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Marwân-al-Qays Bousmah
Jean-Baptiste Combes
Mohammad Abu-Zaineh

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Marwân-al-Qays Bousmah*
Aix Marseille Univ, INSERM, IRD, SESSTIM and ORS PACA, Observatoire régional de la santé Provence-Alpes-Côte d'Azur, Marseille, France
marwan-al-qays.bousmah @univ-amu.fr

Jean-Baptiste Combes
EHESP French School of Public Health, Sorbonne Paris Cité and CNRS, UMR CRAPE Centre de Recherche sur l'Action Politique en Europe – 6051, France
jean-baptiste.combes@ehesp.fr

Mohammad Abu-Zaineh
Aix-Marseille Univ., CNRS, EHESS, Centrale Marseille, AMSE, and IDEP, 5 boulevard Maurice Bourdet CS50498 F-13205 Marseille cedex 01, France.
mohammad.abu-zaineh@univ-amu.fr

***Corresponding author: Marwân-al-Qays Bousmah** marwan-al-qays.bousmah @univ-amu.fr

Abstract

The literature on immigration and health has provided mixed evidence on the health differentials between immigrants and citizens, while a growing body of evidence alludes to the unhealthy assimilation of immigrants. The present paper investigates the heterogeneity in health patterns between immigrants and citizens in Europe, and also between immigrants depending on their country of origin and across five different health measures. We use representative panel data on more than 100,000 older adults living in nineteen European countries. Our panel data methodology allows for unobserved heterogeneity. We document the existence of a healthy immigrant effect, of an unhealthy convergence, and of a reversal of the health differentials between citizens and immigrants over time. We are able to estimate the time threshold after which immigrants' health becomes worse than that of citizens. We further document some heterogeneity in the convergence of health differentials between immigrants and citizens in Europe. Namely, the unhealthy convergence is more pronounced in terms of objective health for immigrants from low-HDI countries, and in terms of subjective health for immigrants from medium- and high-HDI countries.

Keywords: Healthy immigrant effect; Health differentials; Health convergence; Immigration; Health economics.

JEL codes: F22, I14, J15

1. Introduction

The literature on immigration and health has provided mixed evidence on the health differentials between citizens and immigrants in developed countries. While some studies report that immigrants are in better health than citizens (McDonald and Kennedy, 2004; Wu and Schimmele, 2005; Antecol and Bedard, 2006; Hernández-Quevedo and Jiménez-Rubio, 2009; Giannoni et al., 2016) - providing support for the so-called *healthy immigrant effect* - others find the opposite (Nielsen and Krasnik, 2010; Solé-Auró et al., 2012). A growing body of evidence further shows that immigrants' health deteriorates with the length of residence in the host country (Malmusi et al., 2010; Lanari and Bussini, 2012; Jatrana et al., 2014; Giuntella and Mazzonna, 2015). This phenomenon, sometimes called *unhealthy assimilation*, implies that the healthy immigrant effect, if any, is transitory. Describing and explaining the evolution of immigrants' health is of particular importance from a research and policy perspective. Once settled in the host country, immigrants would tend to have different health trajectories, not only relative to their native counterparts, but also among subgroups of immigrants.

The present paper attempts to assess whether the healthy immigrant effect, if any, is followed by a convergence of immigrants' health status toward that of citizens in Europe. We use representative panel data on more than 100,000 older adults living in nineteen European countries. The panel data methodology employed allows for unobserved heterogeneity. We document the existence of a healthy immigrant effect, of an unhealthy convergence, and of a reversal of the health differentials between citizens and immigrants over time. We are able to estimate the time threshold after which immigrant's health becomes worse than that of citizens. We further show that the effect on health of the immigrants' length of residence in the host country differs depending on the wealth of the country of origin and on the health measure considered. The present paper fits in the literature investigating the heterogeneity in health patterns across immigrant groups, with a focus on the wealth of the immigrants' country of origin.

As we investigate the effect on health of the immigrants' length of stay in Europe, we focus on older immigrants. In the 1950s, post-war Europe has relied on immigration to sustain its economic growth. We are now able to investigate the evolution of immigrants' health over a long time span, which explains the recent development of studies on elderly immigrants in Europe (White, 2006; Malmusi et al., 2010; Lanari and Bussini, 2012; Solé-Auró et al., 2012; Constant et al., 2018).

The remaining of the paper is organized as follows. Section 2 reviews the literature on immigrants' health in developed countries and discusses the relevance of the health measures used in this study. The data and the econometric methodology are detailed in Sections 3 and 4, respectively. Section 5 presents the results, and Section 6 discusses the implications of the findings.

2. Literature review

2.1 Immigrant's health in developed countries

In developed countries, health differentials between natives and immigrants and their evolution have been linked to the interplay of several factors. These include socio-economic conditions, individual factors (immigrants' behavior, health-related selection), and characteristics of both the country of origin (social norms, wealth) and of destination (social norms, integration policies towards immigrants). These health differentials are often mirrored by differences in access to health care.

McDonald and Kennedy (2004) document a healthy immigrant effect and an unhealthy convergence in Canada regarding chronic conditions, but not self-assessed health, indicating that this phenomenon would be more pronounced in terms of physical health than health perceptions. Also in Canada, while showing the existence of a healthy immigrant effect in the case of depression, Wu and Schimmele (2005) find that depression among immigrants increases with their length of stay.

In the United States, immigrants are less likely to have health insurance coverage and have lower health care use and spending than their native counterparts (Carrasquillo et al., 2000; Ku and Matani, 2001; Ku, 2009; Reyes and Hardy, 2014; Tarraf et al., 2016). Antecol and Bedard (2006) show that immigrants have a lower body-mass index (BMI) upon arrival, but that they converge to that of the Americans as the length of stay increases. This relationship between BMI and duration of residence varies by gender and ethnicity (Ro and Bostean, 2015), and by arrival cohorts, with more recent immigrant cohorts being more likely to be obese upon arrival and to experience a faster unhealthy convergence (Giuntella and Stella, 2017). Other recent studies show that social norms in both the host country and the country of origin influence immigrants' health behaviors. Focusing on smoking behaviors, Leung (2014) finds that assimilation in the United States is positively (negatively) associated with the likelihood of being a smoker for immigrants from low-smoking (high-smoking) countries.

Analyses of the relationship between immigrants' health and duration of residence in Europe have yielded mixed and sometimes conflicting evidence. Lindert et al. (2008) show disparities across host countries and immigrant groups in the prevalence of mental disorders and in the access and utilization of mental health services. Solé-Auró et al. (2012) investigate the differences in health care utilization between elderly natives and immigrants. They find that elderly immigrants, particularly those who arrived recently, have a higher use of health care services (physician visits and hospital stays), due to differences in health, health behaviors, socio-economic status or countries' health system characteristics. Moullan and Jusot (2014) show the existence of a North-South gradient in immigrants' health status, with immigrants in Italy and Spain having a better health status than in Belgium and France. Using three different health measures (self-reported health status, limit-

ing long-standing illnesses, and self-reported chronic illness), Giannoni et al. (2016) show that non-European immigrants tend to have better health in countries with pro-immigrant integration policies.

