Latin American Brotherhood? Immigration and Preferences for Redistribution

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ABSTRACT Preferences for redistribution are critical determinants of the size of the welfare state and, therefore, of the level of inequality in a country. In this paper, we explore the effect of immigration on preferences for redistribution in the context of migration in Latin America, where migrants tend to have characteristics more similar to those of natives. To this aim, we exploit provincial-level data from a large attitudinal survey and match it with immigration data from different sources. We follow three approaches: first, we exploit within-country variation in a cross-sectional analysis with census data; second, we estimate a fixed effects model with data from a large sample of harmonised national household surveys; and third, we exploit the massive influx of Venezuelan refugees into the border country of Colombia with an instrumental variables approach. Our results consistently suggest a significant, negative, non-monotonic relationship between the share of immigrants at the provincial level and support for redistributive policies. The effect is mainly explained by Latin American and low-skilled immigrants, and is stronger for high-income respondents.

KEYWORDS: Migration; Inequality; Redistribution; Latin America

1. Introduction

Preferences for redistribution are key determinants of the type and size of public policies and ultimately of the level of inequality in a country. Researchers in Economics and other fields are trying to understand the factors that shape these social preferences. A recent strand of this literature has studied the potential negative effect of immigration on the support for redistribution (Alesina, Murard, & Rapoport, 2021; Razin, Sadka, & Swagel, 2002; Tabellini, 2020). So far, studies have focused on the case of developed countries receiving migrants from poorer countries with very different cultural backgrounds. Instead, in this paper we explore this issue in a different scenario: migrations across Latin American countries. The context is unique for at least two relevant reasons. First, we focus on migration across countries that are economically and culturally much more homogeneous than those analysed in the previous literature. Second, we study this phenomenon in one of the most unequal regions in the world (Alvaredo & Gasparini, 2015).

The research question is also relevant considering the recent decline in support for redistributive policies in Latin America. Although the evidence suggests that redistributive policies played...
a significant role in reducing income inequality in the 2000s, and even though inequality is still very high, the support for redistribution seems to have fallen in the 2010s. In fact, since 2010, the percentage of individuals who say they significantly support strong policies to reduce income inequality decreased by more than 28 per cent (see Figure A1 in Appendix). At the same time, immigration has increased substantially; in particular migration across Latin American countries. Today intra-regional immigrants represent 70% of total migration in Latin America.

In this paper, we analyse the relationship between immigration and preferences for redistribution in Latin America. To this aim, we exploit data at the provincial level from a large attitudinal survey – the biannual 2008–2018 Latin American Public Opinion Project (LAPOP) survey – and match it to immigration data from different sources.1

We use three different research strategies. First, we build a novel dataset of the share of immigrants at the province level from harmonised census data (IPUMS International) matched to LAPOP data. This allows us to exploit within-country variation in a cross-sectional analysis with 12 countries and 222 provinces. Our results suggest a negative relationship between the share of immigrants in a given province and preferences for redistribution of the resident population. For an increase by one standard deviation in the share of immigrants, we estimate a negative effect of 9.3 per cent of a standard deviation of preferences for redistribution. We find that the anti-redistribution effect of immigration is larger for high-income and high-skilled respondents and in receiving countries with higher public spending and with a higher share of natives with unfavourable attitudes towards immigrants. We also find that the negative effect is mainly driven by immigrants coming from other Latin American countries and that the lower the relative skill of immigrants compared to that of natives, the stronger the effect. Results are robust to an instrumental variables approach similar to Card (2001), in which we predict the actual distribution of immigrants in each country by implementing an enclave instrument. This approach seeks to address the potential endogeneity of migrants’ location decision.

As a second strategy we estimate a fixed effects model with microdata from a large sample of harmonised national household surveys (SEDLAC). Despite its limitations, this strategy provides some useful insights on the short-run association between immigration and social preferences. In particular, estimates of the two-way fixed effects model indicate that local exposure to immigrants generates a negative anti-redistribution effect.

Finally, in a third approach, we exploit a recent case of massive intra-regional immigration in Latin America: the Venezuelan exodus to Colombia. We use an instrumental variables strategy for the share of Venezuelan immigration relative to departmental population based on the distance between Venezuelan and Colombian departments. This enclave instrument has often been used in studies that analyse episodes of forced migration, including the Venezuelan case (Caruso, Canon, & Mueller, 2019; Del Carpio & Wagner, 2015). In this approach we find larger effects than the ones found for the average of Latin America with the other strategies: an increase by one standard deviation in the share of Venezuelan immigrants in Colombia reduces preferences for redistributive policies by approximately 34.3 per cent of a standard deviation.

This paper relates to a growing body of literature that has shown that in the United States and Europe immigration reduces population support for redistributive policies and government tax revenues and spending (Alesina et al., 2021; Razin et al., 2002). We contribute to this branch of the literature by pursuing this research question about immigration and support for redistribution in a very different context. Unlike the existing literature – which has focused on immigration coming from developing to developed countries – we analyse a case characterised essentially by intra-regional migratory flows. This means that immigration comes from countries with relatively similar cultural backgrounds in terms of language, political and economic history. This factor can attenuate the potential negative effect of immigration on individual preferences for redistribution. However, we find that immigration still has a significant negative effect on support for redistribution. In fact, we obtain coefficients that are similar in magnitude to those found by Alesina et al. (2021). To the best of our knowledge, there is no evidence on this relationship in developing countries. We go a step further and contribute by studying a particular case of border countries: the Venezuelan massive exodus to
Colombia. In this case of mass immigration in a very short period of time we find a substantially higher anti-redistribution effect.

This paper is also related to the literature studying the effects of immigration on the emergence of far-right political candidates (Barone, D'Ignazio, de Blasio, & Naticchioni, 2016; Edo, Giesing, Öztunc, & Poutvaara, 2019; Dustmann, Vasiljeva, & Piil Dam, 2019; Halla, Wagner, & Zweimüller, 2017; Steinmayr, 2021). In the case of Colombia, Rozo and Vargas (2021) show that Venezuelan migration flows shift votes to right-wing political parties. Our results shed some light on the mechanism underlying the electoral impacts found in the literature: a rise in immigration reduces preferences for redistributive policies among voters and, through this channel, may increase the chances that extreme right-wing candidates win elections.

The rest of the paper is organised as follows: In Section 2 we briefly describe the main data sources and comment on the patterns of immigration and redistribution preferences in Latin America. In Sections 3–5 we present the methodology, the data and the results of the three different strategies mentioned above. In Section 6 we discuss the results and comment on the potential mechanisms behind our estimates. Section 7 concludes.  

2. Immigration and support for redistribution in Latin America

Immigration has significantly increased in Latin America in recent decades. The mean share (across countries) of immigrants in total population went from 2.2 per cent circa 1990 to 2.9% circa 2010. More remarkably, there has been a noticeable change in its nature: immigration has increasingly become an intra-regional phenomenon, that is, countries receiving migrants from other Latin American countries. As shown in Figure 1, intra-regional immigration went from representing 55 per cent of total immigration in the 1990s to almost 70% in the 2010s. Intra-regional migration was recently exacerbated by severe economic and political crises in countries such as Nicaragua, Honduras, Haiti and Venezuela. The fact that, in contrast to Europe and the United States, immigration in Latin America is mostly intra-regional, may imply a different relationship between immigration and support for redistribution.

