What Do You Fear?
Anti-Immigrant Sentiment in Latin America

Abstract

In this article, we study the material determinants of anti-immigrant sentiment in Latin America. Based on new data on immigration to non-OECD countries, we use the work-horse distributive theories that anticipate who wins and who loses from immigration and test their predictive capacity in labor-abundant countries. We exploit the variation in regional immigration rates, in the skill composition of natives vs. migrants, and in the relative generosity of Latin American welfare states. We find that fears of labor market competition are weak predictors of anti-immigrant sentiment. In contrast, fears of greater tax burdens are strong and robust predictors of anti-immigrant sentiment. We conclude that studying Latin American public opinion opens new avenues for theorizing about anti-immigrant sentiment in developing countries.

Keywords: Anti-immigrant sentiment, labor market competition, welfare state, Latin America, South-South migration, developing countries.

Introduction[1]

Is there evidence of anti-immigrant sentiment outside the developed world? If yes, what are the drivers of that sentiment? This paper seeks to improve our understanding of anti-immigrant sentiment in developing countries by looking at the determinants of anti-immigrant sentiment in Latin America.

The classic 'work-horse' theories of attitudes toward immigration are based on material or self-interest concerns. These theories predict that individuals' attitudes toward immigration will vary depending on whether immigrants positively or negatively affect natives' well-being. This, in turn, depends on natives' and on migrants' qualifications, which determine whether natives' position in the domestic economy will be threatened by inflows of migrants or not. Material concerns involve two aspects. On the one hand, natives may fear losing their jobs to immigrants. On the other hand, natives may fear having to carry the costs of more immigrants using social services (Scheve and Slaughter 2001; Mayda 2006; Hanson et al. 2007; Facchini and Mayda 2009; Hainmueller and Hiscox 2007, 2010; Goldstein and Peters 2014).

Material explanations of anti-immigrant sentiment have been qualified by advocates of non-material theories. Non-material theories anticipate that the major drivers of attitudes toward immigrants will be fears of ethnocentric tensions, and individual levels of cosmopolitanism and tolerance (Citrin et al. 1997; Sides and Citrin 2007; Hainmueller and Hopkins 2014).

Both material and non-material theories of anti-immigrant sentiment have been tested almost exclusively in advanced countries (exceptions are Mayda 2006; Facchini, Mayda and Mendola 2011; Orcés 2009; Adida 2011; Lawrence 2011). This is surprising

[1] We appreciate the comments of two anonymous reviewers, the editor, Alex Guerrero, Martin Kahanec, Mariana Medina, Diana Orcés, Berkay Ozcan, Luicy Pedroza, Sergi Prados-Pardo, participants in seminars at the Central European University and the WZB. This research benefitted from a stay at the Central European University supported by the Erasmus Mundus Programme (2013).

and unjustified given that about 45 per cent of migrants move South–South (Ratha and Shaw 2007). The lack of cross-national and comparable data on immigrant flows and stocks and their levels of qualification relative to those of natives is, of course, a major problem when exploring the impact of immigration on the labor markets of less developed countries (LDCs), where labor is an abundant factor. To our knowledge, this is the first comparative study of anti-immigrant sentiment in Latin America.

Latin America is an interesting region for testing material theories of anti-immigrant sentiment for several reasons. First, whereas advanced countries receive immigrants that are on average less skilled than the average native population, the opposite happens in Latin America. With immigrant flows being on average tilted toward the high skilled, we would expect lower levels of anti-immigrant sentiment in Latin America if, as in advanced countries, this type of immigration generally encounters less opposition (Hainmueller and Hiscox 2007, 2010). Second, although Latin America has historically been a region of immigration (Hatton and Williamson 2005), today it is regarded primarily as a continent of emigration (Donato et al. 2010). High rates of emigration help to relieve wage and job competition among the natives left behind (Misha 2007). Moreover, we are interested in exploring whether the fact that many Latin American families have emigrant relatives abroad shapes in any meaningful way the attitudes of the public towards immigrants. We hypothesize that those exposed to the experiences of their migrant relatives will be more empathetic to the hurdles of immigrants seeking better life conditions in Latin American countries. Finally, although welfare states are overall less generous than in advanced countries and therefore fiscal concerns of immigration should be less prominent, there is variation in the coverage of social policies offered by Latin American states that is worth looking at.

These three overall characteristics – skilled immigration, high rates of emigration, and relatively smaller welfare states -- make Latin America a least likely case for economic drivers of anti-immigrant feeling to be relevant in terms of salience and severity of the immigration problem. However, this picture hides important regional variation in the relative presence of immigrant populations, their skill profiles relative to natives, and the generosity of welfare spending. When we exploit this variation, we find that fear of migrants is also a concern for Latin Americans.

Using the 2008 wave of the Latin American Public Opinion Project (LAPOP, Vanderbilt University), we study the economic drivers of anti-immigrant sentiment by exploring the answers to two questions: (i) whether natives think that immigrants take jobs away from natives; (ii) and whether natives think that immigrants should be given access to social services. In line with recent studies, we do not find support for labor market competition as a determinant of anti-immigrant sentiment. However, we do find support for the tax adjustment channel. Richer natives are more anti-immigrant than poor natives where immigrants are predominantly unskilled. This is in line with the expectation of fears of tax increases associated with the arrival of unskilled immigration. Interestingly, this effect is stronger and robust in countries that receive high numbers of relatively unskilled immigrants and have more generous welfare states. We relate this finding to the fact that, due to high levels of labor market informality and income inequality, it is the relatively rich natives that bear the burden of higher income taxation in Latin America (Breceda et al. 2009: 739). All in all, we find that fears of a greater fiscal burden explain the sentiments of Latin Americans toward immigrants better than do fears about job competition.

The paper proceeds as follows. In Section 1, we review the theories on the economic consequences of immigration. We derive expectations about individual

attitudes toward immigrants depending on natives' position on the education and income scales as well as on the relative size of the immigrant population and their skills relative to natives. In Section 2, we present our data. In Section 3 we discuss the methods. In Section 4, we present and discuss our results. Section 5 contains the conclusions and a discussion of future research avenues.

1. Material Interests and Attitudes Toward Immigrants

Immigration and Labor Market Competition (LMC)

Political-economy accounts of public opinion about immigrants put the emphasis on labor-market competition fears. The dominant model used to predict who wins and who loses from immigration is the factor-proportions model (FP). This model derives the distributional consequences of immigration from the effect that immigration has on the relative supply of factors of production in the destination country. In this model, the fundamental variable is the difference between the skill composition of natives and immigrants. If immigrants are less skilled than natives, lower-skilled natives may see their wages and jobs threatened due to greater competition. Higher-skilled natives win from higher immigration of lower-skilled immigrants whose skills complement those of educated natives. Thus, the prediction of the FP model is that natives should favor the arrival of immigrants who complement them and they should oppose the arrival of immigrants with similar skills (Borjas et. al 1996, 1997; Borjas 1999; Hainmueller and Hiscox 2010: 62).[2]

[2] More ambiguities arise when models are complicated by assumptions about factor specificity (as opposed to fully mobile factors), by the fact that natives can experience real income effects from the change in output mix, and when economic models allow for economies of scale in production. Sophisticated models of the distributional impact of immigration result in ambiguous predictions and ambiguous empirical results (Orrenius and Zavodny 2012; see also the meta-study by Longhi et al. (2008)). In short, the predictions of the simple FP model vary with the assumptions that are added to the model (Hainmueller and Hiscox 2010: 63).

Empirical tests of how well the distributional consequences of the FP model explain the attitudes of individuals toward immigrants are mixed (Hainmueller and Hopkins 2014). Scheve and Slaughter (2001), Mayda (2006) and Facchini and Mayda (2009) report results that support the FP model. Using different surveys covering developed and developing countries, Mayda (2006) finds that in advanced countries pro-immigration attitudes are positively correlated with higher skills, whereas in developing countries the opposite occurs: pro-immigration attitudes are *negatively* correlated with skill levels. The interpretation is that advanced countries attract immigrants who are less skilled than natives, whereas developing countries attract immigrants who are more skilled than natives.

Hainmueller and Hiscox (2007, 2010) use the 2003–2004 European Social Survey and a survey experiment in the U.S. respectively to examine the relationship between individual skills and attitudes toward immigrants. In both studies, the questions about immigrants distinguish between attitudes toward high-skilled immigrants and those toward low-skilled immigrants. Contrary to the predictions of the FP model, the authors find that people with higher education and higher occupational skill levels are more likely to be pro-immigration independently of the skill levels of immigrants. This result calls into question the role of competition and material interests in shaping individual attitudes toward immigrants.[3]

In contrast, Malhotra et al. (2013) find that the labor market competition hypothesis works for specific economic sectors. For the U.S. policy of H1B visas, which mainly targets the high-skilled immigrants in the high-tech sector, natives working in that sector were less likely to support the expansion of this policy when compared to other equally qualified workers who do not work in this sector. Yet they

[3] Interestingly, Goldstein and Peters (2014) find that during the 2008–2009 recession, the greatest increase in anti-immigrant sentiment toward high skilled immigrants occurred among high skilled natives.

were not more likely to oppose foreign immigration in general. The authors show that concerns about job competition are conditional to specific sectors and qualifications rather than prevalent among the general public.