Using Swedish data, Pudaric et al. (2003) show that country of birth is associated with poor health status and impaired instrumental activities of daily living (IADL). The authors also provide a theoretical framework for the link between immigrants' health deterioration and acculturation. They argue that poorly acculturated immigrants are exposed to long-term stress reactions due to a series of individual, structural and cultural factors, which may in turn harm their health. Bengtsson and Scott (2006) highlight a gap in sickness benefit consumption between Swedish natives and immigrants, and also between immigrants depending on the country of birth. The authors show that while western immigrants and natives display similar patterns, immigrants from labor-sending countries, whose occupations are more physically demanding, have a higher average number of sick days.

In Spain, Malmusi et al. (2010) document large migration-related health inequalities, with immigrants from poor areas being the worse-off group, which can be related to immigrants' socio-economic deprivation compared with natives. Evidence that immigrants' health deteriorates over time at a faster rate for immigrants working in high-risk jobs have been found in Spain (Solé et al., 2013) and in Germany (Giuntella and Mazzonna, 2015).

In France, Vignier et al. (2017) report that individuals in threat-related exile have a lower probability of accessing health care. Furthermore, it has been shown that undocumented immigrants experience great difficulty in exercising their rights to health care and tend to underutilize the *State Medical Assistance* (André and Azzedine, 2016). The settlement process of recently arrived immigrants from sub-Saharan Africa has been shown to be long and precarious (Gosselin et al., 2016). This long period of insecurity is mirrored by a lower health care utilization of recently arrived immigrants compared to the French-born population with equivalent health needs. This is reported in Berchet and Jusot (2012a), who also indicate that the healthy immigrant effect was mainly observed for immigrants who settled in France before the economic crisis of the mid-1970s. And even for these first- and second-generations immigrants, studies show that they suffer from premature dependency in old age (Plard et al., 2015), and, more generally, that their health became worse than that of the French-born population from the mid-2000s (Attias-Donfut and Tessier, 2005; Jusot et al., 2009). Such health disparities are mainly due to differences in social capital, income and occupation status (Berchet and Jusot, 2012b), and vary depending on the region of origin (Vaillant and Wolff, 2010).

2.2 Relevance of the health measures considered

The analysis is based on five health indicators, allowing us to test whether health differentials across citizenship status and over time vary depending on the health

measure considered. These measures are: self-assessed health (SAH), the body-mass index (BMI), chronic conditions, mental health, and physical limitations.

SAH has long been revealed to be a powerful predictor of mortality and morbidity (Idler and Kasl, 1995; Idler and Benyamini, 1997; DeSalvo et al., 2006; Doiron et al., 2015), even though it has less predictive power than objective health measures (Doiron et al., 2015). Studies nonetheless indicate that health reporting differs by income and education level, reporting heterogeneity in SAH by socio-economic status, which may also be the case by citizenship status. For instance, higher educated older Europeans have been shown to be more critical of a given health state (Bago d'Uva et al., 2008). Thus, the predictive power of SAH for mortality might also differ by education level (Huisman et al., 2007), or across socioeconomic groups.[1] And if there is no significant difference between ethnic groups in the association of SAH with more objective measures of morbidity (Strawbridge and Wallhagen, 1999; Chandola and Jenkinson, 2000), such association is nonetheless sensitive to cross-country heterogeneity in response styles (Jürges, 2007). Altogether, SAH has been widely used in cross-country health studies (van Doorslaer and Koolman, 2004) and in studies on immigration and health (Vaillant and Wolff, 2010; Malmusi et al., 2010; Giannoni et al., 2016).

Although the relationship between BMI and mortality have been extensively studied and debated (Berrigan et al., 2016), the recent study by the Global BMI Mortality Collaboration (2016), involving more than ten million participants in four continents, indicates that overweight and obesity are associated with higher all-cause mortality. BMI has been used in influential studies on the migration-health relationship (Antecol and Bedard, 2006; Sanchez-Vaznaugh et al., 2008). Chronic conditions have obvious deleterious effects on functioning and well-being (Stewart et al., 1989), and mental health has been shown to be associated with morbidity and mortality (Wulsin et al., 1999). Finally, a large body of evidence indicates that impairment in activities of daily living (ADL) is a strong predictor of mortality in the elderly (Spector et al., 1987; Scott et al., 1997).

Altogether, it is worth noting that the associations among these five different health measures might differ by age, gender, or other socio-demographic characteristics. For instance, Imai et al. (2008) show that the association of BMI with functional health status and SAH is sensitive to gender and age. This motivates the use of different health measures to compare their relationship with the variables of interest.

3. Data

We use data from the SHARE survey (Börsch-Supan et al., 2013), which primarily

[1] While some studies show that the predictive power of SAH for mortality does not differ by indicators of socioeconomic status (Burström and Fredlund, 2001; van Doorslaer and Gerdtham, 2003; McFadden et al., 2009), it has also been shown that such predictive power increases (Dowd and Zajacova, 2007) or decreases (Singh-Manoux et al., 2007) with income.

aims at investigating ageing issues in Europe. The SHARE survey has also been used to investigate the relationship between immigration and health (Lanari and Bussini, 2012; Solé-Auró et al., 2012; Constant et al., 2018). Our analysis is based on four waves conducted in 2004-2005, 2006-2007, 2010-2012 and 2013, respectively. These waves share the same methodology. The survey samples individuals over 50 years old in European countries. Individuals of the same household are also surveyed. The 19 countries in the sample are Austria, Belgium, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and Switzerland.

Individuals' citizenship status (citizen or immigrant) is the main variable of interest. An immigrant is defined as an individual who is or intend to be settled in the host country (Anderson and Blinder, 2017). When individuals are surveyed for the first time, major life events are collected retrospectively. Thus, we know the immigrants' year of arrival, allowing us to compute the length of stay in the host country. As it is likely to be highly correlated with age, we divide the length of stay by the age. This measures the immigrants' share of lifetime in the host country. Immigrants in the sample arrived in the host country between 1916 and 2013. Immigrants' year of arrival distribution is shown in Figure 1.

[Figure 1 about here]

We also have information on the immigrants' country of origin, from which we construct a categorical variable based on the wealth of the country of origin. Based on their UN's Human Development Index (HDI) value in 2015, countries of origin are classified as low human development (HDI $<$ 0.700), medium (0.700 $>=$ HDI $<$ 0.836) and high human development (HDI $>=$ 0.836).[2]

Detailed definitions of the variables used are given in Table 1. Five different health measures are used as dependent variables: (1) self-assessed health (whether the individual reports a less than very good health), (2) the body-mass index (whether the individual is overweight or obese), (3) chronic conditions (the number of chronic diseases), (4) mental health (whether the individual is depressed), and (5) physical limitations (whether the individual has one or more limitations with activities of daily living [ADL]). Descriptive statistics of the variables used in the analyses are given in Table 2. Individuals in the sample are aged 22 to 103. Citizens' and immigrants' age distributions are relatively similar, as shown in Table 3.

[Table 1 about here]

[Table 2 about here]

[2]The 0.700 cut-off is commonly used to distinguish low- from medium-HDI countries, and the 0.836 cut-off represents the lowest HDI value among European Union countries (Hungary), as performed by Malmusi et al. (2010). Although immigrants in the sample arrived in the host country between 1916 and 2013, we only use the 2015 HDI of the country of origin due to data availability.

