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**IMMIGRANTS' RIGHTS AND BENEFITS.  
A PUBLIC OPINION ANALYSIS FOR SPAIN**

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# Immigrants' rights and benefits. A public opinion analysis for Spain\*

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## Abstract

We study the preferences of natives for granting immigrants a set of rights. With a simple political economy model, we predict that unskilled natives oppose granting immigrants access to publicly provided goods when immigrants are relatively unskilled because of the associated competition for these goods. Alternatively, skilled natives oppose granting voting rights out of fear of costly redistributive fiscal policies. The opposite predictions are obtained if immigrants are more skilled than natives. We test these predictions with a dataset of public opinion on immigration in Spain, exploiting individual and regional variation in the data. The data supports these hypotheses in the case of public health services and voting rights. For public education, the results suggest that other considerations may matter more than the fiscal concerns captured in the model.

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# 1 Introduction

A significant number of contributions to the literature on public opinion and immigration have focused on one aspect, namely, the determinants of whether the public considers the number of immigrants to be too high. In particular, an individual's preference regarding whether the current levels of immigration should be increased or decreased is interpreted as a more general pro- or anti-immigration attitude.

In practice, however, public opinion on immigration is more complex and multifaceted than presented in the literature. For instance, in addition to a desired level of immigration, a person may hold diverse views on the types of admission policies, the rights and entitlements of immigrants, and the optimal assimilation strategies to adopt.

This paper focuses on one relatively unexplored aspect of these attitudes: the rights and benefits that the public would like to grant to immigrants. Some interesting questions on this topic include the following: What rights and benefits do natives want to offer to immigrants? What are the determinants of the willingness to grant political rights to immigrants? What are the determinants of the willingness to grant economically costly social benefits, such as public education or health? Do the factors that explain attitudes toward the desired level of immigration additionally explain preferences for the rights of immigrants?

This paper explores some of these questions by formulating a simple political economy model that is empirically tested using a rich dataset of public opinion on immigration in Spain. By studying the rights and benefits that natives want to grant to immigrants, we obtain a broader perspective on the relationship between immigration and public opinion.

The Spanish case is interesting because, in the last few decades, Spain has shifted from being a net sender of migrants to becoming a net receiver of immigrants. This transformation has occurred in a short period of time, and now Spain has a stock of immigrants that represents almost fifteen percent of its population.<sup>1</sup>

Understanding the factors that drive the preferences of natives for granting rights to immigrants is particularly relevant now that several developed economies face an economic downturn. For instance, recently in Spain, there has been a shift whereby some local governments are restricting the entitlements of immigrants, in particular, access to health services (see for instance González, 2011; Magro, 2012).

The paper is organized as follows. In section 2 we present a brief overview of the literature. Section 3 presents the theoretical model and discusses the hypotheses to be tested with the data. In section 4, we discuss immigration in Spain, particularly the status quo regarding

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<sup>1</sup>In spite this rapid change, the Spanish case remains understudied in the literature of immigration and public opinion. The works of Escandell and Ceobanu (2008), Escandell and Ceobanu (2010), and Martínez i Coma and Duval-Hernández (2009) represent some of the few exceptions to this lack.

voting and the economic rights of immigrants. Section 5 presents our data and empirical strategy, while section 6 presents the main results. We include our conclusions in section 7.

## 2 Literature

There is a growing literature on the characteristics and determinants of public opinion on immigration. Most of this literature has analyzed the determinants of whether a respondent feels there are “too many immigrants” in the economy. This opinion on the actual levels of immigration is interpreted as a general attitude toward immigration, and the studies usually explain this attitude through three broad causal channels: the labor market channel, the fiscal channel, and the cultural channel.

The main question of the labor market channel is whether labor market competition between immigrants and natives of similar skills generates opposition to immigration and whether natives whose skills are complementary to those of immigrants support higher immigration flows. Evidence in this direction has been found for the United States in Scheve and Slaughter (2001) and Hanson *et al.* (2007), and for a set of countries by Mayda (2006), O’Rourke and Sinnott (2006), and Ortega and Polavieja (2012) among others.

The importance of fiscal considerations in shaping these preferences has additionally been explored, and evidence shows the relevance of this factor (Dustmann and Preston, 2006; Hanson *et al.*, 2007; Facchini and Mayda, 2009). Research has shown that attitudes are affected by whether the welfare state adjusts to immigration by modifying the tax rates or the provision of public benefits (see for instance Facchini and Mayda, 2009).

Finally, many studies have analyzed the relevance of non-economic considerations for explaining these preferences. These identity-driven preferences are very important in shaping the attitudes of natives. In particular, to the extent that on many occasions the fiscal and labor market effects counterbalance one another (for instance, when skilled natives gain from the entry of unskilled immigrants to the labor market but lose if taxes rise to finance the needs of these immigrants), these non-economic preferences end up playing an important role in determining whether someone holds a more pro- or anti-immigration view. Evidence can be found on Sides and Citrin (2007); Dustmann and Preston (2007) and Card *et al.* (2012), among others.

Another relevant literature models the political economy of immigration and welfare policies (see for instance Razin *et al.*, 2002, 2011; Dolmas and Huffman, 2004; Ortega, 2005, 2010; Mariani, 2007). In particular, these studies formulate a political process by which natives jointly choose welfare and immigration policies. In doing so, these studies analyze the implications of granting voting rights to immigrants and, hence, of allowing immigrants to alter the political equilibrium in the economy.

Immigrant voting has implications for the natives' attitudes toward immigration. For instance, in Ortega (2010), unskilled natives might be willing to tolerate higher levels of unskilled immigration in spite of the higher labor market competition to gain political support from immigrants for redistributive policies.

A set of studies closely related to ours appears in the sociology and social psychology literature. In particular, Scheepers *et al.* (2002), Raijman *et al.* (2003), Raijman *et al.* (2008), and Raijman (2010) study the preferences for granting civil rights to immigrants in European countries, Israel and the United States. Their approach relies on arguments of competition between natives and immigrants, "threat of immigration", and identity factors. Ceobanu and Escandell (2011) present a cross-European analysis on the determinants of the willingness to grant second-generation immigrants the right to become citizens of the destination country. Their main interest is to analyze how the public opinion on this right is affected by different naturalization policies across countries.

## 2.1 Contribution

Our paper is a natural extension of the previous literature because it goes beyond the study of a "general attitude" toward immigration, and instead presents an analysis of the particular rights natives want to grant to immigrants.

First, we show that the willingness to grant a set of rights to immigrants is not in opposition to the desire to reduce the levels of immigration. Furthermore, we present a political economy model that rationalizes the natives' preferences regarding these rights. Our model shares several insights with previous models of the political economy of immigration literature, albeit in a more simplified, static framework.

Our model compares the welfare of natives under three different scenarios: one where immigrants neither have access to publicly provided goods nor vote, another scenario in which immigrants have access to such goods but cannot vote, and finally, one where they fully participate in both the fiscal and the political systems.<sup>2</sup>

The implications of our model are tested with data on the willingness of Spaniards to grant immigrants access to public education and health, and the right to vote.

To the best of our knowledge, this is the first attempt to empirically test whether the public opinion on the rights of immigrants follows the predictions from the literature on the political economy of immigration.

While our approach shares some features with the previously mentioned empirical papers in the sociology literature, on several occasions those studies tend to group together different

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<sup>2</sup>The case where immigrants are allowed to vote but do not participate in the fiscal system is not observed in practice in any country.

types of political and civil rights, complicating the interpretation of their results.

### 3 Theoretical Framework

In this section, we present a simple political economy model to determine the preferences of natives for granting certain types of rights and benefits to immigrants.

We start with a two-good, two-factor Heckscher-Ohlin model extended with a welfare state, similar to the models of Dustmann and Preston (2006) and Facchini and Mayda (2009). The productive factors are unskilled labor  $L_u$  and skilled labor  $L_s$ , which are combined in Constant Returns to Scale production functions  $q_i = f_i(L_u, L_s)$  for goods  $i \in \{1, 2\}$ . For simplicity, good 1 will be the numeraire and  $p$  will be the (relative) price of good 2. These prices are fixed because we assume a small open economy. We will consider both the case of diversification (where the economy produces both goods) and the case of specialization in good 1.<sup>3</sup>

The size of the native population is normalized to 1, and the immigrant population is of size  $\pi < 1$ . The native population has a share  $\phi$  of unskilled workers, whereas for the immigrant population this share equals  $\psi$ .

For each skill group labor supply is perfectly inelastic in the number of hours and equal to

$$\begin{aligned} L_u &= \phi + \pi\psi \\ L_s &= 1 - \phi + \pi(1 - \psi). \end{aligned}$$

Wages are  $w_s, w_u$  for skilled and unskilled workers, respectively, and we assume  $w_s > w_u$  is satisfied. The equilibrium of the goods and labor markets in this economy has been presented elsewhere in the literature (see, for instance, Dustmann and Preston, 2006; Facchini and Mayda, 2009), and we refer the reader to those papers for full details.

The main implication of this equilibrium is that when the economy is diversified, the entrance of immigrants does not lead to wage changes. Instead, there is a change in the output mix toward sectors intensive in the abundant input. This lack of change has been called *factor price insensitivity* in the trade literature, and is directly related to Rybczynski's theorem (Leamer, 1995; Rybczynski, 1955).

However, when the economy produces a single good, changes in the immigration flows will lead to a change in wages. In particular, if new immigrants are less skilled than natives, the wages of unskilled workers will fall, and those of the skilled workers will rise. The opposite

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<sup>3</sup>We assume no joint production between goods.

will occur when immigrants are skilled relative to natives. In this paper, we develop the implications of our model under both a scenario of fixed and changing wages.

A fiscal system in the economy levies a flat tax rate  $\tau$  and redistributes uniformly a per-capita demogrant  $b$  among the participants in the system. This demogrant captures the outlays on publicly provided goods and services, such as health and education.

In our baseline scenario, immigrants are full participants in the fiscal system (by paying taxes and receiving a publicly provided good) but do not have the right to vote. This situation describes the current status quo of immigrants in Spain.

The subscripts  $u, s$  denote the unskilled and skilled individuals, respectively. The subscripts  $n, m$  denote the natives and immigrants, respectively. We express the average income of natives and immigrants as

$$\begin{aligned} y_n &= w_u\phi + (1 - \phi)w_s \\ y_m &= w_u\psi + (1 - \psi)w_s. \end{aligned}$$

Hence, under the assumption of a balanced budget, the government's budget constraint is

$$\tau(y_n + \pi y_m) = b(1 + \pi). \quad (1)$$

In other words, the per-capita demogrant  $b$  equals the collected tax on the per-capita income of the economy, namely  $y_p = (y_n + \pi y_m)/(1 + \pi)$ .

Individuals have utilities

$$u_u = (1 - \tau)w_u + \gamma \ln(1 + b) \quad \gamma > 1 \quad (2a)$$

$$u_s = (1 - \tau)w_s \quad (2b)$$

for unskilled and skilled workers, respectively.<sup>4</sup> This implies that only unskilled individuals value the consumption of the publicly provided good. The results of the model are robust to other, more general specifications of the utility functions where skilled individuals enjoy the consumption of  $b$  too.<sup>5</sup>

The quasilinear utility function of the unskilled implies that the publicly provided good is an imperfect substitute for private consumption, and the marginal utility of consuming the publicly provided good is decreasing in  $b$ .<sup>6</sup>

<sup>4</sup>The condition that  $\gamma > 1$  is necessary to ensure an interior solution of the optimization problem.

<sup>5</sup>A crucial requirement is that the marginal utility from consuming  $b$  is larger for the unskilled workers.

<sup>6</sup>Specifications similar to this utility function can be found in Bisin and Verdier (2000); Mariani (2007); Razin *et al.* (2011).

We assume the political equilibrium is found through probabilistic voting.<sup>7</sup> More specifically, we assume a political process where candidates run on a platform on the level of taxes and the publicly provided good, but where there is a second policy dimension that could reflect non-economic attitudes toward immigration. If we assume that the voters' bias over this second policy dimension follows a uniform distribution centered around zero it is possible to show that candidates will choose a policy  $(\tau, b)$  that maximizes a utilitarian social welfare function (see Persson and Tabellini, 2000, for an introductory exposition).

Since in our baseline scenario immigrants are full participants in the fiscal system but cannot vote, the utilitarian welfare function will reflect the utilities of the natives, but the budget constraint will include the taxes and consumption of both natives and immigrants, so the optimization problem will be

$$\begin{aligned} \max_{(b, \tau)} \quad & W = \phi u_u + (1 - \phi) u_s = (1 - \tau) y_n + \phi \gamma \ln(1 + b) \\ \text{subject to} \quad & b = \tau y_p \\ & 0 \leq \tau \leq 1 \end{aligned} \tag{3}$$

Our setup follows in many aspects the model of Mariani (2007). However, his is a multiperiod model with fixed wages where all the natives share the same skill, and where the only source of heterogeneity occurs in the preferences over the publicly provided good. Also, in his framework immigrants do not value at all the publicly provided good.