There are other reasons why the LMC tests that use education as a proxy for skills may not predict attitudes towards immigration. Education typically correlates highly with values of tolerance and cosmopolitanism that are in turn associated with less anti-immigrant sentiment (Citrin et al. 1997; Chandler and Tsai 2001; Sides and Citrin 2007; McDaniel et al. 2011). Other features describing individuals' position in the labor market may be better predictors of anti-immigrant sentiment. For instance, the literature on insidership states that the preferences for job protection and redistribution should differ across employment status (Rueda 2007). Core insiders, those with stable employment contracts, may fear labor market competition less than the vulnerable or the currently unemployed. Similarly, members of trade unions may behave like insiders and do whatever it takes to protect their privileges (e.g. author 2009). In the empirical tests, we use different proxies of natives' position in the labor market.

One of the most severe problems of the scholarly literature about sentiments toward immigrants is the dearth of survey data and research about immigration policy and immigrants in emerging and developing countries (Meyers 2000; Ceobanu and Escandell 2010). Facchini et al. (2011) started to fill this gap using survey data in South Africa, where they found that job competition does not play an important role in forming public preferences about immigration, despite the reported economic impact of (high-skilled) immigrants on local labor markets.

With regard to Latin America, there are several features concerning patterns of emigration and immigration worth emphasizing. First, despite a long history of large immigration flows at the turn of the twentieth century (Hatton and Williamson 2005),

these days Latin America is regarded as a continent of *emigration*. Emigration rates exhibit a considerable variation, ranging from a high of 18 per cent in El Salvador to a low of 0.6 per cent in Brazil. Several other countries, such as Nicaragua, Mexico, and the Dominican Republic show emigration rates exceeding 10 per cent of their populations (OECD 2010), with the U.S. being the major destination country. Although the economic consequences of this emigration have been more researched in destination than in origin countries, there is some evidence that the self-selection of relatively educated *legal* emigrants (Clark et al. 2004: 1877) has improved the wages of those left behind with qualifications similar to those of the emigrants. For instance, in Mexico, Misha (2007) finds that labor emigration to the U.S. between 1970 and 2000 has increased the average income of Mexican workers by 8 per cent. Educated natives (those with 12 to 15 years of education) have been the ones most benefited by emigration. Thus, both legal and illegal high *emigration* rates may certainly be a factor reducing anxiety about labor market competition by immigrants in Latin America.

We also entertain the possibility that high emigration rates may operate through a less material channel. With high percentages of Latin American households reporting relatives living abroad (42 percent in El Salvador, 28 per cent in Guatemala and 24 per cent in Mexico) and being in touch with them, it might well be the case that those left behind are more empathetic with the efforts of immigrants seeking better life opportunities in Latin American countries. First-hand knowledge of the emigrant experience among those with relatives abroad may ameliorate anti-immigrant sentiment.

Second, it should not be ignored that Latin American *immigration* also varies in number and composition (Clark et al 2004). According to the OECD (2010: 17), in 2000, there were 5 million immigrants living in Latin America, of whom 3 million were born in another country in the region. Immigration rates to Latin American countries

exhibit a sizeable variation, ranging from less than 1 per cent in Mexico and Guatemala to a high of 7.4 per cent in Venezuela and 9.5 per cent in Costa Rica (OECD 2010). Intraregional flows are reported to have increased in the last years as a consequence of the worsening of economic conditions in developed destinations (Durand and Massey 2010: 31).[4]

As we show below, there is also variation in the skill composition of immigrants and of immigrants relative to natives. In most Latin American countries, the percentage of skilled immigrants with respect to unskilled immigrants is high, except in the countries that experience higher immigration rates, such as Costa Rica and Argentina, which receive large inflows of low skilled immigrants from neighboring countries. Unfortunately, virtually nothing is known about the impact of immigration on wages, income, and employment in developing countries.[5]

In sum, if distributive theories of immigration concerning LMC fears are right, we should observe that high-skilled natives are the ones exhibiting greater fears of being displaced in the job market in contexts where immigrants are relatively highly skilled; but these fears should be lower in contexts in which immigrants are predominantly less skilled than natives.

Immigration and Welfare State Burden

An alternative facet of anti-immigrant sentiment is motivated by fears that immigration increases the natives' tax burden (Hanson et al. 2007; Facchini and Mayda 2009; Hainmueller and Hiscox 2010). High-income natives may fear that governments

[4] http://www.oxan.com/analysis/dailybrief/samples/LatinAmericaMigration.aspx

[5] On exception is Gindling (2009), who studies the impact of Nicaraguan immigrants on earnings, inequality, and poverty in Costa Rica. In this case, Nicaraguan immigrants have lower skill levels than Costa Ricans and they tend to concentrate in low-paying industrial sectors of the economy. The author reports that Nicaraguans have had a significantly negative effect on the earnings of Costa Ricans at the lowest educational level, particularly among women.

respond to increasing inflows of immigrants by raising taxes, leaving social benefits untouched – the so-called *tax-adjustment model*. If this is the formula policymakers choose, high-income natives should exhibit the strongest opposition to immigrants having access to social services, particularly if immigrants are predominantly low-skilled. If immigrants are relatively high-skilled, they are likely to use public welfare less than unskilled immigrants. Moreover, high-skilled immigrants contribute to financing social services through taxes and given that they use these social services less, they tend to be net contributors to the system (Hainmuller and Hiscox 2010: 64).

However, policy makers may choose not to increase taxes in response to increasing immigration flows. In that case, natives would be competing with immigrants for the same amount of social transfers – the so-called *benefit-adjustment model*. In settings where immigrants are relatively unskilled (and therefore more dependent on social services), anti-immigrant sentiment should be greater among poor natives than among richer natives.

These alternative possibilities have been tested against data for advanced countries. Hanson et al. (2007) distinguished between high and low fiscally exposed U.S. states – a highly exposed state is one with high rates of immigrant settlement and generous welfare benefits. The authors find that rich individuals are less likely to support immigration in states with high fiscal exposure and conclude that rich natives fear having to pay higher taxes as a result of high immigration rates. Facchini and Mayda (2009) examine these same relationships comparing several countries. They find that income is negatively correlated with *pro*-immigrant sentiment in countries with relatively unskilled immigrant inflows.

Hainmueller and Hiscox (2010: 67) argue that the theoretical predictions concerning anti-immigrant sentiment and the welfare state rely on assumptions about

whether respondents have skilled or unskilled immigrants in mind. Given that high-skilled immigrants do not crowd out poor natives in the use of social services and contribute to financing them, the authors expected that if fears of greater taxes drive natives' concerns about immigration, rich natives will be in favor of skilled immigrants more than poor natives will be. On the other hand, if natives fear being crowded out in the use of social services by the presence of greater inflows of immigrants, then poor natives (natural users of social services) will be against unskilled immigrants more intensively than rich natives will be.[6] Empirically, these authors find support for the benefit-adjustment model: in states that are highly fiscally exposed, poor natives are significantly less likely to support unskilled immigration than they are in states with low exposure.

One might think that fears about immigration imposing a welfare burden on natives would not be relevant in Latin America. On average, both welfare spending and taxes represent a lower percentage of national wealth than in advanced countries. Tax revenues rely heavily on indirect taxation, and personal income taxes represent a low percentage of direct taxation (Lustig et al. 2012; Mahon 2012; Bird and Zolt 2015). In principle, this makes it unlikely that richer natives would oppose immigration because of fears of more income taxes. Yet, due to high income inequality and very high levels of labor market informality, it is the relatively richer who disproportionally pay income taxes even if aggregate levels of taxes-to-GDP are smaller than in advanced countries (Breceda et al. 2009: 722, 739; Tokman 2007). Moreover, according to some analysts, high levels of income inequality also imply that indirect taxation hits the upper income deciles, where higher consumption capacity concentrates (Barreix and Bés 2012: 8).[7]

[6] This would be especially evident in settings with high fiscal exposure.

[7] Although it is also acknowledged that the high number of exemptions ends up favoring the upper-income consumers.

Finally, some of the countries with higher levels of low-skilled immigrant presence, such as Argentina and Costa Rica, are countries that have in recent years successfully increased direct income taxation (Fairfield 2015). As a result, upper income brackets may be fearful of seeing their taxes increased due to inflows of unskilled immigration.

As before, there is significant variation between Latin American countries in the generosity, coverage, and redistributive capacity of their welfare states (Mesa-Lago, 1989; Segura-Ubiergo 2007; Pribble 2011; Huber et al. 2008; Haggard and Kaufman 2008; Lustig et al. 2012).[8] As we describe below, the countries with more generous welfare states receive large inflows of unskilled immigrants. Even if there is some variation in the legal and *de facto* access of migrants to social benefits (e.g. Noy and Voorend 2015; IOM 2013), all larger welfare states grant some form of social protection to immigrants. Moreover, the qualitative evidence points to an increasing public awareness among natives in those countries (e.g. Voorend and Venegas 2014).

