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LUXEMBOURG INSTITUTE OF SOCIO-ECONOMIC RESEARCH

n° 2022-10 November 2022

WORKING PAPERS

The Impact of Immigration on Workers' Protection

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October 2022

Abstract

Even though the existing literature investigating the labor market impact of immigration assumes, implicitly or explicitly, that the law or labor market regulation is exogenous to immigration (in terms of both size and composition), this is not necessarily the case. To examine this link, we build a novel workers' protection measure based on 36 labor law variables over a sample of 70 developed and developing countries from 1970 to 2010. Exploiting a dynamic panel setting using both internal and external instruments, we establish a new result: immigration impacts workers' protection in the direction of the origin country workers' protection (composition channel), while we find a small negative or null effect for the immigrant population (size channel). The composition channel, or the law transfer effect, is particularly strong for two components of the workers' protection measure: worker representation laws and employment forms laws. Our results are consistent with suggestive evidence on transmission of preferences from migrants to their offspring (vertical transmission), and from migrants to natives or local political parties (horizontal transmission). Finally, calculations based on the estimated coefficients suggest that immigration, on average, contributes to a reduction in workers' protection, particularly in OECD high-income countries.

Keywords: Migration, Labor Market Institutions, Labor Regulation, Legal Transplants, Law Transmission, Transmission of Preferences, Workers' Protection.

JEL codes: J61, K31, F22.

*The authors are grateful to Kenneth Clark, Frédéric Docquier, Rosa Duarte, Giovanni Facchini, Tommaso Frattini, David Margolis, Jean-François Maystadt, Rosella Nicolini, Gianmarco Ottaviano, Ilse Ruyssen and Bruno Van der Linden for their useful comments and discussion. This paper has benefited from discussions at the Spring Meeting of Young Economists, Charlas de Economia (Universidad ICESI), IELM Seminar (Université Paris 1), Workshop on Labour Markets and Migration (IAAEU), Junior Migration Seminar, Workshop on Empirical and Political Economics (KULeuven), European Association of Law and Economics Conference, Labor Market Transitions: Challenges for Public Policies and Research Conference, EBES Conference, Warsaw International Economic Meeting Conference, EDP Jamboree and Doctoral Workshops (UCLouvain). Adam Levai, adam.levai@liser.lu, Luxembourg Institute of Socio-Economic Research (LISER), Maison des Sciences Humaines, 11, Porte des Sciences, L-4366 Esch-sur-Alzette/Belval, Luxembourg. Riccardo Turati, riccardo.turati@uab.cat, UAB, Department of Applied Economics, Edificio B2, Campus de la Universidad Autónoma de Barcelona, 08193 Bellaterra, Spain. This paper is part of the INTER project on "Globalization, Inequality and Populism across Europe" supported by a grant from the Luxembourg FNR (EUFIRST, n.13956644), and EOS programme of the Flemish (FWO) and French-speaking (FRS-FNRS) communities of Belgium (convention 30784531 on "Winners and Losers from Globalization and Market Integration: Insights from Micro-Data". The research benefited from financial support from Ministerio de Ciencia e Innovación PID2021-124713OB-I00. No potential competing interest was reported by the authors. Any remaining errors are our responsibility.

I Introduction

The rise of international migration in the recent decades has revived interest among economists, political scientists and legal scholars on the effect of immigration on the labor market outcomes and its institutions. An extensive literature measuring the effect of immigration on natives labor market outcomes finds that, on average, immigration has a small or null effect, depending on the methodology and the context of the analysis (see Edo (2019) for a recent survey of the literature). However, one systematic feature of the literature is that labor market regulation is assumed to be, either implicitly or explicitly, exogenous to the presence of immigration. To the best of our knowledge, this assumption has never been tested, and the labor market regulation is usually argued to be implicitly accounted for with the inclusion of fixed-effects. Once explicitly accounted for as exogenous and time-invariant factor, few papers show that the heterogeneity in the level of labor market regulation, such as the presence of minimum wages or the rigidity of labor contracts, shapes immigrants' labor market impact (Angrist and Kugler, 2003; D'Amuri and Peri, 2014; Edo, 2016; Edo and Rapoport, 2019; Bächli and Tsankova, 2021). Nonetheless, general concerns related to the implications of immigration on countries' institutions have been raised in response to the growing inflows of immigrants from a broader set of institutionally and culturally different countries (Collier, 2013; Borjas, 2015), and recent evidence shows that immigrants' historical origin-specific preferences influence natives' preferences and institutions (Giuliano and Tabellini, 2021). In terms of anecdotal evidence, the story of Samuel Gompers is an illustrative case: born in London in 1850, he then moved to the US. He became the founder and president of the American Federation of Labor (AFL) which was one of the main labor unions at the beginning of the century in the US, and he was a key figure in the American labor history (Greenbaum, 1966). Similarly, Swedish immigration to the US at the beginning of the twentieth century contributed to the diffusion of labor unions across American states (Nordahl, 1994; Bengston, 1999; Karadja and Prawitz, 2019). Therefore, if immigration indeed impacts labor market regulation and institutions, which in turn has an impact on the economic labor market outcomes, then the *overall* labor market effect of immigration is still not completely unveiled.

This paper fills this gap by studying the impact of immigration on labor market regulation (in terms of both size and composition), using a dataset on 36 labor laws for 70 countries over a period of 40 years. Our analysis combines four innovative features compared to the existing literature. *First*, we build a novel labor regulation measure, focusing on workers' protection, which we call the *workers' protection index* (WPI). Compared to existing measures, such as Botero et al. (2004) or OECD (2013), our index covers a longer time span for a wide set of countries, allowing us to track the evolution of labor regulation across developed and developing countries. To further validate our measure, we show that WPI is highly correlated with other existing measures of workers' protection. *Second*, we investigate the impact of immigration on workers' protection, in terms of both size and composition, due to their distinct effect on the labor market. The size of the immigrant population mechanically influences both labor supply and skill composition of the workforce, which could have far-reaching implications for labor regulation. As for the composition of immigrant population, we follow the literature using an epidemiological approach (Spilimbergo, 2009; Collier, 2013; Docquier et al., 2016; Valette, 2018). Immigrants' origin-country experience of regulation can shape their behavior in the destination country, which can in turn influence the functioning of the labor market in general, as well as the regulation of workers' protection. *Third*, by looking at the past four decades (medium-run), our empirical set-up distinguishes this paper from the majority of literature, which focuses mostly on short-run or long-run historical events. The medium-run time horizon is distinctive and important for identification, since labor regulation is persistent over time, and it slowly adapts to changes in the country-specific conditions. *Fourth*, we find suggestive evidence on horizontal and vertical transmission of preferences from migrants to different actors

(migrants' offspring, natives, and local political parties) that can influence the evolution of labor regulations.

To identify the causal effect of immigration, we adopt a dynamic panel specification over four decades - accounting for the high persistency of worker's protection regulation - and estimate it with a system GMM with both internal and external instruments. The internal instruments are used to remove the Nickel bias (Nickell, 1981) in the persistency term. Being aware of immigrants' non-random sorting across countries and the potential presence of time-varying omitted factors that could influence simultaneously workers' protection regulation and migration location, we use external instruments relying on well-known strategies. Namely, the shift-share approach (Card, 2001; Moriconi et al., 2022b) to instrument the composition effect of immigration, and the gravity-model based approach (Alesina et al., 2016; Docquier et al., 2020) to instrument the size effect of immigration. In terms of exclusion restriction, the common critiques to the shift-share approach indicate a possible threat from persistent local conditions (Jaeger et al., 2018; Goldsmith-Pinkham et al., 2020), and potential correlations in the error terms due to similar initial distributions of immigrants by country of origin across destination countries (Adao et al., 2019). These concerns are minor in our setting because of the wide set of historical events that undermine persistent local factors (e.g., the fall of the Soviet Union in 1989, the 1965 amendments to the Immigration and Nationality Act in the US, the constitution of the European Union, and the activation of the Schengen Area in 1995). Nonetheless, following Goldsmith-Pinkham et al. (2020), we show that the initial shares of the most relevant origin countries for our instrument are not related to the initial conditions in the destination countries. Moreover, we find no correlation between our predicted measures and pre-period economic and social trends, nor do we find any significant variations in the error terms after clustering countries by a similar distribution of immigrants' origin countries in the 1960s. As for the exclusion restriction of the gravity-model approach, concerns would arise if the included gravity controls were to affect the evolution of labor regulation through other channels, such as trade or foreign direct investment. However, the highly parsimonious estimated gravity model makes us more likely to satisfy the exclusion restriction and allows us for a more causal interpretation of the results once the predicted stocks are used.

Our paper provides four main findings. We *first* find a strong and positive effect of migrants' level of workers' protection in their origin countries—measured by an epidemiological term *à la* Spilimbergo (2009)—on workers' protection in destination countries. Namely, having immigrants from countries with high levels of workers' protection (such as France or Germany) increases the workers' protection in destination countries; and conversely, having immigrants from countries with low levels of workers' protection (such as US or Australia) decreases the workers' protection in destination countries. This is in line with the concept of legal transplants from the comparative legal studies literature, and the anecdotal evidence of Samuel Gompers and the Swedish immigration to the US. An increase in the epidemiological term of one standard deviation increases the workers' protection index by 7.8% of WPI standard deviations. The effect is robust to our demanding specification, a battery of robustness checks, falsification tests, and alternative competing effects such as diversity, polarization, or skill selection. Additionally, we find that the immigration size effect has a small negative or null impact on workers' protection. *Second*, our results show that two areas of labor regulation are particularly influenced by immigration: worker representation laws (e.g., laws concerning the right to unionize or allowing collective bargaining) and employment forms laws (e.g., laws concerning the flexibility of contracts). *Third*, in line with the literature highlighting a potential transmission of preferences from migrants to the hosting society (Rapoport et al., 2021; Giuliano and Tabellini, 2021), we provide suggestive evidence that natives' unionization rate and parties positive attitudes towards labor groups are positively influenced by the exposure to immigrants' labor regulation experience (i.e., horizontal transmission). Additionally, we show less robust evidence that 2^{nd} generation migrants preferences and attitudes towards labor market protection and

government intervention are positively related with father's working protection in the origin country (i.e., vertical transmission). *Finally*, taking the baseline coefficients as the "true" ones and an actual variation in the immigrant population in terms of size and composition over the period 1970–2010, we provide back-of-the-envelope computations to evaluate the magnitude of the response of labor regulation to immigration. On average, the computations predict that immigration reduces the WPI by 4.2% standard deviations over the analyzed period. Although the effect is highly heterogeneous across countries, depending on both the size and composition of the immigrant population, the average negative response for OECD high-income countries is 72% stronger compared with non-OECD countries.

This paper contributes to three broad strands of literature. The first is on the overall impact of migration on the labor market in destination countries' and more specifically on natives' labor market outcomes. The overall consensus from a broad set of evidence using different assumptions and methodological approaches is that, on average, immigration has a small or null effect on natives' wages and employment (Borjas, 2003; Peri and Sparber, 2009; Ottaviano and Peri, 2012; Manacorda et al., 2012; Edo, 2019), although it can have some relevant redistributional effects depending on immigrants' location and education level (Card, 2009; Borjas, 2016). More closely related to our work, part of the literature investigates the labor market effect of immigration by exploring the heterogeneity in the effects across labor market institutions and regulations. Angrist and Kugler (2003) and D'Amuri and Peri (2014) reveal that in more rigid labor markets, natives take more time to adjust to the immigration supply shock by moving toward more complex and less manual tasks, compared with natives in less rigid labor markets. Using French data, Edo (2016) shows that an immigration shock reduces the wages of natives covered by fixed-term contracts and the employment of natives covered by indefinite-term contracts. However, exploiting the non-linear distribution of minimum wages across 51 US states, Edo and Rapoport (2019) provide evidence that higher minimum wages can reduce the negative effect of low-skilled immigration on less educated native workers. Moreover, when protected by labor regulations, natives hold more benign attitudes toward immigrants, which also influences their voting preferences (Bächli and Tsankova, 2021). Even though the literature recognizes the importance of labor regulation for various outcomes, to the best of our knowledge, none of the previous works looked at the effect of immigration on workers' protection, or more broadly on labor regulation. So far, the literature has treated immigration as exogenous to labor regulation, fixed over time, and "absorbed" by eventual geographic time-invariant fixed effects. Our paper aims to fill this gap by investigating the impact of immigration on labor regulation.

The second broad strand of literature we contribute to investigates the legal institutions' determinants and how they respond to the international movement of factors. Although the literature provides evidence in a cross-sectional setting for the relevance of legal origin and the process of legal transplants in explaining cross-country differences in legal regulation (Botero et al., 2004; Berkowitz et al., 2003), less is known about the determinants of its evolution over time. Focusing on financial sector regulation, Abiad and Mody (2005) show that economic shocks or political ideology can explain the global process of financial liberalization. Globalization, with a particular focus on trade and capital liberalization, has been linked to the process of labor deregulation (Boulhol, 2009). Facchini and Willmann (2005) provide a theoretical model based on the common agency problem explaining the regulation reaction to the international movement of factors, such as trade or immigration. Concerning the demand for labor market regulation and welfare state, evidence shows the relevance of family ties (Alesina et al., 2015) and generalized trust (Algan et al., 2016) as potential determinants. Additionally, concerns about the response of institutions to immigration have been raised with respect to the potential disruptive effect of norms and habits brought by immigrants coming from distant countries on well-functioning Western institutions (Collier, 2013; Borjas, 2015). However, the avail-

able set of evidence shows that immigrants have a small positive or no effect on market-functioning institutions and economic freedom (Clark et al., 2015; Powell et al., 2017; Baudassé et al., 2018). With an origin-country perspective, few authors provide evidence that immigrants' experience of institutions and productive capacity in destination countries has an effect on origin countries' institutions (Spilimbergo, 2009; Docquier et al., 2016; Valette, 2018). More related to our paper, Giuliano and Tabellini (2021) shows that the exposure to European immigrants, with stronger preferences for redistribution, during the Age of Mass Migration have long-lasting effect on Americans political ideology. All these evidence suggest a transmission of preferences and institutions from origin countries with relatively higher workers protection, to the United States. Focusing on a broader set of countries over few decades, our paper contributes to this rising literature by providing the first set of evidence on the impact of immigration on an important part of institutions, which is the law or labor regulation.

Third, we contribute to the comparative legal studies literature and more specifically to the literature on legal transplants. The concept of legal transplants was introduced in the seminal work of Watson (1974). As one of the examples, the author provides an insight that the private law of many countries is fundamentally based on the reception of Roman law and argues that society's laws do not usually develop as a logical outgrowth of solely its own experience. Moreover, the author argues that the law cannot be used as a tool to understand societies without taking legal transplants into account. In the contemporary legal transplant literature, comparative lawyers agree that a country's legal culture can be transplanted through legal education, methods, and mentalities (Twining, 2009; Del Duca and Levasseur, 2010; Graziadei, 2006). Kalantry (2020) presents a case study on reverse legal transplants from poor to rich countries, with the movement of restrictions on abortion from India to the United States. Hans (2017) explains the importance of connections between international scholars and other research networks for transplantation of trial by jury. We contribute directly to this strand of literature by providing the first systematic empirical evidence on how immigrants can be a source of legal transplant or law transfer.

The rest of the paper is organized as follows. Section II presents the data, the construction of our workers' protection index and immigration variables. Section III shows our empirical approach, the identification strategies, and potential alternative effects driven by immigration. Section IV shows the main results of the analysis, the robustness checks, and the falsification tests. Section V explores the mechanism for the different subcomponents of the workers' protection index and the potential role of the transmission of preferences from the immigrants to the hosting society. Section VI discusses the magnitude of the effect after making back-of-the-envelope computations of the effects. Finally, Section VII concludes.

II Data and Stylized Facts

This paper combines different data sources for 70 countries in 5-year periods over a long time span from 1970 to 2010. Section II.A describes the data associated with workers' protection, explains the construction of the workers' protection index, and shows relevant correlations with alternative measures of workers' protection and economic outcomes. In Section II.B, we present the immigration data, the construction of the epidemiological term based on the level of workers' protection that immigrants experience in their origin countries and the evolution of the immigrant population over time.

II.A Workers' Protection Index

To construct the novel workers' protection index, we use the Leximetric dataset developed by legal scholars (Adams et al., 2017). This dataset quantifies the level and evolution of labor law and workers' protection based on the "law-in-the-books". The Leximetric data on workers' protection covers 117 countries over the 1970–2013 period. For few post-socialist countries, the data are available only after 1990.[1] The dataset documents the degree of legal protection associated with permanent and part-time workers. However, when the law sets different standards across different groups of workers (e.g., blue-collar and white-collar workers), the dataset enlists the degree of protection associated with the least protected group. This aspect implies that the dataset is capturing either the average or the minimum degree of protection guaranteed to the least protected workers.

The dataset includes 36 relevant variables associated with different aspects of workers' protection.[2] A value between zero and one is assigned to each of those variables, where zero stands for no protection/lowest protection possible, while one stands for the maximum protection available in that area. All the variables are categorized into five broad areas related to workers' protection: employment forms laws ($EmptForm$), working time laws ($WorkTime$), worker dismissal laws ($WkrDismis$), worker representation laws ($WkrRepr$), and industrial action laws ($IndAction$). The first area represents the law governing the definition of the employment relationship and employment forms, which accounts for the legal difference across different employment forms and their maximum duration. It has maximum value, for instance, when workers that have temporary/fixed-term contracts are protected. $WorkTime$ covers issues related to holidays, extra compensation in case of overtime working hours, and the duration of working weeks. The variables take the value of one when holidays and overtime activities are well compensated and when workers have a reasonable amount of working hours per week/day. The third area ($WkrDismis$) is related to the length of notice before dismissal, the constraints that employers have to face before firing an employee, and eventual compensation after dismissal. The fourth area ($WkrRepr$) provides information related to workers' right of unionization and collective bargaining and on unions' right to nominate representatives for companies' boards of directors. Variables take the value of one when the workers have a right to be represented and voice their concerns through unions. The last area ($IndAction$) is related to the rights of industrial actions and striking. This area covers the part of legislation that grants workers' rights to strike and reduces employers' rights to lockout. These five broad areas have a high degree of correspondence with the categories analyzed by Botero et al. (2004) in a cross-sectional setting, which later provided the methodological basis for the World Bank's Doing Business reports.

The wide range of legal issues covered by the Leximetric data gives us a comprehensive measurement of different aspects related to workers' protection. Nonetheless, to have a general overview of the evolution of labor regulation, we perform the following steps to construct one synthetic measure of workers' protection at the country level. First, following the structure of the data, we build five indicators associated with the five areas of working protection measured by the Centre for Business Research (CBR) researchers. Following Preacher and MacCallum (2003) guidelines, we aggregate the variables associated with each area through a factor analysis, and we standardize them with mean zero and a standard deviation equal to one.[3] Second, we perform a second factor analysis over the five aggregated indicators associated with the five legislative areas of workers' protection to build one synthetic indicator.

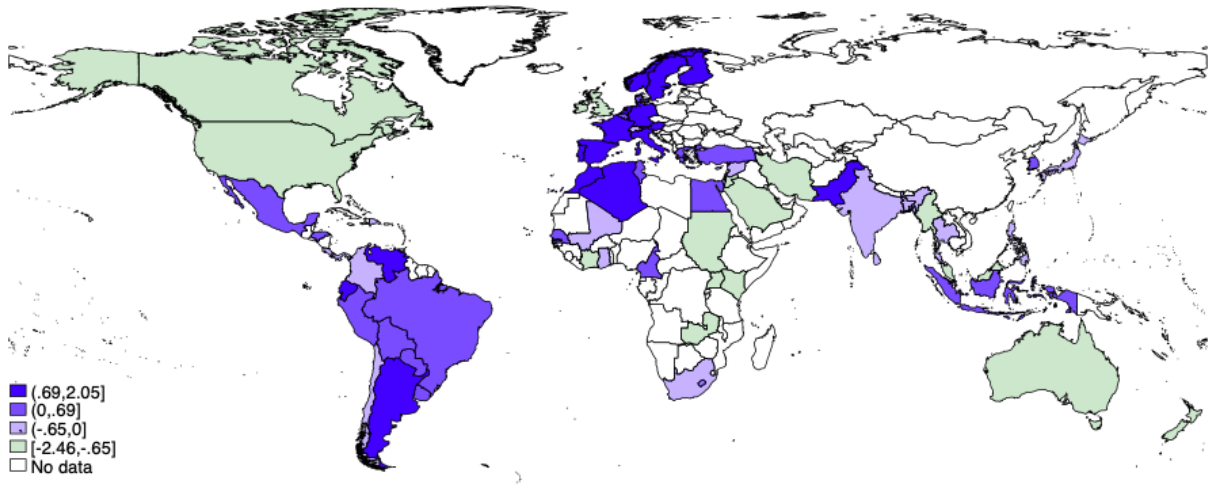
[1] To have a more balanced sample, we keep only the countries that have data from 1970 in our final sample.

[2] A list of all workers' protection variables is available in Appendix Table A-1.

