The rhetoric of closed borders: quotas, lax enforcement and illegal migration*

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Abstract

Undocumented migration is widespread because official migration targets are poorly enforced. To understand why this occurs, we develop a political agency model with a random supply of migrants, where government preferences may be aligned or not with the median voter. While uncertainty can generate illegal immigration, the latter is exacerbated by reelection motives when the incumbent prefers more migrants than the majority. This is more likely to occur the more unequal is the income distribution, and the more pervasive is populism. Our empirical analysis using a panel of advanced countries provides strong support for the predictions of our model.

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"The single most critical issue to protect our nation is the securing of our borders and our ports. (...) At the same time, our government turns a blind eye to the thousands of people who illegally cross our borders. These scenarios exists because corporate America has convinced our leaders that this is one of the best ways to remain competitive" Lou Dobbs[1]

1 Introduction

Recent estimates suggest that in January 2009, 11 million individuals lived in the United States as undocumented aliens, representing approximately 3.5 percent of the total residents. Other major immigrant destinations also host large numbers of undocumented foreigners (see Dustmann and Frattini 2011). Hence, while governments typically try to limit the inflow of foreign workers, the observed large number of illegal immigrants indicates that the enforcement of official policies is often problematic.

A possible explanation is that the destination countries are simply unable to effectively implement their official migration stance. At the same time, Hanson and Spilimbergo (2001) and Fasani (2009) – amongst others – have argued that the lobbying activities of those sectors that intensively use illegal immigrants might be responsible for suboptimal policy enforcement. In particular, underfunding has been a chronic issue in the United States, the United Kingdom[2] and other countries. This evidence begs an important question. If governments are not willing to enforce their official migration targets, why do they set them in the first place? The purpose of this paper is to address this apparent puzzle by developing a political economy model that – to the best of our knowledge – is the first to endogenize both the setting of the official *immigration quota* and the extent of its *enforcement*. In particular, we show that an elected official might find it optimal to strategically set a migration target to please a majority of voters, while relaxing its enforcement to pursue a different objective, like maximizing social welfare or pleasing pro–migration interest groups.

We consider a small country, populated by a continuum of native individuals, each endowed with one unit of labor and different amounts of a fixed factor (which can be thought of as land or capital). To keep the analysis simple, immigrants are assumed to be endowed only with labor. Their presence decreases the return to domestic labor, increases the return to the fixed factor and gives rise to a congestion cost. As a result, richer natives will support a more open immigration

[1]Source: http://loudobbs.tv.cnn.com/category/broken-borders.

[2]In the United States, the final report of the Select Commission on Immigration and Refugee Policy instituted by the Carter administration strongly supported "... increased funding for the immigration and naturalization service" (Briggs 1982). A more recent immigration reform proposal (Reid et al. (2010)) continues to highlight the need for more investment in migration policy enforcement. In the UK, a recent report by the House of Commons Home Affairs Committee has pointed out that the resources available to the enforcement agency are grossly inadequate. See House of Commons, Home Affairs Committee (2011).

policy than their poorer counterparts, and since under typical wealth distribution the median voter is poorer than the average, he will prefer less immigrants than the average voter. The migration policy involves the choice of a *target* (quota) and an *enforcement* level. This setting has two important implications. First, illegal immigration can only arise if the target falls below the number of migrants willing to enter the country (i.e. in the absence of binding restrictions, there would be no notion of *illegal alien* as such). Second, the migration target is not simply an announcement but a policy that – by defining the number of migrants to be admitted legally – bears real consequences for the number of those entering illegally, if the target is not perfectly enforced.

To capture the role of electoral incentives in shaping policy, we develop a simple two–period model. A randomly appointed politician, facing uncertainty on the supply of foreign workers, chooses a migration policy at the beginning of the first period, and runs for election at its end. The incumbent can be either *populist*, with preferences that are perfectly aligned with those of the median voter, or *utilitarian* sharing the preferences of the average citizen. The public is not informed on the politician's type, but knows the distribution from which it is drawn. At the end of the first period, voters observe the official target and the actual number of foreign workers which have entered the country. Based on this information, they update their beliefs on the type of the incumbent and decide whether to re–elect or replace him with a challenger drawn from the same distribution. In the second period, the uncertainty on the supply of foreign workers is resolved, the elected politician chooses again the number of immigrants to be admitted and the world ends.

Uncertainty on the supply of foreign workers implies that during the first period perfect enforcement of the target is not possible: ex post, enforcement activities are either excessive (the actual number of migrants is lower than the target) or inadequate (the migration level is above the target). Yet, if the policy maximizing expected social surplus is chosen, the resulting migration level will be "constrained–efficient" and the (possibly) positive difference between the number of migrants that have entered the country and the target represents constrained–efficient *illegal immigration*. In this way, our model is able to capture the possibility that governments might be unable to enforce their official policy because of uncertainty on the immigrant supply. We also show that illegal immigration is more widespread, the more restrictive is the chosen migration target.

How do re-election incentives affect this outcome? Interestingly, we show that they might *increase* illegal immigration above the constrained-efficient level. In fact, an incumbent whose preferences diverge from those of the median voter faces the following trade–off. On the one hand, he wants to admit a larger number of migrants than the median; on the other, by doing so he will not be re–elected. As a result, he might find it optimal to set a target that responds to the median voter's preferences, while *underinvesting* in its enforcement to *de facto* admit more foreign

workers. The combination of uncertainty on the supply of migrants and asymmetric information between the policy maker and the electorate on the extent of enforcement imply that the incumbent may be successful in his attempt to "fool" the median voter. Thus, our model on the one hand explains illegal immigration as the result of limits in the government's policy tools (i.e. imperfect enforcement due to the uncertainty on the supply of foreign workers); on the other, it emphasizes that the very large number of undocumented foreigners observed in many destinations is likely to be the result of strategic under–investment driven by electoral concerns.

Illegal immigration is not only sizeable and widespread, but its importance differs substantially across countries. Our model suggests two possible mechanisms behind this stylized fact.[3] First, we show that greater income inequality always increases illegal immigration. This is true because, if inequality increases, a populist policy maker sets a more restrictive target, whereas a utilitarian one is more likely to under–invest in enforcement. Second, we highlight the key role played by the likelihood that a politician shares the median voter's preferences. In particular, we show that in societies where populist pressures are stronger, an equilibrium with under–investment will emerge more often, because utilitarian policy makers have more incentives to hang on to power.

To assess the empirical relevance of our theoretical model, we build a novel panel dataset covering eighteen advanced destination countries over the period 1982-2004. We construct a proxy for the yearly flow of illegal immigrants based on the number of rejected asylum applications reported by the United Nations High Commission on Refugees.[4] We combine this information with cross-country comparable measures of income inequality from **?**) and of policy makers' preferences from the Comparative Manifesto Project (Budge et al. 2001, Klingemann et al. 2006, and supplement it with a wealth of controls for characteristics of both destination and source countries. Our analysis provides strong support for the implications of the theoretical model. In fact, our preferred specification indicates that an increase by one standard deviation in income inequality leads to 213 more illegal immigrants per million individuals. As for the impact of populist pressures, we find that an increase by one standard deviation of the likelihood of populism leads to 132 more illegal immigrants per million individuals. This evidence suggests that the mechanisms we identified are not only significant drivers of illegal immigration, but that their quantitative impact is substantial.

The remainder of the paper is organized as follows. Section 2 discusses the related literature, whereas section 3 introduces the economic environment. Section 4 presents the political game and the main results, and in section 5 we carry out a series of comparative statics exercises. Section 6 illustrates the data we use in our empirical analysis while section 7 describes our results. Section

[3]We abstract here from the important role played by immigration amnesties that by their very nature affect the status of undocumented workers, as argued for instance by Casarico, Facchini, and Frattini (2011).

[4]By doing so, we follow the approach lied out in the Clandestino project (Triandafyllidou 2009) and the argument made by Hatton (2011).

8 concludes.

2 Related Literature

A large body of work has studied the desirability – from the point of view of the destination country – of immigration in general and, more specifically, of illegal immigration. For a small country, Berry and Soligo (1969) have shown that free migration is the welfare maximizing policy. At the same time, in a world with heterogenous agents, even policies that maximize aggregate welfare might lead to the creation of winners and losers, as has been argued for instance by Borjas (1995) and Hatton and Williamson (2006). The working of political economy forces, unleashed by the distributional effects of immigration, has resulted in the widespread use of restrictions to the free mobility of labor (Facchini and Mayda 2010) and several papers have developed models explaining the formation of policies towards overall migration (Benhabib 1996, Facchini and Willmann 2005 and Epstein and Nitzan 2006). Naturally, if immigration policies are binding, large numbers of potential migrants are not allowed to legally enter their desired destination. Some will be discouraged and decide not to emigrate, but others will try to enter illegally.

Several papers have considered the policies that should be implemented by a welfare maximizing government to limit the inflow of undocumented foreigners. In his pioneering contribution, Ethier (1986) develops a small country model to analyze the effectiveness of different instruments towards this end, considering both domestic and border enforcement. Bond and Chen (1987) have extended Ethier's work to a two country setting, allowing also for the possibility of capital mobility. Woodland and Yoshida (2006) have relaxed the assumption that the potential migrants are risk–neutral, to analyze the effects of different attitudes towards risk. Chau (2001) develops instead a model in which the use of immigration amnesties might be optimal in an environment in which border and domestic enforcement suffer from a credibility problem, i.e. they are time inconsistent. These papers provide rich frameworks in which both the decision to migrate and the effects of different policies in the destination countries are considered. At the same time, they do not explicitly analyze the role of political economy forces in shaping the demand side of illegal immigration, a factor that – as shown by Hanson and Spilimbergo (2001) and Fasani (2009) is likely to play an important role.

Several papers have developed political economy models of illegal immigration from the point of view of the host country. In an early contribution, Djajic (1987) looks at the level of enforcement that will be chosen by a government as the result of lobbying expenditure in a reduced form model a la Findlay and Wellisz (1982). Similarly, Chau (2003) uses a model with lobbying to study the political process through which border and domestic enforcement are chosen in equilibrium, and under which conditions an amnesty might be introduced. Importantly, in both these frameworks,

legal immigration is absent from the model and as a result, the only source of additional labor supply for the destination country's employers is represented by undocumented foreign workers. Hanson and Spilimbergo (2001) and Fasani (2009) develop a similar, simple reduced form lobbying model. Hillmann and Weiss (1999) focus instead on the sectoral dimension of immigration policy. In particular, they show that, even if the median voter in the destination country would prefer no migration at all, if illegal immigration has taken place, and domestic enforcement makes illegal immigrants a "sector specific" input, ex post illegal immigrants will be tolerated and further inflows will be allowed.

In our paper, we also study the political economy forces driving the presence of illegal immigration, but differently from the existing literature, in our model the phenomenon arises endogenously as the result of the migration policy chosen by the government (i.e the combination of an official quota and its enforcement). In our set-up, illegal immigration emerges whenever the number of foreign workers entering the country is higher than the official quota, and the number of illegals depends on the migration quota itself and on the investment in enforcement undertaken by the government.

To show how voter's imperfect information may lead to an inefficient policy, our analysis is carried out within a political agency framework, where the role of re-election incentives can be explicitly analyzed.[5] In political agency models, the voter (principal) uses elections to both provide incentives and select the best type of politician (agent). However, when information is imperfect, moral hazard and adverse selection arise. In other words, the voter might not be able to discipline the politician and retain what is, from his perspective, the best "type" of elected official. The contribution of our model to this literature is to propose a framework where the implementation of a given policy is costly because it requires an enforcement activity, and the policy itself as well as the investment in enforcement may be subject to strategic manipulation. Thus, our paper is also related to the literature on enforcement of laws and regulations. Research in this tradition (Stigler 1970 and Polinsky and Shavell 2007 among others) focuses on the optimal amount of resources to be used and the enforcement mechanisms to be chosen, with a particular attention to the working of those agencies responsible for detecting and sanctioning violators, and their potential to misbehave (Mukherjee and Png 1995, Banerjee 1997 and Pagano and Immordino 2010). Alongside this literature in economics, which analyzes the behavior of bureaucrats, several scholars in political science have stressed the influence of elected officials on regulatory policy. In particular, according to the so–called "congressional dominance" approach (Weingast and Moran 1983), elected representatives have several tools at their disposal to control subordinate agencies, one of the most important being the "power of the purse", i.e. the allocation of the budget (Calvert, Moran, and Weingast 1989).[6] In our analysis we also embrace the view that elected

[5]For an overview of political agency models, see Besley (2006).

