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Quotas, Lax Enforcement and Illegal Migration**

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ABSTRACT

The Rhetoric of Closed Borders: Quotas, Lax Enforcement and Illegal Migration^{*}

This paper studies why illegal immigration is widespread. We develop a political agency model in which a politician decides on an immigration target and its enforcement, facing uncertainty on the supply of migrants. Illegal immigration can arise for two reasons: the policy maker may be unable to enforce the target because supply is higher than expected; alternatively, he may underinvest in enforcement because of electoral concerns, and this occurs only when the incumbent and the majority of voters have different preferences over immigration. Empirical evidence provides strong support for our predictions, highlighting how electoral concerns shape illegal immigration flows.

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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 Dobbs¹

1 Introduction

Recent estimates suggest that in 2013, 11.7 million individuals lived in the United States as undocumented aliens, representing approximately 3.5 percent of the total population. Other major immigrant destinations also host large numbers of undocumented foreigners (Dustmann and Frattini 2013). Hence, while governments typically try to limit the inflow of foreign workers, the enforcement of official policies appears to be problematic. Although limited policy tools may be in part to blame, several scholars have pointed out that employers’ lobbying activities² are primarily responsible for the underfunding³ and more general suboptimal enforcement of migration policy.

This intentional slack in policy implementation begs an important question. Why do governments adopt restrictive migration targets if they are *not* willing to enforce them? More generally, why do elected officials set policy standards without adequately implementing them? The goal of this paper is to answer these questions by developing a model cast in a migration framework, but which has broader implications for other policy environments that are subject to similar incentives, like taxation and regulation.

The basic idea behind our analysis is simple. Voters have heterogenous preferences over immigration policy, and as argued in the literature, large majorities are restrictionist. At the same time, elected officials are often more pro-migration than voters.⁴ This gap in policy preferences opens the distinct possibility that politicians distort their policy choices, i.e. they strategically set a restrictive migration target to please a majority of voters, and relax its enforcement to allow more foreign workers to enter in a concealed way. We develop our analysis in a simple two-period political agency model. During each term in office an incumbent politician sets an official migration target, which determines the number of migrants to be admitted legally, and the resources to be allocated to policy enforcement. Whenever these resources are inadequate, illegal immigration emerges. Voters are heterogeneous in their factor endowments, and richer individuals prefer more foreign workers. Thus, under standard income distributions (Alesina and Rodrik 1994, Dutt

¹Source: <http://loudobbs.tv.cnn.com/category/broken-borders>.

²See Hanson and Spilimbergo (2001) and Fasani (2009).

³In 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).

⁴See Freeman (1992) and for an overview, Chiswick and Hatton (2003).

and Mitra 2002), the median prefers less migrants than the average voter. As typical in political agency models, we assume uncertainty on the state of the world – in our case the supply of migrants – and asymmetric information about the politician’s preferences. Namely, the public does not know whether the incumbent is *populist* (i.e. his preferences are perfectly aligned with those of the median voter), or *utilitarian* (i.e. he shares the preferences of the average citizen).⁵ In this environment, voters use outcome measures of performance – i.e. the total number of migrants in the country – to gauge the incumbent’s type. Since incumbents desire reelection, because of the influence they wield in determining policy, then electoral incentives will affect policy choices. We show under what conditions a simple “reputation-building” equilibrium emerges. In this equilibrium a utilitarian incumbent overrides his personal preferences to gain the support of the median voter. To that end, he sets a migration target that responds to the median voter’s interests, but *underinvests* in its enforcement to *de facto* admit more foreign workers as illegals.

Our model identifies two sources of illegal immigration. On the one hand, the government might be unable to enforce its policy target because the supply of immigrants is larger than expected,⁶ and in this case a more restrictive target leads to higher illegal immigration. On the other, it might strategically choose to under-invest in enforcement because of reelection concerns, which are more likely to play a role the bigger is the preference gap between the incumbent and the median voter, and the higher is the likelihood that a populist gains office when the utilitarian incumbent loses elections.

Existing evidence suggests that illegal immigration is not only sizeable and widespread, but that its importance varies substantially across countries and over time. Our model delivers a series of testable predictions that can help explaining these patterns. Illegal immigration depends on the interplay between incumbent’s type, heterogeneity of preferences and populist pressures in the destination country. The *heterogeneity of preferences* channel is at work with both types of politicians. In particular, if the gap between the median and average voter increases, a populist incumbent sets a more restrictive target, leading to more illegal immigrants. A change in inequality also affects the behavior of a utilitarian incumbent, but through a different mechanism. As the median voter becomes poorer, a “reputation-building” equilibrium where the utilitarian government sets the same target as the populist, but under-invests in enforcement, is more likely to arise. As a result, an increase in inequality has two consequences. First, the setting of a more restrictive target leads to more undocumented immigrants. Second, under-investment in enforcement increases their number even further. Hence, our analysis predicts that higher inequality in destination countries leads to an increase in illegal immigration, which is larger when the gov-

⁵The existence of a utilitarian politician is meant to capture the public opinion gap in immigration policy identified by Chiswick and Hatton (2003), which can arise for example because the government is responsive to the interests of organized groups lobbying in favor of migration.

⁶Note that in our model, in the absence of uncertainty illegal immigration will not occur. This is because the target is optimally set by trading off the benefits from migration and its costs, including those related to policy enforcement.

ernment is utilitarian rather than populist. Concerning the role of *populist pressures*, our model predicts that this channel only affects the behavior of a utilitarian incumbent, which is more likely to engage in strategic under-investment the larger is the threat of a populist gaining power in case of electoral defeat.

Our final step is to assess the empirical predictions of our model, studying a group of OECD destination countries over the period 1982-2004. The first challenge we have faced assembling our dataset involves obtaining a measure of illegal immigration flows, which is comparable across countries and over time. This requires comprehensive information on the three pathways into irregular migration, namely visa overstay, illegal border crossing, and failed asylum. Whereas systematic data on the first two are not available, we can use detailed information on the outcomes of asylum applications, regularly recorded by the United Nations High Commissioner on Refugees (UNHCR), to build our proxy of the yearly inflow of illegal immigrants. Importantly, for those countries for which we have been able to obtain alternative estimates of total illegal immigration, we find that the correlation between the latter and our proxy is very high.⁷ We combine this information with cross-country comparable measures of income inequality from Solt (2009) 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. Our preferred specification indicates that an increase by one standard deviation in income inequality leads to 225 more illegal migrants per million individuals if the government is populist. If the government is instead utilitarian, the effect is larger, and brings about 305 more illegal migrants per million individuals. As for the impact of populist pressures, we find that they only play a role when the incumbent is utilitarian. An increase by one standard deviation of the likelihood of populism leads in this case to 81 more illegal immigrants per million individuals. Importantly, our findings are remarkably robust – and continue to hold when we restrict our analysis to countries where rejected asylum applications are a more important source of illegal migration, when we use alternative measures of government preferences or address endogeneity concerns from reverse causality. This evidence suggests that the political channels we have 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 findings. Section 8 concludes.

⁷See section 7 for details.

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 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 (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.⁸ 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 other 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. 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

⁸Bond 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.

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.⁹ 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).¹⁰ In our analysis we also embrace the view that elected 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.

⁹For an overview of political agency models, see Besley (2006).

¹⁰For a recent review of this literature, see Moe (2013).

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.¹¹ 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 inelastically supplies one unit of labor, and receives a fraction $\lambda_i > 0$ of the profits, with $\int \lambda_i di = 1$.¹² 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, the supply \widehat{I} of migrants is assumed 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 $\widehat{I}(L) = \underline{I} < \bar{I} = \widehat{I}(H)$.

