Immigration, Human Rights and Redistribution

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Abstract

This paper assesses the effect of immigration on redistribution in an environment with two types of agents - unskilled and skilled - and varying combinations of human rights granted to foreign workers. The predicted effect of immigration on redistribution is highly mitigated by the enfranchisement of human rights to foreign workers. We show that when foreign workers enjoy political, social and working rights, the redistribution level is given by the ratio of skilled workers. Voting enfranchisement, while neutral in determining the tax-rate, entails a strict Pareto improvement for natives. While denying working rights to foreign workers decreases discontinuously the tax-rate, denying social rights increases it.

1 Introduction

Few issues have changed the political landscape of western democracies inasmuch as immigration. An intriguing dilemma is whether the change induced by the immigration issue reflects unjustifiable xenophobic beliefs or legitimate welfare concerns. By no surprise, therefore, a long strand of research focuses on the political economy effects of immigration on the hosting country. Abstracting from the cultural differences between native and foreign workers allows to place the focus on the welfare effects of unskilled immigration. This paper adds to this literature by providing a novel model of redistribution that offers a better account of the available empirical evidence and by analyzing how varying combinations of human rights enfranchised to foreign workers affect the tax rate.

In order to study the distributive consequences of immigration, rather than its average effect on the net consumption of the natives, it is crucial to recognize that immigrants are generally less skilled than natives. The most important consequence is that immigration increases the relative size of the poor group, which favor redistribution, at the expenses of the rich group, which opposes it. Predicting the reaction of the tax rate to an inflow of unskilled immigrants, therefore, boils down to study the mapping between the demand of redistribution, which increases with the size of the pro-redistribution group, and its actual equilibrium value. In world without cultural barriers, an inflow of immigration represents an opportunity to identify the actual social contract in essence across western democracies.

If redistribution increases with unskilled immigration, then the burden of the latter is eventually shared among groups with heterogeneous labor incomes in a way to counter *ex-post* consumption inequality. This theoretical claim, that borrows from the seminal contribution of Meltzer and Richards (1981), guides the extant theoretical literature on the political-economy of immigration. Under this scenario, unskilled immigration entails little distributive effects.

There exist, however, theoretical arguments that cast doubt on the claim that a larger pro-redistribution group result in a larger tax-rate. Perhaps more importantly, the empirical literature shows that immigration, while increasing the demand for public good, tends to decrease the political strength of the pro-redistribution group, yielding a negative effect of immigration on tax rate. Clearly, if unskilled immigration reduces the tax rate, then its distributive effects may become relevant.

The main goal of this paper is to identify the relevant primitives and mechanisms that cause an

established theoretical claim - unskilled immigration increase redistribution - to fail in predicting actual societal outcomes. I conceptualize a different mechanism through which redistribution outcomes actually arise and identify an important primitive that better describes the role of foreign workers in the redistribution struggle. Firstly, the mechanism through which redistribution outcomes actually arise can hardly be approximated by majority voting, for the latter does not account for the inherently asymmetric intensity of preferences that individual endowed with heterogeneous labor incomes may have in the redistribution process. Secondly, while foreign workers can be equal in all extent to natives ones, the human rights granted to them may not, particularly in the short run. Political, social and working rights are only enfranchised gradually to foreign workers, with varying combinations and strong implication for the strength of the pro-redistribution coalition.

I gradually incorporate these novelties in an otherwise standard political economy model of immigration. A closed economy is populated by unskilled and skilled workers that are perfect substitutes. In the first stage of the game, relaxing the hypothesis that redistribution is chosen through costless majority voting, I allow agents to choose any continuous level of costly political participation aimed at influencing their bargaining power in determining the tax-rate in stage two. In the second stage, the tax-rate maximizes the product of net individual consumption levels weighted by the political investment in stage one.

Replacing majority voting with a continuous level of costly political participation allows to grasp some important insights. Continuous participation allows agents to compute the optimal choice of participation conditional on the stack she has in redistribution at any given level of inequality. Costly participation, since the cost is individual whereas the benefit is common, introduces the problem of coordination in political participation. Expropriating through taxation a smaller and hence more organized group of wealthy individuals is then harder, not easier, for the poor.

The game is solved under different combinations of human rights granted to immigrants. Treating immigration as a simple increase of a particular group disables from understanding the political process that ultimately leads to redistribution outcomes. Different configurations of political, working and social rights, in fact, have a large impact on the type of pro and anti redistribution coalitions. To give an example, when foreign workers are not granted the right to work, they receive no income an must uniquely rely on transfers. As such, if unskilled natives redistribute towards unskilled foreigners more than they receive from skilled natives, then they start opposing redistribution.

