I Z A Institute of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 13602

The Relationship between Early-Life Conditions in the Home Country and Adult Outcomes among Child Immigrants in the United States

Deniz Gevrek
Z. Eylem Gevrek
Cahit Guven

AUGUST 2020

DISCUSSION PAPER SERIES

IZA DP No. 13602

The Relationship between Early-Life Conditions in the Home Country and Adult Outcomes among Child Immigrants in the United States

Deniz Gevrek
Texas A&M University-Corpus Christi and IZA

Z. Eylem Gevrek
Universidade Catolica Portuguesa

Cahit Guven
Deakin University

AUGUST 2020

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany
Phone: +49-228-3894-0
Email: publications@iza.org
www.iza.org

ABSTRACT

The Relationship between Early-Life Conditions in the Home Country and Adult Outcomes among Child Immigrants in the United States

We examine the impact of health and economic conditions at birth on the adult outcomes of child immigrants using the Children of Immigrants Longitudinal Study. Our sample consists of children from 39 countries who were brought to the United States before the age of 13. We estimate immigrant outcomes as a function of the infant mortality rate (IMR) and GDP per capita of their home country in the year of birth, controlling for birth-year, year-of-arrival and country-of-birth fixed effects, as well as demographic characteristics. IMR has a significant negative impact on English reading ability and GPA in middle school. IMR significantly decreases first job prestige, years of schooling, working hours, log earnings and income satisfaction. Some of these effects appear to be working through the lower middle school GPA. IMR does not influence self-rated health or labour market participation in adulthood, and there is no statistically significant relationship between GDP per capita and adult outcomes. Our estimates are of economic significance: the impact of being born in 1975 versus 1976 in Nicaragua in terms of the impact of IMR on earnings is equal to the gender effect on earnings, while the effect on income satisfaction of being born in Cuba in 1975 versus 1976 in terms of the impact of IMR is about equal to the father's high school completion effect. Our results cannot be explained by selection on observables: the pre-migration characteristics of children and parents are not associated significantly with the health and economic conditions at birth. Also, several tests show that our results cannot be explained by potential selection on unobservables. These results are robust to sample attrition and the inclusion of cohort trends and interaction effects between age-at-arrival and home country conditions.

JEL Classification: I14, J13, J15, J28

Keywords: immigrants, birth conditions, infant mortality, adult outcomes United States

Corresponding author:
Deniz Gevrek
Department Decision Sciences and Economics
Texas A&M University-Corpus Christi
6300 Ocean Drive
Corpus Christi, Texas 78412
USA

E-mail: deniz.gevrek@tamucc.edu

1. Introduction

Immigrants and their impact on host countries continues to be a hotly contested issue. In the United States, immigrant children make up 25% of school children, and the population of immigrant children increased by 51% between 1995 and 2014 to 18.7 million (Child Trends, 2014). Given the size and unprecedented growth of the immigrant population, it is important to study the socioeconomic outcomes of immigrant children and to identify the determinants of their later-life wellbeing. In this vein, our study examines the role of home country health and economic conditions at birth on the adult outcomes of first-generation American immigrants, an area that has been left relatively unexplored in the literature to date.

A large body of literature has focused on the potential links between early-life conditions and later-life outcomes such as adult cognition, education, health and labour market performance (e.g., see Duncan et al., 1998; Luo & Waite, 2005; Doblhammer et al., 2013; Van den Berg et al., 2016). For instance, socioeconomic conditions during childhood and early life experiences have a large impact on cognitive development and abilities (Luo & Waite, 2005; Robertson & Reynolds, 2010; Guven & Lee, 2013). Children from poor backgrounds show worse achievement outcomes in their first five years of life (Duncan et al., 1998).

In the absence of randomized experiments, the previous literature has employed several econometric methods for estimating the causal effects of early childhood conditions on later-life outcomes (Currie, 2009). First, some researchers have used natural experiments. For instance, Hjort et al. (2014) and Butikofer et al. (2015) make use of health policy changes in Denmark and Norway, respectively, to determine the causal relationship between improvements in childhood health conditions and adult wellbeing. Both natural and man-made disasters have also been utilized to establish the causal relationships (Dercon & Porter, 2014; Scholte et al., 2015; Sotomayor, 2013). Second, the method of instrumental variables is exploited to estimate such causal effects (see e.g., Van den Berg et al., 2016). Third, differences among siblings and twins are capitalized on to examine the impact of infant health on adult outcomes (e.g., Oreopoulos et al., 2008). Fourth, a life-course approach is used to investigate the relationship between health conditions around childhood and later life outcomes (e.g. Currie & Vogl, 2013, Guven & Lee, 2015). In this approach, it is assumed that childhood conditions are plausibly exogenous to adult outcomes, controlling for parental characteristics and other cofactors.[1]

Following a life-course approach and the related literature, we investigate the previously unexplored roles of early childhood health and economic conditions, measured by the infant mortality rate (IMR) and GDP per capita in the country and year of birth, in explaining adult outcomes among first-generation American immigrants. Our identification is achieved through exogenous variations in the IMR and GDP per capita across home countries and cohorts. IMR at birth is considered to be a very good proxy for birth environment and the health conditions of the general population (Reidpath & Allotey 2003; Madsen 2016b; Guven & Lee, 2015), while GDP per capita at birth has been used previously as a proxy for the standard of living and overall economic conditions during childhood (Van den Berg et al., 2009). Our study is closest to that of Kinge and Kornstad (2014), who examine the effect of immigrant mothers' home country health conditions, measured by the infant mortality rate (IMR), on their second-generation children's health in Norway. Authors find that maternal source country characteristics are associated statistically significantly with the mortality rates of the children of immigrant women in Norway.

[1] The studies cited above use micro-level data to analyze the relationship between childhood health and adult outcomes. Recent macro studies have found that similar associations also exist at the country level (Bloom et al., 2014; Madsen, 2016a, 2017).

Our data come from the Children of Immigrants Longitudinal Study (CILS), which includes immigrants of 39 nationalities who were born abroad but brought to the U.S. as children (Portes & Rumbaut, 2008). These children were exposed to their source-country characteristics at birth but were later raised in the U.S., where they shared similar environments, institutions and opportunities. We hypothesize that the birth environment and conditions in their country of origin will have a long-term influence on these immigrant children. As our sample consists of immigrant children who arrived in the host country before the age of 13 (the average age-at-arrival is 5.6), the decisions regarding the length of stay in the home country and the immigration itself are likely to be made by the parents of these immigrant children rather than by the children themselves. It is also natural to assume that these children did not have any say in when and where they were born. We do not have an exogenous shifter for birth conditions. However, we can assume that, controlling for parental characteristics and a rich set of other cofactors, home country conditions around birth are plausibly exogenous to immigrant children's adulthood outcomes. Indeed, we show below that birth conditions are exogenous to the pre-migration characteristics of children and their parents, as well as to various omitted variables. Therefore, our results are much stronger than simple correlations.

We estimate OLS/Probit models depending on the nature of the outcome variable and use robust standard errors that are clustered at the birth country level. We start our analysis by examining potential selection. That is, economic and health conditions at birth could work as a push factor for immigration, meaning that child and parental characteristics before immigration might be correlated with home country characteristics at birth. We estimate a very rich set of pre-migration child and parental characteristics as a function of home conditions at birth, and find that IMR and GDP per capita are not associated with either pre-migration child characteristics or pre-migration parental characteristics. Indeed, post-migration parental characteristics cannot be explained as well by IMR or GDP per capita. Thus, our results are robust to selection on observables. We also check the potential selection on unobservables. Using both Ovtest and Linktest, we find that an omitted variables bias cannot explain our findings. In addition, controlling for the effects of unobservables using a novel method developed by Oster (2016) shows similar results, which again confirms that our estimates do indeed reflect the true effects of past economic shocks.

Next, we study the associations between the home country conditions and middle school characteristics of these children, and find that the number of close friends, percentage of white students at the school, English reading skills and GPA can all be explained significantly by IMR at birth. Finally, we estimate the adulthood outcomes of these child immigrants as a function of IMR and GDP per capita in the home country in the year of birth, controlling for birth-year, year-of-arrival and country-of-birth fixed effects, as well as gender and city of residence. Birth-year fixed effects control for factors that are specific to each cohort, while year-of-arrival fixed effects control for the differing conditions faced by immigrants at different arrival times, and country-of-birth fixed effects control for fixed home country conditions. We also control for the significant middle school characteristics in the regressions one by one in order to explore potential channels.

The results indicate that a high IMR, which proxies for unfavourable health conditions in the country of birth, significantly reduces English reading ability and GPA at middle school level. Further, children born in high IMR conditions have worse middle school conditions. IMR also has significant detrimental effects on first job prestige, years of schooling, working hours, logarithm of earnings and income satisfaction. However, we do not find any statistically significant relationship between GDP per capita in the home country at birth and the adult outcomes of these child immigrants. The detrimental effects of IMR on first job prestige and years of schooling can be explained entirely by these lower GPAs in middle school. On the other hand, the negative effects of IMR on working hours, log earnings and income satisfaction cannot be explained by a lower middle school performance. We find that IMR does not influence self-rated health or labour market participation during adulthood. Thus, negative effects of IMR at birth on economic wellbeing cannot be explained by worse health conditions or labour market participation during adulthood. Our estimates are significant economically: we find that impact of being born in Nicaragua in 1975 versus 1976, in terms of the impact of IMR on earnings, is equal to the gender effect on earnings. Another example of a strong within-country impact can be illustrated with Cuba, where the effect on income satisfaction of being born in 1975 versus 1976, in terms of the impact of IMR, is nearly equal to the father's high school completion effect.