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.¹³ Limiting the migrant’s inflow involves a policy enforcement cost $\eta[I, \widehat{I}(s)]$ that depends on the supply of foreign workers $\widehat{I}(s)$ and the target I chosen by the government. We assume that $\eta[I, \widehat{I}(s)] = 0$ if $I < \widehat{I}(s)$, i.e. if the target is not binding. At the same time, if $I > \widehat{I}(s)$ then $\eta[I, \widehat{I}(s)]$ is a decreasing linear function of the migration target I (i.e. $\frac{\partial \eta[I, \widehat{I}(s)]}{\partial I} < 0$, $\frac{\partial^2 \eta[I, \widehat{I}(s)]}{\partial I^2} = 0$), and for any target, a larger supply \widehat{I} of migrants has a positive effect on both the total and marginal cost of enforcement (i.e. if $\bar{I} > \underline{I}$, $\eta(I, \bar{I}) > \eta(I, \underline{I})$ and $|\frac{\partial \eta}{\partial I}(I, \bar{I})| > |\frac{\partial \eta}{\partial I}(I, \underline{I})|$ for all I). As a result, the supply of foreign workers \widehat{I} can affect the optimal migration policy.¹⁴

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

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

where $1 + I$ represents total employment of natives and migrants in the country.¹⁵ The first term

¹¹A natural candidate would be land, or alternatively capital.

¹²We 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.

¹³To keep the analysis tractable, we assume that legal and illegal immigrants generate the same congestion costs. One interesting extension of the model would involve allowing for asymmetries to capture for instance the possibility that undocumented migrants might be more likely to be involved in criminal activities.

¹⁴An example of an enforcement cost function satisfying the above properties is given by $\eta_s = a_s[\widehat{I}(s) - I]$, where $a_H > a_L$.

¹⁵In 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

on the right hand side captures the individual's share of profits, the second his wage income,¹⁶ whereas the third and fourth terms denote the congestion and the policy enforcement costs, that are equally shared among all citizens.¹⁷ As long as the congestion cost is sufficiently convex, the individual's utility function in equation 1 is concave in I 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 $\eta[\bar{I}, I_i^*(H)] > \eta[\underline{I}, I_i^*(L)]$.*

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

$$u'_i[I, \hat{I}(s)] = -\lambda_i(1+I)w'(I) + w'(I) - c'(I) - \eta'[I, \hat{I}(s)] = 0 \quad (2)$$

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 $g[I^*(\lambda_i), \lambda_i] \equiv u'_i[I, \hat{I}(s)] = 0$ and applying the implicit function theorem, we have that

$$\frac{dI_i^*[\hat{I}(s)]}{d\lambda_i} = -\frac{\frac{\partial g}{\partial \lambda_i}}{\frac{\partial g}{\partial I}} \quad (3)$$

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

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

$$E\{u_i[I, \hat{I}(s)]\} = qu_i(I, \bar{I}) + (1-q)u_i(I, \underline{I}) \quad (4)$$

Given that $u_i(I)$ is linear in its stochastic component,¹⁸ the migration target I_i^* maximizing expected utility is given by:

$$I_i^* = (1-q)I_i^*(L) + qI_i^*(H) \quad (5)$$

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 the enforcement cost is linear in I , Lemma 1 implies that

affect our conclusions.

¹⁶Note that in this model, since labor supply is inelastic and given by $1+I$, the equilibrium wages are determined by $w = F'(1+I)$, and profits are given by $\pi(w) = F(1+I) - (1+I)w$.

¹⁷In 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.

¹⁸This implies that the policy maker is risk neutral.

the amount of resources spent on the enforcement of the target I^* is given by:¹⁹

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

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 the state contingent optimal target $I_i^*(s)$.

[INSERT FIGURE 1 APPROXIMATELY HERE]

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 $\eta[I_i^*(H), \bar{I}]$. Hence, having spent only

$$\eta(I_i^*) < \eta[I_i^*(H), \bar{I}] \quad (7)$$

the actual number of migrants is $I_i(H) > I_i^*$. 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 $I_i(L)$ of immigrants actually entering the country 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

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

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

$$\eta [I_i(H), \bar{I}] = \eta(I_i^*) = \Upsilon$$

¹⁹Lemma 1 establishes a monotone relationship between resources spent on enforcement and state of the world (i.e. $\eta [I_i^*(H), \bar{I}] > \eta [I_i^*(L), \underline{I}]$). Since the expected enforcement cost function is a linear combination of the enforcement costs functions under the two states of the world, with weights equal to the probabilities of the states, then $\eta [I_i^*(H), \bar{I}]$ and $\eta [I_i^*(L), \underline{I}]$ provide upper and lower bounds to the amount of resources spent on enforcement depending on the probabilities of the two states.

where

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

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

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

Note that $\frac{\partial \eta^{-1}(\bar{I})}{\partial \Upsilon} \frac{\partial \eta(\bar{I}, I_i)}{\partial I_i} = 1$ and that $\frac{\partial \eta^{-1}(\bar{I})}{\partial \Upsilon} \frac{\partial \eta(\underline{I}, I_i)}{\partial I_i} < 1$ since we have assumed that $|\frac{\partial \eta}{\partial I}(I, \bar{I})| > |\frac{\partial \eta}{\partial I}(I, \underline{I})|$. 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 and 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.²⁰ 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. $\eta(I_p^*) > \eta(I_b^*)$). Moreover, lemma 2 implies that illegal immigration is higher if the policy preferred by the median instead of the average voter is implemented.

4 The game

We are now ready to describe the migration policy making process. We consider a model of elections with two periods, where the future is not discounted; in each the politician 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 $U_g(I) = E[u_{g,1}(I, \hat{I}(s))] + \sigma E[u_{g,2}(I, \hat{I}(s))]$ where $E[u_{g,t}(I, \hat{I}(s))]$, $t = 1, 2$ is the expected per period utility defined in equation 4 and σ is the probability of re-election.

²⁰In particular aggregate welfare $u[I, \hat{I}(s)]$ is given by

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

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

4.1 Information and timing

The types of the first period incumbent and challenger are draws from an identical distribution, and 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.²¹

4.2 Equilibrium

The above structure defines a game of incomplete information between voters and politicians. We seek to characterize perfect Bayesian equilibria of this game using backward induction.

In the second period, because there are no further elections, the incumbent chooses the policy maximizing his own utility, and since 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 period, the policy choice is more complex because of re-election concerns, and it crucially depends on voters' beliefs. Let $P[g = p | I_g, \widehat{I}(s)]$ be the ex-post probability that the incumbent (g) is a populist (p) when the observed number of migrants is $\widehat{I}(s)$ and the target is I_g . We focus on *monotonic beliefs* which have the following property:²² 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.

Monotonic beliefs imply that 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. 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

²¹Note 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.

²²In 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).

may raise it. Under 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.²³ 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.²⁴

We are now ready to describe the process of updating voters’ beliefs. Given that a populist politician always chooses the policy 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 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.

Mimicking does not improve reputation, since when $\gamma_H = 1$ and $\gamma_L = 0$, then $P[g = p | I_p(H)] = \mu$, 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:

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

²³In particular, (i) and (ii) imply that he will never choose a policy $[I_p^*, \eta(I_p^*)]$.

²⁴We refer the interested reader to Facchini and Testa (2010) for the full characterization of the equilibrium.

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), 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, a 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. $P[g = p|I(s)] > \mu$.²⁵ 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.²⁶ 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:

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

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

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

Some additional notation is useful to characterize the case where $U(\textit{under}) > U(\textit{sincere})$. Let $\Delta_H^1 U(\textit{under}) = u[I_b^u(H)] - u[I_b(H)]$ 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 $\Delta_L^1 U(\textit{under}) = u[I_p(H)] - u[I_b(L)]$ be the first period utility difference when the state of the world is *low*. Finally, let $\Delta^2 U(\textit{under}) = u[I_b^*(L)] - u[I_p^*(L)] > 0$ 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:

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

²⁵If $P[g = p|I] > \mu$, 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.