[3] The results of the factor analysis are available in Appendix B. Since the structure of the data and the relation among variables are theoretically well defined by the CBR researchers, we follow Preacher and MacCallum (2003), who suggest implementing factor analysis in these cases to identify the sources of common variation, as opposed to a principal component analysis, which aims to explain as much variance as possible. The indexes are the first standardized component from each specific legislative area.

We define the first standardized component of this latter factor analysis as our *workers' protection index* (WPI).

Figure 1: Workers Protection Index - Geographical Distribution



Note: Authors' calculations on CBR Leximetric data. The figure plots the average standardized workers' protection index by quartile at the country level over the 1970–2010 period.

Figure 1 shows the geographical distribution of the average workers' protection index. European countries (excluding the United Kingdom) are characterized by a high level of WPI, with Portugal having the highest average WPI (2.05). Pakistan is the only country in Asia with a WPI comparable to Continental Europe, which has a WPI of 1.12. Among high-income developed societies, countries with a common law legal system (e.g., the United States, United Kingdom, Australia, and New Zealand) are characterized by a systematically lower level of workers' protection. The United States in particular is characterized by the lowest WPI level in our sample (-2.46). This is not surprising, since common law legal systems are on average less codified and more protective on the side of investors (La Porta et al., 1997, 2008).[4] Concerning developing countries, Latin American countries are characterized by a high level of workers' protection overall. The only exception is Chile (-0.35), which is characterized by a lower level of WPI compared to its neighboring countries, as a result of the changes in law and institutions under the Pinochet regime (Borzutzky, 2005). A large degree of heterogeneity in WPI is reported in African and Middle Eastern countries, from countries with a reasonably high degree of WPI, such as Algeria (1.59) and Morocco (0.76), to countries with a low level of WPI, such as Saudi Arabia (-1.06) and Kenya (-1.2).

The historical evolution of the workers' protection index is available in Figure 2. The dotted blue line in both Figure 2(a) and 2(b) shows that the degree of workers' protection is on an increasing trend from 1970 to 2010, moving from an average level of -0.6 to 0.5. However, some heterogeneous trends depending on countries' economic development and legal origin are also evident. Figure 2(a) shows that OECD high-income and non-OECD countries were experiencing similar levels of WPI until 1975. However, from 1980 on, the WPI grows faster in OECD high-income countries compared to others. In terms of legal origin, even though the trends are parallel from 1970 to 2010, countries with a civil law legal system experienced a substantially higher degree of WPI compared to countries with a common law legal system. This evidence is in line with the literature that recognizes systematic differences in the

[4] In Appendix Table D-5, we look at the possible determinants of the values shown in Figure 1 using a simple OLS. We confirm a strong negative and highly significant relationship between common law legal origin and WPI. Depending on the set of controls, we find positive correlations of WPI with the epidemiological term, GDP p.c. and democracy, whereas we find a negative correlation with the size of immigration.

Figure 2: Workers' Protection Index - Evolution over Time

(a) WPI by development level and legal origin

(b) WPI and its sub-components

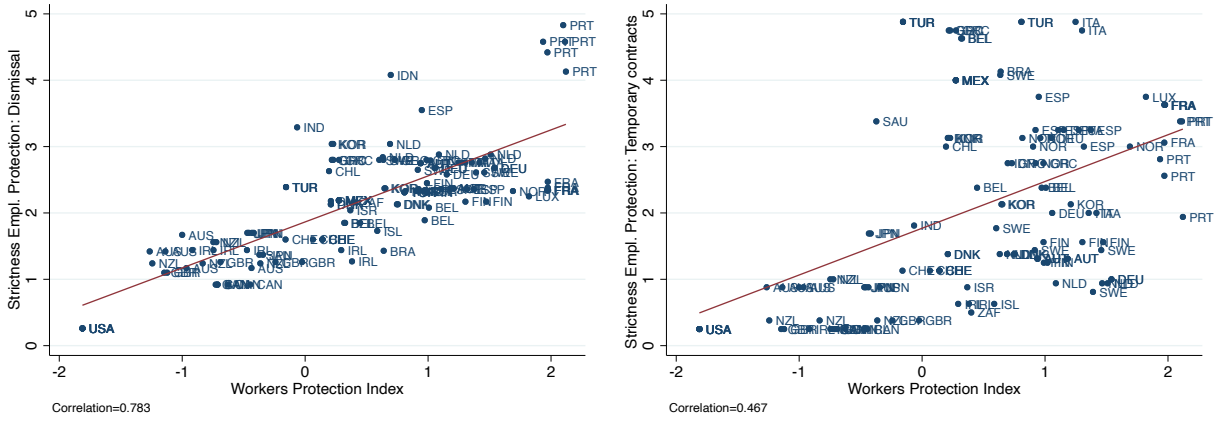
Note: Authors' calculations on CBR Leximetric data. Figure (a) plots the average standardized workers' protection index by destination countries' level of development and legal origin. Figure (b) plots the average standardized workers' protection index and its five subcomponents.

level of regulation across countries (La Porta et al., 1997). Figure 2(b) plots the WPI with its five subcomponents. During the whole analyzed period, worker dismissal, worker representation, and employment forms protection laws have increased as the aggregated index. However, the industrial action laws and working time protection laws have rather stagnated.

The Leximetric data are able to tap into multiple aspects of the legislation associated with workers' rights. Moreover, as the authors of the database point out, the data aim to capture how the law protects the labor relations between employers and employees, rather than the actual cost that the legislation imposes on employers.[5] However, the Leximetric dataset is not the only one available that encompasses the legal aspects related to workers' protection. Over a smaller sample of countries and a reduced time span, the OECD Employment Protection database provides some indicators of employment protection (OECD, 2013). In particular, we focus on two indicators that are available for 33 countries over the 1990–2010 period. The first is the index of the strictness of employment regulation on individual and collective dismissal (DI^{OE}). It captures procedures and costs involved in dismissing workers, such as procedural inconveniences that employers have to face through the dismissal process, notice period, and severance pay. Second is the index of the strictness of employment regulation on temporary contracts (TC^{OE}). It measures the duration, regulation, and conditions associated with temporary contracts compared to permanent contracts. Both indicators have high values when workers have a higher degree of protection (i.e., more hindrances to employers when they want to fire a worker and when they want to hire a temporary/fixed-term worker). Figure 3 shows the correlations between the WPI and the two OECD indicators. In both Figures 3(a) and 3(b), the WPI is positively correlated with the OECD indicators, and the correlations are statistically significant at a 1% level. Additionally, in Figure D-4 we cross-validate each of the five WPI subcomponents with the related cross-sectional labor regulation measures available Botero et al. (2004), and we find strong and positive correlations between the proxies. Overall,

[5]The CBR researchers specify three main reasons for this. First, it is not possible to infer from the existence of a given legal rule any effect on behaviors that will affect firms' costs. Second, the existence of a law-in-the-books does not imply the degree of its actual observation in practice. Third, an increase in workers' protection can also have beneficial effects on firms' costs, such as the reduction in transaction costs after introducing collective bargaining.

Figure 3: Workers' Protection Index - Correlations with OECD Employment Protection Data



(a) Individual and Collective Dismissal

(b) Temporary Contracts

Note: Authors' calculations on CBR Leximetric data (x-axis) and OECD Employment Protection Database (y-axis). The figure plots the country-period level of the standardized workers' protection index on the country-period level of the index of the strictness of employment regulation on individual and collective dismissal (DI^{OE}) (Figure (a)) and the country-period level of the index of the strictness of employment regulation on temporary contracts (TC^{OE})(Figure (b)).

we provide evidence on correlations across different related data sources for our measure of workers' protection and its main subcomponents, which is reassuring for the external validity of our measure.

Our novel index, constructed on proxies from the "law-in-the-books", provides a measure of the labor regulation for the least protected workers in a given country. Therefore, it captures the extent of the existing corpus of laws, which influences the functioning of the labor market. Employees can rely on additional layers of protection, that could come from their participation to trade union and from sectoral or firm specific collective bargains. Our measure is unable to capture such existing heterogeneity across firms and sectors, which would require more detailed data not currently available. Nonetheless, Aldashev et al. (2012) shows that formal laws can act as an outside anchor, or a "magnet," moving the custom in a favorable direction for the marginalized groups: if the fundamental labor laws are improved, the additional layers of protection will improve as well.

II.B Immigration Data and the Epidemiological Term

We combine two different data sources to have a more comprehensive picture of the immigrant population over a broad sample of destination countries. First, we rely on the Global Migration data by Özden et al. (2011), which combines several censuses and population registers. This dataset provides decennial matrices of bilateral migration stocks between 1960 and 2000. Owing to its long time span and coverage of over 200 destination and origin countries, this dataset has been used in several cross-country and panel studies (e.g., Beine and Parsons (2015); Cattaneo and Peri (2016)). We combine and harmonize it with the World Bank Bilateral Migration Matrix of 2010 (World Bank, 2010), such that we have a decennial coverage from 1960 to 2010. Finally, to deal with the mixed frequency of the data (the outcome is in five-year periods), we interpolate the decennial bilateral migration stocks to five-year periods.[6]

[6]We perform such interpolation to have more data points, which will be relevant for the strength of our estimation strategy. Apart from using a simple average, we do recognize there are better imputation methods that take into account multiple demographic dimensions (Standaert

To measure the size of the immigrant population, we first compute for each country of destination d at year t the share of immigrants in the total population of 2000 as follows:

$$ShareMig_{d,t} = \frac{MIG_{d,t}}{Pop_{d,2000}}, \tag{1}$$

where $ShareMig_{d,t}$ is the share of immigrants and $MIG_{d,t}$ is the total stock of immigrants. Following Moriconi et al. (2022b), we compute the share of immigrants using the population in a fixed year as the denominator to uniquely identify the source of variation in the changes in the immigrant stocks.[7] Such measure is a proxy of immigrant population size, which can influence countries' economy and legislative aspects. For instance, a higher share of immigrants would imply a higher labor supply, which can have a direct effect on wages and employment (see Borjas (2003); Edo (2019)), and could generate a higher demand of employment protection by natives. Alternatively, a higher presence of immigrants would reduce natives' worker bargaining power, due to the presence of competing workers without voting rights. To avoid potential unwanted effects on native workers' economic outcomes, institutions could react by changing labor market institutions and laws.

Figure 4(a) shows the geographical distribution of the average share of immigrants as computed in equation (1) over the period 1970–2010. OECD high-income countries are characterized by a sizeable migration share. However, Qatar has the highest value in our sample (74.78), followed by Israel (30.15), Luxembourg (26.05), and Singapore (24.59).[8] Developing countries in Latin America, Africa, and Asia are characterized by a lower share of immigrants. Looking at the time variation of the share of immigrants, Appendix Figure A-1 shows that the average share of immigrants evolves with a similar trend both across countries' level of development (Appendix Figure A-1(a)) and across countries' legal origin (Appendix Figure A-1(b)).

Migration can influence destination countries not only because of its size, but also because of its composition. Aspects such as immigrants' education and their capacity to expand the knowledge set of a given country as a result of their novel competences and skills are just a few examples of how immigrants' characteristics could affect natives' behavior and countries' economies (e.g., Borjas (2019); Bahar et al. (2020); Moriconi et al. (2019); Docquier et al. (2020)).[9] In terms of the composition effect, Collier (2013) points out that immigrants can convey to destination countries the institutions and social norms of their country of origin. However, our paper differs from Collier (2013) and other related studies on the transfer of broadly defined institutions, norms and values. Namely, we address empirically the question of immigrant legal transplants, which is something that has been discussed among legal scholars but never systematically tested to the best of our knowledge. Giuliano and Tabellini (2021) show that European immigrants' preferences toward redistribution could have influenced US natives' political preferences during the age of mass migration. We follow Spilimbergo (2009) and Valette (2018) to account for potential origin-specific and epidemiological effects by computing the following index:

$$Epid_{d,t} = \sum_{o} \frac{MIG_{o,d,t}}{\sum_{o}^{O} MIG_{o,d,t}} * WPI_{o,2000} = \sum_{o} \overline{mig}_{o,d,t} * WPI_{o,2000}. \tag{2}$$

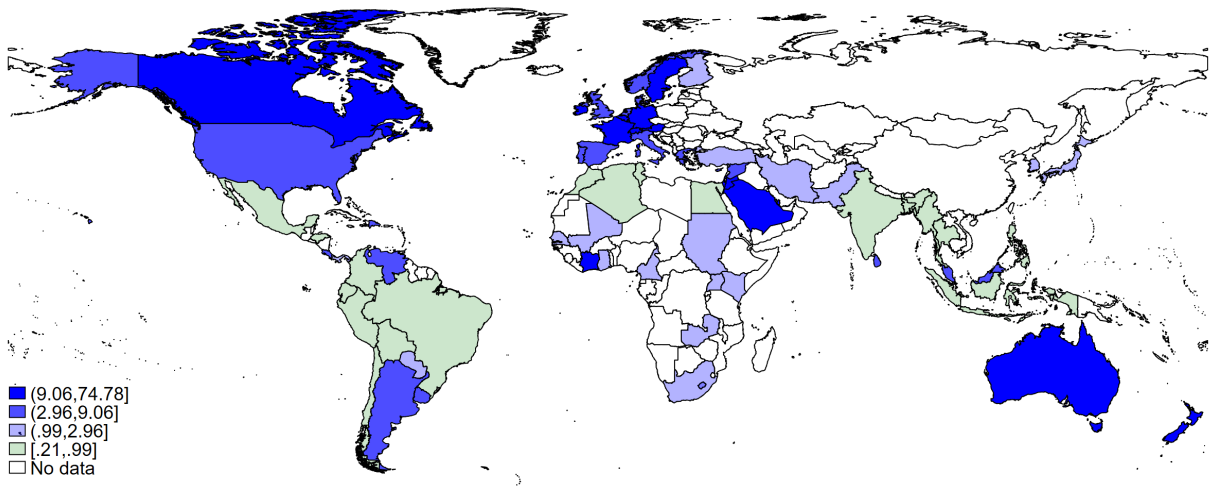
et al., 2022). Nevertheless, when we remove interpolated observations (i.e., 1975, 1985, 1995, and 2005), the main results remain unchanged, as column (4) in Table 2 shows.

[7] In Appendix Table D-1, we test our main results using the share of immigrants over the current population rather than the share of immigrants over a fixed population, as shown in equation (1). The main results remain unchanged.

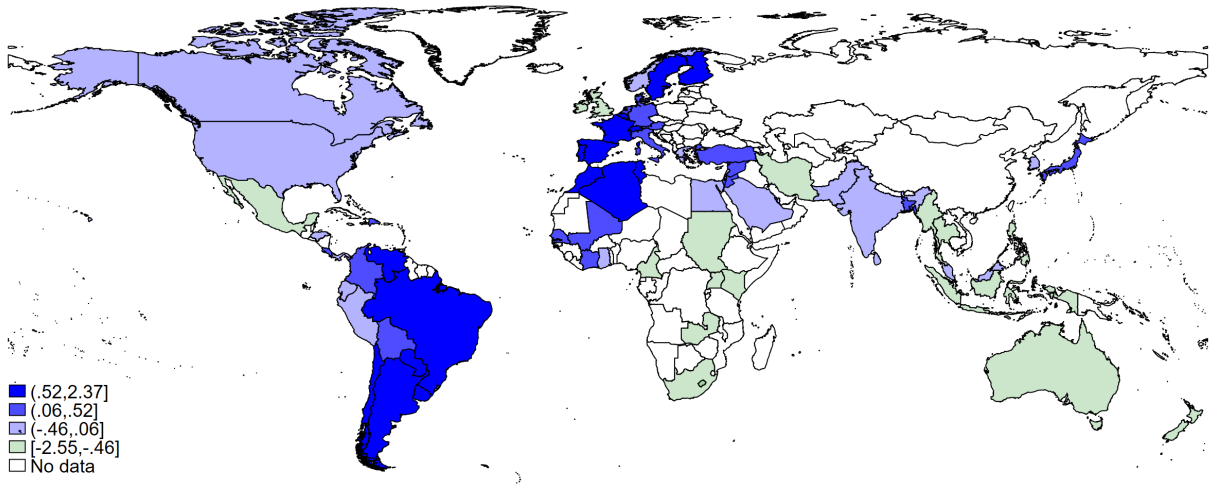
[8] Those countries are characterized by a large immigrant population because of the structure of the labor market and institutions (see De Bel-Air (2014) for Qatar). The large size of the immigrant population, for example in Israel, is related to historical reasons, such as the exodus of soviet Jews from Russia to Israel in the 1990s after the collapse of the USSR (Smooha, 2008).

[9] Even though aspects such as diversity, polarization, and skill selection are not the main focus of our paper, we test for them in Table 3.

Figure 4: Share of Immigrants and the Epidemiological Term - Geographical Distribution



(a) Share of Immigrants



(b) Epidemiological Term

Note: Authors' calculations on Özden et al. (2011) and World Bank data. Panel (a) plots the average share of immigrants over the 2000 population by quartile at country level over the 1970–2010 period. Panel (b) plots the country average epidemiological term (as we compute in equation (2)) by quartile at country level over the 1970–2010 period.

The index $Epid_{d,t}$ captures for a country of destination d at year t the degree of workers' protection experienced by its immigrant population in their origin country. It is measured as a weighted average of the WPI in the origin countries in the year 2000, using as weights the share of immigrants coming from country of origin o and living in country d over the total immigrant population in country d.[10] We proxy for the degree of workers' protection in the country of origin with the WPI in the year 2000 for two reasons. First, by fixing the level of WPI at the year 2000, variations of the epidemiological effects are driven *exclusively* by changes in the composition of the immigrant population, rather than changes in the labor regulation in origin countries. That allow us to clearly identify the

[10] Alternatively, Table 3 provides the results after computing the epidemiological effect using as weights the share of immigrants coming from country of origin o and living in country d over the total population in destination country d.

source of variation of the epidemiological effect. Second, a lot of countries enter the Leximetric data starting only from 1990. To have the broadest geographical coverage in terms of WPI for origin countries, we take as a reference the year 2000. For such year, we are able to compute the WPI for 116 countries of origin. Although we cover the majority of the countries in terms of size and population, for a few countries of origin, we still do not know the level of WPI. We then impute the missing countries with the average level of WPI in 2000 based on their legal origin.[11] Nonetheless, Appendix Table D-2 provides the results after including an epidemiological effect constructed with a time-varying WPI. The main results are confirmed both in terms of magnitude and significance, which is not surprising, given the high persistence of the WPI variable.

Figure 4(b) presents the geographical distribution of the average epidemiological term over the period 1970–2010. The distribution is rather heterogeneous across continents. The country characterized by the highest epidemiological term is Morocco (2.37), followed by Luxembourg (1.97), and Tunisia (1.76). On the other end, countries with the highest share of immigrants from countries with a low WPI are Mexico (-2.55), Indonesia (-1.9), and Ireland (-1.89). Appendix Figure A-2 depicts the evolution and average value of the epidemiological term across countries' level of development and legal origin. First, as the dotted blue line shows, the epidemiological term experienced a slow decline from the 1970s to 2010. This trend shows that over time new immigrants were coming from countries with a lower level of workers' protection compared to the ones already in the destination countries. Second, developed and civil law countries are characterized by a higher proportion of immigrants from countries with high WPI, compared to developing and common law countries. Third, common law countries are the only ones that experienced a small but positive increase in the epidemiological term.

III Empirical strategy

Our goal is to empirically evaluate the impact of immigration on workers' protection, in terms of both size and composition by countries of origin. Section III.A describes our linear dynamic panel model specification and the system GMM estimation technique we employ. In Section III.B we present our shift-share approach and the gravity model, which are necessary to instrument our variables of interest within the system GMM framework. Last, Section III.C discusses alternative and competing effects driven by immigration: diversity, polarization, and skill selection.

III.A Empirical model and estimation technique

Our estimation strategy uses five-year periods of all variables (from 1970 to 2010) to address the medium-run perspective of law changes, to rule out short-run (e.g., annual frequency) fluctuations in the data, and to better harmonize the occurrence of gaps from the mixed frequency of the data.[12] All of our explanatory variables are lagged with a one five-year period, taking into account that the labor laws do not respond instantaneously to changes

[11] As Figure 2(b) and Appendix Table D-5 show, the legal origin rather than the level of development is one of the best predictors of the level of workers' protection. We are aware that this imputation procedure might affect our results. For this reason, we perform in Table 2 two robustness checks. First, we drop from the sample countries characterized by a high percentage of imputed WPI within their epidemiological term (i.e., more than 30% of the immigrant population coming from a country with an imputed WPI). Second, we compute the epidemiological term with different imputation methods: (i) not imputing the values of missing countries ($Epid\ strict$); (ii) imputing the missing countries with the minimum value by legal origin ($Epid\ min$), and (iii) imputing the missing countries with the maximum value by legal origin ($Epid\ max$). The results remain unchanged across these different robustness tests.