We also check the issue of sample attrition by examining whether or not being surveyed in the last round of the longitudinal data is associated with home country conditions at birth, and find that IMR and GDP per capita are insignificant, which suggests that attrition cannot explain our findings. Third, we control for global and home-country-specific cohort trends in our regressions and show that our findings are robust to these controls. Fourth, we test the inclusion of interaction effects between age-at-arrival and home country conditions, and find similar results in these specifications. We also find that such negative effects of IMR on first job prestige and completed years of schooling exist only for children who arrived in the U.S. after the age of three. Further, we show that there is no multi-collinearity between economic and health conditions at birth, and our estimates are similar when we use only IMR or GDP per capita in our regressions. Also, our results cannot be explained by outliers; indeed, the identification comes from variations in IMR and GDP per capita across all cohorts and home countries.

This study makes several important contributions to the literature. First, to the best of our knowledge, this is the first study to examine the effects of birth conditions on adult wellbeing outcomes among immigrants. Second, the findings have important policy implications in terms of designing sound policies for speeding up the assimilation and adaptation of immigrant children. Our results may help policymakers to devise intervention mechanisms for closing the immigrant–native gap in wellbeing. Policymakers should consider source country characteristics when providing immigrants with resources after their arrival. When designing programs to help the immigrant children integrate fully into the host country, policymakers should not treat immigrant children as a homogenous group. Special attention should be paid to health conditions at birth in the country of birth in order to identify more vulnerable immigrant children. Third, our findings also shed light on one source of the rising socioeconomic inequalities across the world (Aizer & Currie, 2014; Grossman, 2015), in particular native–immigrant and within-immigrant gaps, which have received more attention recently.[2] Fourth, our findings contribute to the literature on the importance of health conditions at birth for cognition, ability and adult wellbeing.

Section 2 describes the CILS data set and the summary statistics. Sections 3 and 4 present the empirical methodology and the results, respectively. Section 5 reports the robustness checks. Section 6 further discusses the CILS data and explores potential transmission mechanisms from IMR at birth to adult outcomes in the light of the previous literature. It also compares our estimates to findings in the previous literature and talks about potential implications of our findings. Finally, Section 7 provides some concluding remarks.

[2] For instance, New Opportunities for Research Funding Agency Cooperation in Europe (NORFACE) at European Union has recently started providing major funding for transnational research projects on this issue. See https://www.norface.net/.

2. Data

This study uses data from the three rounds of the Children of Immigrants Longitudinal Study (CILS), which was conducted in the U.S. over the period 1992 to 2003 (Portes & Rumbaut, 2008). The CILS data set, which the American Sociological Association lists as one of the major immigrant data sets, is available via the Center of Migration and Development of Princeton University.[3] The CILS data provide unusually detailed information on immigrant children's demographic characteristics, academic performance, middle and high school characteristics, language use, subjective measures of wellbeing, various adult outcomes and parental characteristics.

Our regression sample in Round 1 (middle school) consists of around 2,600 first-generation immigrant children who were born in one of the 39 countries considered and were brought to the U.S. when they were 13 years of age or younger. The top four countries of origin are the Philippines, Cuba, Nicaragua and Mexico.[4] As Rumbaut (2005) underlined, although the U.S. had received immigrants from many countries over the last several decades, immigrants from these particular countries constitute a large proportion of the U.S. immigrant population. CILS is the largest study to follow teenage immigrants from various nationalities in two of the preferred immigrant destination states, California and Florida. California is the most popular immigrant destination, with the largest share of immigrant population in the U.S., at 26.1 percent, while Florida is the second most popular immigrant destination, where foreign-born immigrants (first-generation) make up 19.7 percent of the state population (Congressional Budget Office, 2013). The Round 1 interviews were carried out in three cities: San Diego,

---

[3] The CILS data set can be accessed from the Princeton Center of Migration and Development website: https://cmd.princeton.edu/publications/data-archives/cils. American Sociological Association's description of the CILS can be found at http://www.asanet.org/communities/sections/international-migration/links.

[4] The other 35 countries in our sample are: Colombia, Jamaica, Thailand, Argentina, Honduras, Canada, Japan, Dominican Republic, El Salvador, Chile, Venezuela, Costa Rica, Guatemala, Peru, Ecuador, Germany, Spain, Panama, India, Korea, United Kingdom, Uruguay, China, Pakistan, Trinidad & Tobago, Greece, Ireland, Italy, Bangladesh, Iran, Malaysia, Turkey, South Africa, Bolivia, Brazil.

Miami and Ft. Lauderdale. The first interviews were conducted with immigrant children who were attending eighth or ninth grade in 1992. The second round of interviews (Round 2) took place three years later in 1995 when these children were close to their high school graduation. The third and final round of interviews (Round 3) were conducted ten years after the first round for around 1,600 immigrant children when they reached an average age of 24. These respondents answered questions about their educational attainments, employment and occupational status, among other important demographic and socioeconomic indicators.

The Infant Mortality Rate (IMR), as measured in the country of origin for the respondent's year of birth, is used as an indicator of health conditions at birth. The IMR is defined as the number of infants who die before reaching one year of age, per 1000 live births, in a given year (World Bank, 2015a). The children in our sample were born between 1975 and 1979. IMR data for all countries are obtained from the World Bank's Key Development Indicators for the period of 1975–1979 (World Bank, 2015a). **Figure 1** shows the average IMR (per 1000 live births) over the five-year period 1975–1979 for the 39 countries. On average, the lowest and highest IMRs are in Japan and Bangladesh, with 8.86 and 141.18 infants dying before reaching one year of age per 1000 live births, respectively. The average IMR in our sample is 54.4. **Figure 2** shows the IMRs for the top four immigrant-sending countries in our sample for the years 1975–1979. Nicaragua has the highest IMR, at 97.3 in 1975, but experiences a sharp decline of more than 16 points over these five years. Mexico starts at 68.4 in 1975 and ends at 58.7 in 1979, with about a 10-point drop in IMR. The Philippines and Cuba start off with relatively lower IMRs, at 54 and 24.4 respectively, and experience smaller drops of 2.1 and 6.2 points respectively.

We use the GDP per capita in the country of origin and year of birth as a proxy for the standard of living and overall economic conditions at birth. GDP per capita data were obtained from the World Bank database, which is based on World Bank National accounts data and

OECD National Accounts data files.[5] GDP per capita is defined as the gross domestic product divided by the midyear population, and the data are in constant 2010 U.S. dollars (World Bank, 2015b). Our results remain largely similar when we use the GDP per capita data from the Maddison Project (2010).[6]

2.1 Descriptive Statistics

Table 1 shows the summary statistics for selected variables. The average IMR (per 1000 live births) is 54.4 infants dying before reaching age one. The average GDP per capita is $4,173, with the lowest being $308 per year and the highest $30,650 per year.[7] Next, summary statistics for three groups of variables are presented. The Round 1 variables were measured when the children were in middle school, while the Round 2 variables were measured when they were in high school. The Round 3 variables were measured in early adulthood, when the immigrant children reached an average age of 24. The average middle school GPA is 2.64 on a 5-point scale. Male students make up 44 percent of the sample. Immigrant children are, on average, 14.3 years old in Round 1. The average age at arrival in the U.S. is 5.6, while the maximum is 13. 70 percent of the children could read in English very well. The average number of close friends was 13, and 22 percent of students at the middle schools were white. The average school size is 1,931, while 46 percent of the children under study received subsidized lunch at these schools. The average high school GPA on a 5-point scale is 2.55, which is lower than the average middle school GPA. The average monthly personal earnings for these immigrant children is $1,910, while 48 percent of them are satisfied with their

[5] World Bank (2015b) describes the calculation of the GDP per capita as follows: "GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources."

[6] GDP data developed by Maddison were downloaded from: The Maddison-Project, http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version. GDP per capita is measured in 1990 Int. GK$.

[7] The average GDP per capita from the Maddison (2010) data ($3,785) is lower than that from the World Bank data (in 2010 US Dollars) because the Maddison GDP per capita is measured in 1990 GK dollars.

income. On average, immigrants in this sample have a first job prestige of 39.6 points (on the 16-78 scale), have completed 14.1 years of schooling by the time they reached age 24, and work around 38 hours per week.

3. Empirical Methodology

We start by estimating the following OLS/Probit regressions in order to examine the effects of health and economic conditions at birth on pre-migration and post-migration child/parent characteristics around middle school (Round 1).[8] The estimations using pre-migration characteristics help us to understand the extent of possible selection on observables, while the estimations using post-migration characteristics enable us to find potential channels through which birth conditions can influence adult outcomes.

$$M_i = \beta_0 + B_i{}'\gamma + \alpha_1 Z_i + X_i{}'\delta + \varepsilon_i \qquad (1)$$

Probit regressions are estimated when M_i is a dummy variable and marginal effects are presented. OLS regressions are estimated in other cases and coefficients are shown. Robust standard errors are clustered at the country-of-birth level. The main variable of interest, B_i, is a vector of two variables that describe economic and health conditions at birth: GDP per capita and IMR (per 1000 live births) in the country and year of birth. Z_i includes dummy variables for male and city of residence. X_i includes country-of-birth fixed effects, year-of-birth fixed effects and age-at-arrival fixed effects. Previous studies have found a strong relationship between the home country's culture/characteristics and immigrant outcomes in the host country (Fernandez & Fogli, 2006, 2009; Blau et al., 2011; Gevrek et al., 2013). Country-of-birth fixed effects capture factors that are constant for each country, such as culture (Blau et al., 2011).

[8] With the exception of high school GPA, which is measured in Round 2.

Year-of-birth (cohort) fixed effects capture characteristics that are specific to each immigrant cohort, and age-at-arrival fixed effects control for the effects of the age at which these immigrant children arrived in the U.S. (Beck et al., 2012; Adsera & Ferrer, 2014). Thus, our coefficients can be interpreted as the net effect of IMR and GDP per capita on the outcome variables after controlling for all of these factors.

