From immigrants to local entrepreneurs: understanding the effects of migration on entrepreneurship in a highly informal country

Juan Carlos Muñoz-Mora

Department of Economics, School of Finance, Economics, and Government, Universidad EAFIT, Medellin, Colombia

Sebastian Aparicio

Department of Business, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain and Centre for Entrepreneurship and Social Innovation Research (CREIS), Universitat Autònoma de Barcelona, Sabadell, Spain

Diego Martinez-Moya

Department of Economics, School of Finance, Economics, and Government, Universidad EAFIT, Medellín, Colombia and Fundación ECSIM, Medellin, Colombia, and

David Urbano

Department of Business, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain and Centre for Entrepreneurship and Social Innovation Research (CREIS), Universitat Autònoma de Barcelona, Sabadell, Spain

Abstract

Purpose – Motivated by a lack of evidence regarding the effect of migration on entrepreneurship in a highly informal country, such as Colombia, this paper has a twofold purpose. First, it explores how Venezuelan immigration affects entrepreneurial activity in Colombian regions. Second, it intends to shed light on this relationship, by distinguishing between formal and informal sectors.

Design/methodology/approach – With a sample of 1,776,063 individuals, from the Labor Survey Gran Encuesta Integrada de Hogares (GEIH) from the Departamento Administrativo Nacional de Estadística

(DANE), the authors employ an instrumental variable approach to account for the selection of immigrants into locations with more or less desirable conditions.

Findings – The results suggest Venezuelan immigration positively influences self-employment and own-account workers, but negatively affects employers. However, once these immigrants proliferate in the informal sector, the effects increase.

Originality/value – This paper brings new insights into the intersection between immigration, unofficial economies, and entrepreneurship. First, while the prior literature focuses on migration from developing to developed countries, migratory flows between developing economies and its effects on local entrepreneurial activity remain unexplored. Second, although informality is mostly common in developing countries, little (albeit growing) evidence of its role in the relationship between migration and entrepreneurship research exists. Finally, the authors bring together these two phenomena to enhance our understanding of different types of entrepreneurial activities when immigration and informality take place. Policy implications are derived from these insights.

Keywords Entrepreneurship, Immigrants, Institutions, Informal economy, Developing countries, Latin America, Colombia, Venezuela

Paper type Research paper

Introduction

There is a well-established relationship between immigration and entrepreneurship in developed countries (Bettin *et al.*, 2019; Kazlou and Klinthall, 2019; Kloosterman and Rath, 2001; Lee and Eesley, 2018). The existing evidence has shown how migration from developing-to-developed country might trigger entrepreneurship in the destination country as a result of the complementary effects in labor markets, new capital flow, and increasing human capital, among others (Fiess *et al.*, 2010; Li and Zahra, 2012; Siqueira *et al.*, 2016; von Bloh *et al.*, 2020). Nonetheless, there is a lacuna in studies exploring this relationship when migration happens between two developing countries in which both places, origin and destination, are characterized by high informality and institutional weakness (Ekanem, 2019; Jain and Pisani, 2008; Mickiewicz *et al.*, 2019).

An example of migration from developing-to-developing country is the recent Venezuelan humanitarian and refugee crisis. According to official statistics, more than 2.3 million Venezuelans left their country (Spindler, 2018) due to ongoing political violence and the high unemployment rate. These people have ended up going to other places in Latin America, the US, and Europe (Bahar *et al.*, 2021). Due to its proximity, Colombia became the main destination for thousands of Venezuelan immigrants looking for new opportunities (World Bank Group, 2018). Both the unprecedented size of the migration flow and the speed of its increase created several challenges for the Colombian economy (World Bank Group, 2018). In fact, an increasing amount of empirical evidence has found mixed effects regarding the economic and social consequences of the Venezuelan immigration (Bauer, 2019) for Colombian labor markets in terms of unemployment and wages in formal and informal markets (Caruso *et al.*, 2021).

Despite notable labor market evidence, there is still a need to understand the effects of Venezuelan migrants on other economic outcomes, such as entrepreneurship. Entrepreneurial activity has been considered a key mechanism to boost the Colombian economy (Aparicio *et al.*, 2016b), which has been highly informal to date (García, 2017). Informality in developing countries is strongly related to institutional weakness (Chong and Gradstein, 2007), and is triggered by certain rigidities in the labor market in these countries (Canclini, 2019). Consequently, this might strengthen the effect of immigration on entrepreneurial activities (Pisani, 2018; Pisani *et al.*, 2017; Pisani and Morales, 2020). In the case of Colombia, for example, García (2017) and Jütting and De Laiglesia (2009) have found firms hire workers without a formal contract, which is harmful for the labor market and economy at large due to unfair salaries and tax avoidance. As a negative incentive, people secure a job while firms reduce labor costs. Hence, the demand for workers in the informal market is associated with low-skilled workers (García, 2017), affecting long-term economic development. According to García (2017), this structural problem means Colombia has one of

the most informal labor markets in the world, reaching more than 60% of informality. In addition to the unexplored effects of Venezuelan migrants on the Colombian entrepreneurial activity, the question of how immigration and entrepreneurship navigate to formal and informal activities is still open.

Thus, this paper has a twofold purpose. First, it explores how Venezuelan immigration affects entrepreneurial activity in Colombian regions. And second, it intends to shed light on this relationship by distinguishing between formal and informal sectors. Although it is suggested that developing countries are characterized by necessity-driven entrepreneurship (Aparicio *et al.*, 2016a; Puente *et al.*, 2019), we study how migration relates to other types of entrepreneurial activities, such as opportunity-driven entrepreneurs (Margolis, 2014; Puente *et al.*, 2019; von Bloh *et al.*, 2020). We are aware these two motivational drivers of entrepreneurial activity might be limited, as there are other forms of everyday entrepreneurship ranging from social, international, gender, to digital characteristics, among others (Rashid, 2022; Wahlgrén and Virtanen, 2015; Welter *et al.*, 2017). Nevertheless, analyzing necessity vs opportunity entrepreneurship is illustrative in emerging economies due to social disparities and, at the same time, economic incentives for the population (Urbano and Aparicio, 2016). Institutional economics (North, 1990) enables us to frame these complex relationships, which are observed through individual level data, representative of Colombian departments (which are the highest regional units – like states in the US or autonomous communities in Spain). Instrumental variable models are estimated upon 1,776,063 individuals over the period spanning from 2014 to 2018.

We find immigration has a significant positive effect on entrepreneurship motivated by necessity (e.g. self-employment), although the effect is mixed for opportunity-driven entrepreneurial activities – finding negative effects on employers and positive ones on own-account workers. Furthermore, we find these relationships are mainly found in the informal sector. Based on these findings, our main contribution is directed in two ways. First, we provide evidence that strengthens the literature on and comprehension of the effects of immigration on entrepreneurial activities across developing countries. Second, our analysis provides some light on the importance of good management and institutional configuration to improve the labor market in favor of entrepreneurs (regardless their motivation) (Urbano *et al.*, 2019).

Apart from the introduction, this research is structured as follows. The next section is devoted to the comprehension of migration, informality, and entrepreneurship observed through institutional economics. Here we place emphasis on the context of Venezuelan immigration in Colombia and the literature review that supports our hypotheses. Afterwards, the Methodology section discusses the data and presents the empirical strategy. Next, the Results section exposes the main findings and offers robust analyses. Then, the Discussions and Implications section presents the analysis for academics, policymakers, and practitioners. Finally, limitations, and future research avenues are presented in the Conclusion section.

Contextualizing the Venezuelan immigration and entrepreneurial activity in Colombia
The political and economic crisis in Venezuela has led to an unprecedented humanitarian and refugee crisis in Latin America (Bauer, 2019). Thanks to its geographical and cultural proximity, Colombia is the main destination for thousands of Venezuelan migrants looking for new opportunities (Spindler, 2018). The inflow of migrants from Venezuela to Colombia could be classified into three phases. First, a *business and capital owners' migration*. This migration was mainly caused by the restrictive economic policies (e.g. nationalization of companies, increased taxes, and barriers for foreign companies, among others) imposed by Hugo Chavez when he took office (Azicri, 2009). Second, a *high-skill migration* occurred in 2005 due to the dismissal of the oil sector's workers, and in 2010 due to the expropriations of private companies and lands, among other productive factors. The third phase, a *massive migration*, brought low-, medium- and, high-skill workers to Colombia within a few months. This exodus, which started

in 2018 and is ongoing, was mainly due to a deteriorated national industry, as well as increased political violence and a significant currency devaluation (FIP, 2018).

According to Colombian statistics, in 2014, there was a total of 96,314 Venezuelan immigrants. This increased to 130,815 in 2015, 254,060 in 2016, and 498,427 in 2017; reaching a total of 1.3 million Venezuelan immigrants in 2018 (DANE, 2018). As shown in Figure 1, Venezuelan immigrants are distributed across different departments, which are the largest decentralized spatial units within the country with administrative autonomy. Three departments have received more than 200,000 Venezuelan immigrants during the 2014–2018 period: Bogota (as the district capital) with a total of 431,112; Norte de Santander with 298,800; and Atlántico with 269,417 migrants.

The Colombian government reacted to this migratory flow by providing health and education assistance, as well as by boosting the formalization of legal statuses in order to improve access to formal labor markets (Bahar *et al.*, 2021; Migración Colombia, 2019). Despite these efforts, the labor supply shock resulting from migration was mainly absorbed by the informal sector. In fact, most empirical studies about the effects of Venezuelan migration on the Colombian labor market show a reduction in wages in the informal sector and unclear effects on formal labor markets (Caruso *et al.*, 2021). Within these sectors, De Castro *et al.* (2014) and Puente *et al.* (2019) find that different typologies of entrepreneurship emerge.

