NET WORK LISER

Discussion Paper Series

IZA DP No. 19021

October 2026

Modeling and Evaluating the Labor Market and Fiscal Effects of Immigration

Michele Battisti
University of Glasgow,
IZA@LISER, CESifo and RFBerlin

Giovanni Peri
University of California, Davis,
NBER, CEPR and IZA@LISER

Eleonora Romano
University of Bologna

The IZA Discussion Paper Series (ISSN: 2365-9793) ("Series") is the primary platform for disseminating research produced within the framework of the IZA@LISER Network, an unincorporated international network of labour economists coordinated by the Luxembourg Institute of Socio-Economic Research (LISER). The Series is operated by LISER, a Luxembourg public establishment (établissement public) registered with the Luxembourg Business Registers under number J57, with its registered office at 11, Porte des Sciences, 4366 Esch-sur-Alzette, Grand Duchy of Luxembourg.

Any opinions expressed in this Series are solely those of the author(s). LISER accepts no responsibility or liability for the content of the contributions published herein. LISER adheres to the European Code of Conduct for Research Integrity. Contributions published in this Series present preliminary work intended to foster academic debate. They may be revised, are not definitive, and should be cited accordingly. Copyright remains with the author(s) unless otherwise indicated.

IZA@LISER NETWORK
ISSN: 2365-9793

IZA DP No. 19021 October 2026

Modeling and Evaluating the Labor Market and Fiscal Effects of Immigration*

Abstract

Immigration affects natives through both labor markets and public budgets, yet these channels are usually studied separately. We combine them in a general-equilibrium model with search-and-matching frictions, skill-specific progressive labor taxes, capital taxation and public goods, calibrated to 17 OECD countries over 2015–2019. The welfare effect on natives of a one-percentage-point increase in immigrant inflows varies in sign and size across countries, hinging on immigrants' skill mix, immigrant-native wage gaps, resident unemployment, and tax progressivity. For inflows matching the skill composition of 2019–2024 arrivals, native welfare rises in 14 of 17 economies, and in most cases both skill groups gain, through different channels. Lower-skilled natives gain mainly from higher pre-tax earnings, driven by job creation and complementarity with skilled immigrants; higher-skilled natives gain mainly from lower labor-tax burdens. Evaluating immigration policy thus requires modeling labor-market and fiscal channels jointly: either channel alone gives an incomplete picture of who gains and why.

JEL classification

F22, J61, J64, H20, E24

Keywords

migration, OECD countries, fiscal redistribution, tax progressivity, search and matching

Corresponding author

Michele Battisti
michele.battisti@glasgow.ac.uk

* We are grateful to Gaetano Basso, Giacomo Caracciolo, Agostino Consolo, and Joan Llull for their comments, and to participants at the CESifo Area Conference on Labor Economics; the DGE Internal Seminar (SSL) at the European Central Bank; the 4th Diversity and Human Capital Workshop, (Exeter); the 3rd European Workshop on the Macroeconomic Implications of Migration at Banca d'Italia; the RES 2026 Annual Conference; and the EEA-ESEM 2026, Dublin.

1 Introduction

The economic effects of immigration on natives have been studied extensively. However, the two most important aspects of such effects have mostly been studied separately. A large literature has examined how immigration affects native employment, wages and, in general, labor market outcomes. The classic analysis, based on the canonical model of labor demand and supply, includes Borjas (2014); Card (2009); Ottaviano and Peri (2012) among many others, and is reviewed in several surveys such as (Peri, 2016). More recent analysis has incorporated search frictions (Chassamboulli and Palivos, 2014), monopsony power (Amior and Manning, 2020), and worker-firm matching (Orefice and Peri, 2024) introducing additional channels in such analysis.

A separate literature, extensive but not as large, has quantified instead how immigrants affect tax revenues and public spending (e.g. Dustmann and Frattini (2014); Storesletten (2003)) and hence their impact on the fiscal balance of the government. These two aspects of immigration effects are rarely analysed jointly. Even more rarely is their combined welfare effect on natives examined across different fiscal regimes. The progressivity of taxation and the size of the public sector are crucial aspects affecting income distribution and the incidence of immigration shocks in a country. A more redistributive system can attenuate or amplify the labor market effects of immigrants, depending on their skill distribution. The fiscal contribution of immigrants can ease or worsen the burden of incumbent natives, depending on the immigrants' skill distribution, the progressivity of taxes and the size of the public sector. Although these are important aspects of the impact of immigration, few studies integrate both sides of the question in a way that allows for cross-country comparison.

The labor-market and fiscal consequences of immigration on citizens are consequential and subject to heated policy debate. A common political narrative claims that immigrants displace native workers, depress their wages, and impose a net fiscal cost on the public sector. These claims implicitly assume strong competition with natives, decreasing returns in the labor market, and a stronger burden put by immigrants on welfare transfers and public benefits. A large body of work in labor economics, however, usually finds the opposite picture: immigrants tend to complement native skills (Dustmann and Frattini, 2014; Ottaviano and Peri, 2012; Peri and Sparber, 2009), contribute to new ideas and innovation, hence rising aggregate productivity (Basso et al., 2026; Peri, 2012) and create labor-market options of natives (Docquier et al., 2014) without depressing their wages on average(Caiumi and Peri, 2024). In economies where the labor force is shrinking, immigration and especially the high-skilled component of it can represent a substantial positive contribution to the public sector as well. Still, the size and distribution of these effects depend on the skill composition of immigrants (Allen et al., 2025; Dustmann and Frattini, 2014), on the progressivity of the tax system, and the size of the public sector (Boeri, 2010). While reduced-form studies have shown that immigration interacts with welfare in several ways, including through the welfare-magnet hypothesis and political-economy feedbacks (Alesina et al., 2021; Allen et al., 2025), few structural models quantify how taxation and redistribution shape the incidence of immigration across different worker groups and countries.

This paper fills this gap by developing a general-equilibrium search-and-matching model with two skill-specific labor markets, productivity spillovers from high-skilled workers, capital accumulation, and a fiscal sector including transfers and public good provision. The model builds on the search-and-matching setup of Chassamboulli and Palivos (2014) and Chassamboulli and Peri (2015), and the multi-country quantitative framework of Battisti et al. (2018), but enriches it in several ways, which matter for the welfare effects of immigration. First, we allow labor-income taxation to be skill-specific and therefore progressive. Empirically the tax-progressivity-ratio is disciplined by country-level data, whereas previous search-and-matching models in this literature assumed a single tax rate for all workers. Second, capital is accumulated endogenously and taxed, allowing the model to capture how immigration shifts the marginal product of capital and how capital ownership distributes the resulting gains. Third, the government provides a pure public good as well as transfers and spending on individual services, broadening the

potential channels through which immigration affects the fiscal burden on natives. Fourth, we account for productivity effects from high-skilled workers, capturing innovation, technological growth and learning spillovers generated by human capital and consistent with the agglomeration and growth literature (Lucas, 1988, 2015; Moretti, 2004) and its application to immigration (Docquier et al., 2014). Taken together, these features allow the model to consider a much richer set of fiscal regimes and identify the channels and magnitudes of important effects, so far overlooked by the literature.

We calibrate the model to harmonised 2015−2019 data for 17 rich countries, including the main European OECD economies plus the United States. These EU economies and the US represent the largest receivers of immigrants in the world, during the last three decades. The calibration targets include native–immigrant wage gaps, employment rates by education for immigrants and natives, government spending and pure-public-good shares of GDP, and the degree of tax progressivity. We then simulate three comparative-statics scenarios: a skill-neutral inflow, a high-skill-biased inflow, and a low-skill-biased inflow. Each inflow equals one percentage point of the receiving country's labor force, in aggregate, but differs in its composition. Finally, we simulate one-percentage-point inflows reflecting *the actual skill composition of 2019−2024 immigrant arrivals* constructed from EU-LFS, UK-LFS, and ACS microdata.

Several findings emerge from our comparative-statics analysis. High-skill-intensive inflows, where the college-to-non-college ratio of immigrants is twice that for natives, generate significant welfare gains for natives in nearly all countries, with a cross-country mean of +0.20 percent gains and positive effects for both skilled and less-skilled natives. The gains operate through three channels: productivity spillovers from the higher share of tertiary-educated workers, a job-creation effect as firms expand vacancy posting in response to immigrants who bargain lower wages than comparable natives and therefore stimulate job creation, and a fiscal contribution from skilled immigrants that lowers the labor-tax burden on natives. Skill-neutral inflows, when the college-to-non-college ratio of immigrants is the same as for natives are roughly welfare-neutral on average (+0.02 percent), and low-skill-intensive inflows (ratio of college to non-college equal to half as that of natives) generate losses in some but not all countries (−0.12 percent on average), with the sign of the effect depending on country fundamentals.

We then show that cross-country heterogeneity in these effects is governed by four fundamentals, two acting through the labor market channel and two through the fiscal channel. The strength of the labor market channel depends on the wage gap between natives and immigrants and on native unemployment: as immigrants are hired at lower wages in most countries, because they bargain from a weaker outside option, and especially where unemployment rate is high, firms post more vacancies as a consequence of larger immigrant inflows. Hence the market tightens, and natives gain through higher employment and wages. The strength of the fiscal channel depends on tax progressivity and the size of the public sector. Tax progressivity reallocates the fiscal incidence of immigration across native skill groups, so more redistributive systems amplify the gains from high skilled immigration and the losses from low skilled immigration for the corresponding native group, while the size of the public sector amplifies the aggregate fiscal response. These fundamentals generate distinctive country profiles. In Italy, Spain, and Greece, wide wage gaps and high unemployment make the benefit from immigrants through labor market channel strong, so natives gain substantially even under a skill neutral inflow. The United States lies at the other extreme: narrow wage gaps and low unemployment mute the labor market channel, while low tax progressivity and a small public sector mute the fiscal channel, so both are weak and the overall welfare effect is small.

We then simulate a one percentage point inflow with the actual skill composition of 2019 to 2024 arrivals, constructed using the EU-LFS (Labor Force Survey), UK-LFS (Labor Force Survey), and the US ACS (American Community Survey) microdata on recent arrivals. We find that in response to these inflows, native welfare rises in 14 of 17 countries, with a mean gain across countries of 0.17 percent. Recent inflows have been substantially more skill-intensive than resident populations in most countries (46 percent of new arrivals held tertiary (college) education, versus 32 percent of the 2019 resident population). This feature drives a substantial part of the positive pattern. Low-skilled natives gain primarily

through the increase in pre-tax labor earnings (+0.25 percent on average), driven by the productivity, the complementarities and the job creation effect. High-skilled natives, for which the labor market effects offset each-other, gain almost entirely through reduced labor tax burdens (+0.06 percent), as skilled immigrants pay a more than proportional share of the cost of financing redistribution. Heterogeneity across countries is large. The United Kingdom, where inflows since Brexit have been very high-skill intensive (more than 80 percent of new immigrants has tertiary education), shows the largest gain at +0.47 percent, followed by Denmark at +0.41 percent. The United States shows a modest +0.07 percent. Slovenia, Greece and Spain are the three countries whose recent inflows are less skill-intensive than their resident population, and Greece is the outlier at −0.11 percent.

The remainder of the paper is organized as follows. Section 2 documents empirical regularities on immigration, labor markets, and fiscal redistribution across the 17 OECD countries in our sample. Section 3 presents the theoretical framework and characterizes the equilibrium. Section 4 describes the calibration and reports the welfare effects of the three comparative-statics scenarios. Section 5 presents the welfare effects of the actual 2019–2024 immigration flows. Section 6 concludes.

2 Migration Trends, Labor Markets and Fiscal Sector

Our analysis considers European Countries plus the US. These are two high-income regions of the world receiving large number of world migrants. In this section we provide a compact quantitative description of these economies, and we use these as initial equilibrium for our exercise. The baseline year is 2019, before COVID; for variables sensitive to the business cycle we use 2015 to 2019 averages, to smooth cyclical fluctuations. We then simulate the impact of the migration flows observed over 2019 to 2024, which we describe in Section 5. This period saw a resurgence of migration in several countries, including the US, Spain, and the UK, and is the most recent for which data are available.

We first describe the composition of the receiving economies' population into immigrants and natives, distinguishing individuals with and without tertiary education, whom we label high-skilled and low-skilled. We then describe the labor market and fiscal variables that shape the effects of immigration, and document how they differ across countries. The analysis draws on harmonized international microdata (the European Labour Force Survey and EU-SILC for European countries, and the American Community Survey for the United States), macroeconomic indicators from the World Bank World Development Indicators and the Penn World Tables, and tax and benefit information from OECD Taxing Wages (OECD, 2020) and, for comparability, the Luxembourg Income Study. These last sources provide skill specific effective labor tax rates for higher- and lower-skilled workers.

2.1 Immigrant Populations: Size and Education Groups

Using the EU Labour Force Survey (LFS) and the EU Statistics on Income and Living Conditions (EU-SILC) microdata for the 2015−2019 period, we measure the share of immigrants in the total population and their skill distribution relative to natives. Skills are classified according to educational attainment, distinguishing, as mentioned, workers with tertiary education (higher-skilled) from those with less education (lower-skilled).

Table 1 reports the summary statistics, including the 25th, 75th percentiles in the distribution across the 17 countries of our sample and the maximum and minimum values, of key measures relative to immigrants, labor markets, and fiscal and government spending variables. Immigrants represented on average 18.7 percent of the working-age population in the considered countries, ranging from a high of 54.4% in Luxembourg, a very small country relying on immigration in most of its sectors, to a low of 8.7% in Greece. One fourth of the considered countries have a share of immigrants larger than 20 percentage points. The share of high-skilled among immigrants is also varying significantly across countries. It exceeds 40 percent in the United Kingdom, Luxembourg, Estonia and Switzerland, while it is below 30

Table 1: Summary statistics of moments of interest.

Variable	Average	75th PCTL	25th PCTL	Highest (country)	Lowest (country)
[1] Share of immigrants in the population	18.7%	20.3%	11.0%	54.4% (LU)	8.7% (EL)
[2] High-skilled share among immigrants	32.0%	38.7%	25.5%	50.8% (LU)	12.6% (IT)
[3] Immigrant/Native high skill wage gap	0.913	1.039	0.831	1.065 (US)	0.675 (IT)
[4] Immigrant/Native low skill wage gap	0.866	0.966	0.790	1.023 (PT)	0.650 (LU)
[5] Immigrant/Native unemployment ratio (skill-weighted average)	1.755	2.266	1.299	3.396 (SE)	0.795 (US)
[6] Replacement rate	43.5%	52.7%	36.5%	66.8% (BE)	10.0% (EL)
[7] Government share	18.8%	21.8%	17.5%	26.1% (SE)	7.8% (CH)
[8] Capital share	41.0%	44.5%	38.1%	48.1% (IT)	31.3% (CH)
[9] Public good share	8.0%	11.3%	4.9%	20.7% (US)	2.1% (LU)
[10] Labor tax rate, low skill	23.0%	27.7%	21.1%	34.4% (DE)	10.8% (EE)
[11] Labor tax rate, high skill	34.7%	38.6%	29.5%	47.4% (BE)	21.3% (EE)
[12] High/Low tax ratio	1.545	1.633	1.375	1.972 (EE)	1.257 (SI)

Notes: Shares and tax rates shown in percent; ratios have no unit. Sources: EU-SILC, EU-LFS, OECD Taxing Wages, World Bank, and Penn World Table. The countries included in the sample are: Austria (AT), Belgium (BE), Denmark (DK), Estonia (EE), France (FR), Germany(DE), Greece (EL), Italy (IT), Luxembourg (LU), the Netherlands (NE), Portugal (PO), Slovenia (SI), Spain (ES), Sweden (SE), Switzerland (CH), United Kingdom (UK) and the United States (US). For greater detail see the Appendix A.1 and A.2.

percent in Southern European economies and in Germany. In many cases, however, immigrants have a larger share of tertiary educated individuals relative to natives, and this is true especially for the recent inflows (as we will see in section 5). Such cross-country variation in skill-intensity of immigrants and their interaction with productivity effects, labor market frictions and the progressive nature of the fiscal systems, will be at the core of the heterogeneity of our results.

2.2 Wage Differentials and Labor-Market Performance

To measure the wages of natives and immigrants we use EU-SILC data and US Census data, from which we compute the wage ratio between the two groups. [1] In Table 1, on average, high-skilled immigrants earn about 90 percent of the comparable natives' wages, while low-skilled immigrants earn around 86 percent of their native counterparts' wages[2]. These averages conceal wide variation across countries, which will be consequential for our analysis. At one extreme, in the US the immigrant to native wage gap is close to zero, and immigrants and natives generate similar surplus for firms. At the other, in Italy, Spain, and Greece, both high and low skilled immigrants earn only 65 to 70 percent of comparable native wages, producing the strong job creation effect described above. These differences across countries likely reflect a combination of institutional features that affect the relative outside options of immigrants, differences in mobility and sorting of migrants across sectors and occupations and selection of migrants with respect to productivity across countries. The part of the wage differential due, instead, to differences in productivity does not have this job-creation effect. In our calibration and simulations we assume that immigrants and natives of the same skill level are equally productive.

