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Working Paper

The Healthy Immigrant Paradox and Health Convergence

CESifo Working Paper, No. 6692

Provided in Cooperation with:
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Suggested Citation: Constant, Amelie F. (2017) : The Healthy Immigrant Paradox and Health Convergence, CESifo Working Paper, No. 6692, Center for Economic Studies and ifo Institute (CESifo), Munich

This Version is available at:
https://hdl.handle.net/10419/171156

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CESifo WORKING PAPERS

6692
2017

October 2017

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CESifo

Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
Poschingerstr. 5, 81679 Munich, Germany
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Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl
www.cesifo-group.org/wp

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CESifo *Working Paper No. 6692*
Category 4: Labour Markets

The Healthy Immigrant Paradox and Health Convergence

Abstract

The health status of people is a precious commodity and central to economic, socio-political, and environmental dimensions of any country. Yet it is often the missing statistic in all general statistics, demographics, and presentations about the portrait of immigrants and natives. In this paper we are concerned with international migration and health outcomes in the host countries. Through a general literature review and examination of specific immigration countries, we provide insights into the Healthy Immigrant Paradox and the health assimilation of immigrants as we also elucidate selection and measurement challenges. While health is part of human capital, health assimilation is the mirror image of earnings assimilation. Namely, immigrants arrive with better health compared to natives and their health deteriorates with longer residence in the host country, converging to the health of natives or becoming even worse. A deeper understanding of immigrant health trajectories, and disparities with natives and other immigrants is of great value to societies and policymakers, who can design appropriate policy frameworks that address public health challenges, and prevent the health deterioration of immigrants.

JEL-Codes: I000, I100, I120, I140, I180, J000, F220, J110, J140, J150, J240, J610, O150.

Keywords: health status, healthy immigrant paradox, international migration, assimilation, age-cohort-period effects, selection, aging.

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Introduction

There is no doubt that health is a precious commodity and an indispensable element of human capital. It reflects the quality of the labor force and well-being of people as it is central to economic, socio-political, and environmental dimensions of any country. Much like education, health influences earnings via increases in productivity. The productive benefits of health are acknowledged in periods of sustained economic growth and decreasing income inequality and are in the forefront of the 2030 UN Agenda of Sustainable Development Goals (https://sustainabledevelopment.un.org/sdg3).

With millions of people migrating every year, usually from less developed to more developed countries, migrants are everywhere. International migration is now a ubiquitous topic in every country provoking acrimonious debates, usually about jobs. The health status of individuals and particularly of immigrants is the missing statistic in all general statistics, demographics, and presentations about the portrait of immigrants and natives and has not been sufficiently explored.

Populist anti-migration arguments state that migrants move to take advantage of high-quality health-care in developed countries and they will burden and inevitably bankrupt the health and welfare systems. But besides imposing stringent health screenings to potential migrant arrivals host countries ban newly incoming migrants from access to health-care and other benefits. Yet, migrant inflows have not subsided.

The labor economics and demographic studies have been preoccupied with two important questions about the health of immigrants, the answers of which confirm the Healthy Immigrant Paradox (HIP). HIP refers to two phenomena that are diametrically opposed to the earning

assimilation literature.[1] First, immigrants have better health than comparable natives when they first arrive in the host county. While health correlates with socioeconomic status, immigrants in the U.S. have better health than their socioeconomic status would predict (Jasso et al., 2004) and score higher in longevity. Second, immigrant health declines with time in the new country and converges to that of natives; sometimes, it may even become worse than the health of natives. HIP is a stylized fact that has been found in many host countries (U.S., Canada, Australia, Germany, UK) by many studies, albeit with some variations by countries of origin and visa status.

Health is typically measured by self-reported general-health categories, ranging from poor to excellent. Other more objective health outcomes such as health conditions, medical diagnoses, mobility or activity limitation, prescription drugs, as well as weight and obesity have also been used in the literature.