[12] To further scrutinize the empirical analysis, we experiment with alternative specifications and different time periods (i.e. 10-year instead of 5-year periods) in Table 2.

induced by our explanatory variables.[13] Since labor law is highly persistent over time, we use a linear dynamic specification.[14] In line with other studies using a similar dynamic panel specification to measure the effect of migration on different institutional outcomes,[15] we estimate the following model:

$$WPI_{d,t} = \alpha + \beta WPI_{d,t-1} + \gamma ShareMig_{d,t-1} + \delta Epid_{d,t-1} + \theta \mathbf{X_{d,t-1}} + \eta_t + \zeta_d + \epsilon_{d,t}, \tag{3}$$

where $WPI_{d,t}$ is the workers' protection index in destination country d at year t. The $WPI_{d,t-1}$ is one-period lag of the outcome variable that allows us to account for the persistence in the workers' protection index. Our variables of interest are both $Epid_{d,t-1}$ and $ShareMig_{d,t-1}$, which are accordingly the epidemiological term and the share of immigrants at the destination country d in period $t-1$. The vector $\mathbf{X_{d,t-1}}$ includes controls (such as GDP, political regime, and human capital) that could affect simultaneously our variables of interest and the outcome. In addition, ζ_d denotes a country fixed effect, η_t is a time fixed effect, and $\epsilon_{d,t}$ is the error term.

The set of controls that we include are borrowed from the economic growth literature and are ex-ante important for both the workers' protection index and immigration: economic development level, political regime, and human capital level. More developed countries, on average, have higher values of WPI (recall Figure 2). The political regime is another relevant control because we observe that labor regulation may be influenced by political shocks—for instance, as was the case under the Pinochet regime (Borzutzky, 2005). Finally, we can reasonably argue that human capital, contributing to the overall development of a country and being correlated with a country's institutions (Acemoglu et al., 2014; Faria et al., 2016), can also contribute to the development of labor market institutions.

Our analysis employs a system GMM estimator to estimate equation (3). This estimation technique accounts for the unobserved heterogeneity, persistence, and potential endogeneity of other regressors. Blundell and Bond (1998) and Bond et al. (2001) suggest that system GMM is the most adequate estimator in a dynamic panel setting if the time series are highly persistent, as they are in our case. This estimation strategy allows us to circumvent the dynamic panel bias stemming from the inclusion of the lagged dependent variable in a within-group estimator with a short time period, also known as the Nickel bias (Nickell, 1981). We use a two-step system GMM procedure, which is asymptotically more efficient than the one-step procedure, but it has potentially downward-biased standard errors in small samples (Bond et al., 2001). Consequently, we use Windmeijer (2005) finite sample correction, which gives more accurate estimates in small samples. The validity of the estimator relies on crucial Arellano and Bover (1995) conditions, which are tested with Hansen's J and difference-in-Hansen tests along with each regression. Furthermore, we follow Bazzi and Clemens (2013) by performing various weak instrument diagnostics to ensure that the estimated coefficients are unbiased.

Within the system GMM framework, we use both internal and external instruments to obtain consistent estimates. For the internal instruments part, the instruments used in the difference equation are lagged levels, whereas the instruments in the level equation are lagged differences of the corresponding variables; the regressions in both differences and levels are then combined into a single system. To avoid arbitrary exogeneity assumptions, we treat all right-hand-side variables as endogenous, as is most common in the literature. However, this decision leads to numerous instruments that can potentially overfit the instrumented variables. We handle this by collapsing the matrix

[13] Institutions and laws are persistent factors, and any change requires a significant period of discussion and agreements, in particular in democratic countries. Estimating our model with contemporaneous explanatory variables provides similar estimates to our benchmark results in terms of magnitude, although less precisely estimated. Results are available upon request.

[14] We can see the high persistency of the WPI in Figure 2, as well as in our main results in Table 1 where our autoregressive coefficient is always above 0.8.

[15] Particularly relevant for our empirical specification are Spilimbergo (2009) and Docquier et al. (2016), which studied the effect of international migration on democracy.

of instruments and reducing the lag structure to have fewer instruments than countries, as suggested by Roodman (2009). We keep the same instrument set across all regressions to be transparent and to avoid the "ad hoc" choice of internal instruments for each specification. More specifically, we instrument $WPI_{d,t-1}$ always with its third to seventh lag, and $X_{d,t-1}$ with its second to fourth lag.[16] As for our variables of interest, $ShareMig_{d,t-1}$ and $Epid_{d,t-1}$, we instrument them using external instruments which we create using the shift-share and gravity approach. In the next subsection, we explain the construction of our external instruments in more detail.

III.B Identification strategy: shift-share and gravity-model based instruments

Estimating γ and δ from equation (3) allows us to retrieve the partial correlation between immigration (share of immigrants and the epidemiological term) and countries' workers' protection, after accounting for other controls and the persistency of the dependent variable. However, the estimated partial correlations could be affected by two main sources of bias. First, unobserved time-varying country characteristics, captured by the error term, could influence a country's labor law and immigrants' destination country choice at the same time. The direction of such bias is unclear, since different unobserved factors could play a role. Second, the correlation between immigration and labor law could suffer from reverse causation. For instance, if immigrants are attracted by countries with higher or similar levels of workers' protection compared to their origin country, then both γ and δ would suffer from an upward bias. Using a GMM estimator with internal instruments partially accounts for both sources of bias. However, if unobserved time-varying factors and reverse causation influence not only current but also past immigrant decisions, the source of bias could persist over time. To strongly mitigate these potential biases and estimate the true causal relationship of immigration on workers' protection, we rely on two well-known instrumental variable approaches to build valid external instruments.

Our first instrumental variable approach is based on the shift-share methodology (Card, 2001; Ottaviano and Peri, 2006; Moriconi et al., 2019). The intuition behind this methodology is to use past settlements of immigrants by country of origin as a predictor of subsequent migration flows arising from network effects.[17] We then allocate the aggregate immigration flows by country of origin, mainly driven by push factors, to the sample of destination countries following a historical distribution of the population of immigrants by country of origin. If the historical distributions of immigrants are uncorrelated (or weakly correlated) with the current unobserved factors and the country's labor law, then the predicted migration stocks are also uncorrelated (or, at the very least, less correlated). To compute the predicted bilateral stocks, we first use Özden et al. (2011) data and compute the historical distribution of immigrants from country of origin o in destination country d in the year 1960 as follows:

$$sh_{o,d,1960} = \frac{MIG_{o,d,1960}}{\sum_{d}^{D} MIG_{o,d,1960}}. \tag{4}$$

Equation (4) computes the share of immigrants from country o in destination country d in year 1960 over the total stock of immigrants from the same country of origin. We then compute the total aggregate stocks of immigrants from country of origin o for the years $t \in \{1970, 1975, ..., 2010\}$ as follows:

$$TM_{o,t} = \sum_{d}^{D} MIG_{o,d,t}. \tag{5}$$

[16] In Appendix Table C-3, we test for different lag structures of the internal instruments, and our main results remain robust to various lag structures.

[17] Bertoli and Ruyssen (2018) show that intending migrants are more likely to move to countries where they have peers and friends.

Finally, we can compute the predicted bilateral stocks of immigrants from country of origin o to destination country d in year t as follows:

$$\widetilde{MIG}^{SS}_{o,d,t} = TM_{o,t} * sh_{o,d,1960} \tag{6}$$

Relying on the literature studying the effect of diversity in the immigrant population on countries' economic growth, the shift-share approach is a good predictor of the immigrant population composition as opposed to its size (Alesina et al., 2016; Bahar et al., 2020; Docquier et al., 2020); we use the predicted bilateral stocks computed in equation (6) to compute a predicted measure of the epidemiological effect ($\widetilde{Epid}^{SS}_{d,t}$). We employ this variable as our external instrumental variable for the epidemiological effect.[18]

The second instrumental variable approach is based on Alesina et al. (2016) and Docquier et al. (2020), which estimate a gravity model to predict the bilateral stocks of immigrants. Following their methodology, we propose a parsimonious gravity model that (i) minimizes the potential violation of the exclusion restriction and (ii) includes year dummies interacted with the geographical distance between origin and destination country. As Feyrer (2019) suggests, these interactions should capture the declining cost of displacement due to a reduction in transportation costs. The gravity model is specified as follows:

$$MIG_{o,d,t} = \beta Dist_{o,d} * I_t + \theta_d + \gamma_t + \epsilon_{o,d,t}, \tag{7}$$

where $MIG_{o,d,t}$ is the stock of immigrants from country of origin o to the country of destination d in year t. The set of controls includes interactions between bilateral distance (weighted by population size) and year dummies ($Dist_{o,d} * I_t$), year fixed effects (γ_t), and destination country fixed effects (θ_d).[19] As Appendix Figure C-3 shows, bilateral geographical distance is unrelated with bilateral labor regulation distance, mitigating concerns of a potential correlation with origin-destination institutions. Given the high number of zeros due to empty bilateral corridors, we estimate equation (7) using a Poisson pseudo maximum likelihood (PPML) estimator, as suggested by Silva and Tenreyro (2006), and we cluster the standard errors at the country level. Appendix Table C-1 shows the estimated coefficients of the gravity model. We then use the predicted coefficients from the estimated gravity model to compute the predicted bilateral stocks ($\widehat{MIG}^{G}_{o,d,t}$). Since the estimated predicted bilateral stocks are less driven by reverse causation and unobserved factors, we use them to compute predicted immigration shares ($\widehat{ShareMig}^{G}_{d,t}$). We use this latter variable as an external instrument for our GMM approach.

We follow Bahar et al. (2020) and use both IV strategies simultaneously to instrument our migration variables: shift-share approach to instrument the epidemiological effect and the gravity-based approach to instrument the share of immigrants. Both instruments pass the Bazzi and Clemens (2013) test on weak instruments in a system GMM context.[20] Despite their common use in the literature, both approaches have some drawbacks. Even though extremely parsimonious, our gravity model could violate the exclusion restriction if countries' geographical closeness has an effect not only on migration but also on the degree of workers' protection. However, if such effect is related to any kind of economic channels, the inclusion of GDP per capita as a control should account for it. Moreover, the average level of countries' workers' protection index is uncorrelated with the number of neighboring countries,

[18] We also compute a predicted measure of the share of immigrants $\widetilde{ShareMig}^{SS}_{d,t}$; however, it appears to be a weak instrument.

[19] The measure of bilateral weighted distance comes from Head et al. (2010), and it is based on distances among the biggest cities of the countries weighted by their share of population. Year fixed effects captures common time trends, while country fixed effects captures the time-invariant unobserved heterogeneity in destination countries.

[20] Appendix Table C-2 provides the values of the F-test on weak instruments comparable to the values suggested by Stock et al. (2005).

which is a proxy for geographical closeness.

Concerning the shift-share approach, criticisms have been raised related to the role of persistent factors: if persistent local conditions influence immigrants' location and workers' protection, then an omitted variable bias could arise (Jaeger et al., 2018; Goldsmith-Pinkham et al., 2020). Although our identification assumption is based on the exogeneity of the initial shares, which we corroborate with a battery of test, our setting provides several shocks breaking the serial correlation of migration flows both in terms of magnitude and in composition of countries of origin, such as the fall of Soviet Union and the creation of the Schengen area. Nonetheless, following Goldsmith-Pinkham et al. (2020) we provide evidence in Appendix Section C that the initial distribution of immigrants by origin across destination countries in the 1960s is exogenous to destination countries' specific factors. By computing the Rotemberg weights across different periods in time, Appendix Table C-4 identifies the origin countries that identify the highest variation in the IV.[21] Then, in Appendix Table C-5, we show the correlation between the top origin-specific shares identified by the highest Rotemberg weights and a set of country characteristics in 1960. We do not find any significant correlations, both across different origins and in the variation of the predicted epidemiological term, suggesting that our initial shares are exogenous to destination country factors. Finally, using historical data from the Maddison Project (Bolt et al., 2018) and following Moriconi et al. (2022b), we check the correlations between the instrument and the pre-1960 economic trends. Appendix Table C-6 shows the coefficients from regressing the growth of the predicted epidemiological term on the pre-1960 growth of GDP per capita (Panel A) and population (Panel B) over different time periods. None of the correlations are statistically significant. This is also the case when we regress the growth of our external IV on countries' legal origin (Panel C). This evidence suggests that our predicted epidemiological effect is not correlated with pre-existing national trends, and therefore increases the validity of the instrument.[22]

III.C Testing for alternative immigration effects

Our benchmark specification explores the impact of immigration on labor regulation. Even though we test for the implications of the size and composition of the immigrant population, immigration is a complex phenomenon that can influence receiving countries in different ways through its effect on human capital, culture, productive knowledge, and other origin-specific factors (Borjas, 2016). In this section, we try to take into account some alternative migration-specific dimensions, to minimize the likelihood that our results are driven by other factors.

One of the strongest and also undoubted results of the migration literature is that several effects of immigration are skill specific: college-educated immigrants tend to be more beneficial to the destination countries' economy relative to less educated immigrants (Docquier et al., 2014; Borjas, 2019). Investigating the skill-specific effect of immigration on countries' labor regulation would be intriguing, also given the different interactions that less educated and highly educated immigrants have on the labor markets. However, the only source of data that provides

[21] The size of the Rotemberg weights proxy for the importance of each specific origin group. As suggested by Goldsmith-Pinkham et al. (2020), we report the top-five origin countries in terms of Rotemberg weights, which accounts for, on average, 40% of the total weights, which is not far from the results provided in the canonical migration setting (Goldsmith-Pinkham et al., 2020).

[22] Adao et al. (2019) point out that another source of bias could be driven by a correlation of the errors due to a similar initial distribution of immigrants by country of origin in destination countries. Countries with a similar initial historical distribution of immigrants by country of origin will suffer similar shocks, which will appear in a correlation in the standard errors. We do not think that this bias could affect our results. First, the two-step GMM estimator implemented in our analysis is robust to any pattern of heteroskedasticity and cross-correlation (Roodman, 2009). Second, we perform a correction in the spirit of Adao et al. (2019) by first dividing the sample of destination countries by different quantiles based on the initial share of immigrants coming from the top-origin countries identified by the Rotemberg Weights in Appendix Table C-4. Then we perform our system GMM analysis and cluster the standard errors over cells corresponding to the quantiles of the initial distribution of each of these shares. Appendix Table C-7 shows that standard errors associated with the epidemiological effect remain fairly similar across the different clustering, minimizing potential concerns arising from unobserved correlations in the standard errors.

skill-specific bilateral migration stocks for a wide set of destination countries is Artuç et al. (2014), which combines several censuses for only two years: 1990 and 2000. Having only two years' worth of data is insufficient for obtaining GMM estimates in our dynamic panel specification.[23] To account for the skill composition of immigrants and the potential self-selection on education, we then follow Alesina et al. (2016) and compute an index of immigrant population skill selection for each country d at year t as follows:

$$Skill\ Selection_{d,t} = \sum_{o} \frac{\frac{HS\ TM_{o,2000}}{TM_{o,2000}}}{\frac{HS\ NAT_{o,2000}}{NAT_{o,2000}}} * \frac{MIG_{o,d,t}}{\sum_{o} MIG_{o,d,t}} = \sum_{o} MigSel_{o,2000} * \overline{mig}_{o,d,t} \tag{8}$$

Using Artuç et al. (2014) and Barro and Lee (2013) data, we first compute, for each country of origin o in year 2000, the relative share of highly educated migrants abroad compared to highly educated natives in their origin countries' native population ($MigSel_{o,2000}$). If $MigSel_{o,2000}$ is above one, it means that for the specific country of origin o, the relative share of highly educated individuals abroad is higher than at the origin countries, suggesting positive selection on education. The selection index ($Skill\ Selection_{d,t}$) is then a weighted average of immigrants' relative self-selection on education, using the share of immigrants by origin as weights, and proxies for immigrants' level of self-selection on education.

One of the implications of international migration is its contribution to population diversity. Several studies find positive economic effects of migration diversity measures (mainly immigrants' birthplace diversity) on economic performance at different levels of aggregation (Ottaviano and Peri, 2006; Ortega and Peri, 2014; Alesina et al., 2016; Docquier et al., 2020). More recently, Bahar et al. (2020) show in a cross-country analysis that this positive effect is due to the expansion of the productive knowledge of receiving countries. The increasing variety of competences and knowledge as a result of immigration can also have implications for labor regulation. To account for the potential impact of migration diversity on labor regulation, we compute for each country of destination d an index of immigrant birthplace diversity as follows:

$$Diversity_{d,t} = \sum_{o} \overline{mig}_{o,d,t}(1 - \overline{mig}_{o,d,t}), \tag{9}$$

where $\overline{mig}_{o,d,t}$ is the share of immigrants from country of origin o over the total immigrant population in destination country d at year t. This index ranges between 0 and 1, and it measures the probability of randomly drawing two individuals born in different countries from the immigrant population. Including the immigrant birthplace diversity index in the main regression with the share of immigrants allows us to control for the size and the diversity of the immigrant population simultaneously.[24]

An alternative approach to account for the effect of immigration on the variety of the population is to compute a polarization index rather than a diversity index. Intuitively, a polarized population is less cohesive, which could affect social trust, public good provision, and potential conflict (Montalvo and Reynal-Querol, 2005; Ager and Brückner, 2013). Since the most polarized population is characterized by only two groups of equal size, it is intuitive to see polarization as the other side of the coin of diversity. We follow Montalvo and Reynal-Querol (2005) and compute an immigrants' birthplace polarization index as follows:

[23] We also followed Bahar et al. (2020) and combined Artuç et al. (2014) data with the Database on Immigrants in OECD Countries (DIOC), provided by the OECD, to expand the time dimension of the analysis for a subset of countries. Nevertheless, the total number of country-period observations was too small to obtain any reliable estimates.

[24] Alesina et al. (2016) show that the immigration share and the birthplace diversity index computed for the total population (rather than for the immigrant population) are highly correlated. Including the immigration share and the birthplace diversity index computed over the immigrant population will account for both overall diversity and diversity within the immigrant population.

$$Polarization_{d,t} = 1 - \sum_{o} \left(\frac{0.5 - \overline{m}_{o,d,t}}{0.5} \right)^2 \overline{m}_{o,d,t}. \quad (10)$$

For each country of destination d and year t, the polarization index measures how much the immigrant population is close to a bimodal distribution: if it is equal to one, then the immigrant population is composed of only two groups of equal size.

Finally, immigrants can bring with them their experience and habits not only of their labor regulation but also of other relevant aspects. In particular, immigrants coming from developing and poor countries can behave differently from immigrants coming from more developed countries in the labor market, since they experienced a different productive system. We then perform three alternative falsification tests to verify whether the epidemiological effect is driven by the labor regulation experienced by the immigrants and not by other factors. First, we compute an epidemiological effect as a weighted average of the GDP per capita at the origin rather than the WPI ($Epid\ GDP$). If the epidemiological effect is driven by any aspect related to the level of development of the origin countries, it should be captured by this term. Second, we explore whether our results are not driven by other origin-specific factors that could influence labor regulations, such as the importance of family ties or generalized trust (Alesina et al., 2015; Algan et al., 2016). For this reason, we compute alternative epidemiological effect as weighted average of share of individuals living with their parents ($Epid\ Family$) and trusting others ($Epid\ Trust$) at the origin. Third, we compute an epidemiological effect after randomly assigning the level of WPI to the origin countries ($Epid\ Random$). Finally, our epidemiological effect is driven by the level of labor regulation in the origin countries and not by the difference between origin and destination country labor regulation. However, what could matter could be the distance between the legal systems, rather than the level. To test this potential alternative story, we compute an epidemiological effect using not the level of the WPI in the origin country, but rather a normalized Manhattan distance between the origin country and the destination country ($Epid\ Distance$).[25] Destination countries characterized by immigrants from countries with similar labor regulation should experience an extremely small $Epid\ Distance$ value.

IV Results

The results are organized in two parts. In Section IV.A, we present our main results measuring the impact of immigration on WPI. In Section IV.B, we examine the robustness of our main results by its various subsamples and to other alternative effects such as diversity, polarization, and skill selection of immigrants.

IV.A Main Results

We estimate the baseline model of equation (3) with system GMM using external instruments (shift-share and gravity) for our two variables of interest. Our regression sample covers a panel of 70 countries with five-year periods, from 1970 to 2010. We keep the same number of observations across all specifications to maximize the comparability of results.[26] We start from an naive pooled OLS in column (1) of Table 1 to see in which direction the

[25] The normalized Manhattan distance of WPI between origin country o and destination country d is computed as follows: $WPI^{MAN}_{o,d,2000} = \frac{|WPI_o - WPI_d|}{max_d |WPI_o - WPI_d|}$. It takes a value of 0 when country o and d have the same level of WPI, while it takes the value of 1 when country o and d have the highest distance over the whole sample of countries in analysis.

[26] Six missing country-period observations prevent us from achieving a balanced panel regression sample. This omission is due to the polity2 variable: there is one missing observation for Bangladesh and one for Qatar in 1970, and the other four observations are for Germany before its

bias is corrected: this is ex-ante unclear as there is Nickel bias, reverse causality and omitted variable bias occurring at the same time. Then in columns (2) and (3) we have an parsimonious specification, in which we include the lag of the outcome variable and the two immigration variables of interest separately. To avoid simultaneity bias due to "bad controls" (Angrist and Pischke, 2008), we then gradually include the control variables until we reach our main specification in column (7).