[Table 3 about here]

4. Econometric methodology

We use a random-effects panel probit model for all binary dependent variables (Equation 1), and a random-effects panel Poisson model for the discrete positive dependent variable, that is, the number of chronic diseases (Equation 2). For individual i $(i = 1, ..., n)$ in survey year t $(t = 1, ..., T)$:

$$P(y_{it} = 1|x_{it}) = \Phi(x_{it}\beta + c_i) \tag{1}$$

where Φ is the standard normal cumulative distribution function.

$$P(Y_{it} = y_{it}|x_{it}) = F(y_{it}, x_{it}\beta + c_i) \tag{2}$$

where $F(x, z) = P(X = x)$. X is Poisson distributed with mean $\exp(z)$.

Equation 1 and Equation 2 are estimated using maximum likelihood. In both models, x_{it} is the vector of explanatory variables (some of these variables are constant over time) and c_i is the time-invariant unobservable. Following Mundlak (1978), we include the within-individual means of the time-varying regressors, $\bar{x}_i$, to allow for the possibility that the unobserved time-invariant individual effect and the regressors are correlated (see Wooldridge 2002 for further methodological details):

$$c_i = \bar{x}_i\theta + \nu_i \qquad \text{and} \qquad E(c_i|x_i) = \bar{x}_i\theta \tag{3}$$

where $\bar{x}_i$ is the panel-level mean of x_{it}, and ν_i is a time-invariant unobservable that is uncorrelated to the regressors.

We include both age and period (survey wave) effects in the model. Cohort effects are not included due to the age-period-cohort identification problem and the impossibility to disentangle these three effects, as they are mathematically confounded (Bell and Jones, 2013). Period effects are likely to capture unobserved factors common to all individuals in the sample. Country fixed effects are also included in the model to control for unobserved country-specific characteristics. Robust standard errors are computed at the household level to account for intra-household correlation.

Finally, we calculate average partial effects (APEs) to discuss the results in terms of magnitude.[3]

5. Results

5.1 Baseline model

[3]See Wooldridge (2002) for details on the calculation of APEs in the presence of unobserved heterogeneity.

Maximum likelihood estimates of the model (Equation 1 and Equation 2) and APEs are reported in Table 4.

[Table 4 about here]

The estimates show that immigrants are more likely to be in better health than citizens. This is true for all dependent variables except mental health, for which there is no significant difference between citizens and immigrants. The APE of being an immigrant ranges from -0.029 (for ADL limitations) to -0.067 (for chronic conditions). The probability of reporting poor self-assessed health is 4.2%-points lower for immigrants than for citizens. As reported in the introduction, such healthy immigrant effect has been highlighted previously. Nevertheless, the results reveal that the immigrants' length of stay - measured as the share of lifetime in the host country - is significantly and negatively associated with their health for all five health measures. A 10% increase in the share of lifetime in the host country increases the probability of reporting poor self-assessed health by 1.13%-points. Immigrants who spent most of their lives in the host country have a 11.3% higher probability of reporting poor health than those who arrived very recently. This is illustrated in Figure 2, which shows the estimated relationship between the immigrants' length of stay and their health for the five dependent variables.

[Figure 2 about here]

The estimated health of citizens is included for comparison. We can see that the healthy immigrant effect holds only for immigrants who arrived recently in the host country. For all five health measures, health worsens with the share of lifetime in the host country. Another important result is that, when the share of lifetime in the host country increases, immigrants' health eventually becomes poorer than that of citizens, as illustrated in Figure 2. Immigrants' self assessed and mental health reach the level of majority group when they have spent around 30 to 35% of their life in host country. For obesity and overweight, immigrants get to majority group level after spending 45% of their life in host country. Chronic conditions after 50% of their life while for ADL immigrants need to have spent 80% of their life in host country to reach health status of majority group.

Compared to men, women are less likely to report poor health, to be overweight or obese, or to have physical limitations, but are more likely to have poor mental health. No significant gender difference is found for chronic conditions. Formal education is negatively associated with poor health status, with evidence of an education gradient. Current job situation is found to have different effects depending on the health measure considered. In the case of self-assessed health and mental health, being retired is associated with better health compared to all other categories (employed or self-employed, unemployed and homemaker or permanently sick). Being employed or self employed is associated with better health compared to all other

categories in the case of BMI and chronic conditions. Regarding ADL limitations, being unemployed, homemaker or permanently sick is associated with poor health, while no significant association is found for the other categories. Marital status is found to have no effect on chronic conditions and ADL limitations. The likelihood of having poor mental health is 9%-points higher for widowed than for individuals who are married or in a registered partnership (the reference category), while no significant association is found for the other categories (never married and divorced). Being divorced is positively associated with being overweight or obese. Never married and widowed individuals are more likely to have poor self-assessed health. Drinking is positively associated with being overweight or obese, negatively associated with having poor mental health, and has no significant association with self-assessed health, chronic conditions and ADL limitations. Physical inactivity increases the probability of having poor health for all health measures except BMI, for which it is negatively associated with being overweight or obese. Having children is associated with better mental and self-assessed health, fewer chronic conditions, a higher likelihood of being overweight or obese and appears to be not associated with ADL limitations. Having grandchildren is associated with a higher likelihood of being overweight or obese, more chronic conditions, poor self-assessed health (for three grandchildren or more) and is not associated with mental health and ADL limitations. For all health measures except BMI, the number of medical consultations is strongly associated with poor health, with a marked gradient. In the same way, the number of nights in hospital is linearly associated with poor health except for BMI, for which individuals who spent six or more nights in hospital in the year preceding the survey are less likely to be overweight or obese. Households' ability to make ends meet is associated with a higher likelihood of being overweight or obese. For all other health measures, the ability to make ends meet is associated with better health, with evidence of a socio-economic gradient in the case of self-assessed and mental health. The analysis of period (survey wave) effects indicates that the likelihood of being overweight or obese, of developing chronic diseases and of having poor mental health increased over time (from 2004-2005 to 2013). Almost no significant period effects are found for self-assessed health and ADL limitations. Finally, age is positively associated with poor health in the case of self-assessed health and ADL limitations, and negatively associated with poor health in the case of BMI, chronic conditions and mental health.

5.2. Wealth of the country of origin

To gain more understanding about the effects of being immigrant on health, we also investigate whether the effects highlighted previously change depending on the wealth of the country of origin. To do so, the immigrant status variable of the previous model is allowed to take on several values based on the level of human development of the country of origin. This variable is also interacted with the immigrants' share of lifetime in the host country. Maximum likelihood estimates and APEs are presented

in Table 5.

[Table 5 about here]

Note that all the other results remain qualitatively the same, in terms of sign, magnitude, and statistical significance. Figure 3 shows the estimated relationship between the immigrants' length of stay and their probability of having poor health depending on the wealth of the country of origin. This is done for the five health measures.