These two key departures with respect to the extant literature - the collective choice mechanism assumed for redistribution outcomes and the different combinations of human rights granted to foreign workers - give raise to a set of results that reverts and nuances the main prediction of the extant literature. In our model, in fact, the tax rate is inversely correlated with the size of the pro-redistribution group. Unskilled immigration, therefore, tends to decrease the tax rate. As such, the premise that the burden of immigration, which creates congestion in transfers, is countered by an increase in the tax rate that prevents a rise in *ex-post* consumption inequality, is not fulfilled.

This main prediction is nuanced as we consider a varying combination of human rights enjoyed by unskilled workers. Political rights allows foreign workers to participate in the redistribution game. Social rights allow them to receive grants and working rights allow them to receive a labor income. The main framework assumes that foreign workers are equal in all extent to native ones. Then, we withdraw political rights and compute the equilibrium tax-rate again. Finally, we analyze the tax-rate when either social or working rights, in addition to political ones, are denied to foreign workers.

We find that enfranchising political rights has no effect in determining the tax-rate, but represents a Pareto improvement for native workers as it permits them to save on the cost of political influence. Furthermore, while skilled workers always oppose redistribution, native unskilled workers favor redistribution under full rights and when social rights are not granted, but they oppose redistribution when working rights are not granted to foreign workers and immigration is relatively high. As a result, the tax rate is the highest when social rights are not granted and the lowest when working rights are not granted.

The main message of the paper is the following. In my model there are no effects of immigration on incomes. Hence, the disaffection towards political participation and its negative effects on taxation are mainly due to the mapping through which political participation converts into political influence. Captured democracies and incomplete human rights rather than the cruelty of the law of demand and supply induce those immigration worries that imply dangerous changes in the stability of western democracies.

1.1 Related Literature

A key starting point is that while unskilled immigration entails little (Borjas, 1996; Card, 2001; Card, Dustmann and, Preston, 2012) or no change (Ottaviano and Peri, 2006; 2012) in the skill pre-

mium, it does enhance the number of net-welfare receipients. Hence, in the absence of any adjustment in the tax-rate, an inflow of unskilled immigration causes congestion on transfers (Wildasin, 1994) thereby lowering the net consumption of natives. Since the poor relies on transfers proportionally more than the rich, the 'fiscal leakage' channel (Razin, Sadka and Sincomel, 2002) is particularly worrisome for the former group.

Scholars in the field (Benhabib, 1996; Dolmans and Huffman, 2004; Ortega, 2005) highlight that democracies provide a way to counter this negative effect of unskilled immigration on net consumption. They argue that an inflow of unskilled immigration, while inducing higher congestion on transfers, increases the political influence of the pro-redistribution groups thereby leading to higher redistribution levels. As such, the effect of unskilled immigration on redistribution becomes ambiguous: higher redistribution may more than offset larger congestion.

Each of these political-economy model of immigrationis largely based on Benhabib (1996) and employs majority voting as a collective choice mechanism, but each has peculiar features. For instance, Dolmans and Huffman (2004) keeps economic decision endogenous in a two-period model with saving and capital accumulation, whereas Ortega's paper (2005) features skill upgrading in a dynamic model.

The theoretical claim that the tax rate increases with unskilled immigration clashes, however, with the available empirical evidence. Razin, Sadka and Sincomel (2002, p167) show that *a higher share of low-education immigrants in the population leads to a lower tax rate*, casting doubts on the premise that higher immigration increases redistribution. Furthermore, recent empirical works shows that unskilled immigration hardly makes the pro-redistribution alliance of blue collars of different nationality stronger. An inflow of unskilled immigration provokes disaffection towards political participation (Barone et al., 2016) and causes the working class to shift towards anti-immigration platforms (Scheve and Slaughter, 2001; Facchini and Mayda, 2009; Otto and Steinhardt, 2014).

2 Model

2.1 Basic framework

Stage 0. There are two types of economic agents. Let the sets of natural numbers $U \in \{1, ..., U\}$ and $S \in \{1, ..., S\}$ to denote respectively unskilled and skilled workers and

$$N = U \cup S = \{i : i \in \{U\} \text{ or } i \in \{S\}\},$$

moreover, $U \cap S = \{\oslash\}$ and $N = \{1, ..., N\}$. We refer as $u(1-u)$ as the total the fraction of unskilled and skilled: $u = \frac{U}{N}$. We assume that $u > \frac{1}{2}$. Each agent inelastically supplies one unit of labor. Workers are perfect substitutes with different productivity levels. Under competitive market, we write y_u and y_s for the gross labor income of skilled and unskilled workers. It holds that $y_s > y_u$: skilled workers are the rich and the few and unskilled workers are the poor majority. Furthermore, the average income is given by

$$\bar{y} = \frac{U y_u + S y_s}{N},$$

and we define

$$\Delta^y = y_s - y_u \tag{1}$$

to capture the labor income differential.