Table 1: Workers' Protection and Immigration

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Estimation:	OLS	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI
$Prot_{t-1}$	0.943***	0.895***	0.854***	0.852***	0.860***	0.858***	0.847***
	(0.018)	(0.056)	(0.064)	(0.066)	(0.053)	(0.055)	(0.055)
$Share\ Mig_{t-1}$	-0.001	-0.002		-0.003	-0.002	-0.005	-0.006*
	(0.001)	(0.002)		(0.002)	(0.003)	(0.003)	(0.003)
$Epid_{t-1}$	0.050***		0.094**	0.094**	0.085**	0.085***	0.078***
	(0.017)		(0.041)	(0.040)	(0.034)	(0.030)	(0.028)
$ln(GDP)_{t-1}$					-0.009	0.031	0.054
					(0.048)	(0.045)	(0.058)
$Polity2_{t-1}$						-0.101	-0.012
						(0.107)	(0.100)
$ln(HC)_{t-1}$							-0.011
							(0.077)
Year FE		✓	✓	✓	✓	✓	✓
Country FE		✓	✓	✓	✓	✓	✓
AR1 p-val		0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val		0.57	0.57	0.57	0.56	0.50	0.55
Hansen p-val		0.37	0.41	0.40	0.55	0.74	0.78
Diff-Hansen p-val		0.27	0.59	0.38	0.90	0.88	0.83
Instruments		15	15	16	20	24	28
Countries	70	70	70	70	70	70	70
Observations	554	554	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables.

In our main results in Table 1, we find a positive and statistically significant effect of the epidemiological term capturing the composition of immigration on the WPI. The coefficient is stable to the inclusion of relevant controls. This result suggests that destination countries' labor regulation is responsive to the level of workers' protection that immigrants experience in their origin country. As for the size of migration, we find a null or negative effect that is significant at a 10% level in our main specification (column 7), but it is not robust across other specifications. Hence, we do not find that the size of immigrant population is a key factor for changing labor regulation, which minimizes the concern about positive reverse causation (i.e., immigrants attracted by protected labor markets). To gain some intuition into the economic magnitude of these effects, we take the face values of the benchmark estimates in column (7). An increase in the migration share by one standard deviation (around 10 percentage points) induces a 6% standard deviation decrease in the WPI over a five-year period. An increase in the epidemiological term by one standard deviation leads to a 7.8% standard deviation increase in the WPI in the destination country—a substantial effect. Our lag dependent variable, as expected, is highly significant across specifications with a coefficient above 0.8, confirming the high persistency of the WPI. We do not find any statistically significant effect associated with

reunification from 1970 to 1985.

the gradually included controls: the level of development, human capital, and the degree of democratization.[27]

To assess the validity of our results, we perform all standard post-estimation test statistics. The first is the absence of a second-order serial correlation in the residuals, which we satisfy as AR(2) p-value is always greater than 0.1. For the Hansen J-test of overidentifying restrictions and the difference-in-Hansen tests, we never reject the null hypothesis, indicating that the moment conditions are satisfied and that the instruments are valid across the specifications. Additionally, we perform various tests for the validity of instruments following Bazzi and Clemens (2013), and in Appendix Table C-2 we test the weakness of instruments in both levels and differences; the Kleibergen-Paap F-stats are significantly greater than 10, and the Kleibergen-Paap Wald-type statistics indicate that we do not suffer from a weak instrument problem.

In the Appendix Table C-8 we perform alternative estimations and specification that are relevant for the credibility of empirical results. Columns (1) and (2) provide OLS results, with and without controls. Overall we find significant correlations of the main variables of interest going in the same direction as the baseline results, and the magnitude of the effect for the epidemiological term is twice as small. In columns (3) and (4) we add country and year fixed-effects, and in line with the literature this significantly reduces the effect of the lag dependent variable. The epidemiological term is twice as small compared to OLS, and the results are less precise. Nonetheless, it is important to recall that estimates presented from column (1) to (4) have multiple sources of bias: Nickel bias, due to the presence of the lag dependent in short panels, reverse causality since migration is not an exogenous phenomena and could be affected by labor regulation as pull factor, and omitted variable bias. In columns (5) and (6) we correct for the Nickel bias in the lag dependent variable, and its' coefficient is in the expected range in between the OLS and FE estimates. However, the variables of interest are overestimated and not precisely estimated compared to our benchmark results. Finally, in the last columns we report results without the lag dependent variable and we find that the epidemiological term is five times larger compared to the baseline results. Overall, these set of estimates confirms the direction of the estimates of our benchmark specification: a positive relation with the epidemiological term and a null or negative relation with the migration share.

Finally, Appendix Tables D-1 and D-2 show that our results are not driven by the time-invariant components of our variables of interest: the WPI at the origin for the epidemiological effect and the population in the destination country for the share of migrants. Estimates associated both to the epidemiological effect computed with a time-variant WPI at the origin ($Epid\ Tvar$) and to the share of migrants over the actual population ($Share\ Mig\ Tvar$) remain qualitatively unchanged.

IV.B Robustness Checks and Alternative Epidemiological Measures

In Table 2 we perform robustness checks by subsamples, using different measures of the epidemiological term, and by testing the relevance of imputations. Using the benchmark specification presented in column (7) of Table 1, we first investigate whether our results are driven by a specific set of countries or years. In column (1), we remove the last two periods (corresponding to 10 years) of our sample to avoid potential spurious estimates due to the 2008 financial crisis and the inclusion of 2010 migration data from a different source compared to Özden et al. (2011). In columns (2) and (3), we drop countries belonging to the upper quantile of the migration share and workers' protection index accordingly.[28] This is to address the concern about potential outliers by removing the right tail of

[27] One explanation for finding no effects in the additional controls is that we only use internal instruments to mitigate endogeneity problems. In an ideal case, we would instrument each of the additional controls with valid external instruments.

[28] In our sample, we removed 14 countries based on the values in the year 2000.

the variable distribution. In the second part, we test whether our results are being driven by imputations and different measures of the epidemiological term. In column (4), we run our analysis in 10-year periods to verify whether our results are being driven by the five-year interpolations made in the bilateral stocks of immigrants. In column (5), we drop from the sample countries characterized by a high percentage of imputed WPI within their epidemiological term (i.e., more than 30% of the immigrant population coming from a country with an imputed WPI). In the next three columns, we test the robustness of the epidemiological term with different imputation methods: (6) imputing the missing countries with the minimum value by legal origin ($Epid\ min$), (7) imputing the missing countries with the maximum value by legal origin ($Epid\ max$), and (8) not imputing the values of missing countries ($Epid\ strict$). In the last column, we test a specification that simultaneously does not use imputed values for the epidemiological and migration terms, by using $Epid\ strict$ and 10-year periods.

Table 2: Workers' Protection and Immigration - Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-00	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI
Robustness to:	2005-10	Top20%Mig	Top20%WPI	10-year	Epid imp	Epid min	Epid max	Epid stric	Epid stric &10-year
WPI_{t-1}	0.834***	0.777***	0.787***	0.792***	0.853***	0.849***	0.857***	0.846***	0.742***
	(0.047)	(0.074)	(0.074)	(0.113)	(0.059)	(0.054)	(0.055)	(0.055)	(0.154)
$Share\ Mig_{t-1}$	-0.001	0.007	-0.004	-0.024*	-0.008**	-0.006*	-0.006*	-0.006*	-0.026
	(0.004)	(0.012)	(0.004)	(0.013)	(0.004)	(0.003)	(0.003)	(0.004)	(0.017)
$Epid_{t-1}$	0.090***	0.074**	0.067**	0.137**	0.070**				
	(0.031)	(0.032)	(0.031)	(0.061)	(0.028)				
$Epid\ min_{t-1}$						0.073***			
						(0.026)			
$Epid\ max_{t-1}$							0.057**		
							(0.027)		
$Epid\ stric_{t-1}$								0.079***	0.304**
								(0.028)	(0.123)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.58	0.37	0.55	0.57	0.51	0.56	0.53	0.55	0.55
Hansen p-val	0.74	0.81	0.63	0.10	0.84	0.80	0.76	0.79	0.09
DiffHansen p-val	0.54	0.90	0.73	0.48	0.81	0.80	0.84	0.83	0.47
Instruments	24	28	28	17	28	28	28	28	17
Countries	70	56	56	70	56	70	70	70	70
Observations	414	447	446	278	442	554	554	554	278

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables. Columns (1) to (5) report the estimates after dropping from the sample: the years 2005–2010 (col. 1), countries belonging to the top quintile in terms of share of immigrants (col. 2) and in terms of workers' protection index (col. 3), the five-year interpolated observations (col. 4), and countries with more than 30% of immigrants with imputed WPI at the origin. Columns (6) to (8) include as main variable of interest instead of the standard epidemiological effect: an epidemiological effect where all the imputed WPI measures at the origin are equal to the lowest value available ($Epid\ min$), an epidemiological effect where all the imputed WPI at the origin are equal to the highest value available ($Epid\ max$), and an epidemiological effect where missing values are not imputed ($Epid\ strict$). Column (9) reports results with no imputation in the epidemiological term and with 10-year periods.

The estimated coefficient for the epidemiological term is always positive and highly significant across all subsamples and imputations. These estimates suggest that the positive effect of the epidemiological effect on WPI is not driven by particular outliers or imputation methods. Moreover, the magnitude of the coefficient is very stable,

except for columns (4) and (9).[29] Apart from the Hansen test bellow 0.1 threshold in column (9), all of our estimates satisfy the standard Hansen, difference-in-Hansen, and AR2 post-estimation tests. As for the estimated coefficient for the share of immigrants, it is not significant when looking at subsamples in columns (1) to (3) and in column (9). However, it is significant and negative when looking at robustness to imputations in columns (4) to (8). Therefore, the conclusion for the size of migration is in line with Table 1: the size of migration has a null or small and negative impact on the WPI.

After verifying that our results are not driven by sample selection and data imputations, we investigate whether alternative effects due to immigration could replace or complement our estimates. As Section III.C presents, the literature identifies that diversity and polarization of the immigrant population can have a direct effect on countries' productive knowledge and economic development (Ager and Brückner, 2013; Bahar et al., 2020; Docquier et al., 2020). We include an index of diversity and an index of polarization among immigrants in columns (1) and (2) of Table 3, respectively. The estimates show that neither immigration diversity nor polarization outruns the epidemiological effect as a relevant channel for explaining WPI variation. Moreover, the estimates for both indexes are not statistically different from zero. To test whether our effects are not entirely driven by the absence of the skill composition and self-selection of immigrants, we follow Alesina et al. (2016) and include as additional control an index of immigrants' self-selection on education. Column (3) of Table 3 shows estimates that are similar to the baseline results associated with the epidemiological term and the migration share after including the self-selection index computed in equation (8); the coefficient associated with the index of self-selection is negative and smaller compared to the epidemiological term and only significant at the 10% level. To explore whether the epidemiological effect is influenced by the relative size of the immigrant population compared to the native population in the destination country, we replace in column (4) the standard epidemiological effect with one using as origin-specific weights the share of immigrants by origin over the destination country population ($Epid\ PopDe$). The estimates are consistent with our previous results, suggesting that the modified epidemiological term is not affected by the relative size of the immigrant population.

To test whether the epidemiological effect is driven not only by the level of WPI experienced in the origin countries, but also by other factors, in column (5) of Table 3 we first replace the standard epidemiological effect with the one using WPI origin-destination distances rather than levels ($Epid\ Distance$). We do not find a significant effect associated with the latter index, suggesting that the difference between the immigrants' and natives' WPI is far less important for the change in WPI at destination compared to the degree (level) of WPI that immigrants experienced in the origin country. Additionally, since immigrants bring with them the origin-country experience of not only labor market regulation but also a broader set of competences and skills, we perform two falsification tests by building two different epidemiological effects based on immigrants' GDP at origin instead of WPI ($Epid\ GDP$) as well as completely randomizing the level of WPI in the origin countries ($Epid\ Random$). After replacing our main epidemiological effect with the two alternative constructions in columns (6) and (7) of Table 3, we confirm that the epidemiological effect is driven by the immigrants' origin-country experience of labor regulation. Finally, we test out whether the epidemiological effect is not driven by other relevant factor highlighted by the literature: Alesina et al. (2015) identifies the importance of family ties in driving demand for labor market regulation, while Algan et al. (2016) highlights individual generalized trust and civicness as in determining the size of the welfare state. We followed the above-mentioned works by computing the shares of individual living with parents and the shares of individuals who trust others. Then we build two epidemiological effects using family ties ($Epid\ Family$)

[29] Re-estimating our results over a longer time span (10-year periods rather than 5-year periods) may increase the variation and consequently the estimated coefficients; additionally, we reduce the sample size by half, which reduces the precision of the estimates.

Table 3: Workers' Protection and Immigration - Alternative Immigration Effects and Falsification tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10	1970-10
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI
WPI_{t-1}	0.849***	0.853***	0.847***	0.865***	0.869***	0.858***	0.868***	0.869***	0.871***
	(0.054)	(0.053)	(0.055)	(0.054)	(0.052)	(0.053)	(0.053)	(0.052)	(0.054)
$Share\ Mig_{t-1}$	-0.006*	-0.006*	-0.006*	-0.007	-0.006*	-0.005	-0.006**	-0.006*	-0.006**
	(0.003)	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
$Epid_{t-1}$	0.079***	0.079***	0.072***						
	(0.028)	(0.029)	(0.027)						
$Diversity_{t-1}$	0.018								
	(0.030)								
$Polar\ Mig_{t-1}$		0.003							
		(0.030)							
$Selection_{t-1}$			-0.022*						
			(0.013)						
$Epid\ PopDe_{t-1}$				0.087**					
				(0.035)					
$Epid\ Distance_{t-1}$					0.043				
					(0.590)				
$Epid\ GDP_{t-1}$						0.068			
						(0.049)			
$Epid\ Random_{t-1}$							-0.018		
							(0.028)		
$Epid\ Family_{t-1}$								-0.005	
								(0.027)	
$Epid\ Trust_{t-1}$									0.003
									(0.024)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.55	0.56	0.55	0.56	0.54	0.54	0.54	0.54	0.53
Hansen p-val	0.81	0.76	0.78	0.76	0.76	0.81	0.77	0.77	0.78
Diff-Hansen p-val	0.83	0.85	0.86	0.63	0.78	0.67	0.79	0.79	0.75
Instruments	29	29	29	28	28	28	28	28	28
Countries	70	70	70	70	70	70	70	70	70
Observations	554	554	554	554	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables. Columns (1) to (3) include as additional controls: birthplace diversity index among immigrants ($Diversity$), polarization index among immigrants ($Polarization$), and human capital selection index of immigrant population ($Skill\ Selection$). Columns (4) to (9) include as main variables of interest instead of the standard epidemiological effect: an epidemiological effect using as origin-specific weights the share of immigrants over the total population of the destination country ($Epid\ PopDe$), an epidemiological effect based on the origin-destination WPI distances ($Epid\ Distance$), an epidemiological effect using the level of GDP per capita at the origin as weight ($Epid\ GDP$), an epidemiological effect where the WPI at the origin is randomly distributed ($Epid\ Random$), an epidemiological effect using the share of individuals living with the family at the origin as weight ($Epid\ Family$), and an epidemiological effect using the share of individuals in the origin who trust others as weight ($Epid\ Trust$). All the additional included variables are instrumented using predicted bilateral immigration stocks from a shift-share approach.

and trust ($Epid\ Trust$) as weights. Columns (8) and (9) show that the newly constructed epidemiological effects are not statistically significant, suggesting that family ties and trust are less relevant in explaining the impact of immigration on labor regulation, at the very least, during the analyzed period.

Beyond the controls included in the benchmark specification, we test the robustness of our results by including additional controls in Appendix Table D-3. First, we include a measure of de facto law proxied by the rule of law index, which can serve as a complementary variable to our de jure measure of the WPI (Coppedge et al., 2020). Next, we add a civil liberties index, which is a combination of de facto and de jure questions that are important for

maintaining the rights of citizens (House, 2016). Third, we include a measure of the size of the informal market or the shadow economy, which could affect the size and the composition of immigrants as well as the degree of workers' protection (Elgin et al., 2012). Afterward, we include the economic freedom index and trade (exports plus imports) as a share of GDP (Gwartney et al., 2018; World Bank, 2018). Finally, we control for countries' membership in the European Union, the International Labor Organization (ILO), and the World Trade Organization (WTO). Overall, after including these additional controls separately, the coefficients of interest remain in line with our benchmark results.

In Appendix Table D-4, we test for the heterogeneous effects of immigration on WPI across destination countries by looking at the level of development (measured by being a high-income OECD country) and at the legal origin. After including destination-specific dummies and interaction terms with our variables of interest, we do not find a differential impact depending on economic development or legal origin. Columns (2) and (4) reveal that what matters is immigrants' workers' protection at the origin country, regardless of the destination country's legal system and level of economic development. Finally, looking at the main terms, we confirm the stylized facts in Figure 2: high-income OECD countries and civil law countries are characterized by a higher level of WPI (although such difference in levels is not significant for the legal origin). Legal origin seems to better explain the cross-sectional variation rather than the within-country evolution over time.[30]

V Mechanisms

In this section, we explore potential mechanisms via which the immigrants' law transfer can impact labor regulation. In Section V.A, we decompose our dependent variable into its five main subcomponents to better identify which dimension of WPI is the most affected by immigration. In Section V.B, we provide suggestive evidence on the transmission of labor market attitudes and preferences from migrants to the hosting society both vertically (e.g., through migrants' offspring) and horizontally (e.g., through natives, and local political parties).

V.A WPI Subcomponents

Table 4 presents the estimates of the response of the five subdimensions of the WPI to immigration: (i) industrial action laws ($IndAction$), (ii) worker representation laws ($WkrRepr$), (iii) worker dismissal laws ($WkrDismis$), (iv) working time laws ($WorkTime$), and (v) employment forms laws ($EmptForm$). Each specification includes the same set of controls and variables of interest as our benchmark specification. Even though the variation of each subcomponent over time is smaller than the overall WPI, we find that the level of workers' protection that immigrants experienced in their origin countries (and proxied by the epidemiological effect) has a positive and statistically significant effect on two subcomponents: worker representation laws and employment forms laws. Both coefficients are statistically significant at the 5% level, and the magnitude of the effect is similar to the aggregate WPI. The estimates associated with the size of immigration are small and close to zero. These areas of labor regulation have important implications for the labor market. Worker representation laws, such as unionization and collective bargaining rights, are extremely relevant because of their direct impact on wage dispersion: a broad set of evidence shows that unions reduce wage dispersion, in particular for male workers (Lemieux, 1998; Card et al., 2004, 2020). Moreover, the degree of rigidity of the employment forms not only has a general effect on wages and

[30] Appendix Table D-5 shows the cross-sectional determinants in our sample of countries (average between 1970 and 2010). The legal origin seems to explain a large portion of WPI disparities across countries.

Table 4: WPI Subcomponents and Immigration

	(1)	(2)	(3)	(4)	(5)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var: WPI Sub-component	$IndAction$	$WkrRepr$	$WkrDismis$	$WorkTime$	$EmptForm$
Dep_{t-1}	0.885***	0.894***	0.817***	0.903***	0.922***
	(0.082)	(0.044)	(0.070)	(0.059)	(0.061)
$Share\ Mig_{t-1}$	-0.010	-0.002	0.004	-0.000	-0.005
	(0.007)	(0.004)	(0.005)	(0.003)	(0.004)
$Epid_{t-1}$	-0.030	0.070**	0.044	0.031	0.061**
	(0.034)	(0.030)	(0.038)	(0.028)	(0.031)
Controls	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.69	0.79	0.39	0.11	0.86
Hansen p-val	0.89	0.50	0.54	0.57	0.34
Diff-Hansen p-val	0.83	0.39	0.37	0.53	0.36
Instruments	28	28	28	28	28
Countries	70	70	70	70	70
Observations	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. Each column has as a dependent variable a different subcomponent of the workers' protection index: industrial action and striking ($IndAction$), employment representation and unionization ($WkrRepr$), workers' dismissal regulation ($WkrDismis$), working time regulation ($WorkTime$), and employment relationship and employment forms ($EmptForm$). As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables.

employment, but also influences how natives react to a supply shock in the workforce as a result of immigration flows (D'Amuri and Peri, 2014; Edo, 2016).

To capture whether the estimates are driven by immigrants' experience of the specific area of labor regulation, in Table 5 we recalculate the epidemiological term by replacing the immigrants' aggregate level of workers' protection at origin with one of the five WPI subcomponents at a time. Then we estimate the subcomponent-specific epidemiological effect on the same destination country subcomponent of workers' protection. For instance, in column (2), we see that the epidemiological term constructed with immigrants' worker representation laws at origin ($Epid^{WkrRepr}$) affects the worker representation laws in the destination country. The magnitude of the effect is reduced from 7% to 5.9% standard deviations compared to the aggregate epidemiological effect presented in Table 4, and the significance level remains unchanged. We also find a similar magnitude of the effect for the subcomponent-specific epidemiological effect ($Epid^{EmptForm}$) in column (5), which is now significant only at the 10% level. We do not find any significant estimates associated with either the epidemiological effect or the share of immigrants on the other three dimensions (industrial action laws, worker dismissal laws, and working time laws). It is worth noting, however, that the tested subcomponents exhibit lower variation over time compared to the full index, and we are capturing a lot of variation in our demanding specification with the persistency term included. Overall, our results show that some areas of the labor regulation are more likely to react to immigration, in particular, laws concerning labor unions' rights.

