized status or work permit: in this sense, the higher informality of urban food services jobs vis-à-vis other sectors might provide an immediate response, or be the only option, for their financial needs. Very likely though, other appealing features of urban centers for migrants are their ease of access via major transportation routes, as well as the existence of tighter social networks and migrant communities within cities: both factors may be acting as strong barriers to mobility towards other parts of the country, especially if coupled with a lack of information on labor opportunities in different areas.

124. Being that the case, there could be room for facilitating migrants' integration into better quality jobs and less crowded zones of the country, for example through information campaigns, more systematic job advertisement, and mobility incentives. The fact that migrants have recently become more likely to be employed in agriculture and food processing in areas that see a higher presence of agro-industrial firms shows that they are not averse to these types of occupations, when opportunities arise. The two case studies presented in Chapter VI are successful examples of how a multi-faceted approach targeting the specific needs and constraints of migrants and vulnerable populations can go a long way in building a much more appealing employment package.

LOOKING AHEAD: OPERATIONALIZATION PRINCIPLES

125. Attracting migrants into different agri-food jobs will require a coordinated, programmatic strategy jointly addressing the demand and supply sides of the labor equation. While ensuring that employers see the opportunity represented by incoming migrant workers and are duly accompanied in their hiring process. It will be paramount to make sure that migrants perceive they do not stand to lose from seeking employment in agri-food activities and to facilitate and incentivize their transition.

126. The analysis and questions raised by this study lead to some practical ideas and operationalization principles for a migrant integration strategy that involves agriculture and food systems more prominently.

- **Strengthen "labor pull" actions for agri-food jobs.** Active labor market policies such as job search and job placement support could be targeted at the agri-food sector, including for example the organization of job fairs aimed at opportunities in the rural context and in agri-food chains, and the provision of specialized training in specific, scarce skills highly demanded in agri-food jobs. Better skills matching to provide higher skilled workers with jobs linked to processing just off-the farm, or youth with access to opportunities for innovation and technology-linked positions could also provide impetus for drawing migrants to agri-food and rural centers.
- **Make the agri-food sector and the rural environment attractive for migrants.** As the strong social networks of larger urban areas may be difficult to replicate in lower-tier cities and rural areas, the strengthening of service provision and social protection in these areas could also help in sustaining livelihoods and easing a potentially crucial barrier to mobility. Benefits for consideration include health insurance, social protection schemes, transportation, accommodation, study benefits, parental help, permanency, and security.
    - One option that could be considered is replicating, for the migrants' case, the structure of social programs currently targeting other vulnerable groups. Particularly in rural areas, vulnerable populations often have similar socio-demographic characteristics to the Venezuelans in the country, which suggests that programs designed for the former group could also work well for the latter. This would not mean dividing the same pie among a higher number of beneficiaries, but rather using the same channels to achieve the respective inclusion goals.
- **Smooth labor demand frictions by channeling information to employers and considering business incentives.** As regards the labor demand side, a needed step is to efficiently channel information to potential employers, highlighting the opportunity represented by a larger labor pool to fill labor shortages in certain value chains, and providing clear information and guidance on the process for hiring migrants. In parallel, incentives could be established for the business sector for hiring Venezuelan migrants, for example in the form of tax incentives, or appealing to corporate social responsibility programs with the promotion of social responsibility certifications. Involving National Producer Federations and Producer Organizations would ensure higher effectiveness and buy-in on the producers' side.
- **Streamline the institutional approach.** The agri-food inclusion framework could be strengthened with a streamlined institutional approach that increased cooperation among different government entities. In particular, it would be key to ensure policy alignment with the CONPES 3950 strategy, broadening its scope to include specific provisions for the integration of migrants in rural areas and in agriculture and food systems, with

a more systematic involvement of the Ministry of Agriculture and Rural Development in the promotion of labor inclusion in the agri-food sector. A more ambitious initiative could be to envisage the creation of targeted employer-based PEP schemes specifically directed at jobs in the agri-food sector.

127. As a closing remark, it is worth emphasizing how the specificity of local productive landscapes and labor markets, the geography of migrants' distribution across the country, and local socio-cultural contexts demand a differentiated approach in the application, design and adoption of public measures for migrants' integration. Operationalizing the proposed framework will require spatial development approaches, and customized solutions that make those approaches relevant to particular local circumstances and priorities. This effort will require the active participation and cooperation of local institutions, to ensure that migrants and local communities alike can gain from an inclusion strategy that is equitable, effective, and beneficial for all.

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VIII ANNEX

A. DATA SOURCES

I. HOW MANY VENEZUELAN MIGRANTS ARE IN COLOMBIA?

Estimates on the number of Venezuelan migrants in Colombia can be constructed based on three main sources of information, each one with its advantages and limitations (see Table A1). A first data source is the official information collected at all official entry points at Colombia's frontier by Colombian migration authorities. This source gathers basic information on education, occupation, main motivation for the trip and final destination of all travels who legally enter Colombia, but only covers regular migrants.

A good way to account for irregular migration is to use the Administrative Registry of Venezuelan Migration (RAMV, Registro Administrativo de Migrantes Venezolanos), which was compiled by the Colombian government between April 2018 and April 2019 to coordinate the access of irregular migrants to public services and their social integration through different regulation programs such as the Special Permanency Permit (PEP). Despite being an invaluable repository of socioeconomic information on irregular migrants in Colombia, the data in the RAMV have only so far been collected for one year, and therefore is not informative about the dynamic ebbs and flows of Venezuelan migrants into Colombia.

Finally, the Monthly Labor Survey *Gran Encuesta Intengrada de Hogares* (GEIH), the nationally representative survey of Colombian labor markets, is probably the richest source of detailed information on the participation of Venezuelans in Colombia's labor markets. In general, the survey, which is a repeated cross-section, collects each month a rich set of information on labor participation, income, access to education and social security, as well as receipt of any government support. Crucially for this report, moreover, the GEIH questionnaire contains a migration module that allows tracking of all persons that report having migrated within and into Colombia during the last 5 years or 12 months, or else that were born in other countries. Importantly, the survey covers irregular and regular migrants alike, although it does not allow to tell the two categories apart. As the GEIH data are collected monthly, they allow for a very accurate view of the dynamics of migrants' influx in Colombia and their labor market participation.

II. AGRI-FOOD LABOR MARKETS

At present, updated information on the rural labor market in Colombia is somewhat scarce. Very detailed information on labor supply comes from the National Agricultural Census (CNA, *Censo Nacional Agropecuario*), which is conducted by the national statistics department (DANE) for the agricultural sector. The CNA provides statistical information on the agricultural sector, including socio-demographic characteristics of producers, their production decisions, inputs, and other factors. The CNA is representative at the national level and can be disaggregated at the municipal and sub-municipal level (Vereda). The unit of analysis in the Census are the Units of Production, which may be agricultural (UAPs) or non-agricultural (UNAPs). The year 2014 CAN used in this report provides information on around 2.4 million UPAs and 540,000 UNAPs.

A second data source to gather information on agricultural labor in Colombia is the National Agricultural Survey (ENA, *Encuesta Nacional Agropecuaria*). The survey, conducted in 2017, is another cross-section and therefore lacks in dynamism (even though a new round of data has been collected in 2019 and in pending release), but still provides a very rich picture of the actual labor supply in primary agriculture Colombia. It is, however, silent on other activities downstream in the agri-food value chain.

The main source of information on agri-food labor market outcomes thus remains the GEIH Labor Survey introduced in

Data Source	Type of information	Type of migration	Time Coverage
Colombian Migration Authorities Registry	Census of all visitors to Colombia	Regular	Daily (January 2014 – June 2019)
Regularization Programs (RAMV-PEP).	Venezuelans migrants participating in these programs	Irregular	April 2018- April 2019 (cross section)
Monthly Labor Market Survey (GEIH)	Nationally representative survey	Regular and Irregular	Monthly (used in this report: 2014-I – 2019-II)

Table A1

Main data sources on migration in Colombia used in this report and their characteristics

sub-section A.ii above. The GEIH is statistically representative for the main metropolitan areas, departments, as well as all rural centres scattered in more than 443 municipalities of Colombia. In total, each year 232,000 households are interviewed. GEIH includes a specific question on the sector in which each employed person is working, which allows for an accurate investigation of sector-level employment numbers. In order to identify employment at different stages of the agri-food value chain, the activities listed by GEIH respondents employed in agri-food value chains have been recoded based on the International Standard Industrial Classification of All Economic Activities (ISIC) into three main productive sectors: (i) Agriculture, forestry and fisheries (primary); (ii) Agri-food manufacturing industry; and (iii) Food services and retail (see Table A2). Figure A1 provides an overview of the evolution of employment in these three sectors in recent years.

Table A2 Agri-food sector based on ISIC code

Sector	ISIC code
Primary food production	111 to 220
Food Processing	1511 to 1594
Food Retailers	5521 to 5529

Source: *based on ISIC code*

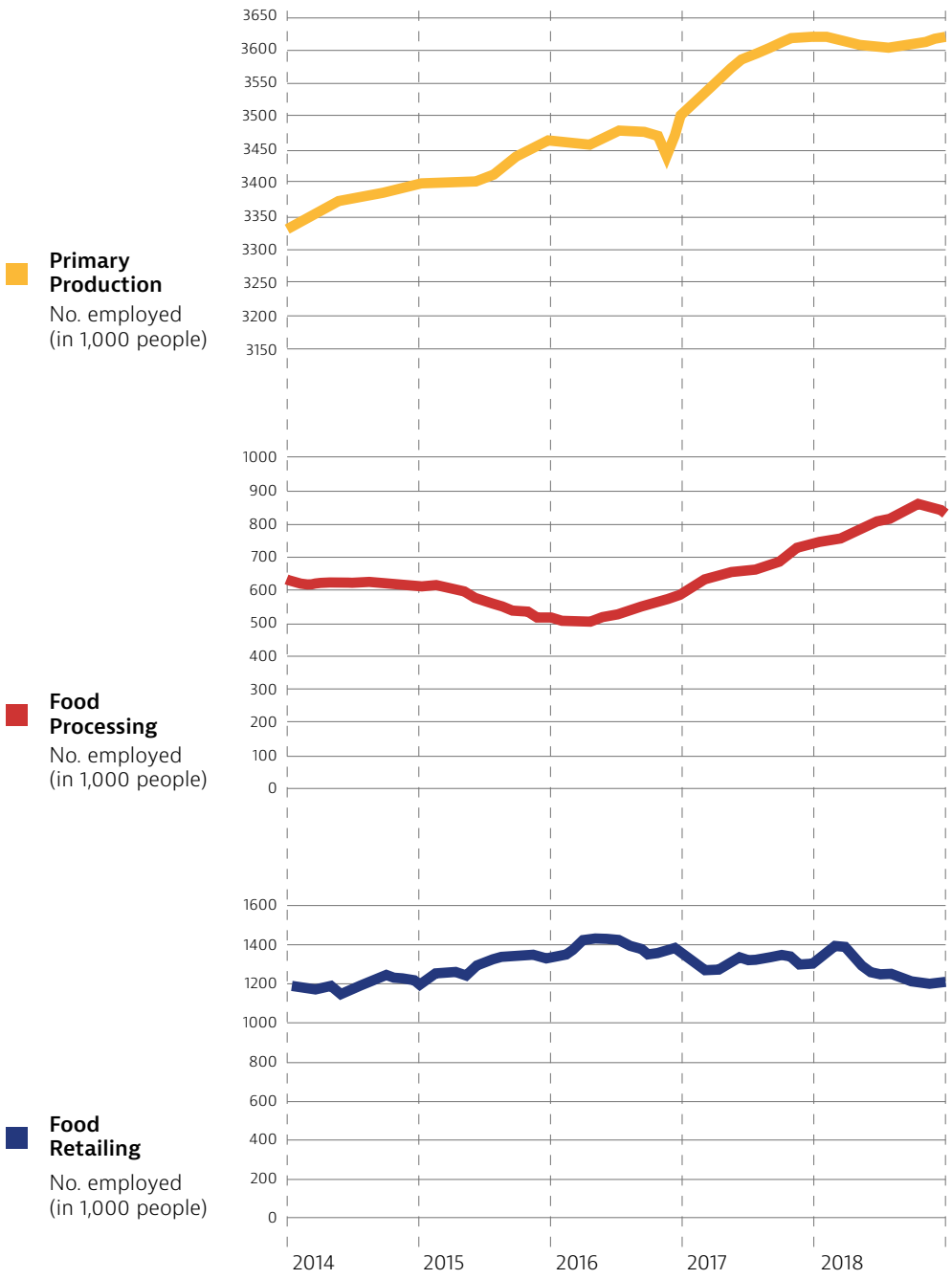


Figure A1

Employed in the agri-food sector – Colombia, 2014-2019

Source: *calculations based on GEIH – DANE.*

Note: *time series are seasonally adjusted using the X-13 seats (ARIMA) correction.*

B. REGRESSION ANALYSIS – TECHNICAL DETAILS

The regression analysis presented in Chapters II, IV, and V relies on an OLS (Ordinary Least Squares) empirical strategy on repeated cross-sections.

In the baseline specification, given a labor-market outcome y, the regression equation for individual i living at time t in department d is

$$y_{ist} = \alpha + \beta m_{it} + \gamma m_{it} \times post2017_t + \delta post2017_t + \boldsymbol{x'_{it}\rho} + \theta_{td} + \varepsilon_{itd}$$

where m is a binary indicator equal to 1 if individual i is a Venezuelan migrant, post2017 is a binary indicator switching to 1 in years after 2017, $\boldsymbol{x}$[1] is a row vector of individual-level covariates, θ_{td} is a department-year fixed effect and ε is an idiosyncratic error term.

When analysing longer-term and recent Venezuelan migrants separately, the regression equation is

$$y_{ist} = \alpha + \beta_1 m_{1it} + \beta_2 m_{2it} + \gamma_1 m_{1it} \times post2017_t + \gamma_2 m_{2it} \times post2017_t + \delta post2017_t + \boldsymbol{x'_{it}\rho} + \theta_{td} + \varepsilon_{itd}$$

where m_1 and m_2 are binary indicators for being respectively a recent and a longer-term Venezuelan migrant.

The coefficients of interest are coefficient β on Venezuelan migrant (or β_1 and β_2 in the recent vs. longer-term specification) and γ (γ_1 and γ_2) on the interaction between migrant and post-2017, to explore whether migrants experienced different outcomes before and after the recent migratory surge of 2017.

The heterogeneity analysis across different subgroups of the population is performed by adding interactions between migrant status and a dummy variable d for relevant socioeconomic characteristics:

$$y_{ist} = \alpha + \beta m_{it} + \gamma m_{it} \times post2017_t + \delta post2017_t + \pi m_{it} \times d_{it} + \tau m_{it} \times d_{it} \times post2017_t + \boldsymbol{x'_{it}\rho} + \theta_{td} + \varepsilon_{itd}$$

Coefficients π and τ now measure whether and by how much Venezuelan migrants from group d (e.g. women, or youngsters) are facing different challenges or opportunities vis-à-vis the rest of the population, respectively before and after the migratory surge of 2017.

In the analysis accounting for post-conflict internal migration, regressions feature an additional binary indicator int for high share of conflict-related internal migrants over total department population, defined as whether in a certain year a department lies above the 75th percentile of the distribution of share of conflict-related internal migrants over total department population across departments in Colombia for that year (results stay mostly unchanged if only the fixed, beginning-of-period internal migrant share is used rather than a time-varying measure):

$$y_{ist} = \alpha + \beta m_{it} + \gamma m_{it} \times post2017_t + \delta post2017_t + \vartheta int_{dt} + \mu int_{dt} \times m_{it} + \varphi int_{dt} \times m_{it} \times post2017_t + \boldsymbol{x'_{it}\rho} + \theta_{td} + \varepsilon_{itd}$$

Here, μ and φ are additional coefficients of interest.

Equality of any two coefficients (e.g. . β_1 vs. β_2, or γ_1 vs. γ_2) is tested through standard post-estimation F-tests on linear restrictions, where:

$$H_0: \beta_1 - \beta_2 = 0$$
$$H_1: \beta_1 - \beta_2 \neq 0$$

Individual covariates include gender, age (linear, squared, and dummy for being aged 25 or less), living in a rural area, and highest educational attainment (primary at most, secondary school, technical and vocational education, bachelor degree, post-graduate degree). Standard errors are clustered at the department level.

When the outcome of interest is whether the individual is employed, the analysis is performed on the years 2016, 2017, 2018, and 2019, and on individuals aged between 15 and 70, included. When considering wage, hours worked, informality, and temporary work, the sample is further restricted to those who are employed.

When instead the outcome is being employed in the agri-food sector (overall and disaggregated along the food value chain), the analysis is performed on the years 2016, 2017, 2018, and 2019, and on individuals aged between 15 and 70, included, who report being employed (qualitative results do not change when running the regressions on the sample unconditional on employment). When considering wage, hours worked, informality, and temporary work in the agri-food sector, the sample is further restricted to those who are employed in the overall agri-food sector.