[Figure 3 about here]

The results reveal that the effect of being an immigrant on health, and also that of the length of stay in the host country, varies depending on the wealth of the country of origin and the health measure considered. When arriving in the host country, immigrants from high HDI-countries are less likely to have poor self-assessed health than citizens, while no significant association is found for the other categories. Nevertheless, when the share of lifetime in the host country increases, immigrants from medium- and high-HDI countries have poorer self-assessed health, as illustrated in Figure 3a. The length of stay does not appear to change the self-assessed health of stateless persons or immigrants from low-HDI countries. In the case of BMI, we found previously that immigrants are less likely to be overweight or obese than natives, but that this likelihood increases with the share of lifetime in the country. This result seems to hold mainly for immigrants from high-HDI countries. Although their likelihood of being overweight or obese is 10.3%-points lower than that of citizens, immigrants from high-HDI countries who spent most of their lives in the host country are 21.4% more likely to be overweight or obese than those who arrived very recently, as shown in Figure 3b. The results regarding chronic conditions reveal a marked socio-economic gradient in the effect of being an immigrant and in that of their length of stay in the host country. Immigrants have a lower likelihood of developing chronic diseases, as shown previously. Compared to citizens, the likelihood of developing a chronic disease is 20.1%-points lower for immigrants from low-HDI countries, while this figure falls to 8.4% and 3% for immigrants from medium- and high-HDI countries, respectively. We showed earlier that, among immigrant, the likelihood of developing chronic diseases increases with the share of lifetime in the country. We now show that, although immigrants from low-HDI countries have the lowest likelihood of having chronic conditions, they have the highest rate of health deterioration. There is a 28.2% difference between immigrants from low-HDI countries who arrived very recently and those who spent most of their lives in the host country. This figure falls to 14.4% and 7.7% for immigrants from medium- and high-HDI countries, respectively. The poorer the country of origin, the higher the deterioration of health with increasing share of lifetime in the host country. This is illustrated in Figure 3c. In the case of mental health, it seems that stateless persons have a lower likelihood

of being depressed, while no significant association is found for the other groups. The results also indicate that immigrants from medium-HDI countries and stateless persons experience a mental health deterioration with the length of stay in the host country. Finally, the results show that the results found previously regarding ADL limitations hold mainly for immigrants from medium-HDI countries. They have a lower likelihood of having one or more ADL limitations, but this likelihood increases with the length of stay in the host country.

6. Discussion

The question of whether there are significant health differentials between citizens and immigrants has extensively been addressed in the literature. Nonetheless, less is known about the evolution of immigrants' health over time. This paper attempted therefore to explore the dynamics of citizen-immigrant health differentials as well as the determinants of these dynamics. It employed random-effects panel models that allow for unobserved heterogeneity amongst more than 100,000 elderly living in nineteen European countries. Unlike previous studies that only focused on one or two measures of health, the present analysis has considered five different (subjective and objective) indicators of health status. This allowed to account for the multidimensionality of health and its evolution over time. Assessing the impact of the length of stay on immigrant health requires adjusting for the effect of age. The latter has been accounted for by using an age-adjusted measure of the length of stay in the host country.

Our paper highlighted large health differentials (1) between citizens and immigrants, (2) between immigrants depending on their length of stay in the host country, and (3) between immigrants depending on the wealth of their country of origin. These differentials are found to vary depending on the health measure considered. Some interesting results emerging from our analysis are worth discussing. First, our study generally, corroborates previous evidence on the healthy immigrant effect – according to which immigrants are initially more likely to be in better health as compared to citizens. Secondly, our study also corroborates previous findings on the unhealthy assimilation of immigrants in developed countries. In effect, for all health measures considered, we found that, on average, immigrants' health deteriorates over time. In contrast to previous studies, our results not only shed light on the convergence of immigrants' health towards that of citizens. Interestingly, using an age-adjusted measure of the length of stay in the host country, we were able to show that this unhealthy convergence is such that the health of immigrants eventually becomes poorer than that of citizens. Thirdly, our results clearly revealed the presence of substantial heterogeneity in the observed unhealthy convergence, with respect to both the wealth of the country of origin and the health measured considered. For instance, in terms of chronic conditions, the health of immigrants from low-HDI countries tends to deteriorate faster than that of immigrants from richer countries. This is not sur-

prising given that immigrants from low-HDI countries tend to work in the so-called 3D jobs (dirty, dangerous and demeaning) once settled in the European countries (Stalker, 1994). By contrast, the unhealthy convergence with respect to SAH seems to hold mainly for immigrants from medium- and high-HDI countries. In this case, the convergence of SAH towards that of citizens may well be a result of peer effects. Self-assessments of health have been shown to be influenced by social comparisons within age groups, especially among older people (Jylhä, 2009). Thus, immigrants from medium- and -high-HDI countries may tend to rate their health as similar to that of their native peers, which are more likely to belong to the same socio-economic group.

Altogether, such heterogeneity in the convergence of health differentials between immigrants and citizens in Europe seems to indicate that the unhealthy convergence is more pronounced in terms of objective health for immigrants from low-HDI countries, and in terms of subjective health for immigrants from medium- and high-HDI countries. Future research shall attempt to identify the underlying factors of such heterogeneous convergence.

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Table 1: Definitions of the dependent and independent variables

Variable	Type	Definition
Health measures (dependent variables)		
Self-assessed health	Binary	1 if the individual i reports a less than very good health in survey wave t; 0 otherwise
BMI	Binary	1 if the individual i is overweight or obese in survey wave t; 0 otherwise
Chronic conditions	Discrete	Individual i's number of chronic diseases in survey wave t
Mental health	Binary	1 if the individual i is depressed in survey wave t; 0 otherwise
ADL limitations	Binary	1 if the individual i has one or more limitations with activities of daily living in survey wave t; 0 otherwise
Citizenship status	Binary	Citizen (=base category); Immigrant (an individual who is or intend to be settled in the host country)
Immigrant's share of lifetime in the host country	Continuous	Immigrant i's length of stay in the host country divided by his/her age
Wealth of the country of origin	Categorical	Citizen (=base category); Low HDI (<0.700); Medium HDI (0.700>=HDI<0.836); High HDI (>=0.836); Stateless
Gender	Binary	Male (=base category); Female
Formal education	Categorical	None or Primary (=base category); Secondary; Tertiary
Current job situation	Categorical	Retired (=base category); Employed or Self-employed; Unemployed; Homemaker or Permanently sick [in survey wave t]
Marital status	Categorical	Married or Registered partnership (=base category); Never married; Divorced; Widowed [in survey wave t]
Drinking	Binary	1 if the individual i was drinking more than 2 glasses of alcohol almost everyday in survey wave t; 0 otherwise
Physical inactivity	Binary	1 if the individual i was physically inactive in survey wave t; 0 otherwise
Number of children	Categorical	0 (=base category); 1; 2; 3 or more [in survey wave t]
Number of grandchildren	Categorical	0 (=base category); 1; 2; 3 or more [in survey wave t]
Doctor consultations	Categorical	Number of doctor consultations: 1st quartile (=base category); 2nd; 3rd; 4th [in survey wave t]
Nights in hospital	Categorical	0 (=base category); Between 1 and 5; 6 or more [in survey wave t]
Household able to make ends meet	Categorical	With great difficulty (=base category); With some difficulty; Fairly easily; Easily [in survey wave t]
Country	Categorical	Austria (=base category); Belgium; Czech Republic; Denmark; Estonia; France; Germany; Greece; Hungary; Ireland; Italy; Luxembourg; the Netherlands; Poland; Portugal; Slovenia; Spain; Sweden; Switzerland
Survey wave	Categorical	2004-2005 (=base category); 2006-2007; 2010-2012; 2013
Age	Continuous	In years

Table 2: Descriptive statistics

	Citizens		Immigrants	
	Mean	Standard deviation	Mean	Standard deviation
Self-assessed health	0.725	0.447	0.768	0.422
BMI	0.613	0.487	0.642	0.480
Chronic conditions	1.678	1.546	1.781	1.668
Mental health	0.267	0.442	0.351	0.477
ADL limitations	0.104	0.305	0.124	0.330
Immigrant's share of lifetime in the host country			0.524	0.237
Gender	0.556	0.497	0.533	0.499
Drinking	0.168	0.374	0.154	0.361
Physical inactivity	0.108	0.311	0.125	0.330
Age	64.277	10.476	62.447	10.523
No. of individuals	97664		3701	

NOTES: computed for the first survey year of each individual.