We then examine the impact of IMR and GDP per capita on the adult outcomes in Round 3 (Y_i): first job prestige score, years of schooling, weekly working hours, personal earnings and income satisfaction.

$$Y_i = \theta_0 + B_i{}'\vartheta + \varphi_1 Z_i + X_i{}'\omega + M_i{}'\eta + u_i \qquad (2)$$

In these specifications, $\mathrm{B_i}$, Z_i and X_i include the same variables as in Equation 1. M_i includes the middle school variables, which were found to be associated significantly with birth conditions in Equation 1. Angrist and Pischke (2008) suggest that any investigation of potential channels in empirical work should start with regressions that use the potential mediator variables as the dependent variable and then include these variables in the models one by one. We follow this approach in order to avoid bad controls in the regressions, and examine potential channels through which the main variables of interest may influence the outcome variables. Finally, we have checked the correlations among the independent variables. They are very low (generally less than 0.4), suggesting that multi-collinearity is not an issue in our regressions.

3.1 Our Empirical Method Compared to Previous Studies

This paper examines the effects of conditions at birth on adult outcomes, while the previous literature has found that the exposure to shocks that matters most for adult outcomes is in utero and during the first five years of life, in addition to shocks at birth. Unfortunately, we do not have data on exact dates of birth for immigrant children in the CILS data, so we cannot look at in utero exposure. Also, most of the children moved to USA after the age of one, which makes the investigation of shocks on ages after one very difficult; indeed, such an investigation would lead to biased estimates, because years of exposure is correlated highly with age at migration. Nevertheless, we control for year-of-birth and age-at-arrival fixed effects, which ensures that differences in years of exposure are already controlled for in our regressions. Indeed, the results remain similar when we control for this variable in the unreported regressions, as expected. This paper focuses on GDP per capita and infant mortality at birth because they are most broadly available measures for most countries over time, and both are widely studied measures of health and economic conditions at birth (see Section 6 for further discussion on this topic). However, the previous literature has examined several other country characteristics that can affect birth conditions, such as unemployment. We therefore explore this issue below in Section 6, where we investigate the role of omitted variables and find that such potential omitted variables cannot explain our findings.

4. Empirical Results

Table 2 estimates Equation 1 and addresses the issue of potential selection. It is possible that the parents of immigrant children could have migrated to the U.S. in response to certain bad conditions in their home countries. In addition, this migration could be selective, such that parents with certain characteristics might migrate in response to these shocks. If this is the case, then our estimates will be invalid. Table 2 assesses this potential issue by examining the relationship between the birth conditions and pre-migration characteristics of children and their parents. The first set of outcome variables relates to children, such as age, age at arrival, year of arrival, household size, gender and city of residence. The second set of outcome variables relates to mothers and fathers, namely parents’ ages, year of arrival, education, reason for migration and knowledge about the U.S. We do not find any significant associations between IMR and GDP per capita at birth and any of these indicators in these regressions. This finding implies that birth conditions are not related to pre-migration characteristics, and therefore our results are immune to potential selection.

Table 3 estimates Equation 1 and studies the relationship between post-migration characteristics (all measured in Round 1 except high school GPA) and birth conditions. The main idea here is to find the variables that have statistically significant relationships with birth conditions and consider them as potential channels later on when we examine adult outcome variables. Panel A finds that, among several child indicators during middle school, English reading ability and academic performance (GPA) decrease with IMR. The number of close friends, which is a measure of non-cognitive skills, also decreases with IMR, but increases with GDP per capita. In addition, children who were born during high IMR conditions tend to go to middle schools that have larger populations, lower proportions of white students and higher proportions of children receiving subsidized lunches. Panel B estimates parental outcome variables as a function of birth conditions and other controls. No significant relationships exist between parental indicators and birth conditions. These results mimic the findings in Table 2 and again confirm that the IMR and GDP per capita at birth are not associated with any parental characteristics in our sample.

Table 4 estimates Equation 2 and examines the impact of economic and health conditions at birth on first job prestige and completed years of schooling during adulthood. We include the (significant) variables from Table 2 in the regressions one by one in order to assess the importance of potential channels. We find that IMR decreases the first job prestige in column 1 when basic controls are included. Controlling for the number of close friends and the percentage of white children at the middle school does not make any difference to the IMR coefficient, while Columns 2 and 3 find these added independent variables to be statistically insignificant. We also do not include all middle school characteristics together, to avoid potential multi-collinearity, and use only one at a time in the regressions. Our results are robust to this choice.

Column 4 shows that English reading ability increases first job prestige significantly, while decreasing the IMR coefficient slightly. However, GPA (middle or high school) increases first job prestige significantly, while decreasing the IMR coefficient by around 10 percent and making the coefficient nearly insignificant (*t*-statistic of 1.60). The findings for years of schooling are similar. Middle school characteristics do not influence years of schooling, but English reading ability and GPA do significantly explain years of schooling. The inclusion of reading ability decreases the IMR coefficient slightly, while controlling for GPA makes the coefficient of IMR nearly insignificant. GDP per capita does not have any influence on these adult indicators. Overall, worse health conditions around birth significantly decrease first job prestige and education, and English reading ability and academic performance (GPA) appear to be the main channels that link birth conditions to these adult indicators.

Table 5 estimates Equation 2 and examines the impacts of economic and health conditions around birth on weekly working hours, the logarithm of earnings and income satisfaction during adulthood. We include the (significant) variables from Table 2 in the regressions one by one to assess the importance of potential channels. We find that IMR significantly decreases working hours, log earnings and income satisfaction. Controlling for middle school characteristics does not make any difference to the size and significance of the IMR coefficient. Indeed, it is highly possible that these labour market outcomes are linked directly to education, which is found to be influenced by IMR at birth.

We also examined labour market participation and self-rated health as a function of birth conditions (Appendix Table 1), and found that health and economic conditions around birth do not affect these outcome variables. This result suggests that our findings regarding the labour market effects of birth conditions cannot be explained by either selection into the labour market or worse health conditions.

5. Robustness Checks

First, **Table 6** explores the possible non-linear age-at-arrival interaction effects of IMR on adult outcomes. Previous studies of immigrant lifetime academic performance, language acquisition and labour market performance have suggested that age at arrival in the host country is an important determinant of later-life outcomes (see e.g. Guven & Islam, 2015). The literature concludes that those who arrive in host countries early in childhood fare better than those who arrive later in childhood. We focus on the following two lines of literature to determine the cut-off ages for non-linear age-at-arrival effects. On the one hand, the nutrition and health hypothesis indicates that the first three years of life are critical for brain development and later-life outcomes (Bryce et al., 2008; Johnson, 2001). On the other hand, the language-formation hypothesis suggests that the first ten years of life (ages 0-9) constitute the critical age in terms of brain development and language skills (Bleakley & Chin, 2004, 2010; Bryce et al., 2008; Guven & Islam 2015; Van den Berg et al., 2014). We account for non-linear effects of IMR by age-at-migration by including an interaction variable between IMR and an indicator variable for having arrived in the U.S. after turning three years of age (arrived-after-3).

The results are presented in Columns 1–5. The interaction variable is not statistically significant for working hours, earnings or income satisfaction. However, it is statistically significant in explaining first job prestige and years of schooling, and its inclusion makes the coefficient of IMR nearly statistically insignificant. This suggests that the detrimental effects of IMR on these adult indicators exist only for children who came to the U.S. after the age of three. Based on the second line of literature mentioned above, we then repeated the analysis, but changing the age-at-arrival cut-off to nine. The results are presented in Columns 6–10. The only statistically significant interaction term is found for years of schooling, which is in line with expectations, as this cut-off is related to the brain's language acquisition abilities after this age. The interaction term appears to have a separate effect on years of schooling, as the *t*-statistic of the IMR coefficient is 1.59. This finding suggests that children who came to the U.S. after the age of nine experienced declines in their schooling due not only to IMR but also to difficulties in learning the language that are related to bad health conditions at birth.

Second, **Table 7** investigates the effect of the potential selection on unobservables. Using Ovtest and Linktest, we find that an omitted variables bias cannot explain our findings. Ovtest in Panel A runs Ramsey's RESET (regression specification-error test) for omitted variables. RESET tests the model to ensure that omitted variables are not causing model misspecification. Insignificant *p*-values imply that our model passes the test. Linktest in Panel B is based on the idea that if a regression is specified properly, no additional independent variables should be significant by chance. Linktest looks for a specific type of specification error called a link error, where a dependent variable needs to be transformed (linked) in order to relate accurately to independent variable. Linktest adds the squared independent variable to the model and tests for significance relative to the non-squared model. Non-significant *t*-statistics confirm the absence of such omitted variables in our models. In addition, we control for the effects of unobservables in Panel C using a method developed recently by Oster (2016). This method uses the amount of selection on observable characteristics to determine the degree of selection on unobservable characteristics. In other words, the ratio of selection on unobservables to selection on observables can indicate the extent of the selection into birth conditions, allowing us to test for coefficient stability. We consider three cases where the selection on unobservables is equal to, smaller than and much smaller than selection on observables. Our results are similar in all three cases, which again confirms that our estimates do indeed reflect the true effects of past economic shocks.

Third, we experimented with using IMR and GDP per capita as separate independent variables, to ensure that our results are not due to some spurious correlations. We find that IMR still has a significant negative effect on first job prestige (Appendix Table 2) and other outcome variables (unreported).

Fourth, we include a global cohort trend for the year of birth to replace our birth-year fixed effects and control for country-specific birth cohort trends. The findings reveal that the inclusion of global and country-specific birth cohort trends does not change our main results (Appendix Table 3).

Fifth, we checked the potential bias in our estimates due to attrition (Appendix Table 4). Sixty percent of the survey respondents from Round 1 were present in Round 3, but the rest dropped out of the survey. We define the outcome variable as a dummy variable that takes a value of 1 if the person exists in Round 3 and 0 otherwise. We experiment with using different controls in each column 1–3 and find that IMR and GDP per capita are not associated with attrition in our sample. That means that our estimates are probably free from such bias.

Sixth, we utilized the GDP per capita data from Maddison (2010). Using this alternative data source does not change the main results. The results are not presented to conserve space, but are available upon request. Seventh, we include school fixed effects instead of middle school characteristics. The immigrant children being surveyed attended 42 distinct middle schools. The main results did not change when we controlled for school fixed effects.[9]

[9] The results are not reported to conserve space but are available from the contact author upon request.