Although developing countries may be characterized by necessity-driven entrepreneurial activity due to weak institutional support (Aparicio *et al.*, 2016a; Wennekers *et al.*, 2005), there has been a sort of cultural adaptation process, in which informality does not necessarily lead individuals to become entrepreneurs by necessity (De Castro *et al.*, 2014; Puente *et al.*, 2019). Intriguingly, there seems to be enough room for (and insufficient institutions to control) firms operating formally and informally (De Castro *et al.*, 2014). The prior literature has focused on disentangling nuances in entrepreneurship by establishing connections between necessity entrepreneurial activity and self-employment (Margolis, 2014; Puente *et al.*, 2019), as well as opportunity-driven entrepreneurship and job categories such as own-account workers and employers (Decker *et al.*, 2020; Millán *et al.*, 2014). Drawing on this distinction, we can observe that in Colombia, three types of entrepreneurs coexist. For example, 21% are self-employees (most of them in the unofficial economy and associated with necessity issues), 22.7% are own-account workers (who are self-employees but operating formally and creating between
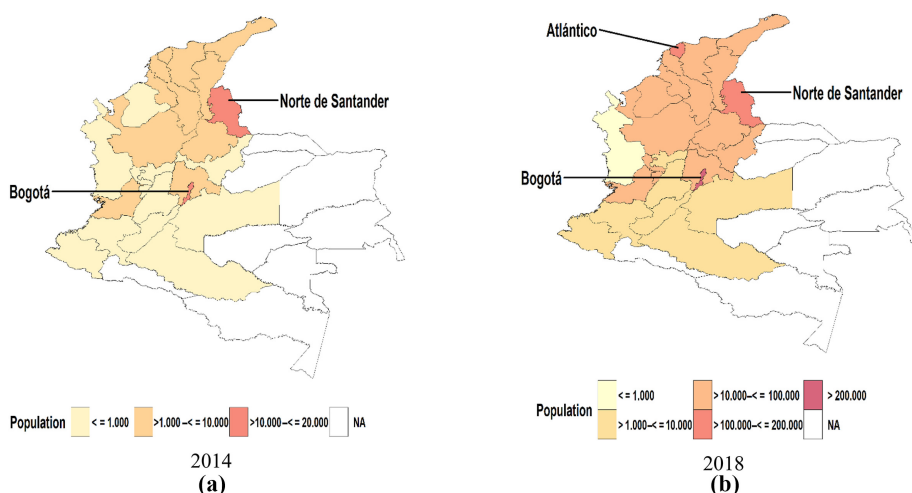

Figure 1.
Spatial distribution of Venezuelan immigration from 2014 to 2018 in Colombia

Source(s): Own elaboration with GEIH data

1 and 5 jobs), and 1.6% are employers (who are mostly formal and create more than 5 jobs) (DANE, 2018 – see Table A1); all of them embedded in a turbulent institutional environment (Aparicio *et al.*, 2016a). This motivates us to explore the relationship between migration and entrepreneurship in formal and informal sectors through the institutional lenses. Although there have been other cases in which migration from a developing to another developing country exist (Rashid, 2022), Venezuela and Colombia share cultural similarities, which make them an interesting foundation to explore the socialization process through the institutional framework.

Theoretical framework and hypotheses
Institutional economics
According to North (1990), institutions were formed with the objective of diminishing the uncertainty in the exchange of any goods and services, and human interactions in general. North (1990) suggests that the institutional framework should provide incentives that dictate the necessary knowledge and type of skills required to keep the market afloat. In the same vein, Pasinetti (2020) and Sheaff (2000) assert that institutions are necessary to address market efficiency problems. Pasinetti (2020) and Sheaff (2000) argue that improvements in institutions depend on the needs of each nation. In this regard, North (1990) defines two types of institutions that complement each other. On the one hand, there exist formal institutions that are associated with rules, regulations, and written laws; and on the other, countries and regions have formed their own cultural framework through social norms, habits, customs, etc. Williamson (2000) complements this idea by suggesting both formal and informal institutions interact with each other. Indeed, Williamson (2000) posits that even though institutions belong to the macro context, individuals (and the individual level at large) also represent institutions through their decisions, which are aligned to existing incentives. Such an approach underpinned Baumol's (1990) conceptual development of different types of entrepreneurs (i.e. productive, unproductive, and destructive), who navigate the environment through their decision-making.

Furthermore, Bertocchi and Strozzi (2008) find both economic and demographic differences play an important role in determining immigrants. They also assert institutional factors matter. These authors claim institutions related to economics, politics, and migration influence the decision to migrate, creating a mixture of contexts in the place they arrive, which ultimately affect productive factors (including entrepreneurship). Bruton *et al.* (2010), Content *et al.* (2020), and Yuko (2009) mention that entrepreneurs act within a regional context determined by formal and informal rules. In general, Li and Zahra (2012, p. 95) show formal institutions have a positive effect on venture capital activity levels, but "this effect is weaker in more uncertainty – avoiding societies and in more collectivist societies." Similarly, Stenholm *et al.* (2013), using institutional dimensions such as regulative, normative, and cultural cognitive, established that opportunity entrepreneurship benefits from an improvement of these institutions, while necessity entrepreneurship is negatively affected. In this regard, it is suggested that certain internal structures such as the existence and preservation of the unofficial economy explain the survival, functioning, and behavior of new ventures in Latin American countries (Aparicio *et al.*, 2016a; Bruton *et al.*, 2009). Even though formal rules exist there to control informality (e.g. reduced taxes rates), it seems the unofficial economy is a cultural feature that influences the coexistence of formal and informal firms, as well as the decision to enter into the market as either the former or latter (De Castro *et al.*, 2014). Pisani (2021, p. 4), based on previous theories, associates informality with "a rational response to stifling regulations and government corruption [and] large differences in state and civic morality …". This is consistent with Baumol's (1990) ideas about entrepreneurs' response to those incentives set by existing formal and informal institutions.

The Colombian case seems to be well suited to this line of thought, thereby highlighting the importance of observing the relevance of informality in entrepreneurship through the

institutional framework. Drawing on these ideas, Webb *et al.* (2009) affirm there is an incongruence between formal and informal institutions in developing countries and that this incongruence potentiates the unofficial economy by allowing a strengthened relationship between entrepreneurship and the recognition of opportunities.

Informality, immigration, and entrepreneurship: hypothesis development
The literature studying the relationship between immigration and entrepreneurship mentions what the effects of migratory inflow on regional entrepreneurship are and in which institutions they play a backstage role (Levie, 2007). These effects depend mainly on two factors. First, the level of development of the country of origin and the country of destination. Additionally, there is a dependence on the types of entrepreneurial activity that predominates across regions (Margolis, 2014; Puente *et al.*, 2019). Regarding the development stage, both Colombia and Venezuela are developing countries, where the largest source of employment is self-employment (Fiess *et al.*, 2010; Puente Castro *et al.*, 2020), which depends heavily on the institutional contexts that exist across regions.

Therefore, it is important to consider the typologies of entrepreneurship and reflect on whether the spillover effect of the Venezuelan immigration on entrepreneurship in Colombian regions has the same behavior as the evidence of developed countries' outcomes affected by developing countries' migration (cf. Mickiewicz *et al.*, 2019). In this regard, Margolis (2014) suggests that there are four important institutional aspects in determining whether self-employment is by necessity or by choice. The first one is a person's ability to provide their social protection through savings. The second consists of labor market frictions. The third issue is the business environment, and the fourth one suggests that labor market regulations such as the minimum wage, which is a requirement for the employer who invests time in finding a person for that job, discourages those hiring below that regulation and encourages job seekers to become self-employees out of necessity.

Zelekha (2013) and van Bloh *et al.* (2020) suggest country-specific institutional characteristics (e.g. urban, open, competitive, and culturally diversified – including open-minded for ethnic diversity and gender) may significantly explain the positive effect of immigrants on the country's level of entrepreneurship. Similarly, authors such as Borjas (1986) and Kazlou and Klinthall (2019) suggest immigrants are more likely to be self-employed than similarly skilled native-born workers, and that a major reason for this differential is that geographic enclaves of immigrants increase self-employment opportunities, particularly for immigrants who share the same national background (e.g. language) as the residents of the enclave. However, Mickiewicz *et al.* (2019) suggest more immigrants in a certain locality increases entrepreneurship, due to the ethnic diversity of the migrant population, which initially causes a decrease in entrepreneurial activity but then increases it. Similarly, Fairlie and Meyer (2003) find that immigration does not have negative effects on native self-employment earnings, although it generates a displacement effect, but it does not provide a clear explanation of the mechanism driving the phenomenon. However, Li (2001) claims that immigration increases self-employment because more qualified and wealthy immigrants are attracted to becoming self-employed. In the case of Colombia, a positive relationship between immigration and self-employment (with necessity issues) may be suspected, but the reason may be different, given the entry and institutional barriers for Venezuelan immigrants in the Colombian labor market (Caruso *et al.*, 2021). This may be also related to the fact that the Venezuelan labor force is relatively inexpensive because of the conditions in which these immigrants arrive (World Bank Group, 2018). Due to this, the Colombian government has imposed penalties on companies or individuals who take advantage of this situation by hiring these workers without documentation and with a salary below statutory requirements (Migración Colombia, 2019). In turn, this can trigger a negative

effect of immigration and on opportunity-driven entrepreneurship (i.e. employers). Therefore, this allows us to propose the following hypotheses:

H1a. There is a negative effect of Venezuelan immigrants on employers (as opportunity-driven entrepreneurs) in the regions of Colombia.

H1b. There is a positive effect of Venezuelan immigrants on self-employment (with necessity issues) in the regions of Colombia.

H1c. There is a positive effect of Venezuelan immigrants on own-account workers (with opportunity reasons) creating a few jobs in the regions of Colombia.