2. Data

The 2008 LAPOP survey included a question that captures anti-immigrant sentiment based on fears of labor market competition in ten Latin American countries (Mexico, Guatemala, El Salvador, Costa Rica, Panama, Ecuador, Bolivia, Uruguay, Brazil, and the Dominican Republic). The question asked respondents whether they believe that

[8] Brazil and Chile are usually included in the group of relatively well-developed welfare states together with Uruguay, Argentina, and Costa Rica (Huber and Bogliaccini 2010; Segura-Ubiergo 2007; Huber et. al. 2008; Pribble 2011). To illustrate, LAPOP includes a question about whether respondents receive health/social insurance through their employer. This question has a high number of missing values, but shows considerable variation, no doubt associated with variation in levels of informality in Latin American job markets (Tokman 2007). Whereas 69 per cent of Costa Ricans and 66 per cent of Uruguayans who answered the question were covered by their employers, only 20 per cent of Guatemalans and 24 per cent of Bolivians were. Questions concerning welfare coverage have a high percentage of non-response. For instance, LAPOP 2008 includes a question on use of public health services in the last year that has more than 50 per cent missing values. About 8 per cent of the valid responses are positive.

immigrants take jobs away from natives. This is a dichotomous variable where a value of 1 indicates agreement with the statement.

In the survey, the lowest anti-immigrant sentiment is found in Costa Rica, where 20 per cent of respondents agree with the statement. However, in most Latin American countries, the percentage of respondents expressing fears of job competition is high. For instance, it is 72 per cent in Guatemala and Brazil. On average, 53 per cent of the Latin Americans who were asked this question believe that migrants take jobs away from natives. This percentage is higher than in the U.S. (47 per cent), a country that was also included in the survey.

Recall that the relative skill composition of immigrants with respect to the native population is crucial for testing distributive arguments as drivers of anti-immigrant sentiment. The OECD (2010) released new information on immigration rates as well as detailed information on the numbers and skills of natives and immigrants to an expanded sample of developing and emerging economies (see Table A1 in the Online Appendix).[9] Based on these new data on migrants' and natives' levels of qualifications and following Mayda (2006) and Facchini and Mayda (2009), we calculated the relative skill composition (RSC) for each of the countries in our sample. The RSC is the ratio of skilled to unskilled labor in the native relative to the immigrant population. For both natives and immigrants, this ratio is measured as the number of individuals with at least secondary education completed to the number of individuals with secondary education partially completed or less. In our estimations, we use the relative skill ratio (RSR), which is the log of one plus the relative skill composition.[10] The higher the RSR, the more unskilled migrants are compared to natives (Facchini and Mayda 2009: 303).

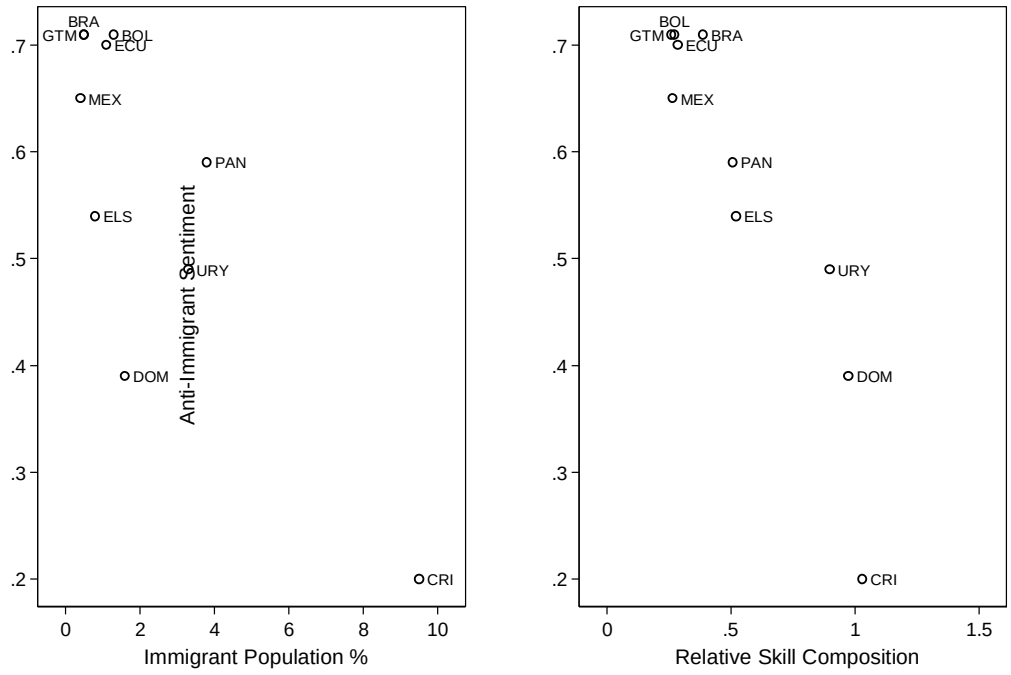
[9] http://www.oecd.org/els/mig/databaseonimmigrantsinoecdcountriesdioc.htm

Whereas studies in advanced countries have found the relative skill composition to be tilted towards relatively low-skilled immigration (Mayda 2006), our data reveal that in most Latin American countries this ratio has low values. In other words, immigrants tend to be relatively more skilled than natives. To give an example, the highest RSC in Facchini and Mayda's (2009: 302) is 4.09 and is the value for Germany. Germany is the country in their sample of advanced countries with the highest presence of unskilled immigrants relative to the native population. In our case, the highest value of RSC is 1.38, which corresponds to Argentina, followed by Costa Rica and Uruguay. The lowest RSC value in Facchini and Mayda's sample of developed countries is for Spain (0.33), but several Latin American countries have even lower values. Our lowest RSC is 0.26 in Guatemala and Mexico. Most Latin American countries exhibit much lower RSCs. This means that immigration to the region is predominantly high skilled (see Table A1 in the Online Appendix).

The left-hand panel in Figure 1 shows a plot of the proportion of respondents fearing labor market competition from immigrants against immigration rates. The right-hand panel shows anti-immigrant sentiment against the relative skill composition of natives to immigrants.

[10] As expected, this indicator correlates quite highly with growth in GDP per capita (0.61) indicating that within the Latin American region, relatively richer countries also tend to receive more unskilled immigrants (Mayda 2006).

Figure 1. Fears of Labor Market Competition.
Proportion of respondents agreeing that immigrants take jobs away from natives.



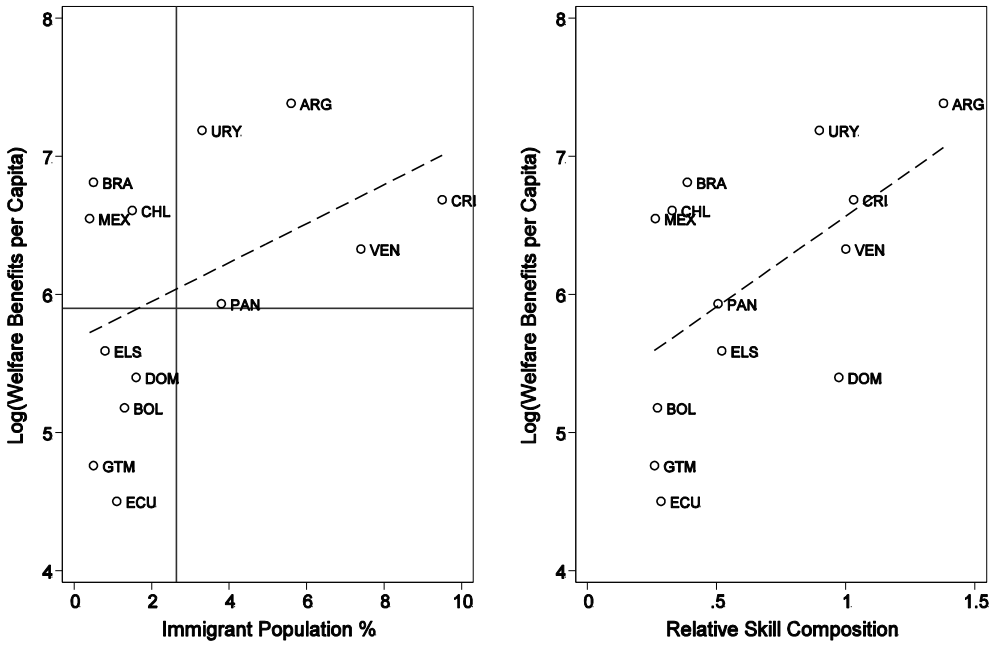
The figure shows that Costa Rica exhibits the lowest average level of anti-immigrant sentiment despite being the country in the sample with the highest and most unskilled immigrant population. On the opposite side of average anti-immigration feelings, Bolivia, Guatemala, Ecuador, and Brazil score high despite having very small and relatively skilled immigrant populations.