Unemployment differences between immigrants and natives also vary widely across countries. In the LFS data, immigrant unemployment is on average 1.75 times that of natives, and exceeds native

[1] EU-SILC records employee income gross of taxes in most countries but net of taxes in others, and the two are not directly comparable. We convert net recorded incomes to a gross basis by multiplying them by 1.25, a flat 25 percent gross up. This matters only for Estonia, Spain and Portugal, the three countries where net and gross records coexist: elsewhere the recording is uniform within the country, so the conversion applies either to all observations or to none and cancels in the native to immigrant ratio. In those three countries the adjustment lowers the measured gap, by up to 0.04 in Spain and by less than 0.02 in Estonia and Portugal, because immigrants report net income more often than natives (in Spain 17 percent of observations against 5 percent), so that without the conversion immigrant earnings would be understated and the gap overstated.Varying the adjustment for gross income between 20 and 30 percent changes the Spanish wage ratios by less than 0.01 relative to the benchmark, and those of Estonia and Portugal by less than 0.004.

[2] This differential will play an important role in our analysis. The part of this differential driven by worse outside options of immigrants relative to natives, drives a higher surplus for firms per immigrant worker hired relative to native. In markets with free entry of firms, this incentive to post more vacancies produces a job-creation and positive labor demand effect when the share of immigrants increases.

unemployment in most European countries, reaching especially high ratios in Sweden and other northern European countries. The US is again the exception: there the ratio is 0.79, so immigrants are less likely to be unemployed than natives. These gaps are consistent with immigrants facing higher separation rates than natives (a feature that we will model in the analysis), because of their higher mobility and responsiveness to shocks (e.g. Cadena and Kovak (2016)), reinforcing the role of labor market frictions in shaping employment effects of immigrants. Lower bargaining power, equal productivity, and higher separation rates for immigrants relative to natives are consistent with these statistics, and within a range of parameter values they generate the job creation effect, as firms capture the surplus created by matching with such workers.

2.3 Public Spending and Capital Shares

Cross-country heterogeneity in fiscal variables plays a central role in how immigration interacts with redistribution, tax burden and public finances. From Eurostat and the U.S. Bureau of Census, we obtain the unemployment benefit replacement rate, which averages 43.5 percent across countries in the sample. It is highest in Belgium and Austria, where replacement ratios exceed 60 percent, and lowest in US, Greece and Portugal, where they are less than 30 percent. Relative to previous studies, such as Battisti et al. (2018), replacement rates and fiscal indicators are measured using updated and more detailed and harmonized sources, improving cross-country comparability.

To capture the broader fiscal environment, we draw on macroeconomic indicators from the World Bank and the Penn World Table (PWT). Line [7] of Table 1 reports government size, measured as general government consumption as a share of GDP: the goods and services the government provides, mainly public sector wages, and the public services of health, and education. This measure excludes government transfers and public investment. We measure government size using government consumption from the PWT, rather than a broader measure of total government outlays that typically include transfers and pensions, such as in the IMF World Economic Outlook. In our model, unemployment benefits and transfers enter separately, through the replacement rate and b_{ij}, so government consumption is the closer empirical counterpart to the government sector as modelled in the analysis. A measure based on total government outlays would count transfers twice and include pensions, which have no counterpart in a static model without a life cycle.

Government consumption as a share of GDP ranges from 8 percent in Switzerland to 26 percent in Sweden. Line [9] reports the “pure public good share",i.e. the fraction of government spending devoted to strictly non-rival items, namely those that do not scale with the resident population. We measure them from the World Development Indicators data on military spending and interest payments on government debt. This fraction of government consumption ranges from 2 percent in Luxembourg to 21 percent in the US, where defense is a large part of the budget. An additional important measure across the economies, linked to the structure of their production, is the capital share, defined as one minus the labor compensation share, capturing compensation to capital (structures, equipment, buildings), accruing to capital-owners of the country. As shown in line [8] of Table 1, capital shares vary from 31 percent in Switzerland to 48 percent in Italy, mainly due to the relative importance and capital intensity of different sectors across those countries. Typically, manufacturing-intensive countries will have a large share of capital in compensation.

2.4 Progressive Taxation

A key innovation of this study, relative to other analyses of the impact of immigration, is a more careful treatment of the fiscal sector. In particular, we explicitly incorporate skill-specific labor taxes and capital taxation, rather than one common income tax rate for each country. Using the OECD "Taxing Wages" database, we compute effective labor income tax rates for low- and high-skill workers. Rows [10] and [11] of Table 1 show the extent of cross-country variation in these measures: high-skill effective tax rates range

from 21 percent in Estonia to 47 percent in Belgium, while low-skill rates are considerably lower, but still as differentiated across countries, from around 11 percent in Estonia to about 34 percent in Germany. The implied high- to low-skill tax ratio averages 1.55, indicating that high-skilled workers face on average a tax burden about 55 percent larger than that of low-skilled workers. This ratio has also significant cross-country variation, from 1.26 (Slovenia) to 1.97 (Estonia). The substantial and heterogeneous progressivity of labor taxation across these countries implies that immigrants' contribution to public finances depends not only on their size and skill intensity, but also on the degree of tax progressivity in the host country. In characterizing this fiscal contribution, our model captures tax progressivity, the size of government, and public good provision, together with their interactions with the skill composition of immigrants. Access to updated OECD resources, as documented in OECD (2020), allows us to measure effective labor tax wedges with greater precision than most previous studies.

2.5 Capital Taxation

We include capital taxation in the analysis, and we use rates obtained from the OECD Corporate Tax Statistics (OECD, 2025). Cross-country data on capital taxation are potentially available, but complex. Their measure is sensitive to different classifications of capital and its revenue, which may vary across countries. As we care more about identifying whether the existence of such taxation affects the average impact of immigrants, rather than its specific interactions with country-tax rates, we consider a common rate of 11 percent, derived as the average across the sample countries. By including tax wedges specific to both skill and capital, the model captures how fiscal policy affects labor and capital income, and ultimately shapes individual welfare.

2.6 Correlations and Cross-Sectional Variations

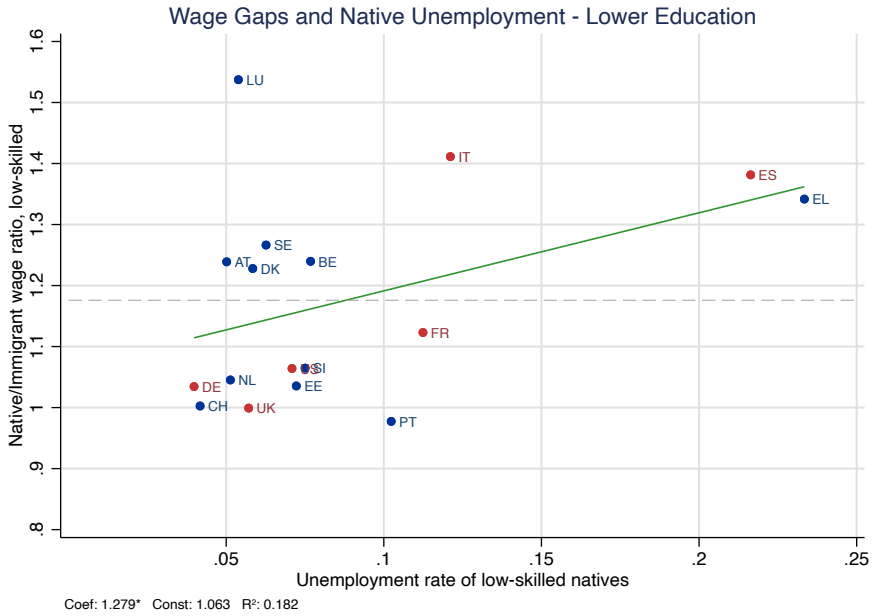
Having identified the labor market and fiscal variables that shape the impact of immigration on wages, net income, and native welfare, we document in this section their variation and correlation across countries. The baseline for these variables is year 2019, with 2015 to 2019 averages used for those sensitive to the business cycle. Those values together define the initial equilibrium for our analysis.

Figures 1 and 2 plot the native-to-immigrant wage ratio on the vertical axis against the unemployment rate of natives, for lower-skilled and high-skilled workers, respectively. First, we see a positive but modest correlation between the unemployment rate (of natives) and the native/immigrant wage ratio: countries with higher native unemployment rates also tend to exhibit larger wage gaps between natives and immigrants, and this is true in the high and lower-skilled labor markets. The same countries appear in the top right and bottom left of both markets: Italy, Spain, and Greece exhibit high unemployment and high native to immigrant wage ratios, while the US, UK, and to some extent Germany show low values of both. Luxembourg is a notable outlier in the lower-skill market, combining a very large wage gap with very low native unemployment.

This pattern suggests higher structural frictions in the labor markets of the Mediterranean European countries and lower bargaining power of immigrants. Both features are consistent with more sluggish labor market dynamics and insider protection, which amplify the potential labor market impact of immigrants. Intuitively, when native unemployment is high due to limited job creation, immigrants have more potential for raising firms' surplus and stimulating vacancy posting, which benefits natives' job market opportunities.

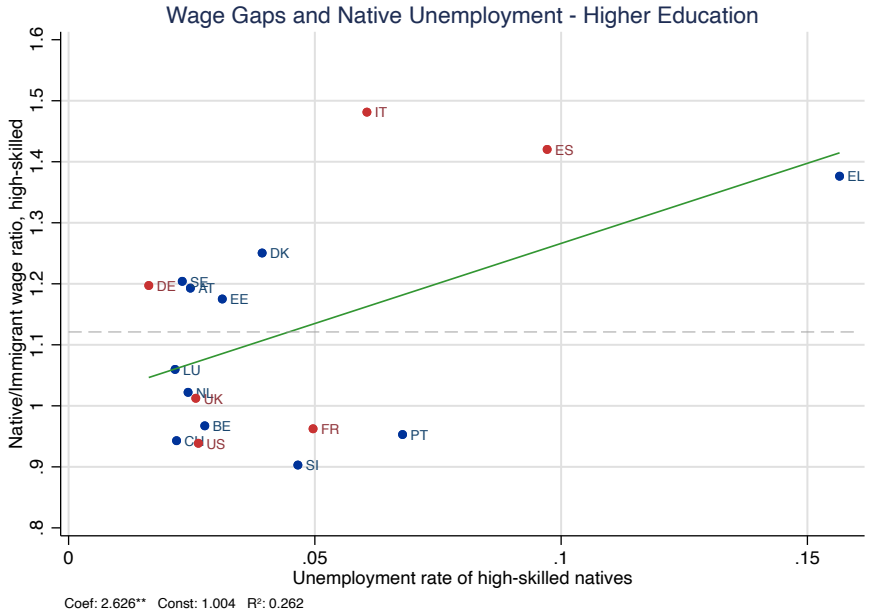
Figure 3 plots government consumption, as a share of GDP, against the high-to-low skill tax ratio, our measure of tax progressivity. The correlation between the two measures is very weak, indicating that countries with larger governments do not necessarily operate more progressive tax systems and vice versa. The only countries clearly in the top-right and bottom-left are Estonia, with large government and strong progressivity and the US, with low values in both. The other countries show combinations of different features. This implies that we can analyze the simulated impact of immigration using our model

Figure 1: Wage Gaps and Native Unemployment – Lower Education



Notes: The figure plots the native-to-immigrant wage ratio for low-skilled workers (vertical axis) against the unemployment rate of low-skilled natives (horizontal axis) across countries. The solid line shows the fitted linear relationship; the dashed horizontal line indicates the cross-country mean wage ratio. Red markers denote the six largest countries (DE, ES, FR, IT, UK, US); blue markers denote the remaining countries. Data are averages over the 2015−2019 period or just over 2019. Sources: EU-SILC, IPUMS, EU-LFS.

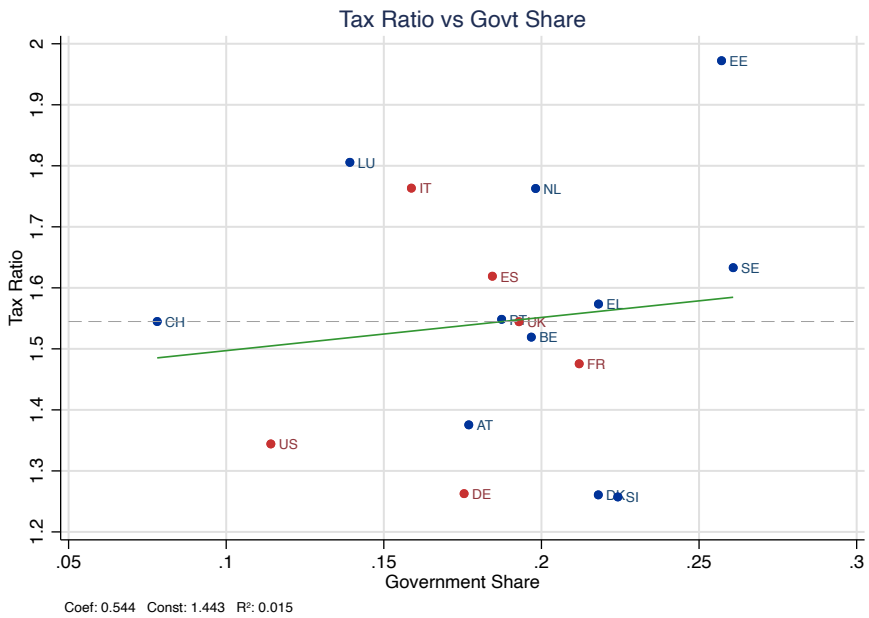
Figure 2: Wage Gaps and Native Unemployment – Higher Education



Notes: The figure plots the native-to-immigrant wage ratio for high-skilled workers (vertical axis) against the unemployment rate of high-skilled natives (horizontal axis) across countries. More details in Figure 1.

and separate its variation across countries with different intensities of tax redistribution and different government sizes.

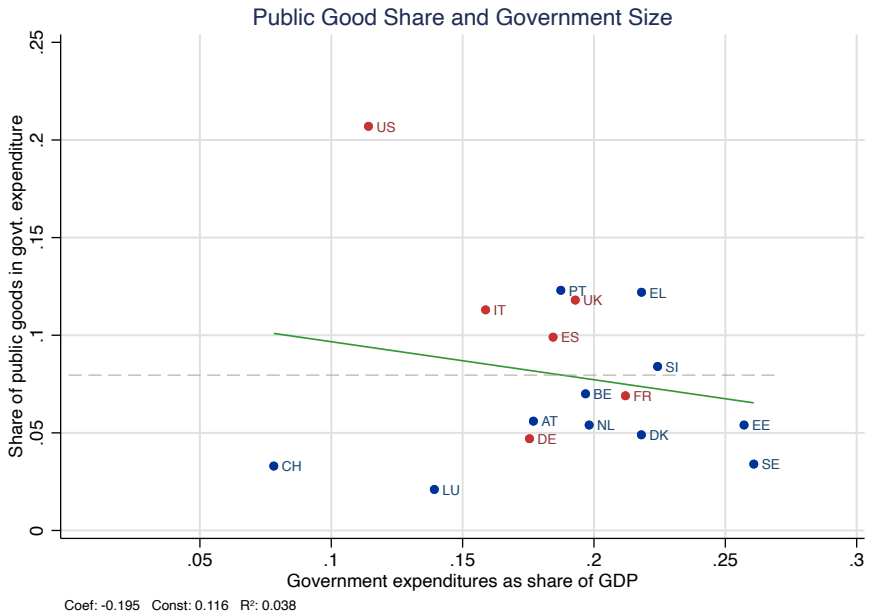
Figure 3: Government Size and Tax Progressivity



Notes: This figure plots tax progressivity, measured as the ratio of high- to low-skill effective labor tax rates (vertical axis), against government size, measured by government expenditures as a share of GDP (horizontal axis), across countries. More details in Figure 1.

Finally, Figure 4 plots the pure public good share of government spending, mainly defense and debt servicing, against government size as a share of GDP. The relationship is weakly negative: smaller governments devote a larger fraction of their budget to non rival, non excludable public goods. This suggests that, in an accounting sense, the size of government is driven by spending on excludable good/services (such as public administration, education and health) rather than by pure public good provision (such as military defense and the rule of law). The United States stands out with a small government size and the highest public good share, reflecting its tradition of small welfare state and high defense spending. Nordic countries such as Sweden and Denmark combine large public sectors with relatively low public-good shares, reflecting their emphasis on transfers and individually-targeted benefits. The pure public good is one channel through which immigrants can ease natives' fiscal burden: because it is non rival, immigrants expand the tax base that finances it without adding to its cost. This chart helps identify which countries stand to benefit most from this public good funding channel.

Figure 4: Public Good Share and Government Size



Notes: This figure plots the share of pure public goods in total government expenditure (vertical axis) against government size, measured by government expenditures as a share of GDP (horizontal axis), across countries. More details in Figure 1.