Table 5: WPI Subcomponents and Immigration - Subcomponent-Specific Epidemiological Term

	(1)	(2)	(3)	(4)	(5)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var: WPI Sub-component	$IndAction$	$WkrRepr$	$WkrDismis$	$WorkTime$	$EmptForm$
Dep_{t-1}	0.877***	0.900***	0.820***	0.884***	0.924***
	(0.086)	(0.045)	(0.067)	(0.069)	(0.055)
$Share\ Mig_{t-1}$	-0.011	-0.002	0.004	-0.000	-0.004
	(0.007)	(0.003)	(0.004)	(0.003)	(0.004)
$Epid_{t-1}^{IndAction}$	-0.017				
	(0.043)				
$Epid_{t-1}^{WkrRepr}$		0.059**			
		(0.029)			
$Epid_{t-1}^{WkrDismis}$			0.035		
			(0.035)		
$Epid_{t-1}^{WorkTime}$				0.057	
				(0.037)	
$Epid_{t-1}^{EmptForm}$					0.052*
					(0.027)
Controls	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.70	0.81	0.38	0.10	0.86
Hansen p-val	0.90	0.55	0.54	0.55	0.35
Diff-Hansen p-val	0.84	0.37	0.35	0.50	0.38
Instruments	28	28	28	28	28
Countries	70	70	70	70	70
Observations	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. Each column has as a dependent variable a different subcomponent of the workers' protection index: industrial action and striking ($IndAction$), employment representation and unionization ($WkrRepr$), workers' dismissal regulation ($WkrDismis$), working time regulation ($WorkTime$), and employment relationship and employment forms ($EmptForm$). As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the subcomponent-specific epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables.

V.B Transmission of Preferences

Our empirical analysis above documents two main findings. First, the size of the migrants population has no or negligible effect on the evolution of labor regulation in the destination country. This downplays the importance of a potential direct economic effect through immigrants labor market participation (Edo, 2019). Second, our results show a significant and positive effect of immigrants' labor market regulation at the origin on destination country labor regulation, which is not driven by other origin country factors like the level of development, trust or informal institutions (see Table 3).

These results could be explained by a potential transmission of migrants' attitudes and preferences to the natives, as some recent works have pointed out (Rapoport et al., 2021; Giuliano and Tabellini, 2021). In particular, Giuliano and Tabellini (2021) show that natives living in US counties with a higher share of European migrants during the Age of Mass Migration are characterized by stronger redistributive preferences, which could be explained by inter-group contact and horizontal transmission of Europeans pro-redistributive preferences to US natives. Following this line of thought, we suggest and provide evidence of two complementary ways through which immigrants' can transmit their preferences to the hosting societies: (i) by transmitting preference to their own descendants, immigrants can influence regulation through their children, which are more likely to have voting rights and affect the legislative

process (i.e. *vertical transmission*); (ii) by passing their origin country experience and knowledge directly to the local actors (i.e. natives and political parties), immigrants' can have a direct effect in the evolution of law through *horizontal transmission*.[31] By combining data from different sources, we test these two mechanisms.

V.B.1 Vertical Transmission

The vertical transmission of preferences (Bisin and Verdier, 2001) is studied in the literature by focusing on the relation between 2^{nd} (and further) generation immigrants preferences and parents' country of origin characteristics (Fernández and Fogli, 2009; Giavazzi et al., 2019). To test this channel, we follow Moriconi et al. (2022a) and we rely on the European Social Survey (ESS) data. This is a repeated cross-section biennial dataset with a randomized sample of individuals across European countries from 2002. Using the 9 available waves, we identify across 30 countries of residence a sample of approximately 13000 second generation immigrants, i.e. individuals born in the country of residence whose father was born abroad.[32] To have some proxies of individual preferences towards labor market regulation and government intervention, we rely on respondent's agreement/disagreement on the following statements: (i) government should take measures to reduce differences in income levels; (ii) government should commit in guaranteeing job to everyone; and (iii) government should commit in guaranteeing good living standards for unemployed.[33] Additionally, to capture actual behavior for seeking protection in the labor market, we add as an additional outcome the respondent's membership in a trade union.

To test the vertical transmission hypothesis, we estimate the following equation on the sample of 2^{nd} generation immigrants with father from origin country o and living in destination country d at year t:

$$y^{o}_{i,d,t} = \alpha + \beta^{m}\overline{WPI^{o}}_{i,d,t} + \Gamma\mathbf{X}_{i,d,t} + \theta_{dt} + \epsilon_{i,d,t}. \tag{11}$$

Our main variable of interest is $\overline{WPI^{o}}_{i,d,t}$, which is the average worker's protection index of father's birthplace between 1970 and 2000. Since we do not know the year of father's exact migration, we rely on the average over the period. The vector $\mathbf{X}_{i,d,t}$ includes individual characteristics, such as age, gender, employment status, marital status, level of education and having a child dummy, while θ_{dt} are destination by year fixed effects. By estimating β^{m} with OLS we capture the partial correlation between father's experienced labor market institution and 2^{nd} generation migrants preferences and behaviors. Moreover, we minimize concerns of omitted variable bias and measurement error by using origin country o legal origin as IV, and performing 2SLS estimates.[34]

Table 6 presents the results. OLS results from columns (1) to (6) suggest that 2^{nd} generation immigrants preferences towards government intervention are positively related with father's level of workers protection regulation at the country of origin. However, only estimates associated to government intervention to guarantee living standards to unemployed remain statistically significant after performing 2SLS (column 6). The results in columns (7) and (8)

[31] A complementary channel would be through migrants' voting after being enfranchised. Bhatiya (2021) shows that UK politicians exposed to an higher share of enfranchised migrants are more prone to discuss issues that affect immigrants positively, yet they vote to increase immigration restrictions.

[32] The 30 countries are Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Croatia, Hungary, Ireland, Israel, Italy, Lithuania, Latvia, The Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia, Slovak Republic and Turkey. We exclude from our sample Luxembourg, Serbia, Russian Federation, Kosovo, Ukraine and Iceland.

[33] The answers to these questions are ranked with higher values for strong agreement with these statements. The first measure is asked across all ESS waves, while other measures are asked only in wave 4 (2008).

[34] Appendix Table D-5 shows that legal origin is the strongest predictor for the level of worker's protection. The exclusion restriction assumption is that father's birthplace legal origin does not affect directly second generation migrants preferences living in a distinct country of residence.

Table 6: Vertical Transmission - 2^{nd} Generation Migrants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
Time:	2002-2018	2002-2018	2008	2008	2008	2008	2002-2018	2002-2018
Dep var:	Gov. Reduce Income Diff.		Gov. Guarantee Jobs		Gov. Improve Unemp. Living		Trade Union Member	
$\overline{WPI^o}$	0.060***	–0.023	0.215**	0.040	0.267	0.343***	0.004	0.012
	(0.018)	(0.078)	(0.097)	(0.288)	(0.184)	(0.061)	(0.005)	(0.010)
Observations	13573	13573	2130	2130	2134	2134	13710	13710
Countries	30	30	29	29	29	29	30	30
KP F-stat		74.855		22.977		22.956		73.902
R2	0.080	0.013	0.153	0.024	0.131	0.021	0.145	0.051
Ind. Controls	✓	✓	✓	✓	✓	✓	✓	✓
Country-Year FE	✓	✓	✓	✓	✓	✓	✓	✓

Note: Authors' calculations using ESS data. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered at the destination country level. The sample includes only 2^{nd} generation immigrants. Our main variables of interest is the average Workers Protection Index in father's birthplace country computed over the 1970-2000 period ($\overline{WPI_o}$). The dependent variables are respondent's preferences towards a stronger government intervention to reduce income differences (col. (1) and (2)), stronger government commitment in guaranteeing job to everyone (col. (3) and (4)), stronger government commitment guaranteeing good living standards for unemployed (col. (5) and (6)), dummy variable whether respondent is currently member of a trade union (col. (7) and (8)). Each specification includes country by year fixed effects, and a set of individual controls: age, gender, employment status, marital status, level of education and having a child dummy. OLS estimates are presented in odd columns, while 2SLS estimates using the father's birthplace country legal origin as IV are presented in even columns.

suggest that there is no actual relation between seeking protection through union participation and father's level of workers protection at the origin. Overall, these estimates suggest that there are some evidences of vertical transmission from migrants fathers workers protection at the origin to its descendants, however vertical transmission is not an exhaustive mechanism to explain our results.

V.B.2 Horizontal Transmission

If the transmission of preferences occurs horizontally, we should expect a positive relation between local actors' preferences and immigrants' workers protection at the origin. We test this potential mechanism by focusing on two relevant local actors for the evolution of labor regulation: natives and political parties.

Focusing first on natives preferences, we rely on the same dataset (ESS) and measures used for testing the vertical transmission channel, but this time we focus on the sample of natives (i.e. individuals born in the country of residence whose father was also born in the country of residence). Since we want to capture the relationship between natives' and immigrants' preferences, we estimate the following equation:

$$y_{i,d,t} = \alpha + \beta^n \overline{Epid^d}_{i,d,t} + \eta^n \overline{Mig^d}_{i,d,t} + \Gamma \mathbf{X}_{i,d,t} + \Delta \mathbf{W}_{d,t} + \theta_t + \epsilon_{i,d,t} \tag{12}$$

The dependent variables $y_{i,d,t}$ are the same as the ones used in equation (11), as well as the vector of individual controls. The new variables of interest are $\overline{Epid^d}_{i,d,t}$ and $\overline{Mig^d}_{i,d,t}$ which are the average epidemiological term and average migration share in country d over the 1970-2000 period, respectively.[35] If horizontal transmission is a relevant mechanism, we should expect a positive relation between natives' stated or revealed preferences and immigrants' origin country labor regulation (i.e., $\hat{\beta}_n > 0$). To reduce omitted variable bias, our specification includes a vector ($\mathbf{W}_{d,t}$) of time-varying country controls such as GDP, political regime, human capital and popula-

[35]The sample of countries includes countries that are available both in the ESS and in our benchmark analysis. The sample includes Austria, Belgium, Switzerland, Cyprus, Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Ireland, Israel, Italy, The Netherlands, Norway, Portugal, Sweden and Turkey.

Table 7: Horizontal Transmission - Natives

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
Time:	2002-2018	2002-2018	2008	2008	2008	2008	2002-2018	2002-2018
Dep var:	Gov. Reduce Income Diff.		Gov. Guarantee Jobs		Gov. Improve Unemp. Living		Trade Union Member	
$\overline{Epid_d}$	–0.050	–0.409	–0.165	–0.578	–0.027	0.020	0.162***	0.260**
	(0.127)	(0.289)	(0.464)	(0.815)	(0.454)	(0.921)	(0.047)	(0.101)
$\overline{ShareMig_d}$	2.771	4.763	–2.654	2.215	–3.411	–0.583	–2.835***	–3.478***
	(1.672)	(2.776)	(5.824)	(6.952)	(5.336)	(5.569)	(0.510)	(0.755)
Observations	134933	134933	22266	22266	22283	22283	135282	135282
Countries	19	19	18	18	18	18	19	19
KP F-stat		8.754		5.930		5.935		8.612
R2	0.083	0.074	0.079	0.077	0.094	0.093	0.149	0.144
Ind. Controls	✓	✓	✓	✓	✓	✓	✓	✓
Country Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓

Note: Authors' calculations on ESS data. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered at the destination country level. The sample includes only natives. Our main variables of interest are the average Epidemiological term ($\overline{Epid_d}$) and Migration share ($\overline{ShareMig_d}$) computed over the 1970-2000 period. The dependent variable is respondent's preferences towards a stronger government intervention to reduce income differences (col. (1) and (2)), stronger government commitment in guaranteeing job to everyone (col. (3) and (4)), stronger government commitment guaranteeing good living standards for unemployed (col. (5) and (6)), dummy variable whether respondent is currently member of a trade union (col. (7) and (8)). Each specification includes year fixed effects, a set of individual controls (age, gender, employment status, marital status, level of education and having a child dummy) and time-varying country controls (Polity2 index, logarithm of the human capital index, of the real GDP per capita, of the employed population, of the overall population). OLS estimates are presented in odd columns, while 2SLS estimates using the predicted average epidemiological term and migration share as IV are presented in even columns. Considering a 15% maximal IV relative bias means that the critical value for the F-stat is around 4.58 across specifications when two endogenous variables are instrumented.

tion (total and employed), and year fixed-effects (θ_t). Relying on the bilateral predicted stocks constructed through the same methodology presented in Section III.B, we also implement 2SLS estimates by using predicted average epidemiological term and average migration share.

The first set of evidence on horizontal transmission are presented in Table 7. Interestingly, natives preferences towards government intervention are not influenced by the exposure to the immigrants population, both in terms of size and country of origin labor regulation. However, both OLS and 2SLS results available in columns (7) and (8) point towards a significant effect of immigration on natives participation to unions: natives' unionization rate is negatively affected by the share of immigrants (Antón et al., 2022), while it is positively influenced by immigrants' experience of origin country labor institution. Taking 2SLS estimates of column (8) at their face value, an increase of one standard deviation of the average epidemiological term increases the likelihood of being a trade union member of 11%, while an increase of one standard deviation of the average migration share reduces it of 17%.[36] These findings complement the results presented in Section V.A, showing a stronger aggregate effect of immigration for unions-related labor regulation.

We then focus on the potential effect on political parties' preferences, by relying on a dataset of parties political agenda during electoral campaigns: the *Manifesto Project Database* (MPD) (Volkens et al., 2020). By performing a content analysis of parties' manifesto, the MPD provides quantitative measure of parties political preferences on several issues (e.g. welfare state expansion, law and order, etc.). For our purpose, we focus on two variables capturing parties stances towards labor groups: (i) positive stances towards labor groups, implying favorable references towards the working class, unions and asking for better job conditions; (ii) negative stances towards labor groups,

[36]The two variables of interest have different standard deviations: 0.432 for the average epidemiological term, and 0.049 for the average migration share.

Table 8: Horizontal Transmission - Political Parties

	Unweighted			Votes Weighted		
	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Time:	1990-2018	1990-2018	1990-2018	1990-2018	1990-2018	1990-2018
Dep var:	Labor Groups Positive	Labor Groups Negative	Labor Groups Net	Labor Groups Positive	Labor Groups Negative	Labor Groups Net
$\overline{Epid_d}$	0.900***	–0.125	1.025***	1.178***	–0.155	1.333***
	(0.318)	(0.102)	(0.333)	(0.367)	(0.098)	(0.365)
$\overline{ShareMig_d}$	–10.516***	1.601*	–12.117***	–10.207***	1.939*	–12.146***
	(2.723)	(0.937)	(2.887)	(3.465)	(1.140)	(3.547)
Observations	1306	1306	1306	1277	1277	1277
Countries	30	30	30	30	30	30
KP F-stat	94.114	94.114	94.114	91.601	91.601	91.601
R2	0.034	0.035	0.037	0.056	0.038	0.061
Country Controls	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓

Note: Authors' calculations on MPD data. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered at the destination country level. The sample includes parties running for elections between 1990 and 2018. Our main variables of interest are the average Epidemiological term ($\overline{Epid_d}$) and Migration share ($\overline{ShareMig_d}$) computed over the 1970-1990 period. The dependent variable is parties' positive stance towards labor groups (col. (1) and (4)), parties' negative stance towards labor groups (col. (2) and (5)), and parties' net positive stance towards labor groups (col. (3) and (6)). Observations are unweighted in col. (1) to (3) and weighted by the percentage of votes obtained in col. (4) to (6). Each specification includes year fixed effects and time-varying country controls (Polity2 index, logarithm of the human capital index, of the real GDP per capita, of the employed population, of the overall population). 2SLS estimates are presented using the predicted average epidemiological term and migration share as IV.

capturing statement against the abuse of power of trade unions. For both measures, MPD provides the share of quasi-sentences over the whole manifesto capturing either positive or negative stances towards labor groups. We then additionally construct a measure of parties net positive stance towards labor groups, which nets out from the positive stances the negative ones. Since MPD data has a structural break with the collapse of the Berlin Wall, we focus on the elections after 1990. Moreover, we focus on the subset of countries which are also included in our benchmark analysis.[37]

To explore the potential horizontal transfer of preferences from immigrants to political parties, we estimate for each party p at electoral year t in country d the following equation:

$$y_{p,d,t} = \alpha + \beta^p \overline{Epid^d}_{p,d,t} + \eta^p \overline{Mig^d}_{p,d,t} + \Delta \mathbf{W}_{d,t} + \theta_t + \epsilon_{p,d,t} \tag{13}$$

The dependent variables are political party positive, negative, or net stance towards labor groups. The main variables of interest are $\overline{Epid^d}_{p,d,t}$ and $\overline{Mig^d}_{p,d,t}$ which are the average epidemiological term and average migration share in country d over the 1970-1990 period, respectively. The set of country-specific controls is the same as equation (12). Intuitively, if horizontal transmission is a plausible mechanism we should expect a positive and significant partial correlation between parties positive and net stances and exposure to immigrants preference (i.e., $\hat{\beta}_p > 0$).

For brevity, Table 8 provides directly 2SLS estimates using IV based on predicted stocks from our shift-share and gravity model strategies. The results seem to support the validity of horizontal transmission as a contributing mechanism: estimates in columns (1) to (3) shows that parties' positive and net stances towards labor groups are

[37]The sample of countries includes Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Malta, Mexico, The Netherlands, New Zealand, Norway, Portugal, South Africa, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States.

positively related with immigrants' labor market regulation experience in their origin countries, while they are negatively influenced by the share of immigrants population. These results are confirmed and stronger once we weight each party for the share of votes obtained during the election (col. (4) to (6)). Additionally, Appendix Table D-7 shows that the estimates are robust once we estimate the effect of the migration-specific variables of interest computed at the beginning of our period (1970) or once we include a European Union dummy.

All in all, these results seem to indicate that horizontal transmission to natives and parties can be a contributing, but not exhaustive, mechanism in explaining our benchmark results.

VI Discussion

In this section, we provide some back-of-the-envelope calculations based on our estimates to have a sense of the magnitude of the immigration effect on WPI. Even though these simulations have a descriptive purpose, since they cannot consider all general equilibrium effects, they can provide an intuitive picture of the magnitude of the effect under various assumptions. Moreover, these simulations do not aim to explain the whole evolution of WPI presented in Figure 2, which is determined by many factors, but rather to attempt to highlight the contribution in a partial equilibrium of immigration on the evolution of WPI.

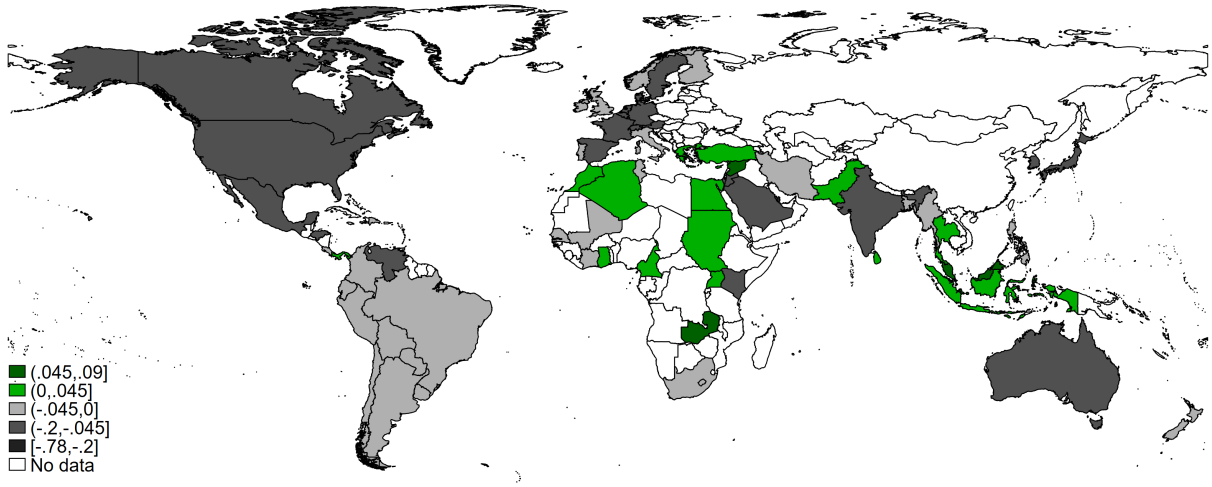
We first compute the observed long-run differences between two time periods (1970 and 2005) in the share of immigrants and in the epidemiological term. Then, using the estimated coefficients $\hat{\gamma}$ and $\hat{\delta}$ of our benchmark model (Table 1, column (7)), we compute the country-specific predicted variation in the WPI over the 1975–2010 period as follows:

$$\Delta\widehat{WPI}_{d,75-10} = \hat{\gamma}\Delta ShareMig_{d,70-05} + \hat{\delta}\Delta Epid_{d,70-05} \tag{14}$$

Figure 5 plots the results and shows a large degree of heterogeneity in the predicted variation for our sample of countries. The general pattern shows that immigration decreases WPI in high-income OECD societies. This effect is explained both by the increase in the share of immigrants and by receiving immigrants from less regulated labor markets. Greece is the only exception, where the negative effect of the increase in the share of immigrants is counteracted by a positive effect from immigrants coming from countries with high levels of WPI. Concerning developing countries, the results are much more heterogeneous: African and Middle Eastern countries experienced, on average, a predicted increase of WPI as a result of immigration, whereas almost all Latin American countries experienced a predicted decrease.