In this paper we provide insights into the health assimilation of immigrants and the HIP, and demystify perceptions about their bad health. A deeper understanding of immigrant health trajectories, and disparities with natives and other immigrants is of great value to societies and policymakers. They can design policy frameworks that promote and safeguard the health of all, cater to the needs of immigrants, and address public health challenges.

Culturally tailored measures can prevent the health deterioration of immigrants. The paper is timely and has considerable relevance for public policy, immigration policy, health policy, fiscal policy and education policy.

[1] Typically, immigrants have lower wages than comparable natives when they first arrive in the host country, but with additional time in the country their wages increase; they may even reach parity or go above the wages of natives.

Understanding the Original Health Selection

To understand ethnic health disparities when we compare immigrants to natives we need to understand the original health selection of immigrants. An insight comes from the fact that we compare a heavily self-selected group (the immigrants) to a vast sample of nationally representative natives. Therefore, immigrants are bound to be fundamentally different in their health status or other selection criteria than otherwise comparable natives. It is an empirical task to examine whether immigrants are "better" or "worse" than natives in these characteristics.

Immigrants are not a random sample of their home country. They are the ones who choose to undertake the move, while others do not. Thus they differ from the home country population. Unfortunately, we do not have appropriate data about them and their characteristics upon exit to compare them to their compatriots who stay behind in the home country. In theory, they can be of better or worse health than the stayers.

Human capital theory offers some powerful explanations about the selection of international economic migrants. They should be better educated, curious, single, younger, optimistic, and in good shape so that they can best benefit from investing in migration. Emigrants should have the fortitude, good physical and mental health in order to be able to withstand leaving their home country, separating from family and friends and going to the often unknown new country. They should be able to endure monetary and unforeseen psychic costs, one being visa stress (Jasso, 2013). Thus emigrants are expected to be positively self-selected with respect to their health.

Naturally, health selection is correlated with their education, younger age and differences in the price of skills across countries (Jasso et al. 2004).[2]

Migration, even under the best circumstances, is a major life event. More often than not, it does not entail a direct flight. Not all prospective immigrants have the wherewithal to make it through the trip, which may take several stopovers in different countries and unforeseen delays. During this migration process, migrants have to overcome many barriers and unpredicted circumstances. It is possible that some may become unable or discouraged and return. Survival of the fittest would then intensify the positive health selection of emigrants and guarantee their arrival in the destination country. The larger the hurdles and barriers migrants have to overcome, the larger the selection will be. The literature provides evidence for these explanations (Jasso et al., 2004).

Health selection criteria imposed by host countries, further exacerbate the positive self-selection of the health of potential immigrants. All visa applications, for example, require a health examination; migrants with tuberculosis, HIV/AIDS, etc. are not granted visas. Migrants also face additional health screenings at the border of the host country (zika virus, H1N1, SARS, Ebola, etc.). In contrast, natives do not have to pass any health screening.

In sum, we would expect that immigrants are positively selected with respect to their health, and the average migrant who arrives in the country should have better health than the average native.[3]

[2] This paper does not examine refugees, ideological or family migrants nor internal migrants, who can be selected for different characteristics.

[3] Immigrants could be negatively self-selected. If, for example, their motive for migration center upon having health care or high quality health care in the new country, that could indicate that they are most likely less healthy. This can correlate with age, as health declines with age and older people are more concerned about health benefits.

Additional insights the good health of immigrants stem from nutritional practices in the home countries. Diets are healthier in these countries, containing more fish, fruits and vegetables. Strong cultural norms in some home countries would not allow people to drink or smoke thus practicing healthy behaviors. Further, they have more active lives and socialize a lot.

Self-reported Health Measurements

A word of caution pertains to potential biases in estimating the self-reported health of newly arrived immigrants. While studies show that the individual is the best judge of their own health, immigrants may underreport their health status for the following reasons: (i) language barriers may prevent them from understanding the health options they should choose or the diseases to report; (ii) cultural beliefs may make them report only very serious illnesses or only some conditions, if they believe that other illnesses are not important;[4] (iii) they may be apprehensive about revealing their health issues in fear that they will be deported or penalized; and (iv) they may actually not know that they suffer from an ailment because they never went to the doctor and they were never diagnosed.[5]

On the other hand, it is also possible that they overestimate their health, depending on their reference group. If they compare their health to that of their compatriots left behind they may feel that they have better health.

