Domestic migration and economic growth in the Austro-Hungarian Monarchy

Michael Pammer
Johannes Kepler University, Linz (Austria

The paper investigates the effects of the domestic migration in the Austro-Hungarian Empire on economic growth, and vice versa, between 1867 and 1913. Migration was a prerequirement for urbanisation and shifts in the sectoral structure of the economy, and eventually for income growth. Most of the migration was domestic, and immigration from abroad was minimal.

The relation between migration and economic growth was two-sided. On the one hand, regions with higher growth rates and higher income attracted migrants. On the other, immigration was necessary for restructuring the regional labour force in connection with the sectoral change in a growing local economy. Apart from income differentials, migration movements were influenced by other economic factors such as the transport infrastructure, by legal factors such as marriage norms and ensuing chances to marry, and by language (Austria-Hungary was a multiethnic empire). In turn, migration affected the sexual proportion, the age structure, marriage rates, birth rates, death rates, and illegitimacy rates in both the areas of provenance, and the areas of destination, and it was the main factor for changes in the size of settlements in the destination areas.

Defining migration

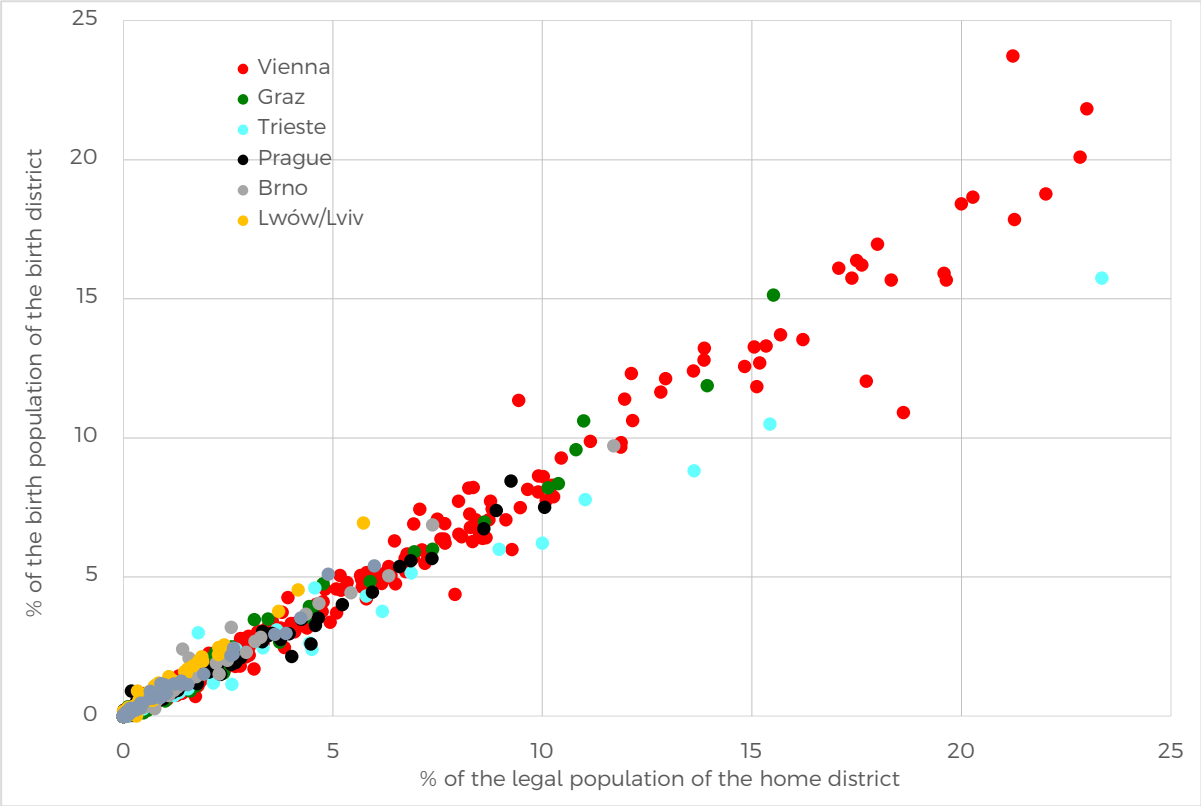
We dispose of data on migration and on other variables on the level of political districts (Imperial Austria) and counties (Hungary and Croatia), together close to 400 districts and 120 counties. We do not dispose of comprehensive and continuous data on short-term movements, but we have two kinds of data on the provenance of the population at a given point of time.