Intra-regional immigration flows are highly heterogeneous in Latin America. They include long-standing phenomena, such as the immigration of Bolivians and Paraguayans to Argentina, as well as more novel episodes, such as the massive diaspora of Venezuelans fleeing from recent dramatic social and economic crises. These movements include flows of mostly unskilled workers to richer

![Figure 1. Intra-regional immigration in Latin America.](image-url)

Source: Own elaboration based on census data. See Table S1 for details on data sources and years considered.
neighbour countries (e.g. from Nicaragua to Costa Rica; and from Haiti to Dominican Republic), as well as flows of skilled workers towards more dynamic economies (e.g. Chile, Panama). Based on census and national household survey data, Blyde, Cortes, Morales, and Pierola (2020) stress differences across countries. For instance, in some countries most immigrants arrive with low levels of education (Costa Rica, Dominican Republic), while in others the share of immigrants with tertiary education is relatively high (35% in Chile and Uruguay, 38% in Panama).

2.1. Data

To analyse support for redistributive policies we use the Latin American Public Opinion Project (LAPOP) surveys for the 2008–2018 period. The survey is conducted every two years and is representative at the national level. It contains socioeconomic and attitudinal information at the individual level for almost all the countries in the region. We focus on individuals between ages 18 to 65.

In order to measure preferences for redistribution we use a question that captures the extent to which the individual agrees with state interventions to reduce income inequality. More specifically, respondents answer on a scale of 1 to 7, where 1 indicates ‘Strongly disagree’ and 7 ‘Strongly agree’, the following question: ‘The (Country) government should implement firm policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement?’ Tables A1 and A2 in the Appendix provide some descriptive statistics of the individuals sampled in LAPOP.3

Regarding immigration data, we use censuses from IPUMS International to build a novel database with the share of immigrants in the population at the province level for 12 Latin American countries. We use the most recent census for each country taken in the 2010s.4, 5 Immigrant status is defined by individual’s birthplace (i.e. being born in a foreign country).

We then merge attitudinal and immigration data. Since LAPOP data contains precise information about a respondent’s residence, we merge individual level data with immigration shares at the province level. More specifically, we pool 2008–2018 LAPOP surveys and matched them with the most recent available census. The final sample consists of 85,088 individuals for 12 countries and 222 provinces (see Table S11).

As an alternative to census data, we use information drawn from national household surveys. In particular, we use the Socio-Economic Database for Latin America and the Caribbean (SEDLAC) in order to build a unique and harmonised database of immigrants as a share of the population at the province level for most Latin American countries over time (not only census years). SEDLAC is built by CEDLAS and the World Bank by carrying out a process of harmonisation of national household surveys. These repeated measures of immigration allow us to estimate a fixed effects model. In this case, combining datasets is more straightforward: we merge each LAPOP wave with the immigration shares at the province level from household surveys for the corresponding year. We can thus analyse 11 countries and 193 provinces in Latin America.6

Finally, we also rely on household surveys from SEDLAC to construct socio-demographic variables at the provincial level. From this source we obtain total population, unemployment rate, average household per capita income and the Gini coefficient.

Our data reveal considerable spatial heterogeneity to explore the relationship between immigration and redistribution preferences. On the one hand, there is large dispersion in the share of immigrants within and across countries, ranging from 13 per cent in the City of Buenos Aires (Argentina) to 0.023% in the State of Sergipe, Brazil (see Figure S2, Panel A). Support for redistribution also differs substantially across provinces: from 4.14 in Espaillat (Dominican Republic) to 6.30 in Yucatan (Mexico), on average, on a scale from 1 to 7.
3. Exploiting within-country variation

3.1. Empirical strategy

To analyse the relationship between immigration and support for redistribution we first exploit within-country variation in a cross-sectional analysis. We estimate the following regression model:

\[ R_{ipct} = f(M_{pc}) + X_{ipct}'\theta + Z_{ipct}'\phi + \lambda_{ct} + \epsilon_{ipct} \]  

(1)

where \( R_{ipct} \) is individual’s \( i \) support for reduction in income differences in province \( p \) country \( c \) and LAPOP wave \( t \); \( f(M_{pc}) \) is a function that includes the share of immigrants in province \( p \) at country \( c \) measured at the latest available census year as described in the Section 2. Additionally, \( X_{ipct} \) is a vector of individual controls (years of education, age, sex, race, marital status, employment status, urban indicator variable, income scales, subjective income mobility and a self-reported variable for an insecurity episode); \( Z_{ipct} \) is a vector of provincial controls (log of native population, unemployment rate, mean of household per capita income and Gini coefficient); and \( \lambda_{ct} \) are country-year fixed effects. Standard errors are clustered at the province-year level to account for possible correlation within this level.

This specification exploits variation of immigrants within a country-year. To put it simply, in a specific country-year, it compares support for redistributive policies between provinces with a relatively high share of immigrants to those with a relatively low share.

The inclusion of \( f(M_{pc}) \) allows us to be flexible about the relationship between the share of immigrants and preferences for redistribution. In this sense, we avoid imposing a specific relationship (linear, for example) between the two variables. We follow Alesina et al. (2021) and estimate a semi-parametric regression by implementing Robinson’s (1988) double residual estimator and controlling for the variables included in Equation (1).

Figure 2 presents the kernel-weighted local polynomial fit of the estimated semi-parametric regression. We find a non-linear (quadratic) relationship between the exposure to immigrants and support for redistribution. When the share of immigrants is low, a marginal increase in the share of immigrants reduces support for redistribution in the hosting provinces. Instead, if the share of immigrants is significantly high, the relation between both variables becomes positive. It is important to notice that in our sample, only 8% of the province-year shares of immigrants are above the turning point of Figure 2. These results are consistent with those of Alesina et al. (2021) for the case of Europe.

The U-shaped relationship between both variables is in line with the idea that societies may end up assimilating immigrants, as discussed in the literature of contact versus exposure (Steinmayr, 2021). According to social psychology, groups with higher levels of contact (in our case natives and immigrants) are more likely to reduce prejudice towards the other group. Therefore, when the share of immigrants is above a certain level, contact between natives and immigrants will be more frequent and therefore prejudice and rejection against immigrants could be reduced (for an extensive review of the intergroup contact theory see (Pettigrew, Tropp, Wagner, & Oliver, 2011)).

Considering our findings of Figure 2, we follow a quadratic specification for the share of immigrants in Equation (1) to capture the non-linearity in the relationship between the number of immigrants and attitudes. This specification allows the share of immigrants to affect preferences negatively but at a decreasing rate.

3.2. Main results

Table 1 shows the OLS estimates of Equation (1) for support for redistribution considering a quadratic specification for the share of immigrants. Columns add controls sequentially: country-year fixed effects, provincial controls and individual controls. Across all specifications we find a stable non-linear negative association between the share of immigrants in a given province and
Figure 2. Semi-parametric estimates of the relationship between the share of immigrants and preferences for redistribution. 

