Migration and public finances in the EU*

Carlo V. Fiorio†, Tommaso Frattini‡, Andrea Riganti§, Michael Christl ¶

January 2, 2023

Abstract

We provide novel and comprehensive evidence on the net fiscal contributions of natives and migrants to the governmental budgets of EU countries. We account for income taxes and cash benefits, along with indirect taxes and in-kind benefits, which are often missing in standard datasets. We find that on average, migrants were net contributors to public finances over the period of 2014–2018 in the EU and, moreover, that they contribute approximately €1.5 thousand more per capita each year than natives. We also show that this difference is partly due to the selection on characteristics that make migrants net fiscal contributors, such as demographic factors and employment probability.

JEL codes: F22, H24, H50
Keywords: Migration; EU; individual taxation; public benefits; individual fiscal contribution

*We were granted access to EU-SILC data through Research Proposal Project 134/2018, *Impact on tax and social benefits in the EU by citizenship and reason for migration.* We are very thankful for helpful comments from Francesco Figari, Manos Matsaganis and Jacob Bastian, as well as from the participants of the 2022 Annual Congress of the IIPF in Linz and the participants of EUROMOD Research Workshop 2022 in Prague.

†University of Milan, Irvapp-FBK and Dondena Centre
‡University of Milan, Centro Studi Luca D'Agliano, CEPR, CReAM and IZA
§University of Milan, Corresponding author, andrea.riganti@unimi.it
¶Joint Research Center – Sevilla

1 Introduction

Migration flows towards the European Union have been on the rise in recent years: between 2014 and 2018, the number of foreign-born residents in EU countries increased by about 7 million, so that by 2018, migrants accounted for 11.3% of the EU population, up from 9.8% in 2014. At the same time, the salience of migration in public opinion has also increased: the share of EU residents who think that migration is one of the two most important issues facing the EU increased between 2014 (24%) and 2018 (40%), according to Eurobarometer.

Concerns about migration are multifaceted, ranging from fears related to labor market competition, increased crime, or adverse effects on student achievement to more "culture-related" concerns. However, one prominent source of concern is the impact that migration has on the tax and welfare system and thus its net fiscal consequences. Indeed, 43.8% of Europeans believe that immigrants take out more from the state in welfare and use of public services than they put in through taxes, according to the 2014 European Social Survey. Previous studies have shown that concerns about the burden of migration on the public budget dominate those about labor market competition and economic efficiency (Dustmann and Preston, 2007) and that fears of welfare abuse by migrants drive negative attitudes towards migration in Europe (Boeri, 2010). The impact that migration has on the tax and welfare system and the net fiscal consequences of migration are of major concern in the public debate over the pros and cons of migration. Boeri (2010), for instance, shows in an analysis of data for several European countries that there is no evidence that migrants – especially skilled migrants – receive more transfers from the state than they contribute to the public purse. Immigrants are often feared to be a burden on the receiving country's welfare state, as they may receive more in social transfers than what they pay in via their taxes. Migration, on the one hand, expands the population, bringing in new sources of public revenues, but on the other hand, it imposes possible new demands on public services. One specific concern is also that the generosity of welfare provision in destination countries encourages the migration of welfare-dependent migrants. Preston (2014) provides an excellent conceptual survey of the key issues in computing the fiscal effects of migration.

In this paper, we directly address these concerns by providing novel and comprehensive evidence on the net fiscal contributions of migrants across EU countries for five fiscal years over the period (2014–2018) spanning the so-called refugee crisis. To do so, we first build a novel dataset for the microeconomic analysis of the net fiscal contribution of migrants across all EU countries. The dataset that we build allows us to take into account not only income taxes, social insurance and social security contributions paid, and cash transfers received by migrant households but also the value-added tax (VAT) paid[1] and their receipt of in-kind benefits such as education, healthcare, and social housing. We define the EU-14 as the member states of the European Union that joined prior to the 2004 enlargement, with

[1] Please note that we do not account for excise taxes paid by households.

the exclusion of the United Kingdom, which left the EU in 2020. We use this dataset to assess the average annual amount of fiscal revenues and government expenditures that can be traced back to natives and to migrants, and we focus on the EU-14, where the bulk of the migrant population is concentrated.

We show that these countries spent on average €9,600 per year for each of their native residents, which contrasts with an annual per capita average of €8,200 for their migrants. Migrants, therefore, tend to be less expensive for the public purse than natives. However, we demonstrate that migrants' average annual per capita fiscal payments (€9,600) are in line with those of natives. Overall, while natives made net contributions to public coffers over this period of on average €32 per capita each year, migrants' net yearly contribution totals an average of €1,510 per capita. On average, across the EU-14, migrants make larger net fiscal contributions than natives, even when they are compared to natives in the same ventile of the national income distribution.

We investigate this aspect in more detail in the second part of our analysis, where we compare differences in net fiscal contributions between migrants and natives with similar characteristics. We show that controlling for demographic characteristics cancels the average gap in net fiscal contributions between migrants and natives, which indicates that migrants are favorably selected on characteristics that make them net fiscal contributors. However, when we condition on employment status as well, the migrant–native gap becomes negative, which indicates that immigrants' higher employment probability partially explains their higher net fiscal contributions. Finally, we show how the net fiscal contributions gap changes across migrants with different migration seniority.

Estimating the fiscal impacts of migration is not straightforward (Boeri and van Ours (2021), Chapter 9) Preston (2014) neatly discusses the key challenges faced by researchers in this field. There are essentially two approaches to estimating the fiscal effects of migration. The first stream of literature is heavily model-based and aims to provide an assessment of the dynamic fiscal effects of migration over the life cycle. This is the approach taken in the studies of Storesletten (2000) for the US, Storesletten (2003) for Sweden and Belanger et al. (2020) for the EU. These papers account for the general equilibrium effects of migration and provide a longer-term estimate of its fiscal effects, but the analysis is strongly reliant on the structure imposed by their modeling assumptions. For instance, two recent papers have argued that some such studies underestimate the fiscal contribution of migrants because they ignore the indirect fiscal benefits of migration, operating through an increase in high-skilled native wages (Colas and Sachs, 2021), or because they abstract from the increase in revenues from capital taxes generated by higher returns to capital due to migration (Clemens, 2021). Other papers have taken a more data-based but also more static approach. The results of these studies are heavily context-dependent. For instance, Dustmann and Frattini (2014) show that migrants who came to the UK after 2000, especially those from EU countries, have made a substantial positive fiscal contribution (see also Dustmann et al., 2010). Conversely,

Ruist (2015) finds that refugees in Sweden in 2007 both contributed less and cost more to public finances than other residents. Likewise, National Academies of Sciences (2017) finds that low-skilled migration to the US has imposed a net fiscal cost on the country. Similarly to these findings, Mayda et al. (2022) found that migrants, on average, are neither a burden nor a net contribution to public finances at the local level in the US but heterogeneous effects emerge when conditioned to different level of migrants' skills. The paper most closely related to our work is Liebig and Mo (2013), which assesses the net fiscal position of migrants relative to that of natives in European OECD countries and Australia, Canada and the US for 2007–2009, relying on several household surveys. They show that in most countries, the fiscal impact of migration is very small in terms of GDP and is approximately zero on average across the OECD countries considered. In countries where migrants' fiscal position is worse than that of natives, this impact is driven by lower tax payments rather than higher benefit receipts. Age is shown to be the key determinant of cross-country differences in migrants' net fiscal position.

Our analysis is based on the European Union Statistics on Income and Living Conditions (EU-SILC) dataset, which provides a representative sample of all EU resident households, recording their income and their receipt of many cash benefits. We complement the EU-SILC data with EUROMOD (Sutherland and Figari, 2013), a microsimulation model that simulates contributory and noncontributory cash benefits and social security contributions paid by workers. We further use information from aggregate administrative data to add receipt of in-kind benefits to our dataset. Finally, we match households included in EU-SILC data to similar households in the EU Household Budget Survey (HBS) to impute a pattern of household consumption and measure individual households' contribution to aggregate demand and VAT revenues.

The paper is structured as follows: first, in section 2, we outline relevant facts necessary to understand migration flows in recent years in the EU and the nonnative population share, while in section 3, we describe input data and the data sources that we use to assess the net fiscal contribution of native and migrant populations. In section 4, we describe how we derive individual contributions to public expenditures and revenues with relevant sources, along with some aggregate statistics by type of revenue (section 4.2) or expenditure (section 4.1). Moreover, we define the net fiscal contribution of migrants and provide evidence for the difference between the two subpopulations, in aggregate terms (section 4.3), by position in the national income distribution (section 4.3), by years since migration (section 4.5), or by calendar years (section 4.4). Finally, in section 5, we compare differences in the native–migrant net fiscal contribution with variables related to the characteristics of the migrant population.

2 Background: Migration in the EU

From a historical perspective, migration from, towards and within Europe has changed significantly over time, as highlighted by Van Mol and De Valk (2016). After the fall of the Iron Curtain and the opening of borders to Eastern European countries, the inflows of migrants increased significantly. In the 21st century, migration from outside the EU typically followed the extent of violent conflicts, leading to a substantial decline in migration from outside the EU at the beginning of the 2000s. Starting from 2006, with the rise of conflicts across the world (e.g., in Afghanistan and Iraq and following the Arab Spring movements), the EU again observed an increase in migration from outside Europe. Moreover, after some years of moderate migration in the 2010s, the so-called refugee crisis led again to a substantial increase in migration to EU member states, particularly Western European states. This crisis was different from other migration inflows in history in terms of not only the magnitude of the migration pattern but also the resistance to it among politicians and populations and related public disputes. With respect to within-EU migration (see, e.g., Van Mol and De Valk, 2016), the free movement of EC citizens (article 45 of Treaty on the Functioning of the European Union - TEFU) related to the Maastricht Treaty in 1992 led to a continuous increase in free movement within the European Union and therefore also an increase in intra-EU migration and emigration. This phenomenon was only highly visible during the economic crisis of 2008, when Southern European countries experienced substantial outflows to other European countries.

We focus primarily on the EU-14 in aggregate and on five member states, namely, the four largest, with more than 45 million residents each (France, Germany, Italy, and Spain) and one midsize country with a large share of migrants (Sweden). States that joined the EU after 2004 present a low proportion of migrants in their populations[2]; therefore, we decided not to separately include them in our analysis.

According to EUROSTAT, in the years between 2009 and 2018, the share of migrants in the EU-14 increased from approximately 11.5% in 2009 to 11.8% in 2014 and then to 13.5% in 2018[3]. In total, this is an increase of approximately 2 p.p. In particular, strong increases in the migrant population share have been observed in countries such as Sweden and Germany but also in Austria, Belgium and Denmark, while in countries such as France, Spain, and Italy, alongside Finland and Portugal, the share of migrants has increased only marginally.

Our paper focuses especially on the years 2014-2018, in which several countries saw an increase in the size of the non-EU population (see also Figure 1), with a relatively more stable presence of EU migrants. Relative changes in the size of the non-native population had been caused by an increase in residence permits granted for work, family, or education,

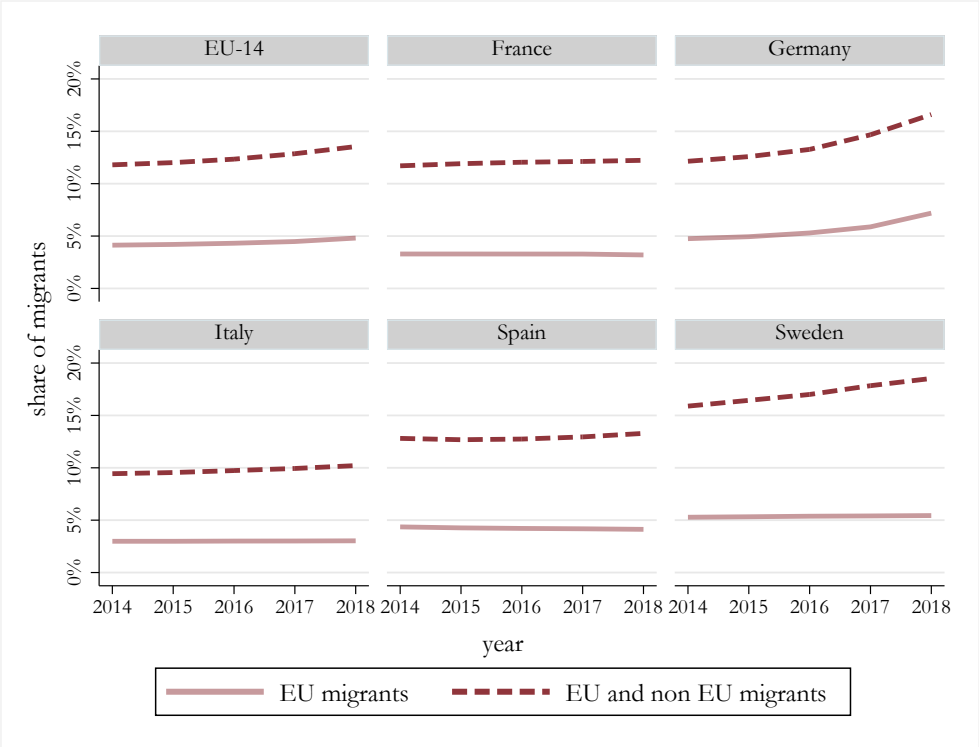
[2]See Figure 20 in Appendix B for a description of the relative size of the migrant population in new member states.