C. ADDITIONAL RESULTS

Table C1 Venezuelan migrants vs. Locals: Characteristics of the unemployed and inactive population

	2014 - 2016			2017		2018		2019 (Q1 & Q2)	
	Locals (born in Colombia)	Venezuelan Migrants							
		5 Years	12 Months	5 Years	12 Months	5 Years	12 Months	5 Years	12 Months
1.1 Gender									
Female	51.40%	45.36%	47.18%	46.73%	49.64%	48.49%	49.32%	48.22%	50.86%
1.2 Age (years)									
15 - 25	17.58%	19.62%	23.38%	20.94%	23.56%	24.20%	27.11%	24.89%	26.23%
26 - 35	16.82%	24.89%	21.93%	22.34%	21.69%	24.86%	22.21%	27.01%	20.43%
36 - 45	14.74%	15.26%	12.44%	17.51%	11.17%	14.25%	12.11%	13.95%	11.03%
46 - 55	13.75%	9.65%	7.01%	8.19%	6.15%	7.96%	5.44%	7.35%	5.96%
56 - 70	12.96%	6.02%	4.61%	5.36%	3.84%	4.60%	3.94%	4.68%	3.67%
1.3 Education									
Avg. years of schooling	7.57	6.96	6.65	7.19	7.32	7.66	7.95	7.93	7.76
1.4 Rural									
Rural Worker	19.95%	19.98%	17.81%	18.79%	13.26%	0.86%	0.33%	15.86%	9.07%
1.5 Job search characteristics - Active									
Looked for work in the last week	2.08%	5.11%	11.07%	4.24%	9.34%	3.95%	9.11%	5.57%	10.24%
In the last 4 weeks looked for a job or to set up a business?	4.80%	8.83%	17.15%	8.39%	18.17%	8.74%	15.88%	11.12%	17.94%
What did you do to search for job									
Requested help from friends, family, etc	2.11%	4.69%	9.68%	3.37%	9.92%	3.60%	8.32%	5.07%	9.59%
Sent CV to companies	2.01%	3.35%	5.82%	3.92%	7.12%	4.15%	6.77%	5.22%	6.79%
Attended recruiting calls	0.03%	0.08%	0.00%	0.05%	0.01%	0.00%	0.09%	0.00%	0.00%
Want to get a paid job or set-up a business?	6.69%	9.30%	11.67%	10.65%	10.89%	8.82%	7.25%	7.32%	9.30%
1.5 Job search characteristics - Inactive									
main reason for not getting a job is no job available in the city or region/cannot find work in my profession	2.02%	4.89%	5.33%	6.45%	6.39%	6.95%	6.43%	7.24%	5.64%

Data source: *GEIH, various years*

Table C2

Labor outcomes for migrants with interactions, disaggregated by recent and longer-term status

Employment

	Dependent Variable: Worker is employed			
	(1)	(2)	(3)	(4)
Recent Venezuelan Migrant	0.009	-0.072***	-0.019*	-0.012
	[0.015]	[0.011]	[0.011]	[0.011]
Longer-term Venezuelan Migrant	0.084***	0.031***	0.056***	0.063***
	[0.008]	[0.008]	[0.005]	[0.004]
ST Migrant * Post 2017	0.069***	0.047***	0.060***	0.056***
	[0.012]	[0.009]	[0.009]	[0.008]
LT Migrant* Post 2017	0.033***	0.014**	0.021***	0.015***
	[0.006]	[0.006]	[0.006]	[0.004]
ST Migrant* Female	-0.052***			
	[0.016]			
ST Migrant* Female* Post 2017	-0.013			
	[0.019]			
LT Migrant* Female	-0.052***			
	[0.011]			
LT Migrant* Female* Post 2017	-0.024***			
	[0.008]			
ST Migrant* Youth		0.163***		
		[0.013]		
ST Migrant*Youth*Post 2017		0.022*		
		[0.012]		
LT Migrant*Youth		0.100***		
		[0.021]		
LT Migrant*Youth*Post 2017		0.004		
		[0.018]		
ST Migrant * No Diploma			0.068*	
			[0.038]	
ST Migrant * No Diploma*Post 2017		0.051		
			[0.039]	
LT Migrant * No Diploma			0.053	
			[0.037]	
LT Migrant * No Diploma*Post 2017		-0.015		
			[0.042]	
ST Migrant * Rural				-0.072**
				[0.027]
ST Migrant * Rural*Post 2017				0.017
				[0.063]
LT Migrant * Rural				-0.054
				[0.042]
LT Migrant * Rural*Post 2017				-0.08
				[0.128]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.624	0.624	0.624	0.624
Observations	1912237	1912237	1912237	1912237
R-squared	0.225	0.226	0.225	0.225

Table C3

Labor outcomes for migrants with interactions

	Dependent Variable: Worker is unemployed			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.035***	0.055***	0.049***	0.051***
	[0.008]	[0.008]	[0.006]	[0.007]
Migrant* Post 2017	-0.015**	-0.011**	-0.011**	-0.013**
	[0.006]	[0.005]	[0.005]	[0.005]
Migrant*Female	0.026***			
	[0.006]			
Migrant *Female*Post 2017	0.009			
	[0.009]			
Migrant* Youth		-0.021***		
		[0.007]		
Migrant*Youth*Post 2017		0.006		
		[0.005]		
Migrant*No Diploma			-0.006	
			[0.012]	
Migrant* No Diploma* Post 2017			0.016	
			[0.016]	
Migrant * Rural				-0.036**
				[0.014]
Migrant* Rural* Post 2017				-0.006
				[0.031]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.078	0.078	0.078	0.078
Observations	1912237	1912237	1912237	1912237
R-squared	0.024	0.024	0.024	0.024

Table C4

Labor outcomes for migrants with interactions

	Dependent Variable: Real wage			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	-932.892***	-887.963***	-685.545***	-729.615***
	[108.211]	[196.171]	[149.820]	[162.969]
Migrant* Post 2017	-1040.774***	-1218.217***	-1072.066***	-1007.181***
	[169.275]	[278.747]	[219.434]	[233.208]
Migrant*Female	648.797***			
	[222.800]			
Migrant *Female*Post 2017	-49.017			
	[248.532]			
Migrant* Youth		897.053***		
		[271.600]		
Migrant*Youth*Post 2017		436.963		
		[267.304]		
Migrant*No Diploma			371.939*	
			[184.518]	
Migrant* No Diploma* Post 2017			661.202***	
			[190.993]	
Migrant * Rural				628.189**
				[240.566]

	Dependent Variable: Real wage			
	(1)	(2)	(3)	(4)
Migrant* Rural* Post 2017				744.912
				[504.431]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	7538.482	7538.482	7538.482	7538.482
Observations	1018859	1018859	1018859	1018859
R-squared	0.285	0.285	0.285	0.285

Table C5

Labor outcomes for migrants with interactions

	Dependent Variable: Weekly Hours of Work			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	1.673***	0.598*	1.575***	1.722***
	[0.345]	[0.296]	[0.334]	[0.387]
Migrant* Post 2017	1.286***	1.582***	1.584***	1.496***
	[0.289]	[0.310]	[0.270]	[0.315]
Migrant*Female	-0.134			
	[0.373]			
Migrant *Female*Post 2017	0.775			
	[0.512]			
Migrant* Youth		4.279***		
		[0.421]		
Migrant*Youth*Post 2017		-0.596		
		[0.592]		
Migrant*No Diploma			1.893	
			[1.330]	
Migrant* No Diploma* Post 2017			0.750	
			[1.457]	
Migrant * Rural				-1.306
				[0.832]
Migrant* Rural* Post 2017				2.182
				[3.201]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	45.084	45.084	45.084	45.084
Observations	1192979	1192979	1192979	1192979
R-squared	0.111	0.111	0.111	0.111

Table C6

Labor outcomes for migrants with interactions

	Dependent Variable: Informal Worker			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.094***	0.113***	0.113***	0.118***
	[0.011]	[0.006]	[0.008]	[0.008]
Migrant* Post 2017	0.050***	0.055***	0.056***	0.048***
	[0.012]	[0.009]	[0.007]	[0.008]
Migrant*Female	0.042***			
	[0.014]			
Migrant *Female*Post 2017	0.012			
	[0.017]			
Migrant* Youth		-0.007		
		[0.015]		
Migrant*Youth*Post 2017		0.003		
		[0.011]		
Migrant*No Diploma			-0.055*	
			[0.028]	
Migrant* No Diploma* Post 2017			-0.054	
			[0.033]	
Migrant * Rural				-0.090***
				[0.015]
Migrant* Rural* Post 2017				-0.041
				[0.047]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.578	0.578	0.578	0.578
Observations	1192979	1192979	1192979	1192979
R-squared	0.277	0.277	0.277	0.277

Table C7

Labor outcomes for migrants with interactions, disaggregated by recent and longer-term status

	Dependent Variable: Worker is unemployed			
	(1)	(2)	(3)	(4)
Short-Term Venezuelan Migrant	0.080***	0.097***	0.087***	0.090***
	[0.010]	[0.010]	[0.008]	[0.009]
Long-Term Venezuelan Migrant	-0.003	0.022***	0.015**	0.017**
	[0.008]	[0.007]	[0.007]	[0.008]
ST Migrant * Post 2017	-0.029***	-0.020**	-0.019***	-0.021***
	[0.010]	[0.008]	[0.007]	[0.006]
LT Migrant* Post 2017	0.001	-0.001	0.000	-0.001
	[0.005]	[0.006]	[0.006]	[0.008]
ST Migrant* Female	0.013			
	[0.011]			
ST Migrant* Female* Post 2017	0.021			
	[0.015]			
LT Migrant* Female	0.037***			
	[0.005]			
LT Migrant* Female* Post 2017	-0.002			
	[0.008]			
ST Migrant* Youth		-0.030**		
		[0.012]		
ST Migrant*Youth*Post 2017		0.008		
		[0.012]		
LT Migrant*Youth		-0.024***		
		[0.006]		
LT Migrant*Youth*Post 2017		0.008		
		[0.007]		
ST Migrant * No Diploma			-0.027*	
			[0.015]	
ST Migrant * No Diploma*Post 2017			0.033	
			[0.021]	
LT Migrant * No Diploma			0.015	
			[0.019]	
LT Migrant * No Diploma*Post 2017			0.003	
			[0.026]	
ST Migrant * Rural				-0.051**
				[0.023]
ST Migrant * Rural*Post 2017				-0.085***
				[0.019]
LT Migrant * Rural				-0.015
				[0.012]
LT Migrant * Rural*Post 2017				0.041
				[0.054]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.078	0.078	0.078	0.078
Observations	1912237	1912237	1912237	1912237
R-squared	0.024	0.024	0.024	0.024

Table C8

Labor outcomes for migrants with interactions, disaggregated by recent and longer-term status

	Dependent Variable: Real wage			
	(1)	(2)	(3)	(4)
Recent Venezuelan Migrant	-1625.036***	-1731.495***	-1413.733***	-1420.799***
	[167.167]	[180.438]	[152.045]	[161.138]
Longer-term Venezuelan Migrant	-426.774**	-337.013	-150.020	-201.742
	[161.851]	[330.567]	[268.923]	[296.550]
ST Migrant * Post 2017	-1086.468***	-1239.042***	-1024.042***	-998.630***
	[178.825]	[182.699]	[148.657]	[155.212]
LT Migrant* Post 2017	-1054.765***	-1243.440***	-1143.749***	-1069.608***
	[206.907]	[365.808]	[302.368]	[331.392]
ST Migrant* Female	594.361***			
	[153.603]			
ST Migrant* Female* Post 2017	133.705			
	[244.864]			
LT Migrant* Female	694.196*			
	[380.267]			
LT Migrant* Female* Post 2017	-157.111			
	[360.213]			
ST Migrant* Youth		1199.187***		
		[201.822]		
ST Migrant*Youth*Post 2017		500.966**		
		[216.110]		
LT Migrant*Youth		920.924**		
		[376.396]		
LT Migrant*Youth*Post 2017		339.544		
		[341.183]		
ST Migrant * No Diploma			1075.709***	
			[277.868]	
ST Migrant * No Diploma*Post 2017			-86.195	
			[275.307]	
LT Migrant * No Diploma			-147.248	
			[245.793]	
LT Migrant * No Diploma*Post 2017			1197.381***	
			[265.213]	
ST Migrant * Rural				492.986*
				[259.325]
ST Migrant * Rural*Post 2017				2076.703***
				[615.846]
LT Migrant * Rural				485.449
				[376.631]
LT Migrant * Rural*Post 2017				145.649
				[577.381]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	7538.482	7538.482	7538.482	7538.482
Observations	1018859	1018859	1018859	1018859
R-squared	0.286	0.286	0.286	0.286

Table C9

Labor outcomes for migrants with interactions, disaggregated by recent and longer-term status

	Dependent Variable: Weekly Hours of Work			
	(1)	(2)	(3)	(4)
Recent Venezuelan Migrant	1.352***	0.499	1.799***	1.962***
	[0.332]	[0.328]	[0.361]	[0.378]
Longer-term Venezuelan Migrant	1.917***	0.665*	1.406***	1.535***
	[0.453]	[0.351]	[0.347]	[0.419]
ST Migrant * Post 2017	1.299***	1.521***	1.514***	1.376***
	[0.408]	[0.361]	[0.275]	[0.315]
LT Migrant* Post 2017	1.246***	1.613***	1.647***	1.600***
	[0.417]	[0.386]	[0.340]	[0.399]
ST Migrant* Female	1.210*			
	[0.692]			
ST Migrant* Female* Post 2017	0.453			
	[0.936]			
LT Migrant* Female	-1.132**			
	[0.475]			
LT Migrant* Female* Post 2017	1.064**			
	[0.482]			
ST Migrant* Youth		4.711***		
		[0.738]		
ST Migrant*Youth*Post 2017		-0.694		
		[0.817]		
LT Migrant*Youth		3.867***		
		[0.598]		
LT Migrant*Youth*Post 2017		-0.437		
		[0.883]		
ST Migrant * No Diploma			1.418	
			[2.095]	
ST Migrant * No Diploma*Post 2017			-0.172	
			[2.637]	
LT Migrant * No Diploma			2.230	
			[2.137]	
LT Migrant * No Diploma*Post 2017			1.349	
			[2.319]	
ST Migrant * Rural				-2.182**
				[0.847]
ST Migrant * Rural*Post 2017				4.025
				[4.158]
LT Migrant * Rural				-0.805
				[1.026]
LT Migrant * Rural*Post 2017				1.112
				[4.729]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	45.084	45.084	45.084	45.084
Observations	1192979	1192979	1192979	1192979
R-squared	0.111	0.111	0.111	0.111

Table C10

Labor outcomes for migrants with interactions, disaggregated by recent and longer-term status

	Dependent Variable: Informal Worker			
	(1)	(2)	(3)	(4)
Recent Venezuelan Migrant	0.135***	0.157***	0.155***	0.159***
	[0.016]	[0.007]	[0.012]	[0.012]
Longer-term Venezuelan Migrant	0.064***	0.083***	0.081***	0.087***
	[0.011]	[0.008]	[0.007]	[0.008]
ST Migrant * Post 2017	0.060***	0.061***	0.061***	0.054***
	[0.019]	[0.014]	[0.012]	[0.013]
LT Migrant* Post 2017	0.047***	0.053***	0.056***	0.048***
	[0.014]	[0.012]	[0.012]	[0.010]
ST Migrant* Female	0.047**			
	[0.017]			
ST Migrant* Female* Post 2017	-0.001			
	[0.025]			
LT Migrant* Female	0.040**			
	[0.017]			
LT Migrant* Female* Post 2017	0.019			
	[0.018]			
ST Migrant* Youth		-0.013		
		[0.028]		
ST Migrant*Youth*Post 2017		-0.001		
		[0.023]		
LT Migrant*Youth		-0.016		
		[0.012]		
LT Migrant*Youth*Post 2017		0.006		
		[0.016]		
ST Migrant * No Diploma			-0.075*	
			[0.041]	
ST Migrant * No Diploma*Post 2017			-0.033	
			[0.042]	
LT Migrant * No Diploma			-0.039	
			[0.041]	
LT Migrant * No Diploma*Post 2017			-0.071	
			[0.051]	
ST Migrant * Rural				-0.101***
				[0.021]
ST Migrant * Rural*Post 2017				-0.114
				[0.072]
LT Migrant * Rural				-0.074***
				[0.023]
LT Migrant * Rural*Post 2017				-0.003
				[0.058]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.578	0.578	0.578	0.578
Observations	1192979	1192979	1192979	1192979
R-squared	0.277	0.277	0.277	0.277

Table C11 Agri-food employment for migrants in agriculture-intense locations, disaggregated by recent and longer-term status