Let $\tau \in [0, 1]$ be a flat tax. In an economy without saving, instantaneous consumption would be simply given by

$$z_i = (1 - \tau) y_i + \tau \bar{y}. \tag{2}$$

Under balanced budget, $\tau \bar{y}$ is the value of an universal transfer which is levied proportionally and redistributed linearly to all economic agents. Finally, let

$$\Delta^z = z_s - z_u = (1 - \tau) \Delta^y \tag{3}$$

be the net consumption differential. This framework simplifies Meltzer and Richards (1981) in two extents. Firstly, we have only two levels of labor incomes instead of a continuum. Secondly, as labor supply is inelastic, no consumption-leisure trade-off takes place and hence redistribution does not entail any distortion.

Remark. It is straightforward that for any $i \in U$ ($j \in S$), the consumption is maximized under *full redistribution,* $\tau = 1$ (*laissez-faire,* $\tau = 0$). If the tax-rate is decided through majority voting, the unskilled majority imposes $\tau^* = 1$.

Stage 1. One vote rarely translates into one unit of political influence; the latter is achieved, in single issues, through many forms of political influence. In the US, Republicans may win the election under majority voting promising tax-cuts, but facing strikes and demonstrations may eventually abandon the bill. Democrats may draft proposals for stricter gun control, but once running executive power they may end up pleasing the small in number but strongly organized NRA (Bouton et al, 2016). Redistribution may be another issue in which the affluent minority imposes the policy choice, thereby modifying the assumed political alliance of agents with similar priorities. Departing from the logic of costless majority voting, we assume that agents can invest any amount of costly political influence x_i to influence the redistribution level towards their bliss point. In practice, each agent chooses $x_i \in \mathbb{R}_+$, furthermore, $x_J = \sum_{i \in \{J\}} x_i$, and $x = \sum_i x_i$. The domain of x_i is chosen to force agents to undertake a minimal political duty, and can be thought of as a formal institution such as compulsory voting. Political influence is costly. The cost function of political influence, $c(\cdot)$ has the following properties: $c'(x) > 0$ and $c''(x) = 0$. Hence, the net consumption z_i is, for each agent i, a function of the τ which, in turn, is a function of her own investment in political influence as well as on the one of any other agent, summarized by the vector $\mathbf{x} = \{x_1, .., x_N\}$. Given (2), each agent's net utility subtracts the cost of political influence to consumption, yielding

$$u_i = z_i [\tau(\mathbf{x})] - x_i \quad \text{s.t } z_i \geq 0. \tag{4}$$

Stage 2. Stage 2 specifies the mapping through which political influence determines redistribution outcomes. The redistribution outcome reflects a compromise among groups with different preferences and with a possibly different political influence. In particular, we assume that τ reflects the Nash bargaining solution that maximizes the Nash product of individual consumptions weighted by their investment in political influence. Focusing on the grand coalition, $\tau \in [0, 1]$ maximizes the following welfare function:

$$W = \prod_{i \in N} z_i^{x_i}. \tag{5}$$

This cooperative solution allows to ignore the role of discounting in non-cooperative multilateral bargaining games that requires unanimity rule (Binmore, 1987).

Stage 3. The game ends and payoffs are realized.

Solution Concept. In stage 2, the Nash bargaining solution is the core allocation $\mathbf{z}^* = \{z_1^*, .., z_n^*\}$ induced by the choice of τ that maximizes the weighted Nash product of the grand coalition. The outcome of stage 2 is anticipated by players in stage 1. In stage 1, we focus on the symmetric Nash-Cournot solution. There is no uncertainty in this game. We look for pure strategy subgame perfect Nash equilibria with N players and payoffs defined by 4. Strategies are summarized by an ordered $N-$tuple $\mathbf{x} = \{x_1, .., x_N\}$. Finally, the payoff function $u_i(x_i, x_{-i})$ is a mapping $u_i : \prod_{i=1}^{N} \mathbb{R}_+ \to \mathbb{R}$.

3 Analysis

Proceeding by backward induction, we start our analysis by providing the solution for stage 2. Since we focus on symmetric solutions on stage 1, the investment in political influence is the same across agents with equal skills. As such, we can group individuals with equal labor incomes in the same group. Once we account for this observation and we plug (2) into (5), the coalitional Nash bargaining solution yields the tax rate $\tau \in [0, 1]$ that maximizes the following weighted welfare function:

$$W = [(1 - \tau) y_u + \tau \bar{y}]^{U x_u} [(1 - \tau) y_s + \tau \bar{y}]^{S x_s} \tag{6}$$

In general, the consumption of unskilled workers - irrespective of their identity, is maximized under $\hat{\tau}_u = 1$ whereas skilled workers are best off with $\hat{\tau}_s = 0$. Since, for any $j \in U$ ($i \in S$) *full redistribution* (*laissez-faire*) maximizes net consumption, (weighted) Nash bargaining solution implies:

$$\tau^* = \frac{x_U}{x} \cdot \hat{\tau}_u + \frac{x_S}{x} \cdot \hat{\tau}_s$$

and hence, plugging the tax-rates that maximize agents' consumption, we have:

