Implications of migrants' educational attainment for government budgets

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Abstract

The freedom of movement for individuals within its member states is a core principle of the EU as laid out in the Maastricht Treaty in 1992. According to Eurostat, roughly 900.00 EU citizens immigrated to a different member state in 2017. Migration typically occurs from economically weaker member states to the more prosperous countries. In most cases, well-educated young individuals migrate after finishing their education and seek employment in countries where they find higher wages and returns to their educational investment. The receiving countries gain skilled individuals without educational investment that immediately contribute to government revenues when they start working. With PAYGO-pension or other welfare systems for the elderly, intergenerational transfer arrangements suffer from the outmigration of working aged contributors while receiving countries benefit. This development accelerates differential aging within the European Union, reinforcing the fiscal consequences of population aging in older EU member countries. The lack of a transfer and social union results in the situation that gains and losses are distributed unequally across countries. With data on public transfers by educational attainment we want to estimate the implications for public transfer flows in sending and receiving countries and estimate the differences by educational attainment level of migrants. Net present values for young migrants are positive for all educational levels but of course the higher the educational level the higher the gains. We can gain important insights on the importance of education and the relative magnitudes. In our outlook, we discuss potential compensation strategies for transfers between EU countries.

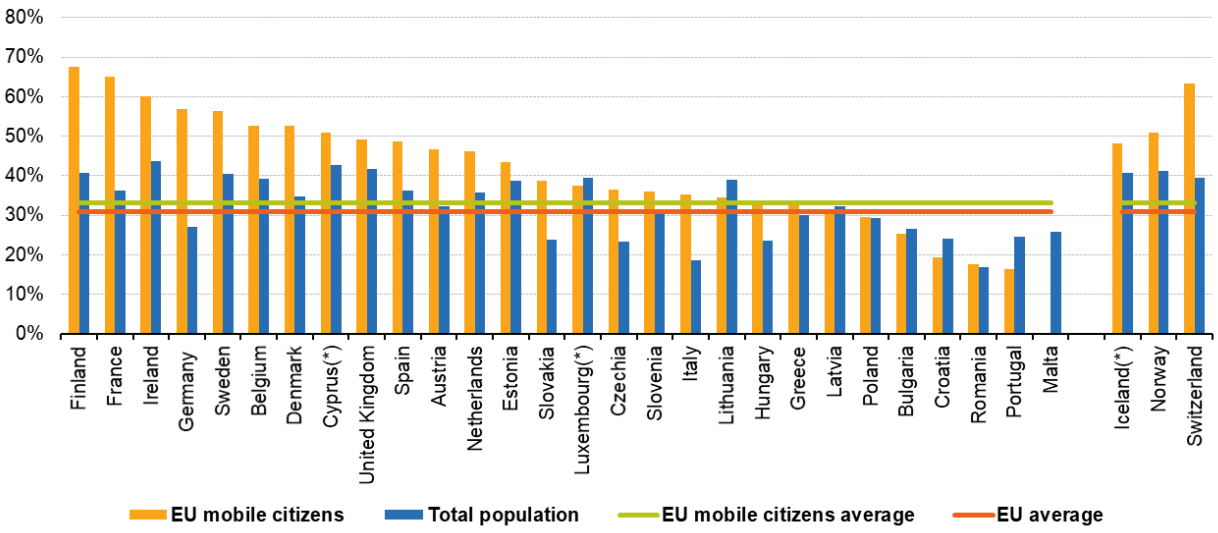
1. Introduction

Studies focusing on migration in Europe widely study the migration from countries around the globe to Europe. But also within Europe there are significant migration flows between the member countries of the European Union. The free movement of people and labor was established by the Treaty of Maastricht in 1992. Since then, most individuals could seek employment wherever they find a suitable position. These rights are numerously employed; we find that individuals tend to migrate from economically weaker Eastern and Southern European member states to Western or Northern European countries. In 2017, almost 400,000 individuals migrated to Germany from other EU member countries, accounting for 43% of total immigrants. 242,000 individuals from other EU member countries migrated to the UK (38% of total immigrants). For most Western and Northern European countries, the share of EU immigrants is comparable around 40% (numbers from Eurostat: Immigration by citizenship 2017 as a proxy for countries of origin). So the inner-EU migration represents a substantial fraction of overall migration flows. In contrast, immigration to Eastern European countries such as Latvia or Lithuania is rather low and only around 5% of immigrants are from other EU member states.

Migration of EU citizens between member states of the European Union has very different consequences for the EU than migration from and to non-EU countries. The sending and receiving countries are both EU members but the implications for these countries differ substantially. Typically, we find the case that young and highly skilled individuals migrate after finishing their education or in the early years after starting work. Migration flows tend to be directed from economically disadvantaged EU member states to economically stronger countries. Overall, 3.9% of all EU inhabitants lived in an another EU country other than their home country (Eurostat 2017). These migrants have even higher employment rates than the working age individuals in their home country. They also are often selected by education: those with tertiary education tend to be more mobile than the general population of a country (see Figure 1). For some countries, a substantial fraction of working age individuals has emigrated. In 2018, we find 21.3% of the working age population (20-64 years) to be mobile in Romania, i.e. more than a fifth of the Romanian population of working age was living in another EU country. In Latvia, Portugal or Lithuania, we find significantly more than 10% of the working age population to be mobile (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_citizens_living_in_another_Member_State_-_statistical_overview).

For the sending countries this implies a substantial brain drain. They have to bear the costs for education and when these countries could start collecting the government revenues (e.g. in form of income tax and social security contributions), individuals or entire families emigrate. The receiving country gains a new working age individual that enters the labor market and pays taxes. This development reinforces the demographic misfortune as economically weaker and older member states lose parts of their working age population. In contrast, economically sound countries with younger populations gain young productive individuals. These individuals might support individuals in need back in their home country by sending remittances.