### 3.1 Exogenous Immigration

To illustrate the basic features of the model, we start with a scenario where immigration is fixed and exogenously given and where wages are fixed. As explained earlier, this scenario corresponds to the case where our economy diversifies and produces both goods  $(q_1, q_2)$ .

Under the status quo where immigrants can consume  $b$  (and pay taxes) but do not vote, the optimal policy is given by<sup>8</sup>

$$\tau^* = \frac{\phi \gamma}{y_n} - \frac{1}{y_p} \quad b^* = \phi \gamma \frac{y_p}{y_n} - 1. \tag{4}$$

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<sup>7</sup>The main implications of the model hold under majority voting.

<sup>8</sup>The complete derivations of the model are available from the authors upon request. For the rest of the paper we will focus our attention on interior solutions only, namely on solutions where  $\tau \in (0, 1)$ .



### 3.1.1 No Rights

We now analyze the case where immigrants have no rights at all, i.e., they receive nothing from the fiscal system (but do not contribute to it either) and they cannot vote.

While the welfare function to be maximized is the same one of the status quo scenario (i.e., that of the natives' utilities), the budget constraint for this new problem is  $b = \tau y_n$ . The optimal interior solution for this modified problem is

$$\hat{\tau} = \frac{\phi\gamma}{y_n} - \frac{1}{y_n} \quad \hat{b} = \phi\gamma - 1. \quad (5)$$

If immigrants are less skilled than natives, i.e., if  $\psi > \phi$ , the average income of natives  $y_n$  will be higher than the average income of the population  $y_p$ , and, in consequence, taxes and the demogrant would increase when immigrants are prohibited from participating in the fiscal system. The opposite will occur if immigrants are more skilled than natives.

Because unskilled natives benefit from the consumption of this publicly provided good, they will favor the exclusion of immigrants from the fiscal system as long as the immigrants are less skilled than natives. This gives us the first result of the paper.<sup>9</sup>

**Proposition 1.** *The exclusion of relatively unskilled immigrants from the fiscal system increases the welfare of unskilled natives and lowers the welfare of skilled natives. The opposite occurs whenever immigrants are more skilled than natives.*

In particular, relatively unskilled immigrants are net beneficiaries of the fiscal system because they contribute less in taxes than what they obtain from the system in the form of consumption of  $b$ . So when these unskilled immigrants participate in the fiscal system there is a *fiscal leakage* (Razin *et al.*, 2002) that leads natives to vote for a lower level of the publicly provided good  $b$ . This reduction in the demogrant will hurt unskilled natives and benefit skilled ones through lower taxes.

Proposition 1 gives our first empirical implication of the model, namely, that *ceteris paribus*, when immigrants are relatively unskilled, unskilled natives will be less willing to grant them access to publicly provided goods. The opposite occurs when immigrants are more skilled than natives, as in this case the immigrants are net contributors to the fiscal system.

Our model contrasts with the tax vs. benefits-adjustment models of Facchini and Mayda (2009). In their case, the fiscal system adjusts to the entrance of unskilled immigrants by either lowering benefits or by raising taxes to keep the demogrant fixed. In our model, both variables change endogenously as a result of the voting process.

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<sup>9</sup>The proofs of all the propositions are included in Appendix A.

### 3.1.2 Full Rights

We next consider the case when immigrants have full access to publicly provided goods *and* have the right to vote. The main implication of granting voting rights to immigrants is that now the objective welfare function additionally incorporates the preferences of immigrants. In particular, the new objective function is

$$\tilde{W} = \alpha u_u + (1 - \alpha)u_s = (1 - \tau)y_p + \alpha\gamma \ln(1 + b) \quad (6)$$

where

$$\alpha = \frac{\phi + \pi\psi}{1 + \pi}$$

is the share of unskilled individuals in the economy (including immigrants).

The budget constraint remains (1), the same as in the status quo.

The optimal policies for this new problem will be given by

$$\tilde{\tau} = \frac{\alpha\gamma}{y_p} - \frac{1}{y_p} \quad \tilde{b} = \alpha\gamma - 1 \quad (7)$$

In other words, incorporating relatively unskilled immigrants into the political process leads to more redistributive policies in comparison with the status quo.<sup>10</sup> With these results, we can now evaluate who wins and who loses from granting voting rights to immigrants.

**Proposition 2.** *Unskilled natives will be better off by granting voting rights to relatively unskilled immigrants, while skilled natives will be worse off. The opposite will occur whenever immigrants are more skilled than natives.*

This proposition leads to our second empirical implication of the paper: if immigrants are less skilled than natives, then the unskilled natives will be more likely to support granting them the right to vote. Skilled natives will oppose this measure fearing more redistributive policies. The opposite predictions are obtained if immigrants are more skilled than natives.

These results complete the analysis of preferences for different rights in the absence of labor market effects. The next section considers these effects.

## 3.2 Endogenous Immigration and Labor Market Effects

We now consider a scenario where wages change because of immigration. This change occurs when the skills of the immigrant workforce are different from the skills of natives and the economy produces one single good (so it cannot adjust its output mix).

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<sup>10</sup>Whenever  $\psi > \phi$ , then  $\alpha > \phi$  and  $y_n > y_p$ , see Lemma A.1 in Appendix A.

In order to avoid considerations of optimal admission policies, we assume immigrants can freely enter to the destination country.

In addition, for analytic simplicity we assume that changes to the fiscal policy alter the skill mix of the immigrant population, but not its overall size. While this assumption is not very realistic, it helps us to avoid modeling explicitly the supply of immigrants of different skills.<sup>11</sup>

When immigrants participate in the fiscal system their utilities will be given by equations (2a) and (2b), while if they are excluded from such system their utilities will equal the before-tax wage.

As before, we focus on interior solutions of our problem under the assumption that the utility functions (2a) and (2b) are strictly concave in  $\tau$ , and hence, each have a unique maximum  $\tau_j$  for each skill group  $j \in \{u, s\}$ .

In this scenario of flexible wages, unskilled natives still prefer a more redistributive tax policy than skilled natives. However, their preference is now attenuated because an overly generous fiscal system will attract further unskilled immigration, and lower the wages of the unskilled.<sup>12</sup>

With this structure, giving immigrants access to publicly provided goods will trigger more unskilled immigration, since unskilled workers value such goods. For the same reason, under the status quo (i.e. when immigrants participate in the fiscal system but do not vote) when taxes rise, the skill composition of the immigrant workforce deteriorates. This rise in the unskilled workforce will increase the fiscal leakage effect and drop the average income in the economy  $y_p$ .<sup>13</sup>

In addition, under the status quo, if natives are relatively skilled, a rise in taxes will raise natives' average income (even if  $w_u$  falls) by attracting less skilled immigrants and enhancing the production complementarities in the economy. In other words, it will increase the *immigration surplus* existent in the economy (see for instance, Borjas, 1995). If instead immigrants are more skilled than natives and  $\tau$  grows, the immigration surplus will fall because now the skills of immigrants and natives will become more similar to one another.<sup>14</sup>

The implications for the optimal solution  $(\tau^o, b^o)$  can be appreciated by examining the first-order condition of the problem (3) under flexible wages and free immigration. This condition becomes

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<sup>11</sup>Chapter 4 of Razin *et al.* (2011) includes a model that shares several features with the one here presented, and where the supply of immigrants is explicitly captured by imposing restrictive assumptions on the reservation utilities of potential immigrants. In that case, the authors resort to numerical simulations to analyze the impact of various policy changes.

<sup>12</sup>These and other useful results are derived in Lemma A.2 in Appendix A.

<sup>13</sup>See Lemma A.2 *iv*) in Appendix A.

<sup>14</sup>See Lemma A.2 *iv*) in Appendix A.

$$y_n^o - (1 - \tau^o) \frac{\partial y_n^o}{\partial \tau} = \frac{\phi \gamma}{1 + \tau^o y_p^o} \left[ y_p^o + \tau^o \frac{\partial y_p^o}{\partial \tau} \right] \quad (8)$$

The left-hand side of this equation gives the marginal cost of the tax for the natives and the right-hand side gives its marginal benefit. Now both  $y_n$  and  $y_p$  are functions of  $\tau$ , so we denote the values of these variables in the status quo equilibrium by the superscript  $o$ .<sup>15</sup>

When wages are fixed, the partial derivatives in (8) are zero, leading us to the solution (4). However, by affecting wages, immigration generates a surplus that accrues to natives. Changes to the tax rate modify the skill mix of the immigrant workforce, and this modification alters the size of this immigration surplus.

When unskilled labor is scarce it is less costly to raise taxes because this increase attracts unskilled immigrants and enhances the productive complementarities between natives and immigrants. However, if skilled labor is scarce, there is a larger marginal cost of raising taxes because this increase will repel skilled immigrants and reduce the immigration surplus.

These effects are captured by the term  $(1 - \tau^o)(\partial y_n^o / \partial \tau)$ , which is positive whenever  $\phi < \psi$ , and is negative when  $\phi > \psi$  (see Lemma A.2 *iv*) in Appendix A). In summary, increasing taxes lowers the marginal cost of the tax if immigrants are less skilled than natives, while it raises such cost when immigrants are relatively more skilled.

A second, new effect comes with the term  $(\partial y_p^o / \partial \tau) \phi \gamma \tau^o / (1 + \tau^o y_p^o) < 0$ , which reflects the increase in the “fiscal leakage” from raising taxes. In particular, increasing taxes attracts unskilled immigrants and further lowers the tax collection by  $\tau(\partial y_p / \partial \tau)$ . By multiplying this term by  $\phi \gamma / (1 + \tau y_p)$  we obtain the societal marginal valuation of such change in the tax collection. In other words, the marginal benefit of raising taxes is lower because it attracts unskilled immigrants that are net beneficiaries of the fiscal system.

### 3.2.1 No Rights

As previously mentioned, excluding immigrants from the fiscal system will raise the skill composition of the immigrant workforce, as immigrants would face a tax rate of zero and receive no benefits in exchange. This attracts skilled immigrants and discourages the entry of unskilled ones.

In this case, the optimal tax and demogrant are given by a solution similar to the one derived under the assumption of no rights and fixed wages in eq. (5). Abusing notation we

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<sup>15</sup>In other words, for  $j \in \{n, p\}$ ,  $y_j^o = y_j(\tau^o)$  and  $\partial y_j^o / \partial \tau = \partial y_j(\tau^o) / \partial \tau$ , for the optimal  $\tau^o$  that satisfies the FOC (8) together with the budget constraint (1).

denote this solution by  $(\hat{\tau}, \hat{b})$ , and it equals

$$\hat{\tau} = \frac{\phi\gamma}{y_n(\hat{\tau})} - \frac{1}{y_n(\hat{\tau})} \quad \hat{b} = \phi\gamma - 1. \quad (9)$$

where  $y_n(\hat{\tau})$  is the natives' income given the new skill composition of the immigrant workforce, after the latter faces a tax rate of zero (and no benefits). Note also that any marginal change in taxes under this scenario does not alter the skill mix of immigrants (since these immigrants are not paying taxes).<sup>16</sup>

Which skill group wins when moving from the status quo to a scenario where immigrants have no entitlements will depend on whether taxes rise as a result of such move. The next proposition gives the conditions for each group to win.

**Proposition 3.** *Let  $\hat{\tau}$  be given by equation (9) and assume  $\hat{\tau} \in (\tau_s, \tau_u)$ . Define*

$$g(\hat{\tau}) = \frac{w_s(\hat{\tau}) - w_u(\hat{\tau})}{1 + \hat{\tau}y_p(\hat{\tau})} [\phi - \alpha(\hat{\tau}) - \phi\gamma\hat{\tau}\alpha'(\hat{\tau})] + (1 - \hat{\tau})\frac{\partial y_n(\hat{\tau})}{\partial \tau}.$$

*If  $g(\hat{\tau}) < 0$  then unskilled natives will be better off and skilled natives will be worse off by restricting immigrant access to publicly provided goods. The opposite will occur whenever  $g(\hat{\tau}) > 0$ .*

The inequality  $g(\hat{\tau}) < 0$  ensures that  $\tau^o < \hat{\tau}$ . When immigrants are less skilled than natives, i.e. when  $\phi < \alpha(\hat{\tau})$ , the term in square brackets will be negative, while the partial derivative will be positive.<sup>17</sup> When immigrants are more skilled than natives, the first term inside the square bracket is positive, and all the other terms are negative, so the sign of  $g(\hat{\tau})$  is again ambiguous.