Table 3: Age distributions by citizenship status

	Citizens	Immigrants
Mean	64.277	62.447
Standard deviation	10.476	10.523
10th percentile	52	51
25th percentile	56	54
50th percentile	63	61
75th percentile	72	70
90th percentile	79	78

NOTES: computed for the first survey year of each individual.

Table 4: Results: random-effects panel models

	Self-assessed health		BMI		Chronic conditions		Mental health		ADL limitations	
	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects
Citizenship status (ref. = Citizen)										
Immigrant	-0.245**	-0.042	-0.545**	-0.059	-0.211***	-0.067	-0.091	-0.017	-0.304**	-0.029
	(0.080)	(0.023)	(0.181)	(0.015)	(0.033)	(0.019)	(0.074)	(0.009)	(0.117)	(0.023)
Immigrant's share of lifetime in the host country	0.648***	0.113	1.163***	0.131	0.375***	0.123	0.307*	0.062	0.361^{+}	0.036
	(0.150)	(0.056)	(0.305)	(0.014)	(0.053)	(0.025)	(0.126)	(0.020)	(0.188)	(0.027)
Gender										
Female	-0.061***	-0.011	-1.148***	-0.129	0.005	0.001	0.519***	0.105	-0.060***	-0.006
	(0.013)	(0.005)	(0.036)	(0.014)	(0.006)	(0.000)	(0.012)	(0.034)	(0.016)	(0.005)
Formal education (ref. = None or Primary)										
Secondary	-0.259***	-0.045	-0.433***	-0.049	-0.044***	-0.014	-0.136***	-0.028	-0.096***	-0.010
	(0.018)	(0.023)	(0.039)	(0.005)	(0.006)	(0.003)	(0.015)	(0.009)	(0.020)	(0.007)
Tertiary	-0.633***	-0.111	-1.067***	-0.120	-0.091***	-0.030	-0.199***	-0.040	-0.263***	-0.026
	(0.021)	(0.055)	(0.053)	(0.013)	(0.008)	(0.006)	(0.019)	(0.013)	(0.026)	(0.020)
Current job situation (ref. = Retired)										
Employed or Self-employed	0.088**	0.015	-0.118**	-0.013	-0.055***	-0.018	0.117***	0.024	0.070	0.007
	(0.029)	(0.008)	(0.041)	(0.001)	(0.011)	(0.004)	(0.030)	(0.008)	(0.049)	(0.005)
Unemployed	0.173**	0.030	-0.065	-0.007	-0.021	-0.007	0.269***	0.055	0.164*	0.016
	(0.053)	(0.015)	(0.071)	(0.001)	(0.019)	(0.001)	(0.049)	(0.017)	(0.078)	(0.012)
Homemaker or Permanently sick	0.145***	0.025	-0.006	-0.001	0.010	0.003	0.102***	0.021	0.096*	0.010
	(0.035)	(0.013)	(0.044)	(0.000)	(0.010)	(0.001)	(0.030)	(0.007)	(0.039)	(0.007)
Marital status (ref. = Married or Registered partnership)										
Never married	0.343**	0.060	0.148	0.017	-0.029	-0.009	-0.099	-0.020	-0.256	-0.026
	(0.129)	(0.030)	(0.197)	(0.002)	(0.045)	(0.002)	(0.131)	(0.006)	(0.180)	(0.019)
Divorced	0.048	0.008	0.404^{+}	0.046	0.004	0.001	0.081	0.016	-0.222	-0.022
	(0.163)	(0.004)	(0.226)	(0.005)	(0.057)	(0.000)	(0.156)	(0.005)	(0.237)	(0.017)
Widowed	0.382**	0.067	-0.152	-0.017	-0.016	-0.005	0.442**	0.090	-0.035	-0.003
	(0.137)	(0.033)	(0.203)	(0.002)	(0.046)	(0.001)	(0.138)	(0.029)	(0.186)	(0.003)
Drinking										
Yes	-0.016	-0.003	0.094***	0.011	-0.008	-0.003	-0.034^{+}	-0.007	-0.001	-0.000
	(0.020)	(0.001)	(0.026)	(0.001)	(0.007)	(0.001)	(0.020)	(0.002)	(0.029)	(0.000)
Physical inactivity										
Yes	0.276***	0.048	-0.201***	-0.023	0.014^{+}	0.005	0.279***	0.057	0.568***	0.057
	(0.037)	(0.024)	(0.036)	(0.002)	(0.008)	(0.001)	(0.025)	(0.018)	(0.027)	(0.043)
Number of children (ref. = 0)										
1	-0.039	-0.007	0.076	0.009	-0.037***	-0.012	-0.039^{+}	-0.008	0.002	0.000
	(0.026)	(0.003)	(0.053)	(0.001)	(0.009)	(0.002)	(0.023)	(0.003)	(0.032)	(0.000)
2	-0.117***	-0.021	0.092^{+}	0.010	-0.068***	-0.022	-0.114***	-0.023	-0.027	-0.003
	(0.024)	(0.010)	(0.051)	(0.001)	(0.009)	(0.004)	(0.022)	(0.007)	(0.031)	(0.002)
3 or more	-0.179***	-0.031	0.182***	0.021	-0.071***	-0.023	-0.104***	-0.021	-0.004	-0.000
	(0.026)	(0.016)	(0.055)	(0.002)	(0.009)	(0.005)	(0.024)	(0.007)	(0.034)	(0.000)
Number of grandchildren (ref. = 0)										
1	0.039	0.007	0.119**	0.013	0.030*	0.010	-0.013	-0.003	0.000	0.000
	(0.034)	(0.003)	(0.045)	(0.001)	(0.013)	(0.002)	(0.034)	(0.001)	(0.052)	(0.000)
2	0.060	0.010	0.115*	0.013	0.051***	0.017	-0.048	-0.010	0.010	0.001
	(0.038)	(0.005)	(0.050)	(0.001)	(0.014)	(0.003)	(0.037)	(0.003)	(0.055)	(0.001)
3 or more	0.109**	0.019	0.181***	0.020	0.062***	0.020	-0.040	-0.008	-0.056	-0.006
	(0.042)	(0.009)	(0.053)	(0.002)	(0.014)	(0.004)	(0.039)	(0.003)	(0.055)	(0.004)
Doctor consultations (ref. = 1st quartile)										
2nd quartile	0.220***	0.039	0.027	0.003	0.160***	0.053	0.075***	0.015	0.036	0.004
	(0.019)	(0.019)	(0.025)	(0.000)	(0.008)	(0.011)	(0.020)	(0.005)	(0.030)	(0.003)
3rd quartile	0.358***	0.063	0.049^{+}	0.005	0.245***	0.081	0.180***	0.037	0.149***	0.015
	(0.021)	(0.031)	(0.027)	(0.001)	(0.008)	(0.016)	(0.021)	(0.012)	(0.030)	(0.011)
4th quartile	0.639***	0.112	0.036	0.004	0.327***	0.107	0.372***	0.075	0.301***	0.030
	(0.026)	(0.056)	(0.031)	(0.000)	(0.009)	(0.022)	(0.023)	(0.024)	(0.032)	(0.023)
Nights in hospital (ref. = 0)										
Between 1 and 5	0.162***	0.028	-0.045	-0.005	0.063***	0.021	0.094***	0.019	0.094**	0.009
	(0.028)	(0.014)	(0.033)	(0.001)	(0.008)	(0.004)	(0.024)	(0.006)	(0.032)	(0.007)
6 or more	0.376***	0.066	-0.334***	-0.038	0.084***	0.027	0.267***	0.054	0.282***	0.028
	(0.036)	(0.033)	(0.036)	(0.004)	(0.008)	(0.006)	(0.024)	(0.017)	(0.029)	(0.021)
Household able to make ends meet (ref. = With great difficulty)										
With some difficulty	-0.076*	-0.013	0.086*	0.010	-0.030***	-0.010	-0.152***	-0.031	-0.044	-0.004
	(0.036)	(0.007)	(0.039)	(0.001)	(0.009)	(0.002)	(0.026)	(0.010)	(0.034)	(0.003)
Fairly easily	-0.123**	-0.021	0.092*	0.010	-0.056***	-0.018	-0.227***	-0.046	-0.100**	-0.010
	(0.039)	(0.011)	(0.042)	(0.001)	(0.010)	(0.004)	(0.029)	(0.015)	(0.038)	(0.008)
Easily	-0.189***	-0.033	0.124**	0.014	-0.042***	-0.014	-0.228***	-0.046	-0.091*	-0.009
	(0.041)	(0.016)	(0.046)	(0.001)	(0.011)	(0.003)	(0.032)	(0.015)	(0.043)	(0.007)
Survey wave (ref. = 2004-2005)										
2006-2007	0.080***	0.014	0.105***	0.012	0.076***	0.025	-0.043**	-0.009	-0.033	-0.003
	(0.017)	(0.007)	(0.024)	(0.001)	(0.006)	(0.005)	(0.016)	(0.003)	(0.022)	(0.003)
2010-2012	0.028	0.005	0.201***	0.023	0.172***	0.056	0.141***	0.029	0.029	0.003
	(0.022)	(0.002)	(0.041)	(0.002)	(0.008)	(0.011)	(0.020)	(0.009)	(0.027)	(0.002)
2013	0.037	0.006	0.248***	0.028	0.213***	0.070	0.142***	0.029	0.043	0.004
	(0.024)	(0.003)	(0.051)	(0.003)	(0.008)	(0.014)	(0.023)	(0.009)	(0.031)	(0.003)