In addition to the external shock of Venezuelan immigration, there are internal institutional conditions related to informality that have characterized the Colombian labor market and entrepreneurial activity. De Castro *et al.* (2014) show institutions serve as the connective tissue that cross-links levels of the environment and shapes the context in which entrepreneurs make decisions. These institutions influence strategic choices of entrepreneurs regarding the formalization of their firms and the trade-offs they make as they grow and become successful (Afreh *et al.*, 2019). Williams and Vorley (2015) analyze how the institutional environment influences entrepreneurship in Bulgaria. In this case, these authors contribute to a better understanding of how formal and informal institutions affect the perceptions of entrepreneurs regarding what is right and what is wrong, as well as the nature of entrepreneurial activity in transition economies. Specifically, Williams and Vorley (2015) find that in those regions where there is an asymmetry between formal and informal institutions, entrepreneurship can be undermined, which is detrimental to economic growth. This is consistent with Suchman's (1995) ideas about informal institutions in unofficial economies. Suchman (1995) associates legitimacy with pragmatic, moral, and cognitive aspects, suggesting that migrants from highly informal economies (and highly sensitive to social norms and culture) might enter this sector in the country of destination, especially if the host economy is also characterized by informality. Empirically testing these ideas brings important evidence for the policy discussion. However, while the results of the effects of informality on entrepreneurial activities appear to be ambiguous, Amorós *et al.* (2016) find informality influences total early-stage entrepreneurial activity (TEA), as well as opportunity and necessity entrepreneurship. Nonetheless, Siqueira *et al.* (2016) suggest informality is a decision driven by both cost of registering and risk reduction for entrepreneurs considering industry conditions. This implies informality can become an obstacle to entrepreneurship motivated by opportunity reasons, since the cost and risk of starting a registered business that complies with standards can be high, but the expected benefits cannot be achieved (Amorós *et al.*, 2016). Due to this, people may be encouraged to become self-employed in countries where informality is high enough to influence entrepreneurial decisions, which are against opportunity seeking.

Certainly, both external and internal institutions reinforce each other to affect entrepreneurship (Mickiewicz *et al.*, 2019). In our case, immigration and informality take place simultaneously in the Colombian regions. Hence, it is important to explore the extent to which informality (as an internal institutional characteristic) modifies the effect that immigration (bringing external customs, habits, etc.) has on the different types of entrepreneurial activities. Pisani and Morales (2020) state that informality plays an important role in the creation of Latino-owned businesses (LOBs) in the United States. Consistent with evidence in developed countries, Kontos (2003) presents results for Germany, showing that immigrants are excluded from political and social participation, and that they do not have the possibility to access economic resources that allow them to carry out entrepreneurial activities, hence pushing them into self-employment in the informal labor market. However, Pisani *et al.* (2017) find gender, financial access, residence, and business

language are significant determinants in entrepreneurial decisions between necessity- and opportunity-driven Latino enterprises. In addition, the authors assert informality plays a fundamental role in the effects of immigration on opportunity entrepreneurship, given that business relationships in Spanish are essential, so that small entrepreneurs are not tracked by the US government. Along the same lines, Pisani (2018) claims that since South Texas is a region with high informality, it represents an incentive for immigrants to settle there, which has represented the persistence of entrepreneurship by opportunity. However, this generates, in turn, an effect on self-employment, as there is enough competition with the arrival of new labor. Thus, self-employment is a response to unemployment in the South Texas region, which might be similar to Latin American countries due to the high level of informality. Amorós *et al.* (2016) also suggest that informality generates an opportunity for entrepreneurs by opportunity to reduce labor costs from Venezuelan labor. However, it represents a disadvantage for self-employees since immigrants represent a competition. Thus, we state that:

H2a. The informal labor sector in Colombian regions weakens the negative effects of Venezuelan immigrants on employers (as opportunity-driven entrepreneurs).

H2b. The informal labor sector in Colombian regions strengthens the positive effects of Venezuelan immigrants on self-employment (with necessity issues).

H2c. The informal labor sector in Colombian regions strengthens the positive effects of Venezuelan immigrants on own-account workers (with opportunity reasons).

Methodology
Data and descriptive statistics
Our main data source is the monthly Labor Survey *Gran Encuesta Integrada de Hogares (GEIH)* from DANE (2018), a nationally representative survey, which aims to collect basic information on labor markets in Colombia regardless of migration status of the interviewee. It contains a migration module that allows tracking all people that report having migrated within Colombia and coming from abroad during the last 5 years, 12 months, or being born in other countries. Although the module does not ask any questions on migration status, it allows for tracking irregular as well as regular migrants. This data source allows us to build a balanced pseudo-panel from 2014 through 2018 at the departamental level, composed of 1,776,063 observations (i.e. random people who were actively working in the departments of Colombia). Given that our database comes from a survey, we apply the respective expansion factor to extrapolate results of entrepreneurship and immigration with and without informality bias (as well as controls) from the sample to the Colombian population (DANE, 2018). In addition, given the adaptive capacity of Venezuelan migration to the Colombian labor market (Caruso *et al.*, 2021; Erdiaw-Kwasie *et al.*, 2019; Massey *et al.*, 1993), it should be clarified that our data capture the last major migration wave of 2018.

Entrepreneurship. To test our two hypotheses, we measure entrepreneurship as individuals working as employers (a person who provides jobs – usually associated with opportunity reasons), self-employees (who might be characterized by necessity issues), and own-account workers, who tend to create employment in the economy based on opportunity reasons (Margolis, 2014; Millán *et al.*, 2014). The prior literature in entrepreneurship suggests related self-employment in emerging economies is a necessity to undertake entrepreneurial activities for survival reasons. For example, Puente *et al.* (2019, p. 958) explain that "necessity-driven entrepreneurs have low growth aspirations, indicating that the venture is more an option for self-employment rather than an initiative to establish an organization that will grow and consolidate …" Similarly, Margolis (2014) and Millan *et al.* (2014) explain opportunity entrepreneurship is likely commensurate with individuals' educational

attainment, as growth aspiration strategies require not only experience, but also formal knowledge. The question we utilized for the entrepreneurship variables is: "In this job, you are [available options]: worker or employee of a private enterprise; government worker or employee; domestic employee; self-employed; employer; unpaid family worker; unpaid worker in other family businesses; laborer or day laborer; other." For the employer variable, we directly utilized the option "employer"; for the self-employed variable, we used the respective option in the questionnaire ("self-employed"), and for the own-account worker we considered self-employees with less than five employees (Aparicio *et al.*, 2013). These types of entrepreneurial activities are captured through dummy variables equal to 1 if the individual chooses any of these options, 0 otherwise.

Migration. In the GEIH survey, there are three ways to capture migration, which is our main predictor: (1) those who were born in Venezuela; (2) short-term migrants (i.e. those who lived in Venezuela 12 months ago, from any nationality); and (3) the long-term migrants (i.e. those who lived in Venezuela 5 years ago, from any nationality). Given our approach, we use the first way to capture migration, given that we only want to capture the effect of Venezuelans. Overall, this is a dummy variable that takes the value 1 if the individual was born in Venezuela, 0 otherwise. The prior literature has similarly approached this variable to disentangle spillover effects of Venezuelan migration on economic outcomes (see, e.g. Bahar *et al.*, 2021; Caruso *et al.*, 2021).

Informality. The other variable we use to split the sample and assess immigration and entrepreneurship in subgroups is informality. This variable takes the value of 1 when a person who belongs to the labor market does not contribute to the health and pension system (García, 2017), and 0 otherwise. According to García (2017), there are two approaches to defining informality in the literature: productivity and legalistic definition. The author states that the labor market in Colombia is heterogeneous, given that both voluntary and involuntary informal employment coexist by choice and as a consequence of labor market segmentation. For this reason, we used the legalistic approach as it may adequately represent the reality of the Colombian labor market.

Controls. Finally, in the literature on immigration and entrepreneurship, variables such as age, gender, education, and socio-economic status can affect the decisions of individuals to engage in entrepreneurial activities (Caruso *et al.*, 2021; Mickiewicz *et al.*, 2019). That is why we consider these variables as controls.

Methods and empirical strategy
The following model has been utilized to quantify the effect of Venezuelan immigrants on entrepreneurship of individual i in department d in year t in Colombia:

$$E_{idt} = \alpha + \beta_1 M_{dt} + X_{idt}\beta + \sum_{t=1}^{T} \tau_t + \sum_{d=1}^{D} \delta_d + \varepsilon_{idt} \qquad (1)$$

where E_{idt} relates to entrepreneurial decisions such as employer, self-employment, and own-account worker. We use Venezuelan immigrants, M_{dt}, as predictors of these entrepreneurial decisions. We also control for several individual socio-economic characteristics, X_{idt}, which include the individual's age, age^2, gender, education level, and hours worked. Time, τ_t, and department, δ_d, fixed effects were included to control for time and regional invariant factors and cyclical business trends that influence labor market conditions. Standard errors are corrected by sampling design (Cameron and Miller, 2015).

Our main parameter of interest is β_1, which is the effect of Venezuelan immigrants on entrepreneurship in Colombian regions. According to our hypotheses, we expect it to be positive and significant across the different approaches of individual entrepreneurial

decisions. However, the identification of β_1 might suffer from endogeneity. The exclusion of factors varying in time as well as the self-selection of immigrants into regions with better economic opportunities might lead to a reverse causality bias. Therefore, we use an instrumental variable approach based on the Bartik or shift-share instrument. Following Del Carpio and Wagner (2017), Morales (2018), and Caruso *et al.* (2021), we define our variable as follows:

$$IV_{dt} = \sum_v \frac{1}{T_{vd}} \delta_v \gamma_t \tag{2}$$

where T_{vd} is the travel distance between each Venezuelan state v and each Colombian department d; δ_v is the participation of Colombian people in each Venezuelan state v before the Venezuelan crisis (in our case, this is before 2014). This participation ensures the assumption of exogeneity, since it is the participation in a period outside of our analysis. Finally, γ_t is the stock of Venezuelan immigrants in Colombia in year t. The distance is calculated using the travel distance between the center of the main city of each department between Colombia and Venezuela. We use the Venezuelan Census of 2011 to derive the pre-crisis share of Colombian people that resided in a Venezuelan province (INE, 2011).

