

③ The Fiscal Effects of EU Migration to Slovakia

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INTRODUCTION

Almost since the inception of the European Union, free internal movement of people has been one of the cornerstones of European integration. The right to move, live and work freely in any Member State is also a right that is widely used – around 13 million Europeans are residing in an EU country other than their country of birth. This type of migration has implications for public finances in the countries that people move to: an inflow of people from the rest of the Union will be associated with both contributions, such as tax revenues, as well as costs, in the form of transfers and public services. However, surprisingly little is known about these fiscal effects.

In Slovakia, there has been an increasingly polarised debate on issues related to immigration in recent years. Since the onset of the 2015 EU migration crisis, the question of what Slovakia's migration policy towards refugees and migrants from outside the Union should be monopolised the political discourse and became the dominant political issue in the run up to the 2016 general election. Slovakia is consistently one of the least generous EU countries in terms of how many asylums are granted per year and remains generally closed to migration from non-EU countries (Eurostat, 2018). None of the major political parties openly supports the relocation of any refugees from the EU countries that have been most severely affected by the inflow of migrants.

To avoid facing sanctions, Slovakia reluctantly agreed to accept mere 100 refugees on the condition that they are of

Christian faith – still violating the quota policy that mandated Slovakia to accept 1,200 refugees. Former Prime Minister Fico publicly denounced the refugees fleeing conflict and humanitarian crises in the Middle East and North Africa as 'economic migrants', and called upon the EU to adhere to the principles laid down by the Dublin Regulation.

Despite the framing of the refugee debate in economic terms, the public debate has, however, only to a very limited degree considered the possible effects of economic migration within the EU, and even less its effects on Slovak public finances – this despite the fact that more than 80% of the foreign-born population in Slovakia is born in another EU Member State (Eurostat, 2018). There has also been a lack of research on the fiscal effects of immigration to Slovakia.

The only two studies that present such figures are a comparative study from the OECD (2013) and a recently published report we wrote for the REMINDER¹ project (Nyman & Ahlsskog, 2018). However, there are many previous studies which estimate fiscal effects of immigration to other countries, especially to the US and the UK (see Rowthorn 2008 for a review of this field).²

¹ REMINDER is a multidisciplinary consortium focused on analysing the impacts of free movement and the processes through which public narratives and public opinion about these impacts are formed.

² The number of studies is smaller if we only include those that analyse intra-European migration. Dustmann et al. (2010) and Dustmann & Frattini (2014) find that EU migrants have been a strong fiscal contribution to the UK. In a similar vein, Martinussen & Rotger (2017) estimate positive fiscal effects of EU migration to Denmark, while Joakim Ruist (2014) finds that Bulgarian and Romanian migrants in Sweden are fiscal contributors.

In this chapter, we build on the REMINDER report to present calculations and discuss the fiscal effects of EU immigrants in Slovakia. The calculations are done using a static accounting model and cover the years 2005–14. Two different types of EU immigrant categories are compared: those who were born in another EU Member State, and those who are citizens of another EU Member State. The results are straightforward and fairly unambiguous: the net effects are roughly zero. That is, EU immigrants in Slovakia are neither net fiscal costs nor contributors.

The structure of the chapter is as follows. First, we will give a brief overview of immigration to Slovakia and the characteristics of the migrant population. Second, we will describe in more detail the method we have used to calculate the fiscal impact estimates, what data we have used and how the results should be interpreted. Third, we will put the numbers for Slovakia in an international light by comparing them to other countries in the region, and to Western Europe. Fourth, we will dig a little bit deeper into what characteristics of migrant households are actually driving the estimated effects, and test reliance on some key model assumptions. Lastly, we will summarise the results and briefly explore some of their implications.

1. IMMIGRANTS IN SLOVAKIA

The accession of Slovakia to the European Union made it possible for EU/EEA nationals to move freely to Slovakia and seek employment, ushering a boom in migration from these countries. The number of foreign nationals living in

Slovakia has increased manifold since the year of accession, and depending on the definitions used they now amount to approximately 65,000 (OECD, 2018) or 105,000 (BBAP, 2017) individuals. Approximately half of the foreign nationals are citizens of another EU country. The largest group is Czech nationals, followed by Hungarians, Romanians, Poles and Germans (OECD 2018).