[3]Source: Own calculation with EUROSTAT (migr_pop3ctb) data.

but it is also as a consequence of the recognition of asylum seekers as refugees. In our analysis, we are not able to observe asylum seekers due to the survey design of the EU-SILC, as those living in collective shelters are missing from the sampling frame in every hosting country, resulting in under-coverage of the actual migrant population. In addition, it would be particularly difficult to correctly establish the amount of benefits received by the asylum seeker population. Conversely, asylum seekers who become recognized refugees and start to participate in the labor market are identified in our dataset.

Figure 1 highlights that over the time period 2014–2018, the share of migrants in the total EU-14 population increased by 1.7 p.p., from approximately 11.8% to 13.5%. This increase was driven mainly by migrants from outside the EU, whose share in the overall population increased by approximately 1.1 p.p., from 7.7% to 8.7%. On the other hand, the share of migrants from within the EU-14 increased only slightly less strongly by 0.7 p.p., from 4.1% to 4.8%. Focusing on single countries, we observe a strong increase in the shares of both EU and non-EU migrants in Germany between 2014 and 2020. In other countries, such as Spain, Sweden, and France, the increase in the migrant population over this time period was driven mainly by an increase in the number of non-EU migrants.

Figure 1: Share of migrants in total population by origin, EU-14 and selected countries, 2014–2018



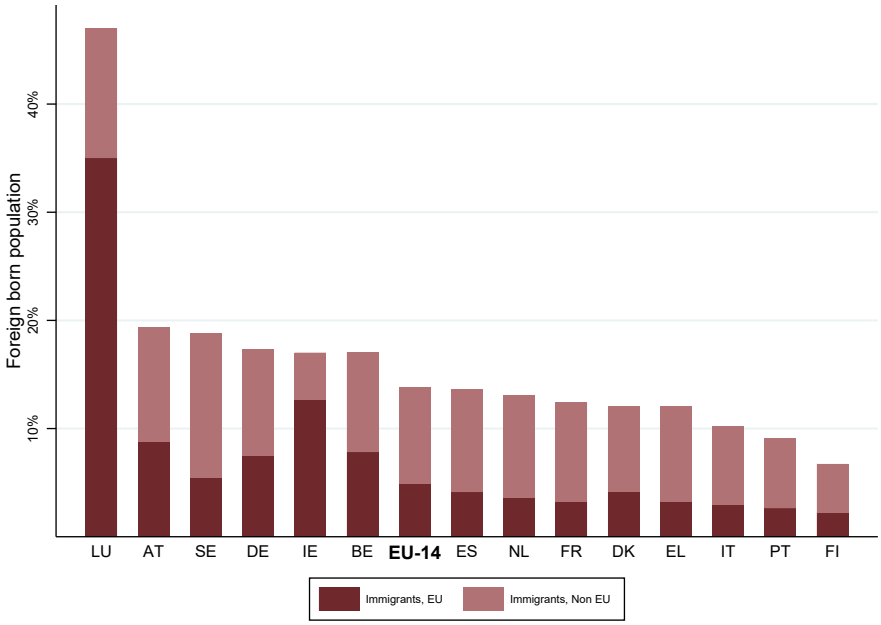
Source: Own calculation using EUROSTAT data (migr_pop3ctb).

Despite this general trend, we also observe substantial differences in the size of the migrant population across EU countries. As highlighted in Figure 2, in Luxembourg, which

is clearly an outlier due to its size and special characteristics within the EU-14, almost half of the population are migrants. In Sweden, almost 20% of the population was born outside of the country, substantially above the EU-14 average of 13.8%. This is also the case in Germany (17.3%). On the other hand, in countries such as Finland (6.7%) and Italy (10.2%), the share of migrants in the total population is substantially below the EU-14 average.

Additionally, the composition of migrants varies substantially across the EU-14 countries. While, for example, the majority of migrants in Ireland and Luxembourg were born in another European country, the opposite holds in most of the other member states. In the Nordic countries Sweden and Denmark, a large majority of migrants are from outside the EU. The same is true not only for many Southern European countries, such as Italy, Portugal, Spain, and Greece but also for France and the Netherlands.

Figure 2: Share of migrants in the EU-14 over total population by country of residence, EU and non-EU born. Year 2018



Notes: We define migrants as those born in a country other than the one in which they reside. EU migrants are those born in a country in the EU other than the country of residence, while non-EU migrants are those born in a non-EU country. Figures refer to 2018. Source: Own calculation using EUROSTAT migr_pop3ctb database.

As we show in detail in section 3, migrants differ substantially from natives in their characteristics. These differences appear not only in household characteristics and age structure but also in education and employment rates and, as a result, in income. All of these differences play a crucial role in the assessment of the fiscal impact. Indeed, the differences in individual characteristics and in the legal constraints faced by the two populations on

intra-EU mobility but also, for instance, recognition of foreign educational qualifications leads to stark differences in their respective labor market success and general integration process, which is, in turn, decisive for their fiscal impact (see, e.g., Hinte and Zimmermann (2014) or Hansen et al. (2017)).

3 Data and baseline evidence

The key dataset used in this paper is the EU-SILC. This survey is released yearly by EUROSTAT and is run by the national statistical institutes of each EU member state using a common framework to harmonize variables, concepts, design, imputation, weighting, and sampling error calculations across countries. This common framework ensures comparability across countries. The EU-SILC collects information on income and living conditions at both the individual and household levels. We use five consecutive waves of the cross-sectional EU-SILC from 2014 to 2018. As already mentioned, we primarily focus on the EU-14 in aggregate and on five member states, namely, France, Germany, Italy, Spain, and Sweden, the latter of which, despite being a midsize country, has a large share of migrants. Consistently with most of the literature, we group respondents of the survey by their country of birth[4] into natives and migrants, without distinguishing between EU migrants (i.e., nonnative residents born in another EU country) and non-EU migrants (i.e., nonnative residents born in a country not belonging to the EU). Unfortunately, for Germany among the others, the EU-SILC data does not allow us to distinguish between EU and non-EU migrants within the foreign-born population.

We define the household head as the member who has the largest gross income or, in the case of equal income, the oldest. In the very few cases where this rule does not allow for identification of a household head, always involving couples, we classify the man as the household head, following the prevalent social norm in the EU. We define a household as native or migrant according to the migration status of the household head. To provide a picture of the migrant population consistent with aggregate statistics, we post-stratify the EU-SILC dataset, taking advantage of the number of natives and migrants by age group, gender, and country of birth in each EU country. Details on the reweighting procedure are provided in the Appendix (A.2).

Table 1 provides a set of descriptive statistics by country of birth. Migrants live on average in larger households than natives and with more children. Migrants are younger in Italy and Spain; conversely, in France, Sweden and Germany, they tend to be on average older than natives. The EU-SILC questionnaire also provides personal information on the highest individual educational attainment, coded following the ISCED 2011 classification. We classify education as *low* if the respondent had no education (ISCED 0) or primary

[4] Alternatively, we could also use citizenship instead of the country of birth as a criterion for selecting migrants, but this would be inconsistent with our repeated cross-sectional approach as one might acquire citizenship of residing country during the period considered.

education (ISCED 1), as *intermediate* if the respondent had lower secondary education (ISCED 2) or upper secondary education (ISCED 3) and as *high* if the respondent had postsecondary nontertiary education (ISCED 4), tertiary education (including short-cycle tertiary education [ISCED 5] up to studies to the doctoral level or equivalent [ISCED 8]). Germany and Sweden host a larger share of highly educated migrants than other countries, likely because of the characteristics of their labor markets. In contrast to those in other countries, migrants in France are older and less educated than natives, which could be a joint effect of France's generous welfare system and long history of migration, especially from former colonies. In terms of employment probability, defined as the probability of being in employment conditional or unconditional on being of working age (25–64 years), large heterogeneity emerges between natives and migrants. In particular, in France and Sweden, working-age natives are more likely to be employed than migrants, whereas the difference is negligible in Germany, Italy, and Spain and slim in the EU-14. The employment probability of natives drops in all countries when all ages are considered, most likely because there are fewer migrants above retirement age. Regarding years since migration (YSM), migration seems to be a more recent phenomenon in Italy, Spain, and Sweden than in France and Germany. We also define income as the sum of income from employment, self-employment, and other sources of income. For EU-14 countries that do not belong to the euro area (Denmark, Sweden), we use the conversion factor provided by EUROSTAT. Moreover, we use the EUROSTAT harmonized index of consumer prices (HICP) to adjust all monetary variables to 2018 euros. Migrants earn more than natives in the EU-14 aggregate but also in Germany and (with a smaller differential) in Italy, possibly because income is a relevant reason for migration among individuals. Migrants earn much less than natives in France and (with a smaller differential) in Spain and Sweden.

Table 1: Descriptive Statistics by migrant status for the EU-14 and for a selection of EU countries.

		Household char.		Individual characteristics							
		Size	Children	Age	Low ed.	High ed.	Empl., 25–64	Empl.	YSM	Income	Obs.
Country	Status	(mean)	(mean)	(mean)	(%)	(%)	(%)	(%)	(mean)	(mean)	(n)
EU-14	Natives	2.2	0.4	41.7	0.27	0.25	0.72	0.41	-	13,330	1,532,699
EU-14	Migrants	2.4	0.7	42.7	0.18	0.31	0.69	0.52	27	14,969	159,251
France	Natives	2.2	0.5	39.4	0.31	0.22	0.76	0.41	-	13,227	116,250
France	Migrants	2.5	0.7	46.9	0.32	0.24	0.62	0.42	28	12,285	11,417
Germany	Natives	2.0	0.3	42.0	0.14	0.38	0.77	0.46	-	17,031	118,195
Germany	Migrants	2.2	0.6	44.2	0.07	0.47	0.76	0.58	44	21,288	10,789
Italy	Natives	2.3	0.4	44.4	0.29	0.14	0.66	0.37	-	10,967	210,558
Italy	Migrants	2.5	0.6	39.9	0.14	0.13	0.67	0.56	16	11,101	20,602
Spain	Natives	2.4	0.4	42.3	0.37	0.24	0.67	0.38	-	8,861	154,759
Spain	Migrants	2.8	0.7	40.0	0.24	0.26	0.67	0.53	16	8,141	15,730
Sweden	Natives	2.0	0.4	40.2	0.24	0.29	0.85	0.45	-	17,811	61,553
Sweden	Migrants	2.3	0.7	41.6	0.22	0.34	0.72	0.51	17	17,280	9,809

Notes: Our calculations from EU-SILC data. Natives are respondents of the survey who live in their country of birth; migrants are nonnative residents born in another EU country or in a country not belonging to the EU. Education is defined as *low* if the respondent had no education or primary education, whereas it is defined as *high* if the respondent had at least postsecondary education. Employment probability is defined as the probability of being active in employment in the overall reference population, while employment probability in working age is the fraction of people in employment conditional on being of working age. YSM stands for years since migration. The migration status of a household is the migration status of the household head. Income is defined as the sum of income from employment, self-employment, and other sources of income. The number of observations refers to the number of respondents in the five waves considered.

4 Individual contributions to public expenditures and revenues

For our analysis of the fiscal cost of migrants, we extensively use EUROMOD, the tax-benefit microsimulation model for the European Union (Sutherland and Figari, 2013). EUROMOD was developed at the Institute for Social and Economic Research at the University of Essex as an EU-funded European academic project. Since 2017, the European Commission has taken over responsibilities for its annual updates and developments through the Joint Research Center in Seville. EUROMOD relies on EU-SILC microdata, which are representative at both the household and individual levels for each EU member state. It is a unique tool for comparative research on taxes and benefits in the EU. EUROMOD guarantees, through a standard set of protocols between developers and national teams, a common framework and therefore guarantees cross-country comparability.

As EUROMOD simulates benefit eligibility irrespective of citizenship and YSM, we extend it by taking into account differences in the tax-benefit system between native and migrant residents, as in many countries, eligibility criteria for specific benefit policies either are conditional on a minimum number of years of residence in the country or are subject to a minimum contribution history (e.g., unemployment benefits). EUROMOD policy changes and normative sources are specified in an annexed file, where we explain the EUROMOD extensions according to national legislation and personal working history using information from the EU Commission website (`https://tinyurl.com/3r3kuhav`), integrated with country-specific sources of information[5].

EUROMOD allows us to account for personal income taxes and social security contribution (SSC) payments at the individual and household levels. It also allows us to account for cash transfers received as pension payments or other contributory and noncontributory benefits (e.g., unemployment or family benefits). However, to have a full picture of the net fiscal contribution of migrants vis-a-vis that of natives, we also need to account for in-kind benefits and indirect taxes (Figari and Paulus, 2015; Christl et al., 2020). Table 2 summarises the different sources of data we have combined to precisely estimate individual level of revenues and expenditures. More information on imputing procedure and on external validation using EUROSTAT official statistics can be found in sections A.3 and A.4 for expenditures and revenues respectively.

4.1 Public expenditures

As highlighted, for instance, by Figari and Paulus (2015) and Christl et al. (2020), in-kind benefits play a crucial role not only in redistributive terms but also in the definition of the net fiscal impact of individuals. Hence, in addition to the standard transfer received (all

[5]The annex file is an updated version of the EUROMOD extension produced by Fiorio et al. (2018) for 2014, which now covers the whole 2014–2018 period.