²⁶Re-election incentives in our setup are driven by policy motivation because in the second period the incumbent can choose his most preferred number of migrants $I_b^*(L)$. Adding an ego rent or any other perk from office would of course only strengthen the effect of the electoral incentives.

The left-hand side of the inequality represents the first period expected utility loss from under-investment due to the fact that he spends on enforcement $\eta_u < \eta(I_b^*)$. 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 $(1 - q)\mu\Delta^2U(\text{under})$.

We are now ready to characterize the equilibrium of our game when the incumbent is utilitarian:²⁷

Proposition 1 *Let $\tilde{\mu}_u = -\frac{(1-q)\Delta_H^1U(\text{under})+q\Delta_L^1U(\text{under})}{(1-q)\Delta^2U(\text{under})} > 0$. If $q > \frac{1}{2}$ and $\mu > \tilde{\mu}_u$, 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 he is voted out of office. If $q > \frac{1}{2}$ and $\mu < \tilde{\mu}_u$, 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 utilitarian 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 $\mu > \tilde{\mu}_u = -\frac{(1-q)\Delta_H^1U(\text{under})+q\Delta_L^1U(\text{under})}{(1-q)\Delta^2U(\text{under})} > 0$. 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 can 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 re-election concerns 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

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

²⁷In the case of a populist incumbent, in equilibrium he always chooses the policy preferred by the median voter and is re-elected, because in a separating equilibrium voters can perfectly infer his type, whereas in a pooling equilibrium the number of illegal immigrants generated by the populist never exceeds the threshold required for re-election.

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

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

Since $\eta(I_p^*) > \eta_U$ then $[I_b^u(H) - I_p(H)] > 0$. Furthermore, as $\eta(I_p^*) > \eta(I_b^*)$ and $|\frac{\partial \eta}{\partial I}(I, \bar{I})| > |\frac{\partial \eta}{\partial I}(I, \underline{I})|$, 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 re-election concerns 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.²⁸ 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 $L_1(\lambda_p) = -[q\Delta_H^1 U(\text{under}) + (1-q)\Delta_L^1 U(\text{under})]$ be the first period expected loss incurred by the utilitarian politician by under-investing and let $G_2(\lambda_p) = (1-q)\mu\Delta^2 U(\text{under})$ 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 depends on the difference between the amount of resources spent on enforcement if the politician chooses to under-invest (η_U) instead of playing sincere ($\eta(I_b^*)$). 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 ,²⁹ 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 $\lim_{\lambda_p \rightarrow 0} G_2(\lambda_p) > \lim_{\lambda_p \rightarrow 0} L_1(\lambda_p)$. Then an equilibrium with under-investment arises for all $\lambda_p < \lambda_{sup}$, whereas a separating equilibrium arises*

²⁸An 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.

²⁹As λ_p increases, the populist’s migration target increases and his enforcement spending decreases. Thus the spending required for the under-investment strategy declines.

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 $\lambda_p < \lambda_{sup}$.³⁰ 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.

[INSERT FIGURE 2 APPROXIMATELY HERE]

Using figure 2, we can also analyze the effect of a change in the likelihood that the politician has preferences aligned with those of the median voter: 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 for two reasons. On the one hand, the government might be unable to enforce its policy target because the supply of immigrants is larger than initially expected. In this case, the more restrictive is the official target, 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 enforcement because of re–election concerns. In particular, a utilitarian government is more likely to under–invest the further away its preferences are from those of the median voter (proposition 3), and the more pervasive is populism (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, and the pervasiveness of populist pressures. The *heterogeneity of preferences* channel is at work with both types of

³⁰Note that if instead $\lim_{\lambda_p \rightarrow 0} G_2(\lambda_p) < \lim_{\lambda_p \rightarrow 0} L_1(\lambda_p)$, then there exists a λ_{inf} such that an equilibrium with under–investment will arise if $\lambda_{inf} < \lambda_p < \lambda_{sup}$.

politicians. In particular, if inequality increases, a populist incumbent sets a more restrictive target, generating more illegal immigrants. A change in inequality also affects the behavior of a utilitarian incumbent, but through a different mechanism. As the median voter becomes poorer, a pooling equilibrium is more likely to arise, where the utilitarian government sets the same target as the populist, but under-invests in enforcement. As a result, an increase in inequality has two consequences. First, the setting of a more restrictive target leads to more undocumented immigrants. Second, underinvestment in enforcement increases their number even further. Hence, our analysis predicts that higher inequality in destination countries leads to an increase in illegal immigration, which is larger when the government is utilitarian rather than populist. Finally, according to our model the *populist pressures* channel only affects the behavior of the utilitarian incumbent, which is more likely to under-invest, the larger is the ex-ante probability that a candidate shares the median voter’s preferences. Hence, we expect a positive relationship between illegal immigration and the likelihood of populism in destination countries where the government is utilitarian.

Ideally, if systematic cross-country measures of immigration quotas and enforcement activities were available, we could carry out a full structural test of the predictions of our model, taking into account the role of politicians’ preferences in setting migration quotas and their enforcement. Since these data are not available, we estimate instead the equilibrium relationship between illegal immigration ($Illegal_{ct}$), inequality ($Ineq_{ct}$) and populist pressures (μ_{ct}), using a reduced form specification. To capture the heterogeneous effect of inequality and populism depending on the type of government in power, we interact our main explanatory variables with an indicator of utilitarian politician ($Util_{ct}$). We will thus estimate an equation of the following form:

$$Illegal_{ct} = \alpha_1 Ineq_{ct} + \alpha_2 Ineq_{ct} \times Util_{ct} + \beta_1 \mu_{ct} + \beta_2 \mu_{ct} \times Util_{ct} + \gamma Util_{ct} + \theta \mathbf{X}_{ct} + I_c + T_c + I_t + k + \epsilon_{ct} \quad (13)$$

where the subscripts c and t respectively denote country and year. The vector \mathbf{X}_{ct} includes characteristics of the country of destination and origin. The additional regressors are country fixed effects I_c , country-specific time trends T_c , year fixed effects I_t and a constant k . Finally ϵ_{ct} is a zero mean error term.³¹

The first four coefficients in equation 13 capture the main implications of our model: α_1 represents the effect of inequality when the incumbent is populist, whereas for a utilitarian government the effect is given by $\alpha_1 + \alpha_2$. Our model predicts that $\alpha_1 > 0$ and $\alpha_1 + \alpha_2 > \alpha_1$. The effect of populism is given by $\beta_1 + \beta_2$ when the politician is utilitarian, and by β_1 when he is populist. Based on our model, we expect $\beta_1 + \beta_2 > 0$, whereas $\beta_1 = 0$.

³¹The Appendix contains details on the definition of each variable and its source.

6.1 Data

Migration policy and its enforcement are typically set at the national level. Thus, our empirical analysis will be based on a novel, rich panel dataset which covers eighteen OECD members, which include Australia, Canada, the United States and fifteen European countries, over the period 1982–2004.³² The first challenge we have faced involves obtaining a measure of illegal immigration flows, which is comparable across countries and over time. This requires comprehensive information on the three main pathways into irregular migration – visa overstay, illegal border crossing, and failed asylum. Whereas systematic data on the first two are not available, information on asylum is regularly recorded for advanced destination countries by the United Nations High Commissioner on Refugees (UNHCR). As a result, the only available cross-country database containing measures of illegal immigration flows, developed by the Clandestino project (Triandafyllidou 2009), has extensively relied on information on asylum applications.³³ Importantly, the UNHCR reports not only the number of asylum applicants, but also the number of applications that are rejected, and our sample includes all countries for which data on applications and rejections are available.