### 3.2.2 Full Rights

When immigrants are allowed to vote and wages are flexible, we can show a result equivalent to the one in the previous section.

**Proposition 4.** *Let  $\tau^o$  be given implicitly by equation (8). Define*

$$h(\tau^o) = \frac{\alpha(\tau^o) - \phi}{\phi} \left( w_s(\tau^o) - (1 - \tau^o)\frac{\partial w_s(\tau^o)}{\partial \tau} \right) + \alpha'(\tau^o)\gamma \ln(1 + b^o) + (1 - \tau^o)\frac{\partial y_p(\tau^o)}{\partial \tau}.$$

*If  $h(\tau^o) > 0$  then unskilled natives will be better off and skilled natives will be worse off by letting immigrants vote. The opposite will occur whenever  $h(\tau^o) < 0$ .*

<sup>16</sup>In particular, the derivatives  $\partial y_n/\partial \tau$  and  $\partial y_p/\partial \tau$  are zero.

<sup>17</sup>The derivative  $\alpha'(\tau)$  is always positive, this follows from Lemma A.2 *iii*) in Appendix A.

If we denote  $\tau^v$  the solution of the optimization problem when immigrants vote and wages are flexible, then the condition  $h(\tau^o) > 0$  ensures that  $\tau^o < \tau^v$ . Unlike in the fixed wage scenario, we cannot assure that whenever immigrants are less skilled than natives, i.e. when  $\phi < \alpha(\tau^o)$ , taxes will rise if these immigrants are allowed to vote. In particular, if the per-capita income  $y_p$  drops drastically when taxes rise, it might be optimal to reduce taxes relative to the status quo level,  $\tau^o$ .

In summary, once wages change due to immigration we cannot always reach the same welfare predictions of the fixed wage scenarios. However, if the labor market effects of immigration are relatively small, then the conclusions derived in section 3.1 will still hold.

Furthermore, if we had in our population some individuals with fixed wages (e.g., individuals who are retired or out of the labor force) their preferences should mainly reflect fiscal concerns, and hence be closer to the predictions of the fixed wage scenario. As we will see below, this insight will prove useful in the empirical part of the analysis.

### 3.3 Additional Economic and Non-economic Factors

In addition to the individual economic factors captured in the previous model, there are other determinants of the preferences of natives toward granting rights and entitlements to immigrants.

An economic element affecting the willingness to provide such benefits and rights is the perceived social impact of immigration. In other words, someone who thinks immigration economically hurts other members of society is less prone to support the provision of rights that might function as “magnets” to immigrants. The theoretical and empirical analysis of these *sociotropic* voting considerations has a long tradition in the political science literature dating back to Kinder and Kiewiet (1979, 1981).<sup>18</sup>

Non-economic factors, such as identity feelings, might shape the support for rights and benefits to immigrants. In particular, individuals valuing ethnic diversity will be likely to support granting voting rights and economic benefits to immigrants, while the opposite will occur for those seeing immigration as a threat to the core of national identity. In our empirical specifications we account for these sociotropic and identity factors.

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<sup>18</sup>In fact, recent studies have tried to incorporate such considerations into a rational voter framework (see for instance Edlin *et al.*, 2007).

## 4 Immigration in Spain

We choose Spain as a case study in part because of the availability of survey data that contain information on the preferences of natives toward granting voting rights and access to publicly provided goods to immigrants. However, the Spanish case is interesting on its own.

In recent decades, Spain has undergone a substantial transformation. During the first half of the twentieth century, Spain was a net sender of migrants. Yet, by the early 2000s, Spain had among the largest immigration flows in Europe both in absolute and relative terms (OECD, 2010).

This transformation was the result of a complex process that included stricter admission policies in formerly traditional destination countries in Europe and fast economic growth in Spain. In addition, Spain's geographic location made it a natural gateway for immigrants coming from Northern Africa. Eventually, some of these immigrants in transit became permanent. Figure 1 shows the rapid growth of immigration from 1998 to 2010.

FIGURES 1 & 2 ABOUT HERE

This figure also shows that most of the immigrants have come from less-developed countries. In particular, the largest immigration groups come from the Maghreb, Latin America, and, more recently, Eastern-European countries.

Substantial heterogeneity exists in the location patterns and skills of immigrants. The left panel of Figure 2 illustrates how there are regions (Comunidades Autónomas) with immigration rates as low as 3 percent of the population, while others have rates close to 20 percent.

The right panel of Figure 2 additionally presents the Relative Skill Composition (RSC) of the immigrant population, namely the ratio of skilled to unskilled individuals in the native relative to the immigrant population.<sup>19</sup> When this ratio is equal to one, the immigrant population has the same skill composition as the native population. However, if the ratio is larger (smaller) than one, the immigrant population is less (more) skilled than the native population.

This figure shows that while immigrants are, on average, more skilled than natives, there are regions where the immigrant population is substantially less skilled than the native one. We additionally see that the skills of immigrants are decreasing over time.<sup>20</sup>

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<sup>19</sup>If we denote by  $L_e^j$  the population of skill  $e$  (i.e., unskilled  $u$  or skilled  $s$ ) and origin  $j$  (i.e., native  $n$  or immigrant  $m$ ) we define the Relative Skill Composition as  $RSC = (L_s^n/L_u^n)/(L_s^m/L_u^m)$ .

<sup>20</sup>Part of the reason immigrants appear more skilled is that the older generations of Spaniards have low

## 4.1 The Rights of Immigrants

The Spanish Constitution states that the rights of foreign residents to access public education and health services are the same as those of Spanish nationals. Political rights, however, are different because article 13.2 excludes immigrants from being elected and holding voting rights.

There are three exceptions. First, since the adoption of the Maastricht Treaty, EU citizens can vote in municipal and European elections. Second, immigrants may vote when established by a treaty. And, third is the principle of reciprocity: if a national from country A can vote in the elections of country B when residing there, nationals from country B can vote in the elections of country A when residing there.

Although there are *ius soli* elements, the main way to automatically obtain Spanish nationality is through *ius sanguini*.<sup>21</sup>

In other words, the status quo allows immigrants to access public education and health services, but it stops immigrants from voting unless they naturalize after several years of legally residing in Spain.

Few studies have analyzed the impact of immigration on the provision of health and education in Spain. These studies suggest that there is congestion for basic health services in provinces with high immigration rates (Blanco Moreno and Pascual, 2009), although the usage of public health services by immigrants is less than that of natives because the immigrant population is younger and healthier (Blanco Moreno and Pascual, 2009; Muñoz de Bustillo and Antón, 2009). In the case of education, there is no strong evidence of congestion at the Pre-University level, mainly because of the decline in the native population at school ages. However, in high immigration provinces, there has been a need for more elementary schools in order to satisfy the education needs of the immigrant population (Salinas Jiménez and Santín González, 2010).

In any case, the aforementioned evidence remains descriptive for many cases, and there is need for a more rigorous study of the causal impact of immigration on the provision of public health and education services.

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levels of educational attainment. In addition, because the RSC was estimated using levels of completed formal schooling, we might overestimate the actual skills of immigrants, as in practice the skills learned in other less-developed nations might not be fully transferable to the Spanish labor market.

<sup>21</sup>Foreigners can apply to naturalization by residence after ten years of legal residence in Spain. For citizens of former Spanish colonies (and for certain former Portuguese colonies) the requirement of legal residence is only two years. Refugees can also apply for citizenship after 5 years of legal residence (Civil Code Art. 22).



## 5 Data and Methods

### 5.1 Data

The main data used in this study are the “Barómetro de Noviembre” provided by the Centro de Investigaciones Sociológicas (CIS) in November of 2005. The survey is a nationwide sample of Spaniards 18 years of age and older. We exclude students from the sample because they have not completed their human capital accumulation process. The sample covers 47 provinces, and the sampling procedure is multi-stage, stratified by clusters. The questionnaires were administered through direct interviews at the home of the interviewees.

We focus on three dichotomous dependent variables. The first two variables capture the willingness of natives to grant publicly provided goods to immigrants, while the third variable is an indicator of the willingness to grant political rights to immigrants. In particular, the first dependent variable is the answer to the question “Do you think immigrants should be given the opportunity to access the public education system (for them or their children)?”. The second variable is based on the question “Do you think immigrants should be given the opportunity to have free health care?”. Finally, the third variable is the answer to “Do you think that any foreigner that has lived in Spain for a while should have the right to vote in municipal and general elections?”. In all cases the answers are “yes” or “no”.

We complement the analysis of these three variables with the study of the responses to the question “Do you think that any foreigner that has lived in Spain for a while should be able to obtain Spanish citizenship eventually?”. Because obtaining nationality entails obtaining political rights, this exercise corroborates the results from the question of whether immigrants should be allowed to vote.

To study this question on naturalization, we pool our 2005 data with a similar dataset from 2007 (CIS # 2731). This combination allows us to better exploit the regional and temporal variation in the data with a comparable questionnaire. In addition, we can perform our analysis using a larger sample.

The summary statistics of our data are presented in Table 1. These statistics are presented separately for respondents in and out of the labor force.<sup>22</sup> In general, individuals in the labor force have a higher fraction of males, are middle aged individuals, with marriage rates of approximately 55 percent, and, for the most part, are not devout Catholics. In turn, respondents out of the labor force are significantly older (due to retirees) and have a higher fraction of women and married individuals (due to housewives). The fraction of

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<sup>22</sup>Individuals in the labor force are those working and the unemployed. Everyone else is considered out of the labor force, with the exception of students who are dropped from the sample. The relevance of separating the analysis by the labor status of the respondent will become clear in Section 5.2.

devout Catholics among this group is high, mostly reflecting a generational trait.

#### TABLE 1 ABOUT HERE

Among the natives in the labor force, approximately 40 percent have an elementary education and approximately 25 percent have a higher education. These numbers contrast with those for people out of the labor force, where approximately 80 percent of the population has an elementary education level. As previously mentioned, the skill levels of older generations are substantially lower, and these differences explain why, on average, immigrants are more skilled than natives.<sup>23</sup>

Finally, respondents in the labor force are more likely to prefer ethnic diversity and are less likely to reject other races and to attribute wage reductions to immigration.<sup>24</sup>

A summary of the attitudes toward the rights of immigrants is presented in Table 2.

#### TABLE 2 ABOUT HERE

This table shows that almost all the respondents support granting public education to immigrants and their children, while a large fraction (approximately 85 percent) supports them having access to public health care. In regard to political rights, approximately 60 percent support allowing immigrants to vote in both general and local elections, and almost 82 percent supports granting them the right to eventually obtain Spanish nationality.<sup>25</sup>

More interestingly, these high levels of support are found even among individuals who think that the current levels of immigration are excessive. This corroborates the idea that attitudes toward immigration are not unidimensional but more complex than the literature has assumed.

To end this section, we present evidence on whether, without controlling for anything else, the main predictions of the theoretical model are supported by the data. In particular, the model predicts that when immigrants are relatively unskilled, skilled natives will be 1) more likely than unskilled natives to support granting health care and education to immi-

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<sup>23</sup>In fact, if we were to compare immigrants and natives of working age, we would see that the latter are more skilled than the former (see for instance Instituto Nacional de Estadística, 2007).

<sup>24</sup>The differences by labor status to the question on whether immigrants fill vacant jobs for which there is insufficient native labor are not statistically significant at the 10 percent level.

<sup>25</sup>Perhaps the higher support for the right to naturalization than the right to vote is because the former right entails barriers to certain types of immigrants. These barriers arise both from the part of the naturalization rules set by the government and from a process of self-selection whereby only more assimilated immigrants apply for citizenship (for instance Constant *et al.*, 2009, propose the application for citizenship as one criterion capturing assimilation to the host country).

grants, and 2) less likely to support granting the right to vote to immigrants. The opposite predictions are obtained if immigrants are relatively more skilled than natives. These predictions apply if labor market effects are not too large. In the case of Spain, these effects appear to be small (see, for instance, González and Ortega, 2011).

In Table 3, we present the proportion of respondents that support granting a given right to immigrants by skill level of the respondent and by the relative skill composition of the immigrant population in the region of residence. The last column displays the difference in support between high and low skill natives. In this column, we see that the raw data show skilled natives have a higher support for public education and health care rights than unskilled natives. While this support is in accordance with the predictions of the model in regions with unskilled immigration, this finding is in contrast to predictions for regions with relatively skilled immigration. Regarding the right to vote/naturalize, we see significantly higher support among skilled natives for this right in regions where immigrants are relatively more skilled. This support falls in regions with a relatively unskilled immigrant population.