First, the census provide generic data on the birth places of the resident population, categorised as "born in the community of residence", "born in the district of residence", "born in the crown-land of residence", "born in the country", and, vice versa, "resident in the community of birth", and so on. With the exception of large cities, these data do not inform in detail about the district of birth of people who did not live in their district of birth. Thus, in most cases, these people can be identified as migrants from anywhere, but not more.

Second, for Imperial Austria, more specific information can be derived from the data on the local citizens' rights of the resident population. Every person had local citizens' rights to a specific community in the country which included the right to settle there, the right to vote for the local representative body, and, in particular, the right to receive welfare in case of poverty. The local citizens' rights were either inherited from the father, or, in the case of married women, acquired from the husband. People who moved out of their community did not lose those rights, and, up to the turn of the century, they did not acquire the same rights in their new community of residence. Thus, many people had local citizens' rights to a community different from their community of residence, due to prior migration. For brevity, we call people who had those rights, the "legal population" of a place as opposed to the actual resident population. The legal situation changed only in 1901 when people who had lived in a community for ten years could claim local citizens' rights in their community of residence and give up their rights to their prior community.

Given the fact that this legal status was passed on from generation to generation, and from husband to wife, such a tie to a community in a different part of the country does not necessarily imply a migration movement of the very people listed in the census. It may easily be the result of a migration one or more generations back, and even of migration in the in-law family any time back. Accordingly, in the literature, the data on the legal population appear as unsuitable for studies of migration.

The census of 1900, however, provides the opportunity to compare the data on the legal population with detailed birth data in a few selected cases, that is, for the large cities. For these cities, we can both establish the birth districts of the resident population, and the districts where the resident population belonged legally. We can then calculate the proportion of the birth population of a certain district living, for instance, in Vienna, and the proportion of the legal population in the same district that lived in Vienna. The two variables are highly correlated, with an R^2 of 0.98 (see the figure). We get similar results for the other major cities.



We assume the same close connection between the birth district and the legal tie to a district to be the general rule, that is, we assume it for the areas outside the large cities, too. Thus, we use the data on the legal population in 1900 as a proxy for migration. On this basis, we can establish a relationship between each district and each other district, and use these data for estimating previous population movements from any district to any other district. In 1900, Imperial Austria consisted of 380 districts, which yields 144,400 pairs of districts (including the cases where birth district and legal district were the same). Technically, for every district, we estimate its share in the legal population of every other district. This is the dependent variable.

Explanatory variables

In order to explain migration from one single district to any other district, we employ data on population, sectoral structure, demography, transport conditions, and others. These data are used either directly for the districts of origin and the districts of residence, or, as differentials between between these districts.

The results so far suggest:

- A strong "gravitation" effect: large population centers attracted more migrants, and migration was more intense the shorter the distance between two areas is. This effect persists in all variations of the model.
- Districts with a higher per capita income were immigration areas, and vice versa.

- The sectoral structure has an ambiguous effect. Contrary to the initial assumption, the intensity of migration is not simply a function of a difference in the share of agriculture in the population, or, in the labour force, that is, a migration from agricultural areas to non-agricultural areas. Indeed, migration to non-agricultural areas is stronger than migration to agricultural areas. At the same time, emigration from agricultural areas is weaker than emigration from non-agricultural areas. This suggests that backward regions did clearly not receive immigrants, but moving out of these regions was also difficult.
- An easiser access to the transportation network (in this case, a shorter distance to the next railway station) possibly made it easier to migrate out of a territory. However, this effect is not particularly robust.
- Migration happened between ethnically defined areas in specific ways. For instance, areas with a larger share of Czech speaking people were more likely to deliver emigrants to other regions than to receive immigrants from there. On the other hand, German speaking regions were possibily more likely to receive immigrants, but, again, this is not a robust effect, due to the heterogeneity of the German speaking areas.
- Differences in environmental conditions, proxied with data on infant mortality, apparently had no clear and consistent effect on migration.
- Migration probably offered the opportunity to get married more easily, due to looser political control of marriages in urban centres. The effect of migration on marriages, however, is not consistent and robust. Apparently, the result was a mix of traditions in the areas of provenance, with a higher propensity to get married in the backward regions, and favourable conditions in urban areas where many migrants ended up.
- As always, effects become much weaker or even change their sign when we take spatial autocorrelation into account.

Data base

The data base was constructed from censuses for the size of settlements, the sectoral structure, the age structure, language, and religion, and for all migration variables (birthplace of the present population, whereabouts of the birth population, legal home status of the population). Income data come from the income tax statistics, and from accident insurance statistics. The estimates of agricultural productivity is based on the annual agricultural statistics, the agricultural census of 1902, and the animal censuses. Transport data come from the railway statistics, and from our digitisation of the railway network.