Asylum is an important channel of entry of migrants in OECD countries. On average, applications represent over 20 percent of the total migration flow in our sample, and first instance rejections approximately 11.5 percent.³⁴ ³⁵

The importance of asylum varies substantially, with the Scandinavian and the German speaking areas receiving a particularly large number of applications. Southern European countries and the US, on the other hand, are less important destinations. Furthermore, there are substantial fluctuations over time. Interestingly, the majority of asylum applicants are not granted refugee status, because they are not perceived to meet the requirements laid out by the “Geneva Convention Relating to the Status of Refugees” (see Figure A1 in the Online Appendix).³⁶ At the same

³²The European countries included in the sample are Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom. For the exact definition of the variables used in the analysis, see the Appendix.

³³In particular, data on illegal immigration flows are available for a small group of countries and for up to a maximum of eight years. The data are available at: <http://irregular-migration.net/>.

³⁴Source: author’s calculations based on asylum applications data and gross immigration flows data compiled by the United Nations Population Division. See <http://esa.un.org/MigFlows/MigrationFlows.html>.

³⁵In 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 UNHCR statistical yearbook, leading to a double counting of rejection cases.

³⁶See also Hatton (2011). 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.”

time, asylum decisions are poorly enforced.³⁷ In fact, there is ample evidence that unsuccessful applicants unlawfully remain in the country where they sought asylum (Hatton 2011, Hatton and Williamson 2005), and that they are a very important source of illegal immigration. For instance, Gordon et al. (2009) estimate them to represent two thirds of the illegal migrants in the UK in 2001.

While the UNHCR reports detailed information on the outcomes of asylum applications, there is no systematic data on repatriation and voluntary departures of failed asylum seekers to gauge the share of rejected asylum applicants that remain illegally. At the same time, immigration authorities have come to recognize that the degree of policy enforcement is strongly influenced by the timeliness of the asylum decision process – e.g. the longer it takes for an application to be examined, the less likely the removal of unsuccessful applicants becomes.³⁸ Building on this idea, we combine information on the number of rejected asylum seekers and on the speed of application processing to construct our proxy for illegal immigration flows. In particular, using data from the UNHCR on asylum applications and decisions, we build a processing delay index defined as the ratio of applications and decisions in a given year, standardized by the country average. Our measure of illegal immigration is then given by the number of first instance rejections *adjusted* by the processing delay index, and normalized by the population of the country of asylum (see Figure A2 in the Online Appendix).³⁹ On average, illegal immigrants as captured by our proxy represent about 72 per cent of first instance rejections, a figure consistent with existing estimates of removals and involuntary departures reported by Hatton (2011).⁴⁰

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 on the income distribution in destination countries and the preferences of politicians. To measure the former, we use the net income inequality Gini

³⁷For example, in the United Kingdom, removals and voluntary departures were on average less than 20 percent of rejected claims between 1997-2001 and just over a third between 2002-6 (Hatton 2011).

³⁸For instance, as pointed out by the Citizen and Immigration Canada (CIC), “One of the key elements to refugee reform is timely removals. The longer a person remains in Canada, the more difficult it is to remove them. Faster decisions will reduce the time a person spends in Canada before removal. Timely removals will reduce costs and deter abuse. Making an unfounded asylum claim will no longer be seen as an automatic way to stay in Canada for long periods.” Source: <http://www.cic.gc.ca/english/refugees/reform-removals.asp>.

³⁹Denoting by A_{ct} and D_{ct} the number of applications and decisions in country c at time t , our delay index d_{ct} is given by

$$d_{ct} = \frac{\frac{A_{ct}}{D_{ct}}}{\frac{A_c}{D_c}} \quad (14)$$

where A_c and D_c are respectively the average number of applications and decisions in country c . The *adjusted* number of first instance rejections is given by $Illeg_{ct} = d_{ct} Rejected_{ct}$ where $Rejected_{ct}$ is the number of rejected asylum seekers per million individuals.

⁴⁰In the case of the United Kingdom - the only country for which we have evidence on the number of asylum removals and voluntary departures between 1992 and 2004 - first instance rejections net of removals and voluntary departures are strongly correlated with our adjusted rejections measure (the correlation is 0.82). This suggests that our measure is a good proxy for the pattern of rejected asylum applicants remaining in the country as illegal.

coefficient constructed by Solt (2009), who provides the most comprehensive information on cross-country income inequality.⁴¹ 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 assesses the policy positions of parties competing in democratic elections in a large group of OECD 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 percentage of the total number of quasi-sentences in the manifesto. These shares measure the political stance of a party on each issue, and are combined with information on election outcomes to identify the position of the government and that of the median voter.⁴²

In our theoretical setting, a utilitarian politician has preferences aligned with the average voter and will not introduce restrictions to the mobility of workers that are not warranted by the maximization of 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.⁴³ We use these measures to gauge whether a politician is utilitarian or populist. In particular, we define a dummy variable *Util*, which takes a value of one if the government is more market oriented than the median voter, and zero otherwise. Having built this indicator, we use historical information from past elections to construct a proxy for the pervasiveness of populism μ , which at every point in time is given by the average frequency of populist government in the previous three elections.⁴⁴ The pervasiveness of populism varies substantially both across and within countries. Interestingly, Germany and the UK appear to be the countries least likely to have a populist government, whereas Greece and Sweden are at the opposite end of the spectrum (see Figure A3 in the Online Appendix).

Finally, we have collected data on additional characteristics of destination and origin countries that may affect asylum rejections via alternative, and potentially important channels, which we

⁴¹To maximize the availability of comparable data across country and over time, Solt (2009) standardizes the information on income distribution from the World Income Inequality Database, the OECD Income Distribution Database, the Socio-Economic Database for Latin America and the Caribbean, the World Top Incomes Database, the Luxembourg Income Study and national statistical offices around the world.

⁴²See Appendix for details on the procedure followed by the CMP.

⁴³More 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; support for traditional economic institutions such as stock market and banking system; support for strong currency etc.

⁴⁴We 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. See Appendix for details.

have not explicitly considered in the theoretical model: heterogeneity in the supply of migrants and features of the welfare state in destination countries. Concerning the first channel, the number of rejected asylum claims depends not only on the size of the applicants' pool, but also on its characteristics, which cannot be directly observed. On the one hand, individuals seeking asylum in destination countries are often disguised economic migrants (Hatton 2011), and for this reason economic and demographic conditions in both the destination and the source countries are likely to affect the number of rejected asylum applications. On the other, the conditions set out by the Geneva convention for granting refugee status are more likely to be satisfied if war and violation of human rights are widespread in the source country. To account for economic and demographic factors in our benchmark specification we use real GDP per capita in the destination country, and weighted averages of GDP per capita and of the share of the working age population in the country of origin.⁴⁵ To capture the presence of human right violations, we use instead a weighted average of the pervasiveness of conflict in the origin. As for the role played by the welfare state in destination countries, several studies have emphasized its importance in shaping the electorate's preferences towards migration, either because of fiscal spillovers (Mayda 2006) or negative externalities associated with changes in composition of the population using public services (Card, Dustmann, and Preston 2012, Dustmann and Okatenko 2013). To control for this possibility, we account in our analysis for public expenditure on health and education as a share of GDP, as these are services likely to be accessed by migrants and their offsprings. Summary statistics for all the variables we have used are reported in Table 1.

