

# A Longitudinal Perspective to Migrant Health: Unpacking the Immigrant Health Paradox in Germany

## Background

In many host countries, immigrants face socioeconomic disadvantage upon arrival and their status improves with time in the destination country. By contrast, their health outcomes often follow an opposite trend: immigrants report better health compared to native-born individuals upon arrival, but their advantage erodes over time. This finding is known as the Immigrant Health Paradox (IHP) and is widely supported in the United States, while evidence in Europe is mixed (Feliciano 2020; Maskileyson, Semyonov, und Davidov 2019).

A major shortcoming of the IHP literature is that it is mostly based on cross-sectional evidence (Elshahat, Moffat, und Newbold 2022). Cross-sectional studies cannot distinguish whether the differences between recent and non-recent migrants really reflect individual-level changes in health or health differences between birth and/or migration cohorts. The cross-sectional relationship between time since arrival and health can also be biased by return migration, mortality and survey attrition. Moreover, the impact of time since arrival on health is confounded by age (Nesterko u. a. 2019).

We address these shortcomings by investigating the IHP using longitudinal data from the German Socio-Economic Panel (GSOEP). Germany is a major immigration country in Europe, where over a quarter of the population has a migration background. German studies are mostly based on cross-sectional analyses and find mixed evidence for the IHP across immigrant groups, health outcomes and migrant tenure (Holz 2022; Maskileyson u. a. 2019; Nesterko u. a. 2019; Nieden und Sommer 2016). Using longitudinal data spanning over 25 years and considering a wide range of health outcomes, we use panel data analysis including random- and fixed- effects models to investigate the IHP in Germany.

## Data and Methods

We use data from the GSOEP to compare the health outcomes of native-born and foreign-born adults (age 18 to 60). We restrict the migrant sample by excluding those migrating before the age of 18 and refugees (because they are observed for shorter time spans). In our main specifications, we investigate gaps in self-reported current health (ranging from 1 to 5) between 1994 and 2021 (N= 38,994 natives; 11,551 migrants). We also investigate gaps in the SF-12 physical and mental health components and in the likelihood of reporting a chronic illness, health concerns, a diagnosed disability, being a smoker and being overweight (in smaller samples due to question item availability).

Our analytical approach is divided in two parts. First, we investigate immigrant-native gaps in health outcomes by migrant tenure in Germany, using random effects models controlling for age, gender, birth cohorts and educational attainment. Second, we apply an approach proposed by Brunori (2023) to study the IHP longitudinally. We use random- and

fixed-effects models to compare health trajectories by age between immigrants with similar ages at arrival and natives.

We define three different populations. In Set A, we restrict the sample to migrants who have arrived in Germany between the age of 18 and 24 and compare them to the German adult population. In Set B, we restrict the sample to migrants who arrived between the ages of 25 and 34, and to all respondents aged 25 and older. Set C includes migrants who arrived between the ages 35 and 45 and restricts the whole sample to those aged 35 and older. Within each set, age and time since arrival are almost collinear for migrants. This allows us to investigate immigrant-native gaps in the association between age and health, and interpret any differences as the effect on migrants' time since arrival. Within this framework, we should find a migrant health advantage at younger ages and a stronger negative effect of age for immigrants to support an IHP.

### **Preliminary Results**

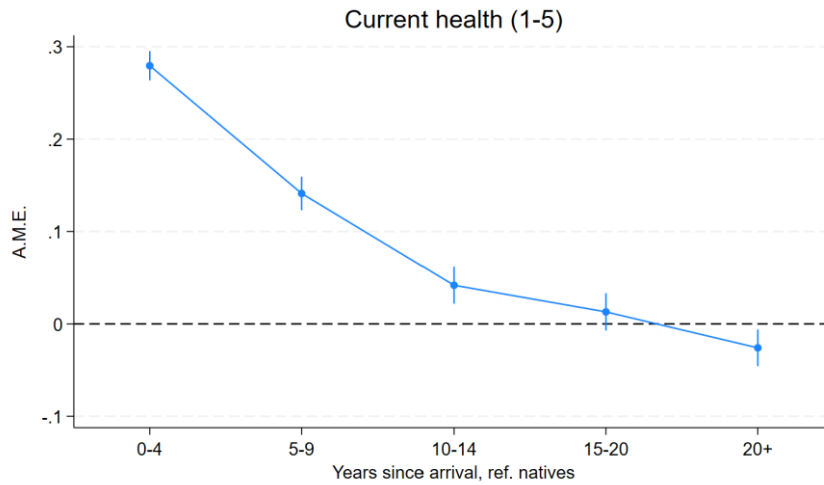
For the sake of conciseness, we present our results only for current health, but findings are broadly similar across outcomes considered. Figure 1 shows that recently arrived immigrants are advantaged in terms of self-reported health compared to natives. However, this advantage decreases with time since arrival and becomes a disadvantage for immigrants with over 20 years of tenure. These results are in line with prior evidence on the IHP from other countries, but contrast with some of the mixed evidence for the German case.