LAPOP 2008 also included a question asking respondents in thirteen Latin American countries (Mexico, Guatemala, El Salvador, Costa Rica, Panama, Ecuador, Bolivia, Chile, Uruguay, Brazil, Venezuela, Argentina, and the Dominican Republic) whether they agree with their governments offering social services such as health, education, and housing to immigrants. This is a 1–5 category variable, with higher values expressing more disagreement with immigrants using social services (more anti-immigrant sentiment).

Following Hanson et al. (2007), we classify Latin American countries into low and high-exposure countries. In Figure 2, the lines on the *x* and *y* axes mark the mean of social benefits per capita (log) and the mean immigration rate (foreign-born aged 15 and above as percentage of the population).[11] Countries exceeding the mean values on these two dimensions are classified as high-exposure countries. Some of the oldest and more redistributive welfare states in the region fall in the category of high exposure countries (Uruguay, Argentina, and Costa Rica). Panama is a borderline case and Venezuela is in this group due to its relatively high immigration rates and social spending figures.

[11] Sistema de Indicadores para el Sector Público en América Latina, CEPAL, http://www.cepal.org/ilpes/panorama/bd.html and Dioc-E, OECD, 2010. See Appendix A1 for details.

Figure 2. Immigration and Welfare State Burden.
Average opposition to immigrants using welfare services on a 1–5 scale.

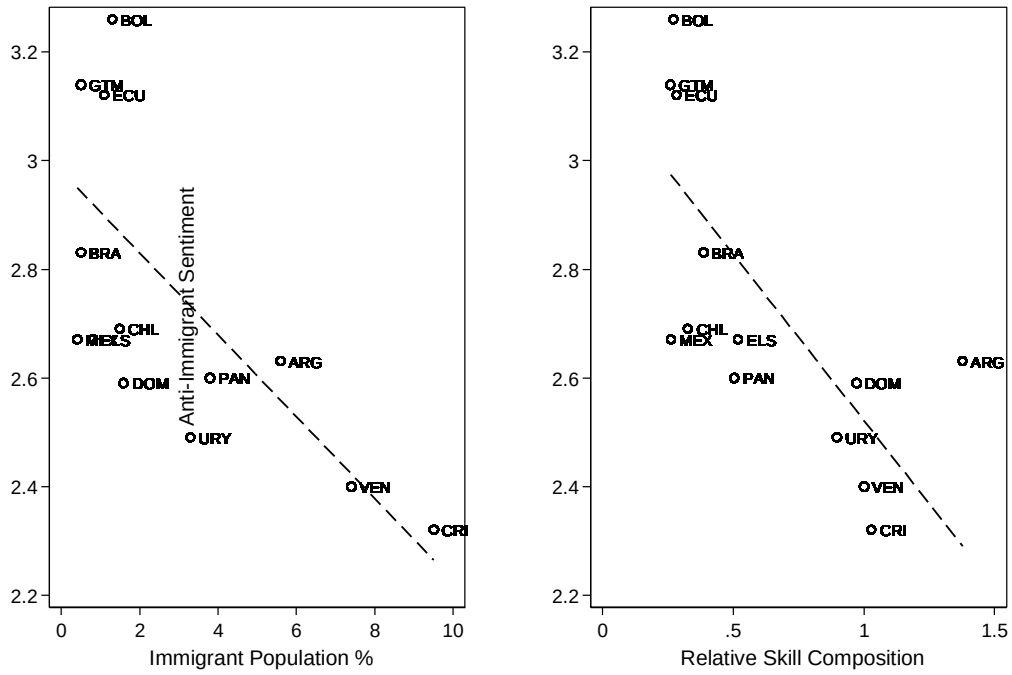


The figure shows a plot of the log of welfare benefits per capita against immigration rates (left panel) and against the relative skill composition of immigrants (right panel). Welfare entitlements correlate positively with relative skill composition, which means that welfare benefits per capita tend to be higher in countries with relatively unskilled immigrants. This fact, together with the positive correlation between immigrant presence and welfare benefits, suggests that unskilled immigrants self-select toward relatively developed Latin American welfare states – leaving the high immigration rates and low social benefits quadrant empty (Boeri 2010; Nannestad 2007). The usual suspects appear on the left-hand side quadrant (El Salvador, Bolivia, Ecuador, Guatemala, Dominican Republic). These are the welfare states that exhibited late development and low levels of coverage in all types of welfare spending (Pribbles 2011).

On average, we would expect lower anti-immigrant sentiment on this welfare state dimension in countries which not only have a small welfare state but also

relatively skilled immigrants. Under these circumstances, there is no reason why natives should be concerned about immigrants draining the public coffers or crowding natives out in the use of social services. On a purely economic basis, we would expect the highest opposition to immigrants using welfare in countries such as Uruguay, Costa Rica, Argentina, and Venezuela because here the immigrant populations are relatively numerous, immigrants are relatively unskilled, and the welfare states are relatively more generous. However, on aggregate terms, this is not the case. As Figure 3 shows, Bolivia is the most anti-immigrant country followed by Guatemala and Ecuador. And Costa Rica appears at the other extreme with the lowest opposition to immigrants having access to public health, education, or housing.

Figure 3. Anti-Immigrant Sentiment and Welfare State Burden
Average opposition to immigrants using welfare services on a 1–5 scale.



3. Methods

Our theoretical expectations in Section 1 referred to the *individual*, *not* to the country level. In labor market competition models, the main independent variable is years of education *(education),* which is a proxy for individual skills. Our model is then

$$Prob\ (Fears\ of\ Labor\ Market\ Competition=1|\ x_i) = F(\beta_1 Education_i + \beta_2 Education_i * RSR + \beta_3 RSR + \beta_4 Controls_i + \varepsilon_i). \quad (1)$$

Support for the labor-market competition hypothesis implies finding that *at low levels of RSR* (immigration flows predominantly high-skilled), the marginal effect of education on anti-immigrant sentiment is positive ($\beta_1>0$); *but as RSR increases* (skill composition of immigrants increasingly weighted toward unskilled immigrants), the impact of education decreases as immigrants represent less competition for skilled natives ($\beta_2<0$).

One obvious difficulty with using education as a proxy for skills is that education is highly correlated with other traits (such as cosmopolitanism, tolerance, information, and others) that make individuals less nativist and more sympathetic to immigrants regardless of their qualifications (Citrin et al. 1997; Chandler and Tsai 2001; Sides and Citrin 2007; McDaniel et al. 2011; Hainmueller and Hopkins 2014). To address the fact that education may be an imperfect proxy of respondents' position in the labor market, we also use alternative measures of that position. In particular, we use employment status, union membership, and type of occupation.[12]

[12] *Union* activity is a categorical variable with the highest value (4) meaning high activity. Employment status is included as a set of dummy variables distinguishing between *employed*, *unemployed*, and *inactive* (i.e. non-active population). 'Employed' is the baseline category. Type of occupation is included as a set of dummy variables (1) *low-skilled manual* (2) *office workers* (3) *skilled worker* (4) *high skilled*. Low-skilled is the baseline category.

In the welfare state models, the main independent variable is *income*, which is measured by self-reported income along a ten-point scale. According to the tax-adjustment model, we should observe that *at low levels of RSR* (immigration flows predominantly high-skilled) rich natives are less anti-immigrant than poor natives; *but as RSR increases* (that is, as the skill composition of immigrants tilts toward the low-skilled) income should be positively correlated with anti-immigrant sentiment; that is, the higher the income of the individual, the greater the opposition to immigrants using social services.

In the equation below, these expectations amount to finding a negative sign for β_1 ($\beta_1<0$) and a positive sign for β_2 ($\beta_2>0$). Conversely, if the benefit-adjustment model holds, the expected signs of β_1 and β_2 will be the opposite. To avoid using triple interactions, we estimate models in which we take into account the country's level of fiscal exposure by including interactions between *income* and RSR in the two subsamples of high and low fiscally exposed countries as described above.[13]

$$\textit{Anti-Immigrant (Use of social services)} = \beta_0 + \beta_1 \textit{Income}_i + \beta_2 \textit{Income}_i * \textit{RSR} + \beta_3 \textit{RSR} + \beta_4 \textit{Controls} + \varepsilon_i \quad (2)$$

In the regressions for both the labor market competition and the welfare state channel, we control for several measures that capture how respondents perceive their own economic situation *(egocentric)* and whether the economy is regarded as the most important problem of the country *(sociotropic).*[14] We expect those who perceive the

[13] Ideally, we would like to have better measures of the progressivity of taxes as well as the extent to which specifically immigrants have access to social protection.

[14] *Egocentric* is a three-category variable, with 1 meaning that her personal situation is better than 12 months before and 3 that it is worse. *Sociotropic* is a dummy variable with 1 indicating that the respondent thinks that the economy is the country's most important problem.

economy to be a problem will hold more resentment toward immigrants. We also control for some socio-demographic characteristics of the respondents (*age*, *gender*, and *race*).[15] In the robustness tests, we expand this list of controls to include other non-material determinants of anti-immigrant sentiment and use different estimation methods.