[INSERT TABLE 1 APPROXIMATELY HERE]

7 Results

We are now ready to estimate equation 13. As we have argued before, systematic information is available only for one of the three pathways into irregular migration, namely failed asylum. Importantly, failed asylum is one of the main sources of illegal immigration. Moreover, for those countries for which we have been able to obtain alternative estimates of total illegal immigration, we find that the correlation between the latter and our proxy is very high.⁴⁶ As for our estimation,

⁴⁵To 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.

⁴⁶Comparing our proxy with the number of individuals suspected of illegal entry, which are available annually from crime statistics in the United Kingdom and Germany during period 1994-2004, we find a correlation of 0.73. Eurostat data, available only from 2008 onwards, also confirm the existence of a strong positive correlation between rejected asylum seekers and the number of third country nationals found to be illegally present in European countries.

as long as the observed and unobserved components of illegal immigration respond in the same way to changes in our explanatory variables, then our parameter estimates will provide a lower bound to the true effect. If instead some of the unobserved components behaved differently, then the sign of the true parameters can be correctly estimated provided that the effect of the component we are able to measure dominates the others. To address this concern, we carry out several robustness checks in which we include in our sample only those countries for which there is ample evidence that rejected asylum seekers represent the vast majority of illegal immigrants. By doing so, we are confident that from our estimated coefficients we can infer the sign of the true effect.

A second important caveat in estimating equation 13 is that our results could be affected by measurement error, omitted variable bias, and reverse causality. In particular, we are concerned that a government’s pro-market orientation might be measured with error when its position is not clearly distinguishable from that of the median voter. To address this issue we use alternative indicators of politicians’ preferences. We tackle the omitted variable concern by running several robustness checks in which we use a more extensive set of controls for both origin and destination countries. Finally, we are worried that illegal immigrants might affect the income distribution in the destination country, rather than the other way around. To address this potential reverse causality bias we implement an IV estimation strategy.

7.1 Baseline analysis

Table 2 reports our main findings. We start by presenting in column (1) a parsimonious specification in which we look at the average effect of inequality and populist pressures, controlling for time invariant country specific effects, country specific trends and year fixed effects. Since rejections of asylum applications could be mechanically driven by the size of the pool of applicants, throughout our analysis we will also control for the number of asylum applications. Our parsimonious specification suggests that illegal immigration is positively correlated with both inequality and populist pressures, although only the effect of inequality is statistically significant. Moreover – and not surprisingly – we find that applications are an important determinant of rejections, e.g. countries subject to more asylum pressure do reject more applicants, and this result holds in all our specifications.

[INSERT TABLE 2 APPROXIMATELY HERE]

Since our model indicates that the impact of inequality and populism should differ depending on the type of politician in office, in column (2) we assess these predictions by decomposing the effect of *Gini* and of μ using our indicator of utilitarian government. The estimated coefficients are consistent with the predictions of our theoretical analysis: the marginal effect of inequality

is positive and significant for both types of politicians, and it is larger when the politician is utilitarian. As for the pervasiveness of populism, its impact is positive and significant only when the government is utilitarian. In columns 3-4 we replicate the same exercise, but account also for additional characteristics of destination and origin countries, which may affect the decision to reject asylum seekers via alternative channels that have not been explicitly considered in the model. In particular, in column (3) we focus on factors that determine whether asylum applicants are disguised economic migrants or true refugees, while in column (4) we further control for features of the welfare state in destination countries. Our results suggest that the overall performance of the economy in both destination or origin countries – as captured by GDP per capita – does not play a significant role. At the same time, demographic pressures in the source country are positively correlated with larger illegal flows, whereas the opposite holds for exposure to conflict. This evidence suggests that the distinction between economic and non-economic determinants of migration is important and that whenever conflict is more pervasive, asylum applications are more likely to fulfill the requirements laid out by the Geneva Convention. As for the role played by welfare state considerations, we find that both public spending on health and on education have a positive effect, even though only the latter is significant. This is consistent with the idea that a generous welfare state may increase public opposition to migration, leading to more restrictive policies that, if not perfectly enforced, result in higher illegal immigration. Importantly, introducing these additional controls does not affect the sign and significance of our main explanatory variables.

Are the effects we have uncovered also economically significant? The parameter estimates of our benchmark specification of column (4) suggest that this is indeed the case. Everything else equal, an increase by one standard deviation in income inequality leads to 225 more illegal migrants per million individuals if the government is populist. If the government is instead utilitarian, the effect is larger, and brings about 305 more illegal migrants per million individuals. To put these figures in perspective, consider two countries – Switzerland and the United Kingdom. Between 1987 and 2000, they were both run by utilitarian governments. In 1987 they were also characterized by a comparable income inequality ($Gini = 30$ in both cases), but while in the following years inequality declined in Switzerland, the opposite occurred in the United Kingdom. As a result, in 2000 the United Kingdom (with a $Gini = 34$) is predicted to have 18 percentage points more illegal immigrants than Switzerland (with a $Gini = 28$). As for the impact of populist pressures, which play a role only when the incumbent is utilitarian, our estimated coefficients imply that an increase by one standard deviation in the likelihood of populism results in 81 more illegal immigrants per million individuals. Take again the example of the United Kingdom: after each of the three elections that were held before 1982 a populist government took office. Ten years later, the odds of a populist in power were instead down to one in three. Our parameter estimates imply then that – everything else equal – the inflow of illegal immigrants per capita should drop from

294 per million in 1982 to 98 per million in 1992.

7.2 Robustness checks

We turn now to assess the robustness of our baseline results. An important concern with our dependent variable is 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 Table 3 we assess the robustness of our findings by focusing on different sub-samples of countries. In particular, we exclude the United States in column (1), Southern European countries in column (2), and Australia in column (3). 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).

[INSERT TABLE 3 APPROXIMATELY HERE]

In Table 4 we re-estimate the benchmark specification reported in column (4) of Table 2, using new definitions of the indicator variable describing government preferences (*Util*). We are concerned that our proxy of pro-market orientation might be affected by measurement error, and we address this matter in three ways. First, if the distance between the pro-market orientation of the government and that of the median voter is close to zero, we might be erroneously classifying as utilitarian policy makers that in fact have preferences aligned with those of the median voter. Given how our proxy of μ is constructed, this would also lead to an under-count of the pervasiveness of populism. To address this concern, we build a new indicator, for which we require that the government is not only more pro-market than the median voter, but also that the distance between the two is sufficiently large. The estimated coefficients obtained using three different thresholds (respectively 0.1, 0.3 and 0.5 percent)⁴⁷ are reported in columns (1) through (3) and show that our results are remarkably robust.⁴⁸ Second, if both government and opposition are more pro-market than the median voter, then both would be classified as utilitarian, which again could lead to an over-count of the cases of utilitarian government. In column (4) we thus use an alternative measure where we require the government to be more pro-market than the median voter and

⁴⁷Note that the mean difference between the position of the government and that of the median voter in our sample is 0.9, with a standard deviation of 3.2.

⁴⁸If we instead address the measurement error concern using these new indicators as instruments for our original proxy for the government's orientation, we obtain very similar results, which are available from the authors upon request.

the opposition to be classified as utilitarian. Using this new measure does not alter our main conclusions. Third, the indicator of pro-market orientation provided by the CMP is based only on two policy categories: “free enterprise” 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 column (5) we use a more comprehensive proxy, which also includes support for free trade.⁴⁹ Once again, our results are remarkably robust.