[4] Mexicans for example believe that obesity is not a disease but indicates prestige and affluence. Other cultures believe that type 2 diabetes is the result of distress and deep emotional pain.
[5] By the same token, the worsening of the immigrants health with YSM could be partially the result of them having more effective health diagnoses that detect previously undiagnosed and untreated conditions.

Age, Period and Cohort Effects in Health Assimilation

Before we move to the second part of the HIP, that is, immigrant health deteriorates with time in the host country, we discuss some conceptual and measurement issues. Besides genetic predisposition, health is influenced by the environment and correlates with socio-economic status and age. Health is not a static characteristic as formal education.

Therefore, analyses of health trajectories based on one cross-section cannot reveal lifecycle realities. A snapshot of people's lives cannot disentangle health differences due to the aging process, to cohorts, or to acculturation. Health convergence to natives faces the same problems and biases as the earning assimilation studies.[6]

Age captures the deterioration of health due to physical and biological changes; it indiscriminately affects immigrants and natives alike. Period effects, indicating contemporaneous influences, also affect health. They can be thought of as exogenous shocks or changes that occur in the host country over time and simultaneously affect all age groups. Examples are the recent economic crisis, technological innovations, legislative changes, changes in health care, etc. We assume that period effects affect immigrants and natives similarly.

Cohorts capture the particularities of being born in a certain year or arriving at different years in different patterns. As such, they capture external influences that happened before migration. People who belong to a specific cohort may experience a different process in their aging. For example, a cohort may have been hit by famine or chemical weapons. Furthermore, different cohorts may indicate compositional shifts. Such would be the case of immigrant cohorts arriving

[6] Recall that age, period, and cohort effects are linearly dependent (Age = Period – Cohort). This produces confounding effects in cross-sectional studies, which suffer from biased results.

with better or worse health than previous cohorts. Antecol and Bedard (2006) found declining initial health with each successive immigrant cohort in the U.S.[7] Thus, health assimilation models that do not include cohort effects may overestimate the declining health of immigrants over time (Hamilton et al., 2015).

Lastly, the health of immigrants changes with additional years of residence in the new country. Different social and cultural norms, different beliefs and behaviors may create additional psychological distress and are bound to have an influence on the health of immigrants above and beyond the aging factor. To efficiently take advantage of the new environment, immigrants adapt to new behaviors. However, their receptivity varies. At the very least, years-since-migration (YSM) captures the active or passive exposure of immigrants to the new lifestyle.

The age at which the migrant arrived in the host country is very important for their health prospects. The debate centers upon those who arrive as children (less than 12 years old) because their health will be shaped by the host country environment. A study on the maternal health of immigrants in the U.S. (proxied by low birthweight) found that it deteriorates with duration in the U.S. but only when the mothers arrived as children (Teitler et al., 2017). Mothers who arrived as adults saw improvements in their health. The authors speculate that immigrant youth who come to the U.S. with their parents or other adults may not be as favorable selected and may be less driven. Their tender age also makes them more susceptible to negative American influences and health-compromising environments.

[7] Similarly, Hamilton and Hummer (2011) found that earlier cohorts of black immigrants from the Caribbean, had better self-reported health than later arrivals. Still, they found that their health declined as their increasing residence in the U.S.

The Health Toll of Immigration

The HIP says that immigrants lose their health advantage over natives, the longer they stay in the host country. This is at odds with human capital theory, whereby if immigrants invest in health as they invest in other forms of human capital, their health status should improve, or at least not depreciate. At the same time it is at odds with the perception of developed-countries living, where health care is very good and wages are high.

The factors that contribute to the deterioration of immigrant health are complex, but over the years, scientists have offered some explanations. In this paper we are looking at the first generation immigrants, and thus summarize these arguments.