Age	0.053***	0.009	-0.022***	-0.002	-0.008***	-0.003	-0.009*	-0.002	0.058***	0.006
	(0.004)	(0.005)	(0.006)	(0.000)	(0.001)	(0.001)	(0.003)	(0.001)	(0.005)	(0.004)
Constant	-0.430***		3.785***		-0.876***		-1.362***		-4.034***	
	(0.091)		(0.208)		(0.031)		(0.080)		(0.110)	
$\hat{\sigma}_a$	1.040***		3.071***				0.951***		1.032***	
	(0.012)		(0.049)				(0.012)		(0.018)	
Rho	0.520		0.904				0.475		0.516	
$\hat{\alpha}_a$					0.103***					
					(0.009)					
Log likelihood	-76342.087		-90947.618		-266956.444		-83464.121		-45035.453	
Wald test p-value	0.000		0.000		0.000		0.000		0.000	
No. of individuals	101098		99464		101365		99322		101065	
No. of time periods per individual (average)	1.8		1.8		1.8		1.8		1.8	
No. of observations	178305		174136		178841		173941		178275	

NOTES: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Clustered standard errors computed at the household level in parenthesis. Within-individual means of the time-varying regressors and country fixed effects are included but not shown in the table. The significance level of the average partial effects corresponds to the one of the coefficient estimates.