TABLE 3 ABOUT HERE

In sum, the raw data partially supports the hypotheses of the model. Because these hypotheses mainly work through the welfare state, we need to control also for labor market and non-economic drivers. The empirical approach used to do this *ceteris paribus* analysis is presented next.

## 5.2 Empirical Methodology

Denote  $y_{ir}^*$  as the underlying propensity an individual  $i$  has to provide a given right  $r$  to immigrants. We model the relationship between this propensity and a set of sociodemographic characteristics as

$$y_{ir}^* = \sum_{j=2}^3 edu_{ij} \beta_{jr} + \sum_{j=1}^3 edu_{ij} * \ln(RSC_p) \delta_{jr} + X_i \kappa_r + u_{ir} \quad (10)$$

where  $edu_{ij}$  refers to a binary variable for the level of education  $j$  of respondent  $i$ . The education levels are  $j = 1$  if Elementary,  $j = 2$  if Intermediate, and  $j = 3$  if Higher.  $RSC_p$  denotes the Relative Skill Composition of the population at province  $p$ , namely the ratio of skilled to unskilled individuals in the native relative to the immigrant population in the province where the respondent lives.<sup>26</sup>

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<sup>26</sup>Given the specification in Equation (10) the parameter  $\delta_{jr}$  represents the semi-elasticity of the propensity

The vector  $X_i$  includes some basic sociodemographic characteristics of the respondent such as gender, age, marital and employment status (an unemployment and a labor force participation dummy).<sup>27</sup>

The theoretical model makes predictions that depend on the skill of the respondent and the relative skill composition of the immigrant population. Hence, we estimate the predicted support for each of the aforementioned rights, and compare the degree of support between skilled (those with higher education) and unskilled (those with elementary education) natives, at different levels of the Relative Skill Composition of the immigrant population, holding everything else constant.

In a second model, we modify the previous equation to better disentangle the preferences driven by labor market factors from those driven by fiscal aspects. In particular, we interact the skill variables ( $edu_2, edu_3, edu_1 * \ln RSC, edu_2 * \ln RSC, edu_3 * \ln RSC$ ) with the labor market status of the respondent, i.e. In the Labor Force/Out of the Labor Force. Presumably, individuals out of the labor force are less affected by labor market considerations (for a similar strategy see Mayda, 2006; O'Rourke and Sinnott, 2006). We additionally include a set of controls for whether individuals feel that immigrants reduce natives' wages or help fill vacant jobs in the economy.<sup>28</sup>

Finally, in a third model, we additionally include a set of controls that capture the non-economic preferences of the respondent. In particular, we add information on whether the respondent has a preference for living in a culturally diverse environment, whether the respondent has a preference for not having an immigrant who is from a different ethnic group as a boss or married to a close relative, and whether the respondent is a devout Catholic.

By adding these controls (as well as the sociotropic controls in the second model), we can better isolate self-centered economic preferences on the rights to be offered to immigrants. However, adding these controls introduces a potential risk of underestimating the effect of economic factors, as someone who would like to restrict the rights of immigrants for economic reasons might as a consequence express negative attitudes toward immigrants in non-economic dimensions.<sup>29</sup>

All the models include a set of regional fixed effects (at the Comunidad Autónoma level). The previous specifications are additionally used in the pooled data from 2005 and 2007 to study the determinants of the willingness to grant the right to naturalization. In this case

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$y_{ir}^*$  with respect to the Relative Skill Composition in province  $p$ , for an individual with education level  $j$ , holding everything else constant.

<sup>27</sup>A detailed description of the variables used in the analysis is included in Appendix B.

<sup>28</sup>This last set of variables additionally helps control for sociotropic preferences.

<sup>29</sup>A similar problem arises in other studies in the literature that incorporate such non-economic controls (see for instance the discussion in Facchini and Mayda, 2009).

we additionally include a period-specific binary variable.

In practice, we do not observe the underlying propensities to grant rights and entitlements but rather indicators of whether the respondents want to provide a given right  $r$  or not, i.e.,

$$y_{ir} = \mathbb{1}\{y_{ir}^* \geq 0\}.$$

For this reason, we use a bivariate probit model to estimate the equations for the education and health dependent variables. This model allows for some correlation in the error terms  $(u_{edu}, u_{he})$  of the equations. The equation for voting rights is estimated using a probit model.<sup>30</sup>

## 6 Results

In this section, we present the results of the empirical estimations. Since the probit parameters are not easy to interpret, especially in the presence of interactions (see for instance Ai and Norton, 2003) we focus instead on presenting the *ceteris paribus* predicted probabilities of support for the different entitlements by level of education of the respondent. We additionally present the difference in these predicted probabilities between respondents with a high level of education and those with an elementary education. All predictions are performed for various levels of Relative Skill Composition of the immigrant population at the province level because the theoretical model gives opposite results depending on whether immigrants are more or less skilled than natives. The levels of the Relative Skill Composition used in the predictions represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.<sup>31</sup>

Table 4 presents the predicted probability of support for granting immigrants access to public education. In this table, contrary to the predictions of the model, the support for granting free access to public education to immigrants rises as the skill composition of the immigrant population deteriorates (i.e., as the Relative Skill Composition rises), irrespective of the skill of the native respondent. In other words, rather than the fiscal considerations captured by the theoretical model, the less skilled immigrants are, the larger is the support among all natives for granting them access to education. This support could reflect the idea that natives perceive a greater advantage in educating the immigrant workforce than in saving fiscal resources by excluding unskilled immigrants from the public education system.

Table 5 presents similar information regarding the willingness to give immigrants access to the public health system. The observed support for this entitlement among respondents

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<sup>30</sup>We report standard errors that are robust to heteroskedasticity and are clustered at the province level.

<sup>31</sup>The full set of estimation parameters is available from the authors upon request.

outside the labor force (in models 2 and 3) is more in line with the predictions of the theoretical model. For these natives the marginal effects, namely the average difference in support for this right between skilled and unskilled natives, show that when immigrants are relatively skilled (i.e., when the Relative Skill Composition is less than one), low-educated natives out of the labor force are more likely to support this entitlement for immigrants (hence the negative marginal effect). However, as immigrants become less skilled this relationship changes sign and skilled natives become more supportive of this right.

In Model 3, that includes the full set of controls, unskilled respondents out of the labor force are between 23 and 13 percent more likely to support this entitlement for immigrants than skilled natives in provinces where immigrants are highly skilled (p-values around 7 to 11 percent). This difference becomes smaller as immigrants become less skilled, and eventually, skilled natives become more supportive of this right, albeit the difference is not statistically significant.<sup>32</sup> For natives in the labor force, none of the results are significantly different from zero.

#### TABLES 4, 5 & 6 ABOUT HERE

Finally, Table 6 presents the estimations for the willingness to grant voting rights. In this case, the evidence strongly supports the predictions of the model. In particular, among people out of the labor force (where the responses should be driven more by fiscal concerns), as the immigrant population becomes less skilled, the support for voting rights monotonically increases among unskilled natives, while it decreases monotonically for natives with higher levels of education. This difference is reflected in the marginal effects, which are positive and significant when immigrants are skilled (because of the high support for this right among skilled natives) and negative and significant in provinces where immigrants are predominantly unskilled. Again, for natives in the labor force the results are not statistically significant, although they go in the right direction.

In summary, the econometric results provide clear support for the theoretical predictions regarding the voting rights of immigrants, and a weaker support for the predictions regarding access to public health services. In the case of education the fiscal considerations captured by the model are not validated by the data.

The estimations show the importance of isolating the confounding effects of preferences driven by labor market and non-economic reasons.

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<sup>32</sup>The weaker significance of the estimates at high levels of the RSC variable may be due to the smaller sample size in those provinces.

## 6.1 Robustness Checks

In addition to the previous specifications, we estimate other models to test the robustness of the results.

In particular, we re-estimate Model 3, which includes the full set of controls, interacting the skill variables with the retirement status of the respondent instead of with the labor-force status. It is possible that housewives might still care about the conditions prevailing in the labor market because their family income depend on such conditions. Hence, we want to explore if by focusing on retirees, whose income is more isolated from labor market fluctuations, we obtain similar results.

Additionally, in a separate exercise, we re-estimate Model 3 using a different measure of individual skill. We constructed three occupational categories (low, intermediate and high skill occupations) and use those categories instead of the level of formal schooling of the respondent.

Additionally, we extend Model 3 by interacting the skill variables with the rate of immigration at the province level. While for simplicity the theoretical model was derived under the assumption of a CRS production function, where the only aspect of immigration that mattered was the relative skill composition of the workforce, in practice it is reasonable to expect that the impacts of immigration will be felt more strongly in provinces with high levels of immigration.

Finally, we re-estimated the main three specifications using a linear probability model to ensure that our results are not driven by the assumed functional form of the probit estimates.

Table 7 displays the marginal effects (the difference in support between skilled and unskilled natives) for the first two robustness checks.<sup>33</sup>

TABLE 7 ABOUT HERE

In this table, the average marginal effects for education and health among retirees display similar patterns to those in Tables 4 and 5. In the health equation, the differences in support between skilled and unskilled natives become stronger and more statistically significant than in Table 5. In the voting right equation, the parameters display the predicted sign, but they are not statistically significant for retirees, although they are so for non-retired respondents.

In that same table, when using an occupation-based skill measure for the respondent, the support for education takes the opposite sign than the one predicted by the theoretical model. In the case of health, the estimates are highly insignificant for the population out of the labor

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<sup>33</sup>For the sake of brevity we only display the average marginal effects and not the full predicted probabilities. These results are available from the authors upon request.

force but are statistically significant and in the expected direction for the population in the labor force. Finally, for the voting right equation the estimates have the predicted signs, but they are not individually significant. This finding indicates that our alternative measure of skill might fit better for individuals who are still active in the workforce than for people out of the labor force.<sup>34</sup>

Additionally, in Table 8, in provinces with high rates of immigration, the empirical results are closer to the predictions of the theoretical model, as expected.

Finally, in Table 9, we observe similar predictions from the linear probability models. However, these estimations have smaller standard errors and hence are statistically significant on many instances.

TABLES 8 & 9 ABOUT HERE

## 6.2 Naturalization Rights

As previously mentioned, we pooled comparable datasets from 2005 and 2007 to estimate the determinants of the willingness to grant naturalization rights to immigrants.

The results for models 1-3 are displayed in Table 10. These results strongly support the theoretical predictions regarding voting rights for immigrants. Namely, skilled natives support the right of immigrants to become citizens when the latter are relatively skilled. However, this support falls monotonically as the immigrant population becomes less skilled. The exact opposite occurs for the responses of unskilled natives. In almost all the specifications and subsamples, the estimated effects are highly statistically significant.

These findings support the view that natives are willing to tolerate a higher level of economic competition from the part of immigrants, in exchange for a higher political support for their desired policies.

## 6.3 Explaining Variation in Attitudes Toward Rights

We close the presentation of our results by making a brief assessment of what factors account for the variation in the preferences toward granting rights to immigrants.

In Table 11, we present the likelihood ratio index (McFadden, 1974) between the different empirical models estimated to see how the goodness-of-fit increases as we include different explanatory factors.

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<sup>34</sup>If someone has never worked, the occupation reported in the survey is that of the main breadwinner in the household, something that adds noise to the skill measure for those respondents.



The baseline specifications that control for the sociodemographic characteristics of the respondent, including skill and the interaction of skill with the relative skill composition at the province, improve the fit between 4 and 7 percent over the constant-only model. Including additional labor market controls to our models increases the fit by an additional 1-5.5 percent, depending on the equation. Finally, adding variables that capture non-economic preferences improves the fit by an additional 5-14%, with the largest increases occurring in the models for the right to naturalization and to vote.

The changes to model 3 brought by the robustness checks in Tables 7 and 8 do not increase the fit of the models.

In summary, non-economic preferences account for a significant part of the variation in the responses, especially the willingness to grant political rights to foreigners.

## 7 Conclusions

In this paper, we develop a simple theoretical model to explain why natives might be willing to grant a set of economic and political rights to immigrants. We test the predictions of the model using a rich dataset of public opinion on immigration in Spain.

The model predicted that when immigrants are less skilled than natives, low skill natives will oppose granting immigrants access to publicly provided goods, such as health and education, because of competition for fiscal resources. Alternatively, the model predicts that skilled natives would oppose granting voting rights to these immigrants because such political rights would lead to more redistributive fiscal policies financed through higher taxes. The opposite predictions are obtained when immigrants are more skilled than natives.

We test these predictions exploiting individual and regional variation in our public opinion dataset. In general, we find a strong support for these hypotheses in the case of political rights, and a weaker support in the case of access to public health services.