As pertains to the subject of this chapter, a number of characteristics of the migrant population are helpful to be aware of. These are, for example, countries of origin, length of stay and age profile. The total foreign-born population, including naturalised citizens, amount to 185,000 individuals (Eurostat, 2018). Most of them were born in another EU country. Importantly, almost 90,000 of those that are counted as foreign-born in the international statistics were born in the Czech Republic. Many of them are Slovaks who were born in the Western part of Czechoslovakia when it was still a federation. During that time, it was common for Slovaks to move to the Czech region for work, for university studies or to do the military service. If they gave birth before returning to Slovakia, their children would today be defined as foreign-born. It may therefore be misleading to regard all foreign-born residents of Slovakia as immigrants.

In addition to demographics, a specific group's fiscal contribution is also affected by how this group performs on the labour market. For those of working age, the employment rate is higher among EU immigrants compared to the total population, especially when immigrants are

defined as foreign citizens. In this group, the employment rate was 79%, compared to 68% for those born in another EU-country (regardless of citizenship) and 66% for the entire population (aged 15–64, 2017). However, a disproportionate share of the foreign-born EU immigrants are retirees. Even if they have contributed throughout their lives, they will cause migration to appear more costly when we define migrants based on their country of birth. This is important to keep in mind later on, and we have attempted to investigate the impact of this both by using different migrant definitions and different allocation criteria for pension expenditures.

EU immigrants in Slovakia tend to concentrate in low-qualification occupations. Plant and machine operators, assemblers and elementary occupations (as defined in the ILO classification of occupations) comprise 44% of the EU/EEA employees, compared to only 26% in the total Slovak population (Eurostat, 2018). 24% of the EU immigrants work as managers, professionals, technicians and associate professionals, which is somewhat less than 31% in the native population (Eurostat, 2018).

In terms of education, the EU immigrants are better educated than the rest of the Slovak population when we define migrants based on citizenship. When we also include naturalised citizens in the migrant stock, the differences are less clear. On the one hand, there is a larger share among those born in another EU-country that lack primary education. On the other hand, it is more common for EU immigrants to have attained a tertiary education (Eurostat, 2018).

2. **METHOD, DATA AND INTERPRETATION**

The goal of this chapter is to give an overview of the fiscal effects of EU immigrants in Slovakia. We have calculated these effects using the dataset EU-SILC (Survey on Income and Living Conditions; European Commission, 2017), combined with data sources on annual government expenditures and revenues on a variety of areas, as well as demographic data. The Slovak respondents in EU-SILC are briefly summarised in Table 1. The microdata confirms the picture given in the previous section, with fewer foreign-born EU-migrants being of working age, and their wages being lower than those of both natives and migrants from outside the EU.

The method used to arrive at the estimates we present in this chapter is often referred to as a static, or accounting, model (Vargas-Silva, 2015).³ This means that we attempt to capture the pure fiscal costs and contributions of a set of people, in this case EU immigrants, in a given year. Contributions are added up, and associated costs are subtracted, yielding a simple net figure of how much a given household affects the public budget, broadly construed. Costs include both transfers and the provision of public services, while contributions come mainly in the form of taxes and social security payments. To get a sense of whether the calculated effects are large or small, they can be expressed

3 What follows is a very condensed description of the method employed. A comprehensive technical description can be found in the full REMINDER report (Nyman & Ahlskog, 2018).

Table 1 Slovak respondents in EU-SILC 2005–2014

	Households	Household size	Working age	Wage income
Total population	52,666	2.85	62.4%	8,081
Citizens of other EU country	267	2.61	66.4%	6,789
Non-EU Citizens	61	3.14	63.1%	11,021
Born in other EU country	1,540	2.74	58.5%	7,415
Born outside EU	203	3.45	66.3%	12,553

Source: Table by R. Ahlskog, P. Nyman & M. Smrek.

Note that the rotating panel in EU-SILC means that the same household can appear up to four times in the data. Working age is here defined as being between 20 and 64 years old. Wage income is the average individual annual gross wage income in euro, including those who do not work. A household is included in the migrant categories whenever at least one of the household members fulfills the relevant criteria. All averages in the table are weighted with the respect to the share of migrants in the household.

as a share of GDP, and also compared between migrants and natives.