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ST Migrant	0.097***	0.088***	-0.013***	-0.020***	-0.001	0.000	0.110***	0.107***
	[0.019]	[0.010]	[0.004]	[0.004]	[0.004]	[0.003]	[0.016]	[0.008]
LT migrant	0.029*	0.027***	-0.022*	-0.019**	0.003	0.002	0.048***	0.044***
	[0.015]	[0.009]	[0.013]	[0.007]	[0.005]	[0.003]	[0.007]	[0.006]
ST Migrant* Post 2017	0.011	0.018	-0.013*	-0.010*	0.011	0.008*	0.013	0.020**
	[0.017]	[0.013]	[0.007]	[0.005]	[0.006]	[0.005]	[0.013]	[0.009]
LT Migrant* Post 2017	0.041***	0.043***	0.007	-0.002	0.003	0.003	0.031**	0.041***
	[0.011]	[0.008]	[0.012]	[0.007]	[0.006]	[0.003]	[0.013]	[0.008]
ST Migrant* Share of agriculture in department	-0.122		-0.108**		0.015		-0.029	
	[0.168]		[0.041]		[0.051]		[0.142]	
ST Migrant*share of ag*Post 2017	0.146		0.031		-0.039		0.153	
	[0.140]		[0.063]		[0.056]		[0.136]	
LT Migrant* Share of agriculture in department	-0.056		0.038		-0.020		-0.074	
	[0.144]		[0.097]		[0.053]		[0.058]	
LT Migrant*share of ag*Post 2017	0.078		-0.142		0.010		0.210**	
	[0.095]		[0.088]		[0.062]		[0.091]	
ST Migrant*Intensive agriculture in department		-0.001		-0.011		0.002		0.008
		[0.017]		[0.007]		[0.011]		[0.020]
ST Migrant*Intense*Post 2017		0.031		-0.002		-0.006		0.038
		[0.031]		[0.014]		[0.011]		[0.032]
ST Migrant*Intensive agriculture in department		-0.021		0.001		-0.001		-0.021*
		[0.022]		[0.011]		[0.010]		[0.011]
ST Migrant*Intense*Post 2017		0.041*		-0.022**		0.005		0.058***
		[0.020]		[0.010]		[0.015]		[0.014]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.168	0.168	0.074	0.074	0.029	0.029	0.065	0.065
Observations	1192979	1192979	1192979	1192979	1192979	1192979	1192979	1192979
R-squared	0.147	0.147	0.303	0.303	0.007	0.007	0.039	0.039

Table C12 Agri-food employment for migrants in food-processing-intense locations, disaggregated by recent and longer-term status

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ST Migrant	0.113***	0.096***	-0.014**	-0.020***	0.005	0.002	0.122***	0.113***
	[0.024]	[0.012]	[0.006]	[0.004]	[0.004]	[0.003]	[0.022]	[0.011]
LT migrant	0.046***	0.031***	0.001	-0.013**	0.006	0.004	0.039***	0.040***
	[0.014]	[0.009]	[0.008]	[0.005]	[0.006]	[0.004]	[0.013]	[0.008]
ST Migrant* Post 2017	-0.008	0.008	-0.019*	-0.014**	-0.003	0.002	0.015	0.020**
	[0.023]	[0.012]	[0.010]	[0.006]	[0.008]	[0.004]	[0.016]	[0.009]
LT Migrant* Post 2017	0.038**	0.043***	-0.027***	-0.013***	-0.003	0.001	0.069***	0.054***
	[0.014]	[0.010]	[0.008]	[0.004]	[0.008]	[0.004]	[0.015]	[0.009]
ST Migrant* Share of food processing firms in department	-0.425		-0.106		-0.086**		-0.233	
	[0.292]		[0.106]		[0.033]		[0.238]	
ST Migrant*share of food proc*Post 2017	0.482		0.145		0.184*		0.153	
	[0.341]		[0.126]		[0.104]		[0.262]	
LT Migrant* Share of food processing firms in department	-0.326*		-0.307*		-0.075		0.056	
	[0.175]		[0.165]		[0.061]		[0.141]	
LT Migrant*share of food proc*Post 2017	0.096		0.355**		0.112		-0.371*	
	[0.146]		[0.157]		[0.085]		[0.197]	
ST Migrant*Intensive food processing in department		-0.03		-0.004		-0.008**		-0.018
		[0.019]		[0.009]		[0.004]		[0.012]
ST Migrant*Intense*Post 2017		0.051		0.014		0.020***		0.017
		[0.031]		[0.010]		[0.006]		[0.024]
LT Migrant*Intensive food processing in department		-0.017		-0.018		-0.007		0.009
		[0.017]		[0.014]		[0.004]		[0.009]
LT Migrant*Intense*Post 2017		0.005		0.025*		0.007		-0.027*
		[0.012]		[0.014]		[0.005]		[0.014]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.167	0.167	0.072	0.072	0.03	0.03	0.065	0.065
Observations	1107113	1107113	1107113	1107113	1107113	1107113	1107113	1107113
R-squared	0.143	0.143	0.301	0.301	0.007	0.007	0.039	0.039

Table C13 Agri-food employment for migrants in food-retailing-intense locations, disaggregated by recent and longer-term status

	Employed in agri-food sector		Employed in primary agriculture		Employed in food processing		Employed in food services	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ST Migrant	0.087***	0.093***	-0.023***	-0.021***	0	0.002	0.110***	0.112***
	[0.013]	[0.012]	[0.004]	[0.004]	[0.003]	[0.003]	[0.011]	[0.011]
LT migrant	0.038***	0.030***	-0.012**	-0.014**	0.004	0.003	0.046***	0.040***
	[0.009]	[0.009]	[0.005]	[0.005]	[0.004]	[0.004]	[0.008]	[0.008]
ST Migrant* Post 2017	0.032**	0.013	-0.006	-0.014**	0.005	0.003	0.033***	0.025**
	[0.013]	[0.013]	[0.006]	[0.006]	[0.004]	[0.004]	[0.010]	[0.010]
LT Migrant* Post 2017	0.036***	0.043***	-0.012***	-0.012***	0.001	0.001	0.047***	0.054***
	[0.010]	[0.010]	[0.004]	[0.004]	[0.004]	[0.004]	[0.008]	[0.008]
ST Migrant* Share of food retailing firms in department	0.099		0.066***		0.057*		-0.025	
	[0.083]		[0.021]		[0.028]		[0.061]	
ST Migrant*share of food retail*Post 2017	-0.590***		-0.293***		-0.081		-0.215	
	[0.145]		[0.080]		[0.050]		[0.142]	
LT Migrant* Share of food retailing firms in department	-0.281***		-0.044*		-0.038		-0.199***	
	[0.052]		[0.024]		[0.024]		[0.036]	
LT Migrant*share of food retail*Post 2017	0.338***		-0.049		0.043		0.343***	
	[0.115]		[0.060]		[0.065]		[0.096]	
ST Migrant*Intensive food retailing in department		-0.042**		-0.01		-0.005		-0.027**
		[0.016]		[0.006]		[0.005]		[0.012]
ST Migrant*Intense*Post 2017		0.058*		0.022		0.004		0.032
		[0.028]		[0.014]		[0.007]		[0.024]
LT Migrant*Intensive food retailing in department		0.009		0.003		-0.003		0.008
		[0.019]		[0.005]		[0.004]		[0.015]
LT Migrant*Intense*Post 2017		0.012		-0.008		0.009		0.011
		[0.029]		[0.005]		[0.009]		[0.023]
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES	YES	YES	YES	YES
Dep Var - Mean	0.17	0.17	0.076	0.076	0.029	0.029	0.064	0.064
Observations	1086132	1086132	1086132	1086132	1086132	1086132	1086132	1086132
R-squared	0.154	0.154	0.314	0.314	0.007	0.007	0.039	0.039

Table C14

Labor outcomes of migrants in agri-food sector in agriculture-intensive areas

	Dependent variable: Real Wage in Agri-food sector			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	-399.210	-595.338***		
	[375.154]	[199.668]		
Migrant* Post 2017	-841.534***	-709.145***		
	[121.706]	[127.992]		
Migrant* Share of agriculture in department	-3734.342			
	[3053.067]			
Migrant*share of ag*Post 2017	2275.777**			
	[1063.620]			
Migrant*Intensive agriculture in department		-1098.973***		
		[321.942]		
Migrant*Intense*Post 2017		662.310**		
		[237.767]		
ST Migrant			-666.309	-1049.555***
			[458.267]	[255.961]
LT migrant			-174.327	-192.738
			[328.047]	[178.160]
ST Migrant* Post 2017			-1217.601***	-839.295***
			[192.142]	[172.560]
LT Migrant* Post 2017			-630.864***	-680.340***
			[199.252]	[165.694]
ST Migrant* Share of agriculture in department			-6848.384*	
			[3461.528]	
ST Migrant*share of ag*Post 2017			6273.085***	
			[1118.970]	
LT Migrant* Share of agriculture in department			-870.288	
			[3289.225]	
LT Migrant*share of ag*Post 2017			-505.739	
			[2274.655]	
ST Migrant*Intensive agriculture in department				-1761.102***
				[323.566]
ST Migrant*Intense*Post 2017				1490.434***
				[213.261]
ST Migrant*Intensive agriculture in department				-549.030
				[591.955]
ST Migrant*Intense*Post 2017				165.877
				[534.550]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	4864.072	4864.072	4864.072	4864.072
Observations	168089	168089	168089	168089
R-squared	0.167	0.167	0.167	0.167

Table C15

Labor outcomes of migrants in agri-food sector in food-processing-intensive areas

	Dependent variable: Real Wage in Agrifood sector			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	-1274.265**	-847.871***		
	[493.629]	[263.221]		
Migrant* Post 2017	-672.299**	-665.356***		
	[262.801]	[147.060]		
Migrant* Share of food processing firms in department	9112.246			
	[5833.179]			
Migrant*share of food proc*Post 2017	545.190			
	[3529.245]			
Migrant*Intensive food processing in department		493.437		
		[357.138]		
Migrant*Intense*Post 2017		18.309		
		[242.334]		
ST Migrant			-1903.991***	-1397.519***
			[662.367]	[338.831]
LT migrant			-623.171	-313.384
			[384.600]	[239.276]
ST Migrant* Post 2017			-809.673*	-722.183***
			[445.034]	[219.705]
LT Migrant* Post 2017			-673.577**	-710.508***
			[295.618]	[209.011]
ST Migrant* Share of food processing firms in department			11372.263	
			[7539.061]	
ST Migrant*share of food proc*Post 2017			1818.909	
			[5180.953]	
LT Migrant* Share of food processing firms in department			5779.990	
			[4582.493]	
LT Migrant*share of food proc*Post 2017			472.882	
			[3649.574]	
ST Migrant*Intensive food processing in department				700.326
				[427.342]
ST Migrant*Intense*Post 2017				-37.844
				[326.557]
LT Migrant*Intensive food processing in department				199.993
				[338.016]
LT Migrant*Intense*Post 2017				167.844
				[276.747]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	4985.830	4985.830	4985.830	4985.830
Observations	156912	156912	156912	156912
R-squared	0.164	0.164	0.164	0.164

Table C16

Labor outcomes of migrants in agri-food sector in food-retailing-intensive areas

	Dependent variable: Real Wage in Agrifood sector			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	-994.811***	-860.084***		
	[332.593]	[256.903]		
Migrant* Post 2017	-786.222***	-678.918***		
	[169.110]	[142.232]		
Migrant* Share of food retailing firms in department	7124.901			
	[6562.230]			
Migrant*share of food retail*Post 2017	4849.241			
	[3927.994]			
Migrant*Intensive food retailing in department		190.928		
		[279.667]		
Migrant*Intense*Post 2017		21.341		
		[202.871]		
ST Migrant			-1518.118***	-1421.926***
			[400.702]	[334.887]
LT migrant			-672.417	-320.939
			[583.401]	[230.693]
ST Migrant* Post 2017			-1228.094***	-725.798***
			[373.861]	[216.303]
LT Migrant* Post 2017			-571.160	-708.858***
			[488.489]	[202.348]
ST Migrant* Share of food retailing firms in department			6461.550	
			[5350.593]	
ST Migrant*share of food retail*Post 2017			23151.098	
			[15620.334]	
LT Migrant* Share of food retailing firms in department			15409.810	
			[23367.099]	
LT Migrant*share of food retail*Post 2017			-5809.826	
			[22251.576]	
ST Migrant*Intensive food retailing in department				542.553
				[379.428]
ST Migrant*Intense*Post 2017				-219.988
				[293.491]
LT Migrant*Intensive food retailing in department				-207.065
				[246.195]
LT Migrant*Intense*Post 2017				242.526
				[269.661]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	4964.407	4964.407	4964.407	4964.407
Observations	154964	154964	154964	154964
R-squared	0.168	0.168	0.168	0.168

Table C17

Labor outcomes of migrants in agri-food sector in agriculture-intensive areas

	Dependent variable: Weekly hours of work in agri-food			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	2.103***	2.347***		
	[0.611]	[0.650]		
Migrant* Post 2017	2.405***	2.298***		
	[0.641]	[0.650]		
Migrant* Share of agriculture in department	3.263			
	[5.314]			
Migrant*share of ag*Post 2017	-0.497			
	[6.860]			
Migrant*Intensive agriculture in department		0.130		
		[0.969]		
Migrant*Intense*Post 2017		0.607		
		[1.332]		
ST Migrant			2.948**	3.164***
			[1.061]	[0.851]
LT migrant			1.306*	1.579**
			[0.640]	[0.593]
ST Migrant* Post 2017			1.866	1.443
			[1.228]	[0.894]
LT Migrant* Post 2017			2.874***	3.096***
			[0.739]	[0.687]
ST Migrant* Share of agriculture in department			4.048	
			[10.825]	
ST Migrant*share of ag*Post 2017			-5.515	
			[13.620]	
LT Migrant* Share of agriculture in department			2.627	
			[7.184]	
LT Migrant*share of ag*Post 2017			4.934	
			[9.924]	
ST Migrant*Intensive agriculture in department				1.313
				[2.335]
ST Migrant*Intense*Post 2017				-0.881
				[2.805]
ST Migrant*Intensive agriculture in department				-0.831
				[1.198]
ST Migrant*Intense*Post 2017				1.952
				[1.921]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	42.395	42.395	42.395	42.395
Observations	199897	199897	199897	199897
R-squared	0.157	0.157	0.157	0.157

Table C18

Labor outcomes of migrants in agri-food sector in food-processing-intensive areas

	Dependent variable: Weekly hours of work in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	3.187**	2.704***		
	[1.198]	[0.758]		
Migrant* Post 2017	1.447	1.985**		
	[1.045]	[0.789]		
Migrant* Share of food processing firms in department	-12.351			
	[17.334]			
Migrant*share of food proc*Post 2017	13.111			
	[12.564]			
Migrant*Intensive food processing in department		-0.964		
		[1.298]		
Migrant*Intense*Post 2017		0.928		
		[1.164]		
ST Migrant			4.296***	3.509***
			[1.474]	[0.952]
LT migrant			1.968	1.866**
			[1.235]	[0.752]
ST Migrant* Post 2017			0.426	1.042
			[1.617]	[1.013]
LT Migrant* Post 2017			2.607**	2.939***
			[1.039]	[0.924]
ST Migrant* Share of food processing firms in department			-15.519	
			[23.860]	
ST Migrant*share of food proc*Post 2017			13.244	
			[24.211]	
LT Migrant* Share of food processing firms in department			-6.658	
			[15.185]	
LT Migrant*share of food proc*Post 2017			9.627	
			[8.322]	
ST Migrant*Intensive food processing in department				-0.588
				[1.936]
ST Migrant*Intense*Post 2017				0.730
				[2.013]
LT Migrant*Intensive food processing in department				-0.965
				[0.994]
LT Migrant*Intense*Post 2017				0.783
				[0.967]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	42.659	42.659	42.659	42.659
Observations	185233	185233	185233	185233
R-squared	0.155	0.155	0.155	0.155

Table C19

Labor outcomes of migrants in agri-food sector in food-retailing-intensive areas

	Dependent variable: Weekly hours of work in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	2.886***	2.630***		
	[0.665]	[0.737]		
Migrant* Post 2017	1.501*	2.105**		
	[0.746]	[0.766]		
Migrant* Share of food retailing firms in department	-14.874***			
	[2.222]			
Migrant*share of food retail*Post 2017	29.235**			
	[10.959]			
Migrant*Intensive food retailing in department		-0.893		
		[0.967]		
Migrant*Intense*Post 2017		0.593		
		[1.861]		
ST Migrant			3.641***	3.375***
			[0.875]	[0.940]
LT migrant			2.477***	1.866**
			[0.640]	[0.716]
ST Migrant* Post 2017			0.374	1.234
			[1.207]	[0.994]
LT Migrant* Post 2017			2.110**	2.978***
			[0.787]	[0.887]
ST Migrant* Share of food retailing firms in department			-12.669***	
			[2.315]	
ST Migrant*share of food retail*Post 2017			37.050	
			[31.131]	
LT Migrant* Share of food retailing firms in department			-32.286***	
			[5.702]	
LT Migrant*share of food retail*Post 2017			43.666***	
			[6.936]	
ST Migrant*Intensive food retailing in department				-0.574
				[1.532]
ST Migrant*Intense*Post 2017				-0.125
				[2.973]
LT Migrant*Intensive food retailing in department				-0.850
				[0.806]
LT Migrant*Intense*Post 2017				0.830
				[1.364]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	42.713	42.713	42.713	42.713
Observations	184686	184686	184686	184686
R-squared	0.152	0.152	0.152	0.152