In the case of public education, regardless of the skill of the respondent, we find convergence among natives in that in provinces where immigrants are less skilled, natives support immigrant access to public education. These results could be explained if education is perceived as a key element toward the assimilation of foreigners into a society, and if this consideration outweighs other fiscal concerns that might arise from the adoption of such policy.

More generally, this study confirms that the preferences toward immigration are far from unidimensional. The same individuals who are willing to entitle foreigners with a set of rights simultaneously want to reduce the current levels of immigration. This juxtaposition suggests a movement from methodological approaches that assume the existence of a “general attitude” toward immigration and, instead, begin studying specific aspects, such

as the preferences on different admission policies and the mechanisms favored to assimilate immigrants into the host society, among others.

Understanding these aspects not only provides a richer picture on the policy preferences of natives in host countries but is additionally relevant for public life because these issues may define future political strategies regarding immigration rights and shape immigration policy in general.

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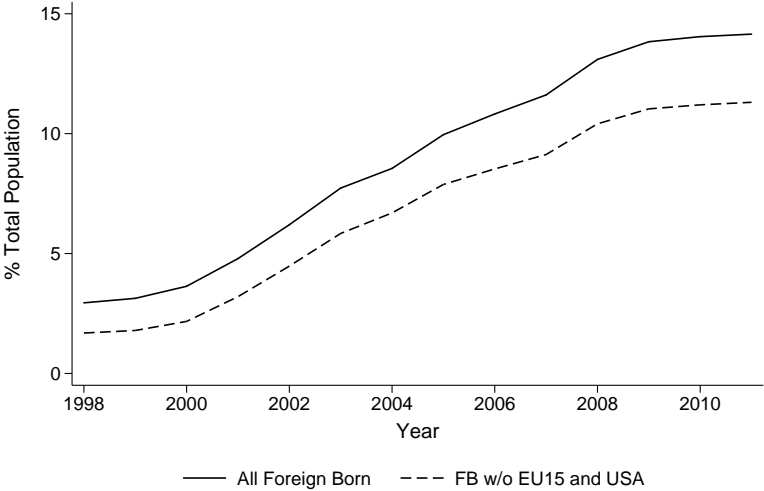
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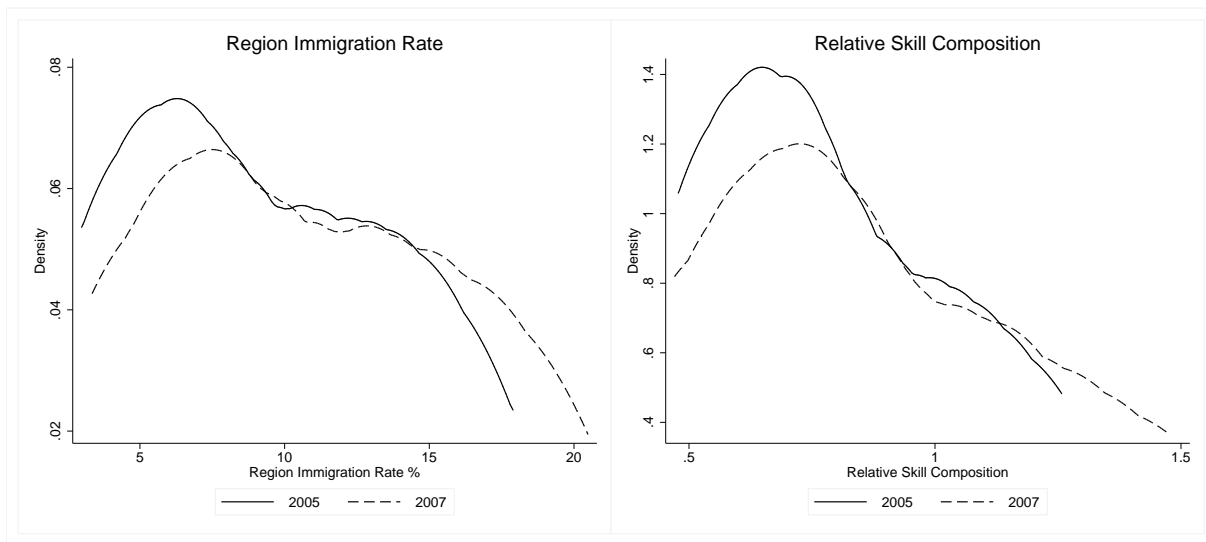
# Tables and Graphs

Figure 1: Stock of Foreign Born in Spain



Source: INE, Padrón de Población.

Figure 2: Stock of Foreign Born and Relative Skill Composition of Immigration by Region



The Relative Skill Composition is the ratio of skilled to unskilled individuals in the native relative to the immigrant population. The data excludes the regions of Ceuta and Melilla. For details on the construction of the variables see Appendix B.

Table 1: Descriptive Statistics

Variable	2005 Sample					2005-2007 Sample				
	Obs	Mean	Std.Dev.	Min	Max	Obs	Mean	Std.Dev.	Min	Max
<i>Out of the Labor Force</i>										
Male	823	0.35	0.48	0	1	1612	0.37	0.48	0	1
Age	823	62.81	14.08	18	91	1612	63.65	13.72	18	93
Married	823	0.72	0.45	0	1	1612	0.73	0.45	0	1
Devout Catholic	810	0.31	0.46	0	1	1593	0.34	0.47	0	1
Schooling										
Elementary	823	0.79	0.40	0	1	1612	0.80	0.40	0	1
Intermediate	823	0.13	0.33	0	1	1612	0.12	0.33	0	1
Higher	823	0.08	0.27	0	1	1612	0.08	0.28	0	1
Racial Preferences										
Preference for Diversity	779	1.96	0.94	1	4	1451	1.12	0.87	0	2
Rejects other Races	754	3.28	3.39	0	10	1600	1.42	0.58	1	3
Perceived Labor Impact										
“Wages fall...”	741	2.22	1.27	0	4					
“Labor needed...”	760	2.57	1.07	0	4	1510	0.80	0.40	0	1
<i>In the Labor Force</i>										
Male	1,410	0.56	0.50	0	1	2,938	0.57	0.50	0	1
Age	1,410	37.24	11.59	18	82	2,938	38.30	11.53	18	84
Married	1,410	0.53	0.50	0	1	2,938	0.56	0.50	0	1
Devout Catholic	1,387	0.07	0.25	0	1	2,897	0.09	0.29	0	1
Schooling										
Elementary	1,410	0.42	0.49	0	1	2,938	0.41	0.49	0	1
Intermediate	1,410	0.35	0.48	0	1	2,938	0.34	0.47	0	1
Higher	1,410	0.23	0.42	0	1	2,938	0.25	0.43	0	1
Racial Preferences										
Preference for Diversity	1,356	2.23	0.91	1	4	2,813	1.33	0.84	0	2
Rejects other Races	1,373	2.26	3.08	0	10	2,930	1.26	0.47	1	3
Perceived Labor Impact										
“Wages fall...”	1,379	1.99	1.32	0	4					
“Labor needed...”	1,378	2.60	1.12	0	4	2,863	0.80	0.40	0	1
<i>Overall Sample</i>										
Province Immig. Rate	2,233	10.56	5.25	2.39	21.76	4,550	11.77	5.68	2.39	25.12
ln(RSC)	2,233	-0.23	0.36	-1.01	0.36	4,550	-0.20	0.37	-1.01	0.65

See Appendix B for detailed definitions of the variables. *Source:* CIS Surveys # 2625 and # 2731.



Table 2: Desired Levels of Immigration and Support for Rights

Current Level of Immigration	Support for Granting:			% Pop.
	Education	Health	Vote	
<i>2005 Sample</i>				
“Not Excessive”	98.1	93.8	74.5	37.1
“Excessive” <sup>1</sup>	92.9	80.0	51.0	62.9
Total	94.9	85.2	59.9	
<i>2005-07 Sample</i>	Naturalization			% Pop.
“Not Excessive”	93.6			33.7
“Excessive”	75.9			66.4
Total	81.9			

Entries represent the fraction of the population that supports granting a given right to immigrants conditional on their desired level of immigration.

<sup>1</sup> Respondents that claim that there are “too many immigrants”.

Table 3: Support for Rights by Schooling Level of Respondent and Skill Composition of Immigrants

Right	Respondent's Schooling Level			(H)-(E)
	Elementary (E)	Intermediate (I)	Higher (H)	
Skilled Immigration Regions				
Education	0.933 (0.012)	0.959 (0.013)	0.993 (0.005)	0.060*** (0.013)
Health	0.846 (0.020)	0.835 (0.028)	0.886 (0.018)	0.040** (0.018)
Vote	0.544 (0.028)	0.633 (0.032)	0.683 (0.029)	0.139*** (0.029)
Naturalization	0.747 (0.021)	0.855 (0.018)	0.917 (0.012)	0.171*** (0.022)
Unskilled Immigration Regions				
Education	0.930 (0.015)	0.979 (0.008)	0.974 (0.015)	0.044*** (0.012)
Health	0.849 (0.030)	0.896 (0.025)	0.911 (0.051)	0.062** (0.023)
Vote	0.617 (0.040)	0.674 (0.032)	0.682 (0.079)	0.065 (0.059)
Naturalization	0.836 (0.022)	0.899 (0.026)	0.889 (0.014)	0.053*** (0.017)

Entries represent the proportion of the population that supports granting a given right to immigrants. See Appendix B for the definition of the different skill groups.

Skilled Immigration Regions are those where the immigrant population has a higher fraction of skilled individuals than the natives. The opposite occurs in Unskilled Immigration Regions.

\*\*\*, \*\*, \*  $H_0 : (H)-(E) = 0$  rejected at 1, 5 and 10% of significance. Standard errors clustered at the province level in parentheses.

Table 4: Predicted Support for Right to Education by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level. Bivariate Probit Model.

Relative Skill Composition	$P(\text{Education} \text{Schooling})$			Average Marginal Effect		
	Elementary	Intermed.	Higher	Higher-Elem	Std.Err.	p-value
<b>Model 1</b>						
0.36	0.847	0.889	0.952	0.105	0.091	0.250
0.58	0.900	0.939	0.972	0.072	0.038	0.056
0.75	0.923	0.958	0.980	0.057	0.019	0.003
0.99	0.942	0.972	0.986	0.043	0.012	0.000
1.44	0.963	0.985	0.991	0.029	0.017	0.091
<b>Model 2</b>						
<i>Out of the Labor Force</i>						
0.36	0.850	0.924	0.746	-0.104	0.129	0.418
0.58	0.909	0.930	0.943	0.034	0.041	0.403
0.75	0.933	0.933	0.982	0.049	0.018	0.008
0.99	0.953	0.937	0.996	0.043	0.013	0.001
1.44	0.972	0.941	1.000	0.028	0.017	0.103
<i>In the Labor Force</i>						
0.36	0.914	0.882	0.962	0.049	0.069	0.482
0.58	0.923	0.943	0.970	0.047	0.035	0.184
0.75	0.928	0.963	0.974	0.046	0.021	0.033
0.99	0.933	0.978	0.977	0.044	0.016	0.007
1.44	0.940	0.990	0.982	0.042	0.028	0.136
<b>Model 3</b>						
<i>Out of the Labor Force</i>						
0.36	0.795	0.842	0.607	-0.188	0.173	0.277
0.58	0.895	0.893	0.915	0.019	0.049	0.691
0.75	0.932	0.916	0.976	0.044	0.026	0.090
0.99	0.959	0.935	0.996	0.036	0.014	0.008
1.44	0.981	0.957	1.000	0.018	0.012	0.114
<i>In the Labor Force</i>						
0.36	0.868	0.847	0.923	0.055	0.094	0.558
0.58	0.908	0.931	0.956	0.048	0.041	0.246
0.75	0.925	0.959	0.968	0.043	0.022	0.053
0.99	0.941	0.978	0.978	0.037	0.013	0.003
1.44	0.959	0.992	0.988	0.029	0.019	0.122

The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. See Appendix B for the definition of the skill groups. Standard Errors clustered by Province and robust to heteroskedasticity. Model 1 includes basic socio-demographic controls, Model 2 adds further labor market controls, and Model 3 adds controls for non-economic preferences. All models include regional fixed effects. The selected RSC levels represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.

Table 5: Predicted Support for Right to Health Care by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level. Bivariate Probit Model.