Table 2: Data sources and imputation methods

Variable	Data source	Imputation method
Personal income tax	EU-SILC	EUROMOD simulation
Social security contributions	EU-SILC	EUROMOD simulation
In-cash benefits	EU-SILC	EUROMOD simulation
Indirect taxes - VAT	EU-HBS	Imputation via OLS for each household in the EU-SILC data
In-kind benefits - education	EUROSTAT	Imputation using public expenditure on education (COFOG) per full-time-equivalent student by education level and type of program
In-kind benefits - housing	EUROSTAT	Imputation using the total amount spent by public authorities for housing and community amenities
In-kind benefits - healthcare	EUROSTAT	Imputation using public expenditure on health (COFOG) imputed for different age profile for health expenditure

types of cash benefits received at the individual or household level covered in EUROMOD, such as family benefits, unemployment benefits, and pensions), we include the monetary value of in-kind benefits that individuals receive for health, social housing, and education, integrating them with EUROMOD individual and household cash benefit variables. We provide details on the imputation of the monetary value of in-kind benefits in the Appendix in section A.3[6].

Native and migrant households could receive in-kind benefits differently because of their demographic and economic characteristics. On the other hand, where there is no reason to believe that migration status has a role in the distribution of in-kind benefits or we have no information to distribute the costs of benefits based on the migration status of households, we ignore these items in the measurement of the individual fiscal cost, as they could, at best, be only uniformly distributed. These refer to expenditures including other general functions of the public administration, infrastructure and other indivisible services provided to the whole community, defense, culture, public order and safety, environmental protection, or public debt transactions, which we ignore here. Table 3 shows that our analysis accounts for approximately 70% of total public expenditures over the whole considered period in the focal countries and in the EU-14.

Figure 3 shows 2014–2018 average public expenditures by household migration status. Overall, in EU-14 countries, expenditures in favor of natives are higher; i.e., natives tend to

[6]See also Verbist and Matsaganis (2014).

Table 3: Aggregate expenditures, 2014–2018 average

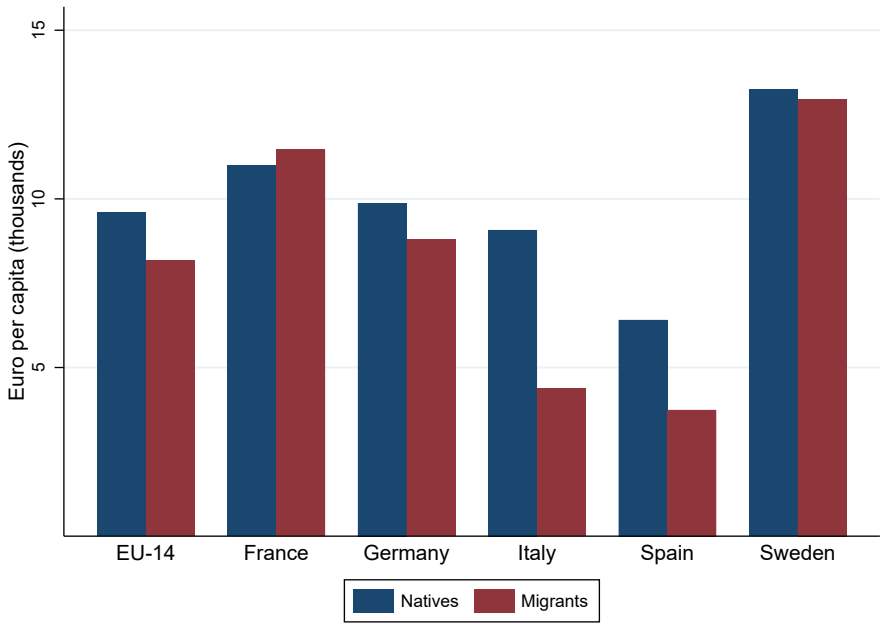
Country	Included expenditures (billion €)	Nonincluded expenditures (billion €)	Share included (%)
EU-14	3,626	1,479	71.0
France	853	343	71.3
Germany	949	365	72.2
Italy	538	217	71.2
Spain	303	132	69.6
Sweden	153	67	69.7

Source: Own calculations from EUROSTAT database of general government expenditure by function. Included expenditures are public expenditures for housing and community amenities, health, education and social protection. Nonincluded expenditures are general public services (excluding public debt transactions), defense, public order and safety, economic affairs, environmental protection, recreation, and culture. The share of included expenditures is the ratio between included and total expenditures. Figures are in 2018 euros.

benefit more from public expenditures than migrants. This is particularly true for countries such as Italy and Spain, where we observe an enormous difference in the average benefit between native and migrant beneficiaries, while these differences are quite small in Germany and Sweden. Conversely, average public expenditures to the benefit of migrants are (slightly) larger than those to the benefit of natives in France.

Differences in average public expenditures could, however, be the result of differences in the composition of the native and migrant populations. We, therefore, disaggregate the total benefits into four subcategories: (i) old age and survivor benefits and pensions; (ii) benefits for education, health, and housing; (iii) a broader group of social assistance benefits and pensions, such as family benefits (including maternity and parental leave benefits, child and child care benefits), disability benefits and pensions (including benefits and pensions for accidents, receiving care, caring benefits and health pensions for people with disabilities) and, finally, heating benefits and municipality benefits for housing; and (iv) unemployment and work-related benefits. Figure 4 displays how the total public expenditure directed towards migrants and natives is allocated across these four categories. The provision of in-kind goods such as social housing, health, and education is the largest source of expenditures for both natives and migrants in every country and in the EU aggregate. Family benefits are the third highest kind of expenditure for both natives and migrants, whereas pensions are the second item for both groups. However, the relative shares of these expenditure categories for natives and migrants change remarkably: the family share for migrants is on average twice that of natives, whereas the pension expenditure of migrants is 0.7 that of natives, ranging from 0.4 in Italy to 0.89 in France. Public expenditures going to migrants are mostly health, housing, and education benefits and family benefits, and social assistance, whereas migrants profit less from old-age benefits. The expenditure share of old-age benefits is clearly larger

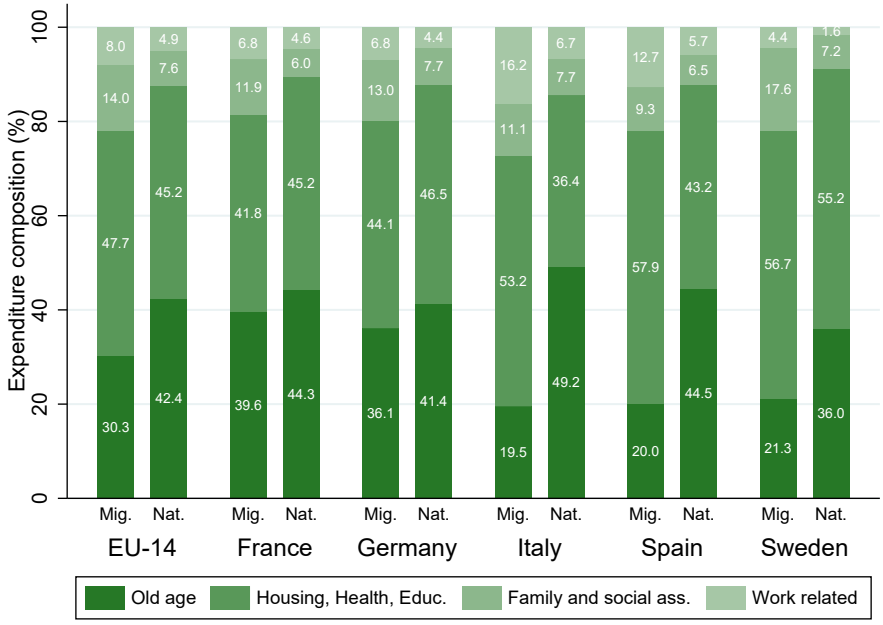
Figure 3: Public finance expenditures by migrant status, per capita terms, 2014–2018.



Source: Our calculations from EU-SILC and EUROMOD data with sampling weights and the EUROSTAT database. Public finance expenditures refer to old age and survivor benefits and pensions; benefits for education, health, and housing; social assistance benefits and pensions; family benefits, including maternity and parental leave benefits, child and child care benefits; disability benefits and pensions, including benefits and pensions for accidents, receiving care, caring benefits and health pensions for people with disabilities; heating benefits and municipality benefits for housing; and unemployment and work-related benefits. Values are expressed in 2018 euros.

for natives than for migrants, especially in Italy and Spain and to a lesser extent in Sweden, highlighting the unequal demographic composition of the two groups. In general, we also observe that a larger share of expenditures on migrants is work-related benefits in Italy and Spain than in other countries.

Figure 4: Public finance expenditure composition by migrant status, 2014–2018.



Source: Our calculations from EU-SILC and EUROMOD data with sampling weights and the EUROSTAT database. Values are expressed in 2018 euros. The four subcategories are (i) old age and survivor benefits and pensions; (ii) benefits for education, health, and housing; (iii) social assistance benefits and pensions: family benefits (including maternity and parental leave benefits, child and child care benefits), disability benefits and pensions (including benefits and pensions for accidents, receiving care, caring benefits and health pensions for people with disabilities), heating benefits and municipality benefits for housing; and (iv) unemployment and work-related benefits.

4.2 Public revenues

Government revenues within our framework consist of three main categories. First, social security contributions (SSC) consist of both employer and employee contributions, as well as those of the self-employed. The second is labor and capital income taxes. Third, we include value-added taxes (VAT), which are typically not included in analyses based on microdata as these data lack precise information on indirect tax payments[7]. SSCs, income taxes, and VAT account for almost 85% of total public revenues in EU-14 countries, as shown in Table 4. The share of these three sources in total public revenues is heterogeneous across countries, ranging from 70% in Sweden to more than 90% in Germany.

Figure 5 shows the average per capita fiscal revenues paid by natives and migrants: on average, across the EU-14, migrants generate slightly higher per capita revenues than natives. However, these findings differ substantially across the EU-14 member states. While in Germany, for example, migrants provide higher revenues for the public purse than natives,

[7]For an exception, see, for example, Dustmann and Frattini (2014), who account for indirect taxes by imputing effective tax rates by decile.

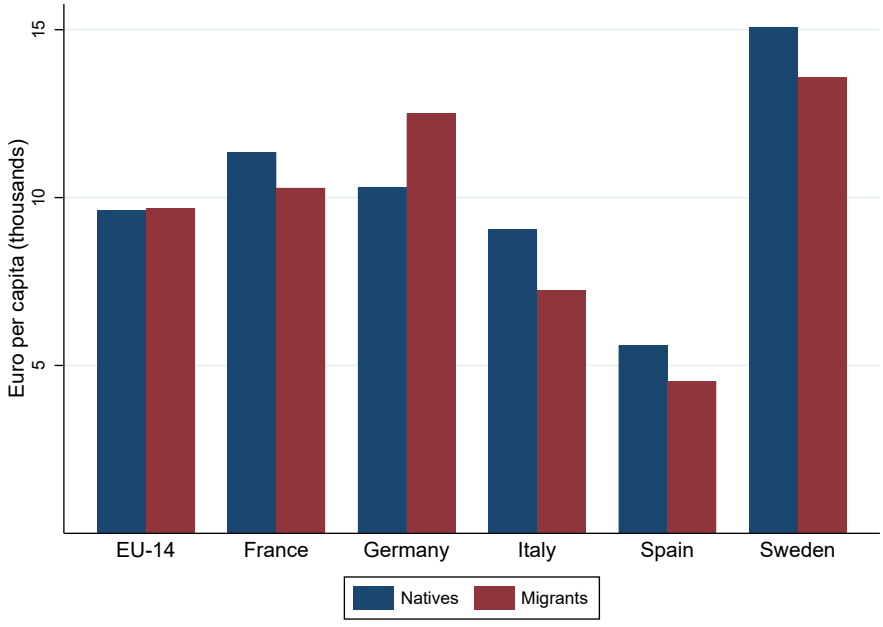
Table 4: Aggregate revenues, 2014–2018 average

Country	Included revenues (billion €)	Nonincluded revenues (billion €)	Share included (%)
EU-14	3,794	695	84.5
France	817	188	81.3
Germany	1,098	93	92.2
Italy	552	149	78.8
Spain	312	58	84.3
Sweden	136	57	70.5

Source: Our calculations from the EUROSTAT database. Public finance revenues refer to direct income taxes, SSCs and VAT. Nonincluded revenues account for firm taxes. The share of included revenues is the ratio between included and total revenues. Figures are in 2018 euros.

the opposite holds true in France, Italy, Spain, and Sweden.

Figure 5: Public finance revenues by migrant status, per capita terms, 2014–2018.