3 Theoretical Framework

The framework of our analysis builds on a series of papers, notably Chassamboulli and Liu (2024); Chassamboulli and Peri (2015) and Battisti et al. (2018), which model the labor market impact of immigration in an equilibrium search and matching setting with two skill types, high and low. These papers incorporate the complementarity between the two skills from classic labor models such as Autor et al. (2020), and the productivity effect of college educated workers from Lucas (1988); Moretti (2004) and Docquier et al. (2014). The novel elements of our model are skill specific labor taxation, which captures the progressivity of the tax system, and the role of capital and its taxation, which capture the interaction between workers and capital in production. On the public sector side, the government provides unemployment benefits and redistributive transfers, as well as a pure public good such as defense and the rule of law.

Each country is treated as a small open economy that produces a homogeneous final good using capital and two types of labor, high skilled (H), those with tertiary level of completed education and lower skilled (L), those with intermediate and lower levels of education. Each type of labor may be supplied by natives (N) and immigrants (I). Labor markets are segmented by education group and, within each segment, natives and immigrants search for jobs, face unemployment risk and interact with firms that post vacancies. Important features of the labor market are that search frictions generate equilibrium unemployment and wages are determined endogenously through Nash bargaining between firms and workers. The government collects taxes on labor and capital income to finance unemployment benefits and public spending.

3.1 Production

Aggregate production takes place in a representative firm that combines technology, capital and the two types of labor, with higher and lower levels of education[3] to produce a homogeneous final good. Output

[3]We use education and skill interchangeably here, but in terms of data these measures are driven by completed education.

is produced according to the following Cobb-Douglas production function:

$$Y = AK^{\alpha}Z^{1-\alpha}, \qquad 0 < \alpha < 1, \tag{1}$$

where A denotes country-level total factor productivity, K is the aggregate capital stock, and Z is a composite labor input that aggregates the contributions of workers with different skills, and is further discussed below.

3.1.1 Skill Composition and Productivity

The total factor productivity in the economy (representative firm) is captured by an endogenous term, A, that depends positively on the skill-intensity of the economy and therefore incorporates positive human capital spillovers of the type modelled in Lucas (1988, 2015). Specifically we follow Docquier et al. (2014), and assume that aggregate productivity rises when the high skilled share increases in the labor force:

$$A = A_0 \exp\left[\eta \cdot \frac{Q_H}{Q_H + Q_L}\right], \tag{2}$$

where A_0 is the exogenous portion of TFP that we do not model, Q_H denotes the population with tertiary education and Q_L the population without tertiary education in the labor force. $\eta > 0$ measures the elasticity of technology with respect to the skilled-labor share. In the calibration, we set $\eta = 0.45$ (a value we borrow from the median estimate in this literature as summarized by (Docquier et al., 2014)), implying that a higher proportion of high-skilled workers, whether native or immigrant, raises the economy's technological efficiency. This specification captures the idea that economies with a larger share of tertiary-educated labor tend to be more innovative, can adopt technologies more effectively and are more efficient in learning (Docquier et al., 2014). The high-skill−augmenting term A therefore acts as a multiplier on productivity, by strengthening the impact of high-skill labor and amplifying the macroeconomic effects of skill-biased immigration.

3.1.2 Composite Labor and Skill Aggregates

The composite labor input Z is a constant-elasticity-of-substitution (CES) aggregate of the lower- and higher-skill intermediate inputs:

$$Z = \left[xY_L^{\rho} + (1-x)Y_H^{\rho}\right]^{1/\rho}, \qquad 0 < \rho < 1, \tag{3}$$

where x is a parameter capturing the relative productivity of the low-skill service inputs and $1/(1-\rho)$ is the elasticity of substitution between the two skill types. A lower ρ implies stronger complementarity between high and low skilled provided labor services. Notice that we do not introduce immigrant−natives complementarities in the production function as done in many papers such as Ottaviano and Peri (2012); Peri and Sparber (2009) and many others. This may reduce the wage benefit of immigration for natives, but allows us to focus on the interaction between immigrants and natives on the search, job-creation side of labor markets and on the productivity effects of high skilled workers in general.
Each intermediate labor service input Y_i is linear in effective employment and captures as well the effectiveness of skill-specific labor, which can change with type and origin of workers:

$$Y_i = \sum_{j \in \{N,I\}} (1 - u_{ij})\, \pi_{ij}\, Q_{ij}, \qquad i \in \{L, H\}, \tag{4}$$

where $u_{i,j}$ is the unemployment rate, hence $(1-u_{ij})Q_{ij}$ measures employment of skill i and origin j, and $\pi_{i,j}$ is the labor-specific productivity, which can in principle vary with skill level and native−foreign origin. In the quantitative analysis we set $\pi_{ij} = 1$ for all groups (see Section 3.2.1).

3.1.3 Factor Prices and Returns to Capital

The representative firm minimizes its total costs by choosing optimal demands for capital and each type of labor, taking wages, rental rate of capital, tax rates and welfare payments as given. The tax on capital income t_K is a feature rarely included in these models analyzing labor market effects of immigrants. Its most important effect is to create a wedge between the marginal product of capital and the net return accruing to households. This implies that an immigration-induced expansion of the composite labor input Z raises the marginal product of capital and triggers increased investment, as marginal product of capital, net of taxes, is equated to a given international interest rate. As such investment incentive is only a fraction $1 - t_K$ of the marginal product of capital, taxation dampens the responsiveness of capital accumulation to changes in labor supply. As a result, the amplification of output and wages through the investment channel response is weaker with this type of taxes than it would be without them. The strength of this effect depends on both the capital share α and the magnitude of the tax wedge.

Importantly, we need to make an assumption about the ownership and distribution of capital income between immigrants and natives. To preserve income distribution as determined by labor income, we assume that all workers, natives and immigrants, low- and high-skilled, own capital in proportion to their wage rate, weighted by their population share. After-tax capital income, $rK(1 - t_K)$, is allocated so that the per-capita capital income received by a worker of type (i, j) is $(w_{ij}/\bar{W}) * rK(1 - t_K)$, where $\bar{W} = \sum_{i'j'} w_{i'j'} Q_{i'j'}$. Equivalently, the total capital income accruing to group (i, j) is proportional to $w_{ij} Q_{ij}$. In steady-state equilibrium, this ownership structure mirrors the cross-group distribution of labor earnings.

Immigration therefore affects not only labor income but capital income as well, making asset ownership an additional channel through which fiscal effects and welfare responses operate. To maintain comparability across countries and focus on the interaction between immigration and labor market institutions, we fix the capital tax rate at 11% for each country, in line with the OECD Corporate Tax Statistics (OECD, 2025). This simplification abstracts from cross-country heterogeneity in capital taxation while maintaining its role in mitigating the investment response to immigration. As a result, economies with higher capital intensity still experience stronger complementarities between labor and capital, but the fiscal environment remains harmonized across countries.

The marginal products of low- and high-skilled labor, which determine their effective prices p_L and p_H are given by the following expressions:

$$p_L = (1 - \alpha) A K^{\alpha} x \, Y_L^{\rho - 1} \left[x Y_L^{\rho} + (1 - x)(Y_H)^{\rho} \right]^{\frac{1 - \alpha - \rho}{\rho}}, \tag{5}$$

$$p_H = (1 - \alpha) A K^{\alpha} (1 - x) \, Y_H^{\rho - 1} \left[x Y_L^{\rho} + (1 - x)(Y_H)^{\rho} \right]^{\frac{1 - \alpha - \rho}{\rho}} \tag{6}$$

These prices describe how the interactions between labor composition, relative productivity and total factor productivity shape the factor prices and production incentives. Importantly, a higher share of high skilled workers raises A, which increases both p_H and p_L through productivity effects and strengthens the incentive to accumulate physical capital. Both channels benefit workers of both skill types. An inflow of low skilled workers, by contrast, expands Y_L and raises the productivity of capital and of high skilled labor through complementarity, but lowers the productivity of low skilled workers themselves.

3.2 Labor Market Frictions and Matching

Labor markets are modelled as in Battisti et al. (2018); Chassamboulli and Peri (2015), which provide the foundations to understand the job-creation effect of immigrants in a search-and-matching context. Labor markets are segmented by level of education, with separate matching processes for low- and high-skilled workers[4]. Within each skill segment, both natives and immigrants search for jobs, face unemployment

[4] An important phenomenon identified by empirical economists is the "downgrading" of foreign workers, meaning that high-skilled ones can be employed in low skilled jobs (see e.g. Dustmann et al. (2013)). We do not incorporate this feature

risk and interact with firms that post vacancies.

Search frictions imply that, at any moment, some workers remain unemployed and looking for a job while firms have unfilled vacancies and look for workers. Job creation follows a standard constant returns-to-scale matching function:

$$M(U_i, V_i) = \xi\, U_i^{\varepsilon} V_i^{1-\varepsilon}, \qquad i \in \{L, H\}, \tag{7}$$

where U_i and V_i denote the number of unemployed workers and vacancies in the skill market; $\xi > 0$ is the matching efficiency and ε measures the elasticity of matches with respect to unemployment. Defining labor market tightness as $\theta_i = V_i/U_i$, the job finding rate for workers and the vacancy-filling rate for firms are

$$M_i/U_i = m(\theta_i) = \xi\, \theta_i^{1-\varepsilon}, \qquad M_i/V_i = q(\theta_i) = \xi\, \theta_i^{-\varepsilon} \tag{8}$$

Unemployed workers find jobs with probability $m(\theta_i)$, while filled positions are destroyed at rate s_{ij}, which may differ between natives and immigrants. A higher value of $s_{i,I}$ relative to $s_{i,N}$ reflects that immigrants are more likely to experience events that end their employment, such as onward migration, return migration, and greater internal mobility.

3.2.1 Bellman Equations

Firms and workers meet through the matching process and negotiate over the surplus generated by a productive match. The value of each state (employment, unemployment or vacancy) is characterized by a system of Bellman equations. These values summarize the discounted flow of payoffs accruing to firms and workers given the arrival and separation rates defined above.

For a firm posting a vacancy of skill type $i \in \{L, H\}$, the flow-value of such a vacancy posting is given by the following expression:

$$rJ_i^V = q(\theta_i)\left[\varphi_{iN} J_{iN}^F + \varphi_{iI} J_{iI}^F - J_i^V\right] - c_i, \tag{9}$$

where r is the interest rate, c_i is the per-period cost of maintaining a vacancy and $q(\theta_i)$ is the probability of filling a vacancy given labor market tightness θ_i. The term in brackets represents the expected surplus from a successful match: with probability $\varphi_{i,j}$ the position is filled by a worker of type $j \in \{N, I\}$.

Once matched, a filled job yields value J_{ij}^F to the firm, whose expression is as follows:

$$rJ_{ij}^F = \pi_{ij} p_i - w_{ij} - s_{ij}\left(J_{ij}^F - J_i^V\right), \tag{10}$$

where p_i is the skill-specific price of output, π_{ij} is the efficiency of workers of type i, j, $w_{i,j}$ is the negotiated wage and s_{ij} the exogenous separation rate. Matches are destroyed at rate s_{ij} after which the firm incurs a loss equal to the difference between the value of a filled position and a vacancy. As noted in Section 3.1.2, in the quantitative analysis we set $\pi_{ij} = 1$.

Workers face a symmetric decision problem. The value of employment for a worker of type (i,j) satisfies the following equation:

$$rJ_{ij}^E = g + rk_{ij} + (1 - t_i)w_{ij} - s_{ij}\left(J_{ij}^E - J_{ij}^U\right), \tag{11}$$

where $t_i \in \{t_L, t_H\}$ is the skill-specific labor-income tax rate, g is the flow value of the per capita public spending on each individual, and k_{ij} represents the capital income accruing to individuals of type ij. The flow-values of capital income and public goods are independent of the individual employment status, hence identical between employed and unemployed workers. In case of job loss, due to a separation,

in the model. Instead, within-group productivity heterogeneity arises endogenously to match the calibrated separation rates s_{ij} and unemployment disutility h_{ij}, which together reproduce observed within-skill native−immigrant wage gaps.

workers give up the surplus $(J_{ij}^E - J_{ij}^U)$.

When individuals are unemployed, they receive monetary benefits from unemployment transfers, b_{ij}. We also allow them to experience a utility-flow component h_{ij}. This term captures the non-monetary effects of unemployment, acknowledging that the welfare consequences of job loss can go beyond financial compensation. The Bellman equation for unemployment is:

$$rJ_{ij}^U = g + rk_{ij} + b_{ij} + h_{ij} + m(\theta_i)\left(J_{ij}^E - J_{ij}^U\right). \tag{12}$$

For natives we set $h_{iN} = 0$, while for migrants h_{iI} this term might be negative [5]. It captures the consequences of being unemployed for immigrants including the risk of losing immigration status or access to benefits, the additional stigma and the faster deterioration of skills. This summarizes the worse outside option of immigrants relative to natives as in Chassamboulli and Peri (2015).

These Bellman equations determine together the value of employment, unemployment and vacancies for each worker-type and firm pair in the economy. They imply that job creation and wage determination depend not only on productivity and separation rates, but also on the fiscal wedge introduced by labor taxes t_i, the capital share of output and the public good component g. These elements shape together the transition of immigration shocks to labor markets and welfare.

3.2.2 Wage Determination

Wages are determined through Nash bargaining between firms and workers once a match is formed. The bargaining takes place within each skill segment $i \in \{L, H\}$, conditional on the identity of the worker $j \in \{N, I\}$. Firms and workers negotiate over the surplus from employment, taking as given the flow values of employment and unemployment derived above. Since wages are taxed, the firm's surplus is evaluated net of the skill-specific labor tax, which affects the division of the surplus but not the structure of the bargaining problem as in Stark and Byra (2025)[6]. Incorporating this into the Nash bargaining rule yields the equilibrium condition:

$$(1-\beta)\left(J_{ij}^E - J_{ij}^U\right) = \beta(1-t_i)\left(J_{ij}^F - J_i^V\right), \tag{13}$$

Combining this condition with the firm's zero-profit condition for vacancy creation $(J_i^V = 0)$ yields the steady-state wage expression. Following the extended version of the model, the equilibrium wage for each skill−origin group is:

$$w_{ij} = \beta \frac{r + s_{ij} + \xi\theta_i^{1-\varepsilon}}{r + s_{ij} + \beta\xi\theta_i^{1-\varepsilon}} p_i \;+\; (1-\beta)\frac{(r+s_{ij})(b_{ij}+h_{ij})}{(1-t_i)\left[r + s_{ij} + \beta\xi\theta_i^{1-\varepsilon}\right]}. \tag{14}$$

In this setting, differences in fiscal wedges, separation rates, and labor market tightness translate directly into systematic cross-country variation in wage gaps between natives and immigrants and across skill groups. Relative to Battisti et al. (2018), the introduction of skill-differentiated labor taxes, together with the adjustment to the bargaining rule, ensures that the wage schedule incorporates the true incidence of taxation on the firm−worker surplus. As a result, the model can map observed heterogeneity in labor market and demographic composition into equally heterogeneous wage responses, providing a more accurate description of cross-country wage differentials.

3.3 Public Sector

The government collects revenue from two sources: labor-income taxes, which differ by skill level (t_L, t_H) and a capital-income tax t_K, calibrated to a common value across countries. Government expenditures

[5] In the replication code, h_{ij} is stored as a positive magnitude and enters with a minus sign in the Bellman and wage equations. Denoting the code's variable by $\tilde{h}_{ij}$, the equivalence is $h_{ij} = -\tilde{h}_{ij}$.

[6] Battisti et al. (2018) on the other hand model this as Kalai bargaining.

consist of unemployment benefits $b_{i,j}$, per capita government consumption g, a publicly provided rival good such as health and education, and a pure public good $\bar{g}$. The government budget constraint is:

$$\sum_i \sum_j b_{ij} U_{ij} \; + \; g \sum_i \sum_j Q_{ij} \; + \; \bar{g} = t_L \sum_j w_{Lj} E_{Lj} \; + \; t_H \sum_j w_{Hj} E_{Hj} \; + \; t_K r K \tag{15}$$

The left-hand side represents total spending on unemployment benefits government's services provided to individuals and government public good. The right-hand side aggregates revenue from labor taxes and the capital tax. Because employment, wages, and capital respond to immigration, the tax base is endogenous and fiscal spillovers depend on the structure of the tax system.