Relative Skill Composition	$P(Health Schooling)$			Average Marginal Effect		
	Elementary	Intermed.	Higher	Higher-Elem	Std.Err.	p-value
<b>Model 1</b>						
0.36	0.772	0.764	0.801	0.029	0.063	0.647
0.58	0.820	0.823	0.855	0.035	0.029	0.234
0.75	0.844	0.851	0.880	0.036	0.018	0.048
0.99	0.867	0.878	0.904	0.037	0.017	0.033
1.44	0.894	0.909	0.930	0.036	0.026	0.163
<b>Model 2</b>						
<i>Out of the Labor Force</i>						
0.36	0.849	0.739	0.668	-0.180	0.169	0.287
0.58	0.848	0.772	0.757	-0.090	0.082	0.268
0.75	0.847	0.790	0.800	-0.047	0.052	0.370
0.99	0.847	0.808	0.840	-0.006	0.045	0.886
1.44	0.846	0.830	0.887	0.040	0.057	0.481
<i>In of the Labor Force</i>						
0.36	0.811	0.821	0.852	0.041	0.063	0.514
0.58	0.840	0.849	0.869	0.029	0.031	0.364
0.75	0.855	0.864	0.878	0.022	0.021	0.286
0.99	0.870	0.878	0.887	0.017	0.021	0.432
1.44	0.889	0.895	0.898	0.009	0.033	0.776
<b>Model 3</b>						
<i>Out of the Labor Force</i>						
0.36	0.830	0.651	0.599	-0.230	0.147	0.117
0.58	0.843	0.727	0.714	-0.129	0.072	0.074
0.75	0.850	0.765	0.769	-0.080	0.051	0.112
0.99	0.857	0.801	0.821	-0.036	0.050	0.469
1.44	0.866	0.846	0.879	0.013	0.059	0.825
<i>In of the Labor Force</i>						
0.36	0.793	0.787	0.805	0.012	0.078	0.874
0.58	0.837	0.835	0.844	0.007	0.038	0.845
0.75	0.858	0.858	0.864	0.005	0.024	0.830
0.99	0.879	0.880	0.882	0.003	0.021	0.885
1.44	0.904	0.906	0.904	0.001	0.030	0.982

The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. See Appendix B for the definition of the skill groups. Standard Errors clustered by Province and robust to heteroskedasticity. Model 1 includes basic socio-demographic controls, Model 2 adds further labor market controls, and Model 3 adds controls for non-economic preferences. All models include regional fixed effects. The selected RSC levels represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.

Table 6: Predicted Support for Right to Vote by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level. Probit Model.

Relative Skill Composition	$P(\text{Vote} \text{Schooling})$			Average Marginal Effect		
	Elementary	Intermed.	Higher	Higher-Elem	Std.Err.	p-value
<b>Model 1</b>						
0.36	0.299	0.400	0.500	0.201	0.078	0.010
0.58	0.458	0.537	0.601	0.143	0.039	0.000
0.75	0.550	0.611	0.654	0.104	0.028	0.000
0.99	0.644	0.686	0.707	0.062	0.027	0.023
1.44	0.760	0.776	0.773	0.013	0.040	0.750
<b>Model 2</b>						
<i>Out of the Labor Force</i>						
0.36	0.406	0.330	0.844	0.438	0.124	0.000
0.58	0.504	0.465	0.739	0.235	0.103	0.022
0.75	0.558	0.543	0.669	0.111	0.089	0.213
0.99	0.615	0.622	0.587	-0.027	0.090	0.761
1.44	0.688	0.724	0.469	-0.219	0.131	0.094
<i>In the Labor Force</i>						
0.36	0.325	0.469	0.415	0.090	0.068	0.186
0.58	0.496	0.578	0.537	0.041	0.041	0.316
0.75	0.592	0.636	0.604	0.012	0.036	0.750
0.99	0.688	0.694	0.671	-0.017	0.041	0.679
1.44	0.801	0.766	0.755	-0.046	0.054	0.394
<b>Model 3</b>						
<i>Out of the Labor Force</i>						
0.36	0.348	0.232	0.754	0.406	0.159	0.011
0.58	0.483	0.401	0.689	0.206	0.114	0.070
0.75	0.559	0.506	0.650	0.092	0.091	0.312
0.99	0.636	0.615	0.607	-0.029	0.081	0.720
1.44	0.734	0.750	0.545	-0.188	0.112	0.091
<i>In the Labor Force</i>						
0.36	0.289	0.394	0.326	0.038	0.055	0.490
0.58	0.488	0.534	0.487	-0.001	0.039	0.980
0.75	0.601	0.610	0.577	-0.024	0.032	0.453
0.99	0.712	0.686	0.668	-0.044	0.030	0.153
1.44	0.835	0.778	0.777	-0.057	0.035	0.103

The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. See Appendix B for the definition of the skill groups. Standard Errors clustered by Province and robust to heteroskedasticity. Model 1 includes basic socio-demographic controls, Model 2 adds further labor market controls, and Model 3 adds controls for non-economic preferences. All models include regional fixed effects. The selected RSC levels represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.

Table 7: Marginal Effects for Support for Rights by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level.  
 Robustness Check 1 - Retired Sample and Occupation-based Skill.

Relative Skill Composition	Model 4: By Retirement Status				Model 5: By Occupation-based Skill							
	Retirees		Non-Retirees		Out of Labor Force		In the Labor Force					
	Marginal Effect	Std. Err.	p-val	Marginal Effect	Std. Err.	p-val	Marginal Effect	Std. Err.	p-val			
<b>Education</b>												
0.36	-0.213	0.184	0.249	0.086	0.097	0.376	0.181	0.096	0.059	0.087	0.066	0.189
0.58	0.017	0.063	0.784	0.056	0.041	0.171	0.074	0.037	0.046	0.039	0.021	0.064
0.75	0.048	0.034	0.150	0.042	0.022	0.052	0.035	0.022	0.105	0.022	0.011	0.054
0.99	0.042	0.016	0.009	0.031	0.013	0.015	0.007	0.012	0.578	0.009	0.009	0.342
1.44	0.023	0.014	0.097	0.019	0.013	0.155	-0.015	0.010	0.160	-0.002	0.010	0.871
<b>Health</b>												
0.36	-0.367	0.179	0.040	0.000	0.074	1.000	-0.011	0.076	0.889	-0.002	0.057	0.978
0.58	-0.176	0.080	0.028	0.004	0.037	0.925	-0.014	0.042	0.731	0.027	0.029	0.352
0.75	-0.085	0.062	0.173	0.005	0.023	0.826	-0.016	0.029	0.584	0.039	0.019	0.040
0.99	-0.009	0.071	0.896	0.006	0.019	0.729	-0.018	0.025	0.488	0.049	0.016	0.003
1.44	0.056	0.071	0.432	0.008	0.029	0.783	-0.019	0.034	0.578	0.060	0.026	0.021
<b>Vote</b>												
0.36	0.253	0.218	0.245	0.051	0.053	0.336	0.152	0.097	0.119	0.044	0.074	0.549
0.58	0.139	0.119	0.243	-0.000	0.036	0.996	0.074	0.059	0.208	0.011	0.044	0.798
0.75	0.076	0.087	0.380	-0.030	0.029	0.296	0.027	0.044	0.543	-0.008	0.038	0.835
0.99	0.011	0.098	0.914	-0.057	0.028	0.043	-0.021	0.043	0.632	-0.025	0.046	0.579
1.44	-0.075	0.170	0.660	-0.077	0.036	0.030	-0.077	0.062	0.212	-0.041	0.060	0.494

Entries represent the difference in the probability of support for a given right between High and Low Skill natives at different relative skill compositions of the immigrant population, holding constant a set of socio-demographic characteristics. The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. Standard Errors clustered by Province and robust to heteroskedasticity. Model 4 interacts the impact of education/RSC with retirement status. Model 5 uses a occupation-based skill definition. The specification is similar to the one of Model 3, see Table 4. See Appendix B for the definition of the skill groups.

Table 8: Marginal Effects for Support for Rights by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level.  
 Robustness Check 2 - Model 6: By Province Immigration Level.

Relative Skill Composition	Low Immigration Province				High Immigration Province						
	Out of Labor Force		In the Labor Force		Out of Labor Force		In the Labor Force				
	Marginal Effect	Std. Err.	p-val	Std. Err.	Marginal Effect	Std. Err.	p-val	Std. Err.			
<b>Education</b>											
0.36	0.052	0.053	0.328	0.055	0.047	0.241	0.149	0.373	0.017	0.098	0.863
0.58	0.050	0.033	0.133	0.053	0.034	0.115	0.058	0.957	0.036	0.045	0.424
0.75	0.047	0.026	0.068	0.052	0.028	0.061	0.028	0.328	0.038	0.024	0.106
0.99	0.042	0.019	0.029	0.050	0.022	0.026	0.029	0.146	0.037	0.017	0.031
1.44	0.035	0.013	0.011	0.047	0.019	0.012	0.017	0.396	0.031	0.031	0.323
<b>Health</b>											
0.36	-0.195	0.117	0.095	-0.036	0.042	0.389	0.147	0.059	0.004	0.084	0.962
0.58	-0.146	0.084	0.081	-0.029	0.033	0.383	0.065	0.057	0.020	0.042	0.629
0.75	-0.122	0.071	0.085	-0.025	0.030	0.398	0.059	0.403	0.027	0.024	0.257
0.99	-0.097	0.061	0.114	-0.022	0.028	0.436	0.072	0.806	0.033	0.015	0.026
1.44	-0.066	0.056	0.238	-0.017	0.027	0.529	0.087	0.302	0.039	0.028	0.156
<b>Vote</b>											
0.36	0.316	0.126	0.012	0.003	0.045	0.939	0.172	0.365	0.039	0.051	0.450
0.58	0.262	0.111	0.019	-0.014	0.044	0.745	0.044	0.724	0.012	0.048	0.807
0.75	0.229	0.106	0.031	-0.024	0.042	0.573	-0.037	0.708	-0.014	0.037	0.696
0.99	0.193	0.102	0.058	-0.033	0.041	0.416	-0.107	0.181	-0.034	0.027	0.208
1.44	0.143	0.099	0.147	-0.043	0.038	0.264	-0.158	0.065	-0.035	0.025	0.154

Entries represent the difference in the probability of support for a given right between High and Low Skill natives at different relative skill compositions of the immigrant population and different rates of immigration at the Province level, holding constant a set of socio-demographic characteristics. A Low Immigration rate is set at 5% and a High Immigration rate is set at 15%. The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. Standard Errors clustered by Province and robust to heteroskedasticity. The specification is similar to the one of Model 3, see Table 4. See Appendix B for the definition of the skill groups.

Table 9: Marginal Effects for Support for Rights by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level.  
 Linear Probability Model

Relative Skill Composition	Model 1			Model 2			Model 3		
	Marg. Effect	Std. Err.	p-val	Marg. Effect	Std. Err.	p-val	Marg. Effect	Std. Err.	p-val
<b>Education</b>									
0.36	0.064	0.031	0.042	0.015	0.052	0.779	0.025	0.031	0.412
0.58	0.058	0.018	0.001	0.020	0.032	0.536	0.036	0.017	0.034
0.75	0.055	0.012	0.000	0.022	0.022	0.313	0.042	0.013	0.001
0.99	0.052	0.010	0.000	0.025	0.016	0.121	0.048	0.015	0.002
1.44	0.048	0.017	0.006	0.029	0.022	0.186	0.057	0.025	0.024
<b>Health</b>									
0.36	0.024	0.041	0.561	-0.132	0.102	0.196	0.021	0.044	0.625
0.58	0.030	0.024	0.218	-0.080	0.063	0.202	0.016	0.026	0.540
0.75	0.033	0.018	0.072	-0.051	0.047	0.279	0.013	0.020	0.524
0.99	0.036	0.019	0.054	-0.021	0.044	0.629	0.010	0.021	0.644
1.44	0.041	0.029	0.162	0.020	0.063	0.746	0.005	0.032	0.866
<b>Vote</b>									
0.36	0.209	0.068	0.002	0.408	0.135	0.003	0.104	0.066	0.114
0.58	0.142	0.038	0.000	0.202	0.086	0.019	0.047	0.040	0.242
0.75	0.105	0.028	0.000	0.088	0.077	0.252	0.016	0.036	0.657
0.99	0.066	0.030	0.025	-0.032	0.088	0.716	-0.017	0.043	0.687
1.44	0.012	0.049	0.799	-0.198	0.127	0.120	-0.063	0.064	0.325

The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. See Appendix B for the definition of the skill groups. Standard Errors clustered by Province and robust to heteroskedasticity. Model 1 includes basic socio-demographic controls, Model 2 adds further labor market controls, and Model 3 adds controls for non-economic preferences. All models include regional fixed effects. The selected RSC levels represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.