Notes: Figure 2 shows the kernel weighted local polynomial fit of the non-linear relation between preferences for redistribution and the share of immigrants by implementing Robinson’s (1988) double residual estimator. Provincial and individual controls included are those mentioned in notes of Table 1. See Table S1 for details on data sources and years considered. Preferences for redistribution is a variable that measures support for reduction in income differences and is based on the agreement to the statement: ‘The (Country) government should implement strong policies to reduce income inequality between the rich and the poor’, where 1 indicates lower support for redistribution and 7 the higher support for redistributive policies. Source: Own elaboration based on census data from IPUMS International and LAPOP 2018.

support for redistribution. More specifically, for the OLS estimation with the full set of controls, we find that for an average province in our sample (a province with a share of immigrants close to 1.8%), a one percentage point (p.p.) increase in the share of immigrants reduces support for redistribution policies by more than 0.03 standard deviations. If we consider an increase in one standard deviation in the percentage of immigrants (i.e. from 0% to 2.5%) the estimated effect on preferences for redistribution is a reduction of about 9.3 per cent standard deviations of the dependent variable. As mentioned above, the estimated effect is non-linear: the share of immigrants for which the negative effect reaches its minimum and becomes positive is slightly lower than 0.07, which is close to the 90th percentile of the distribution of immigration in our sample.

3.3. Heterogeneous effects

For a better understanding of the mechanisms behind this negative relationship, in this section we explore some heterogeneous effects regarding respondents’ and immigrants’ characteristics. 

First, in column (I) of Table 2 we find that the effect of immigration on preferences for redistribution is stronger among individuals at the top of the income distribution. This result can be explained by the fact that rich individuals may perceive that immigrants imply a higher welfare spending than what they, as taxpayers, should finance. As Alesina and Stantcheva (2020) note, native individuals may perceive, correctly or incorrectly, that immigrants are net-recipients of public spending, even ‘free loaders’. These perceptions, stronger among wealthier people, can affect the level of ‘acceptable’ inequality for native individuals, making them less prone to support reduction of income inequality when immigration is higher.

Second, column (II) of Table 2 shows that, relative to low-skilled individuals, high-skilled demonstrate less support for redistribution in reaction to immigration. This result differs from that
Table 1. Effect of immigration on preferences for redistribution

|                  | (I)       | (II)      | (III)     |
|------------------|-----------|-----------|-----------|
| Share immigrants | −4.220*** | −4.220**  | −4.513**  |
|                  | (1.536)   | (1.791)   | (1.761)   |
| Share immigrants, squared | 30.64***  | 30.67**   | 32.54***  |
|                  | (11.08)   | (12.60)   | (12.44)   |
| Estimated Effect | −8.6%     | −8.6%     | −9.3%     |
| R²               | 0.051     | 0.051     | 0.056     |
| Observations     | 85,088    | 85,088    | 85,088    |
| Country-Year FE  | Yes       | Yes       | Yes       |
| Provincial controls | No      | Yes       | Yes       |
| Individual controls | No      | No        | Yes       |

*** significance at 1 per cent level; ** significance at 5 per cent level; * significance at 10 per cent level.

Notes: Dependent variable measures support for redistribution. 

We also study heterogeneous effects by destination countries. In particular, in Table 2 column (III) we find that the effect of immigration on the support for redistribution is stronger in countries with a higher average per capita social public spending. In those countries the tax burden is heavier and therefore, an increase in the number of immigrants, perceived as net-beneficiaries of the welfare state, is more likely to lower native preferences for redistribution.

In Table 2 column (IV) we also analyse whether the anti-redistribution effect depends on the respondent’s ideological position. Our estimates suggest that the effect of immigration on preferences for redistribution is slightly stronger for those individuals who declare themselves as non-leftist. However, differences are not statistically significant.

Finally, we explore heterogeneous effects by attitudes towards immigration. To this aim, based on data from other opinion survey (Latinobarometer), we compute two variables that reflect unfavourable attitudes against migrants: (i) the share of native individuals in the country who believe that there is strong conflict between natives and immigrants in their country, and (ii) the share of those who believe that the arrival of immigrants is harmful to themselves or their families. Appendix Figure A2 plots the marginal effect for an average province in our sample when varying the country share of respondents with negative attitudes towards immigrants. Our estimates suggest that the negative effect of immigration on preferences for redistribution is stronger the higher the share of natives with unfavourable attitudes towards immigrants. These estimates are suggestive evidence of the ‘loyalty effect’ mechanism. In short, native individuals may prefer to redistribute when the beneficiary is a native rather than an immigrant because they view immigrants as harmful or negative for the host society (see Section 6 for further discussion on this issue).

In Table 3 we explore whether the effect depends on immigrants’ characteristics. In Panel A, we find that the anti-redistribution effect is mainly driven by immigrants coming from other Latin
Table 2. Heterogeneous effects: Respondents' characteristics

|                      | Income(I)  | Education(II) | Rich Country(III) | Ideology(IV) |
|----------------------|------------|---------------|-------------------|--------------|
| [a] Share immigrants | −4.442**   | −4.205**      | −3.762**          | −4.457**     |
|                      | (1.761)    | (1.733)       | (1.479)           | (1.993)      |
| [b] Share immigrants x High-Income | −0.690**   | −0.530*       | −1.468            | −0.379       |
|                      | (0.350)    | (0.279)       | (1.212)           | (0.545)      |
| [b] Share immigrants x High-Skilled | −5.1329    | −4.7351       | −5.2295           | −4.8365      |
|                      | (0.0042)** | (0.0081)***   | (0.0148)***       | (0.0105)**   |
| P-value              | [0.0042]** | [0.0081]***   | [0.0148]***       | [0.0105]**   |
| Estimated Effect [a] | −9.1%      | −8.5%         | −7.1%             | −9.0%        |
| Estimated Effect [a]+[b] | −10.8%     | −9.8%         | −10.8%            | −9.9%        |
| R²                   | 0.056      | 0.052         | 0.056             | 0.060        |
| Observations         | 85,088     | 85,088        | 85,088            | 73,748       |
| Country-Year FE      | Yes        | Yes           | Yes               | Yes          |
| Provincial controls  | Yes        | Yes           | Yes               | Yes          |
| Individual controls  | Yes        | Yes           | Yes               | Yes          |

*** Significance at 1 per cent level; ** significance at 5 per cent level; *significance at 10 per cent level.

Notes: See notes in Table 1. High-income individuals are defined as those with an income level in the 10th decile of the income distribution. High-skilled individuals are defined as those with more than completed secondary education. Non-leftists are defined as those with self-declared values of 4–10 in a ten-point ideology scale. High-Social-Spending countries are the six countries with higher average public social spending per capita in ppp dollars based on data from CEPALSTAT for the period 2008–2018 (Argentina, Chile, Costa Rica, Mexico, Panama and Uruguay).

American countries. Because of the relatively similar backgrounds and cultural norms between countries in this region we might have expected that preferences for redistribution might not be as affected by immigration. The results in Table 3 suggest that the fiscal leakage channel might also be relevant in Latin America.