We have divided the total government's expenditures into five items: benefits (*ben*), congestible public goods (*cpg*), non-congestible public goods (*npg*), pensions (*pen*), and demographically modelled expenditures (*dem*). Benefits include all kinds of social benefits except pensions. Congestible public goods are government services that increase in cost as the total population increases. Typical examples are parks, roads and fire protection. By non-congestible public goods we mean government services that can be extended to the migrant population at virtually no extra cost, such as defence and central administration. Demographically modelled expenditures are government services where we have modelled the cost on demographic characteristics like sex and age. These include health care expenditures, old-age benefits and costs for schooling and education. The government revenues are divided into

the following items: capital taxes (*cap*), consumption taxes (*con*), income taxes (*inc*), sales (*sal*) and social security contributions (*ssc*). We believe most of these categories are self-explanatory and we refer to Nyman and Ahlskog (2018) for a more detailed description.

For each category within both expenditures and revenues, we use a top-down approach where we take the known totals from the government accounts and allocate these expenditures or revenues to natives and immigrants based on the available EU-SILC data. The allocation criteria we use are presented in Table 2. For example, when we estimate the consumption taxes paid by EU immigrants, we take the government's total revenue from consumption taxes and multiply it with the immigrants' share of the total disposable income of all Slovak residents, effectively assuming that natives and immigrants consume the same share of their household income. Some public services can be provided to the migrant population at virtually no

Table 2 Categorisation of revenues and expenditures

Category	% of GDP	Allocation criteria
Revenues		
Consumption taxes (con)	10.6	Disposable income
Taxes on income and wealth (inc)	3.4	Income tax + wealth tax
Capital and corporate taxes (cap)	2.8	Pro-rata
Social security contributions (ssc)	12.5	Wages
Sales (sal)	3.4	Pro-rata
Other revenue (oth)	3.6	Zero marginal revenue
Expenditures		
Benefits (ben)	6.6	Benefits
Pensions (pen1 and pen2)	6.8	Pensions (pen1) and wages (pen2)
Non-congestible public goods (npg)	5.8	Zero marginal cost
Demographically modelled expenditures (dem)	10.6	See below
Congestible public goods (cpg)	10.6	Pro-rata
Demographically modelled expenditures		
Primary education (pri)	1.5	Only age 3–10
Secondary education (sec)	0.7	Only age 11–18
Post-secondary and tertiary education (ter)	0.5	Only age 19–29
Old-age (old)	0.3	Only age 65+
Health (hit)	6.6	Age intervals
Police and prisons (pol)	1.0	Sex and age (peak at 18)

Source: Table by R. Ahlskog, P. Nyman & M. Smrek.

extra cost, and some revenues do not increase with population size. These budget posts, which include defence and central administration (Dustmann & Frattini, 2014), are included in our categories *non-congestible public goods* and *other revenue*. Following Rowthorn's (2008) recommendation, we assume that these aggregates are unaffected by migration.

Furthermore, defining who should count as an EU immigrant requires a bit of elaboration. We test and compare two different definitions here. First, we look at all people residing in Slovakia, but who were born in a current EU

Member State *other* than Slovakia. It is important to keep in mind that this also includes people who migrated *before* the free movement of the EU was instated (or even before the EU in its current form existed). Thus, as mentioned above, a large portion of EU immigrants in Slovakia are Czechs. It also means that a substantial part of people thus included are actually Slovak citizens. Second, we therefore also present estimates where EU-migrants are defined as all Slovak residents who have a non-Slovak, but European, citizenship. These two different definitions speak to slightly different questions. Since rules for obtaining citizenship differ between countries, the first definition provides better comparability between countries. On the other hand, the second definition is more relevant if we are interested in assessing the impact on Slovak public finances on free movement in the EU. Henceforth, we will refer to these (partially overlapping) groups of immigrants as *foreign-born vs. foreign-citizen EU immigrants*.⁴

Because the model is static rather than dynamic, there are several types of effects, mainly indirect, that are not captured in the estimates. For example, possible external labour market effects, such as effects on employment of natives, are not captured. The economic literature on labour market effects of immigration illuminates two counteracting tendencies: on the one hand, migrants might compete with native workers and therefore negatively affect the employment rate and wages for natives (Borjas, 2003). On the other hand, low-skilled immigration may enable natives to take up more productive and well-paid positions (Card, 2009; D'Amuri & Peri, 2014; Foged & Peri, 2016). A broad research consensus is lacking, but a reasonable assumption is that such effects are small and tend to cancel each other out from a fiscal perspective (Blanchflower et al., 2007). This is also what has been found in most studies that focus specifically on intra-European migration (Brenke et al., 2010; Doyle et al., 2006; Hughes, 2011; Lemos & Portes, 2008; Migration Advisory Committee, 2012).