The replacement rate $\varrho \equiv b_{ij}/[(1-t_i)w_{ij}]$ is taken as a country-specific parameter from the OECD Benefits and Wages database, identical across skill and origin groups within each country. Given the equilibrium wages w_{ij} and labor tax t_i, the level of unemployment benefits is then $b_{ij} = \varrho(1-t_i)w_{ij}$; benefits therefore vary across groups only through the equilibrium net wage. Type-specific unemployment rates u_{ij}, by contrast, are matched in the calibration through the four separation rates s_{ij} (see Section 4.1). The share of government consumption in GDP, $(g\sum_{ij} Q_{ij} + \bar{g})/Y$, is taken from the Penn World Table, and the share of the pure public good within it, $\bar{g}/(g\sum_{ij} Q_{ij} + \bar{g})$, from the World Bank WDI. Together, these two moments pin down g and $\bar{g}$. In the counterfactual exercises, g and $\bar{g}$ are held fixed at their calibrated values, while the skill-specific labor taxes t_L and t_H, whose ratio is fixed in each country and taken from the data, adjust to satisfy the government budget constraint. The capital tax t_K raised on capital income rK is held constant across countries for simplicity. Capital is allocated across skill-origin groups proportionally to their share of the aggregate wage bill, as described in Section 3.1.3.

3.4 Equilibrium

For each country, the equilibrium is a vector of endogenous variables that jointly satisfy the labor-market, production, and fiscal conditions of the model.

Endogenous variables. For each skill $i \in \{L, H\}$ and origin $j \in \{N, I\}$ group, the equilibrium determines: labor-market tightness θ_i and unemployment rates u_{ij}; wages w_{ij}; skill-specific output prices p_i; unemployment benefits b_{ij}; the aggregate capital stock K; the labor-income tax rates t_L and t_H. The per-capita government consumption g, the pure public good $\bar{g}$, the population shares Q_{ij}, the replacement rate ϱ, the capital-income tax t_K, and the tax-progressivity ratio t_H/t_L are taken as country-specific parameters.

Equilibrium conditions. Given these parameters, the endogenous variables jointly satisfy:

(i) the steady-state unemployment identities $u_{ij} = s_{ij}/[s_{ij} + m(\theta_i)]$, where $m(\theta_i) = \xi\theta_i^{1-\varepsilon}$;

(ii) the wage equations derived from Nash bargaining (equation (14));

(iii) the free-entry condition for vacancy posting, equation (16) below;

(iv) the marginal-product equations for p_L and p_H, and the no-arbitrage condition equating the after-tax marginal product of capital to its user cost, $(1-t_K)\,\mathrm{MPK} = r + \delta$;

(v) the government budget constraint (15), which pins down t_L given $t_H = (t_H/t_L)\cdot t_L$;

(vi) the benefit rule $b_{ij} = \varrho(1-t_i)w_{ij}$.

Intuition. The equilibrium is the fixed point at which firms' vacancy-posting decisions, workers' wages, and the public budget are mutually consistent. Free entry links the expected return from a match to its cost, which depends on wages, separation rates, and productivity. Wages are set by Nash bargaining,

which interacts with the fiscal wedge through skill-specific labor taxes. The government budget constraint then determines those taxes endogenously, closing the loop between labor-market outcomes and the fiscal environment. Capital adjusts so that its after-tax marginal product equals the world interest rate plus depreciation.

We now formalize the free-entry condition that, together with the wage schedule, pins down labor-market tightness. For each skill-specific labor market $i \in \{L, H\}$, posting a vacancy entails a flow cost c_i and yields an expected return equal to the weighted surplus from hiring a native or an immigrant worker. Let θ_i denote labor market tightness and $q(\theta_i)$ the probability that a vacancy is filled. Using the value to the firm of a job filled by a worker of type $j \in \{N, I\}$, the free-entry condition implies that the expected job surplus must satisfy

$$q(\theta_i) \sum_{j \in \{N,I\}} \varphi_{ij} \frac{\pi_{ij} p_i - w_{ij}}{r + s_{ij}} = c_i. \tag{16}$$

The introduction of skill-specific income taxes modifies this mechanism directly through wages: given the Nash bargaining, the worker's surplus is reduced by the tax rate t_i and the firm's surplus is correspondingly larger. Consequently, cross-country differences in t_L and t_H, together with observed wage gaps between natives and immigrants, translate into systematic differences in the job-creation response to immigration. An inflow of workers who command relatively low wages, such as low-skill migrants in Southern Europe, raises the firm surplus and expands vacancy posting. Conversely, in economies where immigrant wages are close to those of natives, or where labor-income taxes are high, the same inflow generates a much weaker job-creation response.

Separation rates contribute an additional layer of heterogeneity. When immigrants face higher separation rates than natives, the present value of a match declines, reducing the incentive to create vacancies. Finally, the productivity terms themselves respond endogenously to the skill composition of employment: because high-skill labor enters the composite input through the technology A, immigration that increases the share of high-skill employment raises the marginal product of both firm types and strengthens job creation. Altogether, the job-creation condition summarizes how fiscal wedges, wage differentials, separation rates and high-skill complementarity jointly determine the cross-country variation in labor market responses to immigration.

4 Quantitative Analysis

4.1 Calibration

The model is calibrated to pre-COVID cross-country data, averaging 2015 to 2019, to obtain the initial equilibrium. In Section 5 we then use data on immigration flows between 2019 and 2024 to calculate the skill intensity of new immigrants. To limit the influence of business cycle fluctuations, we construct the moments for labor market outcomes and migration stocks by averaging over 2015 to 2019. Parameters not sensitive to the business cycle, instead, are pinned down using 2019 data. The calibration draws on micro and macro data from multiple sources, including the EU Statistics on Income and Living Conditions (EU-SILC), the EU Labour Force Survey (EU-LFS), IPUMS for the United States, the Penn World Tables, the World Bank World Development Indicators, the OECD Taxing Wages database, the OECD Corporate Tax Statistics and the OECD Benefits and Wages database. All moments constructed from survey microdata, including unemployment rates, wage differentials, the skill composition of natives and immigrants and the immigrant population share, are computed using the survey sampling weights.

Model parameters are chosen to jointly match a set of empirical moments across countries, including unemployment rates (by education group and migration status, native and foreign-born), native−immigrant wage differentials, the skill composition of natives and migrants, immigrant population shares, as well as key features of national tax−benefit systems, namely the tax ratio for college and non-college-educated, government spending as share of GDP and, within it, the percentage of pure public good. The cal-

ibration strategy addresses identification issues highlighted in earlier work by attributing within-group native−immigrant heterogeneity to differences in separation rates s_{ij} and unemployment disutility h_{ij}, jointly calibrated to match observed wage gaps and unemployment rates, following the same procedure as in Chassamboulli and Palivos (2014) and Chassamboulli and Peri (2015). The ratio of high- to low-skilled effective labor tax rates, t_H/t_L, is constructed from administrative and survey-based sources and imposed as a country-specific calibration target (OECD, 2019); the absolute levels of t_L and t_H are then determined by the government budget constraint. Model parameters fall into two groups. The first group, reported in Table 2, is pinned directly from data or the existing literature, and combines parameters that are common across countries (β, ε, ρ, r, δ, η) with parameters that vary at the country level (the replacement rate ϱ, the capital share α, and the four population shares Q_{ij}). The second group consists of eleven country-specific parameters that are jointly calibrated to match the eleven empirical moments described in Table 3. Table 4 reports the mean and standard deviation of these calibrated values across our 17 countries.

The parameters g and $\bar{g}$ are chosen, country by country, to match two moments in the data: government consumption as a share of GDP, $(g\sum_{ij} Q_{ij} + \bar{g})/Y$, from the Penn World Tables (line [7] of Table 1), and the pure public good as a share of government spending, $\bar{g}/(g\sum_{ij} Q_{ij} + \bar{g})$, from the World Bank (line [9]).

Table 2: Parameters taken from available data or the literature.

Parameter	Description	Mean	S.D.	Source
Parameters without country variation				
β	Worker bargaining power	0.5	n.a.	Petrongolo and Pissarides (2001)
ε	Matching elasticity	0.5	n.a.	Petrongolo and Pissarides (2001)
ρ	Parameter governing substitution elasticity	0.5	n.a.	Ottaviano and Peri (2012)
r	Interest rate (monthly)	0.004	n.a.	Chassamboulli and Palivos (2014)
δ	Depreciation rate (monthly)	0.0061	n.a.	Chassamboulli and Palivos (2014)
η	Elasticity of technology w.r.t. skilled-labour share	0.45	n.a.	Docquier et al. (2014)
Parameters varying across countries				
ϱ	Replacement rate	0.435	0.137	OECD Benefits and Wages
α	Capital share	0.410	0.041	Penn World Tables
Q_{LN}	Low-skilled natives	0.683	0.055	Eurostat LFS, IPUMS
Q_{HN}	High-skilled natives	0.317	0.055	Eurostat LFS, IPUMS
Q_{LI}	Low-skilled immigrants	0.164	0.124	Eurostat LFS, IPUMS
Q_{HI}	High-skilled immigrants	0.098	0.139	Eurostat LFS, IPUMS

Notes: We normalize the size of the native labor force to unity: $Q_{LN} + Q_{HN} = 1$

Table 3: Matched Moments.

Moment	Source	Mean	S.D.
Moments without country variation			
Average job duration, low skilled (months)	Chassamboulli and Palivos (2014)	29.4	n.a.
Average job duration, high skilled (months)	Chassamboulli and Palivos (2014)	52.6	n.a.
Moments varying across countries			
Native wage premium, low skilled	EU-SILC, IPUMS	1.176	.041
Native wage premium, high skilled	EU-SILC, IPUMS	1.121	.044
Skilled–unskilled wage ratio, native workers	EU-SILC, IPUMS	2.149	0.087
Unemployment rate low-skilled natives	EU LFS, IPUMS	0.088	.014
Unemployment rate low-skilled immigrants	EU LFS, IPUMS	0.133	0.017
Unemployment rate high-skilled natives	EU LFS, IPUMS	0.045	0.009
Unemployment rate high-skilled immigrants	EU LFS, IPUMS	0.089	0.014
Government expenditures as % of GDP	Penn World Tables	0.188	0.011
Pure public good spending as % of GDP	World Bank WDI	0.013	0.005
High-/low-skilled tax ratio (t_H/t_L)	OECD Taxing Wages	1.545	0.206
Real per capita GDP, US = 1 (PPP)	World Bank WDI	0.852	0.079

Notes: All shares refer to working age population (aged 17−62) years. For unemployment rates, we use 2015−2019 averages. The moments refer to the average, all moments are constructed for each of our 17 countries.

Table 4: Calibrated parameter values.

Parameter	Description	Mean	S.D.
ξ	Match efficiency parameter	0.529	0.230
A	Total factor productivity	0.343	0.106
x	Low-skill share in production of intermediates	0.413	0.046
c_H	Cost of a high-skill vacancy	0.705	0.534
g	Public expenditures (per capita)	0.142	0.049
$\bar{s}_{LN}$	Monthly job separation rate, low-skilled natives	0.030	0.004
$\bar{s}_{LI}$	Monthly job separation rate, low-skilled immigrants	0.051	0.014
$\bar{s}_{HN}$	Monthly job separation rate, high-skilled natives	0.016	0.003
$\bar{s}_{HI}$	Monthly job separation rate, high-skilled immigrants	0.036	0.010
h_{LI}	Unemployment disutility for low-skilled immigrants	0.330	0.595
h_{HI}	Unemployment disutility for high-skilled immigrants	0.189	0.906

Notes: Summary statistics of parameters calibrated on empirical moments for 17 countries. Separation rates exclude remigration rates.

4.2 Comparative Statics Results

To analyze the effects of immigration in the settings of our model, we implement three comparative statics exercises, calculating the effects of a one percentage point increase in the stock of foreign born workers. We analyze three scenarios, which differ in the skill composition of the immigrant inflows, but not in their aggregate size, equal to 1% of the labor force of the receiving country. This is a significant inflow, comparable to the one experienced in the US in 2022-2023, a high-immigration year, or by Spain in some years between 2000 and 2010, a very high immigration period[7]. Scenario 1 (skill neutral) assumes that immigrants have the same skill composition as country residents in the initial steady state. Scenario 2 (higher-skilled) considers an inflow that is twice as intensive in high-to-low-skilled workers relative to native residents, namely where the ratio of college to non college workers in the inflow is twice the corresponding ratio among native residents. Scenario 3 (lower-skilled) instead assumes an inflow that is twice as intensive in low- and medium-skilled workers relative to the stock of natives. In all cases, the size of the labor force increases by one percentage point because of immigration, while the composition of immigration varies across scenarios. These experiments allow us to analyze how the skill intensity of the inflow shapes its wage, fiscal, and welfare effects on natives (N), and how these effects vary across countries depending on their labor market and fiscal characteristics.

We first present the main welfare effects on natives in the scenarios we just described. Table 5 shows the welfare effects for natives of a one percentage-point increase in immigration in the six largest countries of our sample (i.e. Germany, Spain, France, Italy, the United Kingdom, and the United States). These countries are large economies in the developed world and have been recipients of very significant inflows of immigrants during the last two decades. Table 6 extends the analysis to the full set of countries and reports mean and median effects across destinations. Welfare changes are expressed as percentage variations in steady-state consumption equivalents.

A few findings emerging from Tables 5 and 6 are worth emphasizing. First, considering the skill-neutral scenario 1, the net inflow of immigrants equal to 1% of the receiving country labor force, generates extremely small average effects on the welfare of natives, a few hundredths of a percentage point. These average effects are positive in three of the six largest economies, and essentially zero in the United Kingdom and the United States. The balanced inflow has effects on the welfare of less educated natives, ranging from a low of -0.02% in France and -0.02% in the UK to more substantial positive effects of $+0.19\%$ in Italy and $+0.15\%$ in Spain. In Italy and Spain, the moderately positive welfare effect for both skilled and unskilled natives reflects the strong job creation and labor market tightening that immigrants generate in these countries. Because of a stronger job-creation effect stimulated by the wage gap between

[7] On average immigration to OECD countries in the last decade has been around 0.2-0.3% of labor force per year, as shown in (Basso et al., 2026)

Table 5: Welfare effects of a 1pp increase in immigration: main countries scenarios

Country	Welfare measure	Scenario 1	Scenario 2	Scenario 3
Germany	W_N	0.01%	0.17%	−0.10%
	W_{LN}	0.02%	0.28%	−0.18%
	W_{HN}	0.01%	0.00%	0.01%
Spain	W_N	0.17%	0.40%	−0.02%
	W_{LN}	0.15%	0.47%	−0.11%
	W_{HN}	0.19%	0.35%	0.05%
France	W_N	−0.04%	0.11%	−0.16%
	W_{LN}	−0.02%	0.23%	−0.22%
	W_{HN}	−0.07%	−0.03%	−0.10%
Italy	W_N	0.21%	0.37%	0.10%
	W_{LN}	0.19%	0.43%	0.04%
	W_{HN}	0.25%	0.23%	0.27%
United Kingdom	W_N	0.00%	0.19%	−0.16%
	W_{LN}	−0.02%	0.27%	−0.27%
	W_{HN}	0.03%	0.10%	−0.04%
United States	W_N	0.00%	0.13%	−0.10%
	W_{LN}	0.02%	0.32%	−0.20%
	W_{HN}	−0.02%	−0.06%	0.00%

Notes: Welfare effects are reported as percentage changes in steady-state consumption equivalents following a one percentage point increase in the stock of immigrants. W_N denotes average native welfare, while W_{LN} and W_{HN} refer to low- and high-skill natives. Scenario 1 assumes neutral skill composition; Scenario 2 (Scenario 3) considers an inflow twice as intensive in high-skilled (low-skilled) workers. In all cases, the labor force increases by one percentage point.

natives and immigrants and the high initial native unemployment rates, immigrants in these countries have more of a positive effect on natives.

Second, in virtually all countries, Scenario 2, capturing high-skill intensive inflow, generates positive, and often sizeable, average welfare effects for natives, benefiting both skilled and unskilled groups. These gains are systematically larger than those obtained under Scenario 1. This pattern is particularly clear in several countries, in which moving from a neutral skill composition of Scenario 1 to a high-skilled inflow of Scenario 2 turns weak or negative welfare effects into consistently positive gains for natives, such as in the case of France (among the large economies) and Belgium and Portugal (among the small ones). Spain and Italy continue to experience very significant positive welfare effects, and now the group of low-skilled workers experiences a significant positive welfare effect close to +0.5% in those countries. Helped by the job-creation effect as well as by the complementarity and productivity effects of high-skilled immigrants, less-skilled residents benefit significantly in this scenario. Overall both the average and skill-specific mean and median effects reported in Table 6 are positive for scenario 2, and quite large (+0.29 % for each percentage point increase of labor force due to immigrants) for less-skilled natives.

Finally, Scenario 3, characterized by more intense low-skilled immigration inflow, generates small negative welfare effects for natives in most countries. In this case, the expansion of low-skilled labor tends to place downward pressure on wages, reduces productivity and attenuates the positive job creation effects. This type of inflow, additionally increases the fiscal burden associated with redistribution as the newcomers contribute less to the public sector, per person, than natives. In general these negative effects are smaller in size than the positive ones generated by skilled-intensive immigration, as they are attenuated by the still positive job-creation effect.