[6]For a recent review of this literature, see Moe (2013).

politicians are "powerful", in the sense that they control both the setting of the policy target and its enforcement, and we provide a micro–foundation for the strategic behavior of officials facing rational voters in an asymmetric information setup. Thus, while our focus is on the design and enforcement of migration policy, our model has implications for a broad variety of economic environments in which elected officials set both standards and the corresponding enforcement level.

3 Economic Environment

Home is a small open economy producing a single good using labor E according to a production function $Y = F(E)$, with $F'(E) > 0$, $F''(E) < 0$. $F(E)$ is such that there exists a well-defined profit function associated to it, and the corresponding monetary payment can be interpreted as the compensation received by an immobile factor.[7] As for prices, let aggregate output be the numéraire, the real wage in Home be denoted by w, and the profit function be given by $\pi(w)$.

The economy is populated by a continuum of native individuals indexed by $i \in [0,1]$, whose mass is normalized to one. Every individual i supplies one unit of labor, and receives a fraction $\lambda_i > 0$ of the profits, with $\int \lambda_i di = 1$.[8] Furthermore, we assume the domestic wage under autarky to be larger than the wage prevailing in the rest of the world. Thus, abstracting from moving costs, foreign workers will always find it desirable to relocate to Home. To capture the uncertainty in immigration pressure, we assume the supply $\widehat{I}$ of migrants to be stochastic, and depending on the state of the world s, which can be either low (L) or high (H) with probabilities q and $1-q$ respectively. In particular, let $\hat{I}(L) = \underline{I} < \overline{I} = \hat{I}(H)$.

Admitting immigrants I leads to welfare gains for Home, which are bounded by the presence of a "congestion" cost $c(I)$, which is a differentiable, increasing and convex function. Limiting the migrant's inflow involves a policy enforcement cost $\eta(\hat{I}(s), I)$ that depends on the supply of foreign workers $\hat{I}(s)$ and the target I chosen by the government. For simplicity, we assume that $\eta(.)$ is a decreasing linear function of the migration target I (i.e. $\frac{\partial \eta(.)}{\partial I} < 0$, $\frac{\partial^2 \eta(.)}{\partial I} = 0$), and for any target, a larger supply $\hat{I}$ of migrants has a positive effect on both the total and marginal cost of enforcement (i.e. if $\overline{I} > \underline{I}$, $\eta(\overline{I}, I) > \eta(\underline{I}, I)$ and $| \frac{\partial \eta}{\partial I}(\overline{I}, I) | > | \frac{\partial \eta}{\partial I}(\underline{I}, I) |$ for all I). As a result, the supply of foreign workers $\widehat{I}$ can affect the optimal migration policy.[9]

[7] A natural candidate would be land, or alternatively capital.

[8] We assume the distribution of factor ownership to be atomless i.e., that every agent only owns a tiny fraction of the total supply of the fixed factor. Notice that if we denote with K_i agent's i supply of the fixed factor, $\int_I K_i di = K$. Since population size is normalized to 1, K is also the average supply of the fixed factor in the population. Define $\lambda_i = \frac{K_i}{K} > 0$. Then $E(\lambda_i) = \int_I \lambda_i di = 1$. In other words, λ_i can be interpreted as the holding of the fixed factor by agent i relative to the population average.

[9] An example of an enforcement cost function satisfying the above properties is given by $\eta_s = a_s(\hat{I}(s) - I)$, where $a_H > a_L$.

The utility of a native individual i, for a given state of the world s, can be written as

$$u_i(I, \widehat{I}(s)) = \lambda_i \pi[w(1+I)] + w(1+I) - c(I) - \eta[\widehat{I}(s), I] \tag{1}$$

where $1+I$ represents total employment of natives and migrants in the country.[10] The first term on the right hand side captures the individual's share of profits, the second his wage income, whereas the third and fourth terms indicate the congestion and the policy enforcement costs that are equally shared among all citizens.[11] As long as the congestion cost is sufficiently convex, the individual's utility function in equation 1 is concave and it is easy to show that

Lemma 1 *The number of immigrants $I_i^*(s)$ maximizing individual i's utility under the state of the world s is an increasing function of λ_i. Moreover $I_i^*(H) > I_i^*(L)$ and $\eta(\overline{I}, I_i^*(H)) > \eta(\underline{I}, I_i^*(L))$.*

Proof. The optimal number of migrants $I_i^*(\lambda_i)$ is the solution of the following first order condition

$$u_i'(I, \widehat{I}(s)) = -\lambda_i(1+I)w'(I) + w'(I) - c'(I) - \eta'(I, \widehat{I}(s)) = 0 \tag{2}$$

where we have used Hotelling's lemma ($\frac{d\pi}{dw} = -E$) and the factor market clearing condition $E = 1+I$. Equation 2 defines a function $g[I^*(\lambda_i), \lambda_i] \equiv u_i'(I, \widehat{I}(s)) = 0$ and applying the implicit function theorem, we have that

$$\frac{dI_i^*(\widehat{I}(s))}{d\lambda_i} = -\frac{\frac{\partial g}{\partial \lambda_i}}{\frac{\partial g}{\partial I}} \tag{3}$$

Given that the utility function in equation 1 is concave, $\frac{\partial g}{\partial I} < 0$. Notice that $\frac{\partial g}{\partial \lambda_i} = -(1+I)w'(I, \widehat{I}(s)) > 0$, which implies the result. Moreover, since $\mid \frac{\partial \eta}{\partial I}(\overline{I}, I) \mid > \mid \frac{\partial \eta}{\partial I}(\underline{I}, I) \mid$ for all I, for the first order condition to be satisfied, $I_i^*(H) > I_i^*(L)$. Furthermore, if $c(I)$ is sufficiently convex, $I_i^*(H) < I_{sup} < \overline{I}$, where $\eta(\overline{I}, I_{sup}) = \eta(\underline{I}, I_i^*(L))$. ■

Knowing the probability of each state of the world, i's expected utility can be written as

$$E[u_i(I)] = q u_i(I, \overline{I}) + (1-q) u_i(I, \underline{I}) \tag{4}$$

Thus given that $u_i(I)$ is linear in its stochastic component,[12] the migration target I_i^* maximizing expected utility is given by:

$$I_i^* = (1-q) I_i^*(L) + q I_i^*(H) \tag{5}$$

[10] In other words, native and immigrant labor are perfect substitutes in production. This assumption simplifies the analysis of model, and allowing for imperfect substitutability, while complicating the algebra, would not significantly affect our conclusions.

[11] In this model we abstract from explicitly considering the role played by welfare state consideration in shaping the optimal migration policy. Note that making the cost of the enforcement fall more on the average than the median citizen (the situation we would expect in the presence of a redistributive welfare system) would push the average citizen to have immigration preferences that are even farther away from those of the median.

[12] This implies that the policy maker is risk neutral.

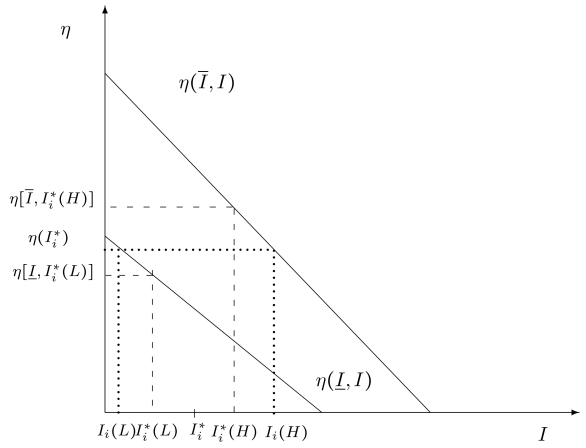

Figure 1: Illegal immigration

where $I_i^*(H)$ and $I_i^*(L)$ are respectively the optimal number of migrants under the high and low state of the world. Remembering that η is linear in I, the corresponding expected policy enforcement cost is given by:

$$\eta(I_i^*) \in (\eta[\underline{I}, I_i^*(L)], \eta[\overline{I}, I_i^*(H)]) \tag{6}$$

Note that since the enforcement budget is chosen under imperfect information on the state of the world, the migration target cannot be exactly met. In particular, ex–post, given the realized supply of foreign workers, the actual number of migrants, denoted by $I_i(s)$, is different from state contingent optimal target $I_i^*(s)$. To understand this point, consider figure 1, where we represent the enforcement cost functions under the two possible states of the world. If the state of the world is high, to obtain the optimal immigration level $I_i^*(H)$, individual i should spend $\eta[\overline{I}, I_i^*(H)]$. Hence, having spent only

$$\eta(I_i^*) \equiv (1-q)\eta[\underline{I}, I_i^*(L)] + q\eta[\overline{I}, I_i^*(H)] < \eta[\overline{I}, I_i^*(H)] \tag{7}$$

the actual number of migrants $I_i(H) > I_i^*$. At the same time, given the information constraint, I_i^* maximizes his expected utility. The difference $I_i(H) - I_i^*$ represents the number of *illegal immigrants*. On the other hand, if the state of the world is low, the individual over-invests in enforcement, and the number of immigrants actually entering the country – $I_i(L)$ – is lower than the target I_i^*. It is also useful to characterize the relationship between individual i's share of the fixed production factor and the number of illegal immigrants in the high state of the world:

Lemma 2 *Illegal immigration becomes less severe as λ_i increases.*

Proof. Illegal immigration occurs only if the state of the world is high, and is given by $I_i(H) - I_i^*$.

We are interested in studying the sign of $\frac{[\partial I_i(H) - I_i^*]}{\partial \lambda_i} = \frac{\partial I_i(H)}{\partial \lambda_i} - \frac{\partial I_i^*}{\partial \lambda_i}$. Note that

$$\frac{\partial I_i^*}{\partial \lambda_i} = (1-q)\frac{\partial I_i^*(L)}{\partial \lambda_i} + q\frac{\partial I_i^*(H)}{\partial \lambda_i} \tag{8}$$

To study $\frac{\partial I_i(H)}{\partial \lambda_i}$, remember that $I_i(H)$ is implicitly defined by the following condition

$$\eta\left(\overline{I}, I_i(H)\right) = \eta(I_i^*) = \Upsilon$$

where

$$\Upsilon = (1-q)\{(1-q)\eta[(\underline{I}, I_i^*(L)] + q\eta[\underline{I}, I_i^*(H)]\} + q\{(1-q)\eta[(\overline{I}, I_i^*(L)] + q\eta[\overline{I}, I_i^*(H)]\}$$

and since $\eta(\overline{I}, I_i)$ is monotonic in I_i we have $I_i(H) = \eta^{-1}\left(\overline{I}, \Upsilon\right)$. Some simple algebra allows us to show that

$$\frac{\partial I_i(H)}{\partial \lambda_i} = \left[(1-q)\frac{\partial I_i^*(L)}{\partial \lambda_i} + q\frac{\partial I_i^*(H)}{\partial \lambda_i}\right] \times \left\{\frac{\partial \eta^{-1}(\overline{I})}{\partial \Upsilon}\left[q\frac{\partial \eta(\overline{I})}{\partial I_i} + (1-q)\frac{\partial \eta(\underline{I})}{\partial I_i}\right] - 1\right\} \tag{9}$$

Note that $\frac{\partial \eta^{-1}(\overline{I})}{\partial \Upsilon}\frac{\partial \eta(\overline{I}, I_i)}{\partial I_i} = 1$ and that $\frac{\partial \eta^{-1}(\overline{I})}{\partial \Upsilon}\frac{\partial \eta(\underline{I}, I_i)}{\partial I_i} < 1$ since we have assumed that $|\ \frac{\partial \eta}{\partial I}(\overline{I}, I)\ | > |\ \frac{\partial \eta}{\partial I}(\underline{I}, I)\ |$. It follows immediately that $\frac{\partial I_i(H)}{\partial \lambda_i} < \frac{\partial I_i^*}{\partial \lambda_i}$, thus establishing the result. ■

Consider now two particular individuals b, p. The first is characterized by an ownership share λ_b equal to the country's average (i.e. $\lambda_b = 1$) and his preferences coincide in our setting with aggregate welfare.[13] The share λ_p of the second equals instead the country's median, and since preferences are single peaked, the policy preferred by p will defeat any alternative under majority voting with pairwise comparisons. Furthermore, we know that typical wealth distributions are such that $\lambda_p < 1$ (Alesina and Rodrik 1994). Thus, lemma 1 implies that social surplus maximization and majority voting will deliver different outcomes: the median voter prefers a smaller number of migrants (I_p^*), than the one maximizing social surplus (I_b^*), whereas his preferred enforcement spending is higher (i.e. $\eta(I_p^*) > \eta(I_b^*)$).