Once our instrumental variable shift-share instrument is built, we proceed to perform the estimation by ordinary least squares (OLS) to discover the relationships of our main variables, to then carry out our main estimates (two-stage least squares estimation [2SLS]). As our dependent variables corresponding to entrepreneurship and our independent variables corresponding to immigration are binary, we decided to perform a standard linear model estimated by 2SLS, since this is what the literature suggests in these cases (Angrist and Pischke, 2008). Table A1 shows that the migrant variable is endogenous and therefore we must make an estimation by 2SLS with the instrumental variable, which is a valid instrument.

Results

Descriptives

Table 1 shows descriptive statistics such as the mean, standard deviation, as well as percentiles 50 and 90. It shows that the level of self-employment is 46.1%, on average. Also, Figure 2 shows how, over time, self-employment has increased at the regional level, perhaps due to the increase in Venezuelan employment, given that the departments with the greatest increase are those bordering Venezuela. Similar patterns are observed for employers and own-account workers in Table 1. Regarding Venezuelan immigration, Figure 3 shows that there has been a significant change over time, since although there was a growth from 2014 through 2016, this is not comparable with the migration shock that occurred in 2018, which allowed 1,272,432 Venezuelans to live in Colombia, representing 166% more than in 2017. Figure 3 also allows us to get a first look at the possible magnitude of this variable on self-employment, given that informality has not changed much over time, yet it has maintained very high levels (between 60 and 80%) in many Colombian departments. As suggested before, this might point to a potential endogeneity problem.

Table 2 shows the first-stage regression, which enables us to observe the existing significance between the chosen instrument and our endogenous variable, migration. In addition, Table A2 presents the first-stage regression summary statistics, which show an R-squared equal to 0.82. Table 2 also shows that the F-test is higher than the critical values above 10%, which allows us to reject the null hypothesis that our instrument is weak. Therefore, we can rely on our main findings.

Table 3 displays our baseline results regarding the effects of Venezuelan immigrants on entrepreneurship. In models 1 (using an OLS specification) and 2 (using an instrumental variable (IV) specification), we use employer as the dependent variable; models 3 (using an

	Observations	Mean	St. dev	p50	p90
Employer	1,776,063	0.036	0.186	0.000	0.000
Self-employment	1,776,063	0.461	0.498	0.000	1.000
Own account workers	1,776,063	0.497	0.500	0.000	1.000
Migrant	1,776,063	0.013	0.115	0.000	0.000
Age	1,776,063	39.820	14.299	38.000	59.000
Young (<14 years old)	1,776,063	0.181	0.385	0.000	1.000
Male (yes = 1)	1,776,063	0.548	0.498	1.000	1.000
No diploma (yes = 1)	1,776,063	0.019	0.136	0.000	0.000
High-school (yes = 1)	1,776,063	0.330	0.470	0.000	1.000
Technical technological (yes = 1)	1,776,063	0.124	0.330	0.000	1.000
Bachelor degree (yes = 1)	1,776,063	0.099	0.298	0.000	0.000
Postgraduate (yes = 1)	1,776,063	0.042	0.200	0.000	0.000
Weekly worked hours	1,776,063	44.885	16.801	48.000	63.000

Table 1.
Summary statistics

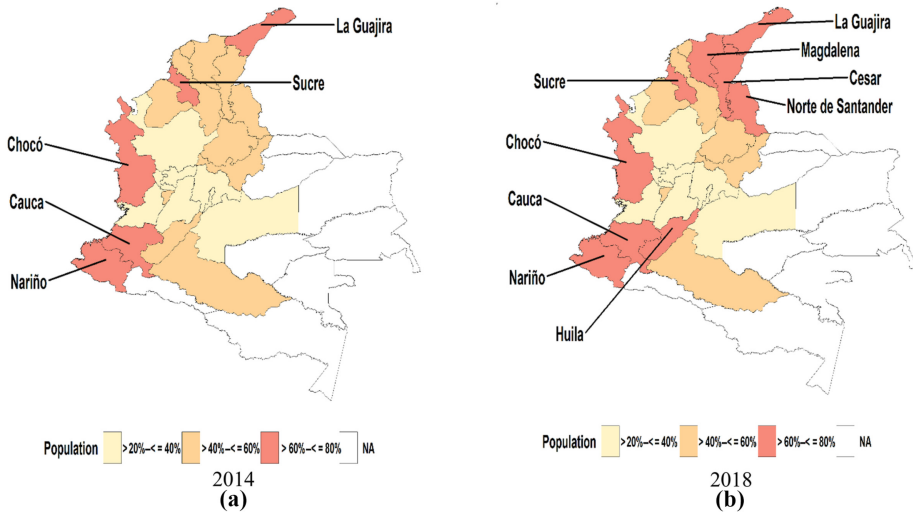**Source(s):** Authors' calculations using the GEIH-DANE (2014–2018)

Figure 2.
Spatial distribution of self-employment from 2014 to 2018 in Colombia

Source(s): Own elaboration with GEIH data

OLS specification) and 4 (using an IV specification) study the effects on self-employment, and models 5 (using an OLS specification) and 6 (using an IV specification) present the effects over own-account workers. Models 2, 4, and 6 show results through 2SLS, hence overcoming the endogeneity problem that originated from the potential self-selection of immigrants. As heteroskedasticity and multicollinearity problems might exist, we perform variance inflation factor (VIF) and Breusch–Pagan/Cook–Weisberg tests, respectively. As shown in Table 3, the VIF value is less than 6 for all models. According to Hsieh *et al.* (2003) and Neter *et al.* (1989), our results are under the critical value threshold of 10, which is why no collinearity issues are identified. Concerning heteroskedasticity, Breusch–Pagan/Cook–Weisberg test reveals that this is a potential problem (Prob > F = 0.000 for all models). To tackle this issue, our models are estimated with robust standard errors adjusted for the impact of small samples, clustering by departments and years (Mansournia *et al.*, 2021).
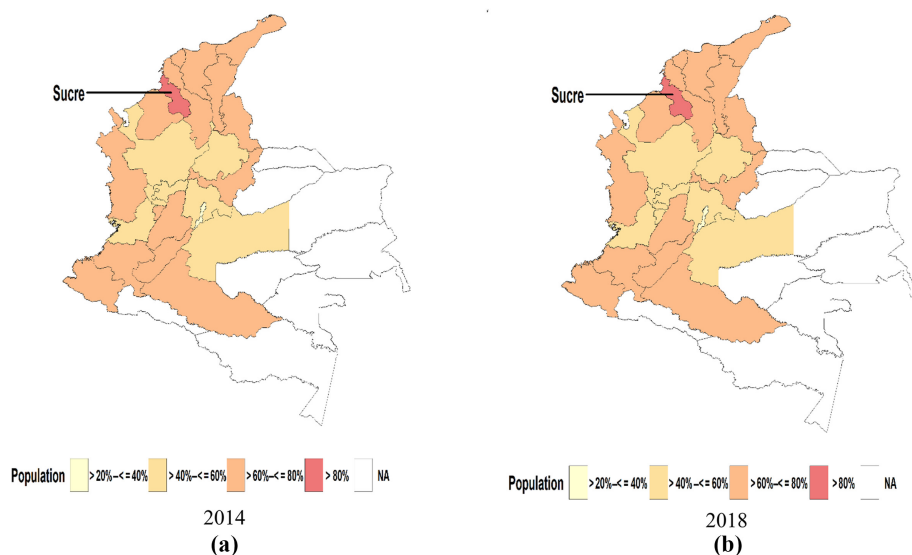
Figure 3.
Spatial distribution of
informality from 2014
to 2018 in Colombia

Source(s): Own elaboration with GEIH data

	(1)	(2)	(3)	(4)
IV (per 10,000)	0.004*** [0.001]	0.004*** [0.001]	0.004*** [0.001]	0.004*** [0.001]
Individual controls	No	Yes	Yes	Yes
Economic sector FE	No	No	Yes	Yes
Income level FE	No	No	No	Yes
Department FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	1,776,063	1,776,063	1,776,063	1,776,063
F-stat	790.215	274.865	162.881	149.320
R-squared	0.021	0.024	0.027	0.027

Note(s): *$p < 0.1$, **$p < 0.05$ and ***$p < 0.01$. Robust standard errors correct by sampling design. All models include constant. Individual controls include sex, age, age squared, no diploma (yes = 1), High-school (yes = 1), Technical technological (yes = 1), bachelor's degree (yes = 1), Postgraduate (yes = 1), Weekly worked hours. We only considered people in working age who are actively working
Source(s): Authors' calculations using the GEIH-DANE (2014–2018)

Table 2.
First stage results

Table 4 complements our analysis of immigration and entrepreneurship by splitting the sample into those who are in the formal and informal sectors. By acknowledging the IV approach, models 1, 3, and 5 focus on the effect of immigration on those employers, self-employees, and own-account workers, respectively, who are in the informal sector. Models 2, 4, and 6 have the same structure for the formal sector. Tables 3 and 4 show that our initial specification captures the variability of entrepreneurship. Likewise, for all the models in Table 4, the standard errors were corrected using the sampling design. Thus, it can be stated that there is strength in the relationship between our models and the respective dependent variables.