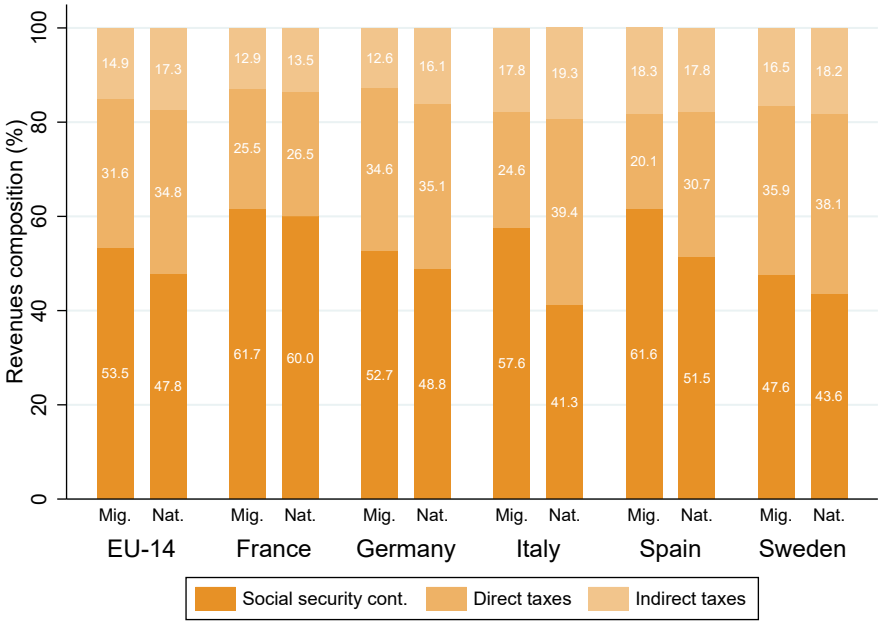


Source: Our calculations from EU-SILC and EUROMOD data with sampling weights and the EUROSTAT database. Public finance revenues refer to direct income taxes, SSCs, and VAT. Values are expressed in 2018 euros.

Figure 6 splits the composition of public finance revenues into the three categories considered for natives and foreigners: at the EU-14 level, the composition of fiscal payments is similar for both immigrants and natives. Social security contributions, which are proportional to labor income in most EU countries, account for about half of total revenues,

although their share in total revenues is higher for immigrants (54%) than for natives (48%). Income tax revenue accounts for a slightly larger share of total fiscal revenues for natives (35%) than for migrants (32%), which reflects immigrants' generally lower incomes and progressive taxation in most EU countries. The share of total revenues accounted for by indirect taxes (VAT) is higher in countries such as Italy or Spain (21%), where VAT rates are higher than in the other countries (respectively, 22% and 21% versus 19% in Germany and 20% in France[8]. Differences between natives and migrants seem not to be particularly meaningful within each country and reflect income distributions and taxation schemes.

Figure 6: Public finance revenue composition by migration status, 2014–2018.



Source: Our calculations from EU-SILC and EUROMOD data with sampling weights and the EUROSTAT database. Public finance revenues refer to direct income taxes, SSCs, and VAT. Values are expressed in 2018 euros.

[8]See (Poniatowski et al., 2017).

4.3 Net fiscal contribution of migrants

In the previous subsections, we separately analyzed the expenditures and revenues side of public finances. We can now put together these two determinants of the public budget and compute the net fiscal contribution made by migrants and natives. Specifically, for each individual i who currently resides in country c of migration status $j \in \{native, migrant\}$ and observed in survey year $t \in \{2014, ..., 2018\}$, we define the net fiscal contribution (NFC) as the difference between public revenues generated (i.e., taxes paid) R and public expenditures occupied (i.e., benefits received) E:

$$NFC_{i,c,j,t} = R_{i,c,j,t} - E_{i,c,j,t} \tag{1}$$

$NFC_{i,c,j,t} > 0$ for individuals who pay more in direct and indirect taxation and SSC than what they receive in benefits and pensions. In this case, the state is in a positive fiscal position when the individual is a net fiscal contributor. Conversely, $NFC_{i,c,j,t} < 0$ means that the state receives less money than what it pays and the individual imposes a net fiscal cost. Note that, as discussed in section 4, we are not capturing all public expenditures and all public revenues in our analysis but include only expenditures for rival goods and services and revenues generated by individual taxation, social security payments and VAT. Hence, our estimates of individual NFCs are incomplete, and what matters is mostly the comparison between natives' and migrants' NFCs rather than the level of each.

Table 5 reports the average annual per capita public revenues, expenditures, NFC, and taxable income of natives and migrants for 2014–2018 (expressed in 2018-equivalent euros) for the EU-14 as a whole and for the five countries we focus on, as defined in the previous section. On average, across EU-14 countries, migrants make a net contribution of almost €1,500 per capita every year to the public finances of the countries that they live in. This positive contribution contrasts sharply with the per capita NFC of natives, who on average add to the public coffers every year only approximately €30 each. However, there is substantial heterogeneity across countries. In Italy and Spain, natives' NFC is negative (i.e., natives are net gainers from the system), and the average migrant contributes €2,873 and €1,607, respectively, more than the average native each year. In Germany and Sweden, both natives and migrants are net fiscal contributors, although, in the former, migrants contribute more than natives by €3,266 per capita, while in the latter, natives contribute on average €1,193 more than migrants. Last, in France, natives' net annual per capita fiscal contributions are positive (€341), whereas those of migrants are negative (€-1,167)[9].

Such heterogeneity reflects the underlying heterogeneity in the characteristics of the migrant population across countries, as we investigate below. However, one striking regularity highlighted by Table 5 is that the countries where migrants' NFCs are larger than those of natives are also those where migrants' average taxable income is higher than natives

[9]This results are in line with older results by **?**

Table 5: Per capita average aggregates, by selection EU-14, 2014–2018.

Country of residence	Country of birth	Reven. (€)	Expend. (€)	NFC (€)	Taxable income (€)
EU-14	Natives	9,623	9,590	32	13,327
EU-14	Migrants	9,684	8,174	1,510	14,996
France	Natives	11,339	10,998	341	13,227
France	Migrants	10,290	11,457	-1,167	12,285
Germany	Natives	10,313	9,874	439	17,021
Germany	Migrants	12,504	8,800	3,705	21,373
Italy	Natives	9,062	9,078	-16	10,969
Italy	Migrants	7,233	4,376	2,857	11,089
Spain	Natives	5,598	6,412	-814	8,860
Spain	Migrants	4,537	3,744	793	8,153
Sweden	Natives	15,068	13,252	1,816	17,786
Sweden	Migrants	13,580	12,957	623	17,370

Notes: Our calculations from EU-SILC data with sampling weights. NFC stands for net fiscal contribution; see definition (1). Public expenditures (Exp.) are defined as in section 4.1, while public revenues (Rev.) are defined as in section 4.2. The methodology applied covers a greater share of revenue than of expenditure, which may bias the estimates of the NFC. Figures are in 2018 euros.

and vice versa. However, the differences in per capita NFCs between migrants and natives are not simply the result of differences in average incomes between the two groups. We show this below, where we assign all individuals to the respective ventile of the country-of-residence–specific distribution of natives' taxable income. Ventiles are computed with household-equivalent disposable income, equalized through the modified OECD equivalent scale. Following standard conventions, disposable income is calculated as the sum of original income and total benefits minus social insurance contributions and taxes. Original income includes market income, i.e., the sum of earnings, income from capital such as dividends and interests, income from occupational and private pensions, income from property, income received by children in the household, and regular interhousehold cash transfers received minus regular interhousehold cash transfers paid. The social insurance contributions needed to calculate disposable income are employee social insurance contributions, self-employed social insurance contributions, and other social insurance contributions – contributions paid by individuals but not directly linked to employment or self-employment (e.g., due to benefits and paid by the benefit recipients, health contributions paid by the general population). We then compute the group-specific average NFC for each migrant and native in each ventile and take the difference between the two groups. We thus obtain the ventile-specific difference in the net fiscal contributions of migrants and natives, namely:

$$\Delta NFC_{v,c} = \frac{\sum_t \sum_{i \in v} NFC_{i,v,c,mig,t}}{\sum_t N_{v,c,mig,t}} - \frac{\sum_t \sum_{i \in v} NFC_{i,v,c,nat,t}}{\sum_t N_{v,c,nat,t}} \tag{2}$$

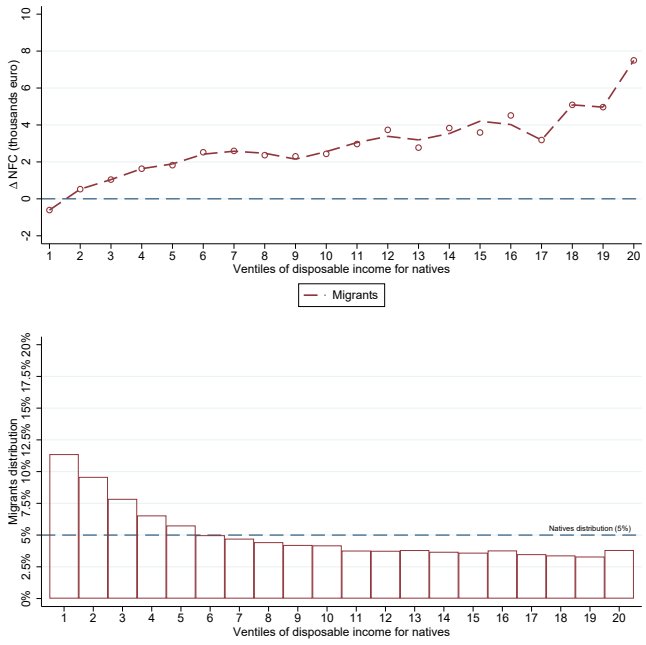
where $v = \{1, 2, ..., 20\}$ indexes the ventiles, $t = \{2014, 2015, .., 2018\}$ refers to the survey year and $N_{v,c,mig,t}, N_{v,nat,b,t}$ are the weighted frequencies of foreign and native residents in each ventile v country c and year t.

In Figures 7 –12, we report $\Delta NFC_{v,c}$ for each ventile v, and we fit a polynomial function of degree nine across these 20 points to facilitate readability for the EU-14 as a whole (7) and for each of our five selected countries separately (Figures 8–12). In the bottom part of each figure, we also show the histogram of the distribution of migrants across ventiles of the native distribution of taxable income (i.e., $\sum_t N_{v,mig,t}, \sum_t N_{mig,t}$).

On average, across the EU, migrants contribute to public finances significantly more than natives at all ventiles of the income distribution, with the exception of the bottom ventile, which is also, however, the one into which migrants are disproportionately likely to fall (Figure 7). In four of the five countries that we focus on, we observe the same pattern of higher migrant relative to native NFCs in the same position of the national income distribution, with the difference increasing along ventiles. In France, in contrast, migrants' NFC is lower than natives' at all points of the distribution except in the top ventiles (Figure 8).

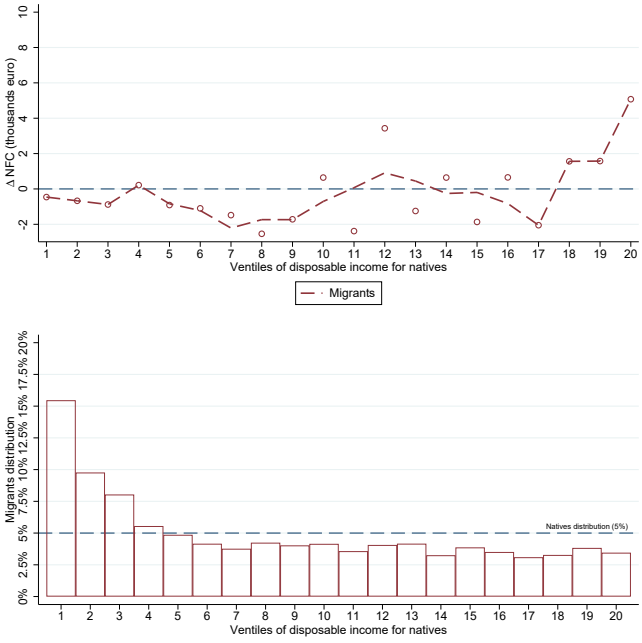
Although everywhere immigrants are more easily found in the bottom ventiles than natives, the degree of concentration at the bottom of the distribution varies considerably across countries. In France, Spain, and, especially, Sweden, migrants are disproportionately concentrated in the very bottom part of the distribution. In Italy, on the other hand, the distribution is slightly less skewed, while in Germany, the distribution of migrants is more similar to that of natives than anywhere else, even though migrants are still more likely than natives to be in the bottom income ventiles. Because of the progressive tax and benefit system of EU countries, a relatively larger share of low-income migrants increases the likelihood that they receive more welfare benefits than what they paid through taxes and SSCs. The interplay of differences in the income distribution and NFCs conditional on disposable income determines the aggregate results displayed in Table 5.

Figure 7: Revenue–expenditure difference and migrant distribution, EU-14.



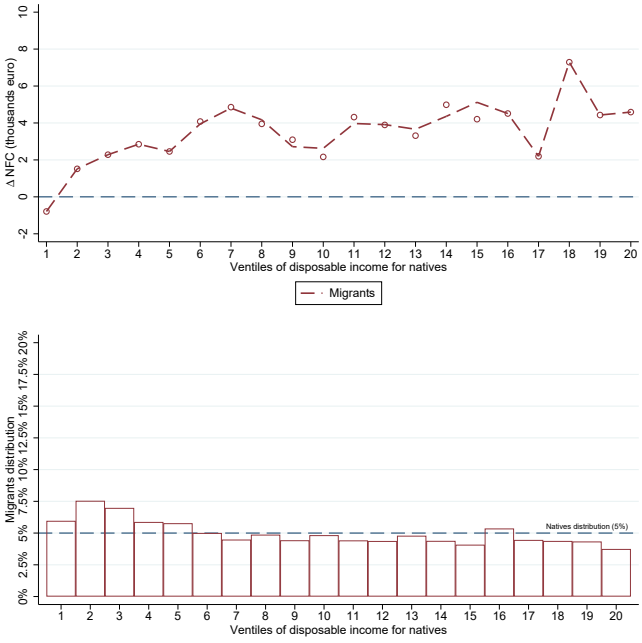
Source: Our calculations from the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,EU}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,EU}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 8: Revenue–expenditure difference and migrant distribution, France.