4 The game

Having presented the main features of the economic environment, we describe now the migration policy making process. We consider a model of elections with two periods; in each the politician

[13] In particular aggregate welfare $u(i)$ is given by

$$u(I) = \int_i [\lambda_i \pi(1+I) + w(1+I) - c(I) - \eta(\hat{I}(s), I)]di = \pi(1+I) + w(1+I) - c(I) - \eta(\hat{I}(s), I)$$

Since $E(\lambda_i) = 1$, aggregate welfare coincides with average welfare.

in office chooses a migration policy. Between periods there is an election, in which voters decide whether to re–elect or not the incumbent, and the median voter plays a decisive role. Politicians may be one of two types: "populist", with preferences perfectly aligned with the median voter, and "utilitarian" (or Bethamite), with preferences aligned with the average voter. Thus we label the politician's type by $g \in \{p, b\}$. A politician g maximizes his expected intertemporal utility given by $U_g(I) = E[u_{g,1}(I, \hat{I}(s))] + \sigma u_{g,2}$ where $u_{g,t}$, $t = 1, 2$ are the per period payoffs defined in equation 1, σ is the probability of re-election, and the future is not discounted.

4.1 Information and timing

The types of the first period incumbent and challenger are draws from an identical distribution. The probabilities that the politician is populist or utilitarian are denoted by μ and $1-\mu$ respectively. The type of the politician is only known to himself, whereas the distribution of types is common knowledge. In the first period, the supply of foreign workers $\widehat{I}(s)$ is not observed either by the politician or the public, but they both know its distribution. Thus, in the first period the incumbent chooses a migration policy prescribing a target and the amount of resources to be spent on enforcement, under imperfect information on the actual supply of foreign workers. Voters, having observed the target and the actual number of migrants, but neither their true supply nor the amount of resources spent on enforcement, revise their beliefs on the incumbent's type according to Bayes rule, and choose whether to re–elect or replace him with a challenger. In the second period, the state of the world is revealed, the elected politician chooses again the number of immigrants to be admitted and the world ends.[14]

4.2 Equilibrium

The above structure defines a game of incomplete information between voters and politicians that can be solved by backward induction. A perfect Bayesian equilibrium of this game consists of a migration policy, a voting rule and set of beliefs such that (a) voters' beliefs are generated by Bayesian updating, (b) the voting rule is optimal given the voters' beliefs and the politicians' strategies and (c) the incumbent's strategy is optimal given the voters' beliefs and the opponent's and voters' strategies.

In the second period, because there are no further elections, the incumbent chooses the policy maximizing his own utility. Moreover, because he can observe the supply of foreign workers, he chooses the optimal amount of enforcement (i.e. there is no illegal immigration). In the first

[14]Note that as argued in the literature (see Coate and Morris (1995) and Harrington (1993) among others), a two-period model is the simplest finite horizon set-up in which the incentives provided by elections can be studied. It is of course possible to consider a finite horizon model with several elections. In this case, applying backward induction, the main thrust of our analysis would not be altered.

period, the policy choice is more complex because of re-election concerns, and it crucially depends on voters' beliefs. Let $P[g = p|I_g, I(s)]$ be the ex-post probability that the incumbent (g) is a populist (p) when the observed number of migrants is $I(s)$ and the target is I_g. We focus on *monotonic beliefs* which have the following property:[15] whenever the median voter observes a migration target and a number of migrants coinciding with his most preferred one, he does not revise downward the probability that the incumbent has his same preferences, and viceversa.

Since beliefs are monotonic, a populist incumbent will always choose the policy preferred by the median voter because, by doing otherwise, he cannot strengthen his reputation of being a populist, and hence increase his chances of re-election. The same logic does not apply to the utilitarian type though. In the first period, if he chooses the migration policy preferred by the average voter (*sincere strategy*), he can only decrease his ex-post probability of being considered a populist, whereas by "pooling" with a populist, he may raise it. Given the assumption of monotonic beliefs, in order to "pool", the utilitarian politician must (i) set the median voter's most preferred target I_p^*; and (ii) choose a level of enforcement that allows him to replicate the same number of migrants admitted by a populist at least under some state of the world.[16] This is possible under three strategies. First, the amount spent on enforcement coincides with $\eta(I_p^*)$, so that the number of migrants admitted always equals the one chosen by a populist. We label this strategy "*mimicking*". Second, the enforcement expenditure could be set at a level $\eta_u < \eta(I_p^*)$ such that, if the state of the world is low, the migration level $I_b^u(L)$ equals that generated by a populist type under the high state of the world, i.e. $I_b^u(L) = I_p(H)$. On the other hand, if the state of the world is high, the number of foreign workers entering the country will be higher than the upper-bound obtained by the populist, i.e. $I_b^u(H) > I_p(H)$. We label this strategy "*under–investment*". Third, enforcement could be set at a level $\eta_o > \eta(I_p^*)$ allowing to "pool" with the populist only if the state of the world is high, whereas if it is low, the number of migrants will be smaller than the lower-bound obtained by the populist i.e. $I_b^o(L) < I_p(L)$. Note that in the last scenario illegal immigration will never arise, and for this reason we focus on the first two strategies, i.e. those relevant for the analysis of illegal immigration.[17]

We are now ready to describe the process of updating voters' beliefs. Given that a populist politician always chooses the migration target and the enforcement level preferred by the median voter, whenever the median voter observes a target different from I_p^* or a level of migration different from either $I_p(H)$ or $I_p(L)$, he concludes that the incumbent is utilitarian. On the other hand, denoting by γ_s the probability that a utilitarian incumbent admits a total number $I_p(H)$ of migrants when the state of the world is $s \in \{H, L\}$, then if voters observe the target I_p^* and

[15] In doing so we follow Coate and Morris (1995). This insures that a populist politician will not have incentives to distort his policy. An alternative assumption leading to the same equilibrium outcome would be that the populist does not behave strategically. See Besley and Smart (2007).

[16] In particular, (i) and (ii) imply that he will never choose a policy $[I_p^*, \eta(I_b^*)]$.

[17] We refer the interested reader to Facchini and Testa (2010) for the full characterization of the equilibrium.

the outcome $I_p(H)$, the ex-post probability that the incumbent is a populist can be computed as follows:

$$P[g = p|I_p^*, I_p(H)] = \frac{\mu q}{\mu q + q(1-\mu)\gamma_H + (1-q)(1-\mu)\gamma_L}$$

where μq is the probability that $I_p(H)$ is generated by a populist, $q(1-\mu)\gamma_H$ is the probability that it is generated by a utilitarian type mimicking the populist, and $(1-q)(1-\mu)\gamma_L$ is the probability that it is generated by a utilitarian type under-investing in enforcement. In the remainder of our analysis, to save on notation, we will drop the target I_p^* from the definition of the conditional probabilities, as it is the same under all strategies we consider.

If mimicking is chosen, then $\gamma_H = 1$ and $\gamma_L = 0$, which implies that $P[g = p|I_p(H)] = \mu$, i.e. the ex-ante and ex-post probabilities of the incumbent being populist are the same. On the other hand, if under–investment is chosen , then $\gamma_H = 0$ and $\gamma_L = 1$, and:

$$P[g = p|I_p(H)] = \frac{\mu q}{\mu q + (1-q)(1-\mu)}$$

Note that $\frac{\mu q}{\mu q+(1-q)(1-\mu)} > \mu$ if and only if $q > \frac{1}{2}$. In other words, under–investment can generate an upward revision of the ex-ante probability that the incumbent is a populist only if "pooling" is sufficiently costly for the utilitarian incumbent (i.e. q is sufficiently large). This is because the larger is q, the higher is the probability that by under-investing he will end up revealing his type.

Given this structure of beliefs, the sequentially rational voting rule for the median voter is to retain the incumbent if and only if he believes that the ex-post probability that the incumbent is a populist is strictly larger than the ex-ante probability, i.e. $P[g = p|I(s)] > \mu$.[18] Based on the voting strategy described above, mimicking is never optimal because in this case $P[g = p|I_p(H)] = \mu$. For the same reason, if $q \leq 1/2$, under-investment cannot be optimal. On the other hand, if $q > \frac{1}{2}$, under-investment might be optimal because if the state of the world turns out to be low, the incumbent is re-elected, and in the second period he will be able to choose his most preferred number of migrants $I_b^*(L)$.[19] On the other hand, if the state of the world is high, he will be replaced by a challenger who is populist with probability μ and utilitarian with probability $1-\mu$. Thus his expected payoff from *under–investment* can be written as:

$$U(under) = (1-q)u[I_p(H)] + qu[I_b^u(H)] + (1-q)u[I_b^*(L)] + q\{\mu u[I_p^*(H)] + (1-\mu)u[I_b^*(H)]\}$$

[18] If $P[g = p|I] > \mu$, then for the median voter it is not optimal to replace the incumbent with a challenger that has a lower probability of being populist, and the opposite is true if $P[g = p|I] < \mu$. Finally, if $P[g = p|I] = \mu$, dismissing the incumbent is optimal because it induces revelation of types. To see this, first note that when $P[g = p|I] = \mu$, dismissing the incumbent is a credible punishment because the median voter is indifferent between keeping him and replacing him with somebody with the same probability of being a populist. Second, since mimicking does not increase re-election chances, the utilitarian politician prefers choosing the social surplus maximizing policy, thus revealing his type.

[19] Re-election incentives in our setup are driven by policy motivation. Adding an ego rent or any other perk from office would of course only strengthen the effect of the electoral incentives.

On the other hand, if the utilitarian plays *sincere*, he will be replaced by a challenger and his expected payoff is given by:

$$\begin{aligned} U(sincere) &= (1-q)u[I_b(L)] + qu[I_b(H)] + \\ &+ \mu\{qu[I_p^*(H)] + (1-q)u[I_p^*(L)]\} + (1-\mu)\{qu[I_b^*(H)] + (1-q)u[I_b^*(L)]\} \end{aligned}$$

Some additional notation is useful to characterize the case where $U(under) > U(sincere)$. Let $\Delta_H^1 U(under) = u[I_b^u(H)] - u[I_b(H)]$ be the first period utility difference from choosing under–investment rather than the sincere strategy if the state of the world is *high* . Similarly, let $\Delta_L^1 U(under) = u[I_p(H)] - u[I_b(L)]$ be the first period utility difference when the state of the world is *low*. Finally, let $\Delta^2 U(under) = u[I_b^*(L)] - u[I_p^*(L)] > 0$ be the second period utility gain from being in power, when the state of the world is low as compared to being replaced by a populist challenger. Under–investment is preferred if the following holds:

$$-[q\Delta_H^1 U(under) + (1-q)\Delta_L^1 U(under)] < (1-q)\mu\Delta^2 U(under) \tag{10}$$

The left-hand side of the inequality represents the first period expected utility loss from under–investment: since the maximization of the one period expected utility requires an enforcement level $\eta(I_b^*) > \eta_u$, by underinvesting the utilitarian incumbent incurs a utility loss given by $[q\Delta_H^1 U(under) + (1-q)\Delta_L^1 U(under)] < 0$. The right hand side represents the expected second period gain from under–investment: if the state of the world is low (which happens with probability $1-q$), the utilitarian incumbent will obtain his most preferred level of migration in the second period. Since by playing sincere he could obtain the same gain with the lower probability $(1-q)(1-\mu)$, the expected gain is given by $(1-q)\mu\Delta^2 U(under)$.