The longer life-cycle effects are not taken into account either, since the estimates are based on year-by-year snapshots. A given person might be a fiscal asset in one year and then retire, thus turning into a fiscal cost. The static approach captures the sum of these effects in a given year, that is, for those who work and

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A related issue is how to define a migrant household; given that we have already defined which person is a migrant. We have opted for a continuous rather than a dichotomous approach, whereby the household's fiscal effect is apportioned to the respective groups by the share of the adults in the household belonging to each category.

those who do not, but does not capture the fact that those who work will eventually retire, and those who are retired have previously likely been contributors. The calculated effect thus applies only to the current composition of the migrant stock, and changes to this composition (for example, if the migrant population in the future is comprised of more migrants of working age) will also affect future net fiscal effects of the migrant population.

Finally, the estimated effects are purely fiscal in the sense that they involve direct transactions between the public sector and the individual (or household). We do not measure other economic effects, such as increased profitability of firms or reduced consumer prices.

There are several possible error sources associated with the kind of method we employ – apart from simple sampling error, the assumptions involved in assigning associated costs and contributions are by necessity simplified. The main take-away from this fact is that the precise estimates in themselves should be taken with a grain of salt. The major point is that they facilitate comparisons: on the one hand, we can compare countries to each other (how does Slovakia fare compared to other countries in the region?), or different groups within the country (are EU immigrants larger or smaller fiscal contributors than natives?).

As we shall see below, a particularly salient point in the case of Slovakia is precisely how to define expenditures on pensions. The EU-SILC data allow us to see how much money in pensions a given person receives. The most straightforward approach is therefore to simply

allocate the government's total pension expenditures to different groups based on how much they receive in pensions (this calculation will be referred to as *pen2*). However, we cannot see whether the received pensions were paid by the Slovak government, by some other government, or by private pension insurance. With migrants, this becomes an important issue since some of them may have worked in their home countries previously, and accrued pension benefits there. Some proportion of pensions paid to EU immigrants may therefore derive from sources other than Slovak state pensions. In particular, in lower-income countries with consumer prices that are lower than that of the migrants' home countries, this provides incentives to stay after retiring rather than moving back, since the nominal value of the pensions received can be 'stretched' longer in the host country.

A more representative way of defining pensions, then, is to allocate the Slovak state pensions paid according to market income rather than pensions received (*pen1*). The logic behind this approach is that the wages that Slovak residents earn today is a good indicator of the pension benefits that they will receive from the Slovak government when they retire, as long as pensions are in some way earnings related. Put simply, wages earned in Slovakia today translates into some level of pensions in the future. However, this muddles up the purely static accounting approach, since pensions paid to one group of people inform the assumed future pension payments to people who are currently employed. Regardless of this, we think that this approach provides a more accurate picture of allocated pension expenditures given the outlined issues.

3. THE INTERNATIONAL PERSPECTIVE

As we mentioned above, we will present results based on two different migrant definitions. The more internationally comparable perspective is to look at the groups of people who are born in a different EU Member State rather than assessing effects based on citizenship. In this section we will therefore look at the foreign-born EU immigrants.⁵

Figures 1–2 present the net fiscal effects of the foreign-born EU immigrants in Slovakia as compared to other European countries. In all figures, the bar for Slovakia (SK) is marked in dark grey. The figures represent two different ways of calculating the effect. Figure 1 presents the estimated fiscal contribution from all EU immigrants residing in the country. To adjust for the fact that the share of EU migrants in the population differ between countries, Figure 2 shows the estimated contribution from a number of EU immigrants that equals 1 per cent of the country's total population.

When looking at the effects of the total stock of EU migrants, we can see that the estimates range from about 1.5% of GDP in Switzerland (EU migration is a major fiscal contribution) to –0.3% of GDP in Ireland (EU migration is a minor fiscal cost). The estimated fiscal effects for Slovakia as well as most other Eastern European countries are close to zero. This is partly because these

⁵ The relative picture changes when using foreign-citizen EU immigrants instead, but the point estimates specifically for Slovakia do not (the standard errors become larger, however, since this group of people is much smaller).

countries tend to have small migrant populations, which limits the size of both positive and negative effects.