In Panel B we analyse whether the negative effect of immigration on preferences for redistribution is related to the skill level of immigrants. To do so, following Facchini and Mayda (2009) and Alesina et al. (2021), we include in our main specification an additional variable, the Relative Skill Ratio (RSR) -in logs-, which measures the relative qualification of immigrants compared to the relative qualification of natives in each province. The RSR is constructed as follows:

$$RSR = \frac{\text{Immig}_{ls}/\text{Immig}_{hs}}{\text{Nativ}_{ls}/\text{Nativ}_{hs}}$$  \hspace{1cm} (2)

where Immig_{ls} and Immig_{hs} are the number of low-skilled and high-skilled immigrants, respectively. Similarly, Nativ_{ls} and Nativ_{hs} are the number of low-skilled and high-skilled natives, respectively. This variable captures the extent to which the relative skill level of immigrants differs from that of natives. Our estimates suggest that the lower the relative skill of immigrants relative to that of natives (i.e. the higher the RSR), the stronger the negative effect of immigration on preferences for redistribution. Again, the fiscal leakage effect could be the mechanism behind these results.
Table 3. Heterogeneous effects: Immigrants’ characteristics

|                      | (I)       | (II)       | (III)      |
|----------------------|-----------|------------|------------|
| Panel A: Immigrants’ origin |           |            |            |
| Share immigrants (LA) | −4.492**  | −4.363**   | −4.692**   |
|                      | (1.894)   | (1.968)    | (1.940)    |
| Share immigrants (no LA) | −2.106    | −2.369     | −2.082     |
|                      | (4.193)   | (5.273)    | (5.202)    |
| Share immigrants (LA), squared | 38.01**   | 37.50**    | 39.72**    |
|                      | (16.96)   | (17.71)    | (17.48)    |
| Share immigrants (no LA), squared | 61.54     | 57.48      | 51.97      |
|                      | (145.3)   | (158.8)    | (156.3)    |
| Estimated Effect – LA | −8.4%     | −8.2%      | −8.8%      |
| Estimated Effect – no LA | −0.9%     | −1.0%      | −0.9%      |
| R²                   | 0.051     | 0.051      | 0.056      |
| Panel B: Skill level of immigrants |            |            |            |
| Share immigrants     | −3.860**  | −3.567**   | −3.900**   |
|                      | (1.539)   | (1.817)    | (1.783)    |
| Share immigrants, squared | 28.97***  | 27.13**    | 29.23**    |
|                      | (11.03)   | (12.66)    | (12.48)    |
| Relative skill ratio (log) | −0.0173   | −0.0232*   | −0.0219*   |
|                      | (0.0125)  | (0.0129)   | (0.0128)   |
| R²                   | 0.051     | 0.051      | 0.056      |
| Observations         | 85,088    | 85,088     | 85,088     |
| Country-Year FE      | Yes       | Yes        | Yes        |
| Provincial controls  | No        | Yes        | Yes        |
| Individual controls  | No        | No         | Yes        |

*** Significance at 1 per cent level; ** significance at 5 per cent level; *significance at 10 per cent level. Notes: See notes in Table 1. Panel A includes the share of immigrants from Latin American countries -LA- (and its square) and the share of immigrants from other regions (and its square). In panel B we estimate Equation (1) by adding the relative skill ratio (RSR), log (1+ RSR), as defined in Equation (2).

3.4. Robustness

In this subsection we present some robustness exercises on the cross-sectional estimates presented above. The migration literature has long discussed the potential endogeneity of migrants’ location choice (see, for instance, Altonji & Card, 1991). In our case, the main concern is that unobserved factors may affect both immigration and preferences for redistribution. For example, if migrants flow to destinations with more generous welfare systems (the so-called ‘welfare magnets’), which may be the result of population’s preferences, we can expect a positive bias (Borjas, 1999). On the other hand, province’s economic growth and upward mobility perspectives may influence immigrant’s location decisions. We include some provincial controls such as unemployment rate, mean of household per capita income and the Gini coefficient to try to mitigate this concern.

However, other unobservables may still bias our results. To alleviate the endogeneity problem, we instrument the share of immigrants \( \hat{M}_{pc} \) with the standard shift-share instrument (Card, 2001). The main idea is to predict the share of immigrants in a specific province-country using the country’s geographical distribution of immigrants from each nationality in the past and the total number of immigrants of the same nationality in the country in the present. The equation for the instrument is the following:

\[
\hat{M}_{pc} = \frac{1}{\hat{P}_{pc}} \sum_{o} Z_{opc}m_{oc}
\]

(3)

where \( m_{oc} \) is the total number of immigrants from country origin \( o \) living in country \( c \); \( z_{opc} \) is the historical share of immigrants from country of origin \( o \) living in province \( p \) of country \( c \). Finally, \( \hat{P}_{pc} \) is the predicted population of province \( p \) in country \( c \) considering the distribution of native individuals in the country in the past and the predicted number of immigrants in each province.
The identifying assumption is that unobservables that determined the past location of immigrants are not correlated with current local preferences for redistribution besides the relation they have through present immigrants. Table S2 shows there is a strong relationship between the actual share of immigrants and the predicted share based on Equation (3), which supports the relevance condition of the proposed instrument.

The implementation of the IV approach yields even stronger results. In column (III) of Table 4 we find that for an average province in terms of migration in our sample, a one p.p. increase in the percentage of immigrants reduces preferences for redistribution by more than 0.06 standard deviations. To put it differently, a one standard deviation increase in the share of immigrants (from 0% to 2.5%) lowers support for redistribution policies by more than 16% of the standard deviations of preferences. On the other hand, the fact that IV estimates are larger than OLS ones may be suggesting that migrants sorting due to welfare magnets may be the main endogeneity problem. This is not a novel result: Edo et al. (2019) also find higher estimates relative to OLS with a similar IV, when studying immigration effects on political electoral votes in France.

As an additional robustness check, we consider alternative outcome measures of the support for redistributive policies. Specifically, we use two questions related to government involvement in the provision of social services, such as health care and employment. These questions may work as a proxy for the size of the welfare state and the participation of the government in reducing inequality. Our estimates (Table S3) suggest that the negative U-shaped relationship between our proxies for preferences for redistributive policies and the share of immigrants remains robust when considering these alternative outcome variables. In fact, the size of these estimates are very close to our main results presented in Table 1. We also include an ideology control and we find no differences on the estimates of the effect of immigration on preferences for redistribution (see Table S4).

Finally, another concern could be the distance between LAPOP years and census years. To tackle this concern, we estimate the effects of immigration on preferences for redistribution considering, for each country, LAPOP waves carried out no more than four years after the census year. The motivation for this robustness check is that it is probable that the individuals’ perceptions are mainly affected by past immigration and not by future migratory flows. Estimates do not change when considering this restriction (Table S5).

4. Short-term variations in immigrants and attitudes

In this section we move to a fixed effects design that controls for time-invariant unobservables at the provincial level. Since countries typically implement just one census every decade, we rely on information from national household surveys in order to compute the share of immigrants at the

| Table 4. Effect of immigration on preferences for redistribution – IV estimates |
|-----------------|-----------------|-----------------|
| Share immigrants | −6.883***        | −7.637**        | −8.433**        |
| (2.561)          | (3.318)         | (3.327)         |
| Share immigrants, squared | 56.44*** | 62.98**        | 68.73**        |
| (23.12)          | (28.98)         | (29.21)         |
| Estimated Effect | −13.7%          | −15.2%          | −16.8%          |
| Observations     | 85,088           | 85,088          | 85,088          |
| F-stat (Kleibergen-Paap Wald) | 13.25    | 11.37          | 11.40          |
| Country-Year FE  | Yes             | Yes            | Yes            |
| Provincial controls | No          | Yes            | Yes            |
| Individual controls | No          | No             | Yes            |

*** Significance at 1 per cent level; ** significance at 5 per cent level; *significance at 10 per cent level.

Notes: See notes in Table 1. Equation (1) is estimated by instrumenting the variable $M_{pc}$ and its quadratic form using the instrument $M_{pc}$ in Equation (3) and its square.
province level for a given year, and then match it to the corresponding LAPOP survey year (See Table S6). Although using national household surveys allows us to have several observations over time, data on immigration from this source are noisier due to the lower number of observations (compared to census) and differences in definitions across countries.

Given that we can assemble a panel, we estimate a fixed effect model that allows us to take a different view of the relationship between immigration and social preferences than the one discussed in the previous section. Here, we focus the analysis on the relationship between changes in these variable in the short run (around two years).