Table C20

Labor outcomes of migrants in agri-food sector in agriculture-intensive areas

	Dependent variable: Informal worker in agri-food			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.065**	0.079***		
	[0.024]	[0.017]		
Migrant* Post 2017	0.064***	0.036**		
	[0.020]	[0.014]		
Migrant* Share of agriculture in department	0.191			
	[0.177]			
Migrant*share of ag*Post 2017	-0.464***			
	[0.157]			
Migrant*Intensive agriculture in department		0.011		
		[0.043]		
Migrant*Intense*Post 2017		-0.083**		
		[0.034]		
ST Migrant			0.062	0.091***
			[0.040]	[0.022]
LT migrant			0.069**	0.068***
			[0.031]	[0.021]
ST Migrant* Post 2017			0.127***	0.070***
			[0.031]	[0.023]
LT Migrant* Post 2017			0.015	0.013
			[0.032]	[0.020]
ST Migrant* Share of agriculture in department			0.455	
			[0.437]	
ST Migrant*share of ag*Post 2017			-0.945***	
			[0.287]	
LT Migrant* Share of agriculture in department			-0.066	
			[0.280]	
LT Migrant*share of ag*Post 2017			-0.048	
			[0.345]	
ST Migrant*Intensive agriculture in department				0.080
				[0.093]
ST Migrant*Intense*Post 2017				-0.179**
				[0.067]
ST Migrant*Intensive agriculture in department				-0.048
				[0.050]
ST Migrant*Intense*Post 2017				-0.010
				[0.062]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.752	0.752	0.752	0.752
Observations	199897	199897	199897	199897
R-squared	0.197	0.197	0.197	0.197

Table C21

Labor outcomes of migrants in agri-food sector in food-processing-intensive areas

	Dependent variable: Informal worker in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.117***	0.096***		
	[0.034]	[0.017]		
Migrant* Post 2017	0.026	0.026		
	[0.032]	[0.019]		
Migrant* Share of food processing firms in department	-0.576			
	[0.418]			
Migrant*share of food proc*Post 2017	-0.011			
	[0.361]			
Migrant*Intensive food processing in department		-0.050*		
		[0.028]		
Migrant*Intense*Post 2017		-0.001		
		[0.022]		
ST Migrant			0.128**	0.116***
			[0.048]	[0.021]
LT migrant			0.103**	0.074**
			[0.042]	[0.027]
ST Migrant* Post 2017			0.084	0.056*
			[0.049]	[0.029]
LT Migrant* Post 2017			-0.019	0.006
			[0.039]	[0.029]
ST Migrant* Share of food processing firms in department			-0.507	
			[0.657]	
ST Migrant*share of food proc*Post 2017			-0.597	
			[0.597]	
LT Migrant* Share of food processing firms in department			-0.587	
			[0.430]	
LT Migrant*share of food proc*Post 2017			0.449	
			[0.387]	
ST Migrant*Intensive food processing in department				-0.071
				[0.042]
ST Migrant*Intense*Post 2017				-0.020
				[0.040]
LT Migrant*Intensive food processing in department				-0.028
				[0.032]
LT Migrant*Intense*Post 2017				0.012
				[0.032]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.744	0.744	0.744	0.744
Observations	185233	185233	185233	185233
R-squared	0.197	0.197	0.197	0.197

Table C22

Labor outcomes of migrants in agri-food sector in food-retailing-intensive areas

	Dependent variable: Informal worker in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.103***	0.097***		
	[0.016]	[0.017]		
Migrant* Post 2017	0.036	0.025		
	[0.022]	[0.018]		
Migrant* Share of food retailing firms in department	-0.226**			
	[0.092]			
Migrant*share of food retail*Post 2017	-0.817			
	[0.567]			
Migrant*Intensive food retailing in department		0.009		
		[0.018]		
Migrant*Intense*Post 2017		-0.061*		
		[0.034]		
ST Migrant			0.126***	0.115***
			[0.020]	[0.021]
LT migrant			0.078**	0.078***
			[0.028]	[0.026]
ST Migrant* Post 2017			0.119***	0.056*
			[0.042]	[0.028]
LT Migrant* Post 2017			0.005	0.001
			[0.030]	[0.029]
ST Migrant* Share of food retailing firms in department			-0.289***	
			[0.079]	
ST Migrant*share of food retail*Post 2017			-3.685**	
			[1.428]	
LT Migrant* Share of food retailing firms in department			-0.040	
			[0.399]	
LT Migrant*share of food retail*Post 2017			-0.133	
			[0.424]	
ST Migrant*Intensive food retailing in department				0.041
				[0.031]
ST Migrant*Intense*Post 2017				-0.153***
				[0.050]
LT Migrant*Intensive food retailing in department				-0.006
				[0.026]
LT Migrant*Intense*Post 2017				0.005
				[0.035]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.743	0.743	0.743	0.743
Observations	184686	184686	184686	184686
R-squared	0.197	0.197	0.198	0.197

Table C23

Labor outcomes of migrants in agri-food sector in agriculture-intensive areas

	Dependent variable: Temporary worker in agri-food			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.029**	0.028**		
	[0.012]	[0.011]		
Migrant* Post 2017	-0.013	-0.008		
	[0.009]	[0.005]		
Migrant* Share of agriculture in department	-0.010			
	[0.105]			
Migrant*share of ag*Post 2017	0.108			
	[0.071]			
Migrant*Intensive agriculture in department		0.001		
		[0.027]		
Migrant*Intense*Post 2017		0.027***		
		[0.009]		
ST Migrant			0.029	0.037**
			[0.022]	[0.017]
LT migrant			0.030**	0.020**
			[0.011]	[0.008]
ST Migrant* Post 2017			0.020	0.010
			[0.013]	[0.010]
LT Migrant* Post 2017			-0.038***	-0.020***
			[0.013]	[0.006]
ST Migrant* Share of agriculture in department			0.151	
			[0.231]	
ST Migrant*share of ag*Post 2017			-0.142	
			[0.111]	
LT Migrant* Share of agriculture in department			-0.167*	
			[0.083]	
LT Migrant*share of ag*Post 2017			0.311**	
			[0.136]	
ST Migrant*Intensive agriculture in department				0.049
				[0.053]
ST Migrant*Intense*Post 2017				-0.029
				[0.023]
ST Migrant*Intensive agriculture in department				-0.041***
				[0.012]
ST Migrant*Intense*Post 2017				0.065**
				[0.025]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.044	0.044	0.044	0.044
Observations	199897	199897	199897	199897
R-squared	0.066	0.066	0.067	0.067

Table C24

Labor outcomes of migrants in agri-food sector in food-processing-intensive areas

	Dependent variable: Temporary worker in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.027*	0.032**		
	[0.014]	[0.013]		
Migrant* Post 2017	-0.006	-0.003		
	[0.009]	[0.006]		
Migrant* Share of food processing firms in department	0.017			
	[0.119]			
Migrant*share of food proc*Post 2017	0.049			
	[0.172]			
Migrant*Intensive food processing in department		-0.011		
		[0.016]		
Migrant*Intense*Post 2017		-0.003		
		[0.015]		
ST Migrant			0.031	0.041*
			[0.024]	[0.021]
LT migrant			0.021*	0.022**
			[0.011]	[0.009]
ST Migrant* Post 2017			-0.004	0.007
			[0.014]	[0.008]
LT Migrant* Post 2017			-0.008	-0.010
			[0.015]	[0.010]
ST Migrant* Share of food processing firms in department			0.163	
			[0.287]	
ST Migrant*share of food proc*Post 2017			0.239	
			[0.298]	
LT Migrant* Share of food processing firms in department			-0.071	
			[0.114]	
LT Migrant*share of food proc*Post 2017			-0.088	
			[0.181]	
ST Migrant*Intensive food processing in department				-0.001
				[0.027]
ST Migrant*Intense*Post 2017				0.009
				[0.026]
LT Migrant*Intensive food processing in department				-0.015
				[0.012]
LT Migrant*Intense*Post 2017				-0.015
				[0.013]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.041	0.041	0.041	0.041
Observations	185233	185233	185233	185233
R-squared	0.069	0.069	0.069	0.069

Table C25

Labor outcomes of migrants in agri-food sector in food-processing-intensive areas

	Dependent variable: Temporary worker in agrifood			
	(1)	(2)	(3)	(4)
Venezuelan Migrant	0.033**	0.031**		
	[0.012]	[0.013]		
Migrant* Post 2017	-0.003	-0.003		
	[0.008]	[0.006]		
Migrant* Share of food retailing firms in department	-0.172**			
	[0.068]			
Migrant*share of food retail*Post 2017	-0.124			
	[0.219]			
Migrant*Intensive food retailing in department		-0.022		
		[0.016]		
Migrant*Intense*Post 2017		-0.030**		
		[0.011]		
ST Migrant			0.045**	0.041*
			[0.020]	[0.020]
LT migrant			0.020**	0.021**
			[0.009]	[0.009]
ST Migrant* Post 2017			0.006	0.006
			[0.012]	[0.008]
LT Migrant* Post 2017			-0.008	-0.009
			[0.012]	[0.010]
ST Migrant* Share of food retailing firms in department			-0.204***	
			[0.071]	
ST Migrant*share of food retail*Post 2017			-0.121	
			[0.404]	
LT Migrant* Share of food retailing firms in department			-0.082	
			[0.251]	
LT Migrant*share of food retail*Post 2017			-0.181	
			[0.331]	
ST Migrant*Intensive food retailing in department				-0.011
				[0.028]
ST Migrant*Intense*Post 2017				-0.023
				[0.018]
LT Migrant*Intensive food retailing in department				-0.026
				[0.018]
LT Migrant*Intense*Post 2017				-0.037*
				[0.021]
Individual controls	YES	YES	YES	YES
Department*Year*Month FE	YES	YES	YES	YES
Dep Var - Mean	0.044	0.044	0.044	0.044
Observations	184686	184686	184686	184686
R-squared	0.070	0.070	0.070	0.070

D. ADDITIONAL EVIDENCE ON COLOMBIA'S AGRI-FOOD SECTOR

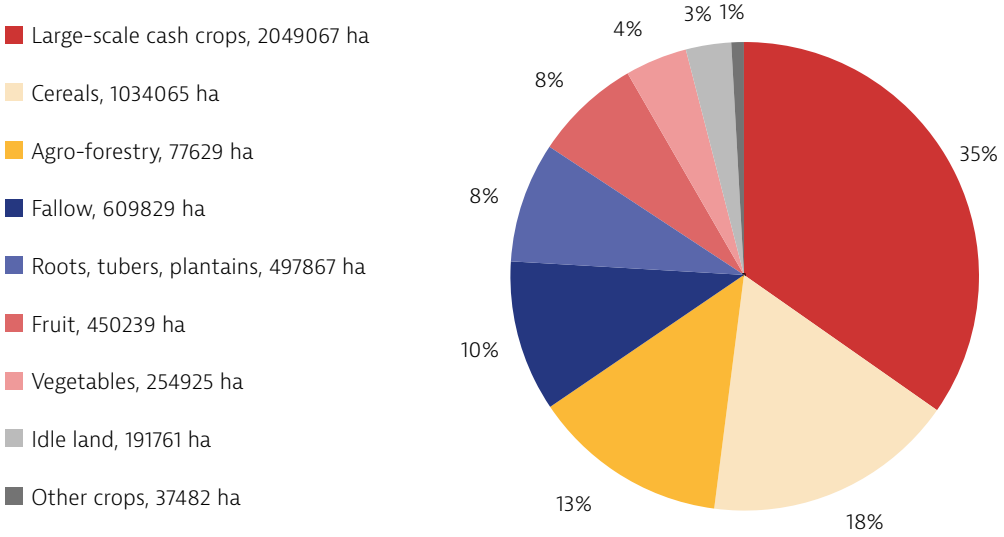
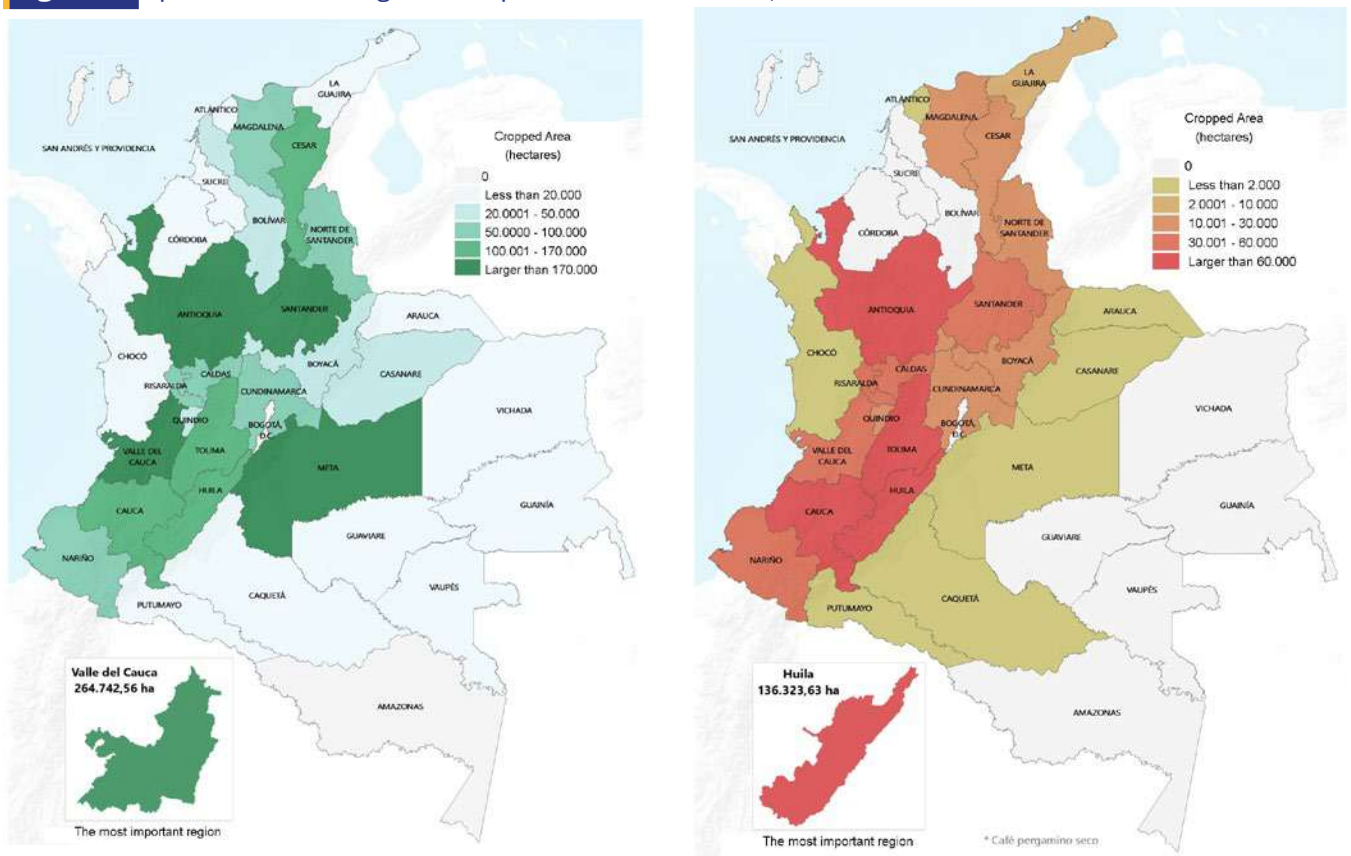