[INSERT TABLE 4 APPROXIMATELY HERE]

In Table 5 we introduce a series of additional controls to the benchmark specification, reporting only the main coefficients of interest and those of the new variables.⁵⁰ In column (1) we start by accounting for demographic and economic characteristics of the destination country, namely unemployment, the share of the population at working age and the share of workers employed in agriculture and services. None of these has a significant effect 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. Again, the introduction of these drivers – that do not play a significant role – does not alter our main results. Since migration policy might be driven by ideological factors, in columns (3) and (4) we account respectively for the left-right leaning of the government, using the scale developed by the CMP, and for the emphasis put in the government parties’ manifesto on law and order.⁵¹ Neither has an impact on illegal immigration 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 three more disaggregated measures that separately characterize different types of disputes. We find that only the pervasiveness of ethnic conflict 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, but none has a significant effect. Importantly, the inclusion of all the additional source country controls does not affect our key results.

⁴⁹This 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.”

⁵⁰The estimated coefficients of the benchmark specification variables are unaffected and the full results are available upon request.

⁵¹The 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 court.”

[INSERT TABLE 5 APPROXIMATELY HERE]

One important caveat is the possibility that our results might be affected by an endogeneity bias. Our first concern is with income inequality, as the decision to apply for asylum could be influenced by the destination country’s income distribution. Note though that, by directly controlling for the number of asylum applications, we are able to rule out that the estimated impact of inequality is affected by the size of the pool of applicants. Another concern is reverse causality, i.e. the fact that the presence of illegal immigrants might directly affect the income distribution in the destination country. Since illegal immigrant flows represent a small fraction of the overall population, this effect is not likely to be quantitatively relevant. Still, to address this concern we implement an IV strategy where we use two- and three-year lagged Gini coefficients as instruments, and our results are reported in column (1) of Table 6. The instruments pass standard tests,⁵² and the estimates indicate that the impact of income inequality on illegal immigration continues to be positive and significant, whereas the magnitude of the effect is about 10 per cent smaller compared to our OLS benchmark specification.

[INSERT TABLE 6 APPROXIMATELY HERE]

Turning to our proxy for populist pressures, remember that μ is entirely determined by past electoral outcomes. Still, the current type of politician in office might be affected by the number of illegal immigrants observed at the time of elections, and this could potentially generate an endogeneity bias due to reverse causality. Importantly, the analysis in our model indicates that reverse causality should bias downward our estimates, which thus provide a lower bound to the true effects.⁵³ Moreover endogeneity concerns are 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. Nevertheless, to address these concerns, in

⁵²In particular, the large p-value for the Hansen-J statistic indicates that we cannot reject the null hypothesis that the excluded instruments are valid, i.e. that they are uncorrelated with the error term. Moreover, the Cragg-Donald Wald and the Kleibergen-Paap rk statistics, which are respectively equal to 45.434 and 11.37, both exceed the 10 percent Stock-Yogo critical value (7.5) for weak identification.

⁵³In our model, when μ is sufficiently small, a separating equilibrium arises whereby a populist incumbent is always re-elected and a utilitarian is always voted out of office. If μ is sufficiently large, a pooling equilibrium can arise where the incumbent is re-elected if the number of illegal immigrants does not exceed the one generated by a populist in the high state of the world. As a result, a populist incumbent is never replaced by a utilitarian because of the migration policy he has chosen. In other words, if we observe that a populist government has been voted out of office, this change is *exogenous* from the perspective of our model. On the other hand, our model predicts that a utilitarian incumbent is replaced by a populist when the observed number of illegal migrants reveals his type. However, since the relationship between irregular migration and the probability of re-election of the utilitarian government is negative (e.g. high illegal immigration causes the dismissal of a utilitarian politician), the correlation between the number of illegal immigrants and the likelihood of observing a utilitarian politician goes into the opposite direction to our estimated interaction effects.

column (2) of Table (6) we exclude observations coinciding with election years from our sample, and it is immediately evident that the sign and significance of our main coefficients of interest are unaffected, whereas their magnitude increases. We obtain similar results also using the IV approach developed in column (1) and dropping the election years (Table 6, column 3).

[INSERT TABLE 7 APPROXIMATELY HERE]

Finally, in Table 7 we carry out a series of placebo tests on government preferences. In particular, our theory defines a utilitarian policy maker as an agent that does not interfere with the working of the free market in the domain of factor mobility as long as allocative efficiency can be achieved. 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 overall 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 preferences toward factor mobility. 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”;⁵⁴ the second on support for “decentralization”⁵⁵ and the last on positive mentions of “political authority”.⁵⁶ 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 government preferences 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 particular, as long as the government has an information advantage over the public concerning the way it controls migration flows, it might

⁵⁴This 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.”

⁵⁵This 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.”

⁵⁶This 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.”

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, independently of the type of politician in power, greater income inequality increases illegal immigration, but its effect is larger when the preferences of the incumbent diverge from those of the median voter. Second, we highlight the key role played by the likelihood that one of the contenders for office shares the median voter’s preferences. In particular, in societies where populist pressures are stronger, an equilibrium in which a utilitarian incumbent will resort to strategic lax enforcement arises more often. We have also assessed the empirical relevance of the theoretical model using a novel panel dataset covering eighteen OECD 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 both codify and enforce rules and regulations. 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 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, nor have we allowed illegal immigrants to generate different costs (e.g. crime), which may have important welfare implications. 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 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 the choice of a single elected body. In reality, the implementation of 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 insights to understand some of the existing immigration policy puzzles.

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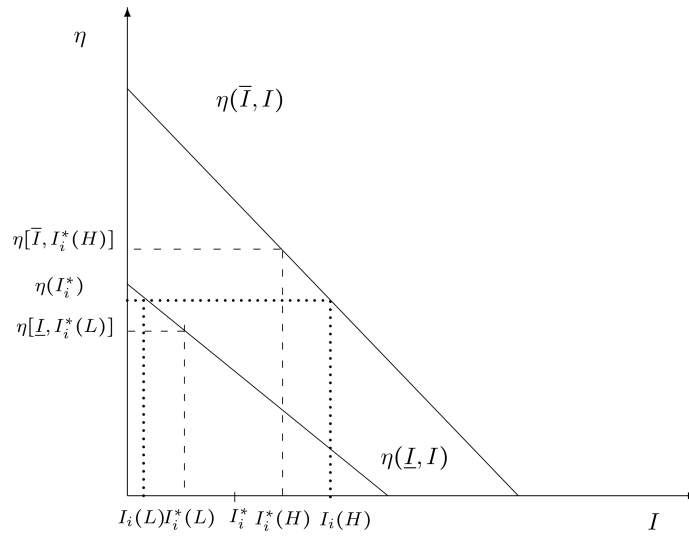