We are now ready to characterize the equilibrium of our game:

Proposition 1 *Let* $\widetilde{\mu}_u = -\frac{(1-q)\Delta_H^1 U(under) + q\Delta_L^1 U(under)}{(1-q)\Delta^2 U(under)} > 0$. *If* $q > \frac{1}{2}$ *and* $\mu > \widetilde{\mu}_u$, *there exists a pooling equilibrium with under–investment whereby, if* $s = L$, *the utilitarian incumbent admits* $I_p(H)$ *migrants and is re-elected, whereas if* $s = H$, $I_b^u(H)$ *migrants are admitted and the incumbent is voted out of office. If* $q > \frac{1}{2}$ *and* $\mu < \widetilde{\mu}_u$, *there exists instead a separating equilibrium such that* $I_b(L)$ *migrants are admitted if* $s = L$, $I_b(H)$ *are admitted if* $s = H$, *and the incumbent is never re-elected. Finally, if* $q \leq \frac{1}{2}$ *the utilitarian incumbent plays sincere and is not re-elected.*

Proof. To establish the first part of the proposition, note that under–investment is optimal if and only if equation 10 is satisfied, that is if and only if $\mu > \widetilde{\mu}_u = -\frac{(1-q)\Delta_H^1 U(under) + q\Delta_L^1 U(under)}{(1-q)\Delta^2 U(under)} > 0$. The second part follows immediately from $P[g = p|I(s)] = \mu$ if $q \leq \frac{1}{2}$. ■

The first part of the proposition points out that electoral incentives might induce the utilitarian politician to admit on purpose more migrants than the number specified under his official target,

by strategically under-investing in enforcement. Next, we show that the same incentives raise illegal immigration above the level implied purely by imperfect information on the true supply of foreign workers:

Proposition 2 *An equilibrium with under–investment always involves the presence of illegal immigration, and the number of illegal immigrants is larger than in the separating equilibrium.*

Proof. In an equilibrium with under–investment, the number of illegal immigrants is $I_p(H) - I_p^* > 0$ if $s = L$, and $I_b^u(H) - I_p^* > 0$ if $s = H$. In the separating equilibrium there are no illegal immigrants if $s = L$, as $I_b^* - I_b(L) < 0$. To establish the second part of the proposition, notice that when $s = H$ and the utilitarian politician plays the sincere strategy, the number of illegal immigrants is given by

$$I_b(H) - I_b^* \equiv q[I_b(H) - I_b(L)] \tag{11}$$

On the other hand, when $s = H$ and he under-invests, then the number of illegal immigrants is given by

$$I_b^u(H) - I_p^* \equiv [I_b^u(H) - I_p(H)] + q[I_p(H) - I_p(L)] \tag{12}$$

Since $\eta(I_p^*) > \eta_U$ then $[I_b^u(H) - I_p(H)] > 0$. Furthermore, as $\eta(I_p^*) > \eta(I_b^*)$ and $| \frac{\partial \eta}{\partial I}(\overline{I}, I) | > | \frac{\partial \eta}{\partial I}(\underline{I}, I) |$, then $[I_p(H) - I_p(L)] > [I_b(H) - I_b(L)]$, thus establishing the result. ■

5 Preferences Heterogeneity and illegal immigration

Our model shows that the desire to win the median voter's support can induce a utilitarian politician to 'distort' his migration policy. Since heterogeneity of preferences is crucial for this result, in this section we further explore the role played by *i*) the fixed factor's ownership distribution (income inequality) and *ii*) the likelihood that the politician has preferences aligned with the median voter.[20] To assess the role of income inequality, we study how the incentives to under–invest change with the share of the fixed factor owned by the median voter. To this end, let $L_1(\lambda_p) = -[q\Delta_H^1 U(under) + (1-q)\Delta_L^1 U(under)]$ be the first period expected loss incurred by the utilitarian politician by under-investing and let $G_2(\lambda_p) = (1-q)\mu\Delta^2 U(under)$ be the second period expected gain. As λ_p decreases, the number of migrants admitted by a populist politician in the second period decreases. As a result, the utilitarian politician has more to gain from remaining in office, implying that $G_2(\lambda_p)$ is a decreasing function of λ_p, which tends to zero as λ_p approaches one, reaching its maximum as λ_p tends to zero. On the other hand, $L_1(\lambda_p)$ crucially

[20] An additional comparative statics exercise could have involved a change in the enforcement cost across countries. In our setting an increase in the policy enforcement cost unambiguously leads to an increase in the number of legal immigrants to be admitted. At the same time, under our assumption on the form of the utility function, this will not affect the incentives faced by the utilitarian politician. The formal argument is available upon request.

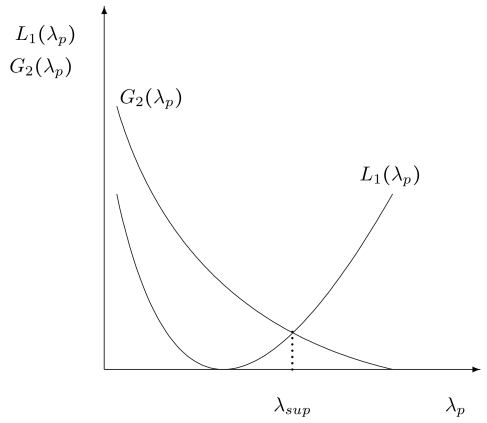

Figure 2: Varying income inequality

depends on the difference between the amount of resources spent on enforcement in the politician chooses to under–invest (η_U) rather than the sincere strategy ($\eta(I_b^*)$). Clearly, if $\eta_U = \eta(I_b^*)$, then the number of migrants admitted with under-investment coincides with the one obtained with the sincere strategy, and the expected loss equals zero. As we depart from this point (either by increasing or decreasing η_U), the expected loss will increase, because the further away is η_U from $\eta(I_b^*)$, the larger is the gap between the number of migrants entering the country in the two cases. Remembering that η_U decreases with λ_p,[21] we can represent the two relationships on the same diagram, with $0 < \lambda_p \leq 1$. Assuming that $G_2(\lambda_p)$ is flatter than $L_1(\lambda_p)$ as λ_p tends to zero, if the largest possible gain is bigger than the corresponding loss – as illustrated in figure 2 – there exists a unique value λ_{sup} of the median voter's capital share such that the two curves intersect. As a result, we have that:

Proposition 3 *Assume that proposition 1 holds and* $\lim_{\lambda_p \to 0} G_2(\lambda_p) > \lim_{\lambda_p \to 0} L_1(\lambda_p)$. *Then an equilibrium with under–investment arises for all* $\lambda_p < \lambda_{sup}$, *whereas a separating equilibrium arises if* $\lambda_p > \lambda_{sup}$.

Thus, if the median voter's share of profits is sufficiently close to the average (i.e. $\lambda_p > \lambda_{sup}$), then a utilitarian politician will not raise illegal immigration above the 'constrained efficient' level by carrying out strategic under–investment. As a result, if $\lambda_p > \lambda_{sup}$ the number of migrants admitted legally will be higher and the number entering illegally will be lower than if $\lambda_p < \lambda_{sup}$.[22] Hence, one interesting prediction of our model is that under–investment with inefficiently high illegal immigration is less likely to occur in countries where there is less inequality in the distribution of assets among the domestic population.

[21] As λ_p increases, the populist's migration target increases and his enforcement spending decreases. Thus the spending required for the under-investment strategy declines.

[22] Note that if instead $\lim_{\lambda_p \to 0} G_2(\lambda_p) < \lim_{\lambda_p \to 0} L_1(\lambda_p)$, then there exists a λ_{inf} such that an equilibrium with under–investment will arise if $\lambda_{inf} < \lambda_p < \lambda_{sup}$.

Our model allows us also to consider the role of political representation, by analyzing the effect of the likelihood μ that the politician has preferences aligned with those of the median voter. Using the characterization of the gain and loss functions represented in figure 2, it is immediate to see that as μ increases, the expected gain function $G_2(\lambda_p)$ shifts upwards, leaving the expected loss function $L_1(\lambda_p)$ unaffected. This results in an increase in the range of λ_p values where an equilibrium with under–investment arises. Formally:

Proposition 4 *Suppose that proposition 1 holds. For a given λ_p, an equilibrium with under–investment is more likely to arise the larger is the ex-ante probability μ that the politician is populist.*

Thus, a utilitarian politician has more incentives to under–invest when the preferences of the median voter are more likely to be represented in the political arena.

6 Empirical strategy and data

Our theoretical analysis indicates that illegal immigration arises because of two reasons. On the one hand, the government might be unable to enforce its migration policy target because the ex–post supply of immigrants is larger than expected. In this case, the more restrictive is the target he sets, the larger will be the number of illegal migrants (lemma 2). On the other hand, the policy maker might strategically choose to under–invest in immigration policy enforcement because of re–election concerns, and the divergence of preferences between the incumbent and the median voter is the driving force behind strategic under–investment. In particular, a utilitarian government is more likely to under–invest the further away his preferences are from the median voter (proposition 3), and the larger is the likelihood that the median voter's preferences are represented in the political race (proposition 4).

Thus, our model delivers a series of testable predictions linking the number of illegal immigrants to the extent of heterogeneity in preferences in the destination country, captured by the parameter λ_p, and the pervasiveness of populist pressures, captured by the parameter μ . The *heterogeneity of preferences* channel is at work with both types of politicians. In particular, if inequality increases, a populist incumbent sets a more restrictive target, whereas a utilitarian one is more likely to resort to under-investment. Thus, in both scenarios an increase in income inequality leads to higher illegal immigration. The *populist pressures* channel, on the other hand, only affects the behavior of the utilitarian politician, which is more likely to under-invest, the larger is the ex–ante probability μ that a candidate shares the median voter's preferences. Hence, we expect a positive correlation between illegal immigration and the likelihood of populism in the destination country only if the incumbent politician is utilitarian.

6.1 Data

Migration policy and its enforcement are set at the national level. Thus, our empirical analysis will be based on a novel, rich panel dataset which covers eighteen advanced immigration countries over the period 1982–2004.[23] The first challenge we have faced in constructing it involves obtaining a measure of illegal immigration flows, which is comparable across countries and over time. To the best of our knowledge, the only available cross-country estimates have been collected by the Clandestino project (Triandafyllidou 2009),[24] but cover only a very limited number of countries and years.[25] In constructing estimates for illegal immigration flows Triandafyllidou (2009) has extensively used information on asylum applications, which are systematically collected by the United Nations High Commissioner on Refugees (UNHCR). UNHCR not only reports figures for the number of asylum applicants, but more importantly, it also records information on the number of applications that are rejected. Asylum is an important channel of entry of migrants in advanced destination countries. On average, in our sample, asylum applications represent over 20 percent of the migration flow in a given year, whereas rejections represent approximately 11.5 percent.[26] Figure 3 plots the evolution over time of applications and first instance rejections normalized by the population of the country of asylum.[27] As we can see, the importance of asylum seeking varies substantially, with the Scandinavian and the German speaking areas receiving a particularly large number of applications. Southern European countries, on the other hand, are less important destinations. Furthermore, we can observe substantial fluctuations over time, and broadly speaking we can identify two peaks: The first one coincides with the fall of the Berlin wall, and the second one with the late nineties (Hatton 2011).

As illustrated in Figure 3, the majority of asylum applicants are not granted refugee status, because the applicants are not perceived to meet the requirements laid out by the "Geneva Convention Relating to the Status of Refugees" (see also Hatton 2011).[28] The fate of failed asylum seekers is particularly relevant for our analysis. In fact, there is ample evidence that unsuccessful

[23] For the exact definition of the variables used in the analysis, see the Appendix.

[24] The data are available at: http://irregular-migration.net//.

[25] In particular, data are available for three countries and up a maximum of eight years.

[26] Source: author's calculations based on asylum applications data and immigration flows data compiled by the United Nations Population Division. See http://esa.un.org/MigFlows/MigrationFlows.html.

[27] In focusing on first instance rejection we follow the literature (Hatton 2011). Notice that the asylum procedure often allows appeals, that are successful in approximately six percent of all cases. The problem with these figures is that – since appeal procedure often take several years – it is not possible to attribute an acceptance in second instance to a particular calendar year. Our sample ends in 2004, as after this date first instance and appeal rejections decisions are added up in the UNCHR statistical yearbook, leading to a double counting of rejection cases.