Figure D1

Agricultural Land uses

Data source: *National Agricultural Survey, 2017*

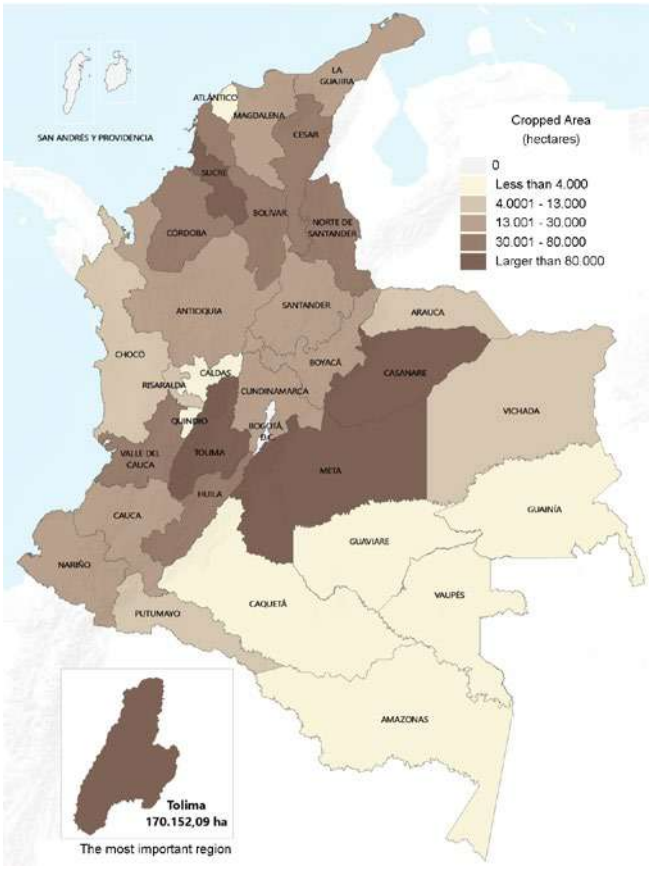
Figure D2 Spatial location of agricultural production in Colombia, 2017



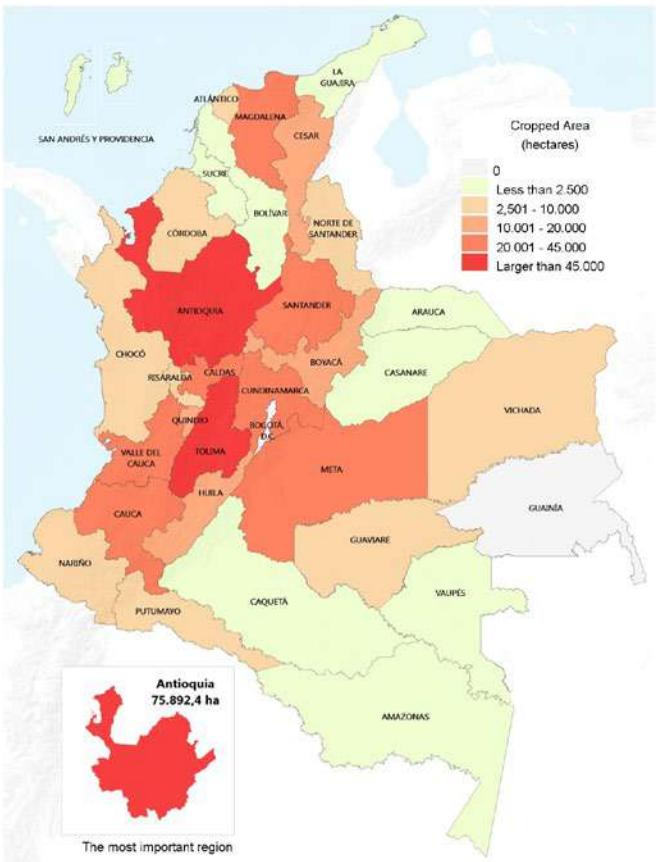
a. Large-scale cash crops

b. Coffee

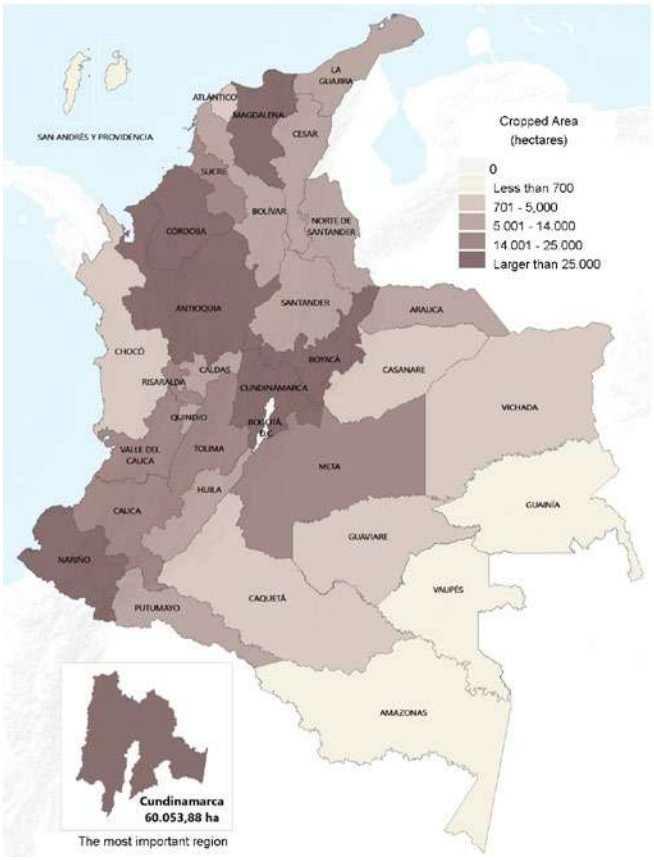
Data source*: National Agricultural Survey, 2017*



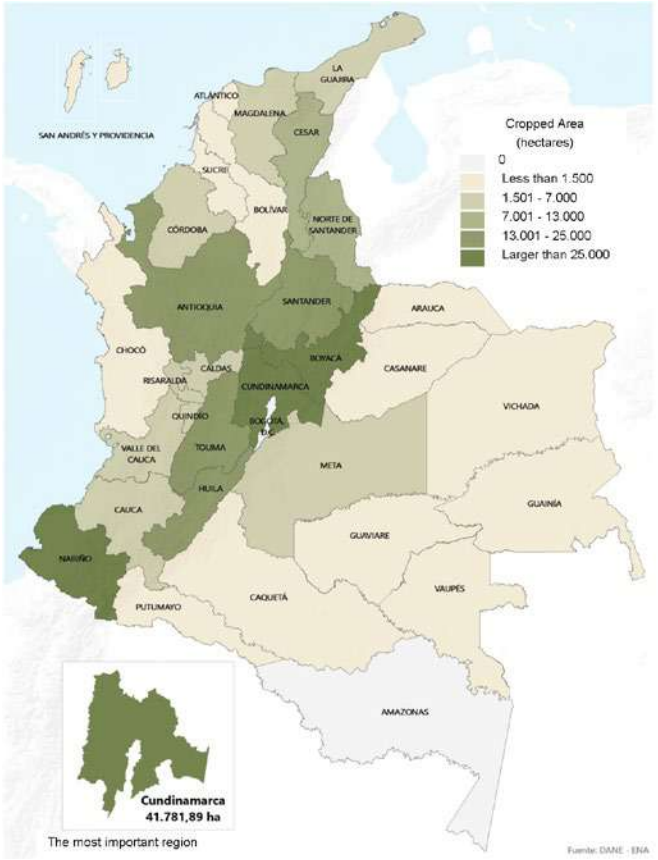
c. Cereals



d. Fruits



e. Roots, tubers, plantains



f. Vegetables

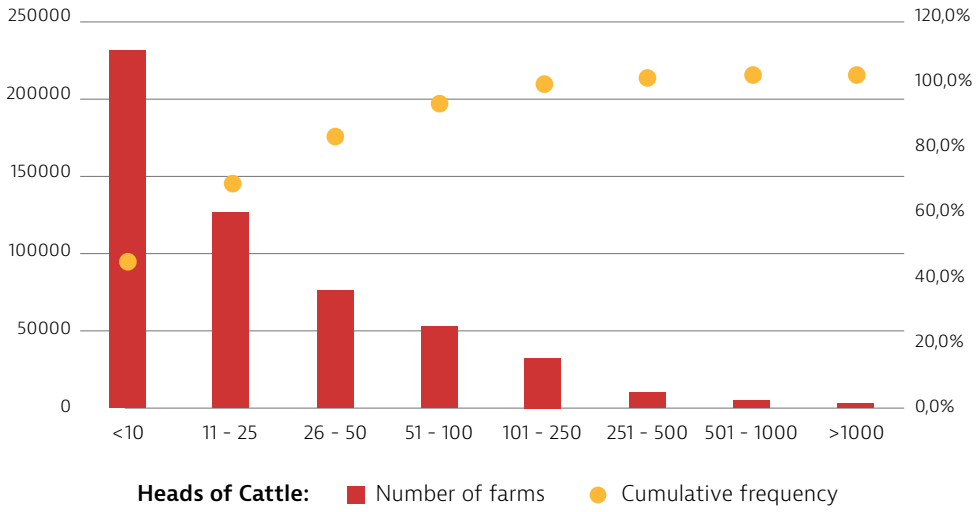


Figure D3

Ranch structure in Colombia, 2018

Source: *FEDEGAN, 2018*

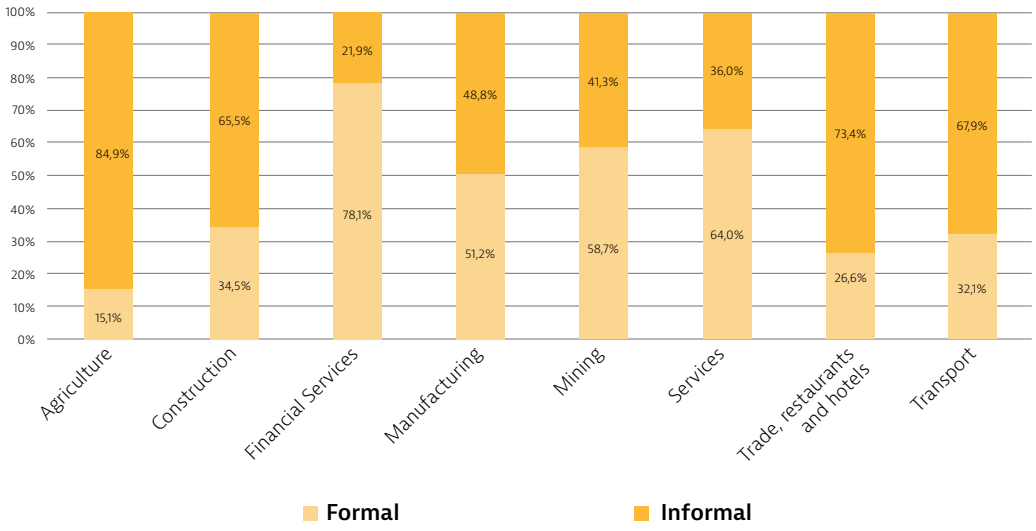


Figure D4

National employment composition of formality across sectors, 2018

Source: *Authors' calculations based on GEIH, 2018.*

Note: *informal workers are defined as employed individuals who report working absent a formal contract.*

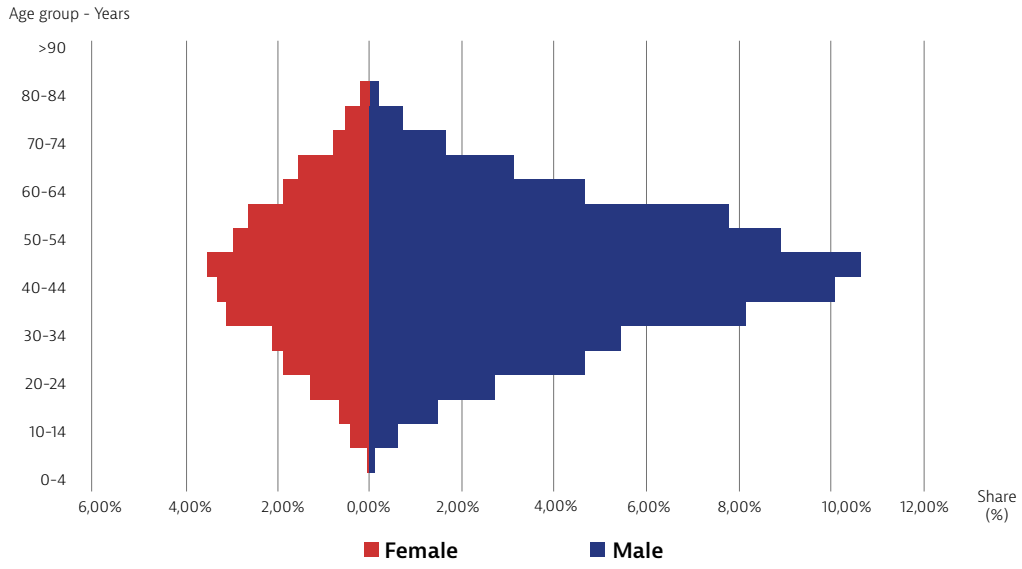


Figure D5

Age pyramid of agriculture jobs, 2017

Data source: *National Agricultural Survey, 2017*

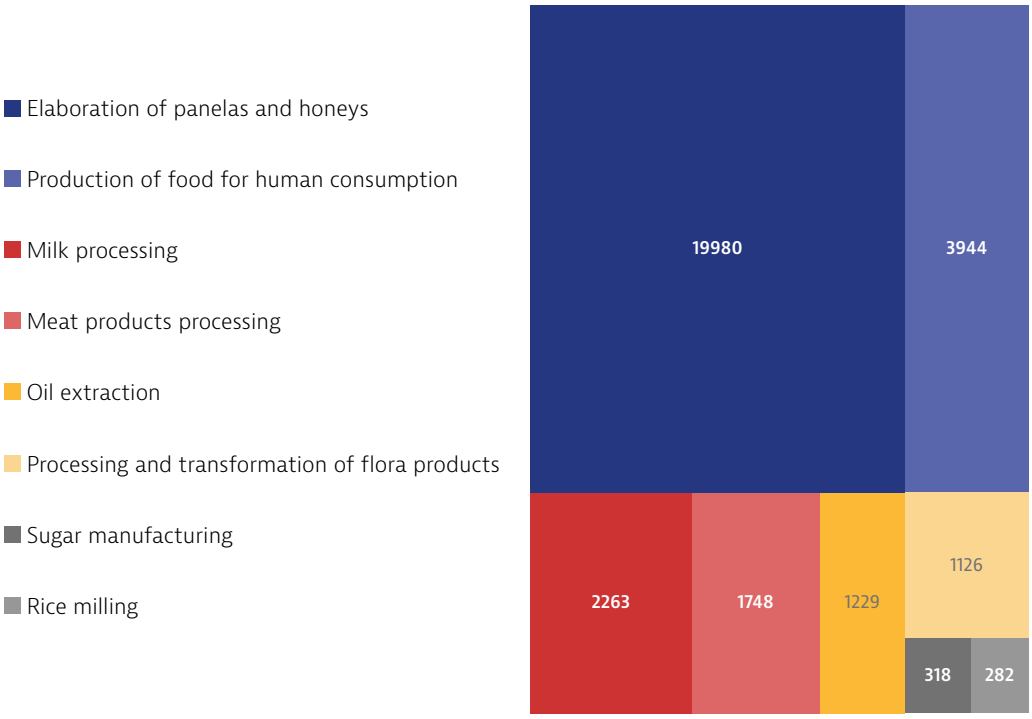


Figure D6

Number of UNAPs, by on-farm food processing activity, 2014

Data source: *National Agricultural Census, 2014*

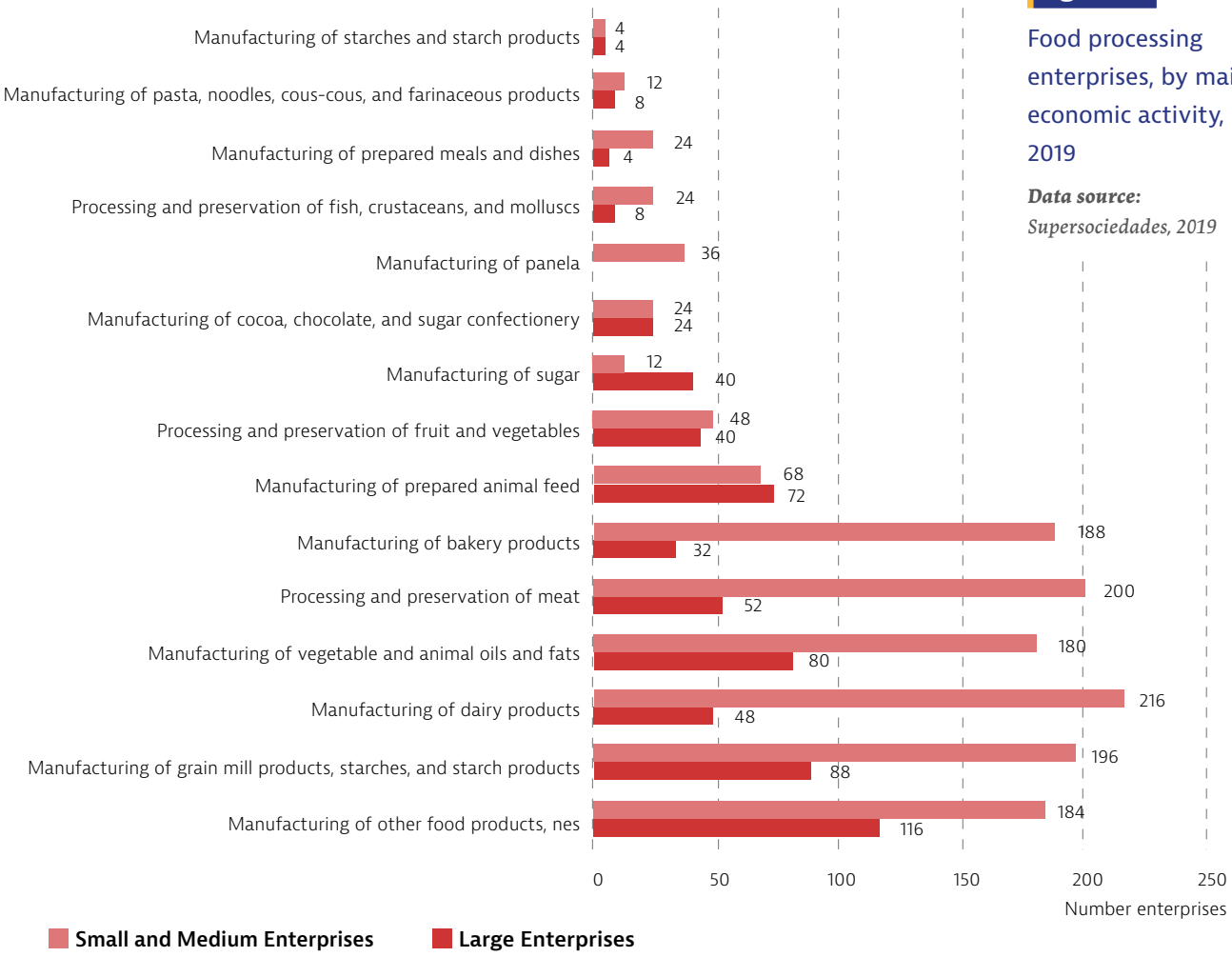
Notes: *Flora products refer to tubers, fruits, flowers, leaves, barks, and resins.*