Figure 1: Illegal immigration

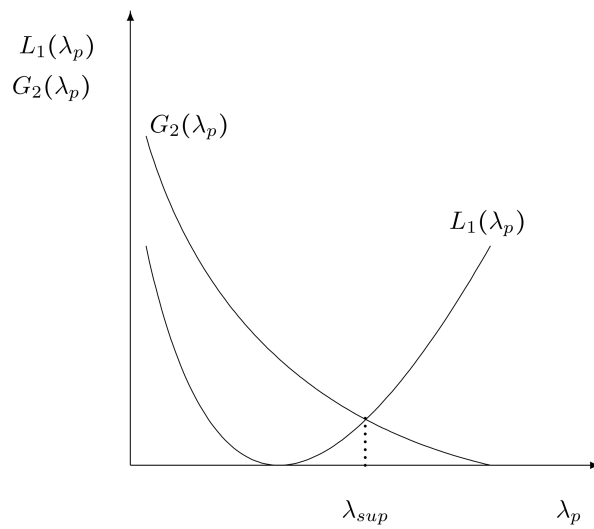


Figure 2: Varying income inequality

Table 1: Summary Statistics

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
<i>Destination countries' characteristics</i>					
Applications per million individuals	370	1080	1238	7.51	9693
Rejected asylum seekers per million individuals	370	538.98	762.09	0.68	5040
Processing delay index	370	1	0.88	0.11	6.75
Illegals per million individuals	370	385.11	545.58	0.40	4294
Gini	371	28.90	4.22	20.08	37.47
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 (distance)	371	0.43	0.50	0	1
Utilitarian (markeco+free trade)	371	0.50	0.50	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 (distance)	371	0.55	0.27	0	1
μ (market+free trade)	371	0.51	0.27	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 (% of civilian population employed)	371	6.60	5.53	1.25	29.94
Services (% of civilian population employed)	371	65.31	8.19	37.30	78.44
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
<i>Origin countries' characteristics</i>					
War in origin	371	0.74	0.93	0.03	5.31
Ethnic war in origin	371	0.88	1.11	0.02	5.40
Revolutionary war in origin	371	0.66	1.05	0.01	6.05
Genocide in origin	371	1.20	2.13	0	17.47
Regime change in origin	371	0.27	0.38	0	2.19
GDP per capita in origin	371	312.06	343.49	25.63	1506.51
Adult population share in origin	371	191.34	214.47	20.27	895.95
Unemployment rate in origin	371	32.60	44.21	1.69	226.30
Population share in urban area in origin	371	210.45	239.59	22.48	1010.10
Life expectancy in origin	371	166.85	188.85	18.53	809.63
Disasters in origin	371	185.42	393.84	0.76	4101.18

Rejected asylum seekers per million: number of first instance rejections of asylum applications normalized by the population of the country of asylum. *Applications per million individuals*: number of asylum applications normalized by the population of the country of asylum. *Processing delay index*: ratio between applications and decisions in a given year, standardized by the country average. *Illegals per million individuals*: number of rejected asylum seekers per million adjusted by the processing delay index. *Gini*: net income inequality Gini coefficient. *Utilitarian*: indicator 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 the weighted average of government parties scores with weights 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 (markeco+free trade, democracy, decentralization, political authority)*: defined as *Utilitarian* using the other party manifesto categories. *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. *Utilitarian (distance)*: defined as *Utilitarian* with the further requirement that the distance between the government's and median voter's markeco scores is larger than the distance between opposition and median voter. μ is the probability of observing a populist government defined as the average frequency of *Utilitarian* equal to zero 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. *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)
Gini	61.38*** (11.88)	50.19*** (9.23)	47.79*** (9.55)	53.24*** (9.65)
Gini x Utilitarian		19.66*** (6.18)	20.92*** (6.40)	18.88*** (6.11)
μ	33.15 (73.70)	-122.48 (83.23)	-103.36 (86.27)	-139.17 (88.14)
μ x Utilitarian		446.04*** (94.48)	421.42*** (98.53)	434.01*** (98.05)
Utilitarian		-851.62*** (210.52)	-870.82*** (218.33)	-818.61*** (211.97)
Applications per million	0.28*** (0.04)	0.28*** (0.04)	0.28*** (0.04)	0.29*** (0.04)
GDP per capita			0.01 (0.02)	0.02 (0.02)
War in origin			-160.59*** (60.32)	-156.90*** (59.39)
GDP per capita in origin			-0.10 (0.83)	-0.30 (0.84)
Adult population in origin			2.43* (1.27)	2.74** (1.29)
Health spending				17.92 (26.89)
Education spending				98.59** (45.19)
<i>Marginal effects</i>				
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \text{Gini}}$		69.85*** (10.15)	68.71*** (10.20)	72.12*** (10.17)
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \mu}$		323.6*** (97.01)	318.1*** (99.00)	294.8*** (99.78)
Observations	370	370	370	370
R-squared	0.8663	0.8778	0.8802	0.8836

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

Table 3: Alternative samples

	(1)	(2)	(3)	(4)	(5)
<i>Excluded countries</i>	<i>United States</i>	<i>Europe South</i>	<i>Australia</i>	<i>Europe South</i> <i>United States</i>	<i>Europe South</i> <i>United States</i> <i>Australia</i>
Gini	51.29*** (9.47)	61.35*** (13.04)	55.66*** (9.76)	47.10*** (15.20)	43.97*** (16.16)
Gini x Utilitarian	21.85*** (6.64)	24.64*** (8.50)	18.43*** (6.19)	38.10*** (12.30)	44.23*** (13.45)
μ	-147.73 (90.13)	-76.80 (117.72)	-166.02* (89.11)	-89.81 (126.44)	-124.84 (128.97)
μ x Utilitarian	462.45*** (101.76)	474.66*** (123.60)	447.96*** (98.02)	551.63*** (128.00)	604.84*** (127.90)
Utilitarian	-913.93*** (223.63)	-985.58*** (286.69)	-810.39*** (213.41)	-1,375.11*** (381.99)	-1,548.30*** (407.85)
Applications per million	0.29*** (0.04)	0.29*** (0.04)	0.29*** (0.04)	0.28*** (0.04)	0.28*** (0.04)
GDP per capita	0.02 (0.02)	0.03 (0.03)	0.02 (0.02)	0.02 (0.03)	0.02 (0.03)
Health spending	15.29 (27.99)	30.90 (35.63)	19.29 (26.97)	21.52 (37.86)	25.35 (37.97)
Education spending	103.40** (47.79)	129.71** (54.27)	98.53** (45.67)	128.65** (57.77)	125.63** (58.60)
War in origin	-179.85** (72.80)	-163.30** (75.04)	-157.14** (63.35)	-179.10** (88.61)	-189.06** (95.73)
GDP per capita in origin	0.14 (1.07)	-0.39 (1.10)	-0.33 (0.86)	0.17 (1.47)	0.07 (1.52)
Adult population in origin	2.76* (1.44)	3.81** (1.71)	2.60* (1.33)	4.03** (1.87)	4.12** (1.94)
<i>Marginal effects</i>					
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \text{Gini}}$	73.13*** (10.38)	86*** (11.14)	74.09*** (10.05)	85.20*** (11.50)	88.21*** (11.22)
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \mu}$	314.7*** (108.6)	397.9*** (129.9)	281.9*** (102.5)	461.8*** (146.4)	480*** (155.8)
Observations	347	282	355	259	244
R-squared	0.8842	0.8792	0.8842	0.8794	0.8798

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

Table 4: Alternative measures of utilitarian government

	(1)	(2)	(3)	(4)	(5)
	<i>Threshold=0.1</i>	<i>Threshold=0.3</i>	<i>Threshold=0.5</i>	<i>Utilitarian distance</i>	<i>Utilitarian free</i>
Gini	53.14*** (9.77)	54.36*** (10.24)	66.08*** (12.17)	64.29*** (11.31)	52.22*** (10.04)
Gini x Utilitarian	17.21*** (6.25)	14.15** (6.24)	10.25 (7.09)	17.37*** (5.79)	16.90*** (6.06)
μ	-127.82 (85.41)	-120.54 (83.83)	-101.69 (90.40)	-120.05 (91.02)	-128.96 (95.16)
μ x Utilitarian	455.53*** (103.78)	430.75*** (95.64)	403.16*** (103.16)	424.38*** (106.13)	388.05*** (101.60)
Utilitarian	-799.48*** (215.22)	-690.36*** (210.32)	-584.27** (234.58)	-833.98*** (201.67)	-729.93*** (208.81)
Applications per million	0.29*** (0.04)	0.29*** (0.04)	0.29*** (0.04)	0.29*** (0.04)	0.29*** (0.04)
GDP per capita	0.02 (0.02)	0.03 (0.02)	0.03 (0.02)	0.02 (0.02)	0.01 (0.02)
Health spending	26.95 (28.16)	23.68 (27.63)	15.33 (27.86)	15.71 (28.34)	14.90 (27.00)
Education spending	104.90** (46.54)	109.46** (47.25)	112.75** (48.28)	114.24** (45.90)	113.16** (48.40)
War in origin	-151.33*** (57.56)	-148.04** (58.07)	-141.54** (60.98)	-146.39** (62.31)	-163.99*** (58.98)
GDP per capita in origin	-0.26 (0.86)	-0.27 (0.86)	-0.46 (0.86)	-0.57 (0.84)	-0.38 (0.85)
Adult population in origin	2.70** (1.29)	2.77** (1.29)	2.98** (1.27)	2.76** (1.31)	3.05** (1.29)
<i>Marginal effects</i>					
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \text{Gini}}$	70.35*** (10.11)	68.51*** (10.35)	76.33*** (12.49)	81.65*** (11.87)	69.12*** (10.40)
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \mu}$	327.7*** (98.47)	310.2*** (98.27)	301.5*** (96.71)	304.3*** (98.90)	259.1*** (92.68)
Observations	370	370	370	370	370
R-squared	0.8843	0.8836	0.8809	0.8860	0.8826