Some claim that it is the inevitable regression to the mean. Others state that stress from residing in the new country and learning how to cope and adjust can be debilitating. Yet others argue that it is the result of a biased acculturation only to the unhealthy lifestyles of natives. For example having unhealthy diets high in fat and processed foods, sedentary life, and smoking and drinking. A segmented assimilation into disadvantaged segments of the native population is also possible, along the lines of the segmented earnings assimilation.

A price effect, as another explanation, meaning that immigrants buy and consume more high-calorie unhealthy foods in the host country because they did not have them or they could not afford them in their home country (chocolate, cookies), is more pronounced among poorer immigrants.

Even when social networks are strong at the beginning they erode with time in the host country. Immigrants find themselves alone without close relatives or friends, without religion ties and social solidarity. Alienation, social and psychological instability trigger anxiety and depression and

undermine good health. Loss of safety nets creates further detrimental effects to their health. On top of that, immigrants have poor language skills that prevent them from expressing themselves and from understanding their rights.

Working hard under stress in strenuous repetitive jobs in assembly lines isolated and without interactions with co-workers adds to the explanations about a deteriorating health with years in the host country. Immigrants often also work in risky occupations in construction and meat industries and are regularly exposed to danger and unhealthy conditions.

Exclusion to health services (especially by the newcomers) prevents immigrants from seeking treatment. Even if immigrants have access to health care, and even if health care is 'free' they may not use it. Typically, immigrants come from countries that do not practice preventive care and they only use health services when there is an emergency. Moreover, across the educational and cultural spectrum immigrants have different health beliefs and self-care practices than those in the host country.

Lastly, discrimination due to xenophobia, racism, and "otherness" experienced by immigrants as a minority and a more vulnerable segment of the population are social stressors that take a toll on their health as well. Being immigrants they face more stressful conditions than natives. Some or all of the above reasons can work together during their residence in the host country and explain most of the deterioration of their health and health disparities with natives.

Return Selection Bias

Not all immigrants stay in the destination country forever. Some return to the home country, others move onwards to other countries, and others may circulate between home and host. This indicates another self-selection mechanism. Both, cross-sectional and longitudinal studies suffer from return selection bias. Theoretical work within the earnings assimilation framework, involving several theories (e.g. Neoclassical and the New Economics of Labor Migration) suggests that return migrants can come from the upper or lower end of the socio-economic distribution (Constant and Massey, 2002; 2003).

The question is whether the healthier or the less healthy return. Neoclassical theory predicts that the less successful immigrants would return home. As health and socioeconomic status are well-correlated, then those who stay in the host country and whom we measure will have better health. The 'salmon bias' theory advocates that immigrants return when they become ill or disabled. Accordingly, health estimates on the remaining healthier immigrants will be an overestimate.

For some immigrants health care availability and access in the home or host country can also influence their decision to return or not. For example if immigrants' health declines and the home country does not have health insurance they will stay put, while the healthy ones might return. This will give an image of immigrants being unhealthy.

Arenas et al. (2015) found direct evidence that migrant health is associated with return migration. Following Mexican immigrants in the U.S. over time and space the study shows that (i) those who return to Mexico have worse health than those remaining in the U.S. and (ii) those Mexicans with improving health are less likely to return. However, the authors could not corroborate any specific reason or cause for this association.