Variable	UAPs	UNAPs	Total
Oil extraction	968	261	1229
Sugar manufacturing	261	57	318
Rice milling	165	117	282
Elaboration of panelas and honeys	10923	1057	11980
Processing and transformation of flora products	921	205	1126
Slaughter of animals	1287	461	1748
Milk processing	1767	496	2263
Production of food for human consumption	3124	820	3944
Total	19416	3474	22890

Figure D7

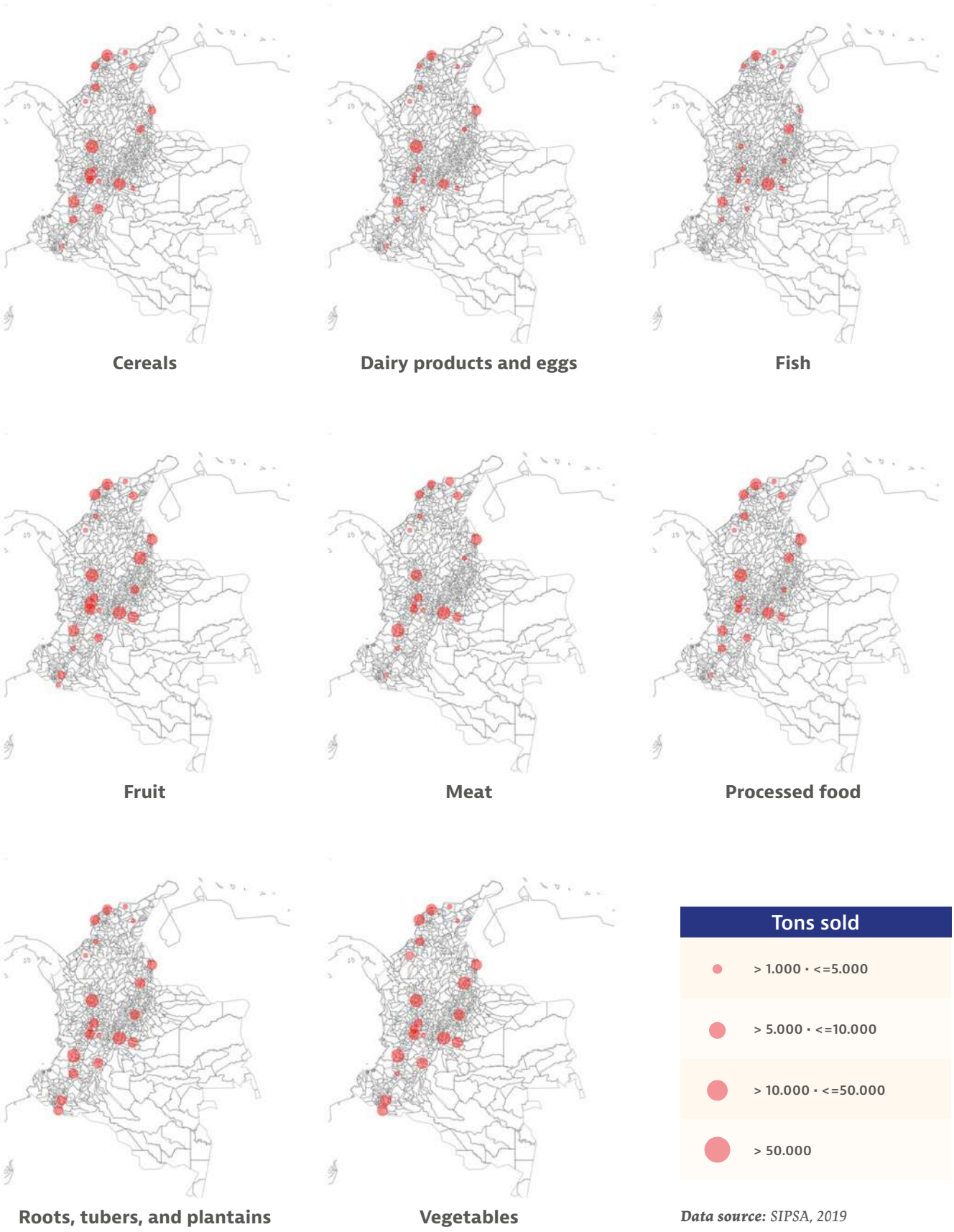
Food processing enterprises, by main economic activity, 2019

Data source:
Supersociedades, 2019



Note: *The concept of SME is defined based on the particular type of users that can use the financial statements. SMEs are defined as entities that: (a) have no public obligation to render accounts because: (i) they do not issue, or are in the process of doing, debt or equity instruments in public markets; or (ii) they do not maintain assets in fiduciary quality for a large group of third parties such as banks, credit unions, insurance companies, brokers, investment funds and investment banks; (b) publish financial statements for general information purposes for external users, such as owners not involved in management, current or future creditors, and credit rating agencies.*

Figure D8 Volume of food sold by type of product in each market during 2019



Data source: *SIPSA, 2019*

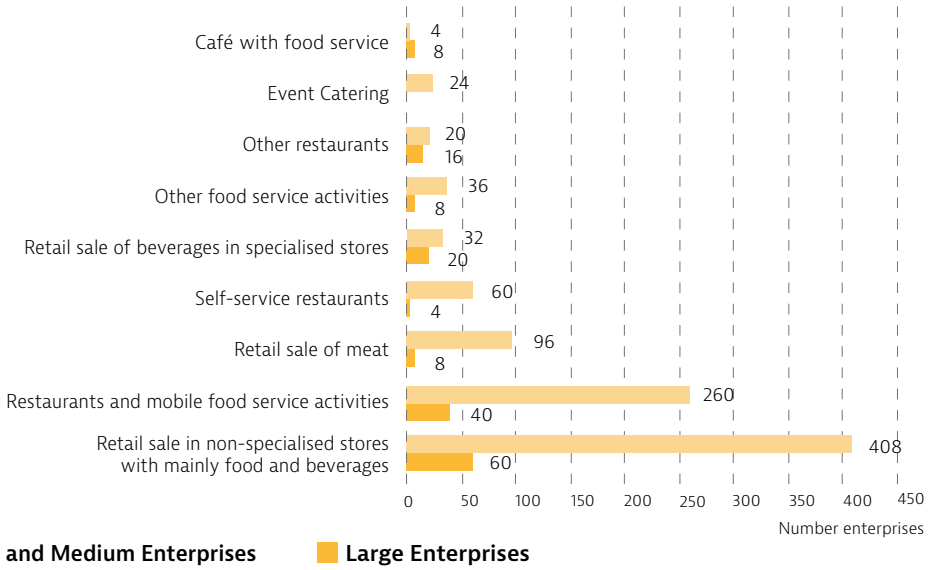


Figure D9

Food services enterprises, by main economic activity, 2019

Data source:
Supersociedades, 2019.

Note: The concept of SME is defined based on the particular type of users that can use the financial statements. SMEs are defined as entities that: (a) have no public obligation to render accounts because: (i) they do not issue, or are in the process of doing, debt or equity instruments in public markets; or (ii) they do not maintain assets in fiduciary quality for a large group of third parties such as banks, credit unions, insurance companies, brokers, investment funds and investment banks; (b) publish financial statements for general information purposes for external users, such as owners not involved in management, current or future creditors, and credit rating agencies.

E. VULNERABLE POPULATIONS AND POST-CONFLICT INTEGRATION PATHS

I. RETURNEES

As of May 2019, Colombia counted 8.8 million victims of the armed conflict between 1985 and 2018, of whom 7.8 million (89 percent) declared to be victims of forced displacement (i.e., had been forced to leave their home in order to preserve their lives). The Colombian government has launched initiatives to promote returning home among displaced households under the three principles of willingness, dignity, and security, pledging to guarantee all conditions for the reincorporation of returnee households in their place of origin. Even though the return decision is not always straightforward, thousands of households are returning to their places of origin, and, often using their own social networks, are managing a gradual reincorporation into the social and economic life of their previous communities (Centro de Memoría Histórica, 2015).

Figure E1 shows the number of displaced people from 1985 until 2019. The biggest displacement peak was around 2001-2002, when the paramilitary expansion throughout the Colombian territory was increasing, and around 800,000 people were forced away from their homes. Among these, around 2.8 million farmers were forced to migrate between 1995 and 2018, more than half of whom (55.4 percent) had access to land before they were forced to leave.

The most important milestone in the path towards victims' reparation was Law 1448 of 2011 (Victims and Land Restitution Law), which enacts comprehensive care, assistance, and reparation measures for victims of the internal armed conflict, including the recognition of the Colombian State of the right to collective integral reparation of communities, organisations and peoples. Among the guiding principles for the integral reparation process,[50] the Law contemplates land and housing restitution and acquisition of rural real estate, as well as the design of special programs and projects for the generation of rural and urban employment in order to support the self-support of victims. In fact, without a proper socio-economic reintegration, households who decided retuning home seem to persist in the poverty trap. Indeed, recent empirical evidence shows that returnee households are seriously lagging behind vis-à-vis local non-displaced populations: they usually report poorer nutrition status, lower subjective economic well-being, and fewer assets such as livestock (Fransen, Ruiz and Vargas-Silva, 2017; Verwimp and Muñoz-Mora, 2017).

One of the initiatives that have been put in place by the national government to facilitate return is the *Familias en su Tierra* (FEST) program, which seeks to contribute to the

50 The five guiding principles are compensation, restitution, rehabilitation, satisfaction, and non-repetition guarantee (see Law 1448/2011 for details).

socio-economic stabilization, as well as the collective and symbolic reparation, for the victims of forced displacement in the process of return or rural relocation (FUPAD, 2017). FEST supports former displaced households that wish to return to their origin land, by offering conditional incentives in the components of food security and reduction of basic housing deficiencies, as well as judicial and financial resources in support of productive activities. Table C1 shows the number of returnee households under the program. In total, 111,886 former displaced persons have returned to their original places. With 31.3 percent of the total, Antioquia is the region hosting most of the returnee process, followed by Bolívar and Chocó with 10.6 and 6.5 percent of the returnee flow, respectively.

If one looks at the resulting spatial distribution of FEST beneficiaries in Figure E2 and compares it with the distribution of Venezuelan migrants in Figure 3, it is obvious that there are some areas of heavy overlap, especially in northern regions such as La Guajira, Cesar, Bolívar, and Antioquia. As the FEST program specifically targets rural households and activities, this overlap is particularly relevant for the purpose of this report, and points at a potential for rural labor markets frictions within the regions that are simultaneously exposed to return migration and Venezuelan flows.

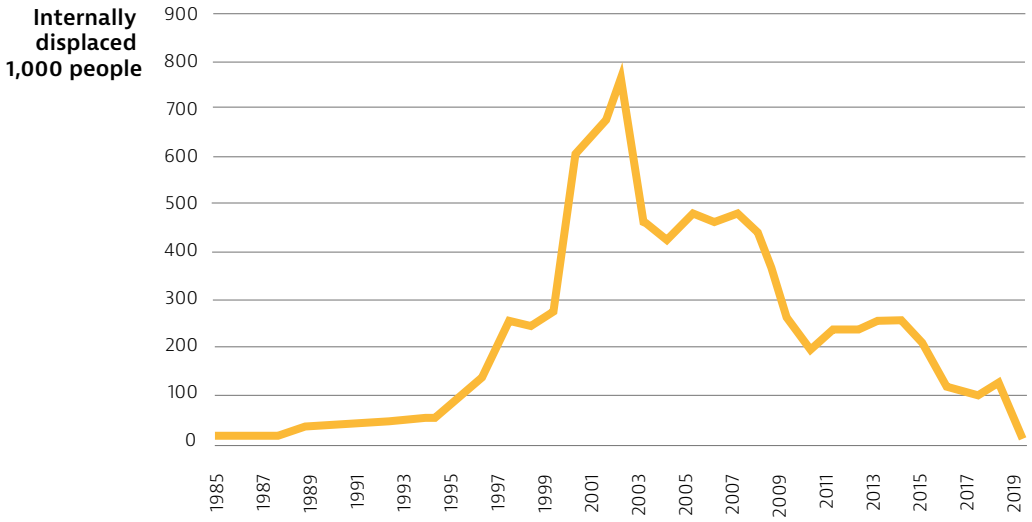


Figure E1

Number of internally displaced people in Colombia, 1985-2019

Source: *Authors' elaboration, using data from Unidad de Victimas.*

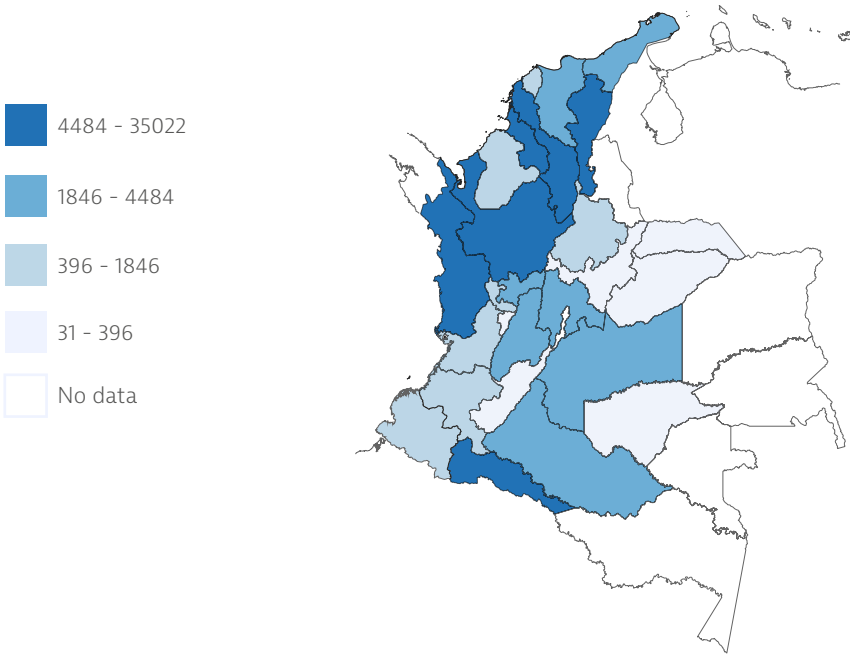


Figure E2

Distribution of returnees under the Familias en su Tierra program, 2019

Source: *Authors' elaboration, using data from Unidad de Víctimas.*

Table E1 Cumulative number of returnees under the Familias en su Tierra program, 2019

Department	Number of returnees	Percent National
Antioquia	35,022	31.30
Bolivar	11,903	10.64
Chocó	7,341	6.56
Cesar	7,277	6.50
Putumayo	6,673	5.96
Sucre	5,744	5.13
Tolima	4,484	4.01
La Guajira	4,076	3.64
Magdalena	4,020	3.59
Caldas	4,004	3.58
Cundinamarca	3,659	3.27
Meta	3,481	3.11
Caquetá	2,714	2.43
Risaralda	1,846	1.65
Córdova	1,835	1.64
Norte de Santander	1,565	1.40
Valle del Cauca	1,441	1.29
Nariño	1,235	1.10
Cauca	1,160	1.04
Santander	693	0.62
Atlántico	516	0.46
Guaviare	396	0.35
Bogotá	366	0.33
Huila	221	0.20
Quindío	81	0.07
Boyacá	68	0.06
Arauca	34	0.03
Casanare	31	0.03
Total	111,886	100

Data source: *Unidad de Víctimas, 2019.*

II. DEMOBILIZED EX-COMBATANTS

In addition to tackling internal displacement, another critical pillar of the post-conflict stabilization and recovery agenda is represented by disarmament, demobilization, and reintegration. In particular, the reintegration of ex-combatants into civilian life, i.e. the process by which ex-combatants acquire civilian status and gain sustainable employment and income as peaceful, socially responsible and economically self-sufficient individuals, has been recognized as a challenging yet essential element to sustained peace (World Bank, 2015). The present national reintegration policy consists of a longer-term strategy involving simultaneous activities at the individual and community levels, conducted through an integrated approach composed of eight dimensions: security (protection to demobilized under risk, and monitoring recidivism), personal, productivity, education, family context, housing, health, and political participation. After the 2016 peace agreement with the FARC, around 13,202 ex-combatants started a reintegration process, which adds to the numbers from previous processes involving other groups, such as the disarmament process of more than 20,000 fighters from thirty-seven paramilitary groups between 2001 and 2019 (ARN, 2019).