Lemma 0. The equilibrium tax-rate in stage 2 given by the sum of the political investments

made by all unskilled agents over the sum of all investments:

$$\tau^* = \frac{x_U}{x}. \tag{7}$$

The main primitive of our analysis is the assumption that agents with heterogeneous labor income levels can, in stage 1, expend resources in order to increase their weight in influencing redistribution towards their preferred tax rate, taking (7) as given. In order to fully appreciate how this assumption shapes equilibrium redistribution, let us focus first on the most natural counterfactual in which all agents exert the same influence: $x_i^* = \bar{x}$ for all $i \in N$. Obviously, this situation in which redistribution in not biased by the endogenous investment of agents in political influence would represent a prisoner's dilemma unless $\bar{x} = 0$. We obtain:

Lemma 1. If $x_i^* = \bar{x}$ for all $i \in \mathbf{N}$, then, given (5), we obtain $\tau^* = u$. Hence, the tax rate is given by the ratio of unskilled workers. Furthermore, Δ^z decreases with u. Hence, an increase in the ratio of unskilled workers decreases the ex-post consumption differential.

This result reproduces one of the most important prediction of Meltzer and Richard (1981): an increase in the size of the pro-redistribution group induces higher redistribution in a different context where taxation does not entail distortion through the labor supply but political influence is costly. However, there are two key reasons why an equal investment in political influence by all agents is not an equilibrium. We now discuss them carefully.

Firstly, the investment in political influence is computed according to the gain from redistribution that agents expect to enjoy. There is no reason to expect the potential gain or loss from redistribution to be the same across agents with different labor incomes. In other words, the *stack on redistribution* $w_i = |\bar{y} - y_i|$, capturing agent $i's$ highest potential monetary gain (if $y_i \leq \bar{y}$, hence for unskilled workers) or loss (if $y_i \geq \bar{y}$, hence for skilled workers) arising from redistribution, is inherently asymmetric. Computing w_i for both types we obtain:

$$w_u = (1 - u)\,\Delta^y; \; w_s = u\Delta^y, \tag{8}$$

where, since $u \geq 1/2$, it holds that $w_s \geq w_u$. Moreover, the larger the relative ration of unskilled

workers u, the larger the extent to which w_s exceeds w_u. This observation highlights the emergence of the following trade-off. On the one hand, given (8), an increase in the ratio of unskilled workers makes the stack on redistribution higher for skilled workers and lower for unskilled ones. On the other hand, however, agents with equal labor incomes have equal preferences and equal stacks on redistribution. In our zero-sum game, assuming that $x_i^* = w_i$ in stage one, it is easy to verify that the two effects cancels up as $\sum_{i \in \{U\}} w_i = \sum_{j \in \{S\}} w_j$:

> **Lemma 2.** *If $x_i^* = w_i$ for all $i \in N$, then, given (5) we obtain $\tau^* = \frac{1}{2}$. Hence, the tax rate is independent on the ratio of (un)skilled workers. Furthermore, Δ^z is not affected by u. Hence, an increase in the ratio of unskilled workers has no effect on the ex-post consumption differential.*

By incorporating the fact that the stack on redistribution is inherently asymmetric across heterogeneous agents, Lemma 2 changes the prediction about redistribution outcomes with respect to Lemma 1. In particular, redistribution is no longer a function of the relative size of the competing groups, the tax rate is always equal to $\frac{1}{2}$.

The second key element that drives our equilibrium outcome is that our redistribution game couples private costs of individual influence with a common benefit, since the tax-rate is set for the whole population irrespective of the individual influence exerted by each agent. This allows agents to free-ride on agents with similar preferences for redistribution in order to obtain the preferred tax-rate at no cost. Individual best responses in stage 1 are therefore affected by this further channel, leading to an actual equilibrium result that completely reverts Lemma 1 and, as such, one of the main output of Meltzer and Richard (1981):

> **Proposition 1.** *In the unique SPE of the game, we obtain $\tau^* = 1 - u$. Hence, the tax rate is given by the ratio of skilled workers. Furthermore, Δ^z increases with u. Hence, an increase in the ratio of unskilled workers increases the ex-post consumption differential.*

This result contrasts the most important prediction of Meltzer and Richard (1981) and comports well with the theoretical expectations in Romer (1998) or Bénabou (2000). The latter argues that

Redistribution is often correlated with inequality in just the opposite way than predicted by political-economy model: among industrial economies, the more unequal ones tend to redistribute less, not more.' (2000, p9). However, in these papers the possibility that richer individuals enjoy a disproportionate influence on redistribution outcomes is obtained through, respectively, a multidimensional game and some exogenous voting weights within a majoritarian voting framework. Instead, in our game, this result stems from the combination of two channels: the inherently higher stack on redistribution of affluent individuals and the larger incentive to free ride on political action within the larger (ans so the poorer) group.