To provide a better idea of the aggregate effect, column (1) of Table 9 presents the predicted average immigration effect on WPI for the standard scenario presented in Figure 5 and other four different scenarios, characterized by the following: (i) countries' epidemiological effect increased by 20% (Epid (+20%)); (ii) all the countries in our sample experienced the same variation in the epidemiological effect of the UK (Epid (UK)); (iii) all the countries in our sample experienced the same variation in the epidemiological effect of France (Epid (FR)); and (iv) countries experienced a variation in both the immigration share and the epidemiological effect following their 2000–2010 trend (Constant trends). We take France and the United Kingdom as two representative countries that are similar in terms of population and economic development while being geographically close, but significantly different in terms of their legal system (different levels of labor regulation) and immigration patterns. Although both countries experienced a sizeable increase in the share of immigrants during the analyzed period, the composition of the immigrant population was rather different: France attracted mainly immigrants from low WPI countries, producing

Figure 5: WPI Simulation Based on 1975-2010 Variation



Note: Authors' calculations on CBR Leximetric data and World Bank data. The figure plots the predicted variation in our standardized measure of workers' protection due to migration. Predictions are based on equation (14).

a negative variation of -0.73 in the epidemiological effect, while the UK experienced a surge of immigrants from more regulated labor markets (increase of 0.16 in the epidemiological effect). Finally, to take into account the differences between the levels of development, the table shows the results for the whole sample (Panel A), for OECD high-income countries (Panel B), and for non-OECD countries (Panel C).

The standard scenario provides an average decrease in the workers' protection index by 4.2% of WPI standard deviations. Since the variation in the WPI over the period 1970–2010 is around one standard deviation (see Figure 2), the predicted effect is small albeit not negligible. The effects of immigration are smaller once countries experience an increase in their epidemiological effect (by receiving more immigrants from countries with high levels of WPI) or experience the same positive variation in the epidemiological term of the UK. On the other hand, experiencing the same change in the composition of immigrants between 1970 and 2005 as in France, or assuming that the same recent trends as in 2000–2010 will persist in the future, generates even more negative effects. The predicted effects are even more negative for OECD countries compared to non-OECD in the standard scenario: the predicted WPI decrease in OECD countries is around 5.8% standard deviations, compared to the prediction of 3.4% for non-OECD countries.

What would be the economic implications of these predicted effects on economic outcomes, such as wages and employment? First, we explore the relation between labor regulation and various economic outcomes. Table 10 shows the partial correlation between WPI and four different labor market outcomes: unemployment rate, labor productivity per hour worked, annual hours worked per worker, and the Gini index after taxes and transfers.[38] Overall, the WPI is indeed related to relevant labor market outcomes, and the partial correlations are on average statistically significant at a 5% level. Moreover, the direction of the relationship is heterogeneous across labor market outcomes. The change in the workers' protection index is positively associated with the unemployment rate and labor productivity, whereas it is negatively associated with the total number of hours worked and inequality.

[38] We perform our analysis using the majority of countries depicted in Figure 1 with five-year time periods from 1970 to 2010, and we investigate the relationship between WPI and economic outcomes in the same year and with a one-period lag. To avoid the issue of bad controls (see Angrist and Pischke (2008)), our specification includes only country and year fixed effects in order to capture time-invariant unobserved heterogeneity and common trends.

Table 9: WPI and Labor Market Outcomes Simulations

Scenarios:	(1) $\Delta\overline{WPI}$	(2) $\Delta\overline{Unemp}$	(3) $\Delta\overline{Prod}$	(4) $\Delta\overline{Hrs}$	(5) $\Delta\overline{Gini}$
Panel A - All Countries					
Standard	-0.0425	-0.0872	-0.2107	2.0291	0.0004
Epid (+20%)	-0.0367	-0.0753	-0.1819	1.7515	0.0004
Epid (UK)	-0.0247	-0.0507	-0.1224	1.1786	0.0002
Epid (FR)	-0.0943	-0.1934	-0.4673	4.5007	0.0009
Constant trends	-0.0817	-0.1677	-0.4053	3.9027	0.0008
Panel B - OECD^{HIC}					
Standard	-0.0587	-0.1205	-0.2912	2.8047	0.0006
Epid (+20%)	-0.0520	-0.1066	-0.2576	2.4805	0.0005
Epid (UK)	-0.0341	-0.0701	-0.1693	1.6304	0.0003
Epid (FR)	-0.1037	-0.2128	-0.5143	4.9525	0.0010
Constant trends	-0.0980	-0.2011	-0.4858	4.6783	0.0010
Panel C - Non-OECD^{HIC}					
Standard	-0.0340	-0.0698	-0.1687	1.6245	0.0003
Epid (+20%)	-0.0287	-0.0589	-0.1424	1.3711	0.0003
Epid (UK)	-0.0197	-0.0405	-0.0979	0.9429	0.0002
Epid (FR)	-0.0893	-0.1833	-0.4429	4.2650	0.0009
Constant trends	-0.0733	-0.1503	-0.3632	3.4981	0.0007

Note: Authors' calculations on World Bank and CBR Leximetrics data. Column (1) shows the average country variation in workers' protection due to migration over the 1975–2010 period. Columns (2) to (5) show the average country variation in different labor market outcomes due to the variation in workers' protection. Each row presents a different scenario: (i) "Standard" shows the average country variation as presented in equation (14); (ii) "Epid (+20%)" shows the average country variation after an increase in the epidemiological term in each country by 20%; (iii) "Epid (UK)" shows the average country variation if all the countries have the same variation in the epidemiological term of the United Kingdom; (iv) "Epid (FR)" shows the average country variation if all the countries have the same variation in the epidemiological term of France; (v) "Constant trends" shows the average country variation if all the countries have an increase in the epidemiological term and migration share as the 2010–2000 trend. Panel A presents the results for the whole sample of countries in our analysis, while Panel B and Panel C show the estimates for OECD high-income countries and non-OECD high-income countries, respectively.

Then, we compute the potential effect of the predicted WPI change by multiplying the predicted variation in WPI with the estimated coefficients associated with each labor market outcome presented in Table 10. The results are presented in columns (2) to (5) of Table 9, and each column shows the predicted effect of the variation in WPI resulting from migration on the variation in the unemployment rate (col. 2), labor productivity per hours worked (col. 3), annual hours worked per worker (col. 4), and the Gini index after tax (col. 5). In the standard scenario, the predicted reduction in WPI over the 1975–2010 period resulting from immigration should lead to a reduction in the unemployment rate of around 0.09 percentage points, a decrease in labor productivity per hours worked by 0.21, an increase of 2.02 hours worked per worker in a year, and an increase of the Gini index by 0.04 percentage points.[39] The predictions almost double when we assume a constant trend in the migration variables. Finally, the economic predictions in OECD countries are twice as large as the ones in non-OECD countries. Being aware that these values have a descriptive purpose and should not be overemphasized, we note that these results aim to provide intuitive magnitudes of the non-negligible economic implications of WPI changes resulting from immigration.

[39]These results are in line with Botero et al. (2004), who suggest in a cross-sectional setting at the country level that protective labor regulation is negatively related to employment in the formal sector while enhancing employment in the informal one.

Table 10: Workers' Protection and Labor Market Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	FE	FE	FE	FE	FE	FE	FE	FE
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	Unemp rate	Labor produc	Hrs worked pc	Gini	Unemp rate	Labor produc	Hrs worked pc	Gini
WPI_t	2.052***	4.958***	-47.747**	-0.010**				
	(0.708)	(1.743)	(19.301)	(0.004)				
WPI_{t-1}					2.019***	3.840**	-37.270**	-0.007
					(0.740)	(1.596)	(16.159)	(0.004)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
Adj. R-Square	0.61	0.92	0.92	0.96	0.62	0.93	0.94	0.96
Countries	68	47	47	69	68	47	47	69
Observations	322	394	394	495	302	353	353	466

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variables are unemployment rate, labor productivity per hour worked, annual hours worked per worker, and Gini index after tax. See Appendix A for further information on the variables.

VII Conclusions

Labor market institutions play an important role in the process of shaping natives' reactions to the inflow of immigrants in the labor market, and the literature assumes labor regulation to be exogenous to the presence of immigrants—but is this the case? If not, this would unveil a new channel through which immigration can influence destination countries' labor markets.

This paper answers this question by using a comprehensive dataset on labor regulation, covering 40 years for 70 countries around the world. We build a novel measure of workers' protection based on 36 different aspects of labor regulation and explore the reaction of labor regulation to immigration, in terms of both size and composition. The paper shows that immigration is a source of legal transplants: receiving immigrants from countries with high levels of workers' protection increases the level of workers' protection, and conversely, receiving immigrants from countries with low levels of workers' protection decreases the workers' protection in the destination country. As for the size of immigration, we find that it has a small negative or null effect on the workers' protection in destination countries. These results are robust after controlling for other competing or complementary effects of immigration, such as diversity, polarization, and skill selection. Moreover, the paper shows that the origin-specific effect is neither driven by immigrants' experience of the economic situation, level of trust or importance of family ties in the origin country, nor by the relative distance between workers' protection in the origin and destination countries, but only by the level of workers' protection in the origin country.

Across different domains of the regulation, we find that worker representation laws and employment forms laws are the ones that are mostly influenced by immigration. Moreover, we provide suggestive evidence on the transmission of preferences from migrants to the hosting society. Consistent with the horizontal transmission mechanisms, natives' unionization rate and political parties support towards labor groups are positively influenced by migrants' labor market regulation at the origin. Additionally, migrants' offspring attitudes towards government intervention are mildly related with parents' degree of workers protection in the origin country, reducing the potential contribution of the vertical transmission channel.

Lastly, we discuss the magnitude of the effect on workers' protection with back-of-the-envelope computations.

Being aware of the partial nature of this exercise, we note that the results show that, on average, immigration contributes to a reduction in WPI of 4.2% standard deviations over the 1970–2010 period. The negative effects are 72% stronger in high-income OECD countries compared to non-OECD countries.

The set of evidence provided in this paper shows that immigrants are a source of law transfer which shapes labor regulation, and we provide suggestive evidence for the mechanism explaining this effect. We hope that this paper will contribute to future research on the labor market impact of immigration, accounting for endogenous labor regulation, and stimulate further research on the potential effect of immigration on destination countries' labor market institutions and other possible mechanisms at play.

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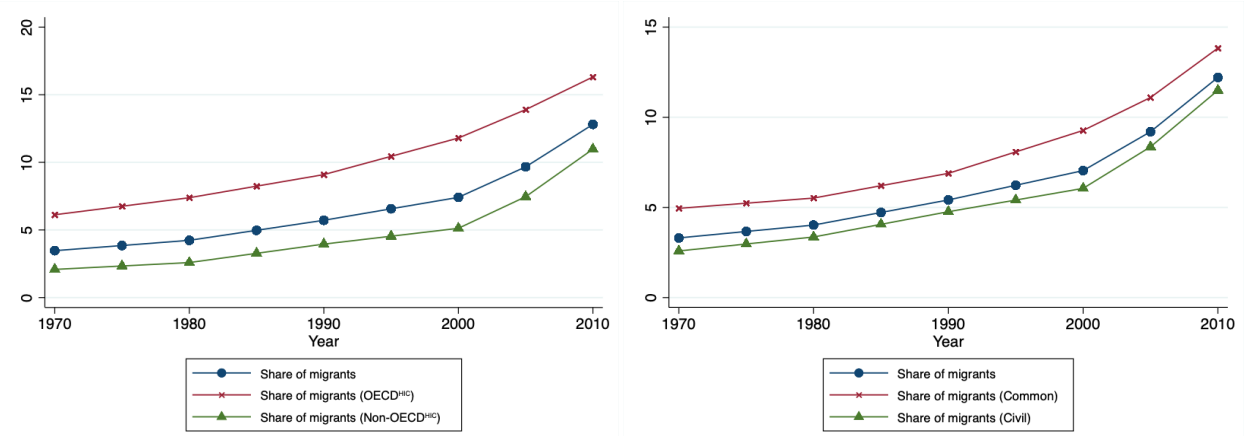
Appendix

A Summary of Data, Variable Definition and Additional Figures

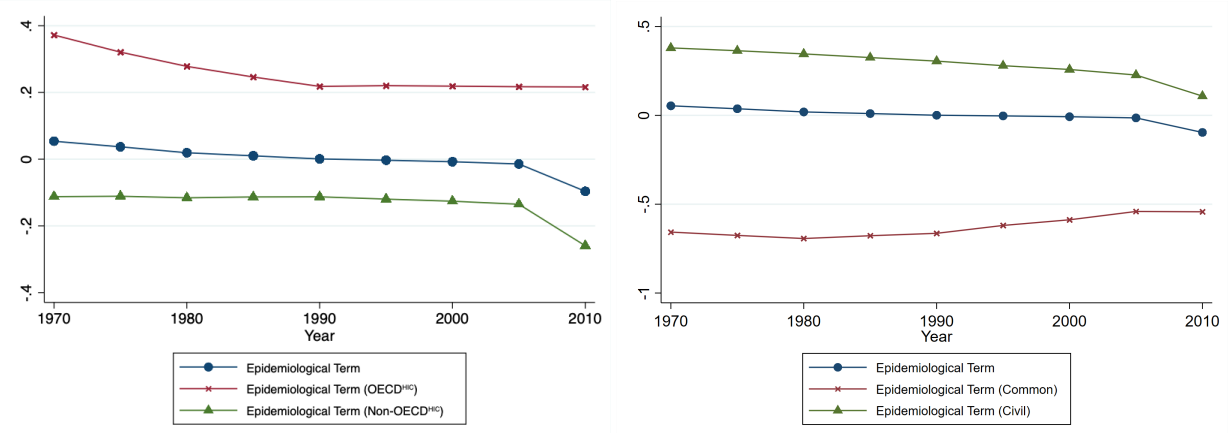
Figure A-1: Share of Immigrants - Evolution over Time



(a) OECD^{HIC} vs. Non-OECD^{HIC} (b) Civil Law vs. Common Law

Note: Authors' calculations on Özden et al. (2011) and World Bank data. Figures (a) and (b) plot the country average share of immigrants over the 2000 population by destination countries' level of development (Figure (a)) and legal origin (Figure (b)).

Figure A-2: Epidemiological Term - Evolution over Time



(a) OECD^{HIC} vs. Non-OECD^{HIC} (b) Civil Law vs. Common Law

Note: Authors' calculations on Özden et al. (2011), World Bank data, and Leximetric data. Figures (a) and (b) plot the country average epidemiological term (as we compute in equation (2)) by destination countries' level of development (Figure (a)) and legal origin (Figure (b)).

Table A-1: Variable Definitions and Sources

Variable	Description	Source
PANEL A - WPI		
Workers' protection, compacted (2SFA, S.D.)	Calculated using factor analysis composed from 5 subindexes below	Adams et al. (2017)
Working time laws (FA, S.D.)	The index includes following variables: 1) Annual leave entitlements; 2) Public holiday entitlements; 3) Overtime premia; 4) Weekend working; 5) Limits to overtime working; 6) Duration of the normal working week; 7) Maximum daily working time	
Worker dismissal laws (FA, S.D.)	The index includes following variables: 1) Legally mandated notice period; 2) Legally mandated redundancy compensation; 3) Minimum qualifying period of service for normal case of unjust dismissal; 4) Law imposes procedural constraints on dismissal; 5) Law imposes substantive constraints on dismissal; 6) Reinstatement normal remedy for unfair dismissal; 7) Notification of dismissal; 8) Redundancy selection; 9) Priority in re-employment	
Worker representation laws (FA, S.D.)	The index includes following variables: 1) Right to unionization; 2) Right to collective bargaining; 3) Duty to bargain; 4) Extension of collective agreements; 5) Closed shops; 6) Codetermination: board membership; 7) Codetermination and information/consultation of workers	
Industrial action laws (FA, S.D.)	The index includes following variables: 1) Unofficial industrial action; 2) Political industrial action; 3) Secondary industrial action; 4) Lockouts; 5) Right to industrial action	
Employment forms laws (FA, S.D.)	The index includes following variables: 1) The law, as opposed to the contracting parties, determines the legal status of the worker; 2) Part-time workers have the right to equal treatment with full-time workers; 3) The cost of dismissing part-time workers is equal in proportionate terms to the cost of dismissing full-time workers; 4) Fixed-term contracts are allowed only for work of limited duration; 5) Fixed-term workers have the right to equal treatment with permanent workers; 6) Maximum duration of fixed-term contracts; 7) Agency work is prohibited or strictly controlled; 8) Agency workers have the right to equal treatment with permanent workers of the user undertaking	
PANEL B - Country Level Variables		
Share of immigrants	Share of immigrants over 2000 population (%)	Artuç et al. (2014)
Epidemiological Effect	Epidemiological term (see Eq. (2))	Adams et al. (2017); Artuç et al. (2014); World Bank (2010)
GDP per capita (log)	Real GDP/capita at constant 2011 national prices (in mil. 2011US$)	Feenstra et al. (2015)
Polity2	Measure of political regime. Time-varying dummy =1 (Democratic regime) for polity score greater or equal to 5 and otherwise =0 (Autocratic regime)	Marshall et al. (2002)
Human capital (log)	Years of schooling	Barro and Lee (2013)
Rule of Law	Rule of Law index	Coppedge et al. (2020)
Shadow Economy	Size of the shadow economy	Elgin et al. (2012)
Civil Liberties	The civil liberties index	House (2016)
Economic Freedom Index	The Economic Freedom Index	Gwartney et al. (2018)
Trade / GDP	Trade (Exports plus Imports) as a share of GDP	World Bank (2018)
ctfp	TFP level at current PPPs (USA=1)	Feenstra et al. (2015)
EU	Dummy = 1 if country is a member of European Union	
ILO	Dummy = 1 if country is a member of the International Labour Organization	
WTO	Dummy = 1 if country is a member of the World Trade Organization	
PANEL C - Labor Market Outcomes Variables		
Unemp rate	Share of unemployed in the total labor force (national estimate)	ILO (2019)
Labor productivity	Labor productivity per hour worked in 2017 USD (converted to 2017 price level with updated 2011 PPPs)	Total Economy Database (2019)
Hrs Worked Pc	Annual hours worked per worker	Total Economy Database (2019)
Gini	Estimate of Gini index of inequality in equivalized (square root scale) household disposable (post-tax, post-transfer) income, using Luxembourg Income Study data	Solt (2016)
Common law	Time invariant. Dummy = 1 for common law and civil law otherwise	La Porta et al. (2008)
PANEL D - Gravity Model Variables		CEPII (2010), Head et al. (2010)
Bilateral weighted distance	Geodesic distance in km	
Colonial relationship	Dummy = 1 for pair ever in colonial relationship	
Common ethnic language	Dummy = 1 for pair with language shared by at least 9% of populations	
Common official language	Dummy = 1 for pair with same official language	
Horizontal Time difference	Difference in time zones in hours	
PANEL E - Individuals attitudes and behaviors		
Gov. Reduce Income Diff.	5-level scale on whether Government should take measures to reduce differences in income level	European Social Survey
Gov. Guarantee Jobs	10-level scale on whether Government should commit in guaranteeing job to everyone	
Gov.Improve Unemp. Living	10-level scale on whether Government should commit in guaranteeing good living standards for unemployed	
Trade Union Member	Dummy = 1 if respondent is currently member of a trade union	
PANEL F - Parties political preferences		
Lab. Groups Positive	Percentage of quasi-sentence in favor of labor groups in parties' political manifesto	MPD, Volkens et al. (2020)
Lab. Groups Negative	Percentage of quasi-sentence against labor groups in parties' political manifesto	
Lab. Groups Net	Difference between the percentage of quasi-sentence in favor and against labor groups in parties' political manifesto	

Table A-2: Summary Statistics - 70 Countries, 1970-2010

Variable	Mean	S.D.	Min.	Max.	Obs.	Corr
PANEL A - Workers Protection Index						
$WPI_{\ t}$ (2SFA)	0.00	1.00	-2.55	2.69	630	1.00***
$EmptForm_{\ t}$ (FA)	-0.00	1.00	-1.31	2.79	630	0.74***
$WorkTime_{\ t}$ (FA)	-0.00	1.00	-2.87	1.61	630	0.50***
$WkrDismis_{\ t}$ (FA)	-0.00	1.00	-2.23	1.99	630	0.65***
$WkrRepr_{\ t}$ (FA)	-0.00	1.00	-1.81	2.35	630	0.78***
$IndAction_{\ t}$ (FA)	-0.00	1.00	-1.35	2.30	630	0.29***
PANEL B - Country Level Variables						
Share of migrants $_{t-1}$	5.71	10.19	0.06	135.43	554	
Epidemiological effect $_{t-1}$	0.01	1.01	-3.02	2.68	554	
GDP per capita (log) $_{t-1}$	-4.68	1.11	-7.28	-1.68	554	
Polity2 $_{t-1}$	0.58	0.49	0.00	1.00	554	
Human capital (log) $_{t-1}$	1.61	0.68	-1.63	2.57	554	
Rule of Law $_{t-1}$	0.61	0.32	0.03	1.00	554	
Shadow Economy $_{t-1}$	31.15	14.59	8.11	71.99	495	
Civil Liberties $_{t-1}$	4.73	1.85	1.00	7.00	487	
Economic Freedom Index $_{t-1}$	5.91	1.39	2.45	9.05	499	
Trade / GDP $_{t-1}$	65.32	50.23	1.24	423.28	532	
OECD^{HIC}	0.34	0.47	0.00	1.00	554	
Common law	0.32	0.47	0.00	1.00	554	
PANEL C - Labor Market Outcomes Variables						
Unemp rate $_{t}$	7.00	5.00	0.20	31.84	322	
Labor productivity $_{t}$	28.54	20.13	0.64	95.33	394	
Hrs Worked Pc $_{t}$	1951.26	275.32	1389.88	2746.89	394	
Gini $_{t}$	0.38	0.09	0.20	0.59	495	
PANEL D - Gravity Model Variables						
Bilateral weighted distance $_{t}$	8249.82	4622.22	1.00	19781.39	388287	
Colonial relationship $_{t}$	0.01	0.10	0.00	1.00	388287	
Common ethnic language $_{t}$	0.16	0.36	0.00	1.00	388287	
Common official language $_{t}$	0.17	0.37	0.00	1.00	388287	
Common border $_{t}$	0.01	0.12	0.00	1.00	388287	
Horizontal Time difference $_{t}$	4.86	3.46	0.00	12.00	388287	

Note: For detailed sources and definitions, see Appendix Table A-1. * p<0.1, ** p<0.05, *** p<0.01.