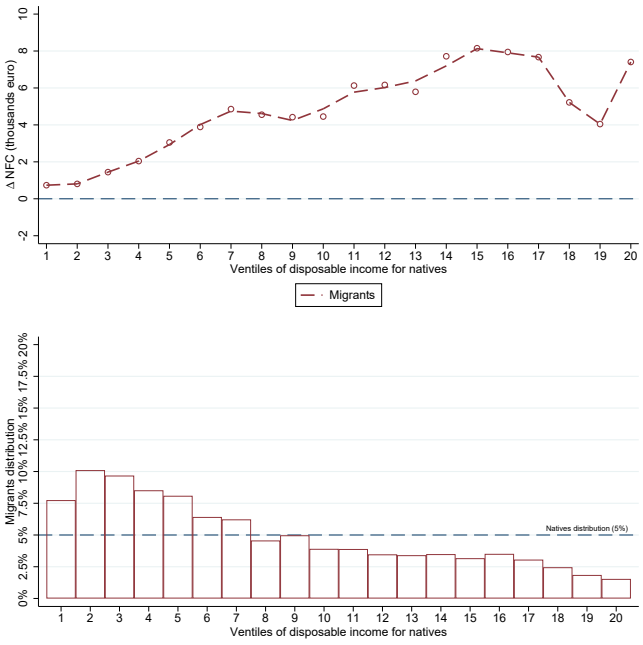
Source: Our calculations from the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,FR}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,FR}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 9: Revenue–expenditure difference and migrant distribution, Germany.



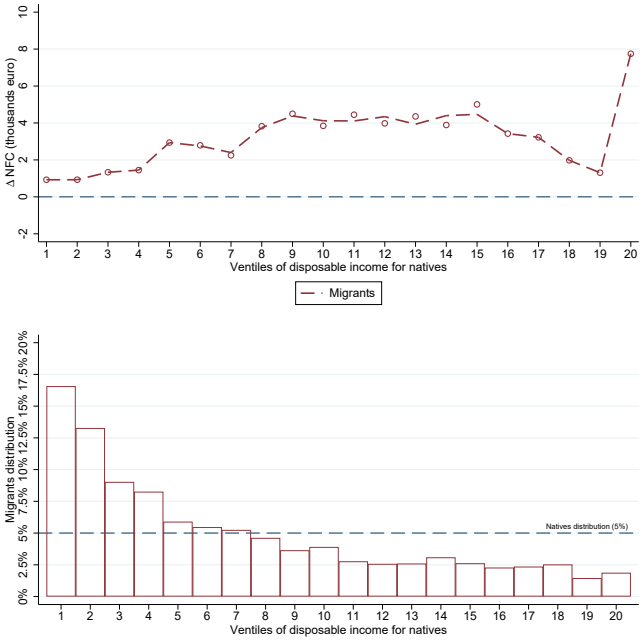
Source: Our calculations from the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,DE}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,DE}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 10: Revenue–expenditure difference and migrant distribution, Italy.



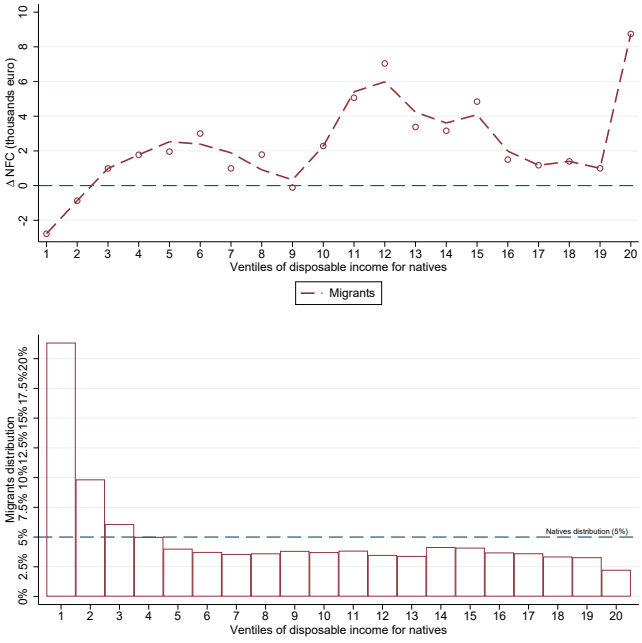
Source: Our calculations using the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,IT}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,IT}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 11: Revenue–expenditure difference and migrant distribution, Spain.



Source: Our calculations from the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,ES}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,ES}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 12: Revenue–expenditure difference and migrant distribution, Sweden.



Source: Our calculations from the EU-SILC dataset and EUROMOD. In the upper panel, we report the ventile-specific $\Delta NFC_{v,SE}$ from equation 2 (dotted line) and a polynomial approximation of degree 9 for the distribution of $\Delta NFC_{v,SE}$ (dashed line), while in the lower panel, we report the histogram of the distribution of migrants across ventiles of the native distribution of taxable income. NFC stands for net fiscal contribution, as defined in equation 1.

4.4 Evolution over time

Our data span a period of five years characterized by intensive migration waves (see section 2). A crucial question is therefore how the net fiscal contribution of migrants vis-a-vis that of natives evolved over time. Hence, in this section, we do not pool the data over all available years but rather study how per capita NFC changed over time.

Figure 13 reports the annual migrant–native difference in per capita revenues (ΔR, in yellow) and per capita expenditures (ΔE, in green) across all EU-14 countries pooled and for each of our five selected countries. Across all EU-14 countries, migrant-generated fiscal revenues were very similar to those of natives, although they decreased slightly over time. Likewise, while public expenditures for migrants were significantly lower in all years than expenditures for natives, in the more recent years, the difference between public expenditures for migrants and natives decreased. These two trends, therefore, show a tendency towards a reduction in migrants' net fiscal contributions over time, even though as of 2018 they were still contributing significantly more to public coffers than natives. As we already mentioned in the previous sections, differences in migrant–native expenditures are slightly positive in France and close to zero in Sweden, and they are quite constant for the time span considered. Conversely, migrant–native differences in revenue and expenditure are both converging to zero in Germany, while differences in per capita expenditures between migrants and natives are increasing over time.

What role do individual characteristics play in explaining the level and evolution of migrant–native differences in net fiscal contributions? We have seen above that migrants' NFCs tend to be higher than those of natives with similar incomes; what would happen if migrants and natives had similar observable characteristics?

We address this question by estimating a regression of the type:

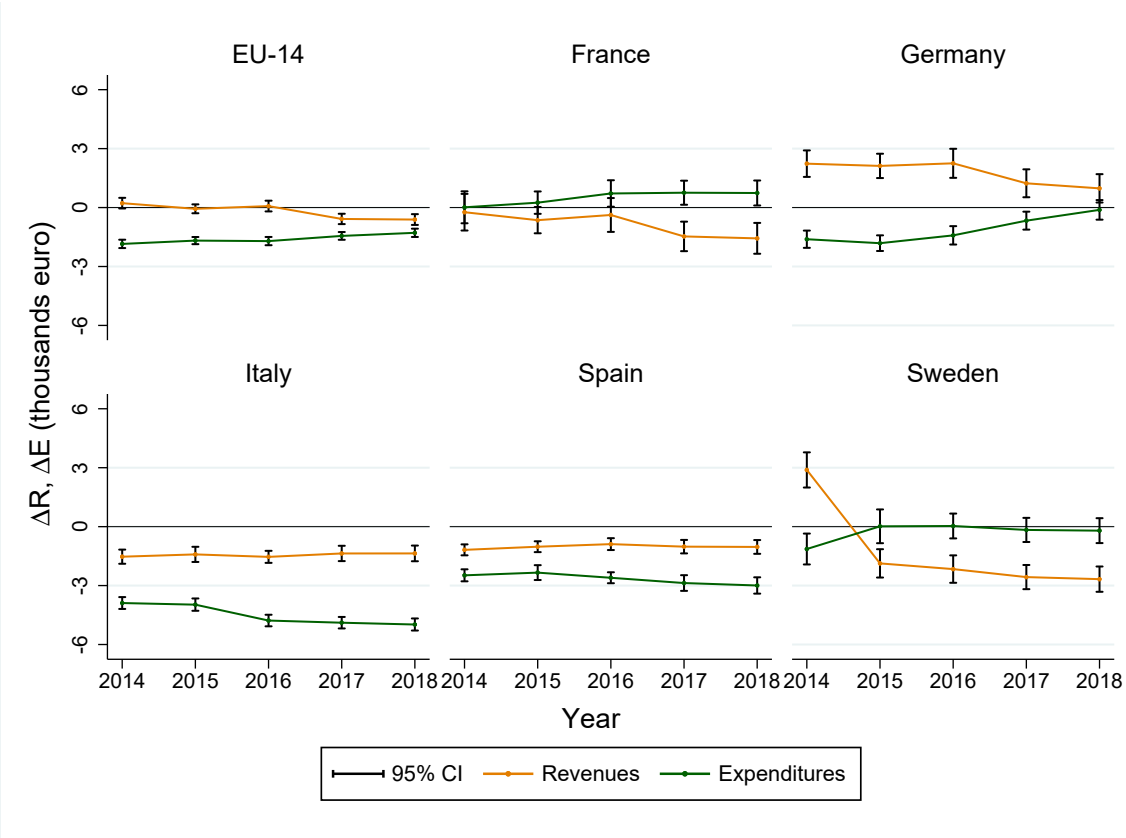
$$NFC_{i,c,t} = \alpha_{c,t} + \gamma_{c,t} I_{i,c,t} + X'_{i,c,t}\delta + \epsilon_{i,c,t} \tag{3}$$

where i indexes individuals, c the country of residence, and t the year of observation. I is a dummy variable that identifies migrants vs natives, and X is a vector of individual characteristics. Therefore, $\gamma_{c,t}$ measures the average difference in NFCs between migrants and natives living in the country c in year t, conditional on the variables included in X.

We estimate equation (3) separately for each country c and alternatively pool all EU-14 countries and report in Figure 14 the estimated $\gamma_{c,t}$ and the associated 95% confidence intervals. In all cases, we report estimates from three different versions of equation (3): first, one in which we do not include X (*unconditional*); second, one in which we include in X individual characteristics such as age, gender, education and household size (*cond. demographics*); and third, one in which we additionally include employment status (*cond. employment*)[10].

[10]Our definition of employment status follows the definition used in EUROMOD, which combines infor-

Figure 13: Annual migrant–native difference in per capita revenues and expenditures, 2014–2018.



Source: Our calculations from the EU-SILC dataset and EUROMOD. Included expenditures are public expenditures for housing and community amenities, health, education and social protection. Public finance revenues refer to direct income taxes, SSCs and VAT. Figures are in 2018 euros.