In some countries, where the labor market stimulus from immigrants (job creation effect) is stronger and more relevant (due to high unemployment) the impact of low-skill intensive immigration can still be positive on natives' welfare. In the case of Italy, for instance, positive welfare effects prevail even in the scenario with more intensive low-skilled inflows. This outcome reflects a combination of large immigrant−native wage gaps, high capital share, high local unemployment and a relatively small size of government. Together, these features strengthen the job-creation and capital-accumulation channels while limiting fiscal burden on natives, allowing low-skilled immigration to translate into net welfare gains for natives. This heterogeneity underscores that the welfare consequences of low-skilled immigration, while not as positive as those of a neutral or high-skilled inflow, depend critically on the interaction

between wage differentials, unemployment conditions, capital intensity and the structure of taxation and redistribution.

For the United States, a country with small immigrant−native wage gaps, low unemployment, low tax progressivity and a small government sector, but a significant public good component (military, debt servicing), the average effect on natives is close to zero under a skill-neutral inflow (0.00 percent), clearly positive under a high-skilled inflow (0.13 percent) and clearly negative under a low-skilled inflow (−0.10 percent). The United States is therefore not insensitive to immigration: it responds to the skill composition of the inflow much as the other countries do, but the response operates almost entirely through the labor market rather than through the fiscal channel, which is limited by the small size of government and the low progressivity of the tax system.

These results imply that country-specific analysis is needed to understand which country gains the most from immigration and from which channel and for which group these effects are more prevalent. In the next sections, we will systematically associate the simulated effects with characteristics of the receiving countries to develop more clearly our understanding of which structural factors are associated with the impact of immigration on wages and welfare of natives.

Table 6: Welfare effects of a 1 pp increase in immigration: cross-country scenarios

	Scenario 1			Scenario 2			Scenario 3		
Countries	W_N	W_{LN}	W_{HN}	W_N	W_{LN}	W_{HN}	W_N	W_{LN}	W_{HN}
Austria	0.03%	0.04%	0.03%	0.20%	0.30%	0.05%	−0.09%	−0.17%	0.02%
Belgium	−0.07%	−0.04%	−0.10%	0.07%	0.20%	−0.07%	−0.18%	−0.24%	−0.12%
Denmark	0.07%	0.07%	0.09%	0.24%	0.32%	0.12%	−0.06%	−0.14%	0.05%
Estonia	0.02%	0.00%	0.04%	0.24%	0.27%	0.19%	−0.16%	−0.22%	−0.09%
France	−0.04%	−0.02%	−0.07%	0.11%	0.23%	−0.03%	−0.16%	−0.22%	−0.10%
Germany	0.01%	0.02%	0.01%	0.17%	0.28%	0.00%	−0.10%	−0.18%	0.01%
Greece	0.13%	0.11%	0.16%	0.38%	0.41%	0.33%	−0.05%	−0.11%	0.02%
Italy	0.21%	0.19%	0.25%	0.37%	0.43%	0.23%	0.10%	0.04%	0.27%
Luxembourg	−0.12%	−0.19%	−0.02%	0.06%	0.07%	0.03%	−0.26%	−0.38%	−0.06%
Netherlands	0.00%	0.00%	0.00%	0.19%	0.28%	0.09%	−0.16%	−0.22%	−0.08%
Portugal	−0.05%	−0.05%	−0.06%	0.12%	0.22%	−0.04%	−0.18%	−0.24%	−0.07%
Slovenia	−0.02%	0.02%	−0.08%	0.11%	0.27%	−0.10%	−0.12%	−0.17%	−0.06%
Spain	0.17%	0.15%	0.19%	0.40%	0.47%	0.35%	−0.02%	−0.11%	0.05%
Sweden	−0.02%	0.00%	−0.05%	0.18%	0.26%	0.06%	−0.19%	−0.22%	−0.15%
Switzerland	0.03%	0.01%	0.06%	0.20%	0.32%	0.09%	−0.11%	−0.26%	0.03%
United Kingdom	0.00%	−0.02%	0.03%	0.19%	0.27%	0.10%	−0.16%	−0.27%	−0.04%
United States	0.00%	0.02%	−0.02%	0.13%	0.32%	−0.06%	−0.10%	−0.20%	0.00%
Mean	0.02%	0.02%	0.03%	0.20%	0.29%	0.08%	−0.12%	−0.19%	−0.02%
Median	0.00%	0.01%	0.01%	0.19%	0.28%	0.06%	−0.12%	−0.22%	−0.04%

Notes: Welfare effects are reported as percentage changes in steady-state consumption equivalents following a one percentage point increase in the stock of immigrants. W_N denotes average native welfare, while W_{LN} and W_{HN} refer to low- and high-skilled natives. Scenario 1 assumes neutral skill composition; Scenario 2 (Scenario 3) considers an inflow twice as intensive in high-skilled (low-skilled) workers. Mean and median report cross-country averages.

4.3 Welfare Effects and Native−Immigrant Wage Gaps

Figure 5 shows, in several panels, the association between the simulated welfare effects of an increase in immigrants by 1 percentage point of the labor force on natives (vertical axis) and the pre-existing immigrant−native wage gaps across countries (horizontal axis, in percent). The panels show results from scenario 1 (balanced immigration, left panels), scenario 2 (high-skilled immigration, central panels) and scenario 3 (low-skilled immigration, right panels). Additionally, we show the average welfare effect for all natives (in panels of the first row), the effect on low-skilled natives (in panels of the middle row) and the welfare effect for high-skilled natives (in the panels of the bottom row). The first common feature that we notice from the panels is the positive association between the native−immigrant wage gaps and the welfare effect on average and on each group of natives. A larger wage gap between immigrants and

natives gives firms stronger incentives to post vacancies as the immigrant share rises. This raises net labor demand and labor market tightness, lifting native wages and decreasing their unemployment.

This pattern reflects a job-creation mechanism, which is central to search-and-matching models of the labor market, first identified by Chassamboulli and Palivos (2014) and then adopted in several studies, among which Battisti et al. (2018). As immigrants are hired at wages that are low relative to their productivity, because of worse outside options, firms capture a larger share of the match surplus. Higher expected surplus raises vacancy creation, increases labor market tightness, and improves job-finding prospects for all workers. This mechanism can be described as a job-creation spillover from immigrants to natives. Firms take advantage of higher "surplus-generating opportunities" when more immigrants are in the labor market by creating more vacancies and this benefits Natives both through higher employment probabilities and through positive equilibrium wage adjustments (Battisti et al., 2018; Chassamboulli and Peri, 2020).

The relationship between wage gaps and welfare is somewhat weaker under Scenario 3, where immigration is predominantly low-skilled. In this case, the positive job-creation effect associated with lower immigrant wages is more likely to be offset by fiscal pressures and distributional costs. More low-skilled immigrants imply lower contribution per person to the government (and to pay for public transfers) and hence a cost for natives. As a result, even when wage gaps are sizeable, the net welfare effect of low-skilled immigration may be smaller or negative.

Notice that in these panels Italy, Spain (and to a lesser extent Greece) are positioned at the top-right of each chart, as those are countries where the native−immigrant gap generates the largest positive job creation effects. Switzerland and Portugal are at the opposite ends with the smallest wage gaps and generally small consequences of immigration.

4.4 Welfare Effects and Unemployment Rates of Natives

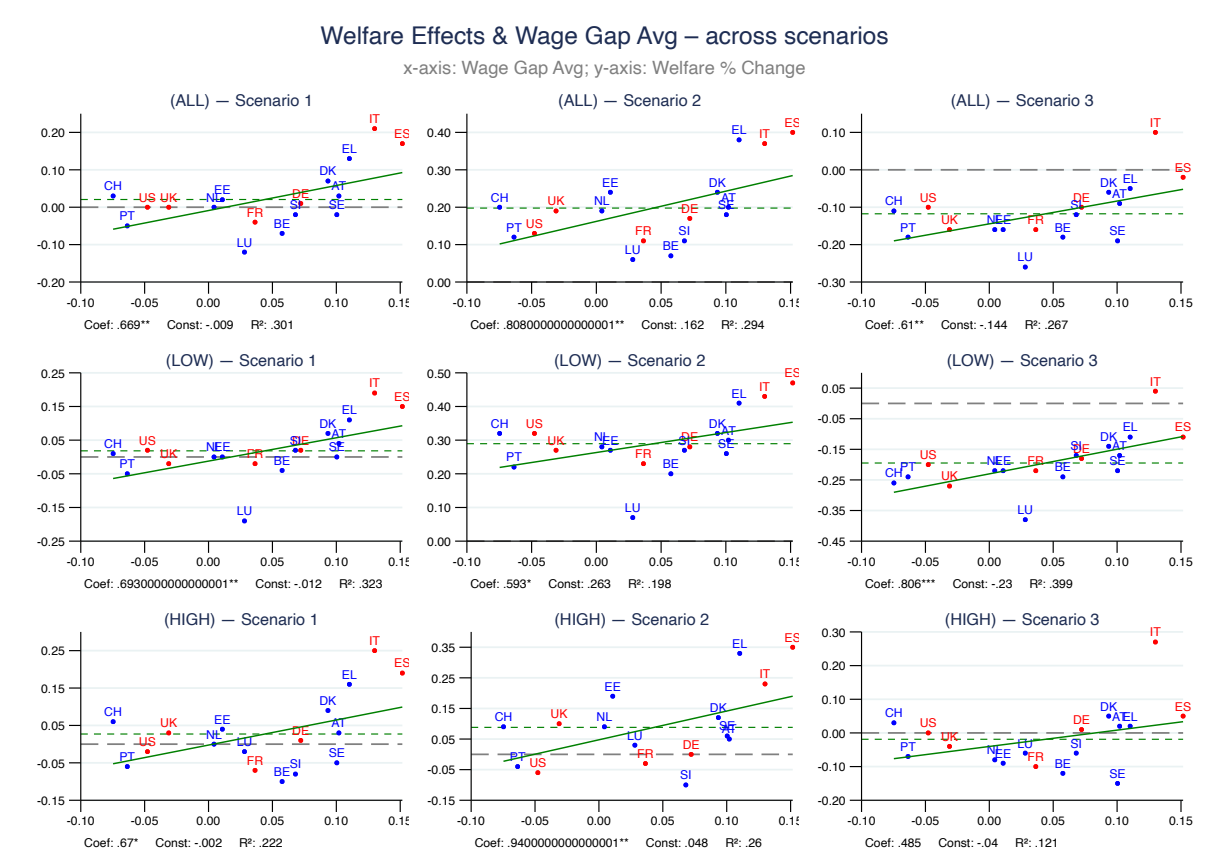
A second important structural labor market characteristic, differing substantially across countries and with potentially important consequences in determining the effects of immigration, is unemployment. In this section, we investigate how the welfare effects of immigration differ between countries with higher and lower unemployment rates as measured for natives across countries. Figure 6 relates native welfare changes to native unemployment rates across countries, across different scenarios (column 1 to 3) and for different groups (total, low-skilled or high-skilled) across rows. A clear positive association emerges in all scenarios and for all groups: native welfare gains from immigration are larger in economies where native unemployment is initially higher.

The economic mechanism behind this relationship relates, as in the previous case, to the impact and relevance of the job-creation channel, highlighted in the model. When the unemployment rate is higher, the impact of immigrants on vacancy creation has a larger positive impact on employment and wages: an increase in firms' expected surplus translates into stronger incentives to post vacancies, larger improvements in job-finding probabilities, and more pronounced welfare gains for natives who transition from unemployment to employment.

Immigration affects this channel by raising the expected match surplus of firms, stimulating them to create more job openings. Some of them go to employment of natives, and increase labor market tightness, with stronger welfare effects when unemployment is initially high. This is the main channel. A second channel is fiscal and operates mainly through the contribution of high-skilled immigrants. In countries with high unemployment, unemployment benefits are a large part of redistribution. As they flow mainly to less skilled workers, who earn lower wages and face higher equilibrium unemployment, the benefits are larger for less skilled in countries with high unemployment rates. This is shown by the steep correlation in the panels in the second column (high skilled immigration scenario). High skilled immigrants help finance these benefits, easing the fiscal burden on natives.

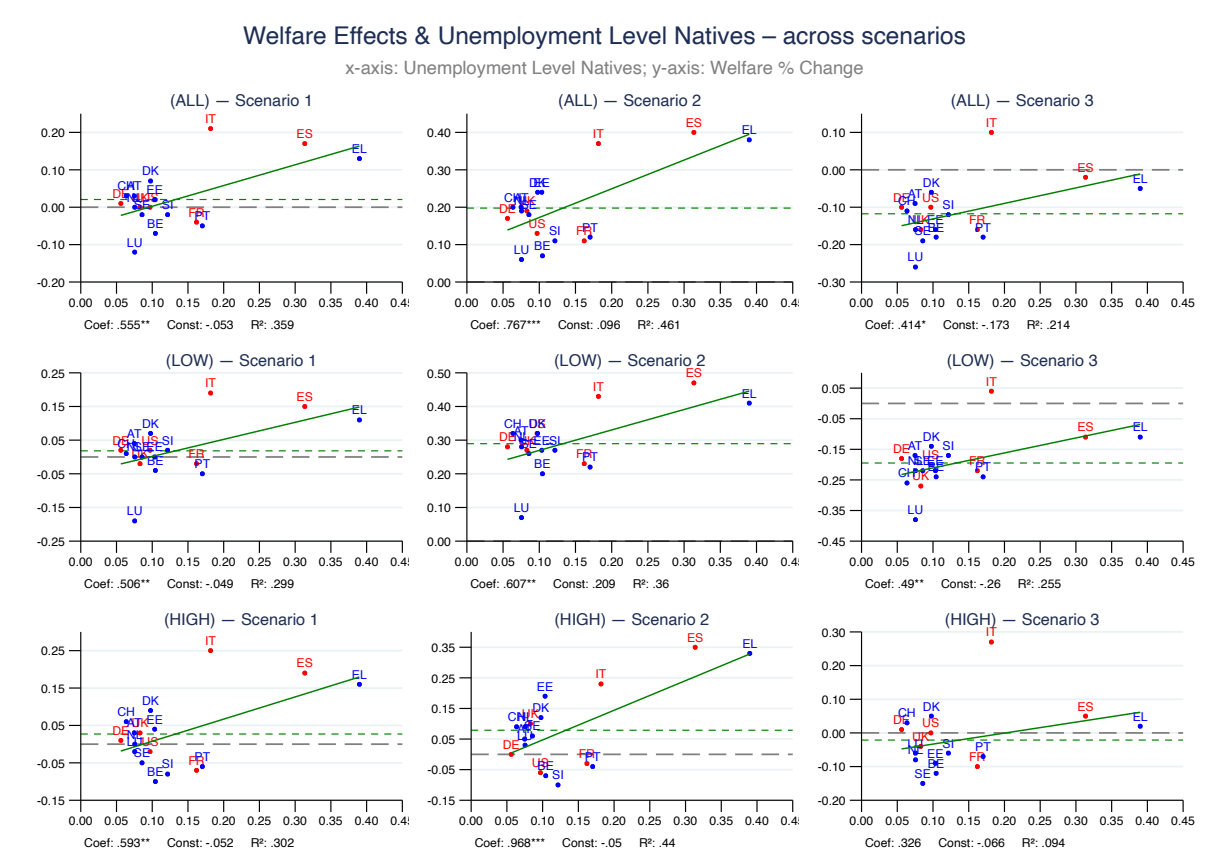
A feature of the panels in Figure 6 is a clustering of countries around relatively low unemployment

Figure 5: Relationship between wage gaps and welfare gains



Notes: Each panel reports the relationship between native welfare changes and average immigrant-native wage gaps across countries. Welfare effects are expressed as percentage changes in steady-state consumption equivalents following a one percentage point increase in immigration. Panels correspond to Scenario 1 (neutral), Scenario 2 (high-skilled), and Scenario 3 (low-skilled) immigration, and are shown separately for all natives, low-skilled natives, and high-skilled natives. Solid lines report linear fits; dashed grey line indicates the zero; dashed green line indicates welfare percentage change mean.

Figure 6: Relationship between natives' unemployment level and welfare gains



Notes: Each panel reports the relationship between native welfare changes and average unemployment level of natives across countries. Welfare effects are expressed as percentage changes in steady-state consumption equivalents following a one percentage point increase in immigration. Panels correspond to Scenario 1 (neutral), Scenario 2 (high-skilled), and Scenario 3 (low-skilled) immigration, and are shown separately for all natives, low-skilled natives, and high-skilled natives. Solid lines report linear fits; dashed grey line indicates the zero; dashed green line indicates welfare percentage change mean.

levels, where welfare effects tend to be modest and tightly grouped. Greece and Spain have a significantly higher unemployment rate than the rest and Italy, France and Portugal are the next group with medium-to-high unemployment. Across the other countries, small differences in unemployment rates are associated with limited variation in welfare effects. By contrast, Greece and Spain, located further to the right of the distribution, show substantially larger welfare gains. Italy stands out as a notable outlier, where the very large immigrantnative wage gaps interact with the third largest unemployment rate for natives, producing these strong welfare effects. Portugal, with similar unemployment rates but much smaller native−immigrant wage gaps (as we saw in the previous section), does not experience high welfare gains relative to the average for any group and scenario.