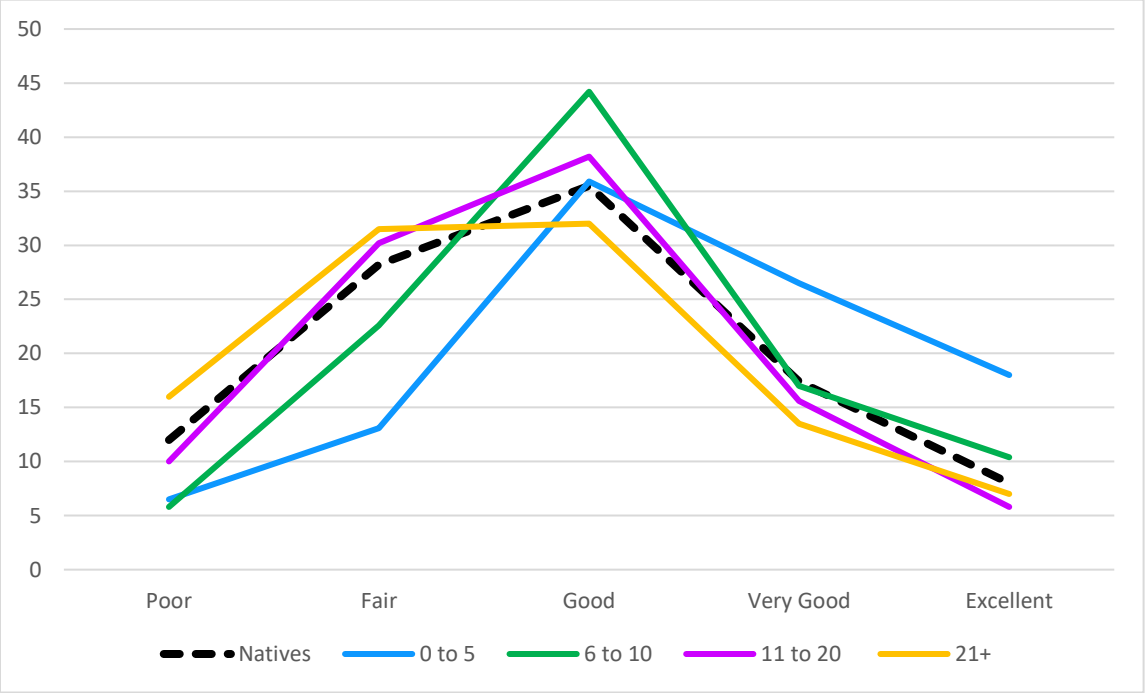
What Studies Show

Here we provide a small and selective review of recent HIP studies in the U.S. and Europe. In their meta-analysis study examining immigrant health trajectories in the U.S., Hall and Cuellar (2016) confirm the HIP. Immigrants in the U.S. experience a deterioration of their health over time and the prevalence of chronic diseases is associated with restrictive health care policies among all groups. Hamilton et al. (2015) study the Hispanic Health Paradox according to which first generation Hispanic immigrants in the U.S. have a health advantage over their U.S.-born counterparts in the beginning, but while their socioeconomic status improves with YSM, their health status declines. The health of the former varies by both arrival cohort and U.S. tenure for immigrants coming from the primary sending countries/regions of Hispanics. The authors find evidence that acculturation plays an important role in determining the health trajectories of Hispanic immigrants.

Studies in Europe use the Survey of Health, Aging and Retirement in Europe (SHARE), which is representative of all regions in Europe and includes 19 host countries. Immigrants to Europe come from more than one hundred different countries, some are third-country nationals and some are EU-citizens. Pooling together all four cross-sections currently available (2004/05, 2006/07, 2010/12 and 2013), Constant el al. (2017a) provide evidence that immigrants to Europe exhibit a HIP. Figure 1 illustrates the self-reported health of natives and immigrants by YSM and health categories from raw data. While each ethnic group exhibits a normal health profile, compared to natives (black dotted line), new-coming immigrants (blue line) are healthier. This is evidenced by their larger fraction in the ‘very good’ and ‘excellent’ categories and by their smaller fraction in the ‘poor’ and ‘fair’ categories. With additional YSM the health of immigrants changes and

approaches that of natives. Immigrants with more than 21 YSM (yellow line) have the worst health. Clear health disparities exist between immigrants, with newcomers having better health and longer residence immigrants having worse health.