Table 5: Results: random-effects panel models - Wealth of the country of origin

	Self-assessed health		BMI		Chronic conditions		Mental health		ADL limitations	
	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects	Coefficient estimates	Average partial effects
Wealth of the country of origin (ref. = Citizen)										
Low HDI	-0.385	-0.066	-0.740	-0.081	-0.626***	-0.201	-0.357	-0.070	-0.426	-0.045
	(0.238)	(0.034)	(0.576)	(0.016)	(0.122)	(0.050)	(0.245)	(0.027)	(0.366)	(0.039)
Medium HDI	-0.195	-0.032	0.112	0.013	-0.262***	-0.084	-0.168	-0.033	-0.484*	-0.047
	(0.159)	(0.022)	(0.296)	(0.002)	(0.053)	(0.023)	(0.120)	(0.014)	(0.192)	(0.037)
High HDI	-0.237*	-0.040	-0.948***	-0.103	-0.095*	-0.030	0.012	0.003	-0.011	-0.001
	(0.104)	(0.022)	(0.254)	(0.024)	(0.045)	(0.010)	(0.104)	(0.005)	(0.156)	(0.001)
Stateless	-1.199	-0.208	1.261	0.136	0.280	0.090	-7.724*	-1.534	0.415	0.040
	(1.971)	(0.105)	(9.093)	(0.040)	(1.394)	(0.023)	(3.364)	(0.527)	(2.148)	(0.031)
Wealth of the country of origin × Immigrant's share of lifetime in the host country										
Low HDI × Length of stay	0.527	0.092	1.202	0.135	0.859***	0.282	0.698	0.142	-1.127	-0.112
	(0.570)	(0.046)	(1.358)	(0.014)	(0.235)	(0.057)	(0.546)	(0.045)	(0.811)	(0.085)
Medium HDI × Length of stay	0.970**	0.170	0.152	0.017	0.437***	0.144	0.395*	0.080	0.643*	0.064
	(0.311)	(0.085)	(0.475)	(0.002)	(0.081)	(0.029)	(0.193)	(0.026)	(0.292)	(0.049)
High HDI × Length of stay	0.530**	0.093	1.897***	0.214	0.233**	0.077	0.203	0.041	-0.015	-0.001
	(0.190)	(0.046)	(0.437)	(0.023)	(0.076)	(0.016)	(0.181)	(0.013)	(0.267)	(0.001)
Stateless × Length of stay	1.037	0.182	-3.251	-0.367	-0.397	-0.131	8.786*	1.784	-0.417	-0.042
	(2.742)	(0.090)	(11.769)	(0.039)	(1.703)	(0.026)	(3.767)	(0.571)	(2.754)	(0.032)
Gender										
Female	-0.061***	-0.011	-1.150***	-0.130	0.004	0.001	0.519***	0.105	-0.062***	-0.006
	(0.013)	(0.005)	(0.036)	(0.014)	(0.006)	(0.000)	(0.012)	(0.034)	(0.016)	(0.005)
Formal education (ref. = None or Primary)										
Secondary	-0.261***	-0.046	-0.432***	-0.049	-0.044***	-0.014	-0.136***	-0.028	-0.098***	-0.010
	(0.018)	(0.023)	(0.039)	(0.005)	(0.006)	(0.003)	(0.015)	(0.009)	(0.020)	(0.007)
Tertiary	-0.634***	-0.111	-1.066***	-0.120	-0.092***	-0.030	-0.200***	-0.041	-0.265***	-0.026
	(0.021)	(0.055)	(0.053)	(0.013)	(0.008)	(0.006)	(0.019)	(0.013)	(0.026)	(0.020)
Current job situation (ref. = Retired)										
Employed or Self-employed	0.088**	0.015	-0.118**	-0.013	-0.055***	-0.018	0.117***	0.024	0.070	0.007
	(0.029)	(0.008)	(0.041)	(0.001)	(0.011)	(0.004)	(0.030)	(0.008)	(0.049)	(0.005)
Unemployed	0.173**	0.030	-0.064	-0.007	-0.021	-0.007	0.269***	0.055	0.164*	0.016
	(0.053)	(0.015)	(0.071)	(0.001)	(0.019)	(0.001)	(0.049)	(0.017)	(0.078)	(0.012)
Homemaker or Permanently sick	0.145***	0.025	-0.006	-0.001	0.010	0.003	0.102***	0.021	0.097*	0.010
	(0.035)	(0.013)	(0.044)	(0.000)	(0.010)	(0.001)	(0.030)	(0.007)	(0.039)	(0.007)
Marital status (ref. = Married or Registered partnership)										
Never married	0.343**	0.060	0.148	0.017	-0.029	-0.009	-0.098	-0.020	-0.256	-0.025
	(0.129)	(0.030)	(0.197)	(0.002)	(0.045)	(0.002)	(0.131)	(0.006)	(0.180)	(0.019)
Divorced	0.048	0.008	0.404^{+}	0.046	0.004	0.001	0.080	0.016	-0.222	-0.022
	(0.163)	(0.004)	(0.226)	(0.005)	(0.057)	(0.000)	(0.156)	(0.005)	(0.236)	(0.017)
Widowed	0.382**	0.067	-0.151	-0.017	-0.016	-0.005	0.442**	0.090	-0.034	-0.003
	(0.137)	(0.033)	(0.203)	(0.002)	(0.046)	(0.001)	(0.138)	(0.029)	(0.185)	(0.003)
Drinking										
Yes	-0.016	-0.003	0.094***	0.011	-0.008	-0.003	-0.034^{+}	-0.007	-0.001	-0.000
	(0.020)	(0.001)	(0.026)	(0.001)	(0.007)	(0.001)	(0.020)	(0.002)	(0.029)	(0.000)
Physical inactivity										
Yes	0.276***	0.048	-0.201***	-0.023	0.014^{+}	0.005	0.279***	0.057	0.569***	0.057
	(0.037)	(0.024)	(0.036)	(0.002)	(0.008)	(0.001)	(0.025)	(0.018)	(0.027)	(0.043)
Number of children (ref. = 0)										
1	-0.039	-0.007	0.076	0.009	-0.036***	-0.012	-0.038^{+}	-0.008	0.003	0.000
	(0.026)	(0.003)	(0.053)	(0.001)	(0.009)	(0.002)	(0.023)	(0.002)	(0.032)	(0.000)
2	-0.117***	-0.021	0.092^{+}	0.010	-0.068***	-0.022	-0.114***	-0.023	-0.026	-0.003
	(0.024)	(0.010)	(0.051)	(0.001)	(0.009)	(0.005)	(0.022)	(0.007)	(0.031)	(0.002)
3 or more	-0.178***	-0.031	0.183***	0.021	-0.070***	-0.023	-0.104***	-0.021	-0.002	-0.000
	(0.026)	(0.016)	(0.055)	(0.002)	(0.009)	(0.005)	(0.024)	(0.007)	(0.034)	(0.000)
Number of grandchildren (ref. = 0)										
1	0.040	0.007	0.119**	0.013	0.030*	0.010	-0.013	-0.003	0.001	0.000
	(0.034)	(0.003)	(0.045)	(0.001)	(0.013)	(0.002)	(0.034)	(0.001)	(0.052)	(0.000)
2	0.060	0.010	0.115*	0.013	0.050***	0.017	-0.049	-0.010	0.009	0.001
	(0.038)	(0.005)	(0.050)	(0.001)	(0.014)	(0.003)	(0.037)	(0.003)	(0.055)	(0.001)
3 or more	0.109**	0.019	0.181***	0.020	0.062***	0.020	-0.040	-0.008	-0.056	-0.006
	(0.042)	(0.009)	(0.053)	(0.002)	(0.014)	(0.004)	(0.039)	(0.003)	(0.055)	(0.004)
Doctor consultations (ref. = 1st quartile)										
2nd quartile	0.220***	0.039	0.027	0.003	0.160***	0.053	0.075***	0.015	0.036	0.004
	(0.019)	(0.019)	(0.025)	(0.000)	(0.008)	(0.011)	(0.020)	(0.005)	(0.030)	(0.003)
3rd quartile	0.358***	0.063	0.049^{+}	0.005	0.245***	0.081	0.180***	0.037	0.149***	0.015
	(0.021)	(0.031)	(0.027)	(0.001)	(0.008)	(0.016)	(0.021)	(0.012)	(0.030)	(0.011)
4th quartile	0.639***	0.112	0.036	0.004	0.327***	0.107	0.372***	0.075	0.301***	0.030
	(0.026)	(0.056)	(0.031)	(0.000)	(0.009)	(0.022)	(0.023)	(0.024)	(0.032)	(0.023)
Nights in hospital (ref. = 0)										
Between 1 and 5	0.162***	0.028	-0.045	-0.005	0.063***	0.021	0.094***	0.019	0.094**	0.009
	(0.028)	(0.014)	(0.033)	(0.001)	(0.008)	(0.004)	(0.024)	(0.006)	(0.032)	(0.007)
6 or more	0.376***	0.066	-0.334***	-0.038	0.084***	0.027	0.267***	0.054	0.282***	0.028
	(0.036)	(0.033)	(0.036)	(0.004)	(0.008)	(0.006)	(0.024)	(0.017)	(0.029)	(0.021)
Household able to make ends meet (ref. = With great difficulty)										
With some difficulty	-0.076*	-0.013	0.086*	0.010	-0.030***	-0.010	-0.152***	-0.031	-0.044	-0.004
	(0.036)	(0.007)	(0.039)	(0.001)	(0.009)	(0.002)	(0.026)	(0.010)	(0.034)	(0.003)