Table A-3: Workers Protection Index - Summary Statistics by Country

Country	Mean	Min	Max	Country	Mean	Min	Max	Country	Mean	Min	Max
Algeria	1.59	0.31	2.34	Honduras	0.18	0.01	0.2	Portugal	2.05	-0.21	2.69
Argentina	0.86	0.18	1.21	India	-0.01	-0.37	0.17	Qatar	-0.68	-0.77	-0.63
Australia	-1.38	-1.68	-0.61	Indonesia	0.36	0.11	0.85	Saudi Arabia	-1.06	-1.15	-0.53
Austria	1	0.13	1.48	Iran	-0.87	-1.4	-0.35	Senegal	0.69	0.24	1.07
Bangladesh	-0.34	-0.38	-0.05	Ireland	-0.86	-1.63	0.44	Singapore	-0.9	-0.99	-0.66
Belgium	0.39	-0.39	1.25	Israel	-0.08	-0.39	0.43	South Africa	-0.27	-0.76	0.47
Bolivia	0.49	0.35	1.18	Italy	1.63	1.52	1.78	South Korea	0.36	-0.39	1.51
Brazil	0.38	-0.04	0.78	Japan	-0.58	-0.65	-0.49	Spain	1.11	-0.32	1.72
Cameroon	0.06	-0.36	0.24	Jordan	-0.75	-0.95	-0.2	Sri Lanka	-0.05	-0.14	0.08
Canada	-0.93	-1.16	-0.62	Kenya	-1.2	-1.53	-0.43	Sudan	-1.13	-1.73	-0.69
Chile	-0.35	-0.8	0.2	Luxembourg	1.2	-0.96	2.36	Sweden	0.79	-1.29	1.83
Colombia	0	-0.19	0.22	Malaysia	-0.65	-1.05	-0.43	Switzerland	-0.23	-0.57	0.13
Costa Rica	-0.56	-0.57	-0.53	Mali	-0.35	-0.6	-0.01	Syria	-0.57	-0.62	-0.21
Cote d'Ivoire	-0.92	-1.58	0.16	Mexico	0.31	0.31	0.31	Thailand	-0.41	-1.91	0.07
Cyprus	0	-0.21	0.75	Morocco	0.76	-0.07	1.38	Tunisia	0.32	-0.43	1.12
Denmark	0.29	-0.79	0.92	Myanmar	-1.19	-1.2	-1.1	Turkey	0.02	-0.26	0.99
Dominican Republic	-0.53	-0.6	-0.21	Netherlands	0.89	0.19	1.9	Uganda	-1.29	-1.7	-0.3
Ecuador	0.81	0.07	1.57	New Zealand	-0.93	-1.65	-0.52	United Kingdom	-1.15	-1.83	-0.08
Egypt	0.46	-0.14	0.84	Norway	1	-0.04	2.13	United States	-2.46	-2.55	-2.38
Finland	0.77	-0.56	1.85	Pakistan	1.12	-0.25	1.35	Uruguay	0.27	-0.63	0.67
France	1.88	-0.1	2.5	Panama	-0.25	-1.45	0.09	Venezuela	0.79	0.26	1.64
Germany	1.45	1.16	1.94	Paraguay	0.28	0.16	0.44	Zambia	-1.4	-2.09	-1.07
Ghana	-0.44	-0.89	0.32	Peru	0.65	-0.22	1.21				
Greece	0.09	-1.12	1.22	Philippines	-0.57	-2.3	0.16				

Note: List of all 70 countries used in the analysis. Balanced panel with nine five-year periods for each country. The values presented are the average, minimum, and maximum values for the standardized measures of the workers' protection index during the 1970–2010 period.

B Factor Analysis

Table B-1: Factor Analysis - Employment Forms & Working Time

Employment Forms

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	2.047	1.576	0.910
Factor2	0.475	0.168	0.211
Factor3	0.307	0.187	0.136
Factor4	0.120	0.144	0.053

Working Time

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	1.338	0.887	1.049
Factor2	0.451	0.351	0.353
Factor3	0.100	0.104	0.079

Table B-2: Factor Loadings - Employment Forms & Working Time

Employment Forms

Variable	Factor 1	Factor 2	Factor 3	Factor 4
$EmptForm_1$	0.394	0.341	-0.084	-0.109
$EmptForm_2$	0.537	-0.338	-0.154	-0.036
$EmptForm_3$	0.139	-0.004	0.087	0.275
$EmptForm_4$	0.517	0.276	-0.232	-0.015
$EmptForm_5$	0.701	-0.308	-0.084	-0.010
$EmptForm_6$	0.544	0.188	-0.073	0.163
$EmptForm_7$	0.410	0.175	0.322	-0.047
$EmptForm_8$	0.602	-0.088	0.315	-0.050

Working Time

Variable	Factor 1	Factor 2	Factor 3
$WorkTime_1$	0.335	0.409	-0.073
$WorkTime_2$	0.343	0.160	0.068
$WorkTime_3$	0.369	-0.052	0.170
$WorkTime_4$	0.487	-0.008	0.178
$WorkTime_5$	0.621	-0.159	-0.120
$WorkTime_6$	0.050	0.453	-0.020
$WorkTime_7$	0.589	-0.158	-0.123

Table B-3: Correlations - Employment Form & Working Time

Employment Forms

	$EmptForm_{Ind}$
$EmptForm_1$	0.452***
$EmptForm_2$	0.615***
$EmptForm_3$	0.159***
$EmptForm_4$	0.592***
$EmptForm_5$	0.804***
$EmptForm_6$	0.624***
$EmptForm_7$	0.470***
$EmptForm_8$	0.690***

Working Time

	$WorkTime_{Ind}$
$WorkTime_1$	0.420***
$WorkTime_2$	0.430***
$WorkTime_3$	0.463***
$WorkTime_4$	0.610***
$WorkTime_5$	0.778***
$WorkTime_6$	0.0633***
$WorkTime_7$	0.737***

Table B-4: Factor Analysis - Workers' Dismissal & Employment Representation

Workers Dismissal

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	1.878	1.259	0.905
Factor2	0.619	0.374	0.298
Factor3	0.245	0.101	0.118
Factor4	0.143	0.183	0.069

Employment Representation

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	1.047	0.507	0.874
Factor2	0.540	0.320	0.451
Factor3	0.221	0.221	0.184

Table B-5: Factor Loadings - Workers' Dismissal & Employment Representation

Workers Dismissal

Variable	Factor 1	Factor 2	Factor 3	Factor 4
$WkrDismis_1$	0.024	0.174	0.152	0.064
$WkrDismis_2$	0.046	-0.092	0.246	-0.173
$WkrDismis_3$	0.121	-0.091	0.044	0.254
$WkrDismis_4$	0.261	-0.093	-0.268	-0.151
$WkrDismis_5$	0.254	-0.189	0.167	-0.071
$WkrDismis_6$	0.192	-0.157	-0.013	0.167
$WkrDismis_7$	0.191	-0.001	-0.052	-0.049
$WkrDismis_8$	0.166	0.386	-0.137	-0.029
$WkrDismis_9$	0.176	0.277	0.188	0.020

Employment Representation

Variable	Factor 1	Factor 2	Factor 3
$WkrRepr_1$	0.185	0.199	0.028
$WkrRepr_2$	0.209	0.242	0.060
$WkrRepr_3$	0.101	0.083	0.311
$WkrRepr_4$	0.147	0.207	-0.107
$WkrRepr_5$	0.036	-0.202	0.209
$WkrRepr_6$	0.250	-0.238	0.036
$WkrRepr_7$	0.390	-0.223	-0.178

Table B-6: Correlations - Workers' Dismissal & Employment Representation

Workers Dismissal

	$WkrDismis_{Ind}$
$WkrDismis_1$	0.0864***
$WkrDismis_2$	0.190***
$WkrDismis_3$	0.439***
$WkrDismis_4$	0.725***
$WkrDismis_5$	0.711***
$WkrDismis_6$	0.615***
$WkrDismis_7$	0.640***
$WkrDismis_8$	0.510***
$WkrDismis_9$	0.525***

Employment Representation

	$WkrRepr_{Ind}$
$WkrRepr_1$	0.496***
$WkrRepr_2$	0.528***
$WkrRepr_3$	0.237***
$WkrRepr_4$	0.411***
$WkrRepr_5$	0.138***
$WkrRepr_6$	0.634***
$WkrRepr_7$	0.798***

Table B-7: Factor Analysis - Industrial Actions & Workers' Protection Index

Industrial Actions

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	0.922	0.477	1.134
Factor2	0.445	0.577	0.547

Workers Protection Index

Factor	(1) Eigenvalue	(2) Difference	(3) Proportion
Factor1	1.186	1.176	1.450
Factor2	0.010	0.043	0.012

Table B-8: Factor Loadings - Industrial Actions & Workers' Protection Index

Industrial Actions

Variable	Factor 1	Factor 2
$IndAction_1$	0.449	-0.252
$IndAction_2$	0.562	0.058
$IndAction_3$	0.587	-0.116
$IndAction_4$	0.185	0.410
$IndAction_5$	0.163	0.443

Workers' Protection Index

Variable	Factor 1	Factor 2
$EmptForm_{Ind}$	0.305	-0.039
$WorkTime_{Ind}$	0.179	0.024
$WkrDismis_{Ind}$	0.245	-0.015
$WkrRepr_{Ind}$	0.334	0.001
$IndAction_{Ind}$	0.081	0.095

Table B-9: Correlations - Industrial Actions & Workers' Protection Index

Industrial Actions

	$IndAction_{Ind}$
$IndAction_1$	0.613***
$IndAction_2$	0.767***
$IndAction_3$	0.801***
$IndAction_4$	0.253***
$IndAction_5$	0.223***

Workers' Protection Index

	WPI
$EmptForm_{Ind}$	0.752***
$WorkTime_{Ind}$	0.522***
$WkrDismis_{Ind}$	0.661***
$WkrRepr_{Ind}$	0.796***
$IndAction_{Ind}$	0.255***

C Identification Strategy - Additional Results

Table C-1: Predicted Stocks through Gravity Model

	(1)
Estimation:	PPML
Time:	1970-2010
Dep var:	$Stock_{c,j,t}$
$Dist^{w}_{c,j} * I_{1970}$	-0.038***
	(0.009)
$Dist^{w}_{c,j} * I_{1975}$	-0.037***
	(0.008)
$Dist^{w}_{c,j} * I_{1980}$	-0.035***
	(0.008)
$Dist^{w}_{c,j} * I_{1985}$	-0.034***
	(0.007)
$Dist^{w}_{c,j} * I_{1990}$	-0.033***
	(0.006)
$Dist^{w}_{c,j} * I_{1995}$	-0.031***
	(0.006)
$Dist^{w}_{c,j} * I_{2000}$	-0.030***
	(0.005)
$Dist^{w}_{c,j} * I_{2005}$	-0.029***
	(0.005)
$Dist^{w}_{c,j} * I_{2010}$	-0.029***
	(0.004)
Observations	137970
Countries	70
Partial R-Square	0.44

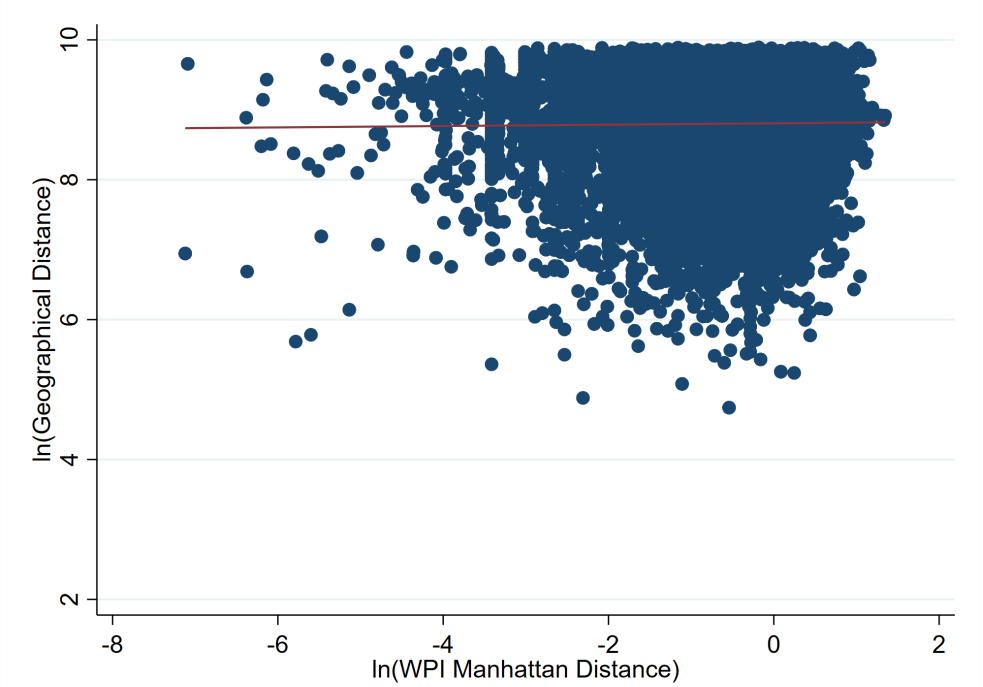
Note: Authors' calculations on World Bank data. Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The set of controls includes the interactions between bilateral distance (weighted by population size) and year dummies, year fixed effects, and destination country fixed effects. The dependent variable is the bilateral migration stock.

Table C-2: Weak Instrument Tests

	(1)	(2)
Estimation:	IV	IV
Time:	1970-2010	1970-2010
Dep Var:	WPI	WPI
Equation:	Levels	Differences
$Prot_{t-1}$	0.922***	0.004
	(0.020)	(0.044)
$Share\ Mig_{t-1}$	-0.000	0.002
	(0.001)	(0.005)
$Epid_{t-1}$	0.057***	-0.400
	(0.021)	(0.471)
Year FE	✓	✓
Instruments	10	9
Observations	560	490
KP LM test p-val	0.00	0.00
KP F-stat	812.85	17.00
KP rel bias>30%	0.00	0.00

Note: The table reports weak instrument diagnostics. For the KP p-val, since critical values do not exist for the KP statistic, we follow the approach suggested by Bazzi and Clemens (2013) and use the Stock et al. (2005) 30% of the OLS bias critical values for the multivariate statistic. Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01.

Figure C-3: Bilateral Geographical and WPI Distance



Note: Authors' calculations on Head et al. (2010) data. The figure plots the scatterplot and the regression line between the logarithm of geographical distance and the logarithm of workers' protection index distance, computed as a Manhattan distance.

Table C-3: Robustness Checks: Lag Structure of Instruments

	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI
$Prot_{t-1}$	0.848***	0.822***	0.848***	0.851***	0.829***	0.829***
	(0.054)	(0.081)	(0.054)	(0.054)	(0.047)	(0.048)
$Share\ Mig_{t-1}$	-0.006*	-0.004	-0.006*	-0.006	-0.006*	-0.007*
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
$Epid_{t-1}$	0.085***	0.106***	0.081***	0.076***	0.077***	0.077***
	(0.028)	(0.039)	(0.029)	(0.028)	(0.028)	(0.028)
Controls	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.52	0.48	0.54	0.55	0.57	0.57
Hansen p-val	0.78	0.11	0.61	0.80	0.49	0.57
Diff-Hansen p-val	0.91	0.30	0.91	0.79	0.74	0.83
Instruments	22	28	23	27	31	33
Countries	70	70	70	70	70	70
Observations	554	554	554	554	554	554
$First\ lag\ WPI_{t-1}$	3	3	3	3	4	4
$Last\ lag\ WPI_{t-1}$	4	4	5	6	5	7
$First\ lag\ Controls_{t-1}$	2	4	2	2	2	2
$Last\ lag\ Controls_{t-1}$	3	7	3	4	6	6

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. Each column includes a different set of lags. See Appendix A for further information on the variables.

Table C-4: Rotemberg Weights

1975				1990				2010			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Origin	$\hat{\alpha_k}$	$\sum \hat{\alpha_k}$	Ratio	Origin	$\hat{\alpha_k}$	$\sum \hat{\alpha_k}$	Ratio	Origin	$\hat{\alpha_k}$	$\sum \hat{\alpha_k}$	Ratio
Portugal	0.052	1.199	0.434	Portugal	0.079	1.652	0.405	Morocco	0.049	1.582	0.412
Germany	0.057	1.199	0.434	Philippines	0.084	1.652	0.405	Puerto Rico	0.056	1.582	0.412
Mexico	0.083	1.199	0.434	Puerto Rico	0.090	1.652	0.405	Italy	0.065	1.582	0.412
Italy	0.122	1.199	0.434	Italy	0.128	1.652	0.405	Philippines	0.091	1.582	0.412
Pakistan	0.206	1.199	0.434	Mexico	0.288	1.652	0.405	Mexico	0.390	1.582	0.412

Note: Authors' calculations following (Goldsmith-Pinkham et al., 2020) methodology. The table shows the top-five Rotemberg weights ($\hat{\alpha}$) by origin and year (1975, 1990, and 2010). Columns (3), (7), and (11) report the sum of the positive Rotemberg weights, while columns (4), (8), and (12) report the ratio between the sum of the top-five Rotemberg weights by origin and the total positive weights.

Table C-5: Origin Country Shares and Destination Countries' Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Time	1960	1960	1960	1960	1960	1960	1960	1960	1960	1970-2010
	Origin Shares									$\widetilde{Epid}^{SS}_{70-10}$
Origin	GER	ITA	MEX	MOR	PAK	PHIL	POR	PUE	*All*	
$ln(GDP)$	0.005	0.015	0.001	-0.007	-0.042	0.003	0.008*	0.001	-0.016	0.237
	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)	(0.01)	(0.00)	(0.01)	(0.06)	(0.17)
$ln(Col)$	0.005	0.009	0.022	0.007	0.001	0.015	0.001	0.022	0.083	-0.239*
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.00)	(0.02)	(0.08)	(0.14)
$ln(PopD)$	-0.002	-0.002	-0.004	0.005	0.014	-0.003	-0.006	-0.004	-0.002	-0.078
	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.07)
$Polity2$	0.000	0.000	-0.001	-0.001	0.002	-0.001	0.002	-0.001	0.001	0.011
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
$Common\ Law$	0.023	0.009	0.051	0.011	0.059	0.043	-0.015	0.052	0.233	0.015
	(0.02)	(0.02)	(0.05)	(0.02)	(0.06)	(0.04)	(0.02)	(0.05)	(0.19)	(0.29)
$OECD^{HIC}$	0.023*	-0.013	0.019	0.026	-0.002	0.016	-0.025	0.018	0.063	0.042
	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.11)	(0.43)
Observations	62	62	62	62	62	62	62	62	62	62
R-Square	0.18	0.19	0.10	0.11	0.14	0.10	0.05	0.10	0.12	0.04

Note: Authors' calculations on World Bank and Maddison Project data. * p<0.1, ** p<0.05, *** p<0.01. Columns (1) to (8) report results of a single regression of a 1960 origin-specific share on 1960 destination countries' characteristics. Column (9) reports the results using as a dependent variable the sum of the origin-specific shares identified in Table C-4. Column (10) reports the estimates on the predicted growth of the epidemiological term using the predicted stocks constructed through our shift-share strategy between 1970 and 2010.