Comparing this to the graph where the estimates are adjusted according to the share of the population that are EU immigrants, we can see that the strong result for Switzerland was partly driven by a large EU immigrant population rather than the particularly strong positive fiscal effects per immigrant household. For Slovakia, the estimated effect is still close to zero, indicating that the public finances would neither gain nor lose from an increased number of EU migrants. However, the standard errors are quite large, so we cannot rule out that there would be a small but noteworthy effect.

There is thus no strong evidence in the data that foreign-born EU immigrants are either net contributors or net costs in Slovakia. There is, however, good reason to suspect that the net effects are worse than in most other included countries, where small to moderate positives effects can be seen. As two particularly salient points of comparison, we can look at the Czech Republic and Hungary: both of these neighbouring countries show positive fiscal effects from their foreign-born EU immigrant populations. Slovakia thus appears to be missing out on some of the possible fiscal benefits of these migrant groups.

4. HOUSEHOLD COMPARISONS

The result that the net effects are close to zero both in total and on a per-household basis could be observed for many different reasons. For example,

Figure 1

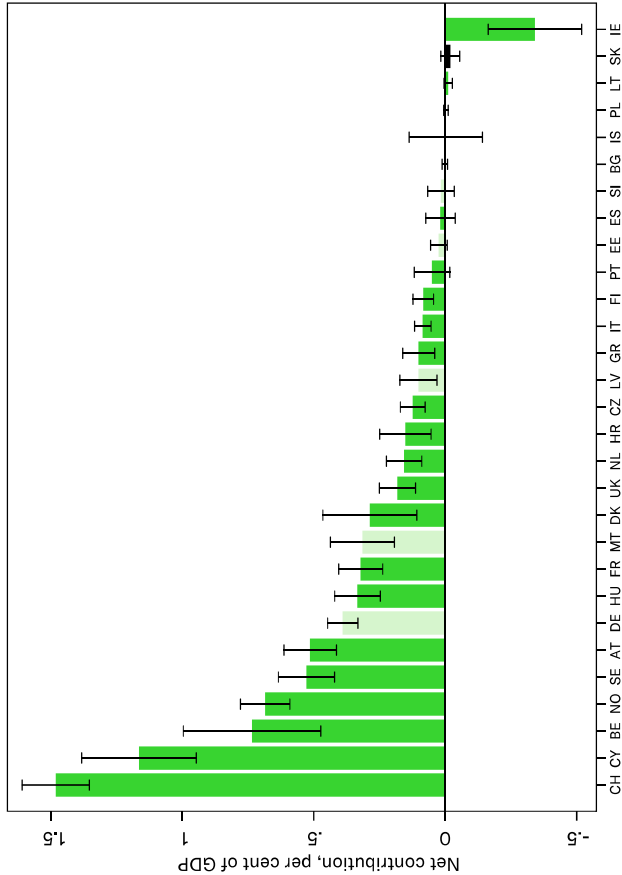
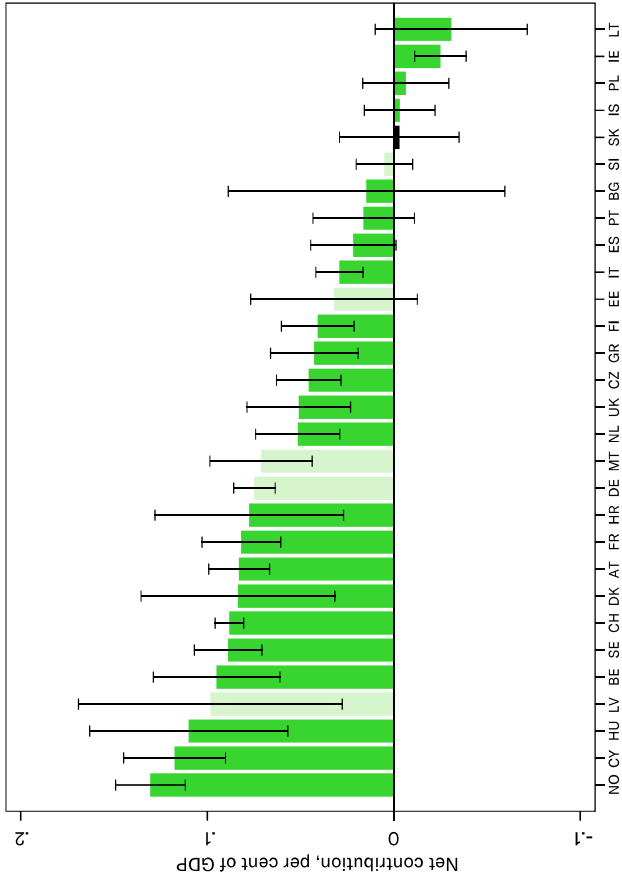