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

Table 5: Additional controls by country of destination and origin

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gini	57.38*** (10.99)	46.23*** (12.84)	53.63*** (9.62)	54.23*** (9.28)	52.77*** (9.81)	53.48*** (9.70)	53.19*** (9.74)
Gini x Utilitarian	15.49** (6.06)	18.65*** (6.27)	17.39*** (6.02)	17.89*** (6.22)	19.40*** (6.12)	18.32*** (6.30)	17.53*** (6.19)
μ	-137.37 (91.19)	-66.03 (90.69)	-158.41* (88.83)	-133.32 (93.30)	-135.95 (88.49)	-107.99 (88.08)	-133.27 (90.28)
μ x Utilitarian	332.11*** (105.27)	267.01** (109.54)	438.81*** (97.69)	429.25*** (96.30)	438.63*** (97.83)	414.29*** (93.60)	440.45*** (99.49)
Utilitarian	-665.08*** (213.39)	-738.52*** (216.50)	-752.93*** (210.29)	-787.07*** (210.24)	-834.03*** (212.51)	-796.58*** (213.54)	-786.75*** (212.88)
Unemployment	-5.21 (8.06)						
Adult population	15.19 (22.71)						
Agriculture	2.52 (18.83)						
Services	-7.65 (14.70)						
Family spending		-78.27 (67.89)					
Housing spending		-120.48 (134.08)					
Unemployment spending		-27.04 (33.91)					
Right-left government ideology			-1.29 (1.26)				
Law and order				-9.08 (18.40)			
Frequency of Amnesties					-57.57 (99.59)		
Ethnic war						-114.79** (56.51)	
Revolutionary war						-46.22 (53.01)	
Genocide						9.08 (10.98)	
Unemployment in origin							-0.33 (1.88)
Life expectancy in origin							-5.22 (4.86)
Urban population in origin							0.08 (4.26)
Natural disasters							0.01 (0.03)
Benchmark controls	yes	yes	yes	yes	yes	yes	yes
War in origin	yes	yes	yes	yes	yes	no	yes
<i>Marginal effects</i>							
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \text{Gini}}$	72.87*** (11.84)	64.88*** (13.62)	71.02*** (10.27)	72.12*** (10.23)	72.16*** (10.43)	71.80*** (10.29)	70.72*** (10.49)
$\frac{\partial \text{Illegal(Utilitarian=1)}}{\partial \mu}$	194.7* (105.7)	201* (107.1)	280.4*** (98.61)	295.9*** (100.8)	302.7*** (99.15)	306.3*** (97.68)	307.2*** (104.6)
Observations	356	340	370	370	370	370	370
R-squared	0.8900	0.8963	0.8840	0.8838	0.8838	0.8852	0.8840

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specifications 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 6: IV regressions

<i>Sample</i>	(1) IV <i>All</i>	(2) OLS <i>No election years</i>	(3) IV <i>No election years</i>
Gini	48.40*** (12.71)	59.16*** (12.64)	59.44*** (14.67)
Gini x Utilitarian	15.43*** (5.77)	21.86*** (7.93)	13.83** (6.41)
μ	-97.63 (78.76)	-71.04 (91.13)	-82.93 (78.28)
μ x Utilitarian	335.49*** (84.51)	444.13*** (140.69)	347.52*** (104.19)
Utilitarian	-664.52*** (196.13)	-946.23*** (290.05)	-655.30*** (228.22)
Applications per million	0.29*** (0.04)	0.22*** (0.03)	0.23*** (0.02)
GDP per capita	0.01 (0.02)	-0.00 (0.02)	-0.01 (0.02)
Health spending	19.90 (24.52)	-17.35 (36.31)	-12.95 (31.25)
Education spending	94.38** (40.75)	65.82 (45.11)	63.07* (38.07)
War in origin	-139.08*** (51.03)	-76.34 (89.21)	-63.18 (71.94)
GDP per capita in origin	-0.03 (0.76)	0.33 (1.44)	0.48 (1.18)
Adult population in origin	2.70** (1.14)	1.17 (2.40)	1.29 (1.98)
<i>Marginal effects</i>			
$\frac{\partial \text{Illegal}(\text{Utilitarian}=1)}{\partial \text{Gini}}$	63.83*** (13.95)	81.02*** (14.39)	73.27*** (16.49)
$\frac{\partial \text{Illegal}(\text{Utilitarian}=1)}{\partial \mu}$	237.9*** (83.55)	373.1*** (143.0)	264.6*** (102.2)
Observations	364	224	220
R-squared	0.8920	0.9140	0.9229
<i>First stage F-test</i>			
Gini	F(4,293) 14.72		F(4,149) 10.31
Gini x Utilitarian	384.14		193.06
<i>Weak identification test</i>			
Cragg-Donald Wald F statistic	45.434		30.475
Kleibergen-Paap rk Wald F statistic	11.37		7.622
Hansen J statistic	1.094		4.351
Chi-sq(2) P-val	0.5786		0.1135

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Dependent variable: illegal immigrants per million individuals. All specifications include country fixed effects, country specific trends, year fixed effects and constant term. In columns (1) and (3) Gini and its interaction with the Utilitarian dummy are instrumented using 2 and 3 years lagged Gini and its interaction with the Utilitarian dummy as excluded instruments.

Table 7: Placebo tests

	(1)	(2)	(3)
	<i>Democracy</i>	<i>Decentralization</i>	<i>Political authority</i>
Gini	65.60*** (10.29)	64.17*** (11.91)	65.91*** (11.34)
Gini x Utilitarian	-0.43 (0.85)	-0.46 (0.80)	-0.87 (0.83)
μ	284.37** (120.17)	44.37 (118.03)	-125.11 (85.50)
μ x Utilitarian	-81.54 (112.27)	-38.53 (97.81)	-24.02 (55.08)
Utilitarian	77.26 (73.72)	-4.85 (65.30)	95.09*** (34.51)
Applications per million	0.29*** (0.04)	0.29*** (0.04)	0.29*** (0.04)
GDP per capita	0.04* (0.02)	0.03 (0.02)	0.03* (0.02)
Health spending	23.47 (29.40)	7.00 (27.37)	16.40 (28.13)
Education spending	134.84*** (50.15)	106.51** (48.07)	113.59** (46.48)
War in origin	-126.29** (59.22)	-136.65** (63.33)	-142.91** (62.11)
GDP per capita in origin	-1.10 (0.94)	-0.68 (0.86)	-0.85 (0.87)
Adult population in origin	3.88*** (1.33)	3.77*** (1.30)	4.23*** (1.35)
Observations	370	370	370
R-squared	0.8799	0.8737	0.8771

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