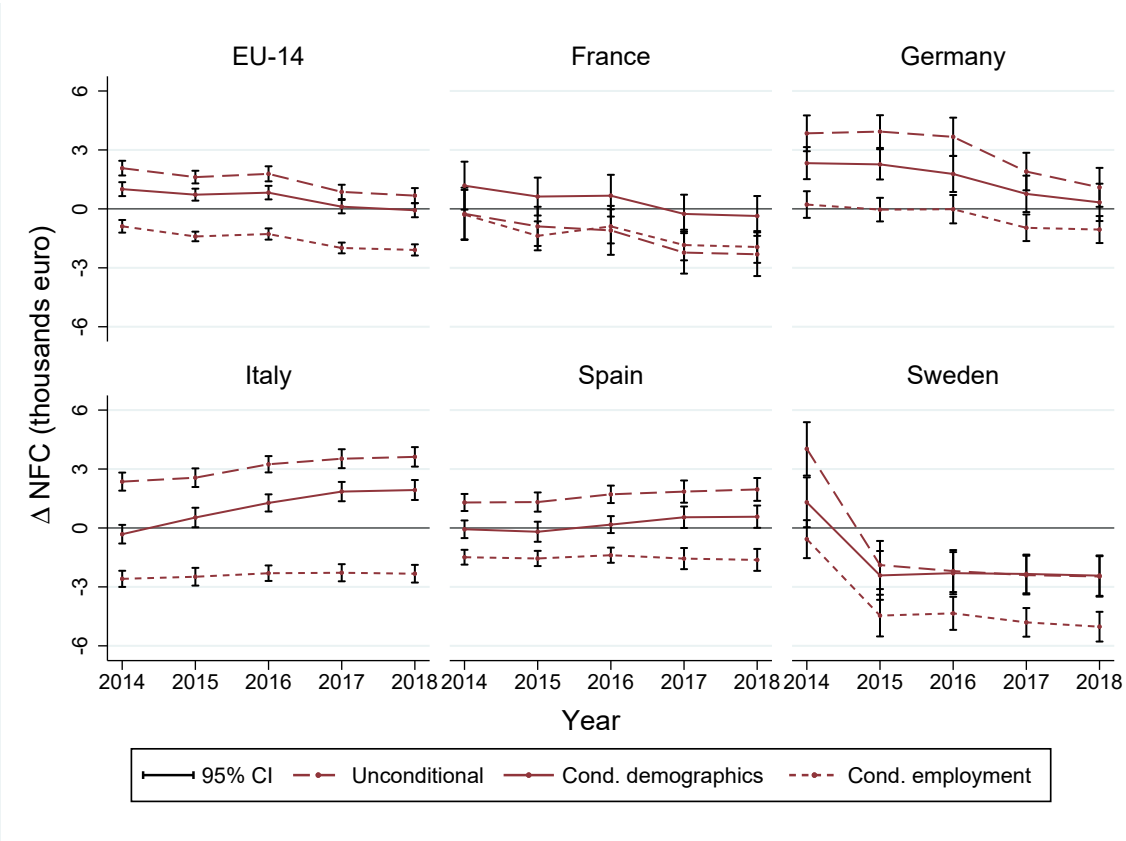
As we have seen in Figure 13, at the EU-14 level, the differential between migrants' and natives' per capita NFCs is positive in all years, although its size decreases over time. When we condition out individual characteristics and essentially compare migrants and natives who look alike in terms of age, gender, education and household size, the estimated differential decreases in all years, which indicates that part of the fiscal advantage of migrants is explained by migrants having demographic characteristics that make them more likely to be net fiscal contributors. In 2017 and 2018, migrants and natives with similar characteristics were indeed making exactly the same net fiscal per capita contribution, indicating that migrants' superior fiscal stance was – in those two years – entirely driven by their favorable selection. Last, migrants are more likely to be employed than natives across the EU-14 as a whole: once we condition on both individual characteristics and employment status, the net fiscal contributions of natives are larger than those of immigrants in all years. Thus, the higher employment probability of natives is what ultimately drives migrants' positive NFC. Interestingly, the trend of NFC over time is exactly the same regardless of what variables are conditioned out.

Germany and Sweden follow a trend that is very similar to that of the EU-14 as a whole, although the migrant–native NFC differential is always positive in Germany and always negative (except in 2008) in Sweden. Italy and Spain are the only two countries where the unconditional migrant–native difference in net fiscal contributions is increasing over time. Additionally, however, the "conditional" differences are smaller in this case, which indicates that migrants are overrepresented with respect to natives in demographic groups that are net contributors. Were the demographic composition of migrants and natives the same, the NFC of migrants in Spain would not be significantly different from that of natives in any year. In Italy, in contrast, it would still be higher than the natives', albeit to a lesser extent and increasingly so over time. Adding labor market status as an additional conditioning variable also makes the net fiscal contribution of migrants in both Italy and Spain become flat and negative at approximately €-2.000. Were the labor force participation of natives and migrants the same, migrants' NFC would be negative everywhere.

France stands out among the countries for its consistently negative difference in migrants' NFC relative to natives' that is increasing over time. However, the difference vanishes once differences in demographic characteristics are accounted for, which indicates that unlike those in the other countries, migrants in France have age-gender-education profiles that make them more likely to be net fiscal recipients. As also highlighted in Table 1, migrants in France are on average older, live in bigger households, and have more children than natives. When additionally accounting for labor force participation, migrants' NFC would be again negative in all observed years.

mation coming from EU-SILC's *Self-defined current economic status* (PL031) and *Status in employment* (PL040)

Figure 14: Migrant–native differences in NFCs, conditional on different sets of variables and over time, 2014–2018.



Source: Our calculations from the EU-SILC dataset and EUROMOD. Figures are in 2018 euros. NFC stands for net fiscal contribution, as defined in equation 1.

4.5 Years since migration in the country

Finally, the net fiscal contribution of migrants may change with time spent in the host country, as highlighted by Brell et al. (2020). In this section, we investigate whether years since migration positively or negatively affects the NFC of migrants. To this end, denoting years since migration as YSM, we estimate the following model:

$$NFC_{i,c} = \alpha_c + \tau_t + \gamma_c I_{i,c} + \beta_c I_{i,c} \times YSM_{i,c} + \eta_c I_{i,c} \times YSM^2_{i,c} + X'_{i,c}\delta + \epsilon_{i,c} \tag{4}$$

where, in addition to the notation introduced before, τ_t are year dummies and YSM is included with a polynomial of degree two to account for nonlinearities. As before, we estimate this model first using an empty X matrix and then including in X only demographic characteristics and finally including employment status as well. Hence, γ_c measures the average difference in NFCs between migrants who have just arrived in the country c (i.e., when YSM=0) and natives net of the inclusion of covariates, whereas when YSM=0, β_c and η_c capture how the differential evolves nonlinearly over time.

Table 6 reports our estimates of the coefficients of interest γ, β and η. In Panel A, no demographic and employment controls are included, and the results show that in all selected countries, as well as the EU-14 in aggregate, the effect of YSM is increasing at a decreasing rate. A similar pattern emerges when we condition on demographics, as shown in Panel B. However, when we also control for employment status, the effect of YSM declines, although it remains positive.

The expected evolution of the migrant–native NFC differential $\mathbb{E}[\Delta NFC_c]$ over years since migration can therefore be described by the following equation[11]:

$$\mathbb{E}[\Delta NFC_c] = \widehat{\gamma}_c + \widehat{\beta}_c\, YSM_c + \widehat{\eta}_c YSM^2_c \tag{5}$$

The relationships between $\Delta NFC_{i,c}$ and YSM are also plotted in Figures 15–17, depicting the relationships with YSM, which is increasing at a decreasing rate (5) as in panels A, B and C of Table 6, respectively.

Figure 15 shows that, on average across the EU-14, the net fiscal contributions of migrants who have been in the country for at least five years are larger than those of natives. There is, however, heterogeneity across countries. For instance, in Italy and Spain, immigrants' net fiscal contributions are higher than those of natives regardless of the years since migration. Conversely, in Germany, only immigrants with at least sixteen years of residence are stronger fiscal contributors than natives. In all cases, the differential in fiscal contribu-

[11] Note that our estimates are based on pooled cross-sectional data for 2014–2018; hence, we are comparing immigrants who have been in the country for a few years with other immigrants who have been in the country for a longer period. Therefore, these estimates do not precisely allow us to distinguish the so-called cohort effect (i.e., differences in potentially unobserved characteristics between different migrant cohorts) and the residence effect (i.e., the effect of spending more time in the host country).

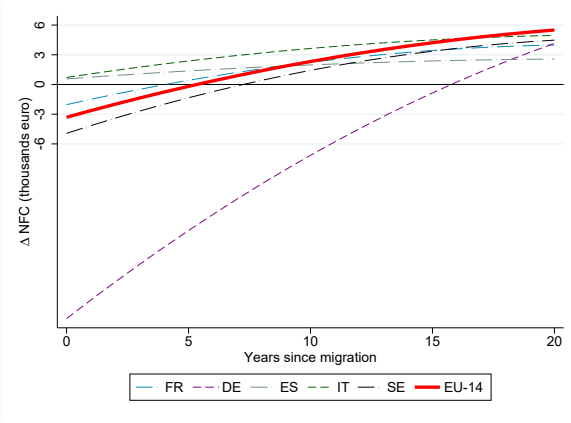
Table 6: Regression of net fiscal contribution on migrant status and year since migration

	EU-14	France	Germany	Italy	Spain	Sweden
Panel A: Unconditional						
γ_c (const.)	-3.311***	-2.035***	-23.646***	0.709***	0.564**	-4.936***
	(0.130)	(0.423)	(0.719)	(0.182)	(0.278)	(0.375)
β_c (YSM)	0.686***	0.554***	1.908***	0.374***	0.182***	0.802***
	(0.012)	(0.038)	(0.036)	(0.020)	(0.027)	(0.036)
η_c (YSM^2)	-0.012***	-0.013***	-0.026***	-0.008***	-0.004***	-0.017***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Panel B: Conditional on demographics						
γ_c (const.)	-4.372***	-5.234***	-23.128***	-1.421***	-1.167***	-5.470***
	(0.128)	(0.439)	(0.872)	(0.195)	(0.272)	(0.403)
β_c (YSM)	0.564***	0.665***	1.440***	0.313***	0.175***	0.613***
	(0.012)	(0.037)	(0.042)	(0.021)	(0.027)	(0.036)
η_c (YSM^2)	-0.009***	-0.011***	-0.017***	-0.006***	-0.003***	-0.011***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)
Panel C: Conditional on demographics and labour						
γ_c (const.)	-3.744***	-3.530***	-4.973***	-3.069***	-2.154***	-6.194***
	(0.117)	(0.408)	(0.471)	(0.177)	(0.247)	(0.320)
β_c (YSM)	0.156***	0.161***	0.241***	0.049***	0.065***	0.203***
	(0.010)	(0.034)	(0.026)	(0.019)	(0.022)	(0.029)
η_c (YSM^2)	-0.002***	-0.002***	-0.003***	-0.000	-0.001**	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean of dependent variable for natives						
$\overline{NFC}$	-0.366***	-0.232**	0.010	-0.252***	-1.031***	1.219***
	(0.026)	(0.095)	(0.058)	(0.043)	(0.045)	(0.098)
N	1,674,373	126,612	127,794	228,541	168,755	70,678

Notes: The dependent variable is net fiscal contribution, expressed in 2018 euros, as defined in equation 1. With reference to equation (4), we report only γ_c, which is the estimated coefficient of nonnatives; β_c is the estimated coefficient of the linear effect of YSM, and η_c is the estimated coefficient of the quadratic effect of YSM. In specification (a), we include country and year fixed effects and their interactions as well as years since migration and its quadratic term; in panel (b), we also include age, gender, highest personal education status, and the household dimension; and in panel (c), we also include employment status. Robust standard errors are calculated in all specifications. Significance levels: $* \leq .1$, $** \leq .05$, $*** \leq .01$.

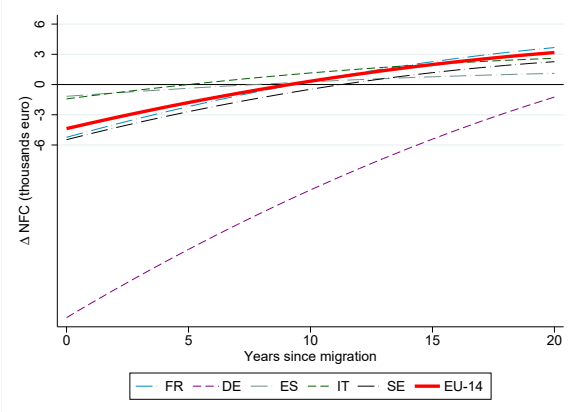
tions between immigrants and natives increases until at least 22 years since migration (for the aggregate EU-14). Figure 16 shows that if the distribution of demographic characteristics were the same for natives and migrants, in all countries, newly arrived migrants would have lower NFCs than natives. The effect of length of residence operates mainly through an increase in the probability of being in employment: Figure 17 shows that were the labor force participation of migrants the same as that of natives, immigrants' NFCs would always be lower than natives, and the effect of years since migration would be largely reduced.

Figure 15: Δ NFC and years since migration, unconditional.



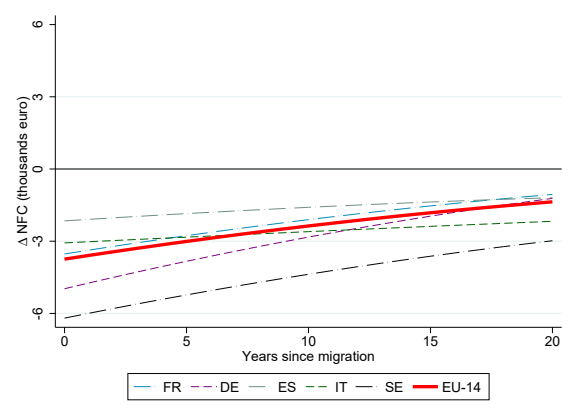
Source: Estimation based on the model in Table 6, Panel A. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 16: Δ NFC and years since migration, conditional on demographics.



Source: Estimation based on the model in Table 6, Panel B. NFC stands for net fiscal contribution, as defined in equation 1.

Figure 17: Δ NFC and years since migration, conditional on employment.