4. Results

Fears about Labor Market Competition

Table 1 shows four different models: the first model only shows micro-level variables for a baseline estimate; Model 2 includes the interaction effect between education and RSR; Model 3 shows results for a restricted sample (those employed) with a battery of occupational dummies; Model 4 includes the country-level unemployment rate; and Model 5 shows the results of interacting RSR and education in four categories to account for possible non-linearities. We did this by grouping years of education into four categories (0–4 years, 5–9 years, 10–13 years, and 14–18 years). Recall that the dependent variable for labor market competition takes the value 1 if respondents believe that immigrants take jobs away from natives. In Model 1, *education* has a negative and significant sign, suggesting that those with greater skills exhibit less fear of being crowded out in the labor market. However, our hypothesis is *conditional* on the skill composition of immigrants to the country. In Model 2 we include the RSR and allow the impact of education to vary along the relative skill composition of natives with respect to immigrants.

[15] Male is a dummy variable with 1 for *males*. Race is introduced as a set of dummies for *white, mixed* and *other*. Other is the baseline category.

Table 1. The Correlates of Anti-Immigrant Sentiment. Labor Market Competition Channel. Dependent Variable is Prob(Immigrants take jobs away from natives).

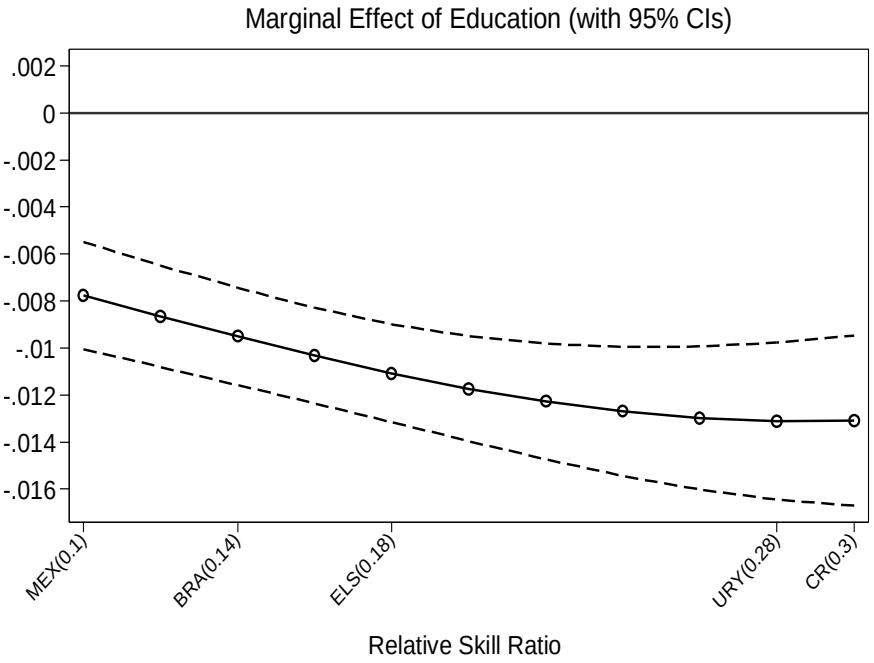
	Individual Level (1)	Interaction (2)	Occupational Categories (3)	Unemployment (4)	Education in Categories (5)
Education	**-0.0197*****	**-0.0185****	**-0.0239****	**-0.0261*****	
	[0.003]	[0.006]	[0.009]	[0.006]	
RSR		**-4.674*****	**-5.382*****	**-6.603*****	**-6.804*** **
		[0.304]	[0.450]	[0.342]	[0.372]
Education * RSR		**-0.0558***	**0.000777**	**-0.0304**	
		[0.032]	[0.045]	[0.033]	
Education 2					**-0.091**
					[0.080]
Education 3					**-0.282** **
					[0.084]
Education 4					**-0.278** **
					[0.097]
Education 2 * RSR					**-0.010**
					[0.399]
Education 3 * RSR					**0.320**
					[0.442]
Education 4 * RSR					**-0.798**
					[0.522]
Egocentric	0.124***	0.108***	0.126***	0.115***	0.115***
	[0.015]	[0.016]	[0.022]	[0.016]	[0.016]
Sociotropic	0.0684**	0.139***	0.157***	0.0908***	0.089***
	[0.023]	[0.024]	[0.033]	[0.024]	[0.024]
Unemployed	0.0930**	0.0607	0.0991	0.00574	0.008
	[0.040]	[0.040]	[0.065]	[0.041]	[0.041]
Inactive	0.00581	-0.0176		-0.0249	-0.018
	[0.026]	[0.027]		[0.027]	[0.027]
Union	0.0904***	0.0493**	0.0618**	0.0307	0.031
	[0.024]	[0.025]	[0.029]	[0.025]	[0.025]
Male	-0.0457*	-0.0596**	-0.0559	-0.0529**	-0.054**
	[0.024]	[0.025]	[0.034]	[0.025]	[0.025]
Age	-0.00143*	-0.000599	0.000198	-0.00107	-0.000335
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Mixed	0.0634**	0.00315	-0.0203	0.0245	0.0173
	[0.031]	[0.032]	[0.045]	[0.032]	[0.032]
White	-0.136***	0.0834**	0.0601	0.121***	0.107**
	[0.035]	[0.037]	[0.052]	[0.037]	[0.037]
Office Workers			-0.00307		
			[0.057]		
Skilled Manual			0.0323		
			[0.045]		
High Skilled			-0.150***		
			[0.043]		
Unemployment Rate				0.0488***	0.049***
				[0.004]	[0.004]
Constant	0.0168	0.961***	1.005***	0.956***	0.855***
	[0.066]	[0.086]	[0.121]	[0.086]	[0.089]
N	14793	14793	7697	14793	14793
Log-likelihood	-8198.5	-7624.4	-3844.6	-7547.4	-7552.9

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Models are probit regressions using sample weights; Robust standard errors in brackets.

As can be seen (Model 2), anti-immigrant sentiment is negatively correlated with education *at low values of RSR* and this effect is magnified at higher levels of natives' education with respect to immigrants (high levels of RSR). In other words, anti-immigrant sentiment is negatively correlated with education even in countries where high-skilled immigrants predominate. This contradicts the predictions of the LMC theories. However, as anticipated, this effect is stronger (more negative) at greater levels of RSR ($\beta_2<0$); that is, educated natives are less anti-immigrant than natives with the same level of education in settings where immigrants are predominantly unskilled. We do find support for this part of the theory. But overall and in line with recent studies, support for the LMC hypothesis is weak.

Figure 4 gives a visual presentation of marginal effects based on Model 2. While the marginal effect is statistically significant along the range of values of the RSR, for the theory to be correct, the marginal effect of education on fears of labor market competition should be positive at low levels of RSR, that is, in countries that receive mostly educated immigrants, and then decline as RSR increases.

Figure 4. Marginal Effect of Education on the Probability of Believing That Migrants Take Jobs Away From Natives (Model 2). The higher the RSR, the more unskilled migrants are compared to natives.



The marginal effect of education on anti-immigrant sentiment is indeed lower but is never positive where immigrants are mostly well-educated (low values of the RSR). We think that the explanation for this lack of significance is simple. Although skilled immigration is the norm is most Latin American countries, this modality occurs in low numbers not representing a real threat to the wages and job security of educated natives. Also, in the theory section, we speculated on the possibility that high *legal* emigration rates of the relatively more educated might reduce anxieties, especially among educated natives left behind. Indeed, high emigration rates correlate with lower anti-emigrant sentiment but the substantive effect is very small. Moving from emigration rates of 1 percent to 18 percent reduces anti-immigrant sentiment by barely

0.03 percentage points.[16] Finally, note that other than in Model 2, the interaction effect of education and the RSR is never statistically significant.

One other reason why we did not find strong support for the LMC is because respondents' employment status or occupation status rather than education are better proxies of the threat that individuals face in the labor markets. To explore this possibility, Model 3 shows the results for a smaller sample and four different categories of occupations with low-skilled manual jobs as the reference category. The only category that clearly stands out as less hostile towards immigration is that of high skilled respondents. Moreover, after we control for occupation, the interaction effect between education and RSR becomes statistically insignificant. Being unemployed makes individuals more anti-immigrant but only in one of the four models. Somewhat more consistent is the impact of trade union activism. Trade union members are significantly more hostile towards immigration (except in Model 4), a finding that is in line with the predictions of insider-outsider models (e.g. Emmenegger et al. 2012). The substantive effect is not very large. Fear of immigrants is 0.1 points higher for union members compared to non-union members.

In Model 4 we test whether national unemployment rates explain overall levels of anti-immigrant sentiment and indeed they do. The predicted probability for anti-immigrant sentiment ranges from 49 percent in a country with the lowest levels of unemployment to 76 percent in a country with the highest unemployment level.[17] Hence, as one might expect, hostility is higher in countries with higher levels of unemployment.

[16] Based on Model 2, adding the country level emigration rate to this estimation (not shown).