Table 10: Predicted Support for Naturalization by Schooling Level of Respondent and Relative Skill Composition of Immigrant Population at the Province Level. Probit Model. 2005-2007

Relative Skill Composition	$P(\text{Naturalization} \text{Schooling})$			Average Marginal Effect		
	Elementary	Intermed.	Higher	Higher-Elem	Std.Err.	p-value
<b>Model 1</b>						
0.36	0.753	0.849	0.965	0.212	0.052	0.000
0.61	0.776	0.853	0.932	0.156	0.023	0.000
0.79	0.787	0.855	0.908	0.121	0.016	0.000
1.02	0.797	0.857	0.878	0.081	0.012	0.000
1.91	0.822	0.861	0.781	-0.041	0.031	0.190
<b>Model 2</b>						
<i>Out of the Labor Force</i>						
0.36	0.741	0.773	0.949	0.208	0.061	0.001
0.61	0.760	0.826	0.917	0.157	0.035	0.000
0.79	0.769	0.849	0.896	0.127	0.032	0.000
1.02	0.777	0.870	0.872	0.095	0.039	0.016
1.91	0.798	0.912	0.798	0.000	0.087	1.000
<i>In the Labor Force</i>						
0.36	0.734	0.867	0.960	0.226	0.052	0.000
0.61	0.786	0.865	0.929	0.143	0.023	0.000
0.79	0.809	0.863	0.908	0.099	0.019	0.000
1.02	0.831	0.862	0.883	0.052	0.023	0.024
1.91	0.876	0.859	0.802	-0.074	0.053	0.161
<b>Model 3</b>						
<i>Out of the Labor Force</i>						
0.36	0.739	0.748	0.934	0.195	0.062	0.002
0.61	0.763	0.784	0.900	0.137	0.039	0.000
0.79	0.775	0.801	0.879	0.104	0.034	0.002
1.02	0.786	0.816	0.855	0.069	0.037	0.064
1.91	0.812	0.851	0.783	-0.029	0.082	0.719
<i>In the Labor Force</i>						
0.36	0.756	0.873	0.932	0.176	0.051	0.001
0.61	0.807	0.861	0.899	0.091	0.023	0.000
0.79	0.830	0.855	0.879	0.049	0.018	0.007
1.02	0.851	0.849	0.856	0.005	0.020	0.807
1.91	0.894	0.833	0.788	-0.106	0.049	0.030

The Relative Skill Composition (RSC) is the ratio of skilled to unskilled individuals in the native relative to the immigrant population at the Province level. See Appendix B for the definition of the skill groups. Standard Errors clustered by Province and robust to heteroskedasticity. Model 1 includes basic socio-demographic controls, Model 2 adds further labor market controls, and Model 3 adds controls for non-economic preferences. All models include regional fixed effects and a time dummy for the year 2007. The selected RSC levels represent the minimum, first, second, and third quartile, and maximum values, respectively, of this variable for the observations in our sample.

Table 11: Goodness-of-Fit Measures  
Likelihood Ratio Index

Model	Health and Education	Vote	Naturalization
M1: Baseline	0.074	0.046	0.052
M2: Labor Market Controls	0.119	0.101	0.064
M3: Full Set of Controls	0.171	0.169	0.202
<i>Robustness</i>			
M4: Retirement	0.170	0.171	
M5: Occupation Skill	0.168	0.168	
M6: Immigration Level	0.178	0.176	

Entries represent the Likelihood Ratio Index, i.e.  $1 - \ln L / \ln L_0$  where  $L$  is the likelihood of the estimated model and  $L_0$  is the likelihood of a model that only includes a constant term. Models M1-M6 refer to models 1 through 6 in Tables 4-8 & 10.

# Appendices

## A Proofs

Before showing the proofs for the different propositions of the paper it is useful to present the following Lemma.

**Lemma A.1.**  $\text{sgn}(\psi - \phi) = \text{sgn}(\alpha - \phi) = \text{sgn}(y_n - y_p)$  for  $\alpha = (\phi + \pi\psi)/(1 + \pi)$ .

*Proof.* For the first equality note that

$$\alpha - \phi = \frac{\phi + \pi\psi}{1 + \pi} - \phi = \frac{\pi(\psi - \phi)}{1 + \pi}$$

For the second equality note that

$$\begin{aligned} y_n - y_p &= w_u(\phi - \alpha) + w_s(1 - \phi - (1 - \alpha)) \\ &= (\alpha - \phi)(w_s - w_u) \end{aligned}$$

The result follows from  $w_s > w_u$  and the first equality in the Lemma. □

### A.1 Exogenous Immigration and Fixed Wages

#### Proof of Proposition 1

If we start from the status quo scenario and subsequently exclude immigrants from the fiscal system, the utility change for skilled natives will be

$$\begin{aligned} \Delta u_s &= u_s(\hat{\tau}, \hat{b}) - u_s(\tau^*, b^*) \\ &= w_s(\tau^* - \hat{\tau}) = -w_s \Delta \tau \end{aligned}$$

as wages are fixed.

The corresponding utility change for unskilled natives when starting at the status quo is approximated by

$$\begin{aligned} \Delta u_u &= u_u(\hat{\tau}, \hat{b}) - u_u(\tau^*, b^*) \\ &\approx \frac{\partial u_u(\tau^*, b^*)}{\partial \tau} (\hat{\tau} - \tau^*) + \frac{\partial u_u(\tau^*, b^*)}{\partial b} (\hat{b} - b^*) \end{aligned}$$

$$\begin{aligned}
&= -w_u \Delta\tau + \frac{\gamma}{1+b^*} \Delta b \\
&= -w_u \Delta\tau + \frac{\gamma}{1+b^*} (\hat{\tau} y_n - \tau^* y_p) \\
&= -w_u \Delta\tau + \frac{y_n}{\phi y_p} (\hat{\tau} y_n - \tau^* y_p) \\
&= -w_u \left( \frac{1}{y_p} - \frac{1}{y_n} \right) + \gamma y_n \left( \frac{1}{y_p} - \frac{1}{y_n} \right) \\
&= (\gamma y_n - w_u) \left( \frac{1}{y_p} - \frac{1}{y_n} \right)
\end{aligned}$$

using Lemma A.1 and the facts that  $y_n > w_u$  and  $\gamma > 1$ , it follows that whenever  $\psi > \phi$  then  $\Delta u_u > 0 > \Delta u_s$ , while  $\Delta u_u < 0 < \Delta u_s$  whenever  $\psi < \phi$ .  $\square$

## Proof of Proposition 2

If we start from the status quo and subsequently grant voting rights to immigrants, the utility change of skilled natives will be

$$\begin{aligned}
\Delta u_s &= u_s(\tilde{\tau}, \tilde{b}) - u_s(\tau^*, b^*) \\
&= w_s(\tau^* - \tilde{\tau}) = -w_s \Delta\tau
\end{aligned}$$

The corresponding utility change of unskilled natives when starting at the status quo is approximated by

$$\begin{aligned}
\Delta u_u &= u_u(\tilde{\tau}, \tilde{b}) - u_u(\tau^*, b^*) \\
&\approx \frac{\partial u_u(\tau^*, b^*)}{\partial \tau} (\tilde{\tau} - \tau^*) + \frac{\partial u_u(\tau^*, b^*)}{\partial b} (\tilde{b} - b^*) \\
&= -w_u \Delta\tau + \frac{\gamma}{1+b^*} (\Delta\tau) y_p \\
&= \left( \frac{\gamma y_p}{1+b^*} - w_u \right) \Delta\tau \\
&= \left( \frac{y_n}{\phi} - w_u \right) \Delta\tau
\end{aligned}$$

Substituting the optimal tax rates  $\tau^*$  and  $\tilde{\tau}$  we have that

$$\Delta\tau = \gamma \left( \frac{\alpha}{y_p} - \frac{\phi}{y_n} \right)$$

From this expression, Lemma A.1, and the fact that  $y_n > w_u$ , it follows that whenever  $\psi > \phi$  then  $\Delta u_u > 0 > \Delta u_s$ , while  $\Delta u_u < 0 < \Delta u_s$  whenever  $\psi < \phi$ .  $\square$

## A.2 Endogenous Immigration and Labor Market Effects

Before presenting the proofs for Propositions 3 and 4 we discuss some key results that follow when the economy produces only one good and immigration adjusts endogenously to changes in the fiscal policy.

Define the skill ratio in the economy  $k = L_s/L_u$ . Then it is easy to show that in a competitive equilibrium

$$\frac{\partial w_u}{\partial k} = -k \frac{\partial w_s}{\partial k} \quad (\text{A.1})$$

and

$$\frac{\partial w_s}{\partial k} < 0 \quad \frac{\partial w_u}{\partial k} > 0. \quad (\text{A.2})$$

Namely, the wages of the (un)skilled will (in)decrease as the skill ratio increases due to immigration (see for instance Dustmann and Preston, 2006; Facchini and Mayda, 2009). As mentioned in the text, we assume for simplicity that the stock of immigrants is fixed, but the skill mix of the immigrant workforce is variable.

If skilled labor is scarce in the economy, and the skill mix of the immigrant workforce increases there will be gains in the average income of natives  $y_n$  because it increases the immigration surplus. On the contrary, if skilled labor is abundant in the economy, a further increase in the skilled workforce due to immigration will lower the average income of natives because it reduces the immigration surplus.

In particular, recall that

$$y_n = \phi w_u + (1 - \phi) w_s$$

by using (A.1) it follows that

$$\begin{aligned} \frac{\partial y_n}{\partial k} &= \phi \frac{\partial w_u}{\partial k} + (1 - \phi) \frac{\partial w_s}{\partial k} \\ &= \frac{\partial w_s}{\partial k} (1 - \phi - \phi k) \end{aligned} \quad (\text{A.3})$$

This derivative will be negative if  $k < (1 - \phi)/\phi$  (i.e. if  $\phi < \psi$ ) and positive if  $k > (1 - \phi)/\phi$  (i.e. if  $\phi > \psi$ ) since  $\partial w_s/\partial k < 0$ .<sup>35</sup>

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<sup>35</sup>A marginal increase in the skills of immigrants, when they initially have the same skill mix as natives leaves the income of natives unchanged.

If the skill mix of the immigrant workforce increases, the per-capita income in the economy will rise. Note that we can write the per-capita income as

$$y_p = \alpha w_u + (1 - \alpha)w_s$$

for

$$\alpha = \frac{\phi + \pi\psi}{1 + \pi}$$

Hence,

$$\begin{aligned} \frac{\partial y_p}{\partial k} &= \left( (w_u - w_s) \frac{\partial \alpha}{\partial k} + \alpha \frac{\partial w_u}{\partial k} + (1 - \alpha) \frac{\partial w_s}{\partial k} \right) \\ &= (w_u - w_s) \frac{\partial \alpha}{\partial k} = (w_s - w_u) \alpha^2 > 0 \end{aligned} \quad (\text{A.4})$$

by (A.1), and the fact that

$$k = \frac{1 - \alpha}{\alpha} \quad \text{and} \quad w_s > w_u.$$

This means that an increase in the relative number of unskilled immigrants (i.e. a fall in  $k$ ) lowers the per-capita income in the economy.

**Lemma A.2.** *Assume the utility functions (2a) and (2b) are strictly concave in  $\tau$  when wages are flexible. Under the assumption of flexible wages define*

$$\tau_u = \arg \max_{\tau \in [0,1]} u_u \quad \tau_s = \arg \max_{\tau \in [0,1]} u_s$$

*If follows that*

i)  $\tau_u \geq \tau_s$

ii)  $\forall \tau \in (\tau_s, \tau_u)$  then  $u'_u(\tau) > 0$  and  $u'_s(\tau) < 0$

iii) For any  $\tau \in (\tau_s, \tau_u)$

$$\frac{\partial k(\tau)}{\partial \tau} < 0.$$

iv) For any  $\tau \in (\tau_s, \tau_u)$

a.  $\partial y_n(\tau)/\partial \tau > 0$  if  $\phi < \psi$

- b.  $\partial y_n(\tau)/\partial\tau < 0$  if  $\phi > \psi$
- c.  $\partial y_p(\tau)/\partial\tau < 0$

v) Let  $(\tau^o, \tau^v)$  be the tax rates that maximize  $W$  and  $\tilde{W}$  in (3) and (6) respectively, subject to the budget constraint (1) under the assumption of flexible wages. It follows that  $\tau^o, \tau^v \in [\tau_s, \tau_u]$

vi) Let  $(\bar{\tau}_s, \bar{\tau}_u)$  be the preferred tax rates of the skilled and unskilled individuals respectively when wages are fixed. Then  $\tau_u \leq \bar{\tau}_u$  and  $\tau_s \geq \bar{\tau}_s$ .