[28] Article 1 (A2), of the Geneva convention defines a refugee as a person who: owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.

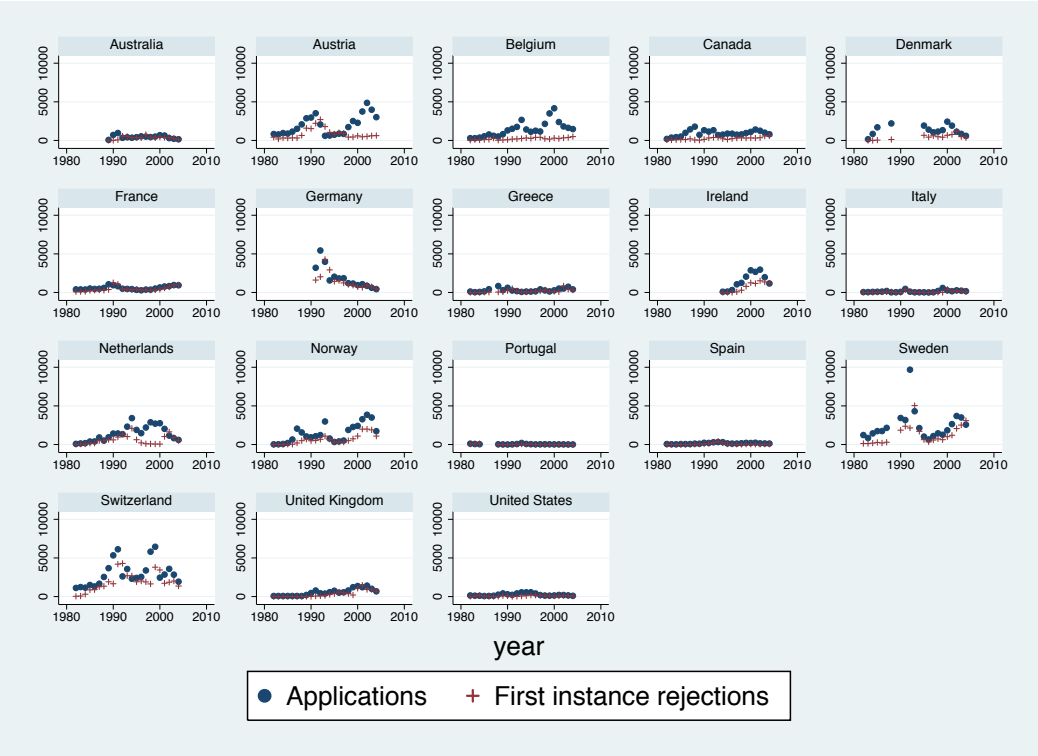

Figure 3: Asylum applications and rejections

applicants remain in the country where they sought asylum and become illegal immigrants (Hatton 2011, Hatton and Williamson 2005), and that rejected asylum seekers are a very important component of illegal immigration flows. For instance, Gordon et al. (2009) estimate that they represented two thirds of the illegal migrants in the UK in 2001. Therefore, failed asylum applications provide very useful information, and we use them to construct our proxy of illegal immigration, which is given by the number of first instance rejections normalized by the population of the country of asylum.

Our theoretical model indicates that income inequality and the extent of populist pressures in the destination country play an important role in shaping illegal immigration flows. Thus, for our empirical analysis we need information both on the income distribution and the preferences of politicians. To measure the former, we use the net income inequality Gini coefficient from the Standardized World Income Inequality Database constructed by Solt (2009). As for the latter, we take advantage of the very detailed information contained in the Comparative Manifesto Project (CMP) (Budge et al. 2001 and Klingemann et al. 2006) which assess the policy positions of parties competing in democratic elections in a large group of advanced countries. In particular, the CMP carries out a detailed content analysis of party manifestos, which aims at discovering party stances by quantifying their statements and messages to the electorate. To this end, manifestos are partitioned in basic textual units called "quasi–sentences", which are coded using 56 policy categories. For each category the number of quasi-sentences is counted, and reported as a percent-

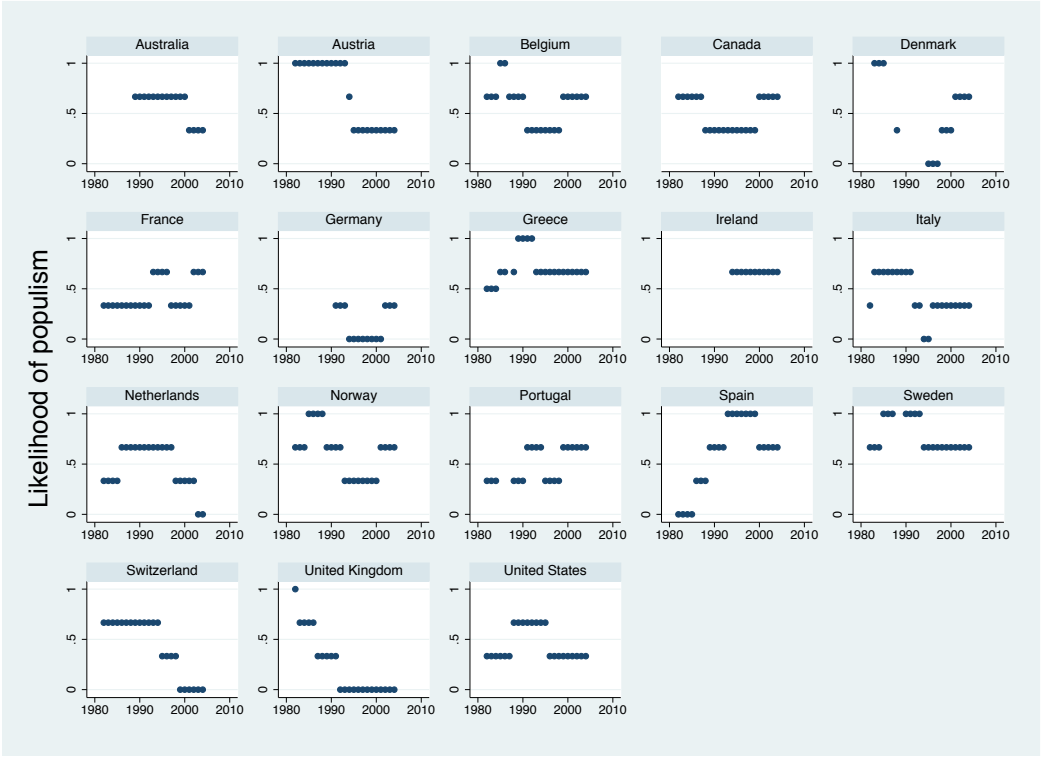

Figure 4: Likelihood of populism

age of the total number of quasi-sentences in the manifesto. These figures are the measures of the political stance of a party, which are reported in the CMP database, and can then be combined with information on each party's vote share, to identify the position of the government and that of the median voter.[29] By covering more than fifty countries and with data available for up to sixty–five years, this is the most complete data source available to map party policy preferences.

In our simple setting, a utilitarian politician will introduce restrictions to the mobility of workers that are not warranted by the maximization of the natives' aggregate welfare. In other words, as long as allocative efficiency can be achieved, he would not interfere with the working of free market forces. The CMP measures the political parties' stance towards the working of a free market economy using favourable mentions of "free enterprise" and "economic orthodoxy" in the manifesto.[30] Our indicator for a utilitarian government ($Util$), is then built by comparing the

[29]The median voter's position in the CMP is determined using the measure by Kim and Fording (1998), i.e.

$$M = L + [(50 - C)/F]W$$

where M = Median voter position; L = The lower end of the interval containing the median; C = The cumulative frequency (vote share) up to but not including the interval containing the median; F = The frequency in the interval containing the median and W = The width of the interval containing the median. For more details of how the measure is constructed, see Appendix.

[30]More precisely, *Free enterprise* measures favourable mentions of free enterprise capitalism; superiority of individual enterprise over state and control systems; favourable mentions of private property rights, personal enterprise and initiative; need for unhampered individual enterprises; *Economic Orthodoxy* reflects instead mentions of the need for traditional economic orthodoxy, e.g. reduction of budget deficits, retrenchment in crisis, thrift and savings;

extent of market orientation of the government with that of the median voter. In particular, it takes a value of one if the former is more market oriented than the latter, and zero otherwise. Having built this indicator, we use historical information from past elections to construct a proxy for the likelihood of populism μ, which at every point in time is given by the average frequency of populist government in the previous three elections (see Appendix for details).[31] As it is immediately evident from Figure 4, the pervasiveness of populism varies substantially both across and within countries. Interestingly, on average, Germany and the UK appear to be the countries least likely to have a populist government in power, whereas Greece and Sweden are at opposite end of the spectrum. Summary statistics for all the variables used in our analysis are reported in Table 1.

6.2 Empirical strategy

Our baseline specification takes the following form:

$$\text{Illegal}_{ct} = \alpha \text{Gini}_{ct} + \beta \mu_{ct} + \gamma \mu_{ct} \text{x} \text{Util}_{ct} + \delta_1 \text{Util}_{ct} + \delta_2 \text{Applicat}_{ct} + \theta \mathbf{X}_{ct} + I_c + T_c + I_t + k + \epsilon_{ct} \quad (13)$$

where $Illegal_{ct}$ is our measure of the flow of illegal immigrants in country c in year t. $Gini_{ct}$, μ_{ct} and $Util_{ct}$ are the main variables of interest to assess the predictions of our model. Since rejections of asylum applications could be mechanically driven by the size of the pool of applicants, in our specification we always control also for the number of asylum applications $Applicat_{ct}$. Additional regressors are country fixed effects I_c, country–specific time trends T_c and year fixed effects I_t. For our baseline analysis the vector $\mathbf{X}_{ct}$ includes characteristics of the country of destination (GDP per capita, public spending on health and education as share of GDP), and origin (War, GDP per capita and the share of the population aged 15-64), while a more extensive set of control variables will also be used to assess the robustness of our findings.[32] Finally ϵ_{ct} is a zero mean error term.

The first three terms in equation 13 allow us to assess the main implications of our model. The effect of inequality is captured by the coefficient α, and our model predicts a positive sign. The impact of populism varies instead depending on the politician's type. For this reason the variable μ_{ct} is interacted with the indicator of politician's type $Util_{ct}$. Therefore, the marginal effect of the pervasiveness of populism is given by $\beta + \gamma$ when the politician is utilitarian and by β when he is populist. According to the model only the coefficient $\beta + \gamma$ should be positive and significant.

support for traditional economic institutions such as stock market and banking system; support for strong currency etc.

[31] We have experimented also using averages taken over the last four or five elections. The results are unaffected and are available upon request from the authors.

[32] The Appendix contains details on the definition of each variable and its source.

7 Results

7.1 Baseline analysis

Table 2 presents the findings of our baseline analysis. Column 1 reports our most parsimonious specification, in which we look at the effect of inequality and populist pressures, controlling for the number of applications, time invariant country specific effects, country specific trends and year fixed effects. Our results suggest that both inequality and populist pressures have a positive and significant impact.

In columns 2–3 we replicate the same exercise, but account also for additional characteristics of destination and origin countries. To capture the effect of the economic cycle in the destination, we control for real per capita GDP. Furthermore, all destinations included in our sample have well developed welfare states, and several papers in the literature have highlighted the presence a welfare leakage from natives to migrants, which might affect the enforcement of migration policy (Razin, Sadka, and Swagel 2002, Facchini and Mayda 2009). To control for this possibility, we include public expenditure on health and education as a share of GDP, as these are services that can be accessed even by undocumented migrants and their offsprings. Our findings indicate that business cycle considerations do not play a significant role, whereas spending on education has a negative and significant impact, suggesting that countries with more generous public education systems take a tougher stance on illegal immigration.