[17] These probabilities are estimated for a white male who is an employed individual with no union activity who thinks that the economy is the most important problem in the country. The result is robust to clustering the standard errors on country.

Finally, we tested the relationship between education and RSR to account for possible non-linearities. Model (5) shows that dichotomizing education levels does not 'rescue' the theory of labor market competition: all interaction effects are non-significant at conventional levels.

We see that both concerns about her personal economic situation *(egocentric)* and poor evaluations of the economic situation of the country *(sociotropic)* clearly increase the probability of an individual thinking that immigrants take jobs away from natives. For instance, respondents who think that their personal economic situation got worse in the past year have, on average, a 0.1 point higher fear of being displaced by immigrants than those who think their situation remained the same or improved (based on Model 2). Other demographic variables such as gender, age, and race show inconsistent signs and significance across models, although it seems quite robust that males are less fearful of competition from immigrants.

We performed several other tests to probe the robustness of the findings and also to account for alternative explanations frequently used in this literature. Some of the additional variables refer to attitudes and therefore their inclusion may be subject to criticisms about regressing attitudes on attitudes. Yet it is important to control for these variables to test the robustness of our findings. The results can be found in Table 2.

In Model 6, the jackknife test shows that the interaction effect is sensitive to outliers at the country level.[18] Model 7 includes a full battery of economic and non-economic correlates. This model controls for income, which is negatively correlated with anti-immigrant sentiment. To account for the fact that many Latin American countries are indeed countries of emigration, we control for a dummy variable that captures whether respondents have an emigrant relative abroad or not. About 24 per

[18] The jackknife estimates run the same regressions several times, each time dropping one of the countries. The reported coefficients are averages of each regression coefficient. If the difference between the regressions is large, and hence standard errors are big, specific countries drive the overall results.

cent in the sample do. We expect that these individuals, through the experience of their own relatives, will be more sympathetic to immigration. This is indeed the case although the effect is small. Fears of immigration on this dimension are just 0.05 percentage points lower for respondents with family abroad than for those without. Better informed people and those who endorse free trade (more globalist) are less fearful of migrant competition. As for other plausible covariates, relying on very limited evidence on the correlates of attitudes toward immigrants in Latin America (Orcés 2009; Lawrence 2011), we include satisfaction with the respondents' political system and in particular with democracy. Orcés (2009) finds that system satisfaction correlates positively with anti-immigrant sentiment and negatively with satisfaction with how democracy is working. According to this author, high levels of system satisfaction can lead to authoritarian attitudes unless coupled with values of tolerance. We control for the degree of system satisfaction by including a variable with values ranging from 1 to 7 that measures respondents' degree of satisfaction with the political system in their countries. We find that individuals who are more satisfied with the political system and particularly with the way democracy works are significantly less anti-immigrant. Also in line with Lawrence (2011), voting-age Latin Americans who are frequent churchgoers are less hostile to immigrants. We find no significant effect for political ideology. Finally, Latin Americans do not seem to make a connection between crime levels and immigration.[19] In Model 8, following Facchini and Mayda (2009), we estimate the model with the interactive term but without the country level variable RSR. This allows us to include country fixed effects and thereby to control for time-invariant

[19] *Churchgoer*, *System satisfaction*, support for *democracy*, *trade*, and *newspaper* are categorical variables with higher levels expressing more church attendance, more support for the political system and democracy, more exposure to news, and more support for free trade. *Crime* is a dummy variable (=1 crime is the most important problem in the country). *Ideology* is self-reported position on a left-right 10-point scale.

unobserved country characteristics.[20] The interaction between education and RSR also turns out to be statistically insignificant. Lastly, Model 9 uses a different data source, Latinobarómetro 2009, and does show a negative and statistically significant interaction effect. Overall, we find little support for fears of LMC driving anti-immigrant sentiment in Latin America.

[20] We can retrieve a coefficient for the interaction effect as long as we do not include the country level variable. This procedure is heterodox in that it implies not including all the interacted terms. See Facchini and Mayda (2009) for this approach.

Table 2: Further Tests for the Labor Market Channel

	Jackknife (6)	Other Controls (7)	Country FE (8)	Latinobarómetro (9)
Education	**-0.0185***	**-0.00315**	**-0.0205****	**0.0085**
	[0.009]	[0.009]	[0.006]	[0.0067]
RSR	**-4.674****	**-3.767*****		**0.5815**
	[1.300]	[0.439]		[0.3827]
Education * RSR	**-0.0558**	**-0.0667**	**-0.0550**	**-0.0829****
	[0.040]	[0.044]	[0.034]	[0.0353]
Egocentric	0.108**	0.050**	0.127***	-0.0030
	[0.025]	[0.022]	[0.016]	[0.0143]
Sociotropic	0.139*	0.061*	0.105***	0.0526
	[0.064]	[0.036]	[0.024]	[0.0686]
Unemployed	0.0607	-0.015	-0.00908	-0.0807
	[0.049]	[0.034]	[0.042]	[0.0530]
Inactive	-0.0176	-0.009	-0.0131	0.0192
	[0.031]	[0.035]	[0.027]	[0.0412]
Union	0.0493**	0.078**	0.0231	0.0471
	[0.020]	[0.034]	[0.025]	[0.0297]
Male	-0.0596	-0.00038	-0.0461*	-0.0335
	[0.033]	[0.033]	[0.025]	[0.0315]
Age	-0.000599	0.0012	-0.00131*	0.0004
	[0.001]	[0.001]	[0.001]	[0.001]
Mixed	0.00315	-0.0037	0.0379	0.1409**
	[0.060]	[0.044]	[0.033]	[0.0657]
White	0.0834	0.0734	0.0758*	0.0424
	[0.082]	[0.048]	[0.040]	[0.0321]
Family		-0.121**		
		[0.035]		
Income		-0.032***		
		[0.008]		
Churchgoer		-0.011		
		[0.011]		
Trade		-0.0411***		
		[0.009]		
Newspaper		0.0543***		
		[0.015]		
Crime		-0.0766*		
		[0.039]		
System		-0.0376***		
		[0.009]		
Ideology		-0.008		
		[0.006]		
Democracy		-0.117***		
		[0.022]		
Intercept	0.961**	1.428***	0.299***	-0.0756
	[0.221]	[0.157]	[0.081]	[0.1025]
N	14793	7972	14793	8187
Log Likelihood	-7624.4	-4501.7	-7513.3	-5659.2

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

Models are probit regressions using sample weights; Robust standard errors in brackets.

Model (3): Does not include RSR but includes country FE (not shown).

Model (4): Replicates findings for Latinobarómetro data from 2009.

Testing Fears about Fiscal Adjustment

Table 3 shows the results of the fiscal fears test, which largely holds to the theoretical expectations of the tax adjustment model. In Model 10, we show a baseline estimation with individual level variables only. In Model 11, we include the interaction between income and the RSR. Model 12 re-estimates this specification in the sample of high fiscally exposed countries. Model 13 does the same in the sample of less fiscally exposed countries. Finally, in Models 14 and 15 we re-estimate the models dichotomizing the variable *Income* into four quartiles to account for possible non-linearities.

Recall that according to the theory, rich natives would exhibit positive values of anti-immigrant sentiment on this dimension (i.e., more opposition to immigrants using welfare and social policies) *in contexts in which immigrants are relatively more unskilled than natives*. The theory also predicts that this effect should be stronger in contexts in which the welfare state is more generous and immigrants more numerous; that is, in contexts in which rich natives are more fiscally exposed. If fears of greater tax adjustments drive anti-immigrant feelings, we should observe a negative sign for β_1 ($\beta_1<0$) and a positive sign for β_2 ($\beta_2>0$) in equation (2), that is, a positive sign for the interaction of income with the relative skill ratio. The results are presented in Table 2 and give strong support to the tax adjustment model of anti-immigrant sentiment on this dimension. The signs are in the predicted directions and the effects are strong.