Table C-6: Correlation Between pre-1960 Indicators and Shift-Share-Based Epidemiological Term Growth

	(1)	(2)	(3)	(4)
Estimation:	OLS	OLS	OLS	OLS
Dep var:	$\widetilde{Epid}^{SS}_{70-80}$	$\widetilde{Epid}^{SS}_{70-90}$	$\widetilde{Epid}^{SS}_{70-00}$	$\widetilde{Epid}^{SS}_{70-10}$
Panel A - GDP per capita				
	0.235	0.361	-0.121	-0.032
	(0.570)	(0.577)	(0.300)	(0.251)
Countries/Observations	68	43	43	40
Panel B - Population				
	1.492	0.033	0.190	0.121
	(0.931)	(0.618)	(0.365)	(0.298)
Countries/Observations	70	45	45	44
Panel C - Legal origin: Common Law				
	0.081	0.065	0.110	0.072
	(0.310)	(0.312)	(0.277)	(0.307)
Countries/Observations	70	70	70	70

Note: Authors' calculations on World Bank and Maddison Project data. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized measure of workers' protection. In Panel A (GDP per capita) and Panel B (Population) the table shows the predicted coefficients regressing the growth rate of macro indicators between: 1950 to 1960 (col. 1), 1940 and 1960 (col. 2), 1930 and 1960 (col. 3), and 1920 and 1960 (col. 4) on the national predicted epidemiological effect with our shift-share strategy over different periods. Panel C shows the predicted coefficients of common law legal origin on the national predicted epidemiological effect with our shift-share strategy over different periods.

Table C-7: Robustness Checks: Adao Standard Error Correction

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI
SE clustered at:	CNT	GER	ITA	MEX	MOR	PAK	PHL	POR	PUE
$Prot_{t-1}$	0.863***	0.863***	0.863***	0.863***	0.863***	0.863***	0.863***	0.863***	0.863**
	(0.057)	(0.065)	(0.057)	(0.049)	(0.076)	(0.060)	(0.052)	(0.057)	(0.060)
$Share\ Mig_{t-1}$	-0.006	-0.006	-0.006*	-0.006	-0.006*	-0.006	-0.006	-0.006	-0.006
	(0.004)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)	(0.004)	(0.003)	(0.002)
$Epid_{t-1}$	0.080***	0.080**	0.080**	0.080*	0.080**	0.080**	0.080***	0.080**	0.080*
	(0.030)	(0.033)	(0.031)	(0.038)	(0.038)	(0.032)	(0.027)	(0.034)	(0.006)
Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Hansen p-val	0.79	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Diff-Hansen p-val	0.84	0.93	0.98	1.00	0.98	0.98	0.95	0.98	(.)
Instruments	28	28	28	28	28	28	28	28	28
Clusters	70	20	20	16	19	19	19	18	2
Countries	70	70	70	70	70	70	70	70	70
Observations	554	554	554	554	554	554	554	554	554

Note: * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables. The table reports system GMM results across different standard error clusters: country level (col. 1), and grouping countries with similar initial shares of immigrants in the year 1960 from Germany (col. 2), Italy (col. 3), Mexico (col. 4), Morocco (col. 5), Pakistan (col. 6), Philippines (col. 7), Portugal (col. 8), and Puerto Rico (col. 9).

Table C-8: Alternative Estimations and Specifications

	OLS		FE		Internal instruments		No lag dependent	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	OLS	OLS	FE	FE	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI
$Prot_{t-1}$	0.940***	0.934***	0.461***	0.463***	0.705***	0.884***		
	(0.019)	(0.023)	(0.044)	(0.044)	(0.193)	(0.063)		
$Share\ Mig_{t-1}$	-0.001	-0.003**	0.000	-0.001	-0.008	-0.002	-0.016***	-0.022
	(0.001)	(0.001)	(0.003)	(0.002)	(0.011)	(0.002)	(0.006)	(0.019)
$Epid_{t-1}$	0.052***	0.049***	0.026	0.027	0.270	0.156*	0.523***	0.392***
	(0.018)	(0.018)	(0.080)	(0.082)	(0.186)	(0.091)	(0.090)	(0.110)
$ln(GDP)_{t-1}$		0.041*		0.014		-0.029		0.153
		(0.023)		(0.097)		(0.047)		(0.287)
$Polity2_{t-1}$		-0.018		-0.043		-0.112		0.466**
		(0.039)		(0.054)		(0.125)		(0.221)
$ln(HC)_{t-1}$		-0.008		-0.078		0.097		-0.398*
		(0.034)		(0.106)		(0.089)		(0.205)
Year FE			✓	✓	✓	✓	✓	✓
Country FE			✓	✓	✓	✓	✓	✓
AR1 p-val					0.01	0.00	0.16	0.17
AR2 p-val					0.19	0.46	0.84	0.59
Hansen p-val					0.97	0.87	.	0.05
Instruments					15	27	10	22
Countries					70	70	70	70
Observations	554	554	554	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: in columns (5) and (6) they are instrument with same internal instruments as the controls variables, whereas in columns (7) and (8) the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach.

D Additional Analysis

Table D-1: Workers' Protection and Immigration with all Time-varying Components of the Share of Immigrants

	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI
$Prot_{t-1}$	0.894***	0.854***	0.852***	0.845***	0.842***	0.815***
	(0.057)	(0.064)	(0.067)	(0.063)	(0.062)	(0.060)
$Share\ Mig\ Tvar_{t-1}$	-0.003		-0.003**	-0.004	-0.006*	-0.008**
	(0.002)		(0.002)	(0.004)	(0.003)	(0.003)
$Epid_{t-1}$		0.094**	0.093**	0.088**	0.087***	0.084***
		(0.041)	(0.040)	(0.035)	(0.031)	(0.030)
$ln(GDP)_{t-1}$				0.006	0.046	0.086
				(0.060)	(0.051)	(0.055)
$Polity2_{t-1}$					-0.109	-0.018
					(0.105)	(0.096)
$ln(HC)_{t-1}$						-0.039
						(0.069)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.57	0.57	0.57	0.56	0.49	0.55
Hansen p-val	0.38	0.41	0.41	0.58	0.72	0.79
Diff-Hansen p-val	0.31	0.59	0.53	0.88	0.91	0.81
Instruments	15	15	16	20	24	28
Countries	70	70	70	70	70	70
Observations	554	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. This table reproduces Table 1 while changing the epidemiological measure in which the WPI is time-varying. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the epidemiological effect and the recalculated share of immigrants with all time-varying components: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables.

Table D-2: Workers' Protection and Immigration with all Time-varying Components of the Epidemiological Term

	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI
$Prot_{t-1}$	0.895***	0.839***	0.838***	0.838***	0.840***	0.835***
	(0.056)	(0.073)	(0.075)	(0.062)	(0.062)	(0.060)
$Share\ Mig_{t-1}$	-0.002		-0.003	-0.003	-0.005	-0.007*
	(0.002)		(0.002)	(0.004)	(0.003)	(0.004)
$Epid\ Tvar_{t-1}$		0.103**	0.103**	0.099**	0.095***	0.089***
		(0.045)	(0.045)	(0.038)	(0.035)	(0.034)
$ln(GDP)_{t-1}$				-0.001	0.030	0.048
				(0.051)	(0.048)	(0.057)
$Polity2_{t-1}$					-0.080	-0.014
					(0.108)	(0.095)
$ln(HC)_{t-1}$						-0.005
						(0.072)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.57	0.58	0.57	0.57	0.51	0.56
Hansen p-val	0.37	0.38	0.35	0.52	0.70	0.80
Diff-Hansen p-val	0.27	0.40	0.27	0.57	0.50	0.65
Instruments	15	15	16	20	24	28
Countries	70	70	70	70	70	70
Observations	554	554	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. This table reproduces Table 1 while changing the epidemiological measure in which the WPI is time-varying. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the recalculated epidemiological effect with a time-varying WPI: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. See Appendix A for further information on the variables.

Table D-3: Robustness Checks: Additional Controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI	WPI	WPI
$WPIt-1$	0.834***	0.806***	0.779***	0.857***	0.864***	0.796***	0.815***	0.822***
	(0.073)	(0.068)	(0.079)	(0.065)	(0.066)	(0.082)	(0.070)	(0.065)
$Share\ Mig_{t-1}$	-0.007	-0.003	-0.006**	-0.009	-0.004	-0.005	-0.005	-0.007
	(0.004)	(0.003)	(0.003)	(0.006)	(0.004)	(0.006)	(0.005)	(0.004)
$Epid_{t-1}$	0.079**	0.091**	0.098**	0.071**	0.077**	0.088**	0.077**	0.087**
	(0.031)	(0.035)	(0.038)	(0.029)	(0.034)	(0.042)	(0.030)	(0.034)
$Rule\ Of\ Law_{t-1}$	-0.134							
	(0.305)							
$Civil\ Liberties_{t-1}$		0.122**						
		(0.054)						
$Shadow\ Econ_{t-1}$			0.003					
			(0.007)					
$Econ\ Freedom_{t-1}$				0.015				
				(0.044)				
$Trade/GDP_{t-1}$					-0.002*			
					(0.001)			
EU						0.269*		
						(0.144)		
ILO							0.365	
							(0.491)	
WTO								0.075
								(0.084)
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR2 p-val	0.53	0.34	0.78	0.91	0.81	0.59	0.56	0.61
Hansen p-val	0.80	0.83	0.85	0.62	0.92	0.06	0.42	0.21
Diff-Hansen p-val	0.81	0.62	0.70	0.56	0.87	0.12	0.42	0.81
Instruments	32	31	32	32	32	31	32	31
Countries	70	70	64	67	70	70	70	70
Observations	554	487	495	499	532	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. As additional controls, we include rule of law index, size of the shadow economy, civil liberties, economic freedom index, trade (exports plus imports) as a share of GDP, European Union membership, International Labour Organization membership, and World Trade Organization membership. See Appendix A for further information on the variables.

Table D-4: Workers' Protection and Immigration - Heterogeneity Analysis

	(1)	(2)	(3)	(4)
Estimation:	S-GMM	S-GMM	S-GMM	S-GMM
Time:	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	WPI	WPI	WPI	WPI
WPI_{t-1}	0.838***	0.831***	0.822***	0.819***
	(0.054)	(0.055)	(0.064)	(0.062)
$Share\ Mig_{t-1}$	-0.005	-0.005	-0.005	-0.006*
	(0.004)	(0.004)	(0.004)	(0.003)
$Epid_{t-1}$	0.078***	0.067**	0.055**	0.068**
	(0.029)	(0.029)	(0.026)	(0.028)
$Share\ Mig_{t-1} * OECD^{HIC}$	-0.004			
	(0.005)			
$Epid_{t-1} * OECD^{HIC}$		0.042		
		(0.051)		
$Share\ Mig_{t-1} * Common\ Law$			-0.004	
			(0.005)	
$Epid_{t-1} * Common\ Law$				-0.068
				(0.091)
$OECD^{HIC}$	0.177*	0.160**		
	(0.096)	(0.080)		
$Common\ Law$			-0.096	-0.164
			(0.077)	(0.100)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
AR1 p-val	0.00	0.00	0.00	0.00
AR2 p-val	0.54	0.54	0.55	0.55
Hansen p-val	0.83	0.85	0.77	0.76
Diff-Hansen p-val	0.85	0.87	0.84	0.84
Instruments	30	30	30	30
Countries	70	70	70	70
Observations	554	554	554	554

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is our standardized workers' protection index. As controls, we include the logarithm of GDP per capita, the polity2 index, and the logarithm of human capital. Our main variables of interest are the share of immigrants and the epidemiological effect: the former is instrumented using the predicted immigration share from a gravity model and the latter with the epidemiological effect using predicted bilateral immigration stocks from a shift-share approach. Additionally, we include dummies capturing the level of development and legal origin of destination countries. See Appendix A for further information on the variables.

Table D-5: Cross-sectional Determinants of Workers' Protection Index

	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	OLS	OLS	OLS	OLS	OLS	OLS
Dep var:	WPI	WPI	WPI	WPI	WPI	WPI
$Share\ Mig$	-0.027***	-0.018**	-0.018	-0.029***	-0.031***	-0.010
	(0.009)	(0.008)	(0.013)	(0.010)	(0.010)	(0.014)
$Epid$	0.386***	0.256***	0.358***	0.383***	0.394***	0.150
	(0.092)	(0.090)	(0.094)	(0.093)	(0.089)	(0.094)
$ln(GDP)$	0.332**	0.211	0.313	0.335**	0.361**	0.308
	(0.145)	(0.139)	(0.253)	(0.144)	(0.149)	(0.294)
$Polity2$	0.478*	0.548*	0.567*	0.551*	0.368	0.820**
	(0.272)	(0.293)	(0.287)	(0.309)	(0.271)	(0.364)
$ln(HC)$	-0.454	-0.340	-0.583	-0.509	-0.434	-0.677
	(0.296)	(0.306)	(0.472)	(0.329)	(0.278)	(0.472)
$Common\ Law$		-0.684***				-0.949***
		(0.233)				(0.266)
ctfp			-0.313			-0.457
			(0.717)			(0.786)
$Trade/GDP$				0.002		0.002
				(0.002)		(0.002)
$unemp\ rate$					-0.027	-0.003
					(0.019)	(0.025)
Adj. R-Square	0.32	0.42	0.25	0.32	0.31	0.40
Observations	70	70	61	70	68	59

Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variable is the country average workers' protection index over the entire time span. As controls, we include logarithm of GDP per capita, the polity2 index, the logarithm of human capital, a dummy associated with country legal origin, the logarithm of productivity, trade as a share of GDP, and the share of unemployed workers. Our main variables of interest are the share of immigrants and the epidemiological effect. See A for further information on the variables.

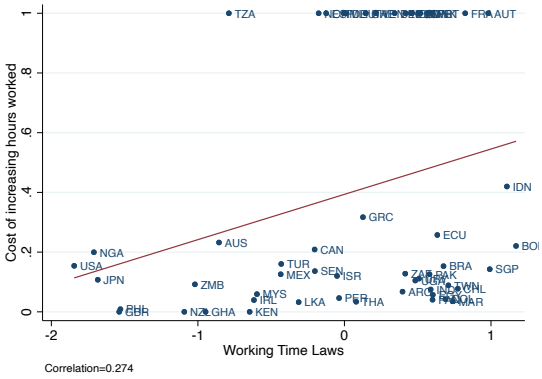
Table D-6: WPI Subcomponents and Labor Market Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Estimation:	FE	FE	FE	FE	FE	FE	FE	FE
Time:	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010	1970-2010
Dep var:	Unempl	Labor Produc	Hours worked pc	Gini	Unempl	Labor Produc	Hours worked pc	Gini
Panel A								
$CollectAct_t$	-0.158	0.038	-25.701	-0.006				
	(0.335)	(1.626)	(18.836)	(0.004)				
$CollectAct_{t-1}$					0.376	-0.106	-26.358	-0.005
					(0.304)	(1.435)	(20.139)	(0.004)
Panel B								
$WkrRepr_t$	1.374*	0.752	-27.223*	-0.004				
	(0.704)	(1.218)	(15.984)	(0.004)				
$WkrRepr_{t-1}$					1.788**	0.633	-24.772*	-0.004
					(0.782)	(1.128)	(13.353)	(0.003)
Panel C								
$WkrDismis_t$	0.947	4.182**	-33.619*	-0.004				
	(0.719)	(1.995)	(17.996)	(0.005)				
$WkrDismis_{t-1}$					0.932*	4.103**	-27.838*	-0.001
					(0.525)	(1.712)	(15.891)	(0.005)
Panel D								
$WorkTime_t$	0.131	-0.295	18.508	-0.007				
	(0.718)	(1.328)	(18.508)	(0.004)				
$WorkTime_{t-1}$					-0.458	-0.007	13.557	-0.008*
					(0.604)	(1.096)	(17.743)	(0.004)
Panel E								
$EmptForm_t$	0.986**	4.266***	-31.317**	-0.004				
	(0.405)	(1.037)	(13.138)	(0.003)				
$EmptForm_{t-1}$					0.877**	3.373***	-22.104*	-0.002
					(0.382)	(1.024)	(11.788)	(0.004)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
Countries	68	47	47	69	68	47	47	69
Observations	322	394	394	495	302	353	353	466

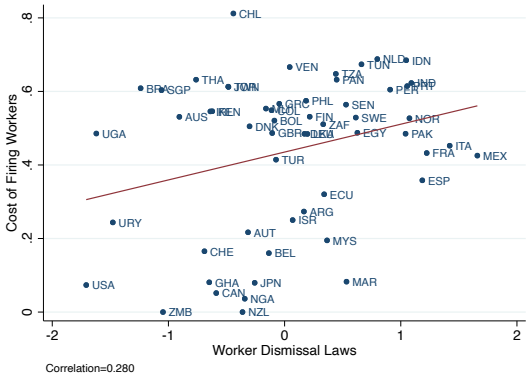
Note: Standard errors are clustered at the country level. * p<0.1, ** p<0.05, *** p<0.01. The dependent variables are the unemployment rate, labor productivity per hours worked, annual hours worked per worker, and Gini index after tax. Each panel provides the estimates associated with the following variables of interest: industrial action laws ($IndAction$), worker representation laws ($WkrRepr$), dismissal laws ($WkrDismis$), working time laws ($WorkTime$), and employment forms laws ($EmptForm$). See Appendix A for further information on the variables.

Figure D-4: Workers' Protection Index Subcomponents - Correlations with Botero et al. (2004)

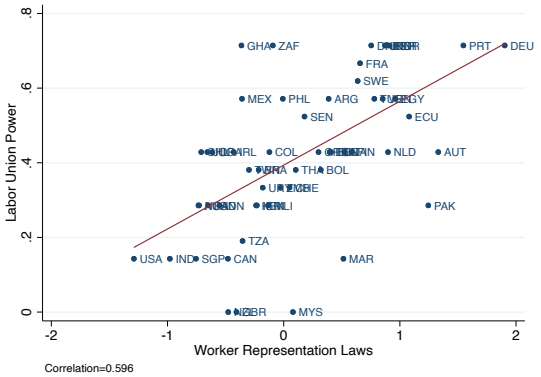
(a) Employment Forms Laws and Alternative Employment Contracts



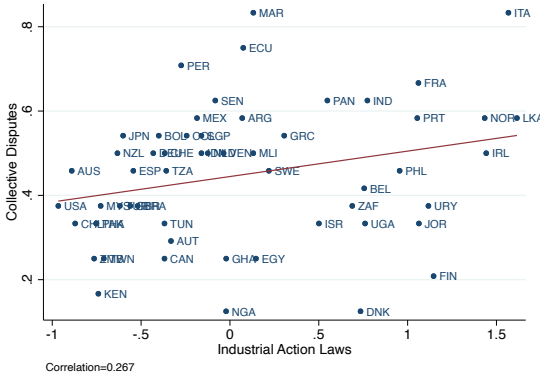
(b) Working Time Laws and Cost of increasing hours worked



(c) Worker Dismissal Laws and Cost of Firing Workers



(d) Worker Representation Laws and Labor Union Power



(e) Industrial Action Laws and Collective Disputes

Note: Authors' calculations on CBR Leximetric data (x-axis) and Botero et al. (2004) (y-axis). The figure plots the 1970–2010 average at the country level of the standardized workers' protection subcomponents on the related cross-sectional measures of workers' protection by Botero et al. (2004).

Table D-7: Horizontal Transmission - Parties Robustness Checks

	1970 Values			EU Dummy		
	(1)	(2)	(3)	(4)	(5)	(6)
Estimation:	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Time:	1990-2018	1990-2018	1990-2018	1990-2018	1990-2018	1990-2018
	Labor Groups	Labor Groups	Labor Groups	Labor Groups	Labor Groups	Labor Groups
Dep var:	Positive	Negative	Net	Positive	Negative	Net
$Epid_{d,1970}$	0.774**	–0.116	0.889**			
	(0.319)	(0.096)	(0.335)			
$ShareMig_{d,1970}$	–11.265***	1.686*	–12.950***			
	(3.011)	(0.990)	(3.198)			
$\overline{Epid_d}$				0.977*	–0.073	1.051**
				(0.506)	(0.068)	(0.509)
$\overline{ShareMig_d}$				–10.916***	1.334*	–12.250***
				(3.634)	(0.695)	(3.720)
Observations	1306	1306	1306	1306	1306	1306
Countries	30	30	30	30	30	30
KP F-stat	232.198	232.198	232.198	59.146	59.146	59.146
R2	0.036	0.033	0.039	0.034	0.038	0.037
Country Controls	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Europe FE				✓	✓	✓

*Note:*Authors' calculations on MPD data. * p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered at the destination country level. The sample includes parties running for elections between 1990 and 2018. Our main variables of interest are the Epidemiological Term and Migration share in the year 1970 in col. (1) to (3), and the average Epidemiological term ($\overline{Epid_d}$) and Migration share ($\overline{ShareMig_d}$) computed over the 1970-1990 period in col. (4) to (6). The dependent variable is parties' positive stance towards labor groups (col. (1) and (4)), parties' negative stance towards labor groups (col. (2) and (5)), and parties' net positive stance towards labor groups (col. (3) and (6)). Each specification includes year fixed effects and time-varying country controls (Polity2 index, logarithm of the human capital index, of the real GDP per capita, of the employed population, of the overall population). An EU dummy is included in columns (4) to (6). 2SLS estimates are presented using the predicted average epidemiological term and migration share as IV.

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