	Dep var = Employer (yes = 1)		Dep var = Self-employment (yes = 1)		Dep var = Own account workers (yes = 1)	
	OLS (1)	IV (2)	OLS (3)	IV (4)	OLS (5)	IV (6)
Migrant	−0.021*** [0.002]	−0.104*** [0.035]	0.071*** [0.005]	0.711*** [0.086]	0.050*** [0.005]	0.605*** [0.083]
Individual controls	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Economic sector FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Income level FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Department FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Month FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Dep Var – Mean	0.036	0.036	0.461	0.461	0.497	0.497
Observations	1,776,063	1,776,063	1,776,063	1,776,063	1,776,063	1,776,063
Adj. R-squared	0.047	0.042	0.218	0.146	0.224	0.165
Kleibergen-Paap F statistic		784		784		784
VIF	5.87		5.38		5.38	

Note(s): *p < 0.1, **p < 0.05 and ***p < 0.01. Robust standard errors correct by sampling design. All models include constant. Individual controls include sex, age, age squared, no diploma (yes = 1), High School (yes = 1), Technical Technological (yes = 1), bachelor's degree (yes = 1), Postgraduate (yes = 1), Weekly worked hours. We only considered people in working age who are actively working

Source(s): Authors' calculations using the GEIH-DANE (2014–2018)

Table 3.
Baseline results (H1a, H1b, H1c)

	Dep var = Employer (yes = 1)		Dep var = Self-employment (yes = 1)		Dep var = Own account workers (yes = 1)	
	Informal sector (1)	Formal sector (2)	Informal sector (3)	Formal sector (4)	Informal sector (5)	Formal sector (6)
Migrant	−0.072** [0.034]	−1.150** [0.491]	0.553*** [0.077]	−1.288 [0.975]	0.479*** [0.072]	−2.430** [1.118]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Economic sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Income level FE	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	No	Yes	No
Dep var – Mean	0.037	0.035	0.667	0.202	0.704	0.237
Observations	988,493	787,570	988,493	787,570	988,493	787,570
Kleibergen-Paap F statistic	721	17.96	721	17.96	721	17.96

Note(s): *$p < 0.1$, **$p < 0.05$ and ***$p < 0.01$. Robust standard errors correct by sampling design. All models include constant. Individual controls include sex, age, age squared, no diploma (yes = 1), High School (yes = 1), Technical Technological (yes = 1), bachelor's degree (yes = 1), Postgraduate (yes = 1), Weekly worked hours. We only considered people in working age who are actively working
Source(s): Authors' calculations using the GEIH-DANE (2014–2018)

Table 4.
Informality bias (H2a, H2b, H2c)

Hypothesis testing

Regarding the hypothesis testing, H1a suggested there is a negative effect of Venezuelan immigrants on employers (as opportunity-driven entrepreneurs) in the regions of Colombia. H1b referred to the positive effect of Venezuelan immigrants on self-employment (with necessity issues) in the regions of Colombia, which is similar to H1c (focused on the positive effect of Venezuelan immigrants on own-account workers (with opportunity reasons). Our results show there is effectively a negative effect of Venezuelan immigrants on employers (as opportunity-driven entrepreneurs); however, the encountered effect is positive when it comes to self-employees (with no jobs generation) and own-account workers (who create a few jobs)). Thus, results support the first set of hypotheses as there is a positive and significant relationship between Venezuelan immigration and entrepreneurship by necessity (i.e. self-employment). Since our dependent and independent variables are binary, the interpretation should always be considered as a difference of mean. Hence, on average, an increase by 1% in Venezuelan immigration generates a 0.71% increase in entrepreneurship by necessity (self-employment). In turn, Venezuelan immigration has both a negative and positive significant effect on entrepreneurship by opportunity ($\beta_1 = 0.10$, $p < 0.01$, Model 2; and $\beta_1 = 0.60$, $p < 0.01$, Model 6). This might depend on how entrepreneurs perceive the arrival of a new labor force as either high- or low-cost (Caruso *et al.*, 2021). For example, employers could have the possibility of acquiring a relatively inexpensive labor force, although institutions such as market regulations do not allow entrepreneurs to hire immigrants at the (new) market salary. However, own-account workers might take advantage of this situation. As our estimates include the last big migration wave in early 2018, this implies an exorbitant increase in labor supply, which will be absorbed mostly by informal and poorly paid jobs (with verbal contracts in most of the cases). Hence, an increase by 1% in Venezuelan immigration generates an increase of 0.60% in own-account workers and a decrease of 0.10% of employers. Thus, based on findings in Table 3, the first set of hypotheses is supported. We did find a significant effect on *entrepreneurship by necessity* (i.e. self-employment),

nonetheless, we found a mixed result for *opportunity-driven entrepreneurship* (negative effects for employers and positive effect for own-account workers). Although under different conditions, these results are consistent with what was found by Fairlie and Meyer (2003) and Li (2001).

H2a suggested the informal labor sector in Colombian regions weakens the negative effects of Venezuelan immigrants on employers (as opportunity-driven entrepreneurs). Contrary to this, H2b and H2c posited the informal labor sector in Colombian regions strengthens the positive effects of Venezuelan immigrants on self-employment (with necessity issues) and own-account workers (with opportunity reasons). Effectively, opportunity-driven entrepreneurship is weakened in both informal and formal sectors (Siqueira *et al.*, 2016), although the effect is higher on the latter than the former. However, Venezuelan immigrants strengthen self-employment (by necessity) as was expected (Pisani, 2018). Own-account workers are also strengthened in the informal sector, but weaker in the official sector. Table 4 presents the results for our three proxies of entrepreneurship. The instrumented point estimates show statistical evidence that supports our hypotheses. That is, most of the effect of the Venezuelan migration on entrepreneurial activity in Colombia took place in the informal sector. Here, an increase of 1% in Venezuelan migration that is part of the unofficial economy leads to an increase in self-employment (of 0.55%) and own-account workers (of 0.47%). However, a variation in Venezuelan migration reduces employers' rate by 0.07% in the informal sector. When looking in the formal sector, we found a negative effect in our three outcomes. Thus, we confirm that informality plays an essential role in strengthening the spillover effects that immigration has on entrepreneurship driven by necessity even more in developing regions, where self-employment is an escape route from unemployment. This supports what Pisani (2018), Pisani *et al.* (2017) and Pisani and Morales (2020) state.

Sensitivity analysis
Complementing our main results, some estimates are made in order to identify whether this flow of immigrants changes the effect on our dependent variables. If we do not consider the border departments and the departments with the largest economies, then it would give us clues as to whether convergence across departments may bias the estimates if immigrants move to certain departments (Peri, 2012). Therefore, we performed two types of robustness checks.

First, Table A3 allows us to identify whether the estimations are tied to the convergence of immigrants to the departments with a larger economy or to the border departments. If these estimates remain significant, then we ensure that the interpretations are not subject to certain specific departments. This is important since these departments present a greater concentration of Venezuelan immigrants. According to Table A3, immigration maintains both the significance and the magnitude of its effect on entrepreneurial activities, thus being −0.13 for the employer variable, 0.59 for self-employment, and 0.45 for own-account workers. In addition, its standard errors remain relatively similar, which ensures that these coefficients do not lose their explanatory power. This same behavior occurs for the other variables in the model.

Second, Table A4 allows us to assert that the border departments do not produce a proximity bias with the country of origin, in this case Venezuela. As in Table A3, the significance and coefficients are relatively equal for all variables and their standard errors do not increase significantly.

Observing the results in Table A2, we can assure that the migration variable is subject to endogeneity problems. However, in Table A1 and Table 2, it is confirmed that the utilized instrument has explanatory power over the established variables and is a good instrument for the migration variable. These results remain robust when some variations are applied, thus we are confident about the obtained estimations.

Discussion and implications

There is a well-established positive relationship between migration from developing-to-developed countries and entrepreneurship (Honig, 2020; Lee and Eesley, 2018; Peroni *et al.*, 2016; Vershinina and Rodgers, 2019; Zapata-Barrero and Rezaei, 2020; Zelekha, 2013). However, there is a lack of understanding of the intersection between a large migratory flow between two developing countries and entrepreneurial activities (Bauer, 2019; Ekanem, 2019). Building upon an institutional approach (North, 1990) and using the case of Venezuelan migration in Colombia, this paper had a twofold purpose. First, it explored how Venezuelan immigration affects entrepreneurial activity in Colombian regions. Second, it intended to shed light on this relationship, by distinguishing between formal and informal sectors.

Based on the empirical analysis, we presented three main findings. First, it is stated that the Venezuelan migratory flow encourages entrepreneurship by necessity (i.e. self-employment) and own-account workers, but it discourages entrepreneurship by opportunity (i.e. employers); thus confirming what Fairlie and Meyer (2003) and Li (2001) expose. Second, this same behavior is observed with informality, contributing to the literature proposed by Fiess *et al.* (2010) and Siqueira *et al.* (2016). Finally, we found that informality strengthens the spillover effect that Venezuelan immigration has on self-employees and own-account workers, confirming what Pisani and Morales (2020) have stated in the literature and establishing that informality strengthens the effect on self-employment. In addition to coinciding with the concepts of legitimacy (Suchman, 1995), our results would expect Venezuelan immigrants to work in the informal economy, and even more so if the destination country (such as Colombia) has a high percentage of informality. Likewise, our results are in line with Pisani (2018) and Pisani *et al.* (2017). Additionally, as informality in Colombia is heterogeneous (García, 2017), the government plays a fundamental role in coordinating both external and internal institutions. In this regard, some theoretical and policy implications may be discussed.

Theoretical implications

Observing the intersection between immigration and entrepreneurship from an institutional perspective (North, 1990) has become a key point in entrepreneurship research (cf. Aliaga-Isla and Rialp, 2013). While the literature about institutions and entrepreneurial activity is abundant (Urbano *et al.*, 2019), much more evidence is required to comprehend the underlying mechanisms of external cultural shocks that immigrants bring to local economies (Mickiewicz *et al.*, 2019); especially in turbulent environments such as emerging economies (Welter and Smallbone, 2011). That is, indeed, the main theoretical aspect stemmed from our study. Theoretical contributions, such as the knowledge spillover theory of entrepreneurship (Acs *et al.*, 2009), have brought entrepreneurs in as central players in the development process. Accordingly, individuals with an entrepreneurial mindset are able to identify the existing knowledge as potential productive projects (Acs *et al.*, 2013). Knowledge is the ingredient that economies need to motivate people to bring social solutions through entrepreneurship. Under this perspective, both Acs *et al.* (2009) and Acs *et al.* (2013) suggest that other (established) firms become the starting point of such knowledge, which seems to open the possibility for others to explore alternative sources of knowledge. Audretsch and Link (2019) found new evidence that contributed to this discussion. In this case, governments played an important role in supporting knowledge through grants. Yet, this research line left countries' frontiers closed, implying that perhaps knowledge is created and developed within a particular economy.