Our result reproduces a stylized fact in the political participation literature (Brady et al, 1995): richer individuals are disproportionally influential in driving policy outcomes. Finally, Proposition 1 proposes a simple account for a large empirical evidence that redistribution decreases rather than increasing in the level of inequality (Larcinese, 2007).

3.1 Immigration

We use our framework to assess the effect of immigration on redistribution. In accordance with most of the theoretical literature, we assume immigration to be unskilled. The most natural way to think about immigration is an increase in the size of the unskilled group. However, the effect of the latter on the tax rate is already assessed in Proposition 1. Therefore, instead of looking at the effect of changes in the group size structure, we hold the latter constant and look at how a varying composition of the unskilled group affects the tax-rate for a given unskilled ratio.

We assume that, among unskilled workers, there is a fraction θ of $n$ative (subscript n) and a fraction $1 - \theta$ of $f$oreign (subscript f). We refer as $u\,(1 - u)$ as the total the fraction of unskilled and skilled, so that $u = \theta u + (1 - \theta)\,u$.[1] These assumptions insure that an increase in unskilled foreign workers does not modify the unskilled to skilled ratio, but rather the composition of it.

If foreign workers are equal in all extents to native ones, then the national identity of the working class has no effect in redistribution itself. Assuming that foreign workers have exactly the same status as native ones is, however, at odds with reality as the human rights of foreign citizens are typically constrained on several dimensions. We are going to analyze how the enfranchisement of how three fundamental rights - political, social and working rights - affect the rate of redistribution.

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[1]Whether the substitutability of foreign to native workers is infinite or not is a debated issue in the empirical literature. Seminal contributions find no evidence of immigration changing the skill premium (Ottaviano and Peri, 2006; 2012). Even when a significant change is detected it has very low magnitude (Borjas, 1996; Card, 2001; Card, Dustmann and, Preston, 2012).

The lack of political rights implies that foreign workers do not exert political influence. The lack of working rights implies that they do not receive a labor income whereas the lack of social rights imply that they pay taxes but do not receive a transfer from the government.

3.1.1 Lack of Political Rights

Within EU free-movement immigration, foreign workers enjoy the same socioeconomic rights as native workers. However, their political rights are severely constrained and voting rights in general elections are granted slowly. A first question I assess, therefore, is how foreclosing political rights to foreign workers shape redistribution outcomes and net payoffs in our model. Institutions such as the *ius solis* exemplifies the low speed at which political rights are enfranchised (Ortega, 2011). This is summarized by assumption 1:

$$\text{A1: Foreign workers sets } x_i^* = 0.$$

Under this scenario, foreign workers have exactly the same status as native ones. However, being excluded from political rights, they optimally set $x_i = 0$. As a result, the burden of the pro-redistribution investment in political influence is entirely supported by native workers. These results are proven in the Appendix and summarized by Proposition 2:

> *Proposition 2 (**Lack of Political Rights**). Under A1, the tax rate is given by the ratio of skilled workers:*
>
> $$\tau^* = 1 - u.$$
>
> *Moreover, since the net consumption of native unskilled is lower while skilled workers are strictly indifferent, enfranchising political rights is a strict Pareto improvement.*

Proof: Appendix.

Proposition 2 sheds light on a widely debated issue: the role of voting enfranchisement. We show that whether foreign workers can vote or not, this has no effect on the level of redistribution. The reason is that the key primitive to compute the optimal level of investment in political influence is the stack in redistribution, which is independent on whether foreign workers are allowed to participate. Given that, since the lack of enfranchisement forces foreign workers to free-ride on native ones, the former are better off as they save on political investment and the latter are worse

off. On the other side, skilled workers are indifferent between the two cases. Hence, all in all, enfranchising political rights represents a Pareto improvement among natives as it increases the net utility of native unskilled.

3.1.2 Lack of political and working rights

There exist profiles of immigrants other than those belonging to particular areas such as the Schengen one. Nowadays, the spectacular salience of the immigration issue on most western democracies is due to citizens escaping conflicts. Recent waves of immigration from poor countries as determined by the refugee crisis emphasized new tensions among blue collars as foreign workers' access to the labor market is limited by both formal and real constraints. Concerning formal constraints, it is known that asylum seekers are not entitled to work in the hosting country as long as they do not receive full refugee status. Concerning real constraints, it must be stressed that since the migration decision does not reflect an economic choice, immigrants might be highly limited in entering the job market by *e.g* lack of linguistic knowledge. On the other hand, humanitarian conventions force hosting countries to provide access to welfare services for asylum seekers. However poor these might be, to assess the welfare consequences of this type of immigration we assume that there are immigrants enjoy social rights but no working rights.

$$\text{A2: Foreign workers receives } y_i = 0.$$

Under this scenario, the predictions of the model concerning the net level of redistribution dramatically change, as Proposition (2) below details. The key is that since foreign workers do not receive a labor income, there are now three levels of wage: 0, y_u and y_s. If the level of immigration exceeds a certain ceiling, the average labor income $\bar{y}$ falls below y_u, thereby making unskilled workers opposed to taxation. The pro-redistribution coalition is therefore composed by all unskilled workers under relatively low immigration and by foreign unskilled workers only under high immigration.