With more than 20 demobilization processes or peace negotiation with illegal actors over the last 30 years, Colombia is one of the countries with most reintegration programs and processes targeted to ex-combatants and illegal actors worldwide (Centro Nacional de Memoría Histórica, 2015).

In general, there are two paths to start a demobilization and reintegration process in Colombia. On one side are the *individual demobilized*, ex-combats who voluntary decided to leave an irregular group by escaping from it. In addition to the reintegration process, these individuals are also enrolled into a protection program aimed at minimizing the risk of retaliation by the illegal armed group that they have left. On the other side, *collective demobilization* involves combatants from a certain group through a collective agreement such as a peace deal (e.g. the paramilitary and FARC demobilizations started in 2003 and 2016, respectively). In either case, however, the path towards disarmament, demobilization and reintegration (DDR) is designed as a homogeneous and inclusive process that applies to all ex-combatants, regardless of individual characteristics such as group of origin, gender, or ethnicity. All ex-combatants are therefore offered a broad range of services ranging from psychologic attention, family and community reintegration, health and security, to legal sponsorship and productive support (ACR, 2016). As demobilization starts at different point in time for different groups and for different people, the demobilized population can be thus further subdivided based on the degree of completion of the reintegration process: a first group is composed of people who just formally entered a DDR program, but have yet to start the process; a second encompasses those for whom the process is underway; and a third pools those who have successfully completed the DDR program. Table E2 lists the total number of individuals at each phase of the process as of February 2019.

Table E2 Population in a disarmament, demobilization and reintegration program, 2019.

Phase of the reintegration process	Number of people
Entered	2,979
In process	6,927
Ended	24,208
Total	34,114

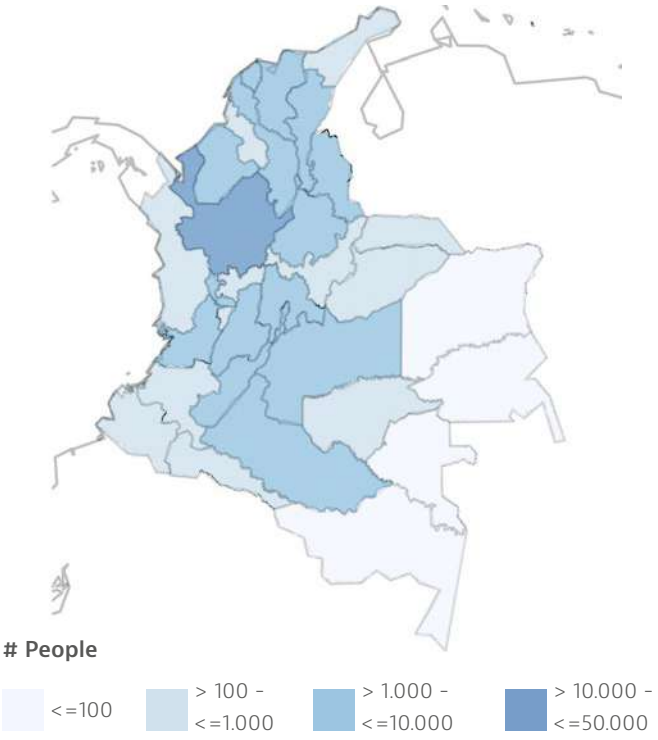
Out of the reintegration process	Number of people
Voluntarily left before completion	17,890
Never started	8,420

Data source: *Colombian Reintegration Agency, 2019.*

Figure E3 shows the spatial location of the demobilized population in Colombia based on the information of the Reintegration Agency of the Colombian Government (ACR) between 2000 and 2019. Antioquia is by far the region with the highest inflow of demobilized population, which amounts to 12,324 people: this is 50 percent more than the next two major locations combined (Bogotá and Meta, with 5,814 and 3,408 people respectively). Again, however, a substantial number of ex-combatants seems to be concentrated in the North of the country as well, which hosts between 1,600 and 2,200 in regions such as Cesar and Santander that are simultaneously exposed to high migration rates form Venezuela. In general, the demobilized tend to be overwhelmingly males between 25 and 40 years old, although there is a substantial presence of prime-age women as well (see Figure E4).

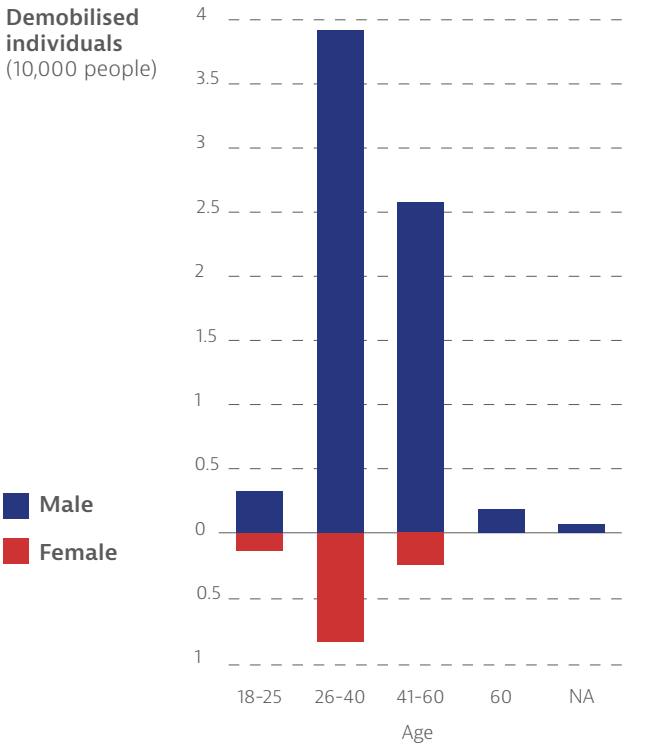
One key factor for the success of demobilization programs is the effective reintegration of participants into an economically productive life. To this end, the Colombian DDR programs seek to provide ex-combatants with training to generate new skills that are valuable on the labor market, on the one hand, and financial support and credit for productive activities, on the other. Overall, entering the DDR program does not necessarily translate into employment: across departments, employment rates average at around 74 percent (cf. Table E3), with significant rates of unemployment and inactivity throughout the country. Most employment, moreover, seems to take place in the informal sector, as shown in the last column of Table E3: overall, of the demobilized individuals who are currently employed in Colombia, only 31 percent work under a legal contract, and in a number of departments the pattern is even more extreme.

Figure E3 Spatial distribution of demobilized people in Colombia, 2000-2019



Source: *Authors' elaboration, using data from Colombian Reintegration Agency, 2019.*

Figure E4 Age and gender composition of Demobilized People



Source: *Authors' elaboration, using data from Colombian Reintegration Agency, 2019.*

Table E3 Employment outcomes of the demobilized population, by department

Department	No. workers	Employment rate (percent)	Percent formal jobs
Amazonas	22	77.27	5.88
Antioquia	8,440	73.82	38.67
Arauca	200	65.50	16.03
Atlántico	1,016	75.39	31.46
Bogotá	4,185	78.21	46.32
Bolívar	1019	73.80	25.13
Boyacá	667	72.41	35.61
Caldas	470	72.98	25.36
Caquetá	1,010	72.97	13.57
Casanare	751	78.83	29.39
Cauca	754	73.47	12.09
Cesar	2,347	76.10	17.53
Chocó	586	69.11	8.40
Córdoba	2,162	74.19	21.63
Cundinamarca	1,420	80.35	40.40
Guainía	47	82.98	10.26
Guaviare	167	64.07	11.21
Huila	1,050	80.10	18.31
La Guajira	301	78.74	15.61
Magdalena	1,504	76.86	24.22
Meta	2,537	74.14	30.68
Nariño	478	59.83	16.43
Norte de Santander	954	70.96	21.86
Putumayo	451	71.40	14.29
Quindío	340	75.88	33.33
Risaralda	753	73.44	31.65
San Andrés	1	100.00	0.00
Santander	1,876	73.35	32.19
Sucre	672	59.67	16.96
Tolima	1,045	75.02	23.60
Valle del Cauca	2,182	68.15	36.11
Vaupés	63	63.49	17.50
Vichada	57	68.42	17.95
National Total	39,883	73.56	30.62

Source: *Authors' elaboration, using data from Colombian Reintegration Agency, 2019.*

Notes: *figures are presented for the individuals for whom employment information is available. Totals also include individuals who voluntarily left the DDR program before completion.*

F. INTEGRATING VENEZUELAN MIGRANTS INTO COLOMBIA'S AGRI-FOOD SYSTEM: TWO CASE STUDIES

I. IN-DEPTH SEMI STRUCTURED INTERVIEWS: RESULTS FOR THE FLORICULTURE SECTOR

This sub-section presents the broad results of semi-structured interviews conducted in the flower growing sector. The following key informants were interviewed: MADR Agriculture and Forestry Value Chain Department focal point for cut flower growing value chain; Mayor of Tabio; Producers' Association of cut-flower growing sector, Asocolflores (Director of Social Responsibility and President); cut flower growing enterprise Sunshine Bouquet (two managers); and eight workers, four Venezuelans (three men and a woman) and four Colombians (three women and a man).

The Venezuelan workers at Sunshine Bouquet that were interviewed were Colombian-Venezuelan, they were from mixed families with Colombian parents or children. This facilitated the processing of obtaining PEP (special residence permit). Of the Venezuelans interviewed, half of them come alone, one has the family in Cucuta and the woman interviewed lives in Tabio with her parents and daughter.

Box 5 Testimonial statement

Rosaura is a single mother of a 7-year-old daughter. She comes from the state of Vargas in Venezuela where she worked as a civil servant.

"At the beginning I came to Colombia to buy medicine for my dad and returned home. After the crisis of border closure and crime problems at the border, I decided to settle in Cucuta. I started at Sunshine Bouquet 1 year and 7 months ago with the Mother's Day flower campaign. After the season, they renewed my contract, so I brought my parents and my daughter". Rosaura and her family live on the outskirts of Tabio and pay a rent of 600,000 Colombian pesos. She says "I would call on Colombian companies to trust Venezuelan workers. We are eager to work to help our families".

Profession/Occupation. Three of the four Venezuelans who work at Sunshine Bouquet are degree-holders and all had more qualified occupations in their country. Among the studies mentioned are: human resources manager, police officer in a position of trust close to the government (woman), a graduate in Mathematics working as a teacher and a computer student. The latter was forced to leave his degree unfinished to migrate in search of work. None of the respondents had previous work experience in the field. However, they feel fortunate to have a better salary than in their country and to be able to help their families. Except for one worker, the others came into contact with Sunshine Bouquet through the employment announcement in Cucuta. Two of the four Venezuelan workers, after finishing the first seasonal contract, were hired indefinitely by the company. One returned to Cucuta with his family, after his second time working with the company (with better salary conditions than the first time). Another would like to return to Bogota in search of better opportunities.

Box 6 Testimonial statement

Ángel (25 years old) from Yaracuay says:

"I worked in Bogota in food sales, with sporadic jobs in companies such as RAPI and UBER. The remuneration of these jobs was not enough to pay the rent and I decided to try the flower sector on the recommendation of a friend and for the lower cost of housing and living in general outside Bogota".

Box 7 Testimonial statement

"In Cucuta I carried bags at the border, when I saw the opportunity to access a contract job, I did not hesitate to move to Tabio. My main concern is the homologation of my degree, I am a graduate in Human Resources and in Venezuela I was the manager of a pharmaceutical network".

The four Colombian workers interviewed had a lower level of education than the Venezuelans interviewed, ranging from unfinished primary school to full baccalaureate, and were of a younger age range (22, 23, 24 and 36 years) than the Venezuelans. Two of the Colombian respondents have worked temporarily in the company and would like to leave to continue studying (male and female 22 and 23 years old). Two accessed the company through the employment announcement in Cucuta, another came from another part of the country and a fourth came from Zipaquira, a nearby municipality, with transport provided by the company.

Quality of employment. Interviews and visits to the Sunshine Bouquet facilities evidence the efforts of the companies to improve the quality and working conditions of employees. In the case of Sunshine Bouquet, the company has made significant investments in incentives, worker training and labor rights to reduce staff turnover. As for gender differences, the proportion in Sunshine Bouquet is now more balanced: 60 women- 40 men. Nowadays more and more men are hired to the workforce, surely attracted by better conditions and opportunities for professional promotion. Staff turnover has been lower in Venezuelan workers hired, and many of them come back to apply for work at the next announcement.

- **Working day.** Unlike other activities in the agricultural sector, the working day in flower-cutting companies is 8.00 hours (from 7.00 in the morning to 3.30 in the afternoon) with a break for lunch. However, the departure time depends on the production. Overtime is paid additionally, but is not optional.

- **Remuneration.** The remuneration offered by Sunshine Bouquet varies between the minimum wage 828,116 Colombian pesos (USD 245) per month in agricultural activity up to 1,450,000 Colombian pesos per month (USD 429) in high seasons. It also depends on whether the hiring is direct or through allies. Overtime hours are paid at 4,400 Colombian pesos (1.30 USD) on a business day and at 6,800 Colombian pesos (2 USD) if it is a holiday.

  The Colombian workers interviewed think that the official minimum wage, complemented by overtime pay, is insufficient to cover their families' expenses.

  According to DANE data[51], the poverty line for populated and rural dispersed centers is 676,740 Colombian pesos per month (USD 200). The salary, about $ 10 a day, would be above the national poverty line and also the $ 5.50 daily line defined by the World Bank for middle-income countries.

- **Formality vs. informality.** The personnel working in the facilities of the companies are under formal contract.

- **Labor rights.** Contributions to a pension fund and health coverage for permanent workers, and occupational risk insurance in occupations with the highest occupational risk such as fumigation. They also promote a good work environment with holiday celebrations such as Mother's

51 National Administrative Department of Statistics (DANE)

Day, Father's Day, workers' birthdays. These celebrations and recreational spaces are used as integration strategies. The company offers its workers incentives for their children to study, maternity and paternity assistance and health work days.

» **Training.** Training is ongoing for workers according to the different roles within the production chain. The workers receive training in the technical aspects of floriculture activity and also in "soft" skills such as teamwork, leadership and companionship.

» **Transportation services.** Transportation services are available to workers with routes from the different settlements and surrounding municipalities to the fields, and back again. This benefit, in addition to having a positive impact on the worker's economy, provides security to get to work. Part of the workers' transport and food is subsidized by the company[52].

» **Safety, health, hygiene conditions, etc.** Occupational safety is regulated by law and its compliance is integral to the companies in the sector. For the conditions of work in cut flower growing, the safety of the workers is fundamental and this is evidenced both in the study of the Universidad de Externado and in the Tabio visit to Sunshine Bouquet. All workers operate with the appropriate protective measures (boots, gloves, face and mouth masks, hats, etc.). Sunshine Bouquet made a considerable investment in facilities for temporary workers' accommodation[53] for high demand seasons, with leisure and recreation areas. Workers have a canteen/cafeteria where they can eat (subsidized 50% by the company). Once the season is over, workers are allowed to stay while they find housing, whether they stay in the company or are looking for employment in another sector.

Local employers' reasons for hiring Venezuelan migrants. It is evident that the problem of shortage of Colombian labor and high turnover, as well as the increase in the area devoted to flower-growing, are the main determinants for hiring Venezuelan labor.

Since Sunshine Bouquet, the experience of hiring Venezuelans has been very positive. As of June 2019, 150 Venezuelan migrants had been linked indefinitely to the company. *"We have found a proactive attitude in them and their learning curve is faster than that of the local population. People are committed, wanting to work"*, says Fredy Leiton, in charge of organizational development at Sunshine Bouquet, Tabio, Cundinamarca.