4.5 Welfare Effects and Tax Progressivity

A significant contribution of this study is to consider more carefully the general equilibrium fiscal effect of immigrants in countries with progressive taxation, government transfers and pure public good provision. In this section we investigate the extent to which countries with different degrees of progressive taxation in our data also differ in terms of the welfare effects of immigration on natives. As we measure effective tax rates across educational groups, we capture the intensity of progressivity in a country as the ratio of the high-skilled to low-skilled tax rates.

Figure 7 examines how the welfare effects of immigration for natives vary with the degree of tax progressivity, measured by the ratio of high- to low-skilled labor tax rates. As usual, different columns represent different immigration scenarios (neutral, high- and low-skilled intensive, respectively, from left to right) and the different rows show the impact on average, low- and high-skilled, from top to bottom, respectively. The panels show the relationship between tax progressivity and welfare outcomes, with patterns that differ across skill groups and immigration scenarios.

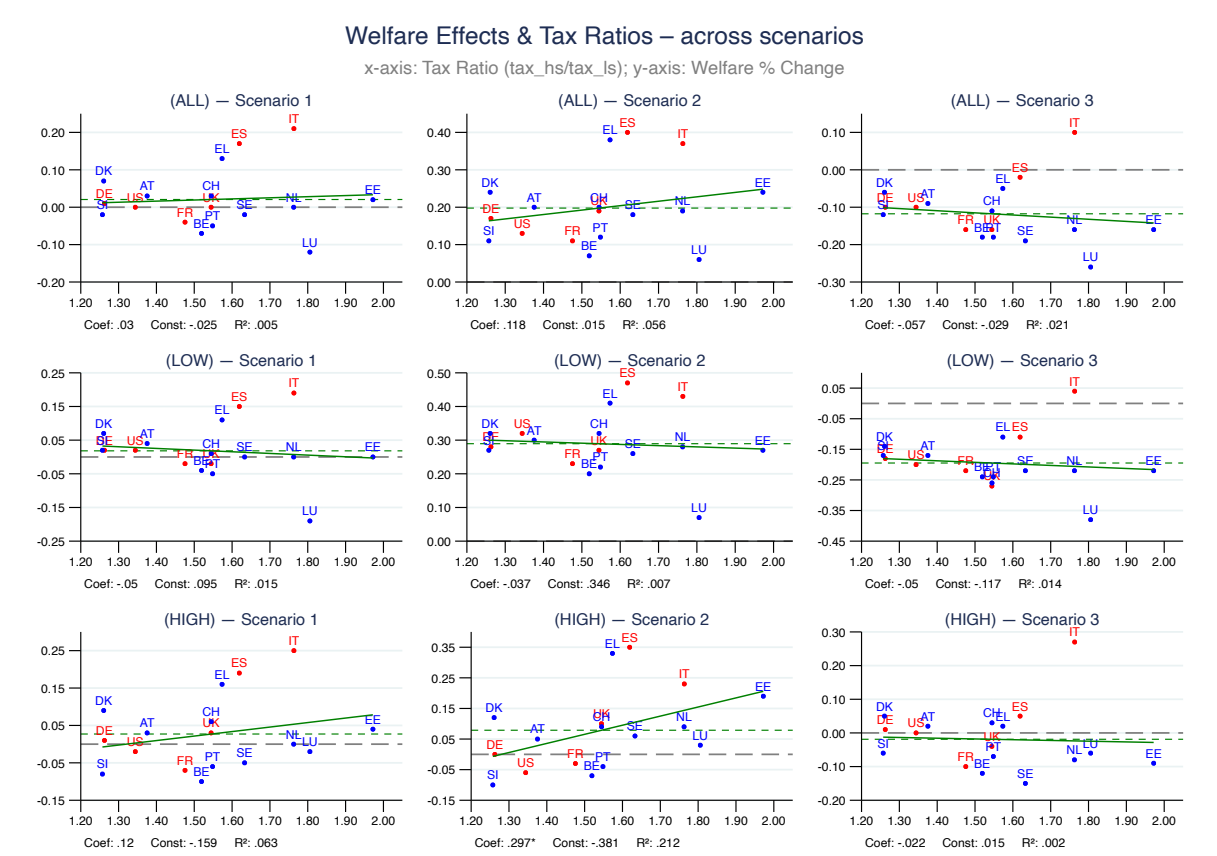
First, higher tax progressivity is associated with larger average native welfare gains -positive slope of the correlation- under the high-skilled immigration scenario (top row of scenario 2), while the low-skilled immigration scenario (top row of Scenario 3) implies the opposite: lower average native gains for countries with higher progressivity-negative slope of the correlation. This is because when immigration is concentrated among high-skilled workers, a progressive tax structure implies that a larger share of the fiscal burden will be shouldered by them, relative to natives. As a result, a disproportionate part of the fiscal cost of redistribution is carried by the new immigrants, allowing natives to experience a lower tax burden on average. Additionally, from the bottom panel we see that fiscal gains from sharing the burden benefit especially high-skilled natives, in highly redistributive countries, as they were carrying a larger part of the burden.

The second result is that the same fiscal mechanism operates in the opposite direction when immigration is predominantly low-skilled. Under Scenario 3 (the right column of panels in Figure 7), an increase in lower-skilled immigrants, combined with higher tax progressivity, is associated with more negative welfare effects on average (top panel) and especially for low-skilled natives (middle panel). In this case, the inflow of low-skilled immigrants expands the pool of benefit recipients from the government redistribution, while contributing relatively less to the tax revenues. The resulting fiscal adjustment erodes the redistributive gains that low-skilled natives, who already face weaker labor market outcomes, receive from progressive taxation. On average, then, progressive taxation amplifies the adverse effect of low-skilled immigration on these natives.

Finally, skill-neutral migration implies no correlation between progressivity and welfare effects on average, as in this case most countries experience small-to-positive welfare effects and the fiscal burden on natives is not changed.

Taken together, these results highlight that tax progressivity plays an important role in shaping the average and distributional consequences of immigration. Rather than uniformly mitigating or amplifying welfare effects, progressivity reallocates the fiscal incidence of immigration shocks across skill groups.

Figure 7: Relationship between tax ratio and welfare gains



Notes: Each panel reports the relationship between native welfare changes and tax ratios across countries. Welfare effects are expressed as percentage changes in steady-state consumption equivalents following a one percentage point increase in immigration. Panels correspond to Scenario 1 (neutral), Scenario 2 (high-skilled), and Scenario 3 (low-skilled) immigration, and are shown separately for all natives, low-skilled natives, and high-skilled natives. Solid lines report linear fits; dashed grey line indicates the zero; dashed green line indicates welfare percentage change mean.

High-skilled immigration in progressive systems tends to redistribute fiscal costs toward immigrants, benefiting all natives and especially high-skilled workers, while low-skilled immigration in the same systems shifts fiscal pressure toward low-skilled natives, reducing their welfare and average welfare relative to low-redistribution countries.

4.6 Welfare Effects and Size of the Public Sector

The final relation that we show is between the welfare effects of immigration and the size of the government sector, measured using government expenditures as a share of GDP. The usual structure of the panels, with different columns representing different immigration scenarios (neutral, high-skilled, and low-skilled intensive, from left to right) and different rows showing the impact on average, low-skilled, and high-skilled natives (from top to bottom), is shown in Figure 8.

Under high-skilled immigration (Scenario 2), countries with a larger government share tend to experience larger welfare gains for natives, both for high-skilled and low-skilled workers, in a similar way. This pattern reflects the interaction between immigration and the scale of public redistribution. When government redistribution and provision of public goods (a role that is combined in the size of government) is larger, a significant fraction of output is channeled through the public sector. An inflow of high-skilled immigrants expands the tax revenues and allows part of the fiscal burden associated with maintaining a large public sector to be shifted to immigrants and implies that natives (over-represented among less skilled) receive more of those transfers. Additionally, because the pure public good $\bar{g}$ is fixed in aggregate and provided by the government, immigration broadens the tax base that finances it. The fiscal cost per native is thereby reduced, lowering the equilibrium labor tax rates required to balance the budget and raising natives' take-home wages. Both effects help natives and amplify the positive welfare effects of immigration.

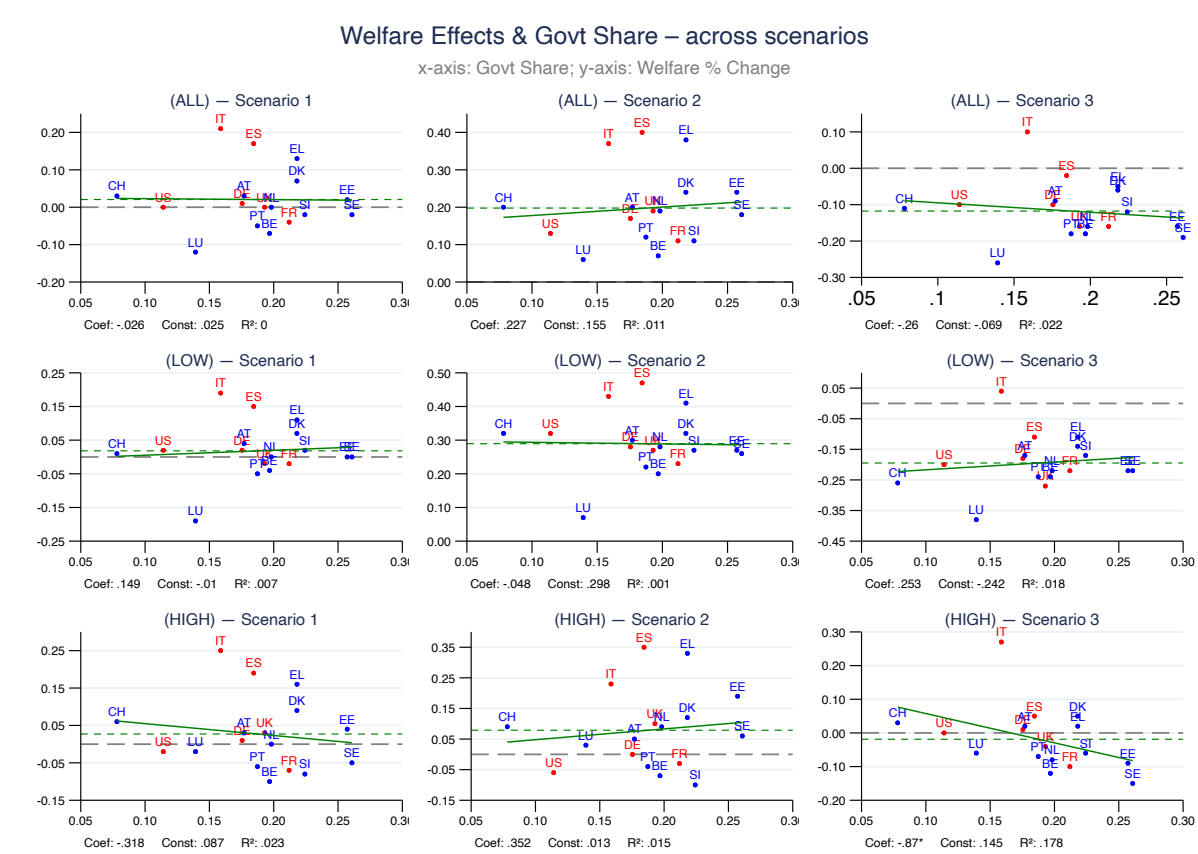
By contrast, under predominantly low-skilled immigration (Scenario 3), the relationship reverses. In countries with a larger public sector, low-skilled immigration is associated with more negative welfare effects for natives. When government expenditure is high, a low-skilled inflow increases fiscal pressure on natives by raising benefit expenditures and contributing relatively less to tax revenues. As a result, the adjustment required to finance existing public spending amplifies the negative welfare effects for natives, especially for low-skilled workers.

The qualitative relation of welfare effects to government size is similar to that observed for tax progressivity. However, the underlying mechanism is somewhat distinct. Government size captures the scale of public transfers, including pure public goods, whereas tax progressivity captures its difference across skill groups. A larger government magnifies the fiscal consequences of immigration depending on the skill composition of the inflow, but does not by itself determine how the fiscal adjustment is distributed between natives and immigrants. Nevertheless, since in aggregate the government system redistributes from richer to poorer, increasing its size increases the redistribution. Government size shapes the overall exposure of native welfare to immigration through the size of the public budget, while tax progressivity governs the distributional channel through which immigration affects different skill groups.

5 Welfare Effects using the empirical 2019−2024 Immigrants' Skill Composition

In this section, we move beyond the hypothetical scenarios analyzed in Section 4, which are important to discuss channels and role of structural factors, and we simulate the welfare effects of a one percentage-point increase in the stock of foreign-born workers using the actual immigrants' skill composition experienced by the receiving countries in recent years. For each country, we measure the skill composition, in terms of the share of non tertiary educated (low skilled) and tertiary educated (high skilled) immigrants, of those who arrived between 2019 and 2024. The simulation shows the welfare effect of a one percentage

Figure 8: Relationship between government share and welfare gains



Notes: Each panel reports the relationship between native welfare changes and government share across countries. Welfare effects are expressed as percentage changes in steady-state consumption equivalents following a one percentage point increase in immigration. Panels correspond to Scenario 1 (neutral), Scenario 2 (high-skilled), and Scenario 3 (low-skilled) immigration, and are shown separately for all natives, low-skilled natives, and high-skilled natives. Solid lines report linear fits; dashed grey line indicates the zero; dashed green line indicates welfare percentage change mean.

point increase in the labor force from immigrants with such a skill composition.[8]

For the European countries we use the 2024 wave of the European Union Labour Force Survey (EU-LFS), which provides a consistent cross country definition of educational attainment and a harmonized variable for years since arrival. We identify recent immigrants as foreign born individuals who arrived within the five years preceding the survey, that is between 2019 and 2024.[9] Two countries cover a slightly shorter window: Slovenia reports duration of residence in bands only, so its share covers arrivals between 2020 and 2024, and Greece records no arrivals in the survey year, so its share covers arrivals between 2019 and 2023. For the United Kingdom we apply the same rule to the year of first arrival recorded in the 2024 UK Labour Force Survey, which uses the same International Standard Classification of Education (ISCED) mapping as the EU-LFS. For the United States we use the 2024 American Community Survey from IPUMS, keeping foreign born individuals who entered the country within the five years preceding the survey. In all three sources, individuals are classified as high skilled if they hold a tertiary degree (ISCED 5 or above) and as low skilled otherwise, and observations are weighted by the survey sampling weight. These observed skill shares replace the hypothetical compositions of the previous section in assessing how the immigration experienced by OECD countries affected native welfare within our calibrated framework and period.

Table 7 shows in columns 3 and 4 such skill composition for the recent immigration flows (share with lower and higher education). For comparison, as the relative impact of immigrants will depend on the existing skill composition of residents, we show the skill composition of total resident population in 2019, in columns 1 and 2. A clear pattern emerges in comparing the skills of immigrants and of previous residents, which is consistent with what is described in most of the literature on migration in the world (Basso et al., 2026; Docquier et al., 2014; Grogger and Hanson, 2011). In the large majority of countries, recent inflows of immigrants are (sometimes substantially) more skill-intensive than the resident population. On average, the share with tertiary education among recent immigrants was 45.7 percent across the destination countries, compared with only 32.4 percent in the 2019 resident population. Immigrants, in short, represent an increase in the skill intensity of the labor force of the receiving country.

Looking at individual countries, we notice that the skill intensity of immigrants was higher than that of natives for all countries, except Greece, Slovenia and Spain. This is remarkable, in line with what found in (Basso et al., 2026) and contrary to the common rhetoric that immigrants are less educated than natives. The share of college educated immigrants was particularly high for the United Kingdom, where about 80 percent of 2019−2024 arrivals had a tertiary degree.[10] Luxembourg, Denmark, Estonia, Switzerland and Sweden were other countries in which the high-skilled share of new immigrants exceeded very significantly the share of college-educated in the country.

These patterns likely reflect a combination of selective immigration policies, higher international mobility of university-educated workers, general educational improvements across the young cohorts of many sending countries, and the increase in destination-specific demand for skilled labor (as already argued by Docquier et al. (2014) and Beerli et al. (2021)).

[8] Across the 17 countries, the cumulative 2019−2024 inflow as a share of the 2019 working-age population ranges from 1.2% in Greece to 24.0% in Luxembourg (a small-economy outlier; the next-highest is Switzerland at 11.5%), with a cross-country mean of 6.5%, implying a yearly inflow slightly above 1pp, close to our simulated value. The largest recipients are Luxembourg, Switzerland, Germany, Austria and Estonia, all above 7% (more than 1.2 pp per year); the bottom three are Greece, Italy and Slovenia, all below 2%. We report these magnitudes for context only: Table 8 deliberately normalizes the shock to one percentage point, so that differences across countries reflect receiving country fundamentals and the skill composition of the inflow rather than its scale. Magnitudes are computed on the same survey wave and the same arrival window as the skill shares; Slovenia and Greece are again the exceptions, covering arrivals from 2020 and up to 2023 respectively.

