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POSTPRINT VERSION

Height and well-being during the transition from plan to market *

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Abstract

Using newly available data, we re-evaluate the impact of transition from plan to market on objective and subjective well-being. We find clear evidence of the high social cost of early transition reforms: cohorts born around the start of transition are shorter than their older or younger peers. The difference in height suggests that the first years of reform were accompanied by major deprivation. We provide suggestive evidence on the importance of three mechanisms which partially explain these results: the decline of GDP per capita, the deterioration of healthcare systems, and food scarcity. On the bright side, we find that cohorts that experienced transition in their infancy are now better educated and more satisfied with their lives than their counterparts. Taken together, our results imply that the transition process has been a traumatic experience, but that its negative impact has largely been overcome.

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1 Introduction

The transition of the post-communist countries from plan to market has been a unique political, social and economic transformation that dramatically changed the lives of many people in a relatively short period of time. Over the last twenty-five years, the citizens of many post-communist countries witnessed the complete overhaul of their institutions, the creation of a private sector, and their re-integration into the global economy. The early years of this process were accompanied by an economic recession, which was short-lived in some countries, but deep and long-lasting in others.

Overall, the economic transformation of the post-communist region has been regarded as a success (Djankov and Hauck, 2016). However, the gains of transition have not been shared broadly. In many countries, growing inequality has resulted in declining support for democratic political institutions and for the market economy. In some cases, major policy reversals – both in economics and politics – have taken place.

While there has been a significant divergence of transition trajectories (in particular, between Central and Eastern Europe, and the former Soviet Union), one particular outcome is common across the region: transition appears to have been a painful period. Residents of post-communist countries have historically reported significantly lower levels of life satisfaction than their counterparts living in non-transition countries, all else equal. Economists have long debated the mechanisms driving this "transition happiness gap."[1] Guriev and Zhuravskaya (2009) associate this lower life satisfaction with the traumatic experience of macroeconomic instability in the early years, the deterioration of public goods and rising income inequality, while other work points to dissatisfaction with national governments (Djankov et al., 2016) and the role of Eastern Orthodoxy (Djankov and Nikolova, 2018).

Although the impact of transition on subjective well-being has been studied relatively well, our understanding of its impact on *objective* well-being is still limited. The quality of income data from the transition region is notoriously low (due to the existence of a sizeable underground economy and price distortions), and until recently it has been difficult to find other objective data. To fill this gap in the literature, we use the latest round of the Life in Transition Survey (LiTS) which was administered by the European Bank for Reconstruction and Development (EBRD) and the World Bank in 2016. LiTS covers over fifty thousand households in 29 post-communist countries and 5 comparator countries. Its questionnaire includes comprehensive and unique anthropometric data such as respondents' height and weight, along with questions on life satisfaction, attitudes and beliefs.

As shown in the literature, adult height is negatively correlated with socio-economic deprivation in the early years of a child's life (controlling for other genetic and non-genetic determinants of height). This is why the adult height of individuals born at the beginning of transition can serve as a proxy for the quality of life in the early transition years. Given that transition took place in the early 1990s, the novel anthropometric data collected within the LiTS offer the first opportunity to examine whether transition permanently affected the height of individuals who were young children at the time it occurred. A few years ago, those cohorts were still growing up. It is only now that we can compare their adult height to that of their older and younger peers, and thus rigorously evaluate whether the early reform years were indeed accompanied

[1] This finding has been documented in all major international sources of life satisfaction data. Sanfey and Teksoz (2007), Guriev and Zhuravskaya (2009), Easterlin (2014) and Nikolova (2016) identify the transition happiness gap in the World Values Survey; Deaton (2008) in the Gallup World Poll (first wave, 2006); and Djankov et al. (2016) in the Life in Transition Survey (2006 and 2010), Pew Global Attitudes Survey, Eurobarometer, and the European Values Survey. Guriev and Melnikov (2018) use LiTS and Gallup World Poll data for 2010-16 and show that the transition happiness gap was still significant in 2010-11 and disappeared only afterwards.

by intense hardship.

Our difference-in-differences analysis shows that today, individuals who were born or one year old when price liberalisation reforms took place are, on average, over 1 centimetre shorter than older and younger cohorts. Individuals who were born, one or two years old when price liberalisation reforms occurred are, on average, 0.6 centimetres shorter than their older or younger counterparts. This finding is important as the traumatic experience of early transition – whether caused by reforms or by bankruptcy of the previous regime – is often perceived as the key explanation of the subsequent decline in the popularity of democracy and market economy, and of the resulting policy reversals.

Our results can be explained by various mechanisms. Transition was accompanied by a major decline in per capita incomes. Disrupted trade and production led to food shortages in much of the post-communist region, particularly in cities. Maternal stress and poor nutrition could have led to lower rates of breastfeeding, while scarcity of infant formula is likely to have affected child nutrition as well. The transition shock also led to a rapid decrease in the quality of public health systems – including in the availability of vaccinations, hospital beds, hospital supplies and even medical personnel, many of whom left for better jobs abroad.

Lack of data prevents us from carrying out a comprehensive analysis of these mechanisms. We do find that the impact of transition on height is partially – but not fully – explained by the decline in GDP per capita. Early transition was more than just an economic recession, however: it involved dramatic changes in the functioning of the state institutions, the labour market and the provision of basic public services such as education and healthcare. We find that the effect of transition on height becomes weaker once we control for infant mortality (which we use as a proxy for the quality of healthcare systems). In addition, using data from Russia, we find that meat consumption weakens the effect of transition on height, suggesting that food scarcity was an important mechanism.

We do not find that transition had any negative *long-term* implications for the self-perceived well-being of cohorts born at that time. Today, people born at the start of transition have the same income and employment status and report *higher* (rather than lower) levels of life satisfaction than their peers. In this sense, while the negative effects of being born in the early transition years are still tangible and visible, they do not seem to affect people's subjective well-being any longer. We find that the negative impact on people's height was homogenenous; it affected individuals born in advantaged and disadvantaged families equally, as well as men and women, or people born in urban and rural areas.

To ensure that our results are robust, we replicate the analysis using another household survey, the Russia Longitudinal Monitoring Survey of the Higher School of Economics (RLMS-HSE), a rich individual panel dataset comprising several survey rounds from 1994 to 2016. Although it covers only Russia, the survey is unique as it collects information on multiple household members, thus allowing us to control for the genetic determinants of height and to account for endogeneity in fertility choices by comparing siblings in terms of their anthropometric measures. Results confirm that cohorts born or one year old during price liberalisation in Russia are today 1.15-1.5 centimetres shorter than their younger and older peers. When observed as children and after controlling for maternal (and in some cases paternal) height