Figure 1. Health Disparities by Nativity and Years-Since-Migration: Europe

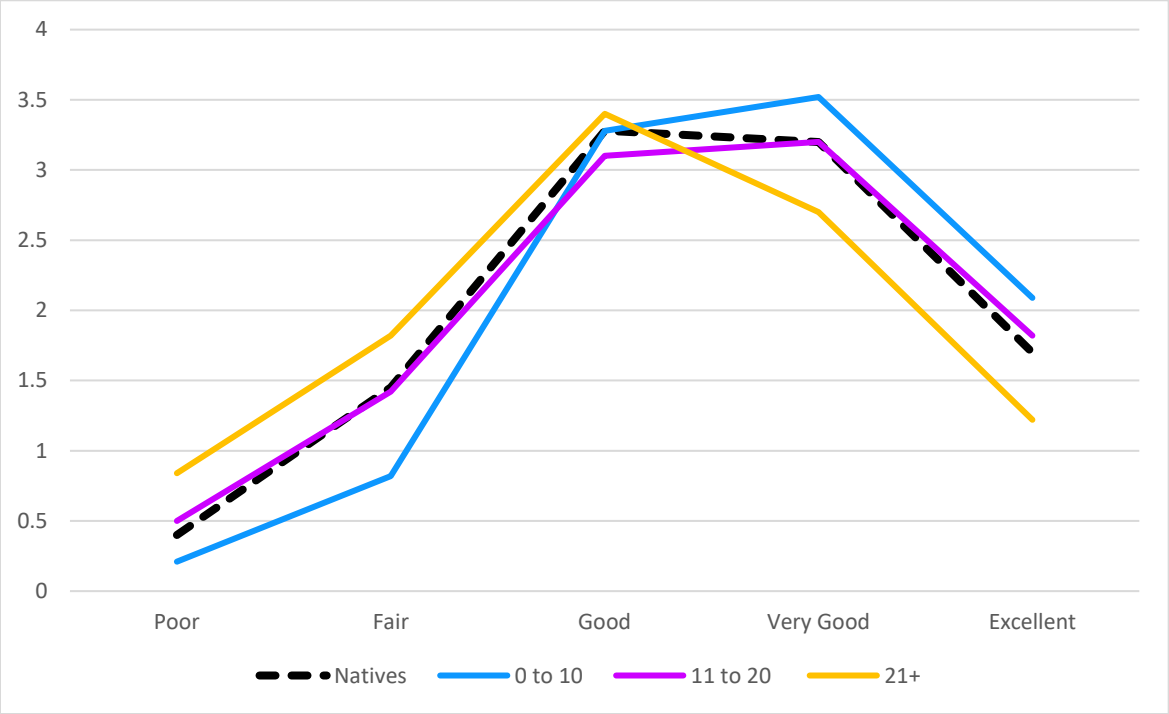


Note: Authors' calculation from SHARE data with 5,326 immigrants and 63,118 natives over the age of 50

A multilevel regression analysis with age-period-cohort effects, demographics, socioeconomic and other controls confirms the HIP. At the beginning (up to 5 YSM), immigrants have a health advantage over comparable natives, but this advantage disappears quickly with additional YSM so that immigrants and natives are not significantly different. Looking at the immigrant health trajectories and comparing longer-term, established immigrants to those newly arrived (0-5YSM), the study finds a significant deterioration in their health status with YSM (Constant et al., 2017a).

The Programme for the International Assessment of Adult Competencies (PIAAC) dataset (2011/12) representing 22 OECD host countries and individuals aged 16 to 65 provides a similar picture. The HIP by YSM and health categories based on raw data is depicted in Figure 2 (Constant et al. 2015). While all groups (natives, immigrants with 0 to 10 YSM, 11 to 20 YSM, and more than 20) exhibit a normal distribution in their health status, there are clear differences among the groups. The newly arrived immigrants with up to 10 YSM (blue line) differ from natives (black dotted line) the most. Not only fewer of them are in the 'poor' or 'fair' categories, but many more of them are in the 'very good' and 'excellent' categories, indicating better health during their first years after arrival.