[9] The Netherlands reports age in five year bands rather than in single years, so the working age sample cannot be delimited exactly as in the other countries. We drop the 15 to 19 band and retain the 60 to 64 band, which excludes Dutch individuals aged 17 to 19 and includes those aged 63 and 64. These two edge bands account for about 9 percent of recent Dutch arrivals. Because the flow skill share enters the simulation diluted by the size of the existing immigrant stock, the resulting change in the Dutch model input is of the order of one thousandth, and none of the results depend on it.

[10] The UK Labour Force Survey uses the same ISCED based education classification as the EU-LFS, to which the UK contributed until 2020, and records the year of first arrival. The high skill intensity of UK inflows is consistent with the points based immigration system, which selects on qualifications and salary thresholds.

Greece, Slovenia and Spain are the only countries where recent immigrant flows were less skill-intensive than the resident population. In Greece and Slovenia the gap is large and the high-skilled share among new arrivals stays below 25 percent in both cases, while in Spain the inflow is only slightly less educated than the incumbent population (29.3 against 35.2 percent with tertiary education). Italy shows relatively low skill intensity of immigrants, yet they remain more skilled than its resident population (20 versus 17 percent high-skilled). As the skill composition of the inflow of immigrants relative to the existing population is a key determinant of whether immigration generates positive welfare effects for natives (through productivity externalities and fiscal effects), this distribution suggests a prevalence of positive effects driven by high skill intensity.

Table 7: Skill composition of resident population and recent immigrant flows

	2019 Population Skill Shares		2019–2024 Immigrant Flow Skill Shares	
	Lower	Higher	Lower	Higher
Germany	0.741	0.259	0.619	0.381
Spain	0.648	0.352	0.707	0.293
France	0.663	0.337	0.497	0.503
Italy	0.826	0.174	0.796	0.204
United Kingdom	0.610	0.390	0.210	0.790
United States	0.694	0.306	0.614	0.386
Austria	0.689	0.311	0.541	0.459
Belgium	0.651	0.349	0.553	0.447
Switzerland	0.614	0.386	0.410	0.590
Denmark	0.666	0.334	0.331	0.669
Estonia	0.637	0.363	0.420	0.580
Greece	0.722	0.278	0.866	0.134
Luxembourg	0.599	0.401	0.269	0.731
Netherlands	0.642	0.358	0.583	0.417
Portugal	0.762	0.238	0.643	0.357
Sweden	0.622	0.378	0.412	0.588
Slovenia	0.707	0.293	0.759	0.241
Average	0.676	0.324	0.543	0.457

Notes: The first two columns report the share of low and high skilled individuals in the total resident population (natives and immigrants) as of 2019. The last two columns report the skill composition of immigrants who arrived between 2019 and 2024, measured in the 2024 survey wave; the window is 2020 to 2024 for Slovenia and 2019 to 2023 for Greece. Low skilled workers are defined as those without tertiary education. Source: EU-LFS (European countries), UK-LFS (United Kingdom), IPUMS-ACS (United States).

Table 8 reports the country-specific welfare effects of an increase in immigration by one percentage point of the labor force, with the observed 2019−2024 skill composition. Because the simulation holds the total size of the inflow constant at one percentage point of the receiving country labor force, cross-country differences in welfare effects reflect only variation generated by differences in receiving-country fundamentals and in the skill composition of the net immigration flow. The simulated results do not reflect differences in the scale of immigration [11].

Several findings stand out from Table 8. First, the average welfare effects for native residents are positive in 14 of the 17 countries, essentially null in Belgium and negative only in Greece and Slovenia, with a cross-country mean welfare gain of 0.17 percent for natives. This is close to the gains obtained under the hypothetical high-skilled scenario (Scenario 2, in Table 6, where the mean effect is 0.20 percent). The similarity is consistent with the data we have shown: as documented above, recent immigrant flows have been considerably more skill-intensive than the resident population in most countries, and hence their impact is similar to the high-skill intensive immigration scenario of the previous section.

Second, some countries experienced large welfare gains from these recent immigration inflows. The

[11] This also differs from the approach in Battisti et al. (2018), where simulations were based on actual inflow sizes, making it harder to disentangle the role of country characteristics from that of the magnitude of the shock.

United Kingdom stands out as the country with the largest and positive welfare effect (0.47 percent for an average non-migrant resident and a very significant +0.70% for less-skilled), consistent with the very high-skilled composition of its recent (post-Brexit) immigrant inflows. Denmark, Luxembourg, Estonia, Switzerland, Italy and Sweden also display sizeable gains, ranging from 0.22 to 0.41 percent. The reasons are somewhat different across them. While Luxembourg, Denmark, Estonia, Switzerland and Sweden benefit from the productivity boost and fiscal contribution of their extremely high-skilled immigration, Italy benefits from the boost to job creation from immigrants, due to its higher unemployment rate and the larger surplus created by immigrants (linked to the large immigrant−native wage differential), while its immigrant inflow is more skill-neutral.

The United States exhibits a small positive average effect (+0.07 percent) that conceals opposing movements across skill groups: low-skilled natives gain 0.18 percent while high-skilled natives lose 0.04 percent. This pattern reflects narrow wage gaps between natives and immigrants, in fact reversed for the high-skilled, a small difference between the skill composition of recent immigrants and residents, and a limited public sector.

Slovenia, Belgium and Greece are the only countries where the average welfare effect on natives is not positive. Greece shows the largest negative effect (−0.11 percent), a direct consequence of its inflow being by far the least skill-intensive in the sample: low-skilled natives lose 0.18 percent and high-skilled natives 0.02 percent. Here the net pre-tax labour-income contribution is essentially zero, with a pre-tax labor income contribution of 0.00 percentage points despite very high native unemployment, while the fiscal channel is clearly negative (−0.10), reflecting the cost of an inflow that contributes less per person to public finances. In Slovenia the effect (−0.08 percent) is likewise driven by the low skill intensity of its recent inflows. Belgium is essentially unaffected on average (0.00 percent), with a gain for low-skilled natives (0.08) offset by a loss for high-skilled ones (−0.09), likely linked to its larger redistribution and public spending.

The third consistent pattern to be noted across countries is that low-skilled natives tend to benefit *more* than high-skilled natives (on average by 0.25 versus 0.06 percentage points), mirroring the distributional pattern of Scenario 2. This reflects the productivity spillovers and complementarities generated by high-skilled immigration, which raise the marginal product of less-skilled labor more than that of high-skilled labor, combined with the fiscal relief that higher-skilled immigrants provide relieving high-skilled natives of part of their tax burden. The job-creation effect also contributes to this asymmetric pattern, as it tends to be especially strong in labor markets with higher unemployment rates, which typically characterize the low-skilled segment.

To deepen our understanding of the mechanisms behind these welfare effects, we decompose the change in native welfare into four components: pre-tax labor income (driven by changes in pre-tax wages and unemployment rates), the labor tax channel (capturing changes in the effective tax burden on labor), capital income (changes in capital productivity), and transfers (changes in public good provision and welfare transfers). Figure 9 presents this decomposition graphically for the six largest economies in our sample, while the full decomposition for all seventeen countries is reported in Table A.2 and Figure A.1 in the Appendix. In what follows we first describe the average patterns across countries, and then use Figure 9 to highlight how channels combine differently across individual countries.

On average across countries, the pre-tax labor income channel is the dominant source of welfare gains for natives (+0.11 percentage points out of a total of 0.17). This is generated by the increase in labor productivity due to the positive productivity effect of high-skilled immigrants and to the job-creation effect. The second positive contributor to native welfare is the increase in capital income (+0.03), raised by the higher labor supply and productivity. Finally, the labor tax channel (+0.03) implies an average decline of labor taxes for natives, as fiscal burden partially shifts to immigrants. Transfers contribute very little to the average effect.

This aggregate picture masks important differences across skill groups. For lower-skilled natives, gains in pre-tax labor income account for almost the entire welfare gain (0.20 out of 0.25 percentage points), with

Table 8: Welfare effects of a 1 pp increase in immigration: 2019–2024 flow skill composition

	Flows 2019–2024		
Countries	W_N	W_{LN}	W_{HN}
Austria	0.18%	0.27%	0.05%
Belgium	0.00%	0.08%	−0.09%
Denmark	0.41%	0.59%	0.17%
Estonia	0.32%	0.37%	0.24%
France	0.11%	0.22%	−0.04%
Germany	0.13%	0.21%	0.00%
Greece	−0.11%	−0.18%	−0.02%
Italy	0.24%	0.23%	0.25%
Luxembourg	0.40%	0.58%	0.13%
Netherlands	0.07%	0.10%	0.03%
Portugal	0.10%	0.19%	−0.04%
Slovenia	−0.08%	−0.09%	−0.07%
Spain	0.06%	0.00%	0.11%
Sweden	0.22%	0.32%	0.09%
Switzerland	0.25%	0.41%	0.10%
United Kingdom	0.47%	0.70%	0.21%
United States	0.07%	0.18%	−0.04%
Mean	0.17%	0.25%	0.06%

capital income providing a modest additional contribution (0.05). This reflects the complementarity and productivity spillovers generated by the relatively skill-intensive inflows as well as from the job-creation effect among low-skilled, due to firms' new job postings, stimulated by the presence of immigrants, which increases labor demand and wages. For higher-skilled natives, by contrast, the pre-tax labor income effect is much smaller and, on average, almost null (-0.02), as the inflow of similarly educated immigrants increases competition within the high-skilled segment and offsets the other productivity benefits. Their welfare gains instead come almost entirely through the labor tax channel (+0.07), which captures the fiscal relief that arises when higher-skilled immigrants share the tax burden associated with financing redistribution. This pattern is consistent with the role of tax progressivity and hence stronger where the tax rate differential between high- and less-skilled is higher.

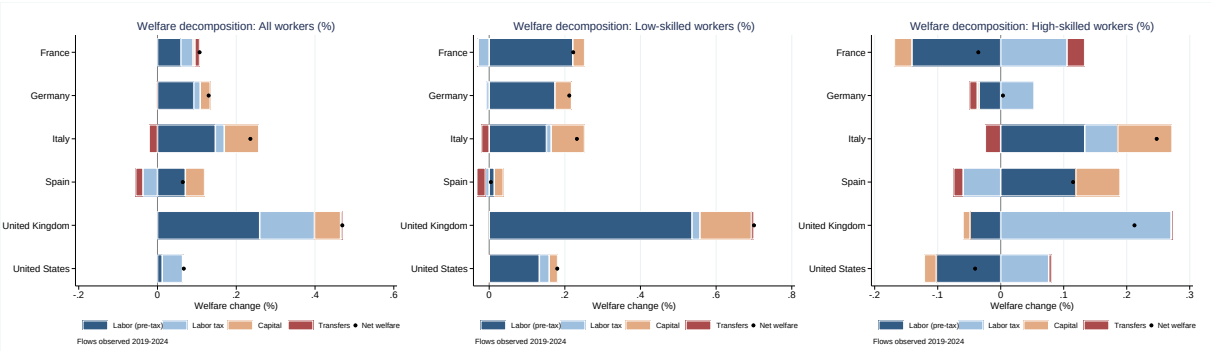
Turning to individual countries, Figure 9 reveals how differently the four channels contribute to the effects across the six largest economies analyzed.

The United Kingdom displays the most striking pattern, in line with what we said describing the average effects. Its recent inflows have been very high-skilled according to our data, with about 80 percent college-plus immigration. Such inflow generated the largest overall welfare gain among all countries in the sample (0.47 percent). For low-skilled British native residents, the dominant channel was the increase in pre-tax labor income (+0.54 percentage points), reflecting strong complementarity and productivity effects from a highly educated inflow. For high-skilled natives, instead, the pre-tax labor income effect was slightly negative (-0.05), as the large number of skilled new arrivals competed directly with incumbent skilled workers. This small loss, however, was more than offset by a large positive labor tax effect on welfare (+0.27) on highly skilled individuals, indicating that the reduction in their fiscal burden played a crucial role in redistributing the gains from immigration toward high-skilled natives through reduced tax burdens. The United Kingdom thus illustrates a case where the fiscal channel is important in ensuring that both skill groups benefit from high-skilled immigration.

Italy and Spain present different patterns. In Italy, the pre-tax labor income channel is positive for all native groups, including high-skilled workers, and the capital income channel is substantial (0.09 for all natives), consistent with the country's high capital share, which amplifies production complementarities. Both high-skilled and low-skilled Italian natives experience positive pre-tax labor income effects

(respectively +0.13 and +0.15) resulting from the relatively similar skill composition between immigrants and Italian residents, combined with the large native−immigrant wage gaps documented in Section 2, which boost job creation and raise the marginal product of all native labor. Spain, by contrast, no longer displays an even distribution of gains across skill groups. Its recent inflows are less skill-intensive than the resident population, and the gains concentrate on high-skilled natives (0.11 percent), while low-skilled natives are essentially unaffected (0.00 percent). The pre-tax labor income channel is positive for both groups but almost entirely concentrated on the high-skilled (0.12 against 0.01 percentage points), while the labor tax channel is negative for both, reflecting the fiscal cost of an inflow that is less educated than the incumbent population. In France, the pre-tax labor income channel is positive for low-skilled natives (0.22) but negative for high-skilled natives (-0.14), generating a total welfare effect for high-skilled natives that is slightly negative (-0.04). The labor tax channel partially offsets this (0.11 for high-skilled), but not enough to produce a net gain. Germany follows a qualitatively similar pattern, though with smaller magnitudes, reflecting the more moderate skill intensity of its recent inflows relative to France. The United States illustrates a case in which a small average effect (0.07 percent) conceals sizeable and opposing effects across skill groups. Low-skilled natives gain 0.18 percent, almost entirely through pre-tax labor income (+0.13 percentage points), while high-skilled natives lose 0.04 percent, as a negative pre-tax labor income effect (-0.10) is only partly offset by the labor tax channel (+0.08). The negative pre-tax effect on high-skilled natives reflects the reversed high-skill wage gap documented in Section 2, where immigrants earn about 6% more than comparable natives, so that the job-creation channel acts as a drag rather than a boost for that group[12]. What remains genuinely muted in the United States is the fiscal side: with a small public sector and limited tax progressivity, the labor tax channel is too weak to reverse the loss for high-skilled natives.

Figure 9: Welfare decomposition by channel: selected countries (DE, ES, FR, IT, UK, US)



Notes: Each panel reports the welfare decomposition for native workers following a one percentage point increase in immigration, using skill shares observed in 2019–2024 immigration flows. Welfare effects are expressed as percentage changes in steady-state consumption equivalents and decomposed into four channels: labor income (pre-tax), labor tax, capital income, and transfers. Positive components are stacked rightward from zero; negative components are stacked leftward. The black dot indicates the net welfare effect (sum of all components). Panels correspond to all natives, low-skilled natives, and high-skilled natives.

Taken together, these results show that the welfare effects identified under the high-skilled immigration scenarios (Scenario 2) of Section 4 are similar to those obtained when the model is simulated using flows that reflect the actual country-specific skill compositions of recent years (2019-2024). The broadly positive effects observed across most countries reflect the skill-intensive composition of recent flows, but the cross-country heterogeneity in the magnitude and distribution of gains underscores that receiving-country fundamentals (wage gaps, unemployment conditions, and the structure of taxation) remain important in shaping how immigration translates into native welfare.

[12]For the US we may have omitted stronger productivity effects, due to the fact that skilled immigrants heavily work in leading technological and scientific innovation and in the long run they may have more significant productivity spillovers than in other countries, (e.g. Kerr and Lincoln (2010); Peri et al. (2015))

6 Conclusions

This paper quantifies the welfare effects of immigration on natives in a general-equilibrium search-and-matching model with a fully specified fiscal sector, calibrated to 17 OECD economies over 2015–2019. The model brings together the labour-market channels emphasised in the literature (production complementarities and job creation through firms' vacancy posting) and fiscal channels operating through taxes, transfers, and public goods. Relative to Battisti et al. (2018) and Chassamboulli and Palivos (2014), it adds skill-specific progressive labour taxation, capital taxation, pure public goods, and productivity that depends on the economy's skill composition. For a one-percentage-point inflow with the skill composition of 2019–2024 arrivals, native welfare rises in 14 of the 17 countries, with a cross-country mean gain of 0.17 percent.

The sign and size of these effects depend as much on the receiving country's fiscal system as on its labour market. Four fundamentals account for the cross-country variation. Immigrant–native wage gaps and resident unemployment govern the job-creation channel: where immigrants are hired at substantially lower wages and labour markets are slack, firms post more vacancies, and natives gain through both higher wages and higher employment. Tax progressivity determines how fiscal gains and losses are shared across native skill groups, amplifying both the gains from high-skilled inflows and the losses from low-skilled ones. Government size scales the aggregate fiscal response. These fundamentals produce sharply different country profiles. The United Kingdom, with predominantly high-skilled inflows and a sizeable public sector, gains substantially through both the productivity and the fiscal channel. Italy, with wide wage gaps and high unemployment, gains mainly through job creation and production complementarities. In the United States, narrow wage gaps, low unemployment, low progressivity, and a small public sector yield small average effects that conceal opposing movements across skill groups, with a fiscal channel too weak to redistribute the gains toward high-skilled natives. A shock of given size and composition can therefore have different welfare consequences depending on the economy into which it lands.