*Proposition 3. (**Lack of political and working rights**). Under A1-A2, there are two scenarios. Under low immigration ($\frac{y_u - (1-u)y_s}{u y_u} \geq \theta$), we obtain*

$$\tau^* = 1 - u - \frac{(1-\theta)\, y_u}{\Delta^y}$$

hence the tax rate decreases with immigration and increases in the labor income differen-

tial. Under high immigration ($\frac{y_u - (1-u)y_s}{uy_u} < \theta$), we obtain

$$\tau^* = 0.$$

Proof: Appendix.

In the case or relatively low immigration, by comparing with the result in Proposition 2, we observe that the tax rate is always lower when working rights are denied. Hence, denying working rights to immigrants makes unskilled workers unambiguously worse off. When immigration is higher than a certain ceiling, however, all natives oppose redistribution. As such, the tax rate is zero: skilled workers fully consume their labor income, unskilled workers cannot improve their net consumption through the redistribution process and foreign workers are left to misery. Even though they do not work, participate to the political process and receive transfers, foreign unskilled workers still play a role in shaping the formation of coalitions.

Immigrants without working and political rights help the rich by either weakening the pro-redistribution coalition or by withdrawing consensus for redistribution from the standpoint of native unskilled. On the other had, they unambiguously cause the welfare of native unskilled workers to decrease.

3.1.3   Lack of political and social rights

We pause now on the third and last scenario, in which foreign workers enjoy working rights but no social rights - *ie* they do not receive transfers while still paying taxes. One may perceive this scenario as unrealistic as social rights often follow working rights in practice. However, we are motivated to assess this case by concerns that go beyond "completeness". It is a common practice to grant social gradually to foreign workers even though they work and pay full taxes.

A3: Foreign workers receives no trasfers.

This scenario has peculiar features as well. In this case, intuitively, a larger fraction of immigrants that do not receive transfers is beneficial for native unskilled as congestion decreases. The

highest amount that can be gained by unskilled workers is now

$$\bar{y}_{ns} = \frac{uy_u + (1-u)\,y_s}{\theta u + (1-u)},$$

where, and hence the stack on redistribution takes the following values:

$$w_u = \frac{(1-u)\,\Delta^y + uy_u\,(1-\theta)}{\theta u + (1-u)} \tag{9}$$

$$w_s = \frac{u\Delta^y - u\,(1-\theta)\,y_s}{\theta u + (1-u)}. \tag{10}$$

Proposition 4 highlights the fact that foreclosing social rights make redistribution a more "salient" issue for native unskilled, thereby pushing their relative investment in political influence. This forcefully results in a higher level of redistribution:

*Proposition 4. (**Lack of political and social rights**). Under A1-A3, we obtain*

$$\tau^* = \frac{(1-u)\,\Delta^y + uy_u\,(1-\theta)}{\Delta^y\,[1 - u\,(1-\theta)]}.$$

Hence, the tax rate is larger than when social rights are granted and increases with immigration.

Proof: Appendix.

Our results highlight that redistribution outcomes are shaped by the combination of the political, social and working rights enjoyed by the foreign workers. We show that different combinations of them lead to different pro-redistribution coalitions and different outcomes that entail serious distributive consequences among groups. Our results in Lemma 1, 2 and 3 can be summarized in the following proposition:

The key departure with respect to the extant literature on immigration and redistribution is that a larger size does not grant a better outcome to a the coalition. Instead, the redistribution process endogenously lead to a group-size paradox (Esteban and Ray, 2001). The ordering of tax rate levels, given Lemma 1, 2 and 3 can be summarized in the following proposition:

Corollary 1 (***Ranking of redistribution levels***). *In the absence of political rights, the tax rate is the highest when social rights are not granted and the lowest when working rights are not granted. When both social and working rights are granted, the tax rate lies in the middle.*

4 Conclusion

At a fundamental level, abstracting from cultural or identity issues, immigration represents an opportunity to study the social contract because it increases the consumption differential between the rich and the poor. Under this light, the empirical evidence that points towards a negative relationship between the level of immigration and the level of the tax rate contrasts the main prediction in Meltzer and Richard (1981) and backs the counter argument in Bénabou (2000). A first task of my paper is to provide a simple framework that accounts for this evidence by endogenizing the process that maps from political activism to redistribution levels.

After re-conciliating the empirical evidence with the theory, I provide theoretical guidance on a key political issue, immigration, by analyzing the redistribution levels that arise under different combinations of human rights that characterize the status of foreign workers. Different types of immigration profiles are shown to given rise to different levels of redistribution, suggesting that, from an economic point of view, the concern of unskilled workers with respect to immigration is highly mitigated by the enfranchisement of human rights to foreign workers.