Figure 1: Population aged 20-64 with tertiary educational attainment (ISCED5-8) by country of citizenship, 2018



In descending order by % among EU mobile citizens.
(*) Figure of low reliability for EU mobile citizens

Source: Eurostat (online data code: lfst_lmbpcited and lfsa_pgaed)

eurostat

Source: https://ec.europa.eu/eurostat/statistics-explained/images/f/f0/Population_aged_20-64_with_tertiary_educational_attainment_%28ISCED_5%E2%80%938%29_by_country_of_citizenship%2C_2018.png

This is especially severe for the sending country as migration is highly selective. Higher educated individuals tend to be more mobile (CITE) and here especially female (CITE). Another potential imbalance in public transfers might arise from the fact that at ages close to retirement migrants might want to return to their home country. These individuals did not contribute to the welfare system in the past and might even have earned pension rights in other countries but still utilize other public benefits such as health and long-term care.

In this paper, we use government benefits and revenue data by level of education from the AGENTA project by single years of age. We estimate net present values for intra-EU immigrants by country and educational attainment.

2. Methods and Data

Economic age profiles of government revenues and expenditures by level of education are provided by the National Transfer Accounts project (www.ntaccounts.org). The goal of the National Transfer Accounts (NTA) project is to improve understanding of how population growth and changing population age structure influence economic growth, gender and generational equity, public finances, and other

important features of the macro-economy. The subproject AGENTA provides government revenues and expenditures by age, country, and educational attainment level for all EU member countries for the year 2010 in a comparative manner (http://dataexplorer.wittgensteincentre.org/nta). The project received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration and offers publicly available detailed data. Migration data will be obtained from Eurostat.

3. Expected Results: Case Studies, Sensitivity Analysis, and Future Developments

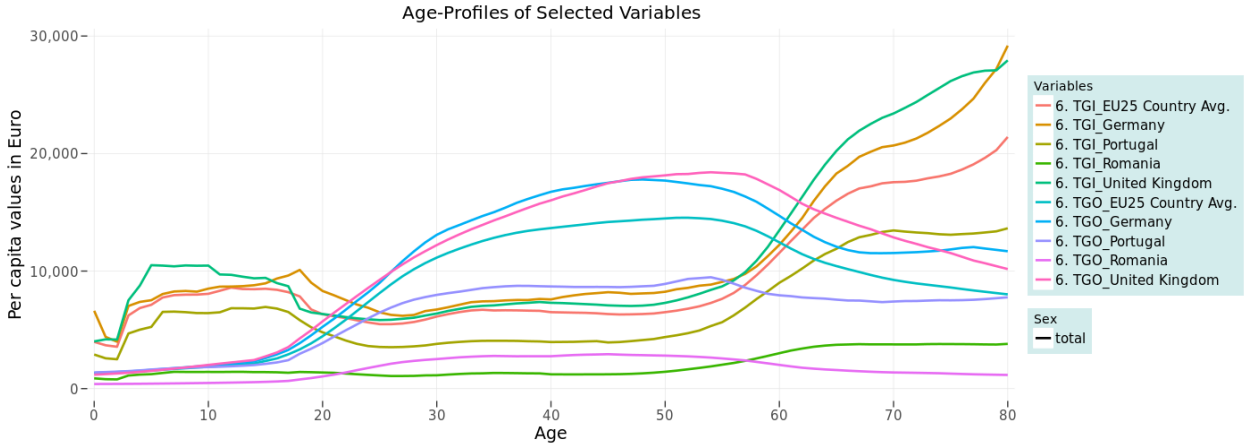
We use NTA data to provide estimates for net present value (NPV) of incoming migrants according to their educational level for all EU member states. We do not distinguish the migrants by sending country, so it does not matter if Spain receives a Slovakian or Austrian immigrant; both behave like average Spaniards depending only on their own educational attainment characteristics.

We will present detailed government budget results for the high inflow countries Germany and UK and compare these to the estimates of Romania and Portugal, two countries that suffer from substantial outmigration. Figure 2 shows differences in per capita age profiles for government revenues and expenditures for the four case study countries in 2010. While the curves look somehow comparable due to the underlying economic lifecycle that especially children and the elderly receive public transfers with education and pensions and health care being the most important categories, we still find significant differences. UK and Germany for example have high investment in human capital but also high expenditures for the elderly and oldest old. In Romania we find a moderate increase for old age expenditures, Portugal lies in between. Government revenues show also important differences. In the UK, elderly individuals contribute a significant amount to public budgets well up to the age of 70; in other countries such as Germany or Portugal, we find a significant drop in government revenues for individuals entering retirement age. This translates into very different implications for migration in the different countries and depending on the age at migration.

By showing extreme case studies we can get an idea of the bandwidth of the impact of migration on government finances. In a sensitivity analysis we will show how much the results depend on the underlying economic transfer profiles by education. We will study the implications for sending and receiving countries in detail and look at the impact of migration for government budgets in different ages.

We will discuss the difficulties the European Union faces due to the fact that it guarantees the free movement of people which allows individuals to seek employment in any country in the EU but at the same time not having a social or fiscal union. Especially for government benefits of intergenerational nature such as education, pension or health and long-term care, this poses challenges for the individual member states. We discuss if a compensation mechanism for receiving young skilled immigrants and saving the costs of education could be implemented to share the investment costs between EU countries.

Figure 2: Age profiles of government revenues and expenditures for case studies Germany, UK, Romania and Portugal, Source: AGENTA Database for the year 2010



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