4.1. Empirical strategy

We estimate the regression model:

\[ R_{ipct} = \beta_1 M_{pct} + \beta_2 M_{pct}^2 + X'_{ipct}\theta + Z'_{ipct}\phi + \alpha_p + \lambda_{ct} + \epsilon_{ipct} \] (4)

where \( R_{ipct} \) is individual's \( i \) support for reduction in income differences and \( M_{pct} \) and \( M_{pct}^2 \) are the shares of immigrants relative to total population in province \( p \), country \( c \) and year \( t \) and its quadratic form, respectively. In contrast to Equation (1), we also include province fixed effects, \( \alpha_p \), and standard errors are clustered at this level to account for potential serial correlation within provinces. Controls are the same as in Equation (1).

4.2. Results

Table 5 shows estimates of the two-way fixed effects model for the support for reduction in income differences. There is again a clear negative relationship between immigration and preferences for redistribution that is stable across specifications. Considering the specification with the full set of controls, we find that a one p.p. increase in the share of immigrants for an average province in terms of immigration (a province with 1.25% of immigration in our sample) reduces support for

| Table 5. Short-term effect of immigration on preferences for redistribution |
|------------------|------------------|------------------|
| Share of immigrants | Share of immigrants, squared | Estimated Effect |
| \( -3.147 \) (1.918) | \( 27.40 \) (17.63) | \( -4.3\% \) (0.074) |
| \( -3.557^* \) (2.060) | \( 30.61 \) (19.08) | \( -4.9\% \) (0.074) |
| \( -3.605^* \) (2.023) | \( 30.93 \) (18.91) | \( -4.9\% \) (0.074) |
| Observations | | |
| 71,354 | 71,354 | 71,354 |
| Province FE | Yes | Yes | Yes |
| Country-Year FE | Yes | Yes | Yes |
| Provincial controls | No | Yes | Yes |
| Individual controls | No | No | Yes |

*** Significance at 1 per cent level; ** significance at 5 per cent level; *significance at 10 per cent level.

Notes: See notes in Table 1 for dependent variable definition and controls. The estimated effect row indicates the percentage effect in terms of standard deviations of the dependent variable when moving from a scenario with no immigration to one where the immigration share increases by one standard deviation (i.e. an increase from 0% to 1.6% in the immigration share). Clustered standard errors at the the provincial level in parenthesis.
redistribution by about 0.028 standard deviations. We also find that the level of immigration for which the relation between the share of immigrants and preferences for redistribution reaches its minimum is close to 5.8 per cent which is greater than the 90th percentile of our sample.

The estimations imply that an increase in one standard deviation in the share of immigrants (1.6%) is associated with a decline in preferences for redistribution that is close to 5 per cent standard deviations. Although the estimates in Table 5 are almost 50 per cent lower than those in Table 1, they go in the same direction. This difference is consistent with the fact that household survey information captures short-term variation in the share of immigrants and, therefore, its effect is expected to be smaller. In addition, the coefficients are less statistically significant, which may be explained by the fact that immigration data from household surveys are noisier than census information.

5. Not-so-brother countries: the case of Venezuelan forced migration in Colombia

In this section we study a recent and significant case of massive intra-regional immigration in Latin America – the Venezuelan exodus-, and its impact on preferences for redistribution. The Venezuelan migratory exodus due to the current political instability and the strong economic crisis in the country is a well-known phenomenon. According to UNHCR (2019), massive outflow of Venezuelans to different countries around the world is the second most important episode of forced displacement after Syria. At the end of 2019, about 3.6 million Venezuelans were displaced outside their country, fleeing from the economic and social crisis. Due to its geographical proximity, Colombia was the first-destination for many refugees, hosting about 1.8 million Venezuelans.

There have been a number of studies that examine the effect of this massive inflow of migrants from Venezuela in Colombia. The literature thus far suggests a significant impact on the labour market, crime, political attitudes and demographic composition in Colombia (Caruso et al., 2019; Pehalova-Pacheco, 2019; Rozo & Vargas, 2021; Knight & Tribin, 2020). In this section we study whether this migration flow has also affected support for redistribution in Colombia.

5.1. Data

We use immigration data from the Great Integrated Household Survey (GEIH), the Colombian national household survey carried out by the National Statistics Office (DANE), which is collected at the departmental level. This information is available since 2013.11 To measure preferences for redistribution we continue using LAPOP surveys. Given immigration data availability, we use four years: 2013, 2014, 2016 and 2018.12 Finally, we also use 1990 Venezuelan census data from IPUMS International to build our instrument.

5.2. Descriptive statistics of Venezuelan refugees in Colombia

Panel A in Figure 3 shows that the number of Venezuelans living in Colombia increased continuously during the 2013–2019 period. However, this massive influx of Venezuelan immigrants into Colombia has not been homogeneous across departments. Figure 3, panel B, presents the percentage of Venezuelans in relation to native population in 2019. We find that the location of Venezuelans in Colombia has been concentrated in border departments.

Although historically there has been a significant similarities between the Colombian and Venezuelan population, we can expect certain selection in the Venezuelans who decided to leave their country and therefore, a significant difference between the average Venezuelan that arrives to Colombia and the average native-born Colombian. Appendix Table A4 shows descriptive statistics on individual socio-demographic and labour market variables between Venezuelan emigrants and native-born Colombians. We find that individuals arriving from Venezuela are significantly younger than Colombians. Moreover, Venezuelan migrants are more vulnerable than the average Colombian: they have a household per capita income 72 per cent lower than the average native and experience
significant higher rates of poverty and unemployment. It is conceivable that this massive wave of immigration may have impacted the support for redistributive policies in the most affected departments. Appendix Figure A4 shows that from 2013 to 2018 the average share of Venezuelan immigrants in Colombian departments has increased from 0.2% to about 2 per cent, which represents an almost ten-fold increase in only five years. Support for redistribution among the resident population seems to have decreased significantly in those years: whereas in 2013 approximately 70% of Colombians strongly agreed with the implementation of public policies to reduce inequality, five years later this fraction was reduced to around 55%.

5.3. Empirical strategy

In order to analyse the effect of Venezuelan forced migration on preferences for redistribution in Colombia, we estimate the following equation:

\[ R_{itdr} = \beta_1 M_{itdr} + \beta_2 M_{itdr}^2 + X'_{itdr} \theta + Z'_{itdr} \phi + \alpha_d + \lambda_r + \epsilon_{itdr} \]  

where \( R_{itdr} \) is individual’s \( i \) living in department \( d \) and region \( r \) support for reduction in income differences in year \( t \); \( M_{itdr} \) and \( M_{itdr}^2 \) are the Venezuelan immigration share in department \( d \), region \( r \), and its quadratic form. Additionally, \( X_{itdr} \) is a vector of individual controls (years of education, age, sex, race, marital status, employment status, urban-rural dummy, income scales, subjective income mobility and self-reported insecurity episode) and \( Z_{itdr} \) a vector of departmental controls obtained from DANE (log of native population, unemployment rate, GDP, Gini coefficient, share of non-Venezuelan immigrants, poverty rate and share of rural population). Finally, \( \alpha_d \) and \( \lambda_r \) are department and region-year fixed effects, respectively. Standard errors are clustered at the department level to account for potential serial correlation within departments.