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Appendix

Proof of Proposition 1. Given (7), and after factoring over the tax-rate, we can rewrite (11) expression for net utility of agent i as

$$u_i = y_i \pm \frac{x_U}{x} \cdot w_i - x_i \tag{11}$$

where the sign is positive for net-welfare recipients ($j \in U$) and negative for skilled workers ($i \in S$). In stage 1 a vector x constitutes a Nash-Cournot equilibrium if each agent's action is a best response to the other agent's action if it holds that

$$x_u^* = x_s^*\left(\mathbf{x}, u\right) \geq 0 \text{ and } x_s^* = x_u^*\left(\mathbf{x}, u\right) \geq 0. \tag{12}$$

where I emphasize "u" for later comparative statics purposes.

Focusing on the symmetric Nash-Cournot solution, I can define $x_{j \in U} = x_u$ and $x_{i \in S} = x_s$. Observing the concavity of the benefit and the weak convexity of the cost function, I take first order conditions of (11). Best responses must satisfy, given (12)

$$x_S \cdot w_u = x^2 \tag{13}$$

$$x_U \cdot w_s = x^2 \tag{14}$$

and cross when the condition

$$\frac{x_S}{x_U} = \frac{u}{1-u} \tag{15}$$

is met. Best response of i decreases in x_j, which, coupled with the condition that $x = \sum_i x_i$, defines the uniqueness of the equilibrium outcome. We obtain therefore

$$\tau^* = \frac{x_U}{x} = 1 - u. \tag{16}$$

As such, plugging (16) into (2) to compute the actual value of ex-post consumption differential as given in (3), we obtain

$$\Delta^{z*} = \left(1 - u\right)\Delta^y,$$

and hence an increase in the ratio of unskilled workers yields

$$\frac{\partial \Delta^{z*}}{\partial u} = \Delta^y > 0.$$

Proof of Proposition 2. The burden of political action is shared, respectively, among natives only or among all economic agents depending on whether the latter category enjoy political rights. In the former case, given (15), $\frac{x_S}{x_U} = \frac{\sum_{i \in S} x_s}{\sum_{i \in U} x_u}$

$$\frac{x_s}{x_u} = \left(\frac{u}{1-u}\right)^2 \tag{17}$$

whereas in the latter case we have $\frac{x_S}{x_U} = \frac{\sum_{i \in S} x_s}{\sum_{i \in U_n} x_u}$ and hence

$$\frac{x_s}{x_u} = \left(\frac{u}{1-u}\right)\left(\frac{\theta u}{1-\theta u}\right) \tag{18}$$

where obviously the RHS of (18) is smaller than the one of (17). This has no consequences for the tax rate but it has one for net consumption levels.

The value of group best responses can be traced by plugging (15) into (13) and (14). We have

$$x_S \cdot w_u = \left[x_S \left(1 + \frac{u}{1-u}\right)\right]^2$$
$$x_U \cdot w_s = \left[x_U \left(1 + \frac{1-u}{u}\right)\right]^2$$

which after plugging the values of (8) and rearranging becomes

$$x_S \cdot (1-u)\,\Delta^y = \left(\frac{x_S}{1-u}\right)^2$$
$$x_U \cdot u\Delta^y = \left(\frac{x_U}{u}\right)^2$$

obtaining

$$x_U^* = \Delta^y u \,(1-u)^2$$
$$x_S^* = \Delta^y u^2 \,(1-u).$$

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These aggregate group contributions are the sum of individual ones. We have net values of individual investment given, in the case of political rights being granted, to

$$x_u^* = \frac{\Delta^y (1-u)^2}{N} \tag{19}$$

$$x_s^* = \frac{\Delta^y u^2}{N}, \tag{20}$$

whereas if the political participation of foreign workers is foreclosed, we have

$$x_u^* = \frac{\Delta^y (1-u)^2}{\theta N} \tag{21}$$

$$x_s^* = \frac{\Delta^y u^2}{N}, \tag{22}$$

We can easily appreciate that the value of (22) and (20) is exactly the same, so that for skilled workers, under full rights, the identity of the policy-maker does not make any difference. On the other hand, by comparing (21) and (19), it is straightforward to observe that native unskilled are better of when foreign unskilled can exert political influence as they save on political influence.