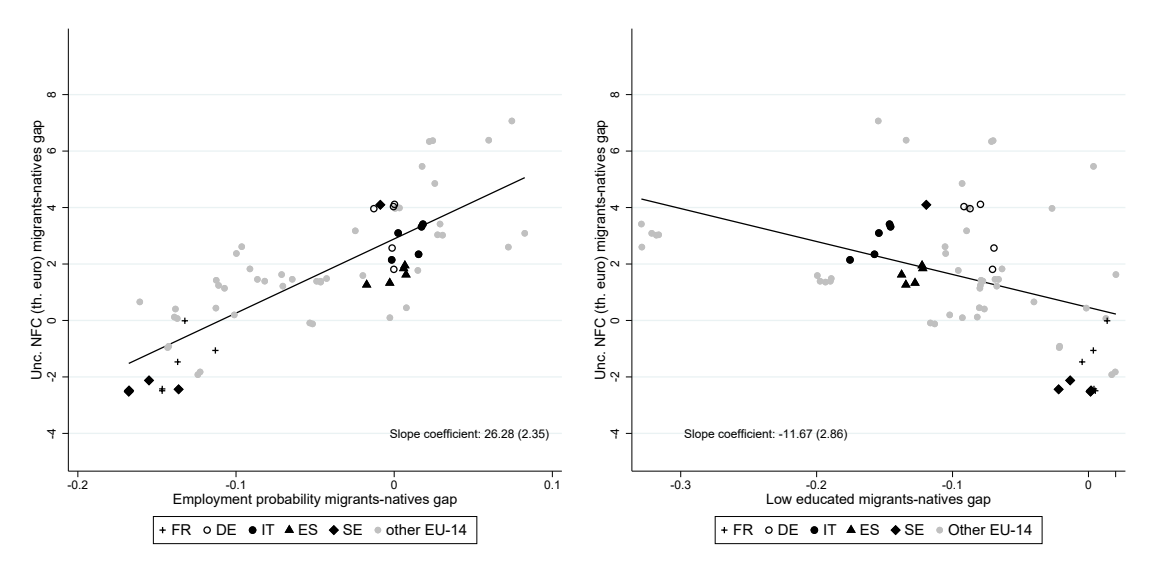
Source: Estimation based on the model in Table 6, Panel C. NFC stands for net fiscal contribution, as defined in equation 1.

4.6 Discussion

Although our analysis showed that on average migrants' net fiscal contributions are higher than natives', it also highlighted substantial heterogeneity across countries. Such cross-country differences may originate partly from differences in the tax and benefits systems and partly from differences in the relative characteristics of the native and migrant populations. Our results in section 4.4 showed that, indeed, migrant–native differences in NFCs are reduced when migrants are compared to natives with similar age-gender-education profiles and that compared to natives who have the same employment status, immigrants have lower net fiscal contributions.

These findings generalize beyond the five countries that are the most interesting cases for our purposes and to which we devoted our attention. We extend our analysis considering all EU member states in Figures 18 and 19. In the left panel of Figure 18, we plot the migrant–native differences in per capita NFCs for each country and year included in our analysis against the migrant–native differential in employment probability. The figure shows a strong positive correlation between these two gaps: the higher migrants' NFCs is relative to natives, the higher is their employment probability relative to natives'.On average, across all countries and years, a 10 p.p. increase in the migrant–native employment probability gap is associated with an increase of approximately €2,630 in the migrant–native gap in net fiscal contributions.

Figure 18: Migrant–native gap in NFCs with employment probability and low education, 2014–2018.



Source: Our calculations from EU-SILC and EUROMOD data.

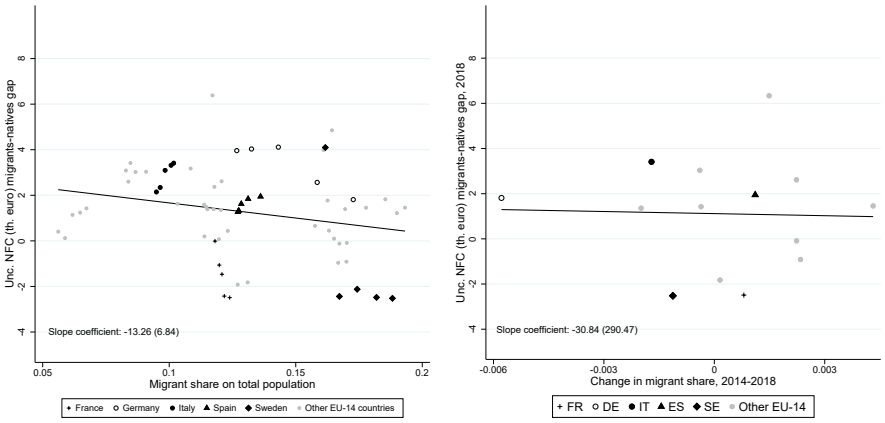
Likewise, the right panel of Figure 18 plots migrant–native gaps in net fiscal contributions

against the difference between the shares of individuals with low education in the migrant and native populations. In this case, the correlation is clearly negative: a 10 p.p. decrease in the migrant–native differential in the probability of having low education (i.e., higher education of migrants relative to that of natives) is associated with a €1,170 euro increase in the migrant–native gap in NFCs. NFC stands for net fiscal contribution, as defined in equation 1.

Hence, immigrants' (and natives') characteristics seem to matter a great deal in explaining their relative fiscal contributions: a more educated and more economically integrated migrant population leads to higher net contributions by migrants to the public purse. An obvious implication is that policies that foster migrants' labor market integration are desirable not only to facilitate their lives in the host countries but also to help those countries' public finances.

However, while migrants' characteristics matter, the size of the migrant population in a country does not seem to have any major effect on the amount of migrants' per capita net fiscal contributions. We show this in Figure 19.

Figure 19: Migrant–native gap in NFCs with migrant share and recent migrants, 2014–2018.



Source: Our calculations from EU-SILC and EUROMOD data. NFC stands for net fiscal contribution, as defined in equation 1.

The left panel plots the migrant–native difference in per capita NFCs for each country-year against the corresponding share of migrants and shows that the two are only moderately negatively correlated: the line fitting the scatter plot has a negative slope that is not statistically significant at conventional levels. However, the weak negative correlation between migrant concentration and the migrant–native NFC differential is driven largely by cross-sectional differences across countries. While one might think that what is truly potentially costly for public finances is not the overall number of migrants but the number of recent migrants, the right panel of Figure 19 suggests instead that this is not the case. The figure

plots the 2018 migrant–native NFC differential against the change in the share of migrants in the total population of each country between 2014 and 2018: the line fitted through the plot is almost perfectly flat, indicating the lack of any correlation between the relative fiscal stance of migrants and the size of migrant inflows in each country.

5 Concluding remarks

The general public discussion over whether the generosity of welfare provision in destination countries might encourage the migration of welfare-dependent migrants is ongoing in Europe. In this paper, we try to contribute to this discussion by providing novel and comprehensive evidence on the net fiscal contributions of migrants across EU-14 countries for the period 2014 to 2018, including the years of the so-called refugee crisis. We focus on Western European countries (EU-14), where the bulk of the migrant population is concentrated.

To obtain a comprehensive overview of the contributions made and benefits received by each population group, we first build a novel dataset for the microeconomic analysis of the net fiscal contribution of migrants across all 14 EU countries. We take into account not only income taxes paid and cash transfers received by migrant and native households but also the VAT paid and the receipt of in-kind benefits such as education and healthcare at the individual level. We then assess the average annual amount of fiscal revenues and government expenditures that can be traced back to natives and to migrants.

Overall, we find that over the observed period, natives contributed on average €32 per year to public coffers while migrants contributed (net) an average of €1,510 per capita to the public finances of "host" countries every year. These results, however, differ across countries: we see that in France and Sweden natives contribute on average more than migrants to public finances, while in Germany, Spain, and Italy, the opposite holds true.

We also compare the differences in net fiscal contributions between migrants and natives while accounting for differences in characteristics. Our analysis highlights that controlling for demographic characteristics cancels the average difference in net fiscal contributions between migrants and natives, which indicates that migrants are favorably selected on characteristics that make them net fiscal contributors. However, when we condition on employment status as well, the migrant–native gap becomes negative, which indicates that the higher employment probability of migrants explains in part their higher net fiscal contributions.

References

A. Belanger, M. Christl, A. Conte, J. Mazza, and E. Narazani. Projecting the net fiscal impact of immigration in the eu. Technical Report KJ-NA-30407-EN-N (online),KJ-NA-30407-EN-C (print), Luxembourg (Luxembourg), 2020. URL https://publications.jrc.ec.europa.eu/repository/handle/JRC121937.

T. Boeri. Immigration to the Land of Redistribution. *Economica*, 77(308):651–687, October 2010. URL https://ideas.repec.org/a/bla/econom/v77y2010i308p651-687.html.

T. Boeri and J. van Ours. *Economia dei mercati del lavoro imperfetti*. EGEA spa, 2021.

C. Brell, C. Dustmann, and I. Preston. The labor market integration of refugee migrants in high-income countries. *Journal of Economic Perspectives*, 34(1):94–121, 2020.

M. Christl, M. Köppl-Turyna, H. Lorenz, and D. Kucsera. Redistribution within the tax-benefits system in austria. *Economic Analysis and Policy*, 68:250–264, 2020.

M. Christl, A. Papini, and A. Tumino. Who pays more? heterogeneity in effective vat rates across native and migrant households. *Scienze Regionali*, 21(Speciale):67–98, 2022.

M. Clemens. The fiscal effect of immigration: Reducing bias in accounting estimates. Technical report, mimeo, 2021.

M. Colas and D. Sachs. The indirect fiscal benefits of low-skilled immigration. Technical report, CEPR DP No. 15325, 2021.

C. Dustmann and T. Frattini. The fiscal effects of immigration to the uk. *Economic Journal*, 124(580):F593–F643, 2014. URL https://EconPapers.repec.org/RePEc:wly:econjl:v:124:y:2014:i:580:p:f593-f643.

C. Dustmann and I. Preston. Racial and economic factors in attitudes to immigration. *The B.E. Journal of Economic Analysis & Policy*, 7(1):1–41, 2007. URL https://EconPapers.repec.org/RePEc:bpj:bejeap:v:7:y:2007:i:1:n:62.

C. Dustmann, T. Frattini, and C. Halls. Assessing the fiscal costs and benefits of a8 migration to the uk. *Fiscal Studies*, 31(1):1–41, 2010. URL https://EconPapers.repec.org/RePEc:ifs:fistud:v:31:y:2010:i:1:p:1-41.

F. Figari and A. Paulus. The distributional effects of taxes and transfers under alternative income concepts: The importance of three "i" s. *Public Finance Review*, 43(3):347–372, 2015.

C. Fiorio, T. Frattini, and A. Riganti. Migration: impact on tax and social benefits in the EU. Final Report: EUROMOD migration extension. Technical report, Joint Research Center, Seville, 2018.

P. Grzegorz, J. M. Durán-Cabré, A. Esteller-Moré, and M. Bonch-Osmolovskiy. Study and reports on the vat gap in the eu-28 member states. *Publications Office of the European Union*, 2021.

M. F. Hansen, M. L. Schultz-Nielsen, and T. Tranæs. The fiscal impact of immigration to welfare states of the Scandinavian type. *Journal of Population Economics*, 30(3):925–952, 2017.

H. Hinte and K. F. Zimmermann. Does the calculation hold? The fiscal balance of migration to Denmark and Germany. Technical report, IZA Policy Paper, 2014.

T. Liebig and J. Mo. The fiscal impact of immigration in OECD countries. In *International Migration Outlook*. OECD, 2013.

A. M. Mayda, M. Z. Senses, and W. Steingress. The fiscal impact of immigration in the united states: Evidence at the local level. *Unpublished*, 2022.

National Academies of Sciences. *The economic and fiscal consequences of immigration*. National Academies Press, 2017.

OECD. Expenditure by disease, age and gender under the system of health accounts (sha) framework. Technical report, OECD, 2017. URL `https://stats.oecd.org/Index.aspx?DataSetCode=EBDAG`. Data downloaded in Sept 2017 from OECD.Stat.

G. Poniatowski, M. Bonch-Osmolovskiy, and M. Belkindas. Study and reports on the vat gap in the eu-28 member states: 2017 final report. *Available at SSRN 3064726*, 2017.

I. Preston. The effect of immigration on public finances. *The Economic Journal*, 124(580): F569–F592, 2014.

J. Ruist. The fiscal cost of refugee immigration: the example of sweden. *Population and Development Review*, 41(4):567–581, 2015.

K. Storesletten. Sustaining fiscal policy through immigration. *Journal of political Economy*, 108(2):300–323, 2000.

K. Storesletten. Fiscal implications of immigration. a net present value calculation. *Scandinavian Journal of Economics*, 105(3):487–506, 2003.

H. Sutherland and F. Figari. EUROMOD: the European Union tax-benefit microsimulation model. *International Journal of Microsimulation*, 1(6):4–26, 2013. URL `http://ideas.repec.org/a/ijm/journl/v1y2013i6p4-26.html`.

C. Van Mol and H. De Valk. Migration and immigrants in Europe: A historical and demographic perspective. In *Integration processes and policies in Europe*, pages 31–55. Springer, Cham, 2016.

G. Verbist and M. Matsaganis. The redistributive capacity of services in the european union. *Reconciling work and poverty reduction: how successful are European welfare states*, pages 185–211, 2014.

N. Winter. SURVWGT: Stata module to create and manipulate survey weights. Statistical Software Components, Boston College Department of Economics, Sept. 2002. URL `https://ideas.repec.org/c/boc/bocode/s427503.html`.