Next, we present results for our second set of analyses. Figure 2 shows health trajectories for immigrants and natives from in the three groups we defined (A, B and C) from random effects models (first row) and fixed effects models (second row). In line with the first set of analyses, we find an immigrant health advantage that deteriorates over time and becomes a disadvantage in random effects models. This is further corroborated by our fixed effects models, which show that the negative effect of age is stronger for immigrants. Our results show that the health decline is strongest for immigrants having arrived at a later age.

### **Preliminary conclusions and future steps**

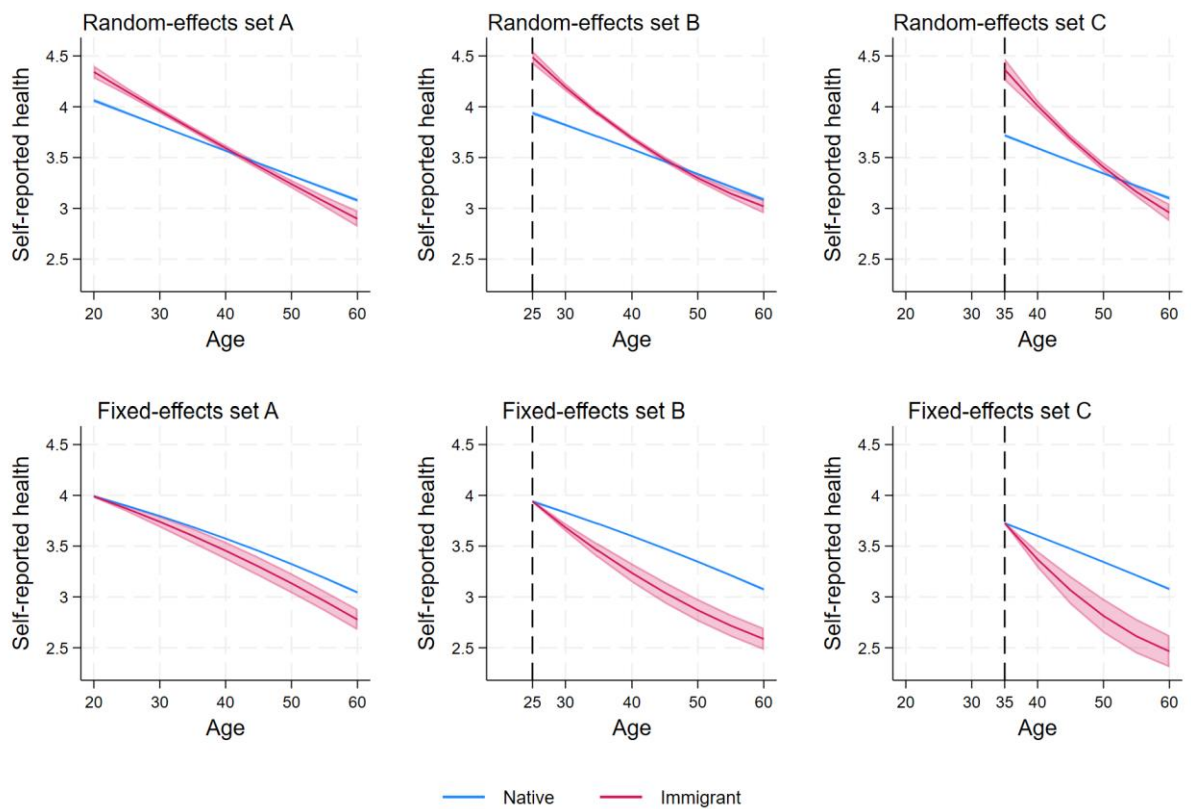
Through different sets of analyses, including random- and fixed-effects models exploiting longitudinal data, we find novel and more rigorous evidence for an IHP in Germany for various health outcomes. Our results are also robust to a number of checks, including different and smaller cutoffs to define the different subsamples. In future steps, we plan to investigate the mediating role of some health behaviours available in the GSOEP, in order to explain the IHP.

**Figure 1: Immigrant-native gaps in Current Health (1-5) by migrant tenure**



Notes: Estimates from random effects models controlling for age, age-squared, gender, birth cohorts and educational attainment. Source: GSOEP v.38, authors' own calculations.

**Figure 2: Current healthy by age/arrival, Random and Fixed Effects estimates**



Source: GSOEP v.38, authors' own calculations.

## References

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