From a different angle, Hausmann (2016) built his scrabble theory of economic development upon foreign knowledge, which is transmitted to others faster than learning from what exists within countries. Although this theoretical approach fits perfectly the analysis of immigration as an engine for growth, it leaves behind the influence of those

institutions conditioning economic decisions of individuals (including entrepreneurs). In fact, Hausmann (2016, p. 13) explicitly mentions that development differences across regions "... suggest[s] that the issue involves more than just national political institutions ...". Even though we agree with this statement, current institutions in Colombia may impose natural barriers to Venezuelan immigrants, so the external shock originated in the migration crisis may hit entrepreneurial decisions in the Colombian labor market in different ways compared to what theories suggest. Certainly, during the first migration wave, new knowledge arrived in Colombian bringing economic benefits to different regions (Bahar *et al.*, 2021). Nonetheless, our findings reveal that the internal structure characterized by the informal labor market created incentives for entrepreneurs to strategically use new resources for labor-intensive activities rather than knowledge activities. Hence, the existing informality within the country may reduce the potential knowledge that may help the economy grow. Instead, it seems that immigration created internal competition, with harmful effects for some individuals (e.g. self-employees) and favorable results for some others (e.g. employers).

The distinction between self-employees, own-account workers, and employers becomes another contribution of our study. Puente *et al.* (2019) comprehensively explain how individuals in Latin America enter into informal entrepreneurship because of necessity issues. Being in the informal sector is not a negative aspect *per se*. For example, De Castro *et al.* (2014) recognize the capacity of informal firms to navigate hostile environments, which might suggest that the system of incentives conditions entrepreneurial decisions, such as staying as a formal or informal firm. Siquiera *et al.* (2016) demonstrates this assumption holds at a lower level, such as industry. Accordingly, dynamic sectors are associated with higher levels of informal businesses. We add to this literature by showing that Venezuelan immigration reinforces its influence on self-employees, own-account workers, and employers when they are part of the informal sector. Regardless of the knowledge Venezuelans can bring to the Colombian economy, informality makes worse the market competition of employers, hence pushing people to opt for activities driven by necessity (e.g. self-employees) or opportunity entrepreneurship (e.g. own-account workers) creating a few jobs.

Policy implications
Our results seem to reveal that the informal labor market is overflowing, and the Venezuelan migratory flow to the different departments of Colombia generates competition between native and foreign workers because much of the employment is generated through self-employment (Fiess *et al.*, 2010) or opportunity identification, with only a few jobs created (Millán *et al.*, 2014; von Bloh *et al.*, 2020). Thus, although there are formal institutions, such as sanctions by government entities to those hiring employees below the minimum wage, it appears those who benefit the most are these entrepreneurs by opportunity (i.e. own-account workers), since Venezuelan employees reduce their labor costs due to the labor force supply. This complements what Caruso *et al.* (2021) found in terms of lower wages as a result of immigration. The Colombian government could therefore generate inclusive labor laws to take advantage of the Venezuelan labor force, which means a fair agreement for both own-account workers and employees, and thus promote entrepreneurship in the different regions of Colombia.

In addition, there seems to be a disincentive to remain in the labor market as a self-employee, putting an additional pressure on the labor market equilibrium. Accordingly, migration policies may be designed to create incentives for the least skilled Venezuelan labor force, which settles in departments where economic activities are more labor-intensive, thus allowing larger cities to keep the most qualified Venezuelan labor force. This would not only contribute to the decrease in the high costs in health, education, and housing that local governments of the largest departments (e.g. Bogota, Antioquia, and Valle del Cauca) have

incurred, but it can also generate a possible increase in regional productivity, given the adequate relocation of this workforce (Peri, 2012), boosting the Colombian economy.

Acknowledging the importance of Venezuelan migration for entrepreneurship and productivity in Colombian regions might also unveil the relevance of exchanging cultures that benefit both countries. During the dictatorship in Venezuela, a conflict between the countries emerged. Transcending political parties and ideologies, our results suggest that entrepreneurship arises thanks to the coexistence of multiculturality, which involves not only experience but also skills and abilities. The Venezuelan tradition in economic sectors such as oil extraction, production, and management becomes an element that complements Colombian strengths (e.g. coffee, gold, electricity, etc.), and vice versa. By encouraging this synergy, both countries might find in entrepreneurship a solution to mitigate potential conflicts.

Conclusion

In conclusion, this study has shed light on the previously less-explored relationship between immigration and entrepreneurship among developing countries with high informality level. Our findings suggest Venezuelan migration to Colombia created distortions in the market of entrepreneurs, increasing self-employment (with necessity pressure) as well as own-account working (driven by opportunity recognition). Although the latter contributes to job creation, its effects on the Colombian economy might not be as high as those by employers, who create much more employment. However, migration is negatively associated with this type of entrepreneurial activity. These results are notorious when formal and informal sectors are contrasted. This is what makes the analysis of migration across two developing countries particularly valuable. These findings highlight the structural problems of the Colombian labor market, where foreign knowledge does not become a valuable asset. Instead, the arrival of a new labor force overpressures entrepreneurial decisions, such as self-employment. Furthermore, it seems own-account workers are motivated to reduce labor costs even against formal rules.

Although we focus only on informality, some other factors that characterize the institutional and economic setting of Colombian regions remain unexplored (e.g. violence, innovation level, rurality/urbanism, etc.). Hence, future research might focus on identifying the mechanisms by which these spillover effects are occurring. Considering everyday entrepreneurship (Welter *et al.*, 2017) may also shed light on different types of entrepreneurship emerging from new interactions among Venezuelan and Colombian people. As the political and migratory crises in Venezuela affected Colombia and other countries in Latin America, such as Peru, Chile, Brazil, etc., future research could be interested in exploring whether their labor markets and, particularly, entrepreneurship, were affected by mass immigration. Comparable results would lead to local and, most importantly, cross-national policy design which helps Latin America as a region. Regarding short-term effects of Venezuelan migrants on the Colombian economy, future research might offer a complementary analysis that considers long-term effects for Colombia and other countries in Latin America. This would also lead to deeper analyses about drastic changes in the migratory wave composition and their relationship with entrepreneurship. Despite these limitations, we believe that policy implications for the Colombian context can be drawn from this exploratory research.

References

Acs, Z.J., Audretsch, D.B. and Lehmann, E.E. (2013), "The knowledge spillover theory of entrepreneurship", *Small Business Economics*, Vol. 41 No. 4, pp. 757-774.

Acs, Z.J., Braunerhjelm, P., Audretsch, D.B. and Carlsson, B. (2009), "The knowledge spillover theory of entrepreneurship", *Small Business Economics*, Vol. 32 No. 1, pp. 15-30.

Afreh, B., Rodgers, P., Vershinina, N. and Williams, C.C. (2019), "Varieties of context and informal entrepreneurship: entrepreneurial activities of migrant youths in rural Ghana", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 5, pp. 996-1013.

Aliaga-Isla, R. and Rialp, A. (2013), "Systematic review of immigrant entrepreneurship literature: previous findings and ways forward", *Entrepreneurship and Regional Development*, Vol. 25 Nos 9-10, pp. 819-844.

Amorós, J.E., Borraz, F. and Veiga, L. (2016), "Entrepreneurship and socioeconomic indicators in Latin America", *Latin American Research Review*, Vol. 51 No. 4, pp. 186-201.

Angrist, J.D. and Pischke, J.S. (2008), *Mostly Harmless Econometrics*, Princeton University Press, Princeton.

Aparicio, S., Ramírez Hassan, A. and Gómez, D.F. (2013), "Selecting occupations to create jobs using discrete choice models: Medellin Metropolitan Area 2009", *Estudios Gerenciales Journal of Management and Economics for Iberoamerica*, Vol. 29 No. 129, pp. 476-484.

Aparicio, S., Urbano, D. and Audretsch, D. (2016a), "Institutional factors, opportunity entrepreneurship and economic growth: panel data evidence", *Technological Forecasting and Social Change*, Vol. 102, pp. 45-61.

Aparicio, S., Urbano, D. and Gómez, D. (2016b), "The role of innovative entrepreneurship within Colombian business cycle scenarios: a system dynamics approach", *Futures*, Vol. 81, pp. 130-147.

Audretsch, D.B. and Link, A.N. (2019), "Entrepreneurship and knowledge spillovers from the public sector", *International Entrepreneurship and Management Journal*, Vol. 15 No. 1, pp. 195-208.

Azicri, M. (2009), "The Castro-Chávez alliance", *Latin American Perspectives*, Vol. 36 No. 1, pp. 99-110.

Bahar, D., Ibáñez, A.M. and Rozo, S.V. (2021), "Give me your tired and your poor: impact of a large-scale amnesty program for undocumented refugees", *Journal of Development Economics*, Vol. 151, 102652.

Bauer, K. (2019), "Extending and restricting the right to regularisation: lessons from South America", *Journal of Ethnic and Migration Studies*, In press. doi: 10.1080/1369183X.2019.1682978.

Baumol, W.J. (1990), "Entrepreneurship: productive, unproductive, and destructive", *Journal of Political Economy*, Vol. 98 No. 5, pp. 893-921.

Bertocchi, G. and Strozzi, C. (2008), "International migration and the role of institutions", *Public Choice*, Vol. 137 Nos 1-2, pp. 81-102.

Bettin, G., Bianchi, P., Nicolli, F., Ramaciotti, L. and Rizzo, U. (2019), "Migration, ethnic concentration and firm entry: evidence from Italian regions", *Regional Studies*, Vol. 53 No. 1, pp. 55-66.

Borjas, G.J. (1986), "The self-employment experience of immigrants", *The Journal of Human Resources*, Vol. 21 No. 4, pp. 485-506.

Bruton, G.D., Ahlstrom, D. and Puky, T. (2009), "Institutional differences and the development of entrepreneurial ventures: a comparison of the venture capital industries in Latin America and Asia", *Journal of International Business Studies*, Vol. 40 No. 5, pp. 762-778.

Bruton, G.D., Ahlstrom, D. and Li, H.L. (2010), "Institutional theory and entrepreneurship: where are we now and where do we need to move in the future?", *Entrepreneurship Theory and Practice*, Vol. 34 No. 3, pp. 421-440.