Eighth, we examined partial-regression plots to ensure that the negative impacts of IMR on adult outcomes were not being generated by extreme values or outliers. The partial regression plots in Appendix Figures 1 and 2 show the first job prestige and logarithm of personal earnings by IMR, controlling for explanatory variables. The slope of the line corresponds to the coefficient estimate for IMR. The figures provide evidence that there are no outliers that force the regression coefficient to be negative and statistically significant.

6. Further Discussions and Research Limitations

6.1 Children of the Immigrants Longitudinal Study

This study utilizes the data set from the Children of the Immigrants Longitudinal Study (CILS).[10] The CILS was not collected from all localities in the U.S.; however, it is the most comprehensive study to follow children immigrants from many different nationalities who reside in California and Florida, which are the top two immigrant destination states in the U.S. In addition, this data set is representative of the overall immigrant population of the U.S. The top four immigrant source countries in our sample make up the majority of the U.S. immigrant population (Rumbaut, 2005). Moreover, our data set represents 39 distinct countries. The major advantage of using the CILS data set is that it provides researchers with uniquely rich data on immigrant children and their families based on three interviews with the children over 10 years as well as interviews with their parents; in addition, most importantly, it also uses objective measures collected from both middle- and high-school administrative sources.

[10] The CILS is a high-quality data set and has been used previously in the literature by several researchers (Portes & MacLeod, 1999; Fernandez-Kelly & Curran, 2001; Portes & Rumbaut, 2001; Rumbaut & Portes, 2001; Zhou, 2001; Rumbaut, 2004).

6.2 Potential Transmission Mechanisms from IMR at Birth to Adult Outcomes

Our findings show that IMR at birth is linked to worse academic performances in middle school, through which channel it negatively influences adult socioeconomic outcomes. However, the question remains: how exactly does this transmission occur? The previous literature considers the country-level infant mortality rate (IMR) as a good measure of the general health and wellbeing of a population (Schell et al., 2007; Kim & Saada, 2013). Some of the explanation lies in an understanding of the determinants and possible causes of infant mortality, which can help us to identify the health problems that these immigrant children faced when they were babies. World Health Organization lists the possible causes of infant mortality as follows:

a) Medical conditions such as low birth weight.
b) Sudden infant death syndrome, where an infant dies in their sleep with no apparent reason behind it.
c) Malnutrition or undernutrition, defined as an inadequate intake of nourishment, such as proteins and vitamins.
d) Congenital malformations, which are birth defects that babies are born with, such as cleft lip and palate, Down Syndrome, and heart defects. This often occurs when the mother consumes alcohol, but it can also be caused by genetics or have an unknown cause.
e) Infectious and parasitic diseases: seven out of ten childhood deaths are due to infectious diseases such as acute respiratory infection, diarrhoea, measles, and malaria.
f) Environmental conditions such as water and air pollution.

Schell et al. (2007) focussed on five socioeconomic factors: public health spending, GNI per capita, the poverty rate, income equality (as measured by the Gini index), and the young female illiteracy rate. They find that GNI per capita, the young female literacy rate and the Gini index predicted more than 92 percent of the variation in IMR. Among industrialised nations, a strong public medical system (Chung & Muntaner, 2006), income inequality and social policies such as generous maternity leave policies (Kim & Saada, 2013) help to explain cross-country variations in IMR.

6.3 Our Estimates Compared to Previous Findings

It is also plausible that IMR may not capture the within-country heterogeneity in health conditions fully. Ideally, we would know the overall health conditions in a specific city or neighbourhood – or, better yet, the full medical history of immigrant children during the early years of their lives. For example, we cannot look at the conditions in utero because our dataset does not include month of birth information. Acknowledging that the determinants of the IMR depend on a complex set of factors, our study follows the previous literature and utilises IMR in the country of origin and the year of birth as a proxy for the health environment experienced in early life. Specifically, our identification strategy hinges strongly upon within-country variations in IMR over time.

The impacts of IMR at birth on various adult outcomes are somewhat larger than previous estimates. For comparison, the effect of being born in the Philippines in 1976 rather than 1979, in terms of the impact of IMR on personal earnings, is equal to the effect of middle school depression on personal earnings. In the case of income satisfaction in adulthood, the effect of being born in Cuba in 1975 rather than 1976, in terms of the impact of IMR, is equal to the effect of father's high school completion on income satisfaction. We believe that this could be due to (a) having a very high average IMR at birth in our sample compared to the world average because our sample includes immigrant children from very poor countries of the world; (b) high levels of within- and between-country variation in IMR at birth, because the immigrant children in our sample come from both very rich and very poor countries, thus providing us with a large amount of variation to exploit when estimating the effects of health and economic conditions at birth; and (c) the relatively young age profile of the immigrant adults in round 3 (mean age of 24), which implies that our estimates might be lower if we had a chance to examine immigrants again around the age of 35.

6.4 Implications of Our Findings

Both legal and illegal immigration continue to be hot-button issues in the U.S. and other host countries (Burnett, 2018). Immigrant children make up one-quarter of all school-age pupils in the U.S. (Child Trends, 2014). The population of such children has experienced an unparalleled increase over the last 20 years. Over the last decade, we have witnessed soaring numbers of unaccompanied immigrant children (UAC) entering the U.S. from El Salvador, Guatemala, Mexico and Honduras. The UAC migration is unique in both magnitude and nature. In 2012, 38,759 UAC were apprehended at the U.S.–Mexico border (U.S. Customs and Border Protection, 2016). The number of UAC reached 68,541 in 2013, and a steady stream of children continued over the years, with 41,435 in 2017 (U.S. Customs and Border Protection, 2017). Given the size and growth of the immigrant children population in the U.S., our study has important policy implications in terms of helping these children to prepare for success later in life. Our findings suggest that unfavourable early-life conditions are important for the later-life outcomes of American immigrant children. In general, immigrant children should not be treated as a homogenous group in terms of the interventions they require.

The differences in the immigration policies that different countries follow limit the generalisability of our study. The U.S. immigration system is based mainly on family ties, while those of Australia and Canada are largely skill-based point systems. However, even in those countries where there is a point system, the admittance of immigrants is based on parental characteristics, not those of the kids. Controlling for extensive parental characteristics broadens the generalisability of our findings.

7. Conclusion

We examine the impact of health and economic conditions at birth on later-life outcomes among first-generation American immigrant children using the Children of Immigrants Longitudinal Study. Our sample consists of children from 39 countries who were brought to the United States before the age of 13. Early-life conditions are proxied by the infant mortality rate (IMR) and the GDP per capita in the respondents' countries and years of birth.

We estimate a very rich set of pre-migration child and parental characteristics as a function of home country conditions at birth and find that IMR and GDP per capita are not associated with either pre-migration child characteristics or pre-migration parental characteristics. Indeed, post-migration parental characteristics cannot be explained by IMR and GDP per capita either. Thus, our results are robust to selection.

We estimate the adulthood outcomes of these child immigrants as a function of the IMR and GDP per capita of the home country in the year of birth, controlling for birth-year, year-of-arrival and country-of-birth fixed effects, as well as gender and city of residence. In addition, we control for the statistically significant middle school characteristics in the regressions one by one in order to explore potential channels.

We find that IMR has significant negative impacts on both English reading ability and GPA at middle school level. Further, children with high IMRs have worse middle school conditions. In addition, IMR has significant detrimental effects on first job prestige, years of schooling, working hours, log earnings and income satisfaction. However, we do not find any statistically significant relationship between GDP per capita in the home country at birth and the adult outcomes of these child immigrants. The detrimental effects of IMR on first job prestige and years of schooling can be explained entirely by the lower GPAs achieved in middle school. On the other hand, the negative effects of IMR on working hours, log earnings and income satisfaction cannot be explained by worse middle school performances. We find that IMR does not influence self-rated health or labour market participation during adulthood. Thus, the negative effects of IMR at birth on economic wellbeing cannot be explained by worse health conditions or labour market participation during adulthood.

For comparison, we find that the impact of being born in Nicaragua in 1975 versus 1976, in terms of the impact of IMR on earnings, is equal to the gender effect on earnings. Another example of a strong within-country impact can be seen with Cuba, where the effect of being born in 1975 versus 1976, in terms of the impact of IMR, is about equal to the effect on income satisfaction of a father having completed high school. Our results are robust to sample attrition, controlling for both global and home-country-specific cohort trends and the inclusion of interaction effects between age-at-arrival and home country conditions.

This study has important policy implications in terms of designing sound policies that will help to improve immigrant outcomes in the U.S. Policymakers should consider IMR in the country of birth as an indicator of adverse early-life conditions rather than the GDP per capita. The results suggest that immigrant children who are from different countries, or even who were born in the same country under different conditions, require different interventions. In addition, our findings imply that U.S. foreign aid that focuses on improving health conditions and targets child health and survival in the immigrant-sending countries could alleviate the detrimental effects of IMR on the economic wellbeing of immigrants in the U.S., as well as facilitating better economic integration. Thus, foreign aid could have much higher returns than expected for the U.S.

References

Adsera, A., & Ferrer, A. (2014). Factors influencing the fertility choices of child immigrants in Canada. *Population Studies*, *68*(1), 65-79.

Aizer, A., & Currie, J. (2014). The intergenerational transmission of inequality: Maternal disadvantage and health at birth. *Science*, *344*(6186), 856-861.

Angrist, J. D., & Pischke, J. S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.

Beck, A., Corak, M., & Tienda, M. (2012). Age at immigration and the adult attainments of child migrants to the United States. *The Annals of the American Academy of Political and Social Science*, *643*(1), 134-159.

Blau, F. D., Kahn, L. M., & Papps, K. L. (2011). Gender, source country characteristics, and labor market assimilation among immigrants. *The Review of Economics and Statistics*, *93*(1), 43-58.

Bleakley, H., & Chin, A. (2004). Language Skills and Earnings: Evidence from Childhood Immigrants. *Review of Economics and Statistics*, *86*(2), 481-496.