Table 3. The Correlates of Anti-Immigrant Sentiment. Welfare State Channel. Dependent Variable is Agreement with immigrants having access to social services

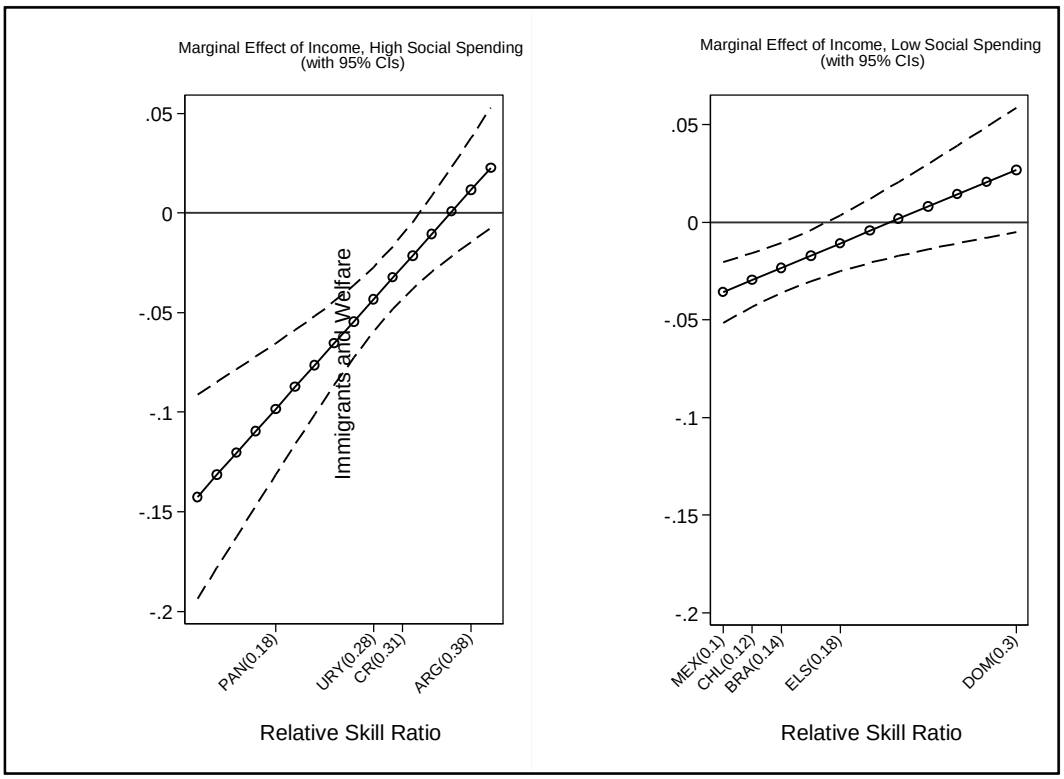
	Individual Level	Interaction	High Fiscal Exposure	Low Fiscal Exposure	High Fiscal Exposure, Categories	Low Fiscal Exposure, Categories
	(10)	(11)	(12)	(13)	(14)	(15)
Income	**-0.0330*****	**-0.0549*****	**-0.197*****	**-0.0672*****		
	[0.005]	[0.012]	[0.038]	[0.016]		
RSR		**-2.592*****	**-1.761****	**-3.932*****	**-0.906**	**-3.386*****
		[0.257]	[0.589]	[0.551]	[0.577]	[0.672]
Income*RSR		**0.158****	**0.550*****	**0.313****		
		[0.051]	[0.127]	[0.097]		
Quartile 2					-0.364	-0.117
					[0.223]	[0.129]
Quartile 3					-0.524**	0.0501
					[0.215]	[0.110]
Quartile 4					-1.085***	-0.447***
					[0.252]	[0.112]
Quartile 2*RSR					**1.096**	**0.731**
					[0.799]	[0.917]
Quartile 3*RSR					**1.303***	**0.0239**
					[0.759]	[0.778]
Quartile 4*RSR					**3.000*****	**2.263****
					[0.849]	[0.765]
Egocentric	0.139***	0.134***	0.200***	0.106***	0.200***	0.107***
	[0.016]	[0.016]	[0.025]	[0.020]	[0.025]	[0.020]
Sociotropic	0.0979***	0.111***	0.103**	0.155***	0.104**	0.147***
	[0.023]	[0.023]	[0.039]	[0.029]	[0.039]	[0.030]
Unemployed	-0.000910	-0.0148	-0.0779	0.0557	-0.0751	0.0678
	[0.040]	[0.040]	[0.065]	[0.050]	[0.065]	[0.050]
Inactive	-0.0448*	-0.0546**	-0.0304	-0.0401	-0.0293	-0.0322
	[0.026]	[0.025]	[0.041]	[0.032]	[0.042]	[0.032]
Union	-0.00624	-0.0243	-0.00309	-0.0329	-0.00693	-0.0350
	[0.023]	[0.023]	[0.039]	[0.028]	[0.039]	[0.028]
Male	-0.0530**	-0.0576**	-0.0705*	-0.0433	-0.0689*	-0.0450
	[0.024]	[0.024]	[0.038]	[0.030]	[0.038]	[0.030]
Age	0.00219**	0.00222**	0.00235**	0.00240**	0.00224**	0.00248**
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Mixed	0.0693**	0.0191	-0.0364	0.00850	-0.0355	-0.00796
	[0.032]	[0.032]	[0.055]	[0.039]	[0.055]	[0.039]
White	-0.106**	-0.0460	-0.00672	-0.105**	-0.00811	-0.114**
	[0.033]	[0.033]	[0.052]	[0.046]	[0.052]	[0.046]
Intercept	2.468***	2.969***	2.639***	3.192***	2.350***	3.046***
	[0.062]	[0.079]	[0.197]	[0.107]	[0.189]	[0.113]
N	18214	18214	5808	12406	5808	12406
Log Likelihood	-32225.5	-32093.0	-9986.4	-22079.3	-9987.8	-22070.0

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$. Models are OLS regressions using sample weights; Robust standard errors in brackets. Results in are robust to clustering the standard errors on country.

To facilitate the interpretation, Figure 5 plots the marginal effect of *income* on anti-immigrant sentiment on the welfare state dimension based on Models 12 and 13.

The left panel reports the marginal effect in highly fiscally exposed countries, and the right panel refers to countries with less immigrants and less welfare spending. The figure is telling. At low levels of RSR, that is, when immigrants are relatively more skilled than natives, the marginal effect of income is negative. However, this effect becomes smaller (less negative; i.e., more anti-immigrant) as the RSR increases, that is, when immigrants are less skilled than natives. The marginal effect is positive at high values of RSR. We observe the same pattern in less fiscally exposed countries, but the magnitude of the effect is clearly smaller. These findings are suggestive of the tax adjustment channel of anti-immigrant sentiment.

Figure 5. Marginal Effect of Income on Disagreement with Immigrants having access to social services conditional on the skill composition of natives to immigrants (Models 12 and 13). The higher the RSR, the more unskilled immigrants are compared to natives.



The predicted anti-immigrant sentiment on this dimension also helps to give an idea of the magnitude of the effect. In a highly fiscally exposed region, the richest individuals in a country in which immigrants are predominantly unskilled is on average anti-immigrant (predicted value is 2.63 on the 5-point scale). In contrast, the richest individual in a country that is highly fiscally exposed but that predominantly attracts high-skilled immigrants has a predicted anti-immigrant sentiment of 1.50 (based on Model 12). The confidence intervals of these predictions do not overlap. At this level of self-reported income, rich individuals in fiscally exposed countries and where immigrants are predominantly unskilled are a sizable 1.12 points more anti-immigrant. This suggests fears of greater fiscal burdens among respondents with higher incomes.

Finally, in Models 14 and 15 we include *Income* in categories to account for possible non-linearities. We interact the income categories with the Relative Skill Ratio.[21] The results are remarkably consistent with the theory. The coefficient for the interaction is positive and increasing as we move up income quartiles in comparison to the baseline category (lowest income quartile).[22] To clarify the magnitude of the effects, we calculated the predicted anti-immigrant sentiment among the richest individuals in countries that are fiscally exposed (Model 14). In a fiscally exposed country in which inflows of immigrants are relatively unskilled, rich natives' predicted value on the 1–5 anti-immigrant scale is 2.56. In contrast, rich natives in a country that receives mostly educated immigrants score 1.93 on the same scale. The 0.62 point difference is statistically significant. Overall, in accordance with the predictions of the tax adjustment theory, rich Latin Americans are more concerned than poor ones about unskilled

[21] We recoded the variable q10 (self-reported income in 10 income brackets) into four categories, approximating income quartiles. Income brackets 0–2 were placed in the first quartile, bracket 3 was classified as the second quartile, brackets 4–5 as the third quartile and brackets 6–10 as the fourth quartile.

[22] The combined coefficients of the different quartiles and the interaction effects show a positive and significant coefficient for the highest income quartile only.

immigrants having access to social services in relatively generous Latin American welfare states.

Our findings are robust to a wide range of controls. Those who have a negative perception of their personal economic situation exhibit greater opposition to immigrants having access to welfare. For instance, respondents that report their *own* economic situation as worse than last year score 0.27 points higher on the anti-immigrant scale in comparison to those that report a better economic situation. Respondents who are not active in the labor market exhibit lower levels of anti-immigrant sentiment in comparison to those who are employed. Males are less anti-immigrant on this dimension, and older people, who tend to be more conservative, exhibit greater opposition to immigrants having access to social rights. It is worth noting that whereas the variables that we used to capture insider–outsider status did fairly well in our account of the job market competition channel, they are inconsequential in understanding anti-immigrant sentiment on this dimension.