Fairly easily	-0.123**	-0.022	0.092*	0.010	-0.056***	-0.018	-0.227***	-0.046	-0.100**	-0.010
	(0.039)	(0.011)	(0.042)	(0.001)	(0.010)	(0.004)	(0.029)	(0.015)	(0.038)	(0.008)
Easily	-0.189***	-0.033	0.124**	0.014	-0.042***	-0.014	-0.228***	-0.046	-0.091*	-0.009
	(0.041)	(0.016)	(0.046)	(0.001)	(0.011)	(0.003)	(0.032)	(0.015)	(0.043)	(0.007)
Survey wave (ref. = 2004-2005)										
2006-2007	0.080***	0.014	0.105***	0.012	0.076***	0.025	-0.043**	-0.009	-0.033	-0.003
	(0.017)	(0.007)	(0.024)	(0.001)	(0.006)	(0.005)	(0.016)	(0.003)	(0.022)	(0.003)
2010-2012	0.028	0.005	0.201***	0.023	0.172***	0.056	0.141***	0.029	0.030	0.003
	(0.022)	(0.002)	(0.041)	(0.002)	(0.008)	(0.011)	(0.020)	(0.009)	(0.027)	(0.002)
2013	0.037	0.007	0.249***	0.028	0.213***	0.070	0.143***	0.029	0.044	0.004
	(0.024)	(0.003)	(0.051)	(0.003)	(0.008)	(0.014)	(0.023)	(0.009)	(0.031)	(0.003)
Age	0.053***	0.009	-0.022***	-0.002	-0.008***	-0.003	-0.009*	-0.002	0.057***	0.006
	(0.004)	(0.005)	(0.006)	(0.000)	(0.001)	(0.001)	(0.003)	(0.001)	(0.005)	(0.004)
Constant	-0.430***		3.782***		-0.871***		-1.358***		-4.021***	
	(0.091)		(0.209)		(0.031)		(0.080)		(0.110)	
$\hat{\sigma}_a$	1.040***		3.070***				0.951***		1.031***	
	(0.012)		(0.050)				(0.012)		(0.018)	
Rho	0.520		0.904				0.475		0.515	
$\hat{\alpha}_a$					0.103***					
					(0.009)					
Log likelihood	-76322.076		-90922.883		-266888.296		-83441.163		-45018.406	
Wald test p-value	0.000		0.000		0.000		0.000		0.000	
No. of individuals	101065		99433		101332		99292		101032	
No. of time periods per individual (average)	1.8		1.8		1.8		1.8		1.8	
No. of observations	178272		174105		178808		173911		178242	

NOTES: $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Clustered standard errors computed at the household level in parenthesis. Within-individual means of the time-varying regressors and country fixed effects are included but not shown in the table. The significance level of the average partial effects corresponds to the one of the coefficient estimates.

Figure 1: Immigrants' year of arrival distribution

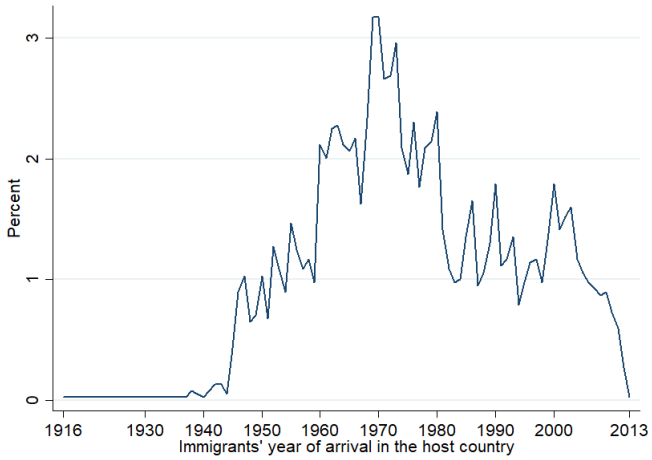
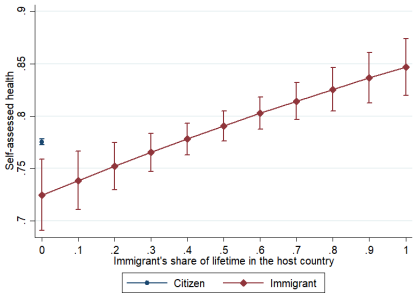
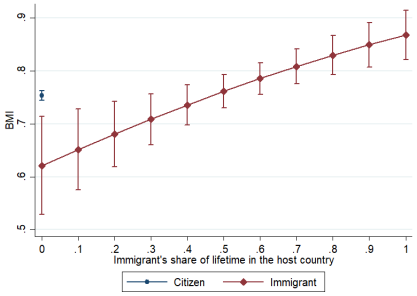


Figure 2: Effect of the immigrants' share of lifetime in the host country on health

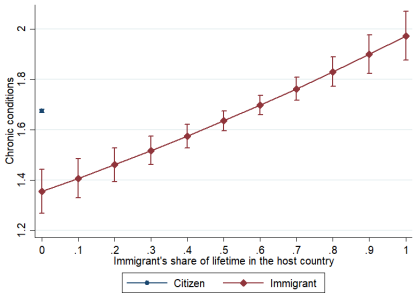
(a) Self-assessed health



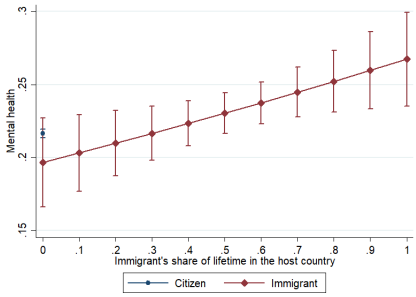
(b) BMI



(c) Chronic conditions



(d) Mental health



(e) ADL limitations

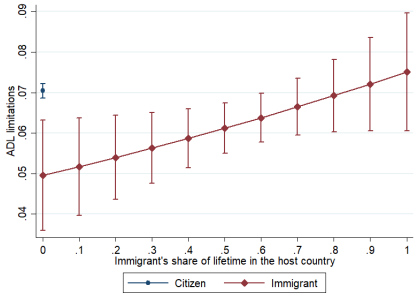
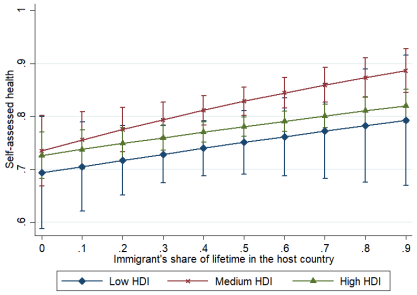
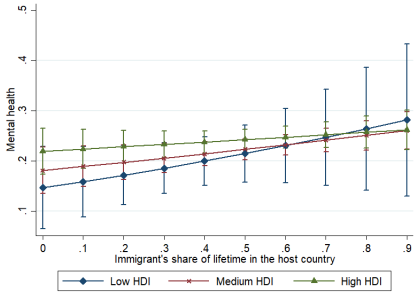


Figure 3: Effect of the immigrants' share of lifetime in the host country on health given the wealth of the country of origin

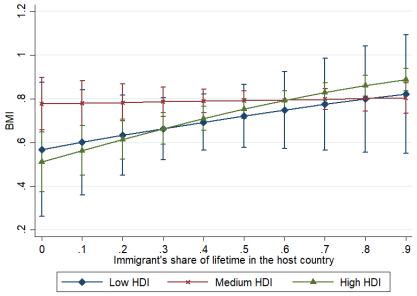
(a) Self-assessed health



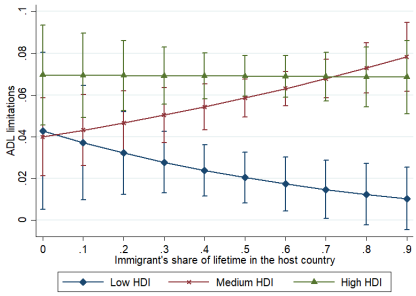
(d) Mental health



(b) BMI



(e) ADL limitations



(c) Chronic conditions