Bleakley, H., & Chin, A. (2010). Age at arrival, English proficiency, and social assimilation among US immigrants. *American Economic Journal: Applied Economics*, *2*(1), 165-192.

Bloom, D. E., Canning, D., & Fink, G. (2014). Disease and development revisited. *Journal of Political Economy*, *122*(6), 1355-1366.

Bryce, J., Coitinho, D., Darnton-Hill, I., Pelletier, D., Pinstrup-Andersen, P., & Maternal and Child Undernutrition Study Group. (2008). Maternal and child undernutrition: effective action at national level. *The Lancet*, *371*(9611), 510-526.

Burnett, J. (2018, 6 April). As Border Crossings Tick Up, Migrants Bring Children, Take More Dangerous Routes. NPR (accessed April 7, 2018), available at: https://www.npr.org/2018/04/06/600288184/as-border-crossings-tick-up-migrants-bring-children-take-more-dangerous-routes.

Butikofer, A., Løken, K. V., & Salvanes, K. G. (2015). Long-term consequences of access to well-child visits. *IZA Working Paper*.

Child Trends (2014). Immigrant children. Available at: https://www.childtrends.org/wp-content/uploads/2013/07/110_Immigrant_Children.pdf .

Chung, H. & Muntaner, C. (2006). Political and welfare state determinants of infant and child health indicators: an analysis of wealthy countries. *Social Science & Medicine*, *63*(3), 829-842

Congressional Budget Office (2013). A Description of the Immigrant Population—2013 Update. Available at: https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/44134_Description_of_Immigrant_Population.pdf.

Currie, J. (2009). Healthy, wealthy, and wise: Is there a causal relationship between child health and human capital development? *Journal of Economic Literature, 47*(1), 87-122.

Currie, J., & Vogl, T. (2013). Early-life health and adult circumstance in developing countries. *Annual Review Economics, 5*(1), 1-36.

Dercon, S., & Porter, C. (2014). Live aid revisited: long-term impacts of the 1984 Ethiopian famine on children. *Journal of the European Economic Association*, *12*(4), 927-948.

Doblhammer, G., van den Berg, G. J., & Fritze, T. (2013). Economic Conditions at the Time of Birth and Cognitive Abilities Late in Life: Evidence from Ten European Countries. *PLoS ONE*, *8*(9), e74915.

Duncan, G., Yeung, W., Brooks-Gunn, J., & Smith, J. (1998). How Much Does Childhood Poverty Affect the Life Chances of Children? *American Sociological Review, 63*(3), 406-423.

Fernandez-Kelly, P., & Curran, S. (2001). Nicaraguans: Voices Lost, Voices Found. In R. G. Rumbaut and A. Portes (eds.), *Ethnicities: Children of Immigrants in America*. Berkeley: University of California Press and Russell Sage Foundation, pp. 127-155.

Fernandez, R., & Fogli, A. (2006). Fertility: The Role of Culture and Family Experience. *Journal of the European Economic Association*, *4*(2–3), 552–561.

Fernandez, R., & Fogli, A. (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, *1*(1), 146–177.

Gevrek, E., Gevrek, D., & Gupta, S. (2013). Culture, Intermarriage, and Differentials in Second-Generation Immigrant Women's Labor Supply. *International Migration, 51*(6), 146-167.

Guven, C., & Lee, W. S. (2013). Height and cognitive function at older ages: Is height a useful summary measure of early childhood experiences? *Health Economics*, *22*(2), 224-233.

Guven, C., & Lee, W. S. (2015). Height, aging and cognitive abilities across Europe. *Economics and Human Biology*, *16*, 16-29.

Guven, C., & Islam, A. (2015). Age at migration, language proficiency, and socioeconomic outcomes: evidence from Australia. *Demography*, *52*(2), 513-542.

Grossman, M. (2015). The relationship between health and schooling: What's new? No. w21609. *National Bureau of Economic Research*.

Hjort, J., Sølvsten, M., & Wüst, M. (2014). Universal investment in infants and long-run health: Evidence from Denmark's 1937 home visiting program. *American Economic Journal: Applied Economics*, *9*(4), 78-104.

Johnson, M. H. (2001). Functional brain development in humans. *Nature Reviews Neuroscience, 2*(7), 475-483.

Kim, D., & Saada, A. (2013). The Social Determinants of Infant Mortality and Birth Outcomes in Western Developed Nations: A Cross-Country Systematic Review. *International Journal of Environmental Research and Public Health*, *10*(6), 2296–2335.

Kinge, J., & Kornstad, T. (2014). Assimilation effects on infant mortality among immigrants in Norway: Does maternal source country matter? *Demographic Research*, *31*(26), 779-812

Luo, Y., & Waite, L. J. (2005). The Impact of Childhood and Adult SES on Physical, Mental, and Cognitive Well-Being in Later Life. *The Journals of Gerontology: Series B*, *60*(2), S93–S101.

Madsen, J. B. (2016a). Barriers to prosperity: parasitic and infectious diseases, IQ, and economic development. *World Development*, *78*, 172-187.

Madsen, J. B. (2016b). Health, Human Capital Formation and Knowledge Production: Two Centuries of International Evidence. *Macroeconomic Dynamics*, *20*(4), 909-953.

Madsen, J. B. (2017). Health-led Growth since 1800. *Macroeconomic Dynamics*, *22*(4), 961-1000.

Oreopoulos, P., Stabile, M., Walld, R., & Roos, L. L. (2008). Short-, medium-, and long-term consequences of poor infant health: an analysis using siblings and twins. *Journal of Human Resources*, *43*(1), 88-138.

Oster, E. (2016). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, *37*, 187-204.

Portes, A., & MacLeod, D. (1999). Educating the Second Generation: Determinants of Academic Achievement among Children of Immigrants in the United States. *Journal of Ethnic and Migration Studies*, *25*, 373-396.

Portes, A., & Rumbaut, R. G. (2001). *Legacies: The Story of the Immigrant Second Generation*. Berkeley, CA: University of California Press and Russell Sage Foundation.

Portes, A., & Rumbaut, R. G. 2008. Children of Immigrants Longitudinal Study (CILS), 1991-2006 [Computer file]. ICPSR20520-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008-01-07. doi:10.3886/ ICPSR20520.

Reidpath, D. D., & Allotey, P. (2003). Infant mortality rate as an indicator of population health. *Journal of Epidemiology & Community Health*, *57*(5), 344-346.

Robertson, D. L., & Reynolds, A. J. (2010). Family profiles and educational attainment. *Children and Youth Services Review*, *32*(8), 1077-1085.

Rumbaut, R. G. (2004). Ages, Life Stages, and Generational Cohorts: Decomposing the Immigrant First and Second Generations in the United States. *International Migration Review*, *38*(3), 1160-1205

Rumbaut, R. G. (2005). Turning Points in the Transition to Adulthood: Determinants of Educational Attainment, Incarceration, and Early Childbearing among Children of Immigrants. *Ethnic and Racial Studies*, *28*(6), 1041–1086.

Rumbaut, R. G., & Portes, A. (2001). *Ethnicities: Children of Immigrants in America*. Berkeley: University of California Press and Russell Sage Foundation.

Schell, C. F., Reilly, M., Rosling, H., Peterson, S., & Ekström, A. M. (2007). Socioeconomic determinants of infant mortality: A worldwide study of 152 low-, middle, and high-income countries. *Scandinavian Journal of Public Health*, *35*(3), 288–297.

Scholte, R. S., Van den Berg, G. J., & Lindeboom, M. (2015). Long-run effects of gestation during the Dutch hunger winter famine on labor market and hospitalization outcomes. *Journal of Health Economics*, *39*, 17-30.

Sotomayor, O. (2013). Fetal and infant origins of diabetes and ill health: Evidence from Puerto Rico's 1928 and 1932 hurricanes. *Economics & Human Biology*, *11*(3), 281-293.

The Maddison Project. (2010). GDP per capita is measured in 1990 Int. GK$. Retrieved from: http://www.ggdc.net/maddison/maddison-project/home.html.

The World Bank (2015a). World Development Indicators: Mortality rate, infant (per 1,000 live births). Retrieved from http://data.worldbank.org/indicator/SP.DYN.IMRT.IN/countries.

The World Bank (2015b). World Development Indicators: GDP per capita (constant 2010 US$). Retrieved from http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.

U.S. Customs and Border Protection. (2016). United States Border Patrol Southwest Family Unit Subject and Unaccompanied Alien Children Apprehensions Fiscal Year 2016. Available at: https://www.cbp.gov/newsroom/stats/southwest-border-unaccompanied-children/fy-2016.

U.S. Customs and Border Protection. (2017). Southwest Border Migration FY2017. Available at: https://www.cbp.gov/newsroom/stats/sw-border-migration-fy2017