A Details on data construction

A.1 SILC and EM input data

We were able to combine the set of information contained in EU-SILC data with the EUROMOD input dataset for all EU countries in the five cross-sectional waves considered. The combination was needed because the EUROMOD input file, which is derived from SILC, was missing some key variables for this project, namely, *year of migration in the country* (SILC variable `rb031`) and *tenure status of the household* (SILC `hh021`). The former variable is necessary to assess the relevant income period for certain policy simulations in EUROMOD, such as unemployment or old-age pensions, which require migrants to have spent a certain spell of time in the country before they become eligible for the benefit. The latter variable is needed to identify households in social housing and to correctly estimate the individual cost of social housing. The main variable to differentiate nationals from migrants is `dcb`, which classifies each individual in the dataset as either a native, a citizen born in another EU country, or a non-EU-born citizen. The match between EUROMOD input data and UDB-SILC data was based on personal and household IDs. However, for some countries and years, this matching procedure did not work, as the household and individual IDs are not the same in the two datasets despite the observations being the same; therefore, we used exact matching on observables such as age (EU-SILC variable `rx020`), gender (EU-SILC variable `rb090`) and sampling weights (SILC variable `rb050` and `db090`), household dimension and ranking in annual gross income within the household. Last, for those who were still unmatched, we performed probabilistic matching with the same observables.

A.2 Reweighting

The EU-SILC is supposed to provide a representative picture of resident households in each EU member state. However, these data tend to provide a biased representation of the population of migrant residents, partly due to their relatively small share and to greater difficulties in finding them present at home or willing to take part in an interview. In fact, the weighted frequency with the sampling weights included in the EUROMOD data provides a limited picture of the population of residents by citizenship and age groups, with nationals tending to be overrepresented and foreign residents conversely underrepresented. Hence, we validated the data with frequencies from aggregated external sources by country and country of birth. These external statistics are provided by EUROSTAT, which collects information mostly from administrative sources, including interior ministries or registry offices. To provide a picture of foreign-born residents closer to thier actual frequencies, we post-stratified the SILC/EUROMOD input data using original weights and EUROSTAT information (contained in `migr-pop3ctb` dataset) on the number of natives and EU and non-EU foreign-born residents by age group, gender and country of birth in each EU country at the beginning of any year and at the beginning of the following year, which we averaged to obtain the mean value of foreign-born residents in any year of our analysis. We then adjusted sampling weights in each age-gender–birth country group by a multiplicative factor that minimized the distance of the sum of the weights from the control total for each group. In general, we used 5-year age groups for nationals and 10-year age intervals for EU and non-EU citizens. However, in some countries, the sample size for non-nationals was so small that we had to increase the width of the age groups. Reweighting was performed with the Stata program `survwgt` (Winter, 2002). As already mentioned, we also considered that the EU-SILC data do not allow us to distinguish between country nationals and EU citizens in

Germany. For these countries, we therefore include EU-born migrants in the non-EU-born migrants group.

A.3 In-kind and cash expenditures and expenditure validation

We obtained aggregate country-level public expenditures for *health* services for all EU-14 countries from EUROSTAT's database on general government expenditures by function (COFOG, `gov-10a-exp`, variable GF07). Such expenditures include spending on medical products, appliances, and equipment (GF07-01), outpatient services (GF07-02), hospital services (GF07-03), public health services (GF07-04), R&D in health (GF07-05), and health expenditures not specified in previous categories (GF07-06). We then apportioned expenditures by age groups based on the OECD statistics on the distribution of the total cost of public healthcare by age class for the Netherlands in 2011 (OECD, 2017), assuming that this distribution is representative of the distribution of healthcare expenditure across the EU-14 by five-year age classes and that it did not change over the time span that we considered. Last, we divided the aggregate expenditures by age class by the number of residents within each age class to estimate per-capita expenditures. To the best of our knowledge, there is no alternative and similarly reliable source estimating the distribution of healthcare costs by individual characteristics.

For the cost of social housing provision, we obtained from the COFOG database the total amount spent by public authorities or public institutions for housing and community amenities (COFOG, `gov-10a-exp`, variable GF06), which includes housing development (GF06-01), community development (GF06-02), water supply (GF06-03), street lighting (GF06-04), R&D housing and communities amenities (GF06-05) and other, i.e., residual, expenditures (GF06-06). We then used EU-SILC–provided information regarding the tenure status of households to obtain an estimate of the number of individuals living in social housing along with their sampling weight, which was used to compute an estimate of the average cost of social housing in each EU-14 country for every included year.

Finally, we also included in-kind expenditures for education. We used the total public expenditure on education per full-time-equivalent student by education level and type of program (EUROSTAT `educ-uoe-fine09` database), which is available for EU countries for any given year. Within each combination of country and year, we calculated the relative cost for each educational level with respect to the highest educational grade, namely, tertiary education. We then estimated, using the information retrieved in EUROMOD `dec` variable (present educational status) and sampling weights, the number of students for each level and then the relative cost of each educational level within a certain country, year and educational attainment combination. Next, we divided the total amount spent by public bodies retrieved by COFOG (`gov-10a-exp`, variable GF09 – Education), assigning to each student in the EU-SILC/EUROMOD the relative cost faced by public bodies for his or her education. This procedure enabled us to account for the different structures of educational patterns within each country in a more flexible and precise way we could by following COFOG criteria (01: Preprimary and primary education; 02: Secondary education; 03: Postsecondary nontertiary education; 04: Tertiary education; 05: Education not definable by level; 06: Subsidiary services to education; 07: R&D Education; 08: Education not elsewhere classified).

While in-kind benefits for education could be directly attributed to the child (and then to the household) that is receiving education, we imputed in-kind housing benefits by assigning the same amount of per capita expenditure for each person. We imputed in-kind health benefits by assigning the age-specific average expenditure to a person. Having said this, we were not

able to distinguish potential differences by migration status in regard to health and housing expenditures. In addition, as a validation exercise, we were also able to mimic expenditures for social protection (COFOG, `gov-10a-exp`, variable GF10) from EUROMOD output variables. In particular, we considered the sum of social protection measures for sickness and disability (GF10-01), old-age pensions and benefits (GF10-02), survivor pensions and benefits (GF10-03), family and children (GF10-04), unemployment (GF10-05), housing (GF10-06), excluding measures against social exclusion not elsewhere classified (GF10-07), resources for R&D in social protection (GF10-08) and other measures of social protection (GF10-10). We compared the sum of the COFOG social protection measures with EUROMOD output variables, namely, family benefits (`ils_udb_bfa`), education benefits (`ils_udb_bed`), disability benefits (`ils_udb_bdi`), unemployment benefits (`ils_udb_bun`), health and sickness benefits (`ils_udb_bhl`), housing benefits (`ils_udb_bho`), social assistance benefits (`ils_udb_bsa`), old-age benefits and pensions (`ils_udb_boa`) and survivor benefits (`ils_udb_bsu`).

Last, we compare the aggregate statistics as a validation exercise in Table 7.

Table 7: Expenditures macrovalidation.

	In-kind	Health	Educ.	Housing		Social protection		
	Estimate	ESTAT	ESTAT	ESTAT	Val.	Estimate	ESTAT	Val.
Country	(bil.€)	(bil.€)	(bil.€)	(bil.€)	(%)	(bil.€)	(bil.€)	(%)
EU-14	1,371	801	527	61	98.7	1,808	2,110	85.7
France	314	178	119	24	98.0	423	505	83.8
Germany	340	220	129	12	94.1	431	548	78.7
Italy	193	116	66	8	102.0	329	335	98.4
Spain	121	66	44	5	104.9	161	182	88.5
Sweden	63	31	30	3	99.8	68	84	80.7

Notes: Our calculations from EU-SILC data with sampling weights and EUROSTAT database for validating. Figures are in 2018 euros.

A.4 VAT and revenue validation

We used the latest collection round (2010) of the Household Budget Survey (EU-HBS) to estimate the level of VAT paid by each household every year and country combination. The EU-HBS is a set of national surveys that focuses mainly on consumption expenditures with the primary aim of calculating weights for the consumer price index. The EU-HBS provides information about household final consumption expenditures on goods and services with considerable detail in the categories used. For most countries, it also provides information on income and some demographic and socioeconomic characteristics. With respect to consumption, it collects information on several expenditure items divided into twelve main categories, namely, food and nonalcoholic beverages (`HE-01`); alcoholic beverages, tobacco and narcotics (`HE-02`); clothing and footwear (`HE-03`); housing, water, electricity, gas and other fuels (`HE-04`); furnishings, household equipment and routine maintenance of the house (`HE-05`); health (`HE-06`); transport (`HE-07`); communication (`HE-08`); recreation and culture (`HE-09`); education (`HE-10`); restaurants and hotels (`HE-11`); and miscellaneous goods and services (`HE-12`). Each of the abovementioned expenditure categories was updated for any given year using the Harmonised Index of Consumer Prices (HICP) (EUROSTAT `prc-hicp-aind` database), which gives comparable measures of inflation for the EU-14 coun-

tries over different years and provides the official measure of consumer price inflation in the euro area for the purposes of monetary policymaking. We retrieved the VAT rate for each subitem, and we finally calculated the amount of indirect taxes paid by each household in the EU-HBS database. Then, using income variables (when available) and demographic characteristics (such as age, gender, educational attainment and country of birth of the household head, household dimension and composition), we estimated via OLS for each household in the EU-SILC data the expected amount of VAT paid. As shown by Christl et al. (2022), there are substantial differences in effective VAT rates across migration statuses due to different consumption behavior.

In Table 8, we provide external validation of our estimated public revenues by comparing the aggregates with official statistics from EUROSTAT.

Table 8: Revenues macrovalidation, 2014–2018.

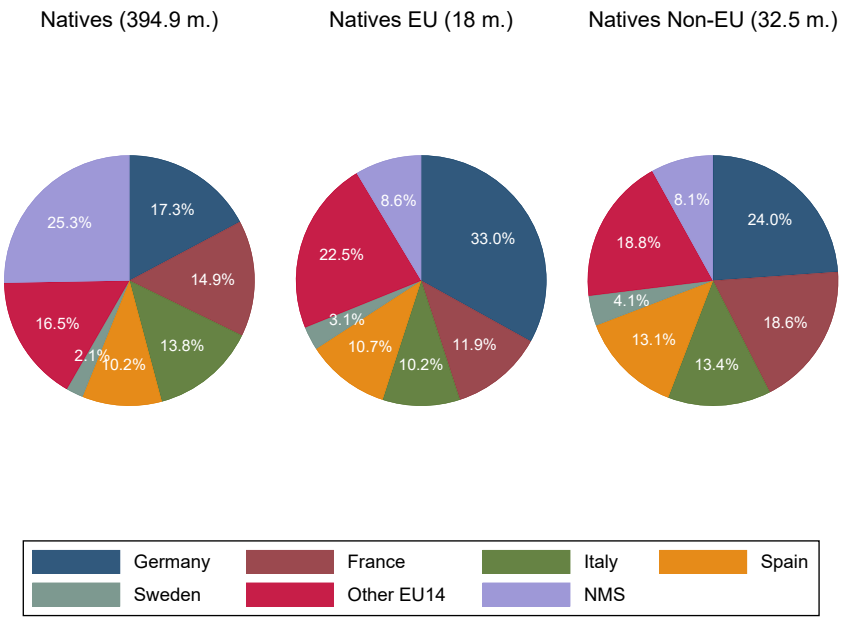
	SSC			Income taxes			VAT		
Country	Estimate (bil.€)	ESTAT (bil.€)	Val. (%)	Estimate (bil.€)	ESTAT (bil.€)	Val. (%)	Estimate (bil.€)	ESTAT (bil.€)	Val. (%)
EU-14	1,580	1,617	97.8	1,119	1,084	103.3	554	544	101.8
France	450	399	112.9	197	191	103.3	101	99	101.8
Germany	418	499	83.8	295	277	106.6	131	143	91.4
Italy	229	215	106.4	206	191	107.7	103	98	105.8
Spain	134	132	101.7	75	80	93.4	45	54	83.4
Sweden	65	63	103.7	56	65	85.0	26	22	122.3

Notes: Our calculations from EU-SILC data with sampling weights and EUROSTAT database for validating personal income tax and SSCs. SSCs for Sweden were taken from administrative records. We derived aggregates for VAT from the European Commission Directorate-General for Taxation and Customs Union (Grzegorz et al., 2021). The VAT values for 2014 and 2015 were taken from the 2019 and 2020 reports. Figures are in 2018 euros.

B EU population composition

As mentioned in section 2, we primarily focused on either the EU-14 en aggregate on five member states, namely, the four largest – France, Germany, Italy, and Spain – and Sweden, a midsize country with a large share of migrants. In fact, member states that joined the EU after 2004 present low migrant population shares, and we, therefore, decided not to include them in our analysis. However, in Figure 20, we report the EU-27 population by country of residence. As also detailed in section 2, we define new member states (NMSs) as the group of countries that joined the EU after 2004, namely, Bulgaria, Cyprus, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia, and the Slovak Republic. These countries, in which more than a quarter of the EU population resided in 2018, are home to between 8% and 8.5% of the EU migrant population. Conversely, the five countries that we selected for our analysis host three-quarters of the EU migrant population. Last, for the group of countries belonging to the EU before the 2014 enlargement (Belgium, Denmark, Finland, Greece, Ireland, Luxembourg, the Netherlands, and Portugal), the relative share of the native population (16.5%) is quite similar to the share of nonnatives living in the EU, comprising EU natives (22.5%) and non-EU natives (18.8%).

Figure 20: Distribution of native, nonnative EU, and non-EU residents over the total EU-14 population across EU member states. Year 2018.



Source: Our calculations from the EUROSTAT migr_pop3ctb dataset.