Cameron, A.C. and Miller, D.L. (2015), "A practitioner's guide to cluster- robust inference", *Journal of Human Resources*, Vol. 50, pp. 317-372.

Canclini, N.G. (2019), "A culture of informality", *Urban Studies*, Vol. 56 No. 3, pp. 488-493.

Caruso, G., Canon, C.G. and Mueller, V. (2021). "Spillover effects of the Venezuelan crisis: migration impacts in Colombia", *Oxford Economic Papers*, Vol. 73 No. 2, pp. 771-795.

Chong, A. and Gradstein, M. (2007), "Inequality and informality", *Journal of Public Economics*, Vol. 91 Nos 1-2, pp. 159-179.

Content, J., Bosma, N., Jordaan, J. and Sanders, M. (2020), "Entrepreneurial ecosystems, entrepreneurial activity and economic growth: new evidence from European regions", *Regional Studies*, Vol. 54 No. 8, pp. 1007-1019.

DANE –Departamento Administrativo Nacional de Estadística (2018), *Gran Encuesta Integrada de Hogares*, Bogotá D.C, available at: https://www.dane.gov.co/index.php/en/statistics-by-topic/labor-market.

De Castro, J.O., Khavul, S. and Bruton, G.D. (2014), "Shades of grey: how do informal firms navigate between macro and meso institutional environments?", *Strategic Entrepreneurship Journal*, Vol. 8 No. 1, pp. 75-94.

Decker, S., Estrin, S. and Mickiewicz, T. (2020), "The tangled historical roots of entrepreneurial growth aspirations", *Strategic Entrepreneurship Journal*, Vol. 14 No. 4, pp. 616-638.

Del Carpio, X. and Wagner, M. (2017), "The impact of Syrian refugees on the Turkish economy: regional labour market effects", *Social Sciences*, Vol. 6 No. 4, p. 129.

Ekanem, I. (2019), "Understanding internationalisation approaches and mechanisms of diaspora entrepreneurs in emerging economies as a learning process", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 5, pp. 819-841.

Erdiaw-Kwasie, M.O., Abunyewah, M. and Yamoah, O. (2019), "'After the disaster comes destination thoughts': a review and conceptualization of consolidative disaster adaptive capacity model", *International Journal of Disaster Risk Reduction*, Vol. 35, 101098, doi: 10.1016/j.ijdrr.2019.101098.

Fairlie, R.W. and Meyer, B.D. (2003), "The effect of immigration on native self-employment", *Journal of Labor Economics*, Vol. 21 No. 3, pp. 619-650.

Fiess, N.M., Fugazza, M. and Maloney, W.F. (2010), "Informal self-employment and macroeconomic fluctuations", *Journal of Development Economics*, Vol. 91 No. 2, pp. 211-226.

FIP (2018), Seguridad ciudadana y migración venezolana: análisis exploratorio, available at: http://ideaspaz.org/media/website/migracion-final.pdf.

García, G.A. (2017), "Labor informality: choice or sign of segmentation? A quantile regression approach at the regional level for Colombia", *Review of Development Economics*, Vol. 21 No. 4, pp. 985-1017.

Hausmann, R. (2016), "Economic development and the accumulation of know-how", *Welsh Economic Review*, Vol. 24, pp. 13-16.

Honig, B. (2020), "Exploring the intersection of transnational, ethnic, and migration entrepreneurship", *Journal of Ethnic and Migration Studies*, Vol. 46 No. 10, pp. 1974-1990.

Hsieh, F.Y., Lavori, P.W., Cohen, H.J. and Feussner, J.R. (2003), "An overview of VIFs for sample-size calculation", *Evaluation and the Health Professions*, Vol. 26 No. 3, pp. 239-257.

Instituto Nacional de Estadística de Venezuela – INE (2020), "XIV Censo Nacional de Población y Vivienda 2011", available at: http://www.redatam.ine.gob.ve/Censo2011/index.html.

Jain, A. and Pisani, M.J. (2008), "Small-and microenterprise business development in Costa Rica: an examination of domestic and foreign born entrepreneurs", *Latin American Business Review*, Vol. 9 No. 2, pp. 149-167.

Jütting, J. and de Laiglesia, J.R. (2009), *Is Informal Normal?: Towards More and Better Jobs in Developing Countries*, Development Centre of the Organisation for Economic Co-operation and Development, Paris.

Kazlou, A. and Klinthall, M. (2019), "Entrepreneurial response to changing opportunity structures: self-selection and incomes among new immigrant entrepreneurs in Sweden", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 5, pp. 859-879.

Kloosterman, R. and Rath, J. (2001), "Immigrant entrepreneurs in advanced economies: mixed embeddedness further explored", *Journal of Ethnic and Migration Studies*, Vol. 27 No. 2, pp. 189-201.

Kontos, M. (2003), "Self-employment policies and migrants' entrepreneurship in Germany", *Entrepreneurship and Regional Development*, Vol. 15 No. 2, pp. 119-135.

Lee, Y.S. and Eesley, C. (2018), "The persistence of entrepreneurship and innovative immigrants", *Research Policy*, Vol. 47 No. 6, pp. 1032-1044.

Levie, J. (2007), "Immigration, in-migration, ethnicity and entrepreneurship in the United Kingdom", *Small Business Economics*, Vol. 28 Nos 2-3, pp. 143-169.

Li, P.S. (2001), "Immigrants' propensity to self- employment: evidence from Canada", *International Migration Review*, Vol. 35 No. 4, pp. 1106-1128.

Li, Y. and Zahra, S.A. (2012), "Formal institutions, culture, and venture capital activity: a cross-country analysis", *Journal of Business Venturing*, Vol. 27 No. 1, pp. 95-111.

Mansournia, M.A., Nazemipour, M., Naimi, A.I., Collins, G.S. and Campbell, M.J. (2021), "Reflection on modern methods: demystifying robust standard errors for epidemiologists", *International Journal of Epidemiology*, Vol. 50 No. 1, pp. 346-351.

Margolis, D.N. (2014), "By choice and by necessity: entrepreneurship and self-employment in the developing world", *European Journal of Development Research*, Vol. 26 No. 4, pp. 419-436.

Massey, D.S., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A. and Taylor, J.E. (1993), "Theories of international migration: a review and appraisal", *Population and Development Review*, Vol. 19 No. 3, pp. 431-466.

Mickiewicz, T., Hart, M., Nyakudya, F. and Theodorakopoulos, N. (2019), "Ethnic pluralism, immigration and entrepreneurship", *Regional Studies*, Vol. 53 No. 1, pp. 80-94.

Migración Colombia (2019), "Migración venezolana corte 30 de septiembre 2019", Ministerio de Relaciones Exteriores, Bogotá, available at: https://www.migracioncolombia.gov.co/infografias/content/231-infografias-2019.

Millán, J.M., Congregado, E., Román, C., Van Praag, M. and Van Stel, A. (2014), "The value of an educated population for an individual's entrepreneurship success", *Journal of Business Venturing*, Vol. 29 No. 5, pp. 612-632.

Morales, J.S. (2018), "The impact of internal displacement on destination communities: evidence from the Colombian conflict", *Journal of Development Economics*, Vol. 131, pp. 132-150.

Neter, J., Wasserman, W. and Kutner, M.H. (1989), *Applied Linear Regression Models*, Vol. 1127, Irwin, Homewood, Illinois.

North, D.C. (1990), "Institutions, institutional change and economic performance", *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge.

Pasinetti, L.L. (2020), Economic theory and institutions, *Structural Change and Economic Dynamics*, In press. doi: 10.1016/j.strueco.2019.12.005.

Peri, G. (2012), "The effect of immigration on productivity: evidence from U.S. states", *Review of Economics and Statistics*, Vol. 94 No. 1, pp. 348-358.

Peroni, C., Riillo, C.A.F. and Sarracino, F. (2016), "Entrepreneurship and immigration: evidence from GEM Luxembourg", *Small Business Economics*, Vol. 46 No. 4, pp. 639-656.

Pisani, M.J. (2018), "Ethnic enterprise informality and entrepreneurship in a minority-majority region in the United States: Latinos in South Texas", *Informal Ethnic Entrepreneurship: Future Research Paradigms for Creating Innovative Business Activity*, Springer, Cham, pp. 149-162.

Pisani, M.J. (2021), "New age informality: hispanics and the sharing economy", *Administrative Sciences*, Vol. 11 No. 1, p. 23, doi: 10.3390/admsci11010023.

Pisani, M.J., Guzman, J.M., Richardson, C., Sepulveda, C. and Laulié, L. (2017), "Small business enterprises and Latino entrepreneurship: an enclave or mainstream activity in South Texas?", *Journal of International Entrepreneurship*, Vol. 15 No. 3, pp. 295-323.

Pisani, M.J. and Morales, A. (2020), "Informality and latino-owned businesses: a national portrait of unregistered Latino-owned businesses", *Social Science Quarterly*, Vol. 101 No. 2, pp. 588-603.

Puente, R., González Espitia, C.G. and Cervilla, M.A. (2019), "Necessity entrepreneurship in Latin America: it's not that simple", *Entrepreneurship and Regional Development*, Vol. 31 Nos 9-10, pp. 953-983.

Puente Castro, R., Mora Mora, J.U. and Pereira Laverde, F. (2020), "High-growth aspirations of entrepreneurs in Latin America: do alliances matter?", *Sustainability*, Vol. 12 No. 7, p. 2867.

Rashid, L. (2022), "An eclectic analysis of entrepreneurship motivation in conflict and refuge: the Syrian context", *International Journal of Entrepreneurship and Small Business*, Forthcoming.

Sheaff, R. (2000), "The new institutional economics: an application to public service governance design in UK primary health care", *Public Management*, Vol. 2 No. 4, pp. 441-455.

Siqueira, A.C.O., Webb, J.W. and Bruton, G.D. (2016), "Informal entrepreneurship and industry conditions", *Entrepreneurship Theory and Practice*, Vol. 40 No. 1, pp. 177-200.