Figure 2



Source: Figures by R. Ahlskog, P. Nyman & M. Smrek

it is possible that the net contribution from migrants differ substantially from that of natives, if natives on average are major fiscal costs or contributors. This may happen when a country's budget balance is far from zero (during times of large deficits, most groups cost more than they contribute) or when a country has large expenditures on non-congestible public goods (in which case most groups tend to be fiscal contributors *on the margin*). And even if none of the groups have an effect on public finances, it is possible that this net estimate hides important details. Maybe migrants bring smaller (larger) revenues but also cost less (more) public expenditures.

In order to better understand the zero effect on the aggregate level, we will now compare an average household of EU immigrants to an average household of Slovak natives, and we will do that one budget item at a time. Since the results may ultimately depend on who we categorise as an EU immigrant, we will present analyses using both foreign-born and foreign-citizen EU immigrants.

When using the broader foreign-born criterion, we see the between-household differences shown in Figure 3. There are no substantial differences between natives and foreign-born EU immigrants: some expenditures are slightly lower, but so are social security contributions. In general, the differences are very small or practically zero. When using pension expenditures allocated by pensions receipts instead of work-income (pen2), we can see that the pension expenditures are higher than for natives. This pattern emerges because of a fundamental demographic difference between this class

of people and Slovak natives, namely on age distribution: the foreign-born EU immigrants are on average older, and thus to a larger extent depend on pensions compared to the native population. This particularly appears to apply to Czechs and Hungarians where, for example, the latter group as of 2018 had a share over the age of 64 of almost 60% (the native share in the same age category is 14%). While we cannot separate the fiscal effects based on nationality due to data limitations, this tells us that it is likely that the effects are driven mainly by retired Czechs and Hungarians, who are the largest and second largest groups of foreign-born EU immigrants. Since many, or even most, of the foreign-born EU immigrants are people one may not ordinarily think of as EU migrants whatsoever (since they are not a consequence of the free movement within the EU and may also include many who would count as naturalised or even ethnic Slovaks), a different migrant definition is required to address the consequences of current free movement policy.

In order to assess what the effects are of the type of migration that may be the result of free movement in the EU rather than population movements within the former federation, it is therefore probably more accurate to consider foreign-citizen EU immigrants: that is, those who are citizens of another EU Member State but who reside in Slovakia. When looking at this group instead, we observe the differences portrayed in Figure 4. Here, the lack of any substantial differences between natives and other EU citizens is even more striking: not even the different definition of pensions appears to matter.