As we show in Table 4, these results are also robust to changes in estimation techniques and model specification. The interaction is positive and marginally insignificant in the jackknife estimations that control for outlier observations ($z = 1.66$). Using an ordered probit estimation in Model 17 rather than treating the dependent variable as continuous does not alter our main findings. The inclusion of other individual level variables that are frequently used to capture non-economic determinants of anti-immigrant sentiment as explained above do not modify our findings. The interaction effect of income and RSR is robust to the inclusion of education (not significant) and many other covariates described above as controls (Model 18). Most of these controls work in the expected direction. For instance, having a relative abroad significantly reduces the intensity of anti-immigrant sentiment although again the effect

is not particularly strong (0.12 points less opposed in the 1–5 anti-immigrant scale). If instead of using this individual level indicator, we use the country level rate of emigration, the effect is smaller. Increasing the emigration rate 1 per cent reduces anti-immigrant sentiment in this dimension by only 0.01 points.[23] This result suggests that emigration matters, but not much, and mostly through the "relatives abroad" channel. Individuals who align with a rightist political ideology are more anti-immigrant. However, respondents who are frequent churchgoers, more "globalist" in their support for free trade, and more satisfied with the way democracy and the political system work are less anti-immigrant on the welfare dimension. For instance, respondents who declare themselves to be very satisfied with the way democracy works are 0.65 points less opposed to immigrants having access to welfare than respondents that declare themselves very unsatisfied. Notably, the inclusion of all these controls does not affect the sign or significance of the interaction effect. Finally, as Model 19 shows, fears of higher taxes drive anti-immigrant sentiment after the inclusion of country fixed effects, but the result is only robust in the countries with more immigrant presence and more generous welfare states. These findings are also robust to clustering the standard errors by country. Overall, we do find a fairly robust support for fears of tax adjustments driving anti-immigrant sentiment.

[23] Simulation based on adding the country level emigration rate to Model 11, in Table 3.

Table 4: Further Tests for the Welfare State Channel.

	Jackknife	Ordered Probit	Other Controls	Country FE High Exposure
	(16)	(17)	(18)	(19)
Income	**-0.0549***	**-0.0389*****	**-0.0488*****	**-0.133*****
	[0.029]	[0.009]	[0.015]	[0.040]
RSR	**-2.592****	**-1.904*****	**-1.977*****	
	[0.938]	[0.196]	[0.335]	
Income * RSR	**0.158**	**0.106****	**0.167****	**0.333****
	[0.095]	[0.039]	[0.063]	[0.131]
Egocentric	0.134***	0.100***	0.069***	0.177***
	[0.027]	[0.012]	[0.019]	[0.026]
Sociotropic	0.111*	0.0826***	0.084**	0.0951**
	[0.054]	[0.017]	[0.032]	[0.040]
Unemployed	-0.0148	-0.00175	-0.0202	-0.0783
	[0.058]	[0.030]	[0.048]	[0.064]
Inactive	-0.0546*	-0.0325*	-0.0712**	-0.0230
	[0.027]	[0.019]	[0.031]	[0.041]
Union	-0.0243	-0.0173	-0.0166	-0.00692
	[0.031]	[0.018]	[0.029]	[0.039]
Male	-0.0576*	-0.0415**	-0.0136	-0.0745**
	[0.031]	[0.018]	[0.029]	[0.038]
Age	0.00222*	0.00145**	0.00431***	0.00313**
	[0.001]	[0.001]	[0.001]	[0.001]
Mixed	0.0191	0.0190	-0.0316	-0.0789
	[0.073]	[0.024]	[0.040]	[0.059]
White	-0.0460	-0.0336	-0.023	-0.0246
	[0.060]	[0.025]	[0.042]	[0.056]
Family			-0.1257***	
			[0.329]	
Education			-0.0035	
			[0.0037]	
Churchgoer			-0.0050	
			[0.010]	
Trade			-0.0366***	
			[0.008]	
Newspaper			0.0364**	
			[0.013]	
Crime			0.003	
			[0.034]	
System			-0.0602***	
			[0.008]	
Ideology			0.0123**	
			[0.006]	
Democracy			-0.217***	
			[0.020]	
Intercept	2.969***		3.671***	2.045***
	[0.172]		[0.139]	[0.108]
Cut1		-0.886***		
Cut2		-0.0815		
Cut3		0.296***		
Cut4		0.742***		
N	18214	18214	11123	5808
Log Likelihood	-32093.0	-24034.0	-19278.1	-9964.9

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$; Robust standard errors in brackets.
Models (2) and (3): robust to clustering the standard errors on country.
Model (4): Does not include RSR but includes country FE (not shown). Results are for the subset of highly fiscally exposed countries.

5. Conclusions

Compared to the wealth of studies on anti-immigrant sentiment in advanced countries, we know very little about the determinants of sentiments towards immigrants outside the developed world. Given that many developing countries attract a considerable number of immigrants and that there are significant volumes of South–South migration, this lack of attention is unjustified. Studying the political economy of immigration in developing countries is also interesting as these countries exhibit variation in relevant variables.

In this article, we tested material theories of attitudes towards immigrants and evaluate the relevance of these theories in low-skilled labor–abundant countries. We exploited the regional variation in immigrant presence, skill composition of immigration, and generosity of the welfare state to test whether fears of job competition or of greater fiscal burden explain variation in anti-immigrant sentiment in the Americas.

What do Latin Americans fear about immigration? First, we do not find consistent support for fears of labor market competition driving anti-immigrant sentiment. One of the reasons why labor-market competition does not explain anti-immigrant sentiment lies in the role of emigration. Yet the direct effect of emigration is relatively small, and emigration matters more through non-material channels, by enhancing the awareness and empathy of those left behind who have emigrant relatives abroad.

Second, we do find robust support for the tax adjustment mechanism as a determinant of anti-immigrant sentiment. Especially in countries with more generous welfare states and that receive substantial inflows of low-skilled immigrants, such as Argentina and Costa Rica, rich Latin Americans fear higher taxation as a consequence

of immigration. Importantly, we learn from this research that should these inflows of unskilled immigrants continue to increase, well-off natives might be an obstacle to supporting open immigration policies in the Latin American countries that exhibit more generous welfare policies. This has been the case in countries like Costa Rica, where the universal welfare state is perceived by policymakers as a magnet that attracts large inflows of (irregular) immigrants, prompting reforms to limit universal access to welfare (Voorlend and Venegas 2014; Noy and Voorlend 2015).

Although our data covers few countries, we think that our findings should encourage future research to unpack the determinants of attitudes towards immigration in the developing world. In our view, there are several intriguing questions and avenues for research that this article suggests. First, at the country level, it is indeed surprising to observe that countries with a relatively low presence of migrants, and prominently educated ones, exhibit the highest levels of anti-immigrant sentiment in the region. Why, if immigrants are few and relatively educated, do countries like Bolivia and Guatemala report such high average levels of fear? Possible answers could be misperceptions about the actual numbers, composition, and contribution of immigrants to these economies. Unfortunately, we lack questions in our survey to explore the extent of possible misperceptions, an issue that should be addressed in future research. Equally, different colonial histories and legacies, prominently the role given to immigration in the formation of national identities, may well be behind contemporary patterns of anti-immigrant sentiment. It is likely not by chance that Latin American settler countries tend to exhibit the lowest average levels of contemporary opposition to immigration.

Second, it will be very interesting to theorize about other contextual variables that possibly mediate the relationship between education, income, and the skill

composition of immigrants. The inclusion of intervening variables such as partisanship or ideology is little developed, even in research on attitudes toward immigrants in advanced countries (Hainmueller and Hopkins 2014: 244). In this article, we used a direct measure of the relative generosity of the welfare state as mediating variable. To the extent that different Latin American parties have embraced different distributive policies, the partisanship of the executives may be a relevant covariate for predicting aggregate levels of anti-immigrant sentiment. The rationale is that different party labels may provide cues about who is likely to bear the economic burden of greater immigration. For instance, while partisanship does not seem to explain patterns of social policy spending (Huber et al. 2008), it predicts tax policy preferences. According to Hart (2010), the left is more eager than the right to employ progressive income taxes rather than regressive taxes on consumption. Thus, it could well be the case that the tax adjustment model of anti-immigrant sentiment has more leverage among rich individuals in contexts in which the left controls the executive and/or the legislature.

Finally, at the individual level, recent research on the impact of economic concerns on migration policy preferences that focuses on the attitudes of natives with particular skills and working in specific sectors rather than surveying the public in general should inspire future research in less developed countries (Malhotra et al. 2013). One of the important tasks ahead of us is gathering better survey and experimental data on immigration in developing regions that will allow a more refined testing of hypotheses. Recent innovations in survey research to address issues of causal inference should be adopted in the study of anti-immigrant sentiment outside the developed world.

This article shows that there is a strong rationale for paying more attention to the determinants of anti-immigrant sentiment in developing regions. With immigrant flows

already substantial between developing states and stagnant advanced economies, we anticipate increased immigration flows to dynamic emerging markets. Indeed, in Latin America, recent data show that alongside the increasing economic difficulties in several advanced countries, intraregional migration increased between 2000 and 2010. This fact coupled with progressive taxation reforms in some Latin American countries (Fairfield, 2015) raises concerns about a possible increase in already high average levels of anti-immigrant sentiment in the region. Overall, understanding anti-immigrant sentiment in the global South is not only of academic interest; we anticipate that it will soon be a pressing issue from a public policy perspective.

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