Considering that the allocation of Venezuelan immigrants was not random, we instrument the share of Venezuelan immigrants in each Colombian department. We implement a well-known enclave instrument used in several papers analysing episodes of forced migration, including the Venezuelan
one (Caruso et al., 2019; Del Carpio & Wagner, 2015). This instrument exploits the fact that given the forced nature of the migration, the location of Venezuelan migrants was particularly concentrated in departments near the Colombian-Venezuelan border. Formally:

$$\hat{IV}_{drt} = V_t \sum_s \frac{\alpha_{s,1990}^{}}{K_{drs}}$$

(6)

where \( V_t \) is the stock of Venezuelan immigrants living in Colombia in year \( t \); \( \alpha_{s,1990}^{'} \) is the share of Venezuelan living in Venezuelan state \( s \) according to 1990 Venezuelan census and \( K_{drs} \) is the driving-distance in kilometres between Colombian department \( d \) in region \( r \) and Venezuelan State \( s \). The intuition of the instrument is that those Colombian departments located near the Venezuelan border and, specifically, near Venezuelan states with an historically high population density, are expected to face a higher rate of immigration than those departments located farther away from the borders.

As a robustness exercise we estimate the same IV regressions but change the instrument slightly. Instead of considering \( \alpha_{s,1990}^{'} \) which represents the share of Venezuelans in each Venezuelan state, we consider \( \theta_{s,1990}^{'} \) which represents the share of Colombians in each Venezuelan state \( s \) in relation to the total number of Colombians in Venezuela, according to the 1990 census. This latter instrument relies on the idea that Colombian departments that are close to Venezuelan states with a greater proportion of Colombian population in the past are more likely to receive a greater number of Venezuelans due to networks.15

5.4. The effect of Venezuelan immigration on attitudes

Table 6 shows the main results of the models for preferences for redistribution in Colombia. We present both the OLS and IV estimates with controls added sequentially. We find that there is a stable negative non-monotonic relationship across specifications between Venezuelan immigration and support for the reduction in income differences. Coefficients are quite large and statistically significant at the 1% level once we account for individual and departmental differences in the IV estimator.16

In our preferred specification in column (VI) of Table 6, we find that a one p.p. increase in the share of Venezuelan immigrants in a Colombian department with an average share of Venezuelan immigrants (0.07% in our sample) reduces preferences for redistribution by 0.29 standard deviations. An increase of one standard deviation in the share of immigrants (0.01) is associated with a decrease of 34.3% of the standard deviation of preferences. This result is stronger compared to that found for Latin America in the previous sections. The negative effect reaches its minimum when the share of Venezuelan immigrants is close to 4.9%, which is close to the 95th percentile of the distribution of Venezuelan immigration in our sample.

As a robustness exercise, we use the share of Colombians in each Venezuelan state in the past as an instrument (\( \theta_{s,1990}^{'} \)) rather than the share of Venezuelans in each state (\( \alpha_{s,1990}^{'} \)). The results do not significantly change when this instrument is considered (see Table S8).

6. Discussion

We have shown evidence that suggests that immigration reduces the demand for redistribution in Latin America, even when most immigrants come from neighbouring countries and share a similar culture—including language and religion—with their hosts. Providing causal evidence for the mechanisms at play is beyond the possibilities of the data at hand. Instead, in this section, we briefly discuss some factors that might be driving the results.17

The literature suggests at least two potential mechanisms: the fiscal leakage effect and the loyalty effect. We believe that our results are consistent with both factors. The fiscal leakage mechanism has been discussed by Razin et al. (2002, 2011), Facchini, Mayda, and Murard (2016), Murard (2017) and
Table 6. Venezuelan immigration and preferences for redistribution in Colombia

| Share immigrants | OLS                  | IV                      |
|------------------|----------------------|-------------------------|
|                  | (I)                  | (II)                    | (III)                   | (IV) | (V) | (VI) |
| Share immigrants | 0.948                | −13.27                  | −13.09                  | −13.82 | −28.46** | −28.94*** |
|                  | (10.86)              | (10.18)                 | (10.12)                 | (11.48) | (8.957) | (8.745) |
| Share immigrants, squared | 1.052               | 136.3                   | 130.1                   | 143.3 | 294.0*** | 296.7*** |
|                  | (111.7)              | (103.7)                 | (104.1)                 | (112.2) | (82.74) | (80.80) |
| Estimated Effect | 1.3%                 | −15.7%                  | −15.6%                  | −16.3% | −33.7% | −34.3% |
| R²               | 0.036                | 0.039                   | 0.056                   | 4,717 | 4,717 | 4,717 |
| Observations     | 4,717                | 4,717                   | 4,717                   | 4,717 | 4,717 | 4,717 |
| F-stat (Kleibergen-Paap Wald) | 19.11               | 143.8                   | 146.5                   | 19.11 | 146.5 | 146.5 |
| Department FE    | Yes                  | Yes                     | Yes                     | Yes   | Yes   | Yes   |
| Region x Year FE | Yes                  | Yes                     | Yes                     | Yes   | Yes   | Yes   |
| Provincial controls | No                 | Yes                     | Yes                     | No    | Yes   | Yes   |
| Individual controls | No                  | No                      | Yes                     | No    | No    | Yes   |

*** Significance at 1 per cent level; ** significance at 5 per cent level; *significance at 10 per cent level.

Notes: Dependent variable measures support for redistribution in income differences and is based on agreement with the statement: ‘The Colombian government should implement strong policies to reduce income inequality between the rich and the poor’. It is standardised (z-score). Departmental controls include log native population, unemployment rate, departmental GDP, share of skilled population, inactivity rate, share of migration different than Venezuelan, share of independent workers, poverty rate and Gini coefficient; individual controls include years of education, age, sex, age × sex, years of education × sex, marital status, self-reported race, rural respondent, activity status (employee, unemployed, student, retired), a dummy whether the individual lived an insecurity episode in the last 12 months, income scale and a subjective income mobility scale respect to the last 12 months. Equation (5) is estimated by instrumenting the variable $M_{dr}$ and its quadratic form using the instrument $V_{dr}$ in Equation (6) and its square. The estimated effect row indicates the percentage effect in terms of standard deviations of the dependent variable when moving from a scenario with no immigration to one where the immigration share increases by one standard deviation (i.e. an increase from 0% to 1% in the immigration share). Clustered standard errors at the the department level in parenthesis.

Alesina and Stantcheva (2020), among others. They argue that attitudes towards redistribution depend on the tension between migration and the national welfare state. In particular, voters may be concerned about a diversion of public revenues from native taxpayers to foreign welfare recipients. Assessing the precise situation of the immigrants with respect to the fiscal system in Latin America is not an easy task due to data limitations. However, the evidence suggests that they are likely to be net beneficiaries. On average, 58% of immigrants in Latin America work in the informal sector and hence do not pay income or payroll taxes. The share climbs to 63% in the case of recent immigrants (5 years or less). On the other hand, they are eligible for several social programmes: public education for their children, basic health services, housing programs and cash transfers. For example, 79% (82%) of children of (recent) immigrants go to free public schools funded by fiscal resources. Thirty percent of households where the head is non-native are beneficiaries of cash transfer programs. Although few countries include questions regarding health in their surveys, the available information suggests a significant participation of immigrants in public health programs. For example, in Argentina, 62% of immigrants who received medical care used a public hospital or a local health centre where they benefit from free-of-charge health services. The proportion increases to 85% for immigrants in the first two quintiles of the household income distribution.