Figure 3

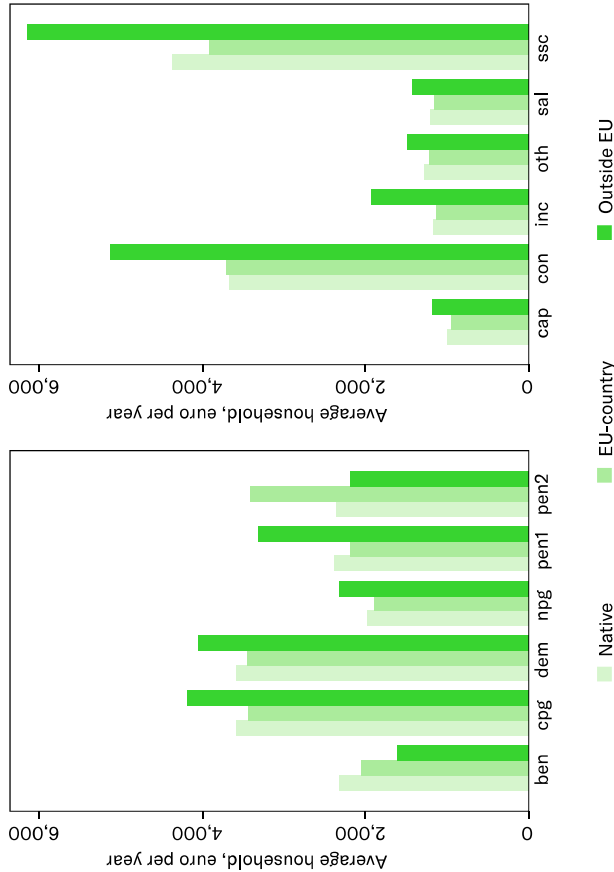
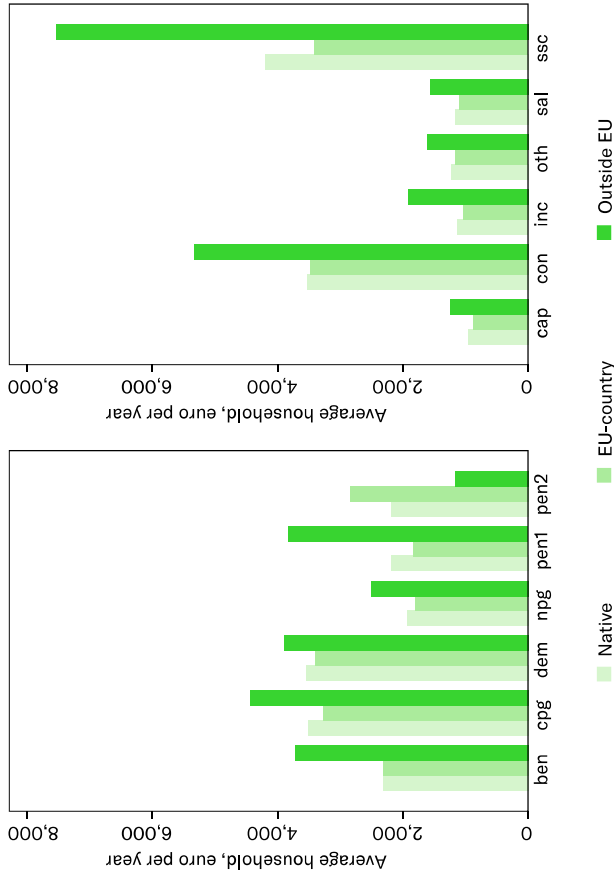


Figure 4



Source: Figures by R. Ahlskog, P. Nyman & M. Smrek

Another interesting point of comparison is between EU immigrants and non-EU immigrants. Here, we see that the pattern of costs of contributions of EU immigrants is much more similar to that of natives than that of other immigrants: the other immigrants show markedly higher contributions in the form of taxes and social security contributions and, depending on the migrant definition, also possibly higher benefit receipts. However, as was shown in Table 1, these figures are based on very few observations, and should therefore be interpreted with great care.

CONCLUSION

Summarising the results is straightforward: the fiscal effects of EU immigration in Slovakia are roughly zero. What this means is that people residing in Slovakia that are born in another EU Member State (or alternatively are citizens of another EU Member State) pay roughly as much in taxes and social security contributions as they receive in benefits and other expenses. If one wishes to interpret this in marginal terms as opposed to in total, adding more European migrants to the Slovak population, provided they are of the same character as the existing migrant population, will not affect the public finances neither positively nor negatively. The implications of this are two-fold. The bad news first: unlike in many western European countries, free movement does not, unfortunately, appear to be a substantial fiscal asset in Slovakia. This should not be a surprise, since labour migration tends to go west within the Union, where

salaries are higher. The good news is that it does not appear to cost anything either. Rather, the data indicates that EU immigrants in Slovakia are fiscally neutral. The natural conclusion to draw from this is that while a number of issues connected to migration of EU nationals to Slovakia can be discussed, the effects on the public budget should probably take a back seat to things like labour market effects or necessary infrastructure investments.

The comparison with neighbouring similar economies such as the Czech Republic and Hungary, however, gives a hint as to the unused potential fiscal benefits that Slovakia could derive from EU immigration. A deeper look at the item-specific data for neighbouring countries suggests that the different fiscal position of Slovakia is driven by income taxes and social security contributions. In brief, EU immigrants to Slovakia end up in lower paid labour markets compared to native Slovaks, while the opposite is true in Hungary and Czech Republic. Slovakia thus appears to attract mainly low-skilled EU migration. There is no inherent reason why Slovakia could not attract the type of European labour that would provide fiscal benefits and therefore give more room for investments in public services (or tax cuts), which its neighbours appear to do successfully. The precise reforms that would be required to accomplish this is a subject too large to grapple with in this chapter, but may involve a few fairly simple adjustments like simplifying registration procedures, or improving possibilities to communicate with state authorities in other European

languages than Slovak and Hungarian (for example English). The regulatory framework for internal migration and free movement that makes these things possible has been set in place since Slovakia joined the European Union, however. The major regulatory hurdles are therefore already conquered.

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