Proof of Proposition 3. Unskilled workers are indifferent between *full redistribution* and *laissez-faire* if and only if

$$\theta = \frac{y_u - (1-u)\, y_s}{u y_u} \equiv \hat{\theta} \tag{23}$$

An increase in immigration yields a jump in the tax-rate preferences of the unskilled in correspondence of the cutoff giving rise to two sub-cases:

1. Low immigration: $\frac{y_u - (1-u) y_s}{u y_u} > \hat{\theta}$. Compared to a situation in which full rights are granted, we now have

$$w_u = \Delta^y - u\,(y_s - \theta y_u) \tag{24}$$

$$w_s = u\,(y_s - \theta y_u) \tag{25}$$

Notice that the lack of working rights increases the worth of redistribution for the skilled group since the transfer is lowered by the lack of contributions by unskilled foreign workers. We can plug respectively (24) and (25) into best responses as found in (15) and verify that

their ratio is:

$$\frac{x_S}{x_U} = \frac{u\left(y_s - \theta y_u\right)}{\Delta^y - u\left(y_s - \theta y_u\right)},$$

As such, we obtain a different tax-rate as compared to the full rights framework. In particular, plugging the above expression in the solution in stage 2 that we provide in (7), we find

$$\tau^* = 1 - u\left(\frac{y_s - \theta y_u}{\Delta^y}\right). \tag{26}$$

First notice that that since $y_s - \theta y_u$ is strictly larger than Δ^y for any positive θ, it holds that (26) is lower than (16): under lower than $\hat{\theta}$ immigration ratio, redistribution decreases as the extent to which the worth of the latter increases for skilled workers exceeds the extent to which it does so for unskilled workers. Furthermore, in (26) it is self evident that taxation decreases with immigration as proxied by a decrease in θ. This is also a difference with respect to the full rights case.

2. High inflow of immigration: $\frac{y_u - (1-u)y_s}{u y_u} < \hat{\theta}$. In this scenario, the immigration ratio among the unskilled causes the average wage to fall below y_u. Due to that, unskilled natives form a coalition with skilled workers against redistribution. Clearly, in the absence of participation of foreign workers, the tax-rate will be zero at no cost. This leads to net consumption levels given by

$$z_u^* = y_u;$$
$$z_s^* = y_s.$$

A large immigration inflow with no working rights is trapped into no labor income and no transfers. This *laissez-faire* equilibrium is the worse for both unskilled natives and unskilled foreign workers and the best one for skilled workers.

Proof of Proposition 4. Under this scenario, unskilled foreign workers do not receive transfers. Hence we obtain the following values for the worth of redistribution:

$$w_u = \frac{(1-u)\,\Delta^y + u y_u\,(1-\theta)}{\theta u + (1-u)} \tag{27}$$

$$w_s = \frac{u\Delta^y - u(1-\theta)y_s}{\theta u + (1-u)}. \tag{28}$$

Plugging (27) and (28) into (15) we realize that group best responses must satisfy:

$$\frac{x_S}{x_U} = \frac{u\Delta^y - u(1-\theta)y_s}{(1-u)\Delta^y + uy_u(1-\theta)}$$

so that, given (7), the tax rate adjusts to

$$\tau^* = \frac{(1-u)\Delta^y + uy_u(1-\theta)}{\Delta^y[1-u(1-\theta)]}. \tag{29}$$

Clearly higher immigration (θ low) increases taxation. In fact, the the ratio of immigration is $1-\theta$ increases the numerator while decreasing the denominator thereby yielding an unambiguous sign. The net consumption differential is then given by

$$\Delta^z = \left(1 - \frac{(1-u)\Delta^y + uy_u(1-\theta)}{\Delta^y[1-u(1-\theta)]}\right)\Delta^y,$$

that can be rewritten as

$$\Delta^z = \left(u\frac{\theta\Delta^y - y_u(1-\theta)}{\Delta^y[1-u(1-\theta)]}\right)\Delta^y.$$

Proof of Corollary 1. When political rights are foreclosed, the tax rate under social and working right in (16) with the one in (26), where working rights are denied to foreign workers. We have that the former exceeds the latter if and only if

$$1 - u \geq 1 - u\left(\frac{y_s - \theta y_u}{\Delta^y}\right),$$

and this condition holds, after a simple manipulation, if

$$\frac{y_s - \theta y_u}{\Delta^y} \geq 1.$$

We could rewrite $y_s - \theta y_u$ as $\Delta^y + (1-\theta)y_u$, and hence the above condition would become

$$\frac{\Delta^y + (1-\theta)y_u}{\Delta^y} \geq 1,$$

which is always verified.

Comparing the tax-rate under social and working rights in in (16) with the one in (29), where social rights are denied to foreign workers, we have that the former is larger than the latter if and only if

$$1 - u \geq \frac{(1 - u) \Delta^y + u y_u (1 - \theta)}{\Delta^y [1 - u (1 - \theta)]},$$

where since the denominator of the RHS is positive we can rewrite the inequality as

$$(1 - u) \Delta^y [1 - u (1 - \theta)] \geq (1 - u) \Delta^y + u y_u (1 - \theta),$$

and basic manipulations lead to the contradiction

$$- (1 - u) \Delta^y \geq y_u$$

through which we conclude that the tax rate is higher when social rights are denied.