*Proof.*

i) Assume by contradiction that  $\tau_s > \tau_u$ , then from the concavity assumptions for the utility functions

$$u'_u(\tau) < 0 \quad \text{and} \quad u'_s(\tau) > 0 \quad \forall \tau \in (\tau_u, \tau_s).$$

Hence, as  $\tau$  rises (within the given range) more (un)skilled immigrants want to enter(leave) the economy, raising  $k$ , i.e.  $\partial k/\partial\tau > 0$ . This would imply

$$\frac{\partial w_s}{\partial\tau} = \frac{\partial w_s}{\partial k} \frac{\partial k}{\partial\tau} < 0$$

since  $\partial w_s/\partial k < 0$  (see (A.2)).

This implies that

$$u'_s(\tau) = -w_s + (1 - \tau) \frac{\partial w_s}{\partial\tau} < 0$$

which is in contradiction with the previous result that  $u'_s(\tau) > 0$ . So it must be that  $\tau_s \leq \tau_u$ .

ii) This follows immediately from the concavity assumptions for the utility functions and part i) of this lemma.

iii) By ii), for  $\tau \in (\tau_s, \tau_u)$  as  $\tau$  rises, more unskilled immigrants want to enter the economy, while some skilled natives leave. Thus, as  $\tau$  rises,  $k$  falls.

iv) The results follow from part iii), equations (A.3) and (A.4), and

$$\begin{aligned} \frac{\partial y_n}{\partial\tau} &= \frac{\partial y_n}{\partial k} \frac{\partial k}{\partial\tau} \\ \frac{\partial y_p}{\partial\tau} &= \frac{\partial y_p}{\partial k} \frac{\partial k}{\partial\tau} \end{aligned}$$

v) Consider the case of  $\tau^o$ . Suppose by contradiction that  $\tau^o < \tau_s$  then

$$u_j(\tau^o) < u_j(\tau_s) \quad \text{for} \quad j \in \{u, s\}$$

by the definition of  $(\tau_s, \tau_u)$  and part *ii*).

This implies that  $W(\tau^o) < W(\tau_s)$  for  $W$  defined in (3). Hence,  $\tau^o$  is not a maximum, leading to a contradiction.

A similar argument can be applied to show that  $\tau^o \leq \tau_u$  and  $\tau^o \in [\tau_s, \tau_u]$ .

*vi*) If wages are fixed, for the utility functions (2a) and (2b), it trivially follows that  $\bar{\tau}_s = 0$  and hence  $\tau_s \geq \bar{\tau}_s$ . Additionally,  $\bar{\tau}_u$  satisfies

$$-w_u(\bar{\tau}_u) + \frac{\gamma}{1 + \bar{\tau}_u y_p(\bar{\tau}_u)} y_p(\bar{\tau}_u) = 0$$

in case  $\bar{\tau}_u$  is an interior solution, otherwise  $\bar{\tau}_u = 1$ .

If wages are flexible

$$u'_u(\bar{\tau}_u) = -w_u(\bar{\tau}_u) + (1 - \bar{\tau}_u) \frac{\partial w_u(\bar{\tau}_u)}{\partial \tau} + \frac{\gamma}{1 + \bar{\tau}_u y_p(\bar{\tau}_u)} \left( y_p(\bar{\tau}_u) + \bar{\tau}_u \frac{\partial y_p(\bar{\tau}_u)}{\partial \tau} \right) < 0$$

since  $\partial y_p / \partial \tau < 0$  and  $\partial w_u / \partial \tau < 0$ .

Since  $u'_u(\tau_u) \geq 0$  and  $u''_u(\tau) < 0$ , this implies that  $\bar{\tau}_u > \tau_u$  for an interior solution, or  $\bar{\tau}_u = \tau_u = 1$  for a corner solution.  $\square$

### Proof of Proposition 3

Recall that  $\tau^o$  represents the optimal tax rate under the status quo when wages are flexible and immigration is endogenously determined. In other words,  $\tau^o$  is the tax level that satisfies the FOC (8). Additionally, the solution of the optimization problem when immigrants are excluded from the fiscal system is given by  $(\hat{\tau}, \hat{b})$  in equation (9).

The FOC of the optimization problem (3) when wages are flexible is given by

$$g(\tau) = -y_n(\tau) + \frac{\phi\gamma}{1 + \tau y_p(\tau)} y_p(\tau) + (1 - \tau) \frac{\partial y_n(\tau)}{\partial \tau} + \frac{\phi\gamma}{1 + \tau y_p(\tau)} \tau \frac{\partial y_p(\tau)}{\partial \tau} \quad (\text{A.5})$$

By definition, for interior solutions,  $\tau^o$  satisfies  $g(\tau^o) = 0$ . Additionally, we can write  $g(\hat{\tau})$  as

$$g(\hat{\tau}) = -y_n(\hat{\tau}) + \frac{1 + \hat{\tau} y_n(\hat{\tau})}{1 + \hat{\tau} y_p(\hat{\tau})} y_p(\hat{\tau}) + (1 - \hat{\tau}) \frac{\partial y_n(\hat{\tau})}{\partial \tau} + \frac{\phi\gamma}{1 + \hat{\tau} y_p(\hat{\tau})} \hat{\tau} \frac{\partial y_p(\hat{\tau})}{\partial \tau}$$

since  $1 + \hat{\tau} y_n(\hat{\tau}) = 1 + \hat{b} = \phi\gamma$ .

Simplifying the previous equation and noting that by (A.4)

$$\frac{\partial y_p}{\partial \tau} = \alpha'(\tau)(w_u - w_s)$$



we can rewrite  $g(\hat{\tau})$  as

$$g(\hat{\tau}) = \frac{y_p(\hat{\tau}) - y_n(\hat{\tau})}{1 + \hat{\tau}y_p(\hat{\tau})} - \frac{\phi\gamma\hat{\tau}}{1 + \hat{\tau}y_p(\hat{\tau})}\alpha'(\hat{\tau})(w_s(\hat{\tau}) - w_u(\hat{\tau})) + (1 - \hat{\tau})\frac{\partial y_n(\hat{\tau})}{\partial \tau}$$

and since  $y_n = \phi w_u + (1 - \phi)w_s$  and  $y_p = \alpha w_u + (1 - \alpha)w_s$  we thus arrive at

$$g(\hat{\tau}) = \frac{w_s(\hat{\tau}) - w_u(\hat{\tau})}{1 + \hat{\tau}y_p(\hat{\tau})} [\phi - \alpha(\hat{\tau}) - \phi\gamma\hat{\tau}\alpha'(\hat{\tau})] + (1 - \hat{\tau})\frac{\partial y_n(\hat{\tau})}{\partial \tau}$$

If  $g(\hat{\tau}) \geq 0$  then  $\hat{\tau} \leq \tau^o$ , otherwise  $\hat{\tau} > \tau^o$ .

Since we assumed  $\hat{\tau} \in (\tau_s, \tau_u)$ , if taxes rise as a result of barring immigrants from the fiscal system, i.e. if  $g(\hat{\tau}) < 0$ , then unskilled natives will be better off, and skilled natives will be worse off by such restriction (see Lemma A.2 *ii*). The opposite will occur whenever  $g(\hat{\tau}) > 0$ .  $\square$

### Proof of Proposition 4

Denote by  $\tau^v$  the interior solution of the “Full Rights” scenario under flexible wages and endogenous immigration.  $\tau^o$  is defined as before.

The FOC of the optimization problem (6) when wages are flexible is given by

$$h(\tau) = -y_p(\tau) + (1 - \tau)\frac{\partial y_p(\tau)}{\partial \tau} + \alpha'(\tau)\gamma \ln(1 + b) + \frac{\alpha(\tau)\gamma}{1 + \tau y_p(\tau)} \left( y_p(\tau) + \tau \frac{\partial y_p(\tau)}{\partial \tau} \right) \quad (\text{A.6})$$

In other words,  $h(\tau^v) = 0$  for interior solutions of the problem. If we evaluate  $h(\tau^o)$  and simplify using equation (8) we can write

$$h(\tau^o) = \left( \frac{\alpha(\tau^o)}{\phi} y_n(\tau^o) - y_p(\tau^o) \right) + \alpha'(\tau^o)\gamma \ln(1 + b^o) + (1 - \tau^o) \left( \frac{\partial y_p(\tau^o)}{\partial \tau} - \frac{\alpha(\tau^o)}{\phi} \frac{\partial y_n(\tau^o)}{\partial \tau} \right)$$

We can simplify the RHS of the previous equation by noting that

$$\frac{\alpha(\tau^o)}{\phi} y_n(\tau^o) - y_p(\tau^o) = \frac{\alpha(\tau^o) - \phi}{\phi} w_s(\tau^o).$$

Additionally, using equation (A.3) we can rewrite

$$\frac{\alpha(\tau^o)}{\phi} \frac{\partial y_n(\tau^o)}{\partial \tau} = \frac{\alpha(\tau^o) - \phi}{\phi} \frac{\partial w_s(\tau^o)}{\partial \tau}.$$

Thus

$$h(\tau^o) = \frac{\alpha(\tau^o) - \phi}{\phi} \left( w_s(\tau^o) - (1 - \tau^o) \frac{\partial w_s(\tau^o)}{\partial \tau} \right) + \alpha'(\tau^o) \gamma \ln(1 + b^o) + (1 - \tau^o) \frac{\partial y_p(\tau^o)}{\partial \tau}$$

If  $h(\tau^o) \geq 0$  then  $\tau^o \leq \tau^v$ , otherwise  $\tau^o > \tau^v$ .

Given that  $\tau^o \in (\tau_s, \tau_u)$  (Lemma A.2 *v*), if taxes rise as a result of letting immigrants vote, i.e. if  $h(\tau^o) > 0$ , then unskilled natives will be better off, and skilled natives will be worse off by the change (Lemma A.2 *ii*). The opposite will occur whenever  $h(\tau^o) < 0$ .  $\square$

## B Description of Independent Variables

Male - Dummy for male respondents

Age - Age of the respondent

Married - Dummy for married respondent

Devout Catholic - Dummy for Catholic respondent who goes to church at least once a week

### *Schooling*

Elementary - Illiterate, Completed or Incomplete Elementary Schooling (6 years or less),  
Basic Secondary (Basic Secondary Education (4 years) or Medium Level Professional  
Training)

Middle Education - Higher Secondary (Higher Secondary Education (2 years) or Higher  
Level Professional Training)

Higher Education - Technical, Bachelor's Degree or higher

Unemployed - Dummy for unemployed respondent

Labor Force Participation - Dummy for respondent in the workforce

### *Occupation*

Low-Skill - Manual and Agricultural Occupations

Intermediate Skill - Service Occupations

High-Skill - Professional and Managerial Occupations

Province Immigration Rate - Immigration rate at the province level. Source: Padrón Municipal Jan 1st-2006 and 2008.

Relative Skill Composition - Ratio of skilled to unskilled individuals in the native relative to the immigrant population at the province level. The skill composition of foreigners is

obtained by nationality from the 2001 Census and then imputed according to the share of each nationality in the province population in 2005 and 2007. For natives, this skill composition is obtained from the Encuesta de Población Activa for the 4th Qr-2005 and 3rd Qr-2007 at the province level. A skilled individual is considered anyone with higher secondary studies or more. The estimation refers to individuals of 16 years of age or older.

### *Preference for Diversity*

In 2005, answer to the question “If you had to choose a place to live, where would you prefer to do so?”

1. In a place where almost nobody was of an ethnic group or race different from the majority of Spaniards.”
2. In a place where some people were of an ethnic group or race different from the majority of Spaniards.”
3. I am indifferent.”
4. In a place where most of the people were of an ethnic group or race different from the majority of Spaniards.”

In the 2005-2007 panel, the variable measures the degree of agreement with this statement:

“It is better for a country that people with different religious/cultural/racial background live in it”

The answers take values 0 (“it is worse”), 1 (“it is irrelevant”), and 2 (“it is better”).

*Rejects other races* - Average of the answers to the two following questions:

“Considering the foreigners who come to live in Spain and who are from a different race or ethnic group than the majority of Spaniards...

1. How much would you care if one of these persons was your boss?”
2. How much would you care if one of these persons married a close relative of yours?”

The responses range from 0 to 10 according to degree of importance.

For the panel 2005-2007, in addition to the previous questions, the index includes whether a native cares about having immigrants as neighbors. For compatibility reasons between datasets, the variable is re-scaled between 1 and 3, higher numbers denoting a higher level of rejection.

*Perception on Impact of Immigration*

“Wages fall...” - Answer to the question: “In general, wages fall as a consequence of people coming to Spain to live and work.”

“Labor needed...”- Answer to the question: “In general, people coming to Spain to live and work allow the filling of vacant jobs for which there is insufficient workforce.”

The responses range from 0 to 4 according to degree of agreement in 2005 and in the 2005-2007 panel it is a binary variable.