On the other hand, it is difficult to rule out loyalty factors behind the negative effect of immigration on the support for redistributive policies in Latin America. Several pieces of evidence suggest that natives have shown, especially in recent times, animosity against immigrants despite similar backgrounds. For example, according to Latinobarometer (2018) data, in Latin America 74% of respondents believe that the arrival of immigrants harms them and their families. Additionally, on average in the region about 60% of respondents in Latinobarometer believe that there are strong or
very strong conflicts between immigrants and natives (see Appendix Figure A3). Oxfam (2019) reports that 80 per cent of Colombians believe that social services are collapsed due to the arrival of Venezuelan immigrants; this percentage is slightly lower for Peru and Ecuador (70%). Our results in Figure A2 in the Appendix, where effects on support for redistribution are stronger the higher the share of natives with negative attitudes towards immigrants, also point in this direction.

Additionally, cases of overt animosity against migrant diasporas are not infrequent. There is abundant anecdotal evidence of episodes of xenophobia or widespread rejection of immigrants by host communities due to mass influxes of immigrants (e.g. Venezuelans in Colombia, Haitians in the Dominican Republic). In these cases, the bias against immigration may be rooted in nationalist factors.

Finally, as an indirect way to provide evidence on the perceptions of the host community towards immigrants, we explore whether immigration affects the extent to which natives trust the people living in their neighbourhood or municipality. Table S9 shows that an increase in the share of immigrants in the region is negatively associated with the level of trust natives feel for their neighbours. This piece of evidence might also suggest a bias against immigrants.

7. Concluding remarks

Immigration seems to have affected natives’ preferences and attitudes in Europe and the United States. In this paper we study whether this result also holds in a context of developing countries where migration is essentially intra-regional.

We use three different settings. First, we exploit within-country variation in 12 Latin American countries. We find a negative and significant relationship between the share of immigrants in a province and the support for redistributive policies in the resident population. The results are basically driven by intra-regional immigration, that is, immigration from other Latin American countries. Even when migration occurs among rather similar countries, we find that the size of the estimated effects are slightly larger than those found by Alesina et al. (2021) for Europe, where immigration is more asymmetric. We also find that the anti-redistribution effect is larger among high-skilled and high-income individuals. We confirm these results in a different framework: a fixed effects model that exploits panel data from a large database of national household surveys. Our main estimates suggest a negative effect of 9.3% of a standard deviation given an increase in the share of immigrants of one standard deviation.

Finally, we study the case of mass migration of Venezuelan refugees to Colombia. We find that immigration from Venezuela significantly reduces support for strong redistribution policies in Colombia. It is likely that the fact that this wave of migration was massive and in a very short period of time (a ’shock’) implied results that are significantly higher (almost double) than those found in the cross-country analysis for Latin America.

We briefly discuss two possible underlying mechanisms that could explain the negative effects of migration on support for redistributive policies in Latin America. Although we cannot provide causal estimates due to data limitations, some evidence suggests that there may be a combination of the fiscal leakage and loyalty effects.

Notes

1. Hereafter, we refer to states, departments or provinces of the different countries – depending on countries’ political division – simply as provinces.
2. The Appendix and the Supplementary Material section complement the paper. Tables and figures shown in the Supplementary Material are labelled with an initial S.
3. One limitation of our paper is that we cannot distinguish immigrants and natives among LAPOP respondents. However, in a similar survey with information on country of birth, Latinobarometer, immigrants represent a very small share of respondents (on average 1.27% in 2018), and hence it is unlikely that they significantly affect the results on the attitudes towards redistribution.
4. For some recent census in which IPUMS data are not available, we use the raw census information from official websites. To obtain immigrants in the past for constructing the instrument variable of the robustness subsection, we still rely on IPUMS data. See Table S1 for details on data sources.

5. Appendix Table A3 presents some descriptive statistics on census immigration data by country.

6. We restrict the sample to the provinces that appear on all waves of LAPOP survey to work with a balanced panel of provinces over time. Due to data availability, there are some exceptions on the LAPOP-household surveys year matches (see Table S6 for details on countries and years availability). In addition, one drawback of this source of information is that immigration data are noisier than census data. However, Figure S1 shows that there is a strong correlation between both sources of information. The coefficient of a regression of both variables with country fixed effects is 0.87.

7. Of course, the contrast might be also due to more complex interactions between immigration, the labour market and the welfare state that generate different results for Europe and Latin America. More research is needed on this issue.

8. Attitudes towards immigrants are not elicited in the LAPOP survey. Instead, we use Latinobarometer questions: (i) ‘In every country there are differences between social groups. In your opinion, how strong is the conflict between nationals and foreigners, is it very strong, strong, weak or very weak?’ and (ii) ‘Now I would like to ask you to tell me from your point of view and that of your family if you believe that the arrival of immigrants in the country benefits or harms you’.

9. These questions were available in the 2017 and 2018 Latinobarometer waves, respectively. Figure A3 in the Appendix shows that, on average, between 65 per cent and 75 per cent of respondents in Latin America have unfavourable attitudes towards immigrants. With the country level wars, we estimate equation (1) with the quadratic specification but also adding an interaction of the linear share of immigrants with that share. Finally, we calculate the estimated effect for a province with an average share of immigrants relative to the population (1.8%) for different shares of people with unfavourable attitudes towards immigrants (from 50% to 95%).

10. Table S1 describes the years for present and past immigrants for each country.

11. These two questions regarding government provision of employment and health care are only included in the 2010–2012 LAPOP waves for the health care variable and 2008–2012 LAPOP waves for the employment variable, thus our sample is significantly reduced.

12. Three departments included in the GEIH are not surveyed by LAPOP: Chocó, La Guajira and Quindío.

13. It is worth mentioning that although Figure A4 shows a negative relationship between the share of Venezuelan immigrants and preferences for redistribution, we again find a decreasing rate in this relationship.

14. Driving-distance is estimated by implementing Stata command georoute of Weber and Pêclat (2017), which also provides information about the travel-time between Colombian departments and Venezuelan States. Results are robust when travel time is considered instead of driving-distance in the instrument calculation.

15. In other words, if an individual born in Venezuela knows a Colombian person, it is more likely that she has a network of contacts in Colombia that can help her in case she decides to leave the country and, at the same time, this is more likely to happen in those Venezuelan States with a higher share of Colombian population.

16. Table S7 shows the First Stage of IV estimation for aggregate results.

17. We are very grateful to an anonymous referee for suggesting the arguments made in this section.

18. The calculations in this paragraph correspond to a sample comprised by most Latin American countries with data on immigrants in their recent national household surveys (Argentina, Brazil, Chile, Costa Rica, Guatemala, Honduras, Panama, Peru and Uruguay). We report the unweighted mean for 2018 restricting the sample to households with heads aged 20–50. The main results are robust to other samples. Calculations were performed using harmonised national household survey microdata from SEDLAC.

19. Own calculations based on the ENAPROSS 2015 household survey. The proportion for natives is 40.3 per cent.

20. Table S10 provides evidence regarding cases of xenophobia against specific migratory groups.

21. To that aim, we use the following question in LAPOP: ‘And speaking of the people in your area, would you say that people in this community are very trustworthy, somewhat trustworthy, not very trustworthy, or untrustworthy...?’