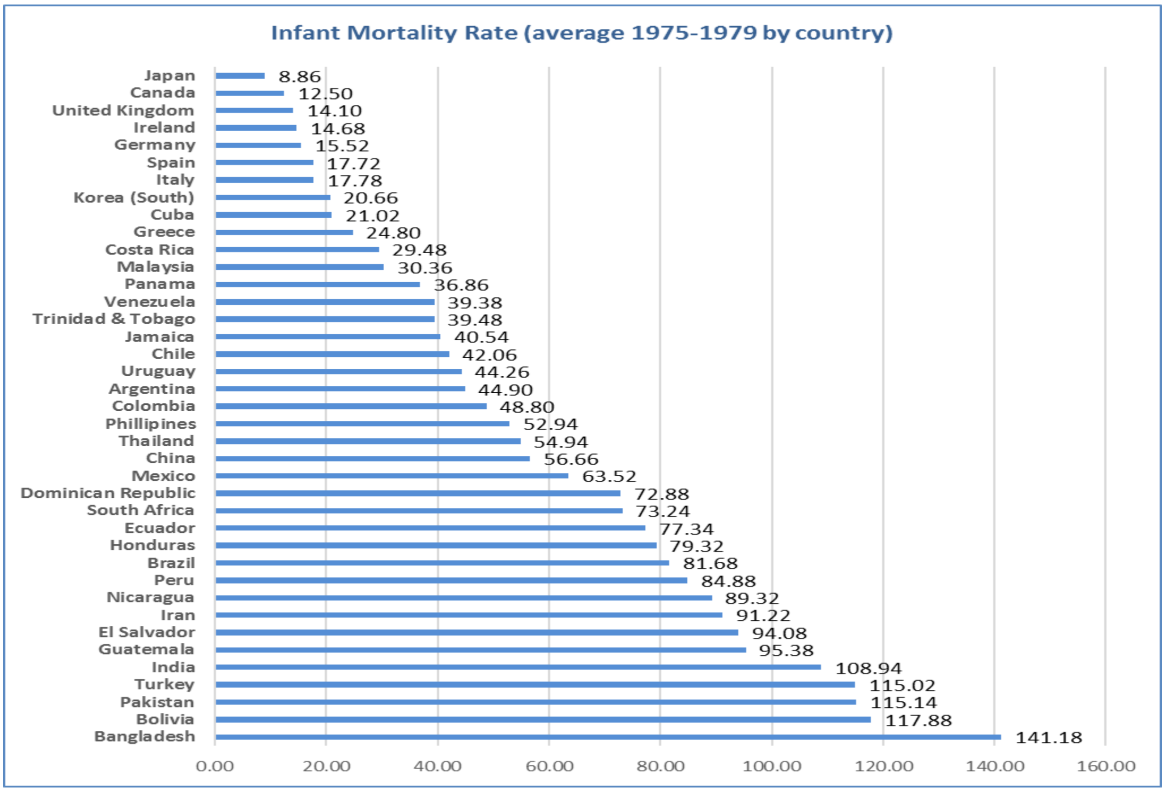
Van den Berg, G. J., Doblhammer, G., & Christensen K. (2009). Exogenous determinants of early-life conditions, and mortality later in life. *Social Science and Medicine*, *68*(9), 1591-1598.

Van den Berg, G. J., Lundborg, P., Nystedt, P., & Rooth, D. O. (2014). Critical periods during childhood and adolescence. *Journal of the European Economic Association*, *12*(6), 1521-1557.

Van den Berg, G. J., Pinger, P. R., & Schoch, J. (2016). Instrumental variable estimation of the causal effect of hunger early in life on health later in life. *Economic Journal*, *126*(591), 465-506.

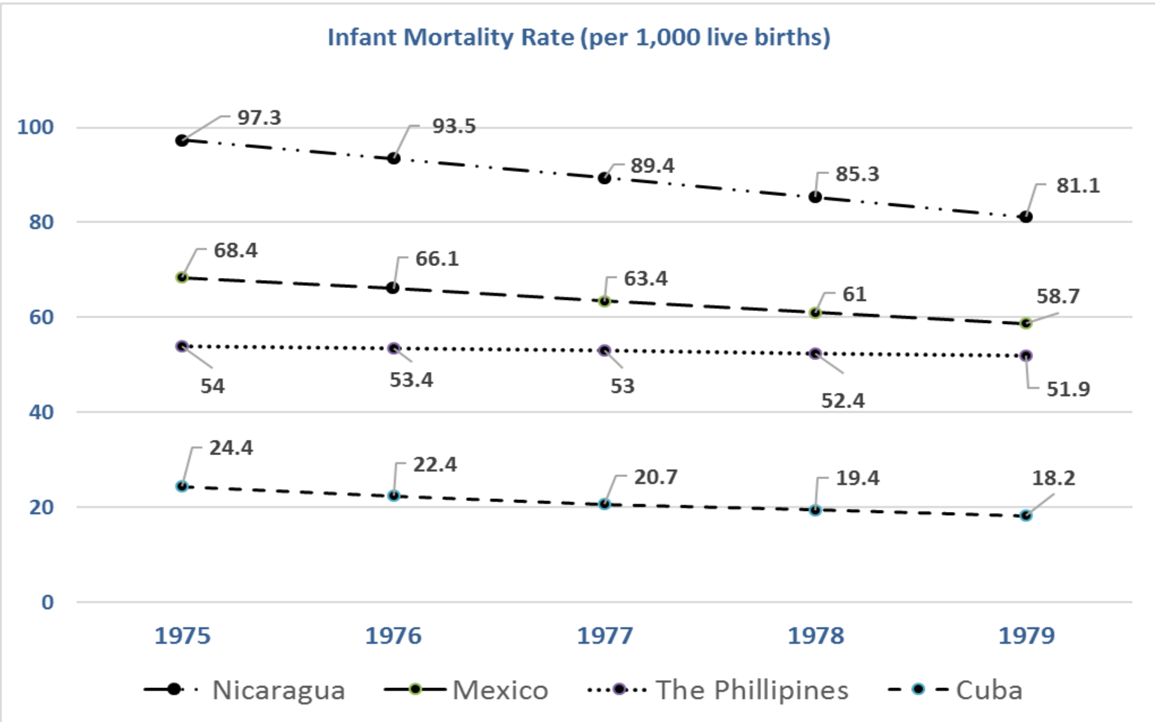
Zhou, M. (2001). Straddling Different Worlds: The Acculturation of Vietnamese Refugee Children. In R. G. Rumbaut and A. Portes (eds.), *Ethnicities: Children of Immigrants in America.* Berkeley: University of California Press and Russell Sage Foundation, pp. 187-227.

Figure 1: Infant Mortality Rate (per 1000 live births): 1975-1979 Averages by Home Country



Notes: Data are from World Bank Key Development Indicators (2015a). The figure presents the average IMR (per 1000 live births) over five years (1975–1979).

Figure 2: Infant Mortality Rate (per 1000 live births) for the Philippines, Mexico, Cuba and Nicaragua for the years 1975–1979



Notes: Data are from World Bank Key Development Indicators (2015a). The figure presents the average IMR (per 1000 live births) over five years (1975–1979).

Table 1: Summary Statistics for Selected Variables

Variable↓	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
IMR (per 1000 live births)	54.39	25.33	8.3	141.8
GDP per capita (World Bank)	4173.3	4710.5	307.8	30650.5
Round 1 (Middle School)				
GPA	2.64	0.87	0	4.92
Male	0.44	0.49	0	1
Year of birth	1977	0.8	1975	1979
Miami	0.53	0.49	0	1
Fort Lauderdale	0.06	0.23	0	1
San Diego	0.41	0.49	0	1
Age at arrival in USA	5.61	2.58	0	13
Age	14.32	0.84	12	17
9th grade	0.47	0.49	0	1
Reads English Very Well	0.70	0.46	0	1
Number of Close Friends	13.41	18.99	0	98
% White Children at School	21.75	19.27	1	65
% Children Receiving Subsidized Lunch at School	45.94	23.49	0	92.3
School Population	1931.19	825.93	707	3568
Round 2 (High School)				
GPA (High school)	2.55	0.91	0	5
Round 3 (Adulthood)				
Personal earnings	1909.9	1435.77	100	17000
ln personal earnings	7.35	0.64	4.6	9.74
Income satisfaction	0.48	0.49	0	1
First job prestige	39.57	0.49	16	78
Years of schooling	14.12	1.76	10	18
Weekly working hours	37.64	10.22	0	80

Notes: Regression sample. Reads English Very well is a dummy variable that is coded from self-reported English reading ability as follows: 1 (very well), 0 (well, not well, not at all). Income satisfaction is a dummy variable that is coded from self-reported income satisfaction as follows: 1 (satisfied, very satisfied), 0 (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied).

Table 2: Home Country Conditions at Birth and Pre-Migration Characteristics: Addressing Potential Selection on Observables

Specification↓	Outcome↓	IMR (per 1000 live births)		ln GDP per capita	
		Coefficient/ Marginal Effects	SE	Coefficient/ Marginal Effects	SE
	Panel A: Child's Pre-migration Characteristics				
(1)	Age	0.00531	(0.0156)	-0.133	(0.469)
(2)	Age at Arrival	-0.195	(0.155)	1.548	(2.048)
(3)	Year of Arrival	-0.0848	(0.0723)	1.331	(2.666)
(4)	Household Size	-0.000783	(0.0450)	1.794	(2.116)
(5)	Male	0.00515	(0.00835)	-0.0788	(0.237)
(6)	Miami	-0.0105	(0.00709)	0.113	(0.113)
(7)	Forth Lauderdale	0.00422	(0.00625)	-0.00605	(0.150)
(8)	San Diego	0.00530	(0.00606)	-0.291**	(0.134)
	Panel B: Parents' Pre-Migration Characteristics				
(9)	Father's Age	-0.111	(0.120)	2.520	(3.093)
(10)	Mother's Age	-0.101	(0.0881)	0.914	(2.739)
(11)	Father's Year of Arrival	0.00177	(0.0940)	-3.450	(3.279)
(12)	Mother's Year of Arrival	0.150	(0.0940)	-2.979	(3.320)
(13)	Father High School and Above	-0.00899	(0.00961)	-0.0262	(0.278)
(14)	Mother High School and Above	-0.000732	(0.0123)	0.187	(0.311)
(15)	Father Migrated to US for Economic Improvement	-0.0135	(0.0123)	0.159	(0.274)
(16)	Mother Migrated to US for Economic Improvement	-0.0157	(0.0149)	0.396	(0.350)
(17)	Father Migrated to US for Political Reasons	-0.00476	(0.0171)	0.240	(0.419)
(18)	Mother Migrated to US for Political Reasons	0.00410	(0.0172)	-0.167	(0.320)
(19)	Father Knows US Capital City	0.00509	(0.00672)	-0.225	(0.418)
(20)	Mother Knows US Capital City	0.00864	(0.0143)	-0.443	(0.650)
(21)	Father Knows US President	0.0139	(0.0116)	0.277	(0.205)
(22)	Mother Knows US President	0.00779	(0.0121)	-0.213	(0.362)
(23)	Father Knows US Population	0.00682	(0.0149)	-0.224	(0.440)
(24)	Mother Knows US Population	-0.00829	(0.0209)	-0.347	(1.148)