Box 8 Testimonial statement

"The fact that people from Venezuela arrive in Colombia is an advantage for our country to be more competitive, and to be able to generate more employment and above all they come to solve a problem of labor shortage for the agro industry. In Sunshine Bouquet we have invested to be able to offer attractive conditions to the worker, decent housing, recreation areas, health insurance, pension and promotion opportunities in the company", says Pablo Prieto, Production and Operations Manager of Sunshine Bouquet.

The Venezuelans interviewed do not consider that they are displacing the local workforce, but rather covering jobs that are difficult to fill.

Integration and social cohesion: coexistence and integration opportunities. Two of the Venezuelan workers interviewed now live in the municipality of Tabio (previously staying at the Sunset Bouquet facilities), but on the outskirts where rent is cheaper and closer to the installations[54]. Their children are in school and have access to public health services.

Sending money home. The most widely repeated answer is that everyone, to a greater or lesser extent, sends whatever they can, as frequently as they can, but cannot afford to do so on a regular basis.

Local perceptions. The Colombian population perceives work in floriculture as marginal, low-wage and with few opportunities; and the Colombian workers interviewed see the work in cut flower growing as temporary and express their desire to continue their studies. Although they do not blame Venezuelans, they have the perception that work is scarce as a result of Venezuelan migration[55].

52 Transport from Cucuta is paid for in full by the company. The cost of the outward journey is paid to the transport company and the return in cash to the worker so that he/she has the choice of deciding to return or make his/her own way. On exceptional occasions (worker illness or emergency), Sunshine Bouquet pays for the worker to return to Cúcuta by plane. The company has agreed transport services for workers from nearby municipalities and several buses a day for employees from other municipalities direct to the company's installations (Zipaquirá, La Naveta, Cajicá, amongst others).

53 Approximately 30 million pesos were invested in container housing for 350 workers.

54 Rent for one room between 200 and 300,000 Colombian pesos. A two-room apartment between 550-600,000 Colombian pesos

55 According to CONPES 3950, the effect of Venezuelan migrants on regional unemployment has been especially significant in Arauca (60% of the total unemployed), Riohacha (48.6% of the unemployed) and Cucuta (23.3% of total unemployed).

Box 9 Testimonial statement

"The jobs are there, but you have to go looking for them" says Andrés (36 years old), a Venezuelan graduate in Mathematics who worked as a high school teacher in Venezuela. Now he works as a quality assistant at the Tabio plant and has expectations of being promoted in the company as well as starting a new stage of his life in Colombia..

The Mayor's Office claims to have had little relationship with Sunshine Bouquet. Additionally, according to public administration sources, although the companies in the sector are generally known for the export and formal business vocation of all their processes, they are also known for their secrecy[56]. The youth of the municipality are looking for other job opportunities, and jobs in the cut flower sector are still considered job vacancies that are difficult to occupy due to health risks (respiratory and bone problems due to exposure to high temperature changes).

Box 10 Testimonial statement

Tabio is a municipality of Cundinamarca with 28,000 inhabitants 29 kilometers from Bogotá. According to statements by the mayor of Tabio, *"the added value for the municipality of the flower company's installations is very little. On the contrary, the municipality has an ecological vocation, focused on ecological tourism with its natural hot springs. The huge expanse of greenhouses and plastics diminishes the potential of the municipality in other areas of development. Less than 5% of the population of Tabio works in the company"*

Challenges and opportunities. The Venezuelan workers interviewed advocate measures by the Colombian government to allow them to access the labor market and become integrated in the system. They also propose that companies should have access to potential workers' judicial background and references to be sure they are hiring honest workers.

Instruments and incentives for integration into the labor market. The employer would see the following as good measures to be taken by the government: (i) tax incentives for the hiring of Venezuelan migrant labor, (ii) support or sponsorship through transportation, (iii) publicity for employment announcements; and (iv) support in the training processes.

It could be concluded in the analysis of this case that the floriculture sector finds in the population from Venezuela an alternative and winning strategy for both parties in filling vacancies difficult to fill with the local population, and in particular by the young; these jobs represent an opportunity for Venezuelans or people from Venezuela with urgent needs to generate income.

II. IN-DEPTH SEMI STRUCTURED INTERVIEWS: RESULTS FOR THE COFFEE SECTOR

Below are presented the overall results of the semi-structured interviews conducted to the actors involved in the coffee chain in both Bogota and the Departments of Risaralda and Norte de Santander. The three coffee farms visited in Risaralda were: (1) Santa Rosa de Cabal; (2) Belen de Umbria and (3) Santuario. In the Department of Norte de Santander, a coffee farm was visited in the municipality of Chinacota. Annex II presents the details of the interviews in the coffee sector conducted in the municipalities of Risaralda and Norte de Santander. The actors interviewed were the following:

At national level:

- Directorate of Agricultural and Forestry Value Chains of MADR (Responsible for the coffee chain).
- Coffee producers association: Federación Nacional de Cafeteros (FNC).

At departmental level:

- Coffee producers association: Coffee Departmental Committees.
- Employer, farm manager.
- Venezuelan workers (22 men and 2 women)
- Colombian workers (9 men and 1 woman)

Economic activity. According to FNC data, 96.5% of coffee growers are small producers. At the national level there is a demand of 60 to 70,000 pickers for the harvest. The average size of the farms visited was larger in Risaralda (42.3 hectares) than in Norte de Santander. The farms visited are in general large or belong to owners who have

56 Emphasizing, however, the openness and availability encountered with the company visited, Sunshine Bouquet

several coffee farms with a demand for many workers. In general, smaller producers and farms are less likely to hire Venezuelans.

The main activity carried out by migrant workers in coffee is picking. At the time of the visits, the harvest was already advanced, and the workforce was also used in other work related to the harvest, such as cleaning and fumigation.

A relevant presence of Venezuelan workers in the construction or repair of facilities has been observed within coffee farms. The coffee harvest is spread over time throughout the national territory. This has facilitated the mobility of the migrant population across the whole country. This means that workers move to farms in areas where the harvest is still at an earlier stage, thus filling the lack of work that the seasonality in coffee could cause.

The main reason for hiring Venezuelan labor in coffee is the increase in production -in certain areas, with an increase in the area planted with coffee- and the exodus of local labor to cities in search of better opportunities.

Migrant profile. None of the workers interviewed had the PEP work permit and less than half had the TMF. They are therefore in an irregular situation to work. Usually, the worker arrives to work on the farm in a group, with siblings, cousins or as a couple, but 75% of the respondents come without family burden.

Characterization Professional / Occupational. Only two out of the 24 interviewed workers were women, who arrived and were working in the coffee farms with their sentimental partners. In the previous months, during the full harvest period the presence of women in coffee farms was higher. Although it is mainly a male activity, it has been stated that better quality is appreciated in the picking done by women than by men.

The Venezuelan population interviewed is generally younger than the Colombian population. The average age of Venezuelan workers is 31.75 years of age, versus 46.1 of Colombian workers interviewed (Figure E5).

Age data at interviewed workers matches the general trend that migration brings younger population strata focused mainly on vacancies of difficult coverage such as coffee harvesting.

Quality of employment. Contractual, economic conditions and facilities of the coffee farm. The economic conditions, working hours, the punctuality of the remuneration and the quality of employment are the same for the Venezuelan and Colombian interviewees. The difference lies in the income generated according to the kilos of coffee collected.

- **Working day.** Working day at coffee farms is between 8 to 10 hours, five or six days per week including Saturdays depends on labor charge. These conditions vary slightly from one farm to another. The wage is per day although the *payment is weekly.*

- **Remuneration.** In relation to the collector's salary, the main modality used is *piecework payment*, that is, fixed amount per kilo collected, which varies throughout the season, between *450-650 Colombian pesos per kilo (0.13-0.19 USD per kilo).* The price paid per kilo increases as the harvest is decreasing, in order to motivate the collector since the collection becomes more complex and scarce.

  At the time of the visits the harvest was quite advanced, and in Belen de Umbría 80% of the harvest had already been collected, so the income generated is not entirely representative. In Belén de Umbría the wage was being paid per day for being a period of end of harvest. In periods of full harvest the wage

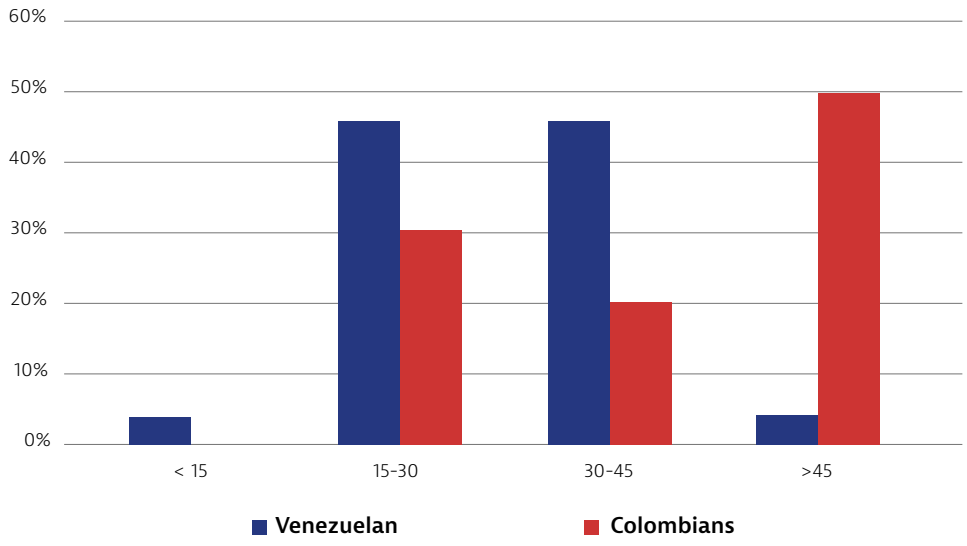


Figure E5

Average age of workers in the coffee sector.

Source: *Semi structured interviews to coffee workers*

can be doubled or tripled. Furthermore, the skills of Venezuelans in grain harvesting increase in time.

Payment prices according to harvest time. In Santa Rosa de Cabal the highest price was payed: *650 Colombian pesos per kilo picked (0.19 USD per kilo),* although at the same time it is where on average workers generated less income, *(25,550 Colombian pesos per day, working from Monday to Friday, (7.55 USD per day). In contrast, in Santuario, an area characterized by high production, 480 pesos colombianos per harvested kilo (0.14 USD per kilo)* were being paid, though average income was higher.

- **Formality vs. informality.** All contractual relationships in the coffee production chain that have been observed *operate in the informal sector*, both for Colombian and Venezuelan workers, as coffee pickers or involved in other related tasks. The farm manager is the person who, apart from managing the workers of the collection and other tasks is generally in turn responsible for the "coffee beneficiary process". This worker is usually assigned the minimum wage but without a formalized contract.

- In general, the wife of the farm manager is in charge of feeding the workers and cleaning and hygiene of accommodation. Her profit is from daily food paid by workers and varies according to the size of the farm and number of workers, which also varies with the peak harvest period. In a medium farm there can be up to 100 workers or down to 20 in the last periods of harvest. The average food cost for the worker is *12,200 pesos (USD 3.61) per worker per day.*

- **Labor rights.** Remuneration is paid on time by the employer. Workers have an unpaid rest day on Sundays. The farm provides accommodation and food, but this is deducted from the salary. Transportation to the farm is also paid by the worker. The workers declare they have a good perception of the lodging and feeding facilities in the coffee farms.

- **Security conditions.** It is the local population that exposes the problem of insecurity and theft in neighboring farms, with Venezuelan workers often held responsible for these conflicts and insecurity.

- **Health coverage.** Most Colombian coffee pickers have health coverage through the public system (SISBEN[57]), this coverage is under a non-contributory system. In the case of Venezuelans with a health problem, they have been treated in emergency centers.

- The Colombian health system has a universal coverage benefit, delegated by the government to borrowing entities that subsequently charge the state for the number of people served. Assistance to people through the non-contributory system implies a higher cost than assistance through the contributory system. All this translates into an increase for state health services.

Reasons for employer (coffee growers) for hiring Venezuelan labor. In both departments, coffee growers have in the coffee bean collection phase an urgent situation of need for labor to be solved, either by rural migration to cities or abroad and by the aging of the local population. Coffee farmers have found in Venezuelan labor an opportunity to supply the labor shortage in the sector.

Furthermore, in some cases the employer acknowledges the more proactive attitude of the Venezuelan to work and his greater flexibility versus the more demanding attitude of the local worker, who in some occasions feels his employment status threatened.

In general, large farms have more openness to working with Venezuelans for harvesting.

Integration and social cohesion. Coexistence and integration opportunities. In general, the Venezuelans interviewed show satisfaction with the work of coffee picking. Despite not reaching a collection volume that allows them better income, most have felt welcome and supported to start learning (although not all). However, despite this compliance and the cases in which the workers stay for months on the same farm, it is perceived that the rotation is very high and especially women, younger workers and those who are alone are continuously in search of farms where there is still a greater volume to harvest.

Among the Colombian workers, there are some who feel more empathy with Venezuelans, while others think that Venezuelans do not like to work in the fields. Others think that the price per kilo of coffee collected would be higher if they were not involved.

Within the farms visited there is apparent harmony. However, it is identified that Venezuelan workers are ill-perceived in neighboring farms. Thefts, micro-trafficking, and insecurity problems are the main conflicts for which Venezuelans are identified.

Venezuelan workforce in coffee collection is for employers a solution to avoid losing the crop. At the same time, some employers in the sector also see an opportunity to have a more willing workforce with a more proactive attitude than that of local workers. On the other hand, on the farms visited, interviewed coffee employers assert to paying and applying the same conditions for Colombians and Venezuelans.

57 Beneficiary Selection System for Social Programs (SISBEN) is a tool, consisting of a set of rules, norms and procedures to obtain reliable and updated socioeconomic information of specific groups in all departments, districts and municipalities of the country

Table E5 Average income and national and international poverty limit

Límite de pobreza nacional e internacional					
	Ingreso familiar	Miembros en familia media	Al mes por persona	Pesos día	USD día por trabajador
DANE: Línea de pobreza a nivel nacional	1.029.732,00	4	257.433,00	8.581,10	2,50
DANE: Línea de pobreza para centros poblados y rural disperso	676.740,00	4	169.185,00	5.639,50	1,64
BM: Línea de pobreza extrema					1,90
BM: Línea de pobreza en países de nivel medio (Colombia)					5,50
Salario mínimo oficial en actividad agrícola en Colombia	828.116,00			27.603,87	8,03
Promedio de generación de ingresos en la recolección del café en las visitas realizadas					
Café en RISARALDA					
Salario medio recolector café Santa Rosa Cabal (a fecha visita 21.11.19)					7,56
Salario medio recolector café Belén de Umbría (a fecha visita 22.11.19)					9,84
Salario medio recolector café Santuario (a fecha visita 23.11.19)					11,87
Café en NORTE DE SANTANDER					
Salario medio recolector café Chinacota (a fecha visita 26.11.19)					8,72

Source: *own elaboration*

Costs and benefits. Both in Risaralda and in Norte de Santander, the coffee harvesting activity is today profitable for an affected population in Venezuela, *where the official minimum wage is insufficient to buy just a few products from the basic basket and where having relatives outside the country is the main survival mode*[58].

Table E5 presents a brief comparative analysis of the average income of Venezuelans working on harvesting at the farms visited with the poverty line at the national level by DANE and at Regional level of Latin America by the World Bank.

The farms visited were at different harvest times with coffee plants of different productivity. The wage in coffee activity is, as described above, changing and depends on various factors. In spite of this, it can be said that the generation of income in coffee collection activity is above the income of the minimum wage established in Colombia for agricultural activity: 828,116 Colombian pesos (USD 245.30).

Sending money home. There is no pattern for the periodicity of remittances or the amount sent by venezuelan workers. By having varying incomes they send money when they have a better working week. Only 8% (2 out of those interviewed) declare not to send money home because they have the family with them. Meanwhile, others declare they send money according to the needs required by their relatives in Venezuela.

The minimum shipment of remittances consulted in *Mekacambio* is 50,000 Colombian pesos (15 USD). The average delivery of those who claim to send money is approximately 75,000 Colombian pesos (USD 22). This question is perceived as personal to the interviewee, who seems in some cases reluctant to answer.

Instruments and incentives for labor insertion. Venezuelan workers interviewed aspire to be able to regulate themselves in order to find a better job opportunity.

Lastly, based on the Venezuelan answers in the context of this study, we can confirm the high labor informality in the coffee sector. Nevertheless, the fact that coffee is an export product could open a path towards initiatives that promote social responsibility towards workers.

58 The minimum integral salary as of October 14 in Venezuela is 300,000 bolivars. At an approximate exchange rate of 43,000 bolivars per US dollar, the minimum integral salary is USD 6.9.

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