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No potential conflict of interest was reported by the author(s).
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A. Appendix Tables and Figures

![Figure A1. Preferences for Redistribution in Latin America](image)

*Notes:* The figure shows the percentage of individuals that express significant support for policies to reduce income inequality (values of 6-7 on the seven-point scale on agreement to the statement: “The (Country) government should implement strong policies to reduce income inequality between the rich and the poor”) by LAPOP wave. Countries included are LAPOP Latin American countries.
Figure A2. Heterogeneous effect of immigration on preferences for redistribution by attitudes toward immigrants

Notes: See notes in Table 1. The values on the horizontal axis indicate the proportion of respondents who believe that there are strong conflicts between natives and immigrants and the proportion of respondents who believe that immigration is detrimental to them or their family. Each point estimate is based on a regression following the specification in equation (1) with the share of immigrants and its square as independent variables of interest, but where the interaction between the linear share of immigrants and the country level share of people with unfavorable attitudes toward immigrants for both variables. The estimated marginal effect of an increase in the share of immigrants is calculated for an average province in terms of immigration (a province with 1.8% immigration) as follows: $\hat{\beta}_1 + \hat{\beta}_2 H + 2\hat{\beta}_3 M_{pc}$, where $\hat{\beta}_1$, $\hat{\beta}_2$ and $\hat{\beta}_3$ are the estimated coefficients accompanying the linear share of immigrants ($M_{pc}$), the interaction between $M_{pc}$ and the share of respondents with unfavorable attitudes toward immigrants considered in the horizontal axis of Figure 3 (H) and the quadratic share of immigrants ($M_{pc}^2$), respectively. 95% confidence intervals are presented for each point estimate.
Figure A4. Preferences for Redistribution in Colombia and Venezuelan Immigration, 2013-2018

Notes: Strong preferences for redistribution defined as values of 6-7 on the seven-point scale on agreement to the statement: “The (Country) government should implement strong policies to reduce income inequality between the rich and the poor”. Each point is the average support for redistribution and Venezuelan immigration in the country. Source: Own elaboration based on data from DANE and LAPOP.
Table A1. Descriptive Statistics: Main variables LAPOP 2008-2018

| Country             | Male | Age  | Years of Education | Employee | Student | Ideology |
|---------------------|------|------|--------------------|----------|---------|----------|
| Argentina           | 0.50 | 40.2 | 10.7               | 0.58     | 0.08    | 5.43     |
| Brazil              | 0.49 | 38.8 | 8.51               | 0.41     | 0.06    | 5.59     |
| Chile               | 0.42 | 44.8 | 10.7               | 0.48     | 0.06    | 5.17     |
| Colombia            | 0.51 | 37.6 | 9.72               | 0.54     | 0.07    | 5.91     |
| Costa Rica          | 0.50 | 41.2 | 8.83               | 0.46     | 0.09    | 5.69     |
| Dominican Republic  | 0.51 | 39.7 | 9.36               | 0.48     | 0.07    | 6.08     |
| Ecuador             | 0.50 | 38.5 | 10.8               | 0.53     | 0.09    | 5.33     |
| Guatemala           | 0.52 | 38.2 | 7.46               | 0.53     | 0.05    | 5.35     |
| Mexico              | 0.52 | 39.8 | 9.31               | 0.52     | 0.06    | 5.52     |
| Panama              | 0.50 | 38.6 | 10.8               | 0.41     | 0.08    | 5.53     |
| Peru                | 0.52 | 38.8 | 11.3               | 0.54     | 0.08    | 5.48     |
| Uruguay             | 0.48 | 45.7 | 9.62               | 0.54     | 0.04    | 4.96     |
| **Total**           | **0.50** | **40.1** | **9.79**      | **0.50** | **0.07** | **5.50** |

Notes: Ideological position is a variable in which the respondents had to place themselves in a scale from 1 to 10 where 1 is left and 10 is right ideology. Source: Own elaboration based on data from LAPOP 2008-2018.
Table A2. Descriptive Statistics: Preferences for Redistribution in Latin America 2008-2018

| Country               | Mean | SD  | p25 | p50 | p75 |
|-----------------------|------|-----|-----|-----|-----|
| Argentina             | 5.84 | 1.56| 5   | 7   | 7   |
| Brazil                | 5.75 | 1.63| 5   | 6   | 7   |
| Chile                 | 5.99 | 1.35| 5   | 7   | 7   |
| Colombia              | 5.76 | 1.54| 5   | 6   | 7   |
| Costa Rica            | 5.83 | 1.62| 5   | 7   | 7   |
| Dominican Republic    | 5.92 | 1.57| 5   | 7   | 7   |
| Ecuador               | 5.47 | 1.65| 4   | 6   | 7   |
| Guatemala             | 5.27 | 1.76| 4   | 6   | 7   |
| Mexico                | 5.66 | 1.62| 5   | 6   | 7   |
| Panama                | 5.51 | 1.73| 4   | 6   | 7   |
| Peru                  | 5.42 | 1.56| 4   | 6   | 7   |
| Uruguay               | 5.81 | 1.60| 5   | 7   | 7   |
| Total                 | 5.68 | 1.62| 5   | 6   | 7   |

Notes: The dependent variable measures support for reduction in income differences and is based on the agreement to the statement: “The (Country) government should implement strong policies to reduce income inequality between the rich and the poor” where the answer is a scale from 1 to 7, such that 1 represents Strongly Disagree and 7 is Strongly Agree.
| Country          | Mean | SD  | p25 | p50  | p75  |
|------------------|------|-----|-----|------|------|
| Argentina        | 0.031| 0.036| 0.007| 0.012| 0.060|
| Brazil           | 0.002| 0.002| 0.001| 0.002| 0.003|
| Chile            | 0.040| 0.041| 0.013| 0.021| 0.071|
| Colombia         | 0.014| 0.012| 0.004| 0.010| 0.020|
| Costa Rica       | 0.083| 0.025| 0.054| 0.088| 0.106|
| Dominican Republic| 0.040| 0.024| 0.025| 0.031| 0.047|
| Ecuador          | 0.012| 0.009| 0.005| 0.011| 0.016|
| Guatemala        | 0.004| 0.003| 0.002| 0.004| 0.006|
| Mexico           | 0.010| 0.008| 0.006| 0.008| 0.012|
| Panama           | 0.029| 0.021| 0.012| 0.019| 0.047|
| Peru             | 0.004| 0.003| 0.001| 0.003| 0.005|
| Uruguay          | 0.015| 0.009| 0.008| 0.013| 0.020|
| Total            | 0.018| 0.025| 0.003| 0.008| 0.020|

Notes: Table shows summary statistics of immigration shares at the province level for the last available census for each country (see Table S1 in Supplementary Material).
Table A4. Descriptive statistics of Venezuelan immigrants in Colombia - 2019

|                  | Venezuelan | Colombian | Difference | P-Value | Observations |
|------------------|------------|-----------|------------|---------|--------------|
| Male             | 0.501      | 0.493     | -0.008     | 0.212   | 754270       |
| Age              | 22.33      | 32.55     | 10.22      | 0.000   | 754270       |
| Years of Education | 7.778   | 7.714     | -0.064     | 0.741   | 723811       |
| Unemployment     | 0.149      | 0.103     | -0.046     | 0.000   | 381613       |
| Labor Force Participation | 0.627 | 0.564 | -0.063     | 0.000   | 623650       |
| Per Capita Income (logs) | 12.40 | 12.94 | 0.540      | 0.000   | 754270       |
| Poverty rate     | 0.424      | 0.215     | -0.209     | 0.000   | 754270       |

Source: Own elaboration based on data from DANE. P-values are for difference between Venezuelan and Colombian averages with clustered standard errors at the departmental level.