Notes: All outcome variables except GPA (Round 2/High School) are from Round 1/Middle School. Each row presents estimates from a different regression of the outcome variable on Infant Mortality and ln GDP per capita at country and year of birth, dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Coefficients are presented using OLS for continous outcomes and marginal effects are presented using Probit for binary outcomes. Robust standard errors (SE) are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Home Country Conditions at Birth and Post-Migration Characteristics: Potential Channels

Specification↓	Outcome↓	IMR (per 1000 live births)		ln GDP per capita	
		Coefficient/ Marginal Effects	SE	Coefficient/ Marginal Effects	SE
Panel A: Child's Post-migration Characteristics around Middle School					
(1)	9th Grade (versus 8th Grade)	-0.0126	-0.01	0.0663	-0.255
(2)	Speaks English Very Well	-0.00169	-0.00962	0.184	-0.238
(3)	Understands English Very Well	0.00347	-0.00433	0.0272	-0.218
(4)	Reads English Very Well	-0.0212***	-0.00635	0.298	-0.2
(5)	Writes English Very Well	-0.013	-0.011	0.0115	-0.318
(6)	GPA	-0.0359*	-0.0207	0.467	-0.717
(7)	GPA (High School)	-0.0276*	-0.0157	0.18	-0.761
(8)	Number of Close Friends	-0.971***	-0.331	21.05**	-9.358
(9)	Hours of Studying Per Day	-0.0095	-0.0216	-0.65	-0.784
(10)	High Education Aspiration	0.000608	-0.00804	0.151	-0.408
(11)	Feeling of Being Discriminated Against	-0.00099	-0.00836	-0.305	-0.196
(12)	Self-esteem	0.00259	-0.00735	0.00346	-0.288
(13)	% White Children at School	-1.393***	-0.501	9.209	-20.09
(14)	% Children Receiving Subsidized Lunch at School	-1.154*	-0.595	16.81	-15.01
(15)	School Population	63.16**	-26.38	-355.3	-982.4
Panel B: Parents' Post-Migration Characteristics around Middle School					
(16)	Father's SEI score	-0.377	-0.231	-12.28	-7.478
(17)	Mother's SEI score	-0.226	-0.349	-9.011	-10.9
(18)	Parents' SES index	-0.0147	-0.0114	-0.176	-0.248
(19)	Father's Occupational Prestige Score	-0.323	-0.254	-0.612	-5.68
(20)	Mother's Occupational Prestige Score	-0.0462	-0.366	-6.201	-11.41
(21)	Mother High School and Above	0.012	-0.00944	-0.0695	-0.264
(22)	High Family Class	0.00479	-0.0124	-0.0498	-0.229
(23)	Both Parents Live with Child	0.00618	-0.0122	-0.295	-0.46
(24)	Both Biological Parents Live with Child	0.00782	-0.0141	-0.419	-0.488

Notes: All outcome variables except GPA (Round 2/High School) are from Round 1/Middle School. Each row presents estimates from a different regression of the outcome variable on Infant Mortality and ln GDP per capita in the country and year of birth, dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Coefficients are presented using OLS for continous outcomes and marginal effects are presented using Probit for binary outcomes. Reads English Very Well is a dummy variable that is coded from self-reported English reading ability as follows: 1 (very well), 0 (well, not well, not at all). Robust standard errors (SE) are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Home Country Conditions at Birth, First Job Prestige and Years of Schooling in Adulthood

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Outcome→	First Job Prestige *[Mean: 39.57]*						Years of Schooling *[Mean: 14.12]*					
Independent Variables↓												
IMR (per 1000 live births)	-0.938*	-0.959*	-0.938*	-0.872*	-0.786	-0.782	-0.117*	-0.126**	-0.113**	-0.104*	-0.0828	-0.0755*
	(0.483)	(0.498)	(0.490)	(0.502)	(0.492)	(0.476)	(0.0613)	(0.0623)	(0.0558)	(0.0544)	(0.0519)	(0.0414)
ln GDP per capita	15.42	14.63	14.83	14.06	13.83	14.95	0.930	1.414	1.465	1.498	1.334	1.628
	(14.05)	(14.84)	(14.90)	(14.90)	(14.74)	(14.91)	(1.652)	(1.652)	(1.677)	(1.571)	(1.465)	(1.293)
Number of Close Friends at Middle School		0.0222	0.0215	0.0220	0.0356	0.0351		-0.00172	-0.00200	-0.00170	0.00170	0.00129
		(0.0203)	(0.0207)	(0.0201)	(0.0245)	(0.0236)		(0.00303)	(0.00309)	(0.00313)	(0.00333)	(0.00331)
% White Children at Middle School			0.0128	0.0131	0.00581	0.00615			0.00698*	0.00754**	0.00661**	0.00682**
			(0.0157)	(0.0148)	(0.0175)	(0.0166)			(0.00385)	(0.00328)	(0.00270)	(0.00280)
Reads English Very Well at Middle School				2.534**	1.703	1.909				0.833***	0.573***	0.657***
				(1.062)	(1.258)	(1.141)				(0.122)	(0.156)	(0.145)
GPA at Middle School					3.316***						0.938***	
					(0.367)						(0.0640)	
GPA at High School						3.421***						0.968***
						(0.282)						(0.0620)
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: OLS regression of the outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Additional Controls are dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Robust standard errors are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Home Country Conditions at Birth and Labor Market Performance in Adulthood

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Outcome→	Weekly Working Hours *[Mean: 37.64]*						Log Earnings *[Mean: 7.35]*						Income Satisfaction *[Mean: 0.48]*					
Independent Variables↓																		
IMR (per 1000 live births)	-0.657**	-0.674**	-0.726**	-0.728**	-0.741**	-0.737**	-0.0406**	-0.0419**	-0.0421***	-0.0415***	-0.0431***	-0.0424***	-0.0369**	-0.0324*	-0.0334*	-0.0334*	-0.0334*	-0.0324*
	(0.278)	(0.290)	(0.303)	(0.301)	(0.291)	(0.300)	(0.0105)	(0.0107)	(0.0115)	(0.0116)	(0.0115)	(0.0116)	(0.0179)	(0.0189)	(0.0180)	(0.0179)	(0.0179)	(0.0176)
ln GDP per capita	4.008	4.635	4.502	4.605	3.609	3.179	-0.222	-0.136	-0.137	-0.135	-0.0937	-0.0913	-0.678	-0.697	-0.696	-0.696	-0.643	-0.644
	(10.84)	(11.36)	(11.77)	(11.46)	(10.98)	(11.00)	(0.438)	(0.443)	(0.446)	(0.461)	(0.425)	(0.420)	(0.541)	(0.546)	(0.543)	(0.540)	(0.525)	(0.530)
Number of Close Friends at Middle School		-0.00560	-0.00449	-0.00458	-0.00990	-0.00842		0.000228	0.000233	0.000260	0.0000920	0.000150		0.00120*	0.00121*	0.00119*	0.000966	0.00105
		(0.0203)	(0.0200)	(0.0201)	(0.0222)	(0.0215)		(0.000889)	(0.000900)	(0.000869)	(0.000853)	(0.000894)		(0.000672)	(0.000666)	(0.000675)	(0.000694)	(0.000708)
% White Children at Middle School			-0.0265	-0.0267	-0.0271	-0.0273			-0.000124	-0.0000802	-0.000237	-0.000259			-0.000569	-0.000560	-0.000602	-0.000631
			(0.0170)	(0.0172)	(0.0174)	(0.0177)			(0.00144)	(0.00144)	(0.00142)	(0.00143)			(0.00129)	(0.00127)	(0.00121)	(0.00123)
Reads English Very Well at Middle School				-0.371	-0.269	-0.436				0.0802	0.0784	0.0734				-0.0407	-0.0398	-0.0491
				(0.976)	(0.837)	(0.929)				(0.0514)	(0.0468)	(0.0497)				(0.0349)	(0.0321)	(0.0318)
GPA at Middle School					-1.056**						-0.00912						-0.0281	
					(0.451)						(0.0253)						(0.0194)	
GPA at High School						-0.723**						0.0129						0.00456
						(0.287)						(0.0205)						(0.0247)
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Regression of outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Additional Controls are dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Coefficients are presented using OLS for continous outcomes and marginal effects are presented using Probit for binary outcomes. Income satisfaction is a dummy variable that is coded from self-reported income satisfaction as follows: 1 (satisfied, very satisfied), 0 (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied). Robust standard errors are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: The Role of Age at Arrival Interactions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Outcome→	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction
Mean Value of the Outcome Variable→	*39.57*	*14.12*	*37.64*	*7.35*	*0.48*	*39.57*	*14.12*	*37.64*	*7.35*	*0.48*
Independent Variables↓										
IMR (per 1000 live births)	-0.610	-0.0564	-0.848**	-0.0485***	-0.0401**	-0.757	-0.0657	-0.720**	-0.0432***	-0.0350*
	(0.455)	(0.0405)	(0.317)	(0.0127)	(0.0165)	(0.480)	(0.0414)	(0.313)	(0.0118)	(0.0179)
IMR*Arrived After 3 Dummy	-0.0791**	-0.00946**	0.0581	0.00299	0.00368					
	(0.0375)	(0.00376)	(0.0424)	(0.00215)	(0.00234)					
						-0.0793	-0.0251**	-0.0415	0.00192	0.00705
IMR*Arrived After 9 Dummy						(0.0632)	(0.0124)	(0.121)	(0.00692)	(0.00574)
Additional Controls in Table 5, Column 6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Regression of outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Coefficients are presented using OLS for continous outcomes and marginal effects are presented using Probit for binary outcomes. Income satisfaction is a dummy variable that is coded from self-reported income satisfaction as follows: 1 (satisfied, very satisfied), 0 (very dissatisfied, dissatisfied, neither satisfied nor dissatisfied). Robust standard errors are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Addressing Potential Selection on Unobservables

Panel A: Testing for Omitted Variables Bias using Ovtest					
Ramsey RESET test using powers of the fitted values of the dependent variable. H0: Model has no omitted variables	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction
F -statistics	0.2	0.81	1.29	0.41	0.14
p -value	0.899	0.488	0.277	0.746	0.934
Panel B: Testing for Omitted Variables Bias using Linktest					
Testing for the significance of hatsq. H0: There is no specification error	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction
t -statistics	0.6	1.33	0.03	0.11	0.15
p -value	0.551	0.185	0.979	0.914	0.88
Panel C: Controlling for Unobserved Variables using the Oster (2016) Method					
Coefficient on IMR controlling for unobervables	First Job Prestige	Years of Schooling	Weekly Working	Log Earnings	Income Satisfaction
Selection on Unobservables is equal to selection on Observables (Delta = 1)	-0.782	-0.075	-0.737	-0.042	-0.033
Selection on Unobservables is smaller than selection on Observables (Delta = 0.5)	-0.782	-0.075	-0.737	-0.042	-0.033
Selection on Unobservables is much smaller than selection on Observables (Delta = 0.1)	-0.782	-0.075	-0.737	-0.042	-0.033

Notes: Each regression is estimated similarly to the models in Tables 4 and 5, including all control variables. Panel A is presented using the ovtest command, while Panel B is presented using the linktest command in STATA. Panel C is presented using the psacalc command in STATA.