Spindler, W. (2018), "Number of refugees and migrants from Venezuela reaches 3 million", UNHCR USA, available at: https://www.unhcr.org/news/press/2018/11/5be4192b4/number-refugees-migrants-venezuela-reaches-3-million.html (accessed 18 June 2020).

Stenholm, P., Acs, Z.J. and Wuebker, R. (2013), "Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity", *Journal of Business Venturing*, Vol. 28 No. 1, pp. 176-193.

Suchman, M.C. (1995), "Managing legitimacy: strategic and institutional approaches", *Academy of Management Review*, Vol. 20 No. 3, pp. 571-610.

Urbano, D. and Aparicio, S. (2016), "Entrepreneurship capital types and economic growth: international evidence", *Technological Forecasting and Social Change*, Vol. 102, pp. 34-44.

Urbano, D., Aparicio, S. and Audretsch, D. (2019), "Twenty-five years of research on institutions, entrepreneurship, and economic growth: what has been learned?", *Small Business Economics*, Vol. 53 No. 1, pp. 21-49.

Vershinina, N. and Rodgers, P. (2019), "Migration, enterprise and society", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 5, pp. 774-779.

von Bloh, J., Mandakovic, V., Apablaza, M., Amorós, J.E. and Sternberg, R. (2020), "Transnational entrepreneurs: opportunity or necessity driven? Empirical evidence from two dynamic economies from Latin America and Europe", *Journal of Ethnic and Migration Studies*, Vol. 46 No. 10, pp. 2008-2026.

Wahlgrén, A. and Virtanen, A. (2015), "Owner-managers' motivation and the growth of family owned small and medium-sized enterprises", *International Journal of Entrepreneurship and Small Business*, Vol. 26 No. 3, pp. 293-311.

Webb, J.W., Tihanyi, L., Ireland, R.D. and Sirmon, D.G. (2009), "You say illegal, I say legitimate: entrepreneurship in the informal economy", *Academy of Management Review*, Vol. 34 No. 3, pp. 492-510.

Welter, F., Baker, T., Audretsch, D.B. and Gartner, W.B. (2017), "Everyday entrepreneurship – a call for entrepreneurship research to embrace entrepreneurial diversity", *Entrepreneurship Theory and Practice*, Vol. 41 No. 3, pp. 311-321.

Welter, F. and Smallbone, D. (2011), "Institutional perspectives on entrepreneurial behavior in challenging environments", *Journal of Small Business Management*, Vol. 49 No. 1, pp. 107-125.

Wennekers, S., van Stel, A., Thurik, R. and Reynolds, P. (2005), "Nascent entrepreneurship and the level of economic development", *Small Business Economics*, Vol. 24 No. 3, pp. 293-309.

Williams, N. and Vorley, T. (2015), "Institutional asymmetry: how formal and informal institutions affect entrepreneurship in Bulgaria", *International Small Business Journal*, Vol. 33 No. 8, pp. 840-861.

Williamson, O.E. (2000), "The new institutional economics: taking stock, looking ahead", *Journal of Economic Literature*, Vol. 38 No. 3, pp. 595-613.

World Bank Group (2018), *Migración desde Venezuela a Colombia: impactos y estrategia de respuesta en el corto y mediano plazo*, p. 208.

Yuko, A. (2009), "Entrepreneurship and regional culture: the case of Hamamatsu and Kyoto", *Regional Studies*, Vol. 43 No. 3, pp. 495-512.

Zapata-Barrero, R. and Rezaei, S. (2020), "Diaspora governance and transnational entrepreneurship: the rise of an emerging social global pattern in migration studies", *Journal of Ethnic and Migration Studies*, Vol. 46 No. 10, pp. 1959-1973.

Zelekha, Y. (2013), "The effect of immigration on entrepreneurship", *Kyklos*, Vol. 66 No. 3, pp. 438-465.

Appendix

	Models		
Ho: variables are exogenous	Employer	Self-employment	Own account workers
Durbin (score) χ^2 (1)	223.1 ($p = 0.000$)	199.6 ($p = 0.000$)	15.7 ($p = 0.001$)
Wu-Hausman F (1,145)	223.2 ($p = 0.000$)	199.6 ($p = 0.000$)	15.7 ($p = 0.001$)
Robust regression F (1,11)	51.7 ($p = 0.000$)	57.4 ($p = 0.000$)	10.4 ($p = 0.007$)
Note(s): Adjusted for 12 clusters in month			

Table A1. Tests of endogeneity for migrant variable in each model

Variable	R-sq	Adjusted R-sq	Partial R-sq	Robust F (1,11)	Prob $> F$
Migrant	0.8203	0.8203	0.0002	131.762	0.0040
(F statistic adjusted for 12 clusters in month)					

Minimum eigenvalue statistic =					
Ho: Instruments are weak	Critical values				
	Test	10%	15%	20%	25%
2SLS size of nominal 5%	Wald	16.38	8.96	6.66	5.53
LIML size of nominal 5%	Wald	16.38	8.96	6.66	5.53

Table A2. First-stage regression summary statistics

	Dep var = Employer (yes = 1)		Dep var = Self-employment (yes = 1)		Dep var = Own account workers (yes = 1)	
	OLS (1)	IV (2)	OLS (3)	IV (4)	OLS (5)	IV (6)
Migrant	−0.018*** [0.002]	−0.137*** [0.035]	0.076*** [0.005]	0.596*** [0.084]	0.058*** [0.005]	0.458*** [0.081]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Economic sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Income level FE	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Dep var – Mean	0.035	0.035	0.487	0.487	0.522	0.522
Observations	1,483,269	1,483,269	1,483,269	1,483,269	1,483,269	1,483,269
Adj. R-squared	0.047	0.037	0.218	0.162	0.225	0.183
Kleibergen-Paap F statistic		846		846		846

Note(s): *$p < 0.1$, **$p < 0.05$ and ***$p < 0.01$. Robust standard errors correct by sampling design. All models include constant. Individual controls include sex, age, age squared, no diploma (yes = 1), High-school (yes = 1), Technical technological (yes = 1), bachelor's degree (yes = 1), Postgraduate (yes = 1), Weekly worked hours. We only considered people in working age who is actively working

Source(s): Authors' calculations using the GEIH-DANE (2014–2018)

Table A3.
Baseline results
without larger
departments

	Dep var = Employer (yes = 1)		Dep var = Self-employment (yes = 1)		Dep var = Own account workers (yes = 1)	
	OLS (1)	IV (2)	OLS (3)	IV (4)	OLS (5)	IV (6)
Migrant	−0.023*** [0.002]	−0.240*** [0.061]	0.064*** [0.006]	0.566*** [0.140]	0.041*** [0.006]	0.315** [0.137]
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Economic sector FE	Yes	Yes	Yes	Yes	Yes	Yes
Income level FE	Yes	Yes	Yes	Yes	Yes	Yes
Department FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Dep var – Mean	0.017	0.017	0.206	0.206	0.224	0.224
Observations	1,499,543	1,499,543	1,499,543	1,499,543	1,499,543	1,499,543
Adj. R-squared	0.047	0.032	0.214	0.157	0.220	0.177
Kleibergen-Paap F statistic		583		583		583

Note(s): *$p < 0.1$, **$p < 0.05$ and ***$p < 0.01$. Robust standard errors correct by sampling design. All models include constant. Individual controls include sex, age, age squared, no diploma (yes = 1), High-school (yes = 1), Technical technological (yes = 1), bachelor's degree (yes = 1), Postgraduate (yes = 1), Weekly worked hours. We only considered people in working age who is actively working
Source(s): Authors' calculations using the GEIH-DANE (2014–2018)

Table A4.
Baseline results
without borders
departments

About the authors
Juan Carlos Muñoz-Mora is a Full Professor at Universidad EAFIT (Colombia), as well as a Research
Associate at the Institute of Development Studies (University of Sussex) and at the Institute of Political
Economy and Governance (IPEG-Universitat Pompeu Fabra). He specializes in agricultural economics,
development economics, economic growth, political economics, and micro-econometrics. His research
has been published in journals such as World Development, Journal of Development Studies, Forest
Policy and Economics, the International Journal of Environmental Research and Public Health, among
others. Juan Carlos is currently leading international research projects on Venezuelan migration,
territorial organization in Colombia, climate-smart agriculture, among others.

Sebastian Aparicio is a Serra Hunter Fellow and a Researcher of the Centre for Entrepreneurship and
Social Innovation Research (CREIS) at the Universitat Autònoma de Barcelona (UAB). He is also
affiliated as a Research Fellow in the Centre for University Entrepreneurship (CIEU-UAB–), as a Junior
Research Fellow in the Institute for Development Strategies at the School of Public and Environmental
Affairs (IDS-SPEA, Indiana University), and a Researcher at Fundación ECSIM (Colombia). His research
focuses on the effects of entrepreneurship on economic development under the institutional lenses. Some
of his research has been published in various international journals, such as Journal of World Business,
Technological Forecasting and Social Change, and Small Business Economics.

Diego Martinez-Moya is an Assistant researcher at Universidad EAFIT. His main research interests
focus on the intersection between migration, entrepreneurship, and economic growth and development,
under the institutional perspective. He is also interested in applied econometrics, data mining, and
big data.

David Urbano is a Professor of entrepreneurship at the Department of Business, deputy director at
the Centre for Entrepreneurship and Social Innovation Research (CREIS) (Universitat Autònoma de
Barcelona), and ICREA-Academia research fellow. His research focuses on the analysis of factors
affecting entrepreneurship in different contexts, using institutional economics as a theoretical
framework, and combining quantitative and qualitative methodologies. He has several scholarly
international publications and participates in numerous international research projects (e.g. GEM,
PSED, GUESSS). He is research fellow at IfM Bonn (Germany) and at the Basque Observatory for
Entrepreneurship (OVE-EBB), visiting professor at Trinity Business School (Trinity College Dublin),
and regularly visits Haas School of Business (University of California Berkeley). David Urbano is the
corresponding author and can be contacted at: david.urbano@uab.cat