The rejection of asylum claims depends not only on the size of the pool of applicants but also on their characteristics, which we cannot directly observe. The existing literature has argued that source country's economic and demographic conditions are important determinants of migratory flows (Hatton and Williamson 2005), and that the majority of individuals seeking asylum in advanced destination countries is in fact motivated by economic factors, explaining why most asylum applications are rejected as unfounded (Hatton 2011). At the same time, individuals fleeding countries affected by war and violation of human rights should be more likely to be granted refugee status according to the terms of the Geneva convention. For this reason in column 3 we control for economic economic drivers of migration, given by the weighted average of GDP per capita and the weighted share of working age population in the country of origin, as well as a weighted average of the pervasiveness of conflict in the origin country.[33] As expected, a greater migratory pressure – as captured by a larger share of the population in working age and a lower per capita GDP in the origin country – has a positive effect on illegal immigration. On the other

[33]To aggregate origin country variables at the destination country level, we use weights reflecting the likelihood that a migrant chooses a specific destination, that vary by country and over time. A good proxy is represented by bilateral trade flows, which as shown in the literature, depend on gravity factors such as distance between countries, country GDP levels, cultural and linguistic proximity etc. In particular, we use weights given by the origin country's share of trade with the destination. See the Appendix for additional details.

hand, exposure to conflict in the origin country has a negative impact on our proxy of illegal immigration.

To assess the prediction of our model that the effect of populist pressures varies with the type of politician, in column 4 we include the interaction term between μ and our indicator of utilitarian politician ($Util_{ct}$). Thus, the coefficient β now captures the marginal effect of inequality on illegal immigration if the politician is populist, whereas the effect if the politician is utilitarian is given by $(\beta+\gamma)$. The estimated coefficients are consistent with the prediction of our theoretical analysis: populist pressures have a positive and significant effect only when the incumbent is utilitarian. Finally, our model predicts that the impact of income inequality on illegal immigration is positive both when the government is utilitarian as well as when it is populist. For this reason, in the last column of table 2, we decompose also the effect of *Gini* according to the type of government. Consistently with the predictions of the theoretical analysis, we find that the coefficient of *Gini* is positive and significant for both types of politicians, whereas the coefficient of μ continues to be positive and significant only when the government is utilitarian.

Our results are not only remarkably robust to the inclusion of additional controls, but also show that the estimated effects are sizeable. In particular, we find that income inequality is an important determinant of illegal immigration. For instance, using our benchmark specification of column (4), we find that everything else equal, an increase by one standard deviation of the *Gini* coefficient leads to 213 more illegal immigrants per million individuals. To put this figure in perspective, consider two countries – Switzerland and the United Kingdom. In 1987 they are characterized by an identical *Gini* coefficient equal to 30, but while in the subsequent years Switzerland experienced a steady decline in income inequality, the opposite is true for the United Kingdom. Our estimates imply that, ceteris paribus, the number of illegal immigrants in the two countries will start to diverge from 1987 onwards. In particular, in 2004, illegal immigration in the United Kingdom, with a *Gini* coefficient equal to 34.5, is predicted to be 22 percentage points higher than in Switzerland, which is characterized by a *Gini* coefficient equal to 26.8. As for the impact of populist pressures, according to our estimates, an increase by one standard deviation in the likelihood of populism results in 132 more illegal immigrants per million individuals. Take again the example of the United Kingdom: following each of the three elections that took place before 1982 a populist government was put in power. Ten years later, the odds of a populist in power was instead down to one in three. Our parameter estimates imply then that – everything else equal – the number of illegal immigrants per capita should drop from 488 per million in 1982 to 162 per million in 1992.

One important caveat on the size of the estimated coefficients is the possibility that our results might be affected by an endogeneity bias. This could be due to two reasons. First, focusing on the effect of income inequality, the decision to apply for asylum in a given country could be influenced

by its income distribution, implying that the estimated effect of Gini on illegal immigration might be biased upwards or downwards, depending on whether inequality has a positive or negative effect on migration decisions. However, since in all our regressions we control for the number of asylum applicants, we are able to rule out that the estimated impact of the Gini coefficient is affected by the size of the pool of applicants. It is still possible that our estimations might be biased by the omission of characteristics of the asylum applicants affecting their decision to migrate to a given country depending on its income distribution. For this reason in the next section we will carry out a robustness check controlling for additional economic drivers of migration in the country of origin. Second, turning to the effect of populist pressures, we are concerned that reverse causality might bias our estimates. Since voters respond to policy by rewarding or punishing the incumbent, the type of politician in power may depend on the number of illegal immigrants observed at the time of elections. Although reverse causality is substantially mitigated by the fact that the type of government is mainly predetermined (because it only changes following an election), whereas the number of illegal immigrants varies every year, it is still important to determine the sign of the possible bias it could generate. In our model, the electorate will never wish to replace a populist incumbent with a utilitarian one because of his migration policy. Thus, if after an election we observe that a populist government has been voted out of office, this change is exogenous from the perspective of our model, i.e. it is driven by factors other than the number of illegal immigrants observed at the time of the elections. On the other hand, if a utilitarian incumbent is replaced by a populist one, this change may be caused by the extent of illegal immigration observed when elections are held. Notice, however, that since high illegal immigration causes the dismissal of a utilitarian politician, the correlation between number of illegal immigrants and politician type goes into the opposite direction to our estimated effect. Thus, potential reverse causality could bias downward our estimates, which then provide a lower bound to the actual effects.

7.2 Robustness checks

In this section we assess the robustness of our baseline results. First, we experiment with alternative measures of government preferences. Next, we introduce additional controls for countries of destination and origin. Third, we consider different samples restricting our analysis to specific subgroups of countries, and finally we carry out a series of placebo tests using a series of alternative measures of the government position.

In Table 3 we re-estimate the benchmark specification reported in column (4) of Table 2, using new indicators of government preferences. We are concerned that our proxy of pro–market orientation might be affected by measurement error. First, if the positive distance between the pro–market orientation of the government and the median voter is close to zero, we might be classifying as utilitarian policy makers that in fact have preferences aligned with the median

voter. Given how our proxy of μ is constructed, this would also lead to an under–count of the incidence of populist politicians. To address this concern, we build a new indicator, whereby we require that the government is not only more pro-market than the median voter, but also that the distance between the two is above a minimum threshold. The estimated coefficients obtained using three different thresholds (respectively 0.1, 0.3 and 0.5 percent) are reported in columns (1) through (3) and show that our results are remarkably robust.

Second, the measure of pro–market orientation provided by the CMP is based only on two policy categories: "free enterpise" and "economic orthodoxy". We are concerned that these stances might not fully capture the pro–market orientation of the policy maker. For this reason, in columns (4) through (6) of Table 3 we replace our benchmark measure with more comprehensive proxies which progressively also include: "protectionism negative"[34] (column (4)); "productivity"[35] (column (5)) and "nationalization"[36] (column (6)). Once again, our results are remarkably robust: not only are the sign and significance of the key parameters unaffected, but also the magnitude of the estimated coefficients are qualitatively comparable to our benchmark.

In Table 4 we introduce a series of additional controls to the benchmark specification, reporting only the main coefficients of interest and those of the new variables.[37] In column (1) we start by accounting for demographic and economic characteristics of the destination country, namely unemployment, the share of the adult population and the share of agriculture and services in GDP. None of these has an impact on illegal immigration and, more importantly, their inclusion does not alter our main results. In column (2) we explore instead more in detail the role of the welfare state in the destination, accounting for public expenditure on family, housing and unemployment. We find that illegal immigration is positively correlated with public expenditure on family. This finding could be driven by the redistributive nature of family benefits and by the fact that access to them is often restricted for illegal immigrants, while this is not the case for legal migrants. The other welfare state controls instead do not play a role. Again, the introduction of these drivers does not affect our main results. Since migration policy might be driven by other ideological factors, in columns (3) and (4) we account respectively for the ideological leaning of the government, using the right–left scale developed by the CMP, and for the emphasis put in the government's parties manifesto on law and order.[38] Neither has an impact on illegal immigration

[34]This is defined as "Support for the concept of free trade, negative mention of extension of maintenance of tariffs to protect internal markets; other domestic economic protectionism such as quota restrictions."

[35]This is defined as "Need to encourage or facilitate greater production; need to take measures to aid this; appeal for greater production and importance of productivity for the economy; increasing foreign trade: the paradigm of growth."

[36]Following CMP practice, as this measure is considered anti–market, it is subtracted from our indicator of pro–market orientation. Nationalization is defined as "Favourable mention of government ownership, partial or complete, including government ownership of land.

[37]The full results are available upon request.

[38]The Right–Left position is defined in Klingemann et al. (2006), page 163. Law and order is defined as "Enforcement of all laws; action against crime; support for enhancing resources for police; tougher attitudes in

or affects our main results. In column (5) we investigate instead the role played by the frequency of amnesties in the previous three years, but this does not appear to be significant. In columns (6) and (7) we use alternative measures of push factors in source countries. In column (6) we replace our broad proxy for conflict with four more disaggregated measures that separately characterize different types of disputes. We find that only the pervasiveness of revolutionary wars plays a negative and significant role. Finally, in column (7) we explore the role of additional economic and demographic drivers in the source country, i.e. unemployment, life expectancy at birth, share of urban population and incidence of natural disasters. We find that only life expectancy plays a significant role, negatively affecting the extent of illegal immigration in the destination country. This is consistent with the idea that better living conditions in the origin tend to decrease on average the incentives to emigrate. Importantly, the inclusion of all the additional source country controls does not affect our key results.

We assess the robustness of our findings by focusing on different subsamples of countries in Table 5. In particular, we are concerned that the relevance of rejected asylum applicants as a source of illegal immigration might vary substantially across countries. For instance, it is well known that in the United States an important source of illegal immigration are clandestine border crossing activities from neighboring Mexico. For this reason, in column (1) we exclude from our analysis the United States. In column (2) we exclude Southern European countries, whereas in column (3) we exclude Australia. While the changes in the sample structure affects the magnitudes of our key coefficients, their sign and significance are unaffected. This is true also if we remove from our sample simultaneously Southern European countries and the United States (column (4)) or Southern European countries, the United States and Australia (column (5)).

Finally, in Table 6 we carry out a series of placebo tests on government preferences. In particular, our theory defines a utilitarian policy maker as an agent that maximizes aggregate welfare. So far we have used a proxy for his preferences that builds upon a series of indicators belonging to the "Economic domain" in the CMP, capturing his degree of pro–market orientation. While the robustness of our results indicates that this is a good measure, we expect that the patterns we have uncovered should not arise if we were to use parties' stances on non–economic issues that are unlikely to reflect migration preferences. For this reason, we carry out a falsification exercise using three additional indicators of the position of the government relative to the median voter based on information from the CMP in the domain "Freedom and democracy" and "Political System". The first is based on favorable mentions of "democracy"[39]; the second on support for "decentral-

court."

[39]This is defined as "favorable mentions of democracy as a method or goal in national and other organizations; involvement of all citizens in decision making, as well as generalized support for the manifesto country's democracy."

ization"[40] and the last on positive mentions of "political authority".[41] Our results, reported in columns (1)-(3), show that the patterns are quite different from those identified in our benchmark specification. In fact, the direct effect of the pervasiveness of populism using our placebo measures is at times positive, at times negative or even not significant. More importantly, its interaction with the new indicator of utilitarianism does not appear to play a role.

8 Conclusions

In this paper we have developed a model in which illegal immigration might arise endogenously as the result of a binding official immigration quota and imperfect enforcement. Furthermore, we have shown that electoral concerns play a crucial role in explaining "excessively high" illegal immigration, which results from the use of suboptimal policies. As long as the government has an information advantage over the public concerning the way it controls migration flows, it might find it optimal to announce a target pleasing a majority of the electorate, but then strategically relax its enforcement. Thus, our paper is able to explain both the prevailing political rhetoric of "closed" borders, and the large number of illegal immigrants brought about by a lax policy enforcement. Our model also suggests two possible explanations for the observed cross–country differences in the number of illegal immigrants. First, we show that greater income inequality increases illegal immigration, independently of the type of politician. Second, we highlight the key role played by the likelihood that a politician shares the median voter's preferences. In particular, in societies where populist pressures are stronger, an equilibrium with under–investment will emerge more often. We have also assessed the empirical relevance of the theoretical model using a novel panel dataset covering eighteen advanced destination countries over the period 1982-2004. The analysis provides strong support for the theoretical predictions, suggesting that the mechanisms at play are not only significant drivers of illegal immigration, but that their quantitative impact is substantial.