Appendix Table 1: Home Country Conditions at Birth, Self-rated Health and Labor Force Participation in Adulthood

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Outcome→	Self-rated Health						Not in the Labor Force					
Independent Variables↓												
IMR (per 1000 live births)	-0.00561	-0.0000138	0.00478	0.00597	0.00462	0.00528	-0.0000470	0.000147	-0.0000993	-0.000139	0.000250	0.000146
	(0.0164)	(0.0165)	(0.0162)	(0.0166)	(0.0167)	(0.0163)	(0.00434)	(0.00434)	(0.00439)	(0.00435)	(0.00409)	(0.00392)
ln GDP per capita	-0.513	-0.542	-0.530	-0.540	-0.516	-0.512	0.126	0.132	0.133	0.133	0.0752	0.0898
	(0.344)	(0.368)	(0.369)	(0.365)	(0.367)	(0.362)	(0.183)	(0.192)	(0.198)	(0.197)	(0.151)	(0.152)
Number of Close Friends at Middle School		0.00282***	0.00274***	0.00277***	0.00258***	0.00261***		0.0000417	0.0000395	0.0000415	0.000107	0.0000797
		(0.000647)	(0.000615)	(0.000623)	(0.000605)	(0.000610)		(0.000345)	(0.000341)	(0.000342)	(0.000350)	(0.000322)
% White Children at Middle School			0.00251**	0.00263**	0.00268**	0.00266**			-0.000121	-0.000121	-0.000141	-0.000108
			(0.00110)	(0.00108)	(0.00107)	(0.00107)			(0.000345)	(0.000340)	(0.000296)	(0.000295)
Reads English Very Well at Middle School				0.0738***	0.0663**	0.0636**				0.00238	-0.00496	-0.00247
				(0.0274)	(0.0277)	(0.0280)				(0.0152)	(0.0146)	(0.0169)
GPA at Middle School					0.00667						0.0179	
					(0.0191)						(0.0127)	
GPA at High School						0.0222						0.0114
						(0.0187)						(0.00914)
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Regression of outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Additional Controls are dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Marginal effects are presented using Probit for binary outcomes. Self-rated health is a dummy variable that is coded as follows: 1 (excellent), 0 (very good, good, fair, poor). Robust standard errors are clustered at the birth country level and shown in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix Table 2: Home Country Conditions at Birth and First Job Prestige in Adulthood: Separating IMR and ln GDP per capita

Independent Variables↓	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IMR (per 1000 live births)	-0.577*	-0.584*	-0.568*	-0.527*	-0.452	-0.443						
	(0.295)	(0.303)	(0.307)	(0.312)	(0.324)	(0.304)						
ln GDP per capita							5.540	4.558	5.154	5.048	5.776	6.945
							(11.79)	(12.35)	(12.51)	(12.24)	(11.92)	(11.83)
Number of Close Friends at Middle School		0.0225	0.0220	0.0232	0.0381*	0.0368*		0.0250	0.0238	0.0242	0.0375	0.0370
		(0.0177)	(0.0179)	(0.0175)	(0.0215)	(0.0202)		(0.0193)	(0.0198)	(0.0193)	(0.0241)	(0.0230)
% White Children at Middle School			0.0104	0.0105	0.00370	0.00378			0.0183	0.0183	0.0102	0.0106
			(0.0157)	(0.0146)	(0.0172)	(0.0162)			(0.0168)	(0.0159)	(0.0179)	(0.0173)
Reads English Very Well at Middle School				2.763***	1.885*	2.009*				2.638**	1.783	1.990*
				(0.960)	(1.115)	(1.010)				(1.029)	(1.222)	(1.109)
GPA at Middle School					3.528***						3.345***	
					(0.393)						(0.363)	
GPA at High School						3.613***						3.444***
						(0.308)						(0.290)
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: OLS regression of outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Additional Controls are dummy variables for male, Miami and San Diego, controlling for birth-year, year-of-arrival and country-of-birth fixed effects. Robust standard errors are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix Table 3: Robustness of Results to Trends

	Panel A: Including Global Cohort Trend					Panel B: Including Country-specific Cohort Trend				
Outcome→	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction	First Job Prestige	Years of Schooling	Weekly Working Hours	Log Earnings	Income Satisfaction
Independent Variables↓	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
IMR (per 1000 live births)	-0.773*	-0.0845**	-0.636**	-0.0390***	-0.0332**	-0.771*	-0.0848**	-0.628**	-0.0387***	-0.0330**
	(0.415)	(0.0402)	(0.294)	(0.0122)	(0.0168)	(0.411)	(0.0398)	(0.293)	(0.0122)	(0.0167)
ln GDP per capita	14.88	2.022*	-2.330	-0.418	-0.622	14.92	2.038*	-2.287	-0.419	-0.629
	(9.758)	(1.112)	(10.85)	(0.340)	(0.460)	(9.793)	(1.110)	(10.90)	(0.339)	(0.464)
Additional Controls in Table 5, Column 6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

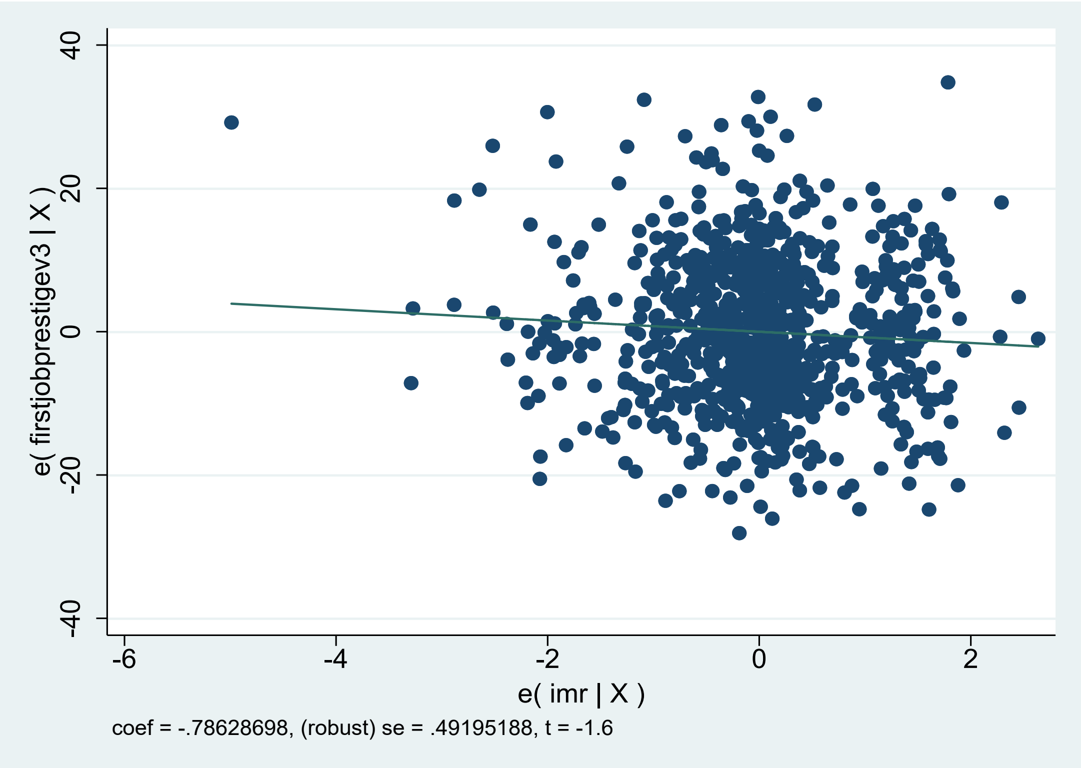
Notes: Regression of outcome variables on Infant Mortality and ln GDP per capita in the country and year of birth and the presented independent variables. Coefficients are presented using OLS for continous outcomes and marginal effects are presented using Probit for binary outcomes. Robust standard errors are clustered at the birth country level and shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix Table 4: Checking Attrition

Outcome: Whether Surveyed in Round 3			
Outcome Mean: 0.60	(1)	(2)	(3)
IMR (per 1000 live births)	-0.000650	0.00389	0.00595
	(0.000677)	(0.0115)	(0.0113)
ln GDP per capita	-0.0276	0.103	0.0764
	(0.0233)	(0.362)	(0.347)
Birth-year FE	No	Yes	Yes
Country-of-birth FE	No	Yes	Yes
Age-at-Arrival FE	No	Yes	Yes
Male	No	No	Yes
City Dummies	No	No	Yes

Notes: Marginal effects are presented using Probit. Robust standard errors are clustered at the birth country level and shown in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix Figure 1: Partial Regression Plot (avplot) of IMR (Table 5)



Appendix Figure 2: Partial Regression Plot (avplot) of IMR (Table 6)