Figure 2. Health Disparities by Nativity and Years-Since-Migration: OECD



Note: Authors' calculation from PIAAC data with 7,820 immigrants and 126,466 natives aged 16 to 65; 45% have 0 to 10 YSM, 25.8% have 11 to 20 YSM, and 29.2% have 21+ YSM (Constant et al., 2015).

With longer time in the host country, their health status almost converges to that of natives (fuchsia line). Interestingly, after twenty years, fewer immigrants than natives report 'very good' or 'excellent' health and more immigrants report 'poor' or 'fair' health (yellow line). This describes a worsening of immigrant health compared to natives. It also shows that health deteriorates with YSM even among immigrants.

Exceptions to the HIP

Host country policies and institutions can shape the characteristics of potential immigrants and dictate who is welcomed. If a country does not impose health screenings, it might attract more migrants with health conditions. Israel serves as an excellent paradigm in this respect. It has an open door policy to all migrants of Jewish descent and does not refuse their entry even when they are sick with communicative diseases. In fact, the government has often airlifted Jewish people from other countries, thus also eliminating their travel costs. Upon arrival, the country takes care of their health and provides them free health care, housing, schooling, etc.

Constant et al. (2017b) used SHARE data that include Israel to test the HIP. The authors find that immigrants who go to Israel have compromised health and are significantly less healthy than comparable natives when they first arrive and up to 10 YSM. Their lower health status persists for two decades after their arrival. Convergence with natives occurs only after 21 YSM. This result is robust under more objective health measures such as the weekly consumption of prescribed drugs. The authors explain the Israeli "sick immigrant effect" via negative self-selection and open borders. Immigrants to Israel are not typical international economic migrants. They are driven by

ideological reasons and religiosity to go to Israel, the land of return. As such, their migration also entails very low psychic costs.

Studying the Irish immigrants in England in the 20th century, Delaney et al. (2013) look at both health and psychological well-being. Their data allow them to compare these cohorts of Irish who went to England to those of their compatriots who did not migrate. They found that these immigrants were negatively self-selected with respect to their health that is, they had worse health than the Irish in Ireland. They also had high rates of psychological distress that were mostly related to pre-migration conditions of mental and sexual abuse as children. These Irish were less healthy than comparable English natives in England. These results are the opposite of the HIP.

In the U.S., Mehta and Elo (2012) compared immigrants from the Former Soviet Union (FSU) to U.S.-born whites aged 50 to 84. These immigrants, while highly educated, reported considerably higher disability than natives, but also lower levels of smoking, and heavy alcohol use. Validating the healthy selection hypothesis, the authors find that those who emigrated from FSU during the 1970s and 1980s, when exit was very difficult, had less disability than those who emigrated during the 1990s and 2000s from the free Russia. Finally, comparing Russian immigrants to the U.S. to their compatriots who reside in Russia, the authors find that the former have lower levels of disability than the latter, thus, they were positively selected for health.

Concluding Remarks

In all developed host countries, migrations policies are drafted so that only the healthy migrants can enter. Major concerns are that immigrants who arrive are sick can contaminate the natives.

This can damage the public health system. Moreover, if immigrants are not healthy they will not be able to work and will have to live off of welfare, which will also drain the public coffers. However, there is no mechanism in place to ensure the good health of immigrants while they become members of the society and live in the country.

This paper showed that in the majority of cases, immigrants are positively self-selected from their country of origin and have better health than natives when they first arrive in the host country. However, their health advantage erodes with additional time in the host country and immigrants "negatively" assimilate to natives' health. This is called the Healthy Immigrant Paradox (HIP). Studies also find that health disparities exist among immigrants as well, with newcomers having better health than immigrants living in the host country for a long time.

Effective policies should intervene in the health of immigrants before the latter develop chronic problems (usually after 6 or 10 YSM). Yet, the U.S., the UK and other host countries specifically exclude these groups from health-care and other benefits. The good health of immigrants is good for the wealth and future of the host country. If immigrants are expected to positively contribute to the economic and social aspects of the host country maintaining a good health status is necessary.

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