While we have focused on the design and enforcement of migration policy, the analysis carried out in this paper has implications for a broader variety of economic environments in which elected officials set both standards and the corresponding enforcement level. Two contexts appear particularly relevant: taxation and regulatory policy. We often see governments setting very high headline tax rates, but then carry out limited efforts to enforce them. The result is pervasive tax evasion, which often has first–order consequences on the distribution of the actual tax burden. Similarly, when it comes to regulatory policy, it is not uncommon to observe stringent anti–trust or environmental policy being legislated but not adequately enforced. Our model thus provides

[40] This is defined as "support for federalism or devolution; more regional authority for policy or economy; support for keeping up local and regional customs and symbols; favorable mentions of special considerations for local areas; deference to local expertise."

[41] This is defined as "favorable mentions of strong government including government stability; manifesto party's competence to govern and/or other party's lack of such competence."

useful insights on the incentives faced by elected officials when simultaneously choosing policies and their enforcement.

We can think of at least two lines along which our analysis could be extended. First, in our setting undocumented immigrants do not differ in any way from legal foreign workers. In particular, we have not considered the functioning of a dual labor market, which may be important to understand the economics of illegal immigration. Furthermore, we have also abstracted away from considering the interactions between immigrants and the destination country's welfare state system, which may play an important role in shaping policy preferences and the enforcement of official immigration policies. An analysis of a richer model which considers both these aspects is left for future research.

Second, the process through which immigration policy enforcement is captured in our paper is rather simple, i.e. it is only the choice of a single elected body. In reality, the implementation of the legislated immigration policy often involves multiple agents. An analysis of the micro–level interactions among the various entities taking part in the enforcement process might provide further important insights to understand some of the immigration policy puzzles we observe.

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Appendix: Variables and definitions

Illegals per million people: number of first instance rejections of asylum applications normalized by the population of the country of asylum. Source: United Nation High Commissioner for Refugees Statistical Yearbook, available at http://www.unhcr.org/pages/4a02afce6.html.

Applications per per million people: number of asylum applications normalized by the population of the country of asylum. Source: United Nation High Commissioner for Refugees Statistical Yearbook, available at http://www.unhcr.org/pages/4a02afce6.html.

Gini: net income inequality Gini coefficient. Source: Standardized World Income Inequality Database constructed by Solt (2009), available at http://myweb.uiowa.edu/fsolt/swiid/swiid.html.

Utilitarian: dummy variable based on normalized counts of mentions of "free enterprise" and "economic orthodoxy" (*markeco*) from the Comparative Manifesto Project. The CMP dataset is available at https://manifestoproject.wzb.eu/. The variable is coded as one when the government parties *markeco* score is larger than the median voter adjusted Kim-Fording measure and zero otherwise. The government *markeco* score is the weighted average of government parties scores,

where the weights are given by the proportion of legislative seats each party contributes to the total government share. The data on government and opposition parties seats are taken from "Parties, Governments and Legislatures Data Set" by Thomas R. Cusack and Susanne Fuchs, available at http://www.wzb.eu/en/persons/thomas-r-cusack?s=5662. The adjusted median voter Kim-Fording measure (McDonald, Mendes, and Budge 2004) is defined as:

$$M = L + [(50 - C)/F] * W$$

where, M = Median voter position, L = Lower end of the interval containing the median, C = Cumulative frequency (vote share) up to but not including the interval containing median, F = Frequency (vote share) in the interval containing the median and W = Width of the interval containing the median. When the sum of parties' votes shares in the Comparative Manifesto Project is smaller than 100, the value 50 in the formula is replaced by 50 percent of the sum of vote shares covered by the dataset. When the CMP score of the party in the interval containing the median voter coincides with the maximum (minimum) value of the score recorded in a given election, the upper (lower) end of the interval containing the median is computed assuming that voters are distributed in a symmetrical interval around the party.

Utilitarian - other defin. (markeco+free trade, markeco+free trade+productivity, markeco+free trade+productivity-nationalization, democracy, decentralization, political authority): defined as Utilitarian using alternative party manifesto categories. Utilitarian - threshold (0.1, 0.3, 0.5): defined as Utilitarian with the additional requirement that the distance between the government and the median voter's *markeco* score is larger than the threshold.

μ: probability of observing a populist government constructed as the average frequency of Utilitarian equal to zero in the previous three elections, for each alternative measure of Utilitarian.

Right-left government ideology: Party manifesto right-left ideology position of parties. Source: Comparative Manifesto Project, available at https://manifestoproject.wzb.eu/.

Law and order: normalized counts of mentions of law and order in party manifestos. Source: Comparative Manifesto Project.

Frequency of Amnesties: average frequency of amnesties in the previous three years, where an amnesty is defined as a procedure that allows immigrants who are already in the country of destination in violation of its immigration law (i.e. undocumented immigrants) to obtain legal residence and a work permit. Source: Casarico, Facchini, and Frattini (2011).

Origin countries' characteristics: weighted averages of origin countries' variables, with weights given by the share of trade of the origin country with the destination. Source: World Development Indicators, available at http://data.worldbank.org/data-catalog/world-development-indicators.

War: conflict where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths. Coded on a 0-2 scale

depending on the number of deaths. Source: UCDP/PRIO Armed Conflict Dataset, available at http://www.prio.no/Data/Armed-Conflict/.

Revolutionary wars: conflict between governments and politically organized groups that seek to overthrow the central government or to seize power in one region. Coded on a 0-4 scale depending on the number of combatants or activists, fatalities and portion of the country affected. Source: PITF - State Failure Problem Set: Internal Wars and Failures of Governance, 1955-2011, available at http://globalpolicy.gmu.edu/political-instability-task-force-home/pitf-problem-set-annual-data/.

Ethnic wars: conflict between governments and national, ethnic, religious, or other communal minorities (ethnic challengers) in which the challengers seek major changes in their status. Coded on a 0-4 scale depending on the number of combatants or activists, fatalities and portion of the country affected. Source: PITF - State Failure Problem Set: Internal Wars and Failures of Governance, 1955-2011.

Genocides: events that involve the promotion, execution, and/or implied consent of sustained policies by governing elites or their agents – or in the case of civil war, either of the contending authorities – that result in the deaths of a substantial portion of a communal group or politicized non-communal groups. Coded on a 0-5 scale depending on the number of deaths. Source: PITF - State Failure Problem Set: Internal Wars and Failures of Governance, 1955-2011.

Adverse Regime Changes: adverse shifts in patterns of governance, including major and abrupt shifts away from more open electoral systems to more closed, authoritarian systems. Coded on a 0-4 scale depending on failure of state authority, collapse of democratic institutions, violence. Source: PITF - State Failure Problem Set: Internal Wars and Failures of Governance, 1955-2011.

Disasters: total number of individuals affected by drought, earthquake, epidemic, extreme temperature, flood, industrial accident, insect infestation, mass movement (wet, dry), storm, volcano, wildfire. Source: EM-DAT: The OFDA/CRED International Disaster Database. Data version: v12.07 GDP per capita, available at http://www.emdat.be/database.

GDP per capita: per capita GDP in constant 2000 US dollars: Source World Development Indicators.

Unemployment rate: Unemployment, total (percentage of total labor force). Source: World Development Indicators.

Adult population: percentage of population aged 15-64 years. Source: World Development Indicators.

Agriculture: Agriculture value added as percentage of GDP. Source: World Development Indicators.

Services: Services value added as percentage of GDP. Source: World Development Indicators.

Health spending: Public expenditure for Health as percentage of GDP. Source: OECD Social

Expenditure Database.

Education spending: Public spending on education, total (percentage of GDP). Source: World Development Indicators

Family spending: Public expenditure on family as percentage of GDP. Source: OECD Social Expenditure Database.

Housing spending: Public expenditure on housing as percentage of GDP. Source: OECD Social Expenditure Database.

Unemployment spending: Public expenditure on unemployment as percentage of GDP. Source: OECD Social Expenditure Database.

Urban population: Urban population as a percentage of total population. Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects. Source: World Development Indicators.

Life expectancy: Life expectancy at birth, total (years). Source: World Development Indicators.

Table 1: Summary Statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Illegals per million individuals	371	537.55	761.55	0.68	5040
Gini	371	28.90	4.22	20.08	37.47
Applications per million individuals	371	1079	1236	7.51	9693
Utilitarian	371	0.50	0.50	0	1
Utilitarian (threshold=0.1)	371	0.47	0.50	0	1
Utilitarian (threshold=0.3)	371	0.43	0.50	0	1
Utilitarian (threshold=0.5)	371	0.40	0.49	0	1
Utilitarian (markeco+free trade)	371	0.50	0.50	0	1
Utilitarian (markeco+free trade+productivity)	371	0.65	0.48	0	1
Utilitarian (markeco+free trade+productivity-nationalisation)	371	0.60	0.49	0	1
Utilitarian (democracy)	371	0.41	0.49	0	1
Utilitarian (decentralization)	371	0.53	0.50	0	1
Utilitarian (political authority)	371	0.49	0.50	0	1
μ	371	0.52	0.27	0	1
μ (threshold=0.3)	371	0.54	0.28	0	1
μ (threshold=0.1)	371	0.55	0.28	0	1
μ (threshold=0.5)	371	0.59	0.27	0	1
μ (market+free trade)	371	0.51	0.27	0	1
μ (market +free trade+productivity)	371	0.42	0.31	0	1
μ (market +free trade+productivity-nationalisation)	371	0.45	0.30	0	1
μ (democracy)	371	0.63	0.29	0	1
μ (decentralization)	371	0.47	0.29	0	1
μ (political authority)	371	0.57	0.31	0	1
GDP per capita (constant 2000 US$)	371	27538	6351	10620	47510
Unemployment rate	357	7.81	3.85	1.70	23.90
Adult population (% total population)	371	66.66	1.43	63.00	69.00
Agriculture value added (% GDP)	349	3.22	1.88	0.92	16.56
Services value added (%GDP)	349	66.57	4.71	53.12	77.24
Health spending (%GDP)	371	5.54	1.27	0.00	8.42
Education spending (%GDP)	371	5.17	1.20	1.77	8.44
Family spending (%GDP)	359	1.83	1.07	0.15	4.85
Housing spending (% GDP)	341	0.40	0.38	0	1.79
Unemployment spending (% GDP)	361	1.43	1.04	0	5.21
Right-left government ideology	371	2.07	17.51	-36	48.46
Law and order	371	1.23	1.36	0	6.55
Frequency of amnesties	371	0.11	0.18	0	0.67
Origin countries' characteristics					
War in origin (weighted by destination)	371	0.74	0.93	0.03	5.31
Ethnic war in origin (weighted by destination)	371	0.88	1.11	0.02	5.40
Revolutionary war in origin (weighted by destination)	371	0.66	1.05	0.01	6.05
Genocide in origin (weighted by destination)	371	1.20	2.13	0	17.47
Regime change in origin (weighted by destination)	371	0.27	0.38	0	2.19
GDP per capita in origin (weighted by destination)	371	312.06	343.49	25.63	1506.51
Adult population share in origin (weighted by destination)	371	191.34	214.47	20.27	895.95
Unemployment rate in origin (weighted by destination)	371	32.60	44.21	1.69	226.30
Population share in urban area in origin (weighted by destination)	371	210.45	239.59	22.48	1010.10
Life expectancy in origin (weighted by destination)	371	166.85	188.85	18.53	809.63
Disasters in origin (weighted by destination)	371	185.42	393.84	0.76	4101.18