A novel and distinctive result is a sharp asymmetry in how native skill groups gain. Less-educated natives gain primarily through pre-tax labour earnings. The skill-intensive composition of recent inflows raises their marginal product through complementarities and productivity spillovers, and where labour markets are slack and wage gaps are wide, the surplus immigrants generate for firms translates into job creation. More-educated natives, by contrast, gain almost entirely through lower labour taxes. High-skilled immigrants enter the tax base and absorb part of the cost of financing redistribution, while their effect on incumbents' pre-tax earnings is roughly neutral on average, because the competition effect of a larger skilled labour supply is offset by the productivity spillovers the same workers generate. Behind the aggregate gain, two mechanisms thus operate in parallel: a labour-market mechanism that benefits less-educated natives and a fiscal mechanism that benefits more-educated natives.

Two policy implications follow. First, immigration policy and fiscal policy are not separable. Because progressivity reallocates the fiscal incidence of immigration across skill groups, countries with more progressive tax systems and larger public sectors gain more from skill-intensive inflows and lose more from low-skill-intensive ones; the welfare consequences of a given flow cannot be assessed without reference to the fiscal context. Second, cross-country heterogeneity is large enough that generalising from any single country's experience is likely to mislead. Whether immigration raises native welfare is a country-specific question, and answering it requires a framework that accounts for the institutions of the receiving economy.

Several limitations suggest directions for future work. First, we hold the capital tax rate fixed at 11 percent across countries to isolate interactions with labour-market institutions; cross-country differences in effective capital taxation, particularly where corporate-tax heterogeneity is substantial, could alter the size of the capital-income channel. Second, the binary tertiary/non-tertiary split, standard in this literature, masks within-group heterogeneity that may matter for low-skill-biased inflows; three or more skill groups would distinguish high-school dropouts, high-school graduates, and college graduates. Third,

the model is static and treats workers as identical within skill groups; adding age and life-cycle structure, as in Ikhenaode (2024), would capture interactions with pension systems and long-run fiscal sustainability. Finally, we abstract from the effects of immigration on goods and housing prices and from the occupational downgrading of high-skilled immigrants documented by Dustmann et al. (2013); both could affect real incomes and the strength of the labour-market and fiscal channels.

In our simulations, the skill-intensive immigration of 2019–2024 raised native welfare in most of the countries we study. Whether future inflows do the same will depend on who arrives and on the labour-market and fiscal institutions that receive them.

References

Alesina, A., E. Murard, and H. Rapoport (2021): "Immigration and preferences for redistribution in Europe," *Journal of Economic Geography*, 21, 925–954.

Allen, W. L., M. Fernández-Reino, and I. Ruiz (2025): "Immigration and the welfare state," *Oxford Review of Economic Policy*, 41, 64–86.

Amior, M. and A. Manning (2020): "Monopsony and the wage effects of migration," CEP Discussion Papers dp1690, Centre for Economic Performance, LSE.

Autor, D., C. Goldin, and L. F. Katz (2020): "Extending the Race between Education and Technology," *AEA Papers and Proceedings*, 110, 347–351.

Basso, G., M. R. Mathur, and G. Peri (2026): "Immigration and Macroeconomic Outcomes in OECD Countries," Working Paper 35523, National Bureau of Economic Research.

Battisti, M., G. Felbermayr, G. Peri, and P. Poutvaara (2018): "Immigration, Search and Redistribution: A Quantitative Assessment of Native Welfare," *Journal of the European Economic Association*, 16, 1137–1188.

Beerli, A., R. Indergand, and J. S. Kunz (2021): "The supply of foreign talent: How skill-biased technology drives the location choice and skills of new immigrants," GLO Discussion Paper Series 998, Global Labor Organization (GLO).

Boeri, T. (2010): "Immigration to the Land of Redistribution," *Economica*, 77, 651–687.

Borjas, G. J. (2014): *Immigration Economics*, Cambridge, MA: Harvard University Press.

Cadena, B. C. and B. K. Kovak (2016): "Immigrants Equilibrate Local Labor Markets: Evidence from the Great Recession," *American Economic Journal: Applied Economics*, 8, 257–290.

Caiumi, A. and G. Peri (2024): "Immigration's Effect on US Wages and Employment Redux," Working Paper 32389, National Bureau of Economic Research.

Card, D. (2009): "Immigration and Inequality," *American Economic Review*, 99, 1–21.

Chassamboulli, A. and X. Liu (2024): "Immigration, Legal Status and Fiscal Impact," *Review of Economic Dynamics*, 54, 101238.

Chassamboulli, A. and T. Palivos (2014): "A Search-Equilibrium Approach To The Effects Of Immigration On Labor Market Outcomes," *International Economic Review*, 55, 111–129.

Chassamboulli, A. and G. Peri (2015): "The Labor Market Effects of Reducing the Number of Illegal Immigrants," *Review of Economic Dynamics*, 18, 792–821.

——— (2020): "The Economic Effect of Immigration Policies: Analyzing and Simulating the U.S. Case," *Journal of Economic Dynamics and Control*, 114, 103898.

Docquier, F., Ç. Özden, and G. Peri (2014): "The labour market effects of immigration and emigration in OECD countries," *The Economic Journal*, 124, 1106–1145.

Dustmann, C. and T. Frattini (2014): "The Fiscal Effects of Immigration to the UK," *The Economic Journal*, 124, F593–F643.

Dustmann, C., T. Frattini, and I. P. Preston (2013): "The Effect of Immigration along the Distribution of Wages," *The Review of Economic Studies*, 80, 145–173.

Grogger, J. and G. H. Hanson (2011): "Income maximization and the selection and sorting of international migrants," *Journal of Development Economics*, 95, 42–57, symposium on Globalization and Brain Drain.

Ikhenaode, B. I. (2024): "Immigration, skill acquisition, and fiscal redistribution in a search equilibrium model," *Macroeconomic Dynamics*, 28, 1–31.

Kerr, W. R. and W. F. Lincoln (2010): "The Supply Side of Innovation: H-1B Visa Reforms and U.S. Ethnic Invention," *Journal of Labor Economics*, 28, 473–508.

Lucas, R. E. (1988): "On the mechanics of economic development," *Journal of Monetary Economics*, 22, 3–42.

Lucas, Jr., R. E. (2015): "Human Capital and Growth," *American Economic Review*, 105, 85–88.

Moretti, E. (2004): "Workers' Education, Spillovers, and Productivity: Evidence from Plant-Level Production Functions," *American Economic Review*, 94, 656–690.

OECD (2019): *The survey of adult skills: Reader's companion*, Organisation for Economic Co-Operation and Development.

OECD (2020): *Taxing Wages 2020*, Paris: OECD Publishing.

——— (2025): *Corporate Tax Statistics 2025*, Paris: OECD Publishing.

Orefice, G. and G. Peri (2024): "Immigration and Worker-Firm Matching," *The Review of Economics and Statistics*, 1–45.

Ottaviano, G. I. P. and G. Peri (2012): "Rethinking the Effect of Immigration on Wages," *Journal of the European Economic Association*, 10, 152–197.

Peri, G. (2012): "The Effect Of Immigration On Productivity: Evidence From U.S. States," *The Review of Economics and Statistics*, 94, 348–358.

——— (2016): "Immigrants, Productivity, and Labor Markets," *Journal of Economic Perspectives*, 30, 3–30.

Peri, G., K. Shih, and C. Sparber (2015): "STEM Workers, H-1B Visas, and Productivity in US Cities," *Journal of Labor Economics*, 33, S225–S255.

Peri, G. and C. Sparber (2009): "Task Specialization, Immigration, and Wages," *American Economic Journal: Applied Economics*, 1, 135–169.

Stark, O. and L. Byra (2025): "Immigration, Search and Redistribution: A Quantitative Assessment of Native Welfare: Comment," *Journal of the European Economic Association*, jvaf033.

Storesletten, K. (2003): "Fiscal Implications of Immigration: A Net Present Value Calculation," *The Scandinavian Journal of Economics*, 105, 487–506.

Appendix

A.1 Data Sources and Variable Definitions

Table A.1 summarises the data sources used in the calibration and in the construction of the immigration flow skill shares.

Table A.1: Data sources

Variable	Source	Coverage
Unemployment rates (by skill, origin)	EU-LFS, UK-LFS, IPUMS-ACS	2015–2019 avg
Wage ratios (immigrant/native)	EU-SILC, IPUMS-ACS	2015–2019 avg
Skill composition (natives, immigrants)	EU-LFS, IPUMS-ACS	2019
Immigrant population share	EU-LFS, IPUMS-ACS	2019
GDP per capita (PPP)	World Bank WDI	2019
Effective labor tax rates (t_L, t_H)	OECD Taxing Wages	2019
Capital tax rate (t_K)	OECD Corporate Tax Statistics	2019
Capital share (α)	Penn World Table 10.0	2019
Government share of GDP	Penn World Table 10.0	2019
Public good share ($\bar{g}$/GDP)	World Bank WDI	2019
Immigration flow skill shares (Section 5)		
EU countries (15)	EU-LFS, 2024 wave (`yearesid` 0 to 5), weighted	2019–2024
United Kingdom	UK-LFS, 2024 (`CAMEYR`, year of first arrival), weighted	2019–2024
United States	IPUMS-ACS, 2024 (`yrsusa1` 0 to 5), weighted	2019–2024

Notes: Higher skilled denotes individuals with completed tertiary education (ISCED 5 or above); lower skilled denotes all others. Recent immigrants are foreign born individuals who arrived within the five years preceding the 2024 survey. The EU-LFS identifies them through the harmonized duration of residence variable (`yearesid`), the UK-LFS through the year of first arrival (`CAMEYR`) and IPUMS-ACS through years in the United States (`yrsusa1`). Slovenia records duration of residence in bands only, so its window is 2020 to 2024; Greece records no arrivals in the survey year, so its window is 2019 to 2023.

A.2 Welfare Decomposition: Full Country Results

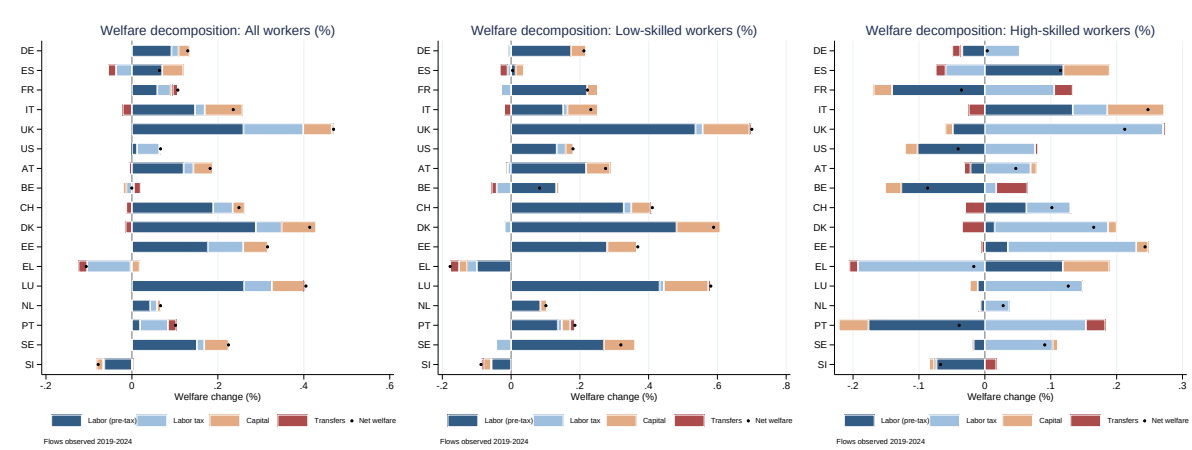
Table A.2 and Figure A.1 report the welfare decomposition for all seventeen countries in the sample, complementing Figure 9 in the main text.

Table A.2: Welfare decomposition under flows observed between 2019 and 2024

	All					Lower					Higher				
Countries	Labor pre	Labor tax	Capital	Transfers	Sum	Labor pre	Labor tax	Capital	Transfers	Sum	Labor pre	Labor tax	Capital	Transfers	Sum
Austria	0.12%	0.02%	0.05%	−0.01%	0.18%	0.22%	−0.01%	0.07%	0.00%	0.27%	−0.02%	0.07%	0.01%	−0.01%	0.05%
Belgium	0.00%	−0.01%	−0.01%	0.02%	0.00%	0.13%	−0.04%	0.01%	−0.01%	0.08%	−0.13%	0.02%	−0.02%	0.05%	−0.09%
Denmark	0.29%	0.06%	0.08%	−0.01%	0.41%	0.48%	−0.02%	0.13%	0.00%	0.59%	0.01%	0.17%	0.01%	−0.03%	0.17%
Estonia	0.18%	0.08%	0.06%	0.00%	0.32%	0.28%	0.00%	0.09%	0.00%	0.37%	0.03%	0.19%	0.02%	0.00%	0.24%
France	0.06%	0.03%	0.00%	0.01%	0.11%	0.22%	−0.03%	0.03%	0.00%	0.22%	−0.14%	0.11%	−0.03%	0.03%	−0.04%
Germany	0.09%	0.02%	0.03%	0.00%	0.13%	0.17%	−0.01%	0.04%	0.00%	0.21%	−0.03%	0.05%	0.00%	−0.01%	0.00%
Greece	0.00%	−0.10%	0.02%	−0.02%	−0.11%	−0.10%	−0.03%	−0.02%	−0.03%	−0.18%	0.12%	−0.19%	0.07%	−0.01%	−0.02%
Italy	0.15%	0.02%	0.09%	−0.02%	0.24%	0.15%	0.01%	0.09%	−0.02%	0.23%	0.13%	0.05%	0.09%	−0.02%	0.25%
Luxembourg	0.26%	0.07%	0.07%	0.01%	0.40%	0.43%	0.01%	0.13%	0.01%	0.58%	−0.01%	0.15%	−0.01%	0.00%	0.13%
Netherlands	0.04%	0.02%	0.01%	0.00%	0.07%	0.09%	0.00%	0.02%	0.00%	0.10%	−0.01%	0.04%	0.00%	0.00%	0.03%
Portugal	0.02%	0.06%	0.00%	0.02%	0.10%	0.14%	0.01%	0.02%	0.01%	0.19%	−0.18%	0.15%	−0.05%	0.03%	−0.04%
Slovenia	−0.06%	0.00%	−0.02%	0.00%	−0.08%	−0.06%	0.00%	−0.02%	−0.01%	−0.09%	−0.07%	0.00%	−0.01%	0.02%	−0.07%
Spain	0.07%	−0.04%	0.05%	−0.02%	0.06%	0.01%	−0.01%	0.02%	−0.02%	0.00%	0.12%	−0.06%	0.07%	−0.02%	0.11%
Sweden	0.15%	0.02%	0.06%	0.00%	0.22%	0.27%	−0.04%	0.09%	0.00%	0.32%	−0.02%	0.10%	0.01%	0.00%	0.09%
Switzerland	0.19%	0.05%	0.03%	−0.01%	0.25%	0.33%	0.02%	0.06%	0.01%	0.41%	0.06%	0.07%	0.00%	−0.03%	0.10%
United Kingdom	0.26%	0.14%	0.07%	0.00%	0.47%	0.54%	0.02%	0.14%	0.01%	0.70%	−0.05%	0.27%	−0.01%	0.00%	0.21%
United States	0.01%	0.05%	0.00%	0.00%	0.07%	0.13%	0.03%	0.02%	0.00%	0.18%	−0.10%	0.08%	−0.02%	0.00%	−0.04%
Mean	0.11%	0.03%	0.03%	0.00%	0.17%	0.20%	−0.01%	0.05%	0.00%	0.25%	−0.02%	0.07%	0.01%	0.00%	0.06%

Notes: Welfare effects are expressed as percentage changes in steady-state consumption equivalents following a one percentage point increase in immigration using the skill composition of 2019–2024 flows. Each entry reports the contribution of a single channel to the total welfare change (Sum). See Section 5 for discussion.

Figure A.1: Welfare decomposition by channel — All countries



Notes: Each panel reports the welfare decomposition for native workers following a one percentage point increase in immigration, using skill shares observed in 2019–2024 immigration flows. Welfare effects are expressed as percentage changes in steady-state consumption equivalents and decomposed into four channels: labor income (pre-tax), labor tax, capital income, and transfers. Positive components are stacked rightward from zero; negative components are stacked leftward. The black dot indicates the net welfare effect (sum of all components). Panels correspond to all natives, low-skilled natives, and high-skilled native.