Illegals per million individuals: number of first instance rejections of asylum applications normalized by the population of the country of asylum. *Gini*: net income inequality Gini coefficient. *Applications per million individuals*: number of asylum applications normalized by the population of the country of asylum. *Utilitarian*: dummy variable based on normalized counts of mentions of free enterprise and economic orthodoxy (markeco) in party manifestos; coded as one when the 'markeco' score of government is larger than the median voter's estimated score, and zero otherwise. The government score is computed as the weighted average of government parties scores where the weights are given by the proportion of legislative seats each party contributes to the total government share. The median voter position is estimated using the adjusted Kim and Fording measure. *Utilitarian – other categories (markeco+free trade, markeco+free trade+productivity, markeco+free trade+productivity-nationalization, democracy, decentralization, political authority)*: defined as *Utilitarian* using the other party manifesto categories instead of markeco. *Utilitarian – threshold (0.1, 0.3, 0.5):* defined as *Utilitarian* with the further requirement that the distance between the government's and median voter's markeco scores is larger than the threshold. μ is the probability of observing a populist government defined as the average frequency of *Utilitarian* equal to zero, for each measure of *Utilitarian* in the previous three elections. *Right-left government ideology*: Party manifesto right-left ideology position of parties. *Law and order*: normalized counts of mentions of law and order in party manifestos. Source: Comparative Manifesto Project. *Frequency of Amnesties*: average frequency of amnesties in the previous three years. *Origin countries' characteristics* are weighted averages of origin countries' variables, with weights given by the share of trade of the origin country with the destination. *War*: conflict where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths. Coded on 0-2 scale depending on the number of deaths. *Revolutionary wars*: conflict between governments and politically organized groups that seek to overthrow the central government or to seize power in one region. Coded on 0-4 scale depending on the number of combatants or activists, fatalities and portion of the country affected. *Ethnic wars*: conflict between governments and national, ethnic, religious, or other communal minorities (ethnic challengers) in which the challengers seek major changes in their status. Coded on 0-4 scale depending on the number of combatants or activists, fatalities and portion of the country affected. *Genocides*: events that involve the promotion, execution, and/or implied consent of sustained policies by governing elites or their agents -- or in the case of civil war, either of the contending authorities -- that result in the deaths of a substantial portion of a communal group or politicized non-communal groups. Coded on 0-5 scale depending on the number of deaths. *Adverse Regime Changes* are adverse shifts in patterns of governance, including major and abrupt shifts away from more open, electoral systems to more closed, authoritarian systems. Coded on 0-4 scale depending on failure of state authority, collapse of democratic institutions, violence. *Disasters*: total number of individuals affected by drought, earthquake, epidemic, extreme temperature, flood, industrial accident, insect infestation, mass movement (wet, dry), storm, volcano, wildfire. Economic and demographic control variables are defined in Appendix.

Table 2: Baseline analysis

	(1)	(2)	(3)	(4)	(5)
Gini	61.16***	51.43***	51.66***	50.50***	52.38***
	(16.34)	(16.76)	(16.12)	(15.31)	(16.47)
Gini x Utilitarian					-3.44
					(14.56)
μ	237.44**	290.78**	300.69**	-101.41	-107.70
	(118.97)	(123.16)	(120.56)	(139.65)	(156.25)
μ x Utilitarian				589.43***	581.12***
				(202.29)	(186.12)
Utilitarian				-216.25**	-110.01
				(107.07)	(436.29)
Applications per million	0.21***	0.19***	0.19***	0.17**	0.17**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
GDP per capita		0.05	0.04	0.03	0.03
		(0.05)	(0.05)	(0.05)	(0.05)
Health spending		-9.80	-14.89	-2.49	-3.94
		(49.00)	(48.59)	(45.66)	(48.00)
Education spending		-187.83**	-171.15*	-171.22**	-168.59**
		(88.90)	(91.05)	(86.69)	(79.72)
War in origin			-301.52**	-299.71**	-295.03**
			(141.65)	(141.03)	(146.26)
GDP per capita in origin			-2.49*	-2.07	-2.10
			(1.34)	(1.30)	(1.32)
Adult population in origin			9.68***	8.22***	8.23***
			(3.00)	(2.98)	(2.99)
μ x (1+Utilitarian)				488.0***	473.4***
				(168.9)	(168.5)
Observations	371	371	371	371	371
R-squared	0.7481	0.7558	0.7645	0.7749	0.7750

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specification include country fixed effects, country specific trends, year fixed effects and constant term.

Table 3: Alternative measures of utilitarian government

	(1)	(2)	(3)	(4)	(5)	(6)
	Threshold=0.1	*Threshold=0.3*	*Threshold=0.5*	*Utilitarian 1*	*Utilitarian 2*	*Utilitarian 3*
Gini	49.92***	47.28***	59.66***	48.80***	48.90***	47.39***
	(15.56)	(15.78)	(17.64)	(15.33)	(15.53)	(15.49)
μ	-75.88	-1.22	87.70	-61.25	-87.30	-35.39
	(127.62)	(118.66)	(125.19)	(135.73)	(143.30)	(112.07)
μ x Utilitarian	579.36***	519.39***	466.88**	525.83***	473.42***	498.42***
	(192.29)	(170.16)	(207.96)	(185.17)	(164.13)	(157.26)
Utilitarian	-239.56**	-205.22*	-204.57*	-175.39*	-122.93*	-167.30**
	(114.71)	(107.67)	(121.81)	(93.44)	(62.74)	(73.56)
Applications per million	0.18**	0.18**	0.18***	0.18**	0.17**	0.17**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
GDP per capita	0.04	0.05	0.04	0.03	0.01	0.02
	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)
Health spending	11.40	5.76	1.20	-4.13	-7.92	-0.85
	(45.33)	(45.72)	(45.35)	(45.29)	(45.68)	(44.98)
Education spending	-163.97*	-152.16*	-162.22*	-161.23*	-151.06*	-148.22*
	(87.51)	(85.44)	(86.94)	(85.76)	(81.54)	(82.02)
War in origin	-287.24**	-268.23*	-261.35*	-309.68**	-290.92**	-298.11**
	(143.92)	(141.82)	(143.58)	(140.37)	(143.19)	(142.95)
GDP per capita in origin	-1.92	-1.67	-1.67	-2.15	-2.02	-2.38*
	(1.34)	(1.35)	(1.39)	(1.30)	(1.33)	(1.32)
Adult population in origin	8.03***	7.84**	7.91***	8.58***	8.26***	8.79***
	(3.02)	(3.03)	(3.04)	(2.97)	(3.12)	(3.07)
μ x (1+Utilitarian)	503.5***	518.2***	554.6***	464.6***	386.1***	463.0***
	(171.7)	(173.3)	(193.5)	(158.4)	(131.2)	(152.6)
Observations	371	371	371	371	371	371
R-squared	0.7736	0.7739	0.7722	0.7744	0.7748	0.7763

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specification include country fixed effects, country specific trends, year fixed effects and constant term. Utilitarian 1=markeco+free trade Utilitarian 2=markeco+free trade+productivity Utilitarian 3=markeco+free trade+productivity-nationalization

Table 4: Additional controls by country of destination and origin

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gini	52.41***	41.54**	49.36***	49.79***	50.04***	50.84***	46.66***
	(17.06)	(16.90)	(15.24)	(15.41)	(15.98)	(15.43)	(15.44)
μ	-153.50	-77.04	-135.77	-114.09	-95.92	-43.08	-66.38
	(159.81)	(151.14)	(130.55)	(147.31)	(139.21)	(129.10)	(139.22)
μ x Utilitarian	507.26**	531.16**	611.16***	591.57***	598.89***	579.21***	651.40***
	(226.21)	(253.15)	(200.73)	(202.28)	(206.22)	(185.44)	(205.22)
Utilitarian	-186.96	-195.44	-173.23	-217.19**	-215.01**	-221.79**	-269.86**
	(115.99)	(132.80)	(112.05)	(106.78)	(108.11)	(100.95)	(109.18)
Unemployment	3.40						
	(27.12)						
Adult population	-40.71						
	(53.74)						
Agriculture	-23.62						
	(47.72)						
Services	-11.89						
	(21.39)						
Family spending		286.29**					
		(134.62)					
Housing spending		-0.94					
		(366.02)					
Unemployment spending		37.71					
		(90.26)					
Right-left government ideology			-3.00				
			(2.41)				
Law and order				15.43			
				(27.91)			
Frequency of Amnesties					-149.18		
					(181.25)		
Ethnic war						-156.87	
						(104.29)	
Revolutionary war						-271.95*	
						(139.86)	
Genocide						10.78	
						(24.53)	
Regime change						44.07	
						(80.77)	
Unemployment in origin							2.53
							(3.78)
Life expectancy in origin							-27.64***
							(8.17)
Urban population in origin							7.32
							(7.35)
Natural disasters							0.00
							(0.05)
Benchmark controls	yes	yes	yes	yes	yes	yes	yes
War in origin	yes	yes	yes	yes	yes	no	yes
μ x (1+Utilitarian)	353.8*	454.1**	475.4***	477.5***	503***	536.1***	585***
	(186.8)	(206.7)	(166.7)	(174.1)	(172.8)	(161.8)	(178.3)
Observations	335	341	371	371	371	371	371
R-squared	0.7927	0.7875	0.7760	0.7751	0.7756	0.7812	0.7794

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specification include country fixed effects, country specific trends, year fixed effects and constant term. Benchmark controls: Applications per million individuals, GDP per capita, Health spending, Education spending, GDP per capita in origin, Adult population in origin.

Table 5: Alternative samples

	(1)	(2)	(3)	(4)	(5)
Excluded countries	*United States*	*Europe South*	*Australia*	*Europe South United States*	*Europe South United States Australia*
Gini	47.24***	50.86**	53.71***	41.40**	40.26*
	(15.34)	(19.66)	(15.96)	(20.26)	(21.48)
μ	-55.75	-89.73	-141.28	16.31	-17.64
	(139.71)	(224.51)	(140.65)	(230.92)	(239.14)
μ x Utilitarian	606.97***	591.20**	601.37***	562.85**	571.40**
	(207.62)	(253.54)	(203.47)	(249.73)	(250.48)
Utilitarian	-236.93**	-134.02	-224.92**	-116.07	-113.21
	(116.52)	(123.02)	(110.58)	(131.67)	(139.03)
Applications per million	0.17**	0.15**	0.17**	0.14*	0.14*
	(0.07)	(0.08)	(0.07)	(0.08)	(0.08)
GDP per capita	0.03	0.07	0.03	0.07	0.06
	(0.05)	(0.08)	(0.05)	(0.08)	(0.08)
Health spending	0.37	-37.61	-2.18	-46.82	-48.75
	(47.71)	(67.39)	(46.02)	(71.98)	(73.36)
Education spending	-178.33**	-178.12*	-172.31**	-184.67*	-189.15*
	(87.69)	(106.18)	(86.30)	(105.76)	(105.57)
War in origin	-355.35*	-385.33**	-312.63**	-485.86**	-515.23**
	(184.62)	(168.68)	(146.58)	(223.84)	(240.14)
GDP per capita in origin	-1.96	-2.69	-2.14	-2.43	-2.59
	(1.52)	(1.69)	(1.34)	(2.06)	(2.11)
Adult population in origin	8.16**	12.05***	8.05***	13.47***	13.64***
	(3.45)	(3.81)	(3.09)	(4.41)	(4.81)
μ x (1+Utilitarian)	551.2***	501.5**	460.1***	579.2***	553.8**
	(184.9)	(196.8)	(171)	(224.9)	(230)
Observations	348	283	355	260	244
R-squared	0.7742	0.7730	0.7764	0.7710	0.7697

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specification include country fixed effects, country specific trends, year fixed effects and constant term. Europe south: Greece, Italy, Portugal and Spain.

Table 6: Placebo tests

	(1)	(2)	(3)
	Democracy	*Decentralization*	*Political authority*
Gini	61.50***	66.09***	59.36***
	(15.52)	(16.60)	(16.55)
μ	462.99**	-293.06	-234.80*
	(188.10)	(178.95)	(131.10)
μ x Utilitarian	-226.19	381.02	126.36
	(175.42)	(232.38)	(114.05)
Utilitarian	186.81	-123.26	52.28
	(123.13)	(136.66)	(51.95)
Applications per million	0.19***	0.19***	0.19***
	(0.07)	(0.07)	(0.07)
GDP per capita	0.05	0.03	0.03
	(0.05)	(0.06)	(0.06)
Health spending	-3.02	-23.89	-23.89
	(49.40)	(52.34)	(51.15)
Education spending	-124.84	-137.03*	-149.11*
	(94.41)	(79.63)	(88.56)
War in origin	-289.82**	-321.26**	-330.31**
	(140.01)	(141.87)	(143.33)
GDP per capita in origin	-3.56**	-2.44*	-2.49*
	(1.41)	(1.38)	(1.41)
Adult population in origin	9.95***	8.84***	9.85***
	(3.16)	(3.24)	(3.18)
Observations	371	371	371
R-squared	0.7691	0.7647	0.7629

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specification include country fixed effects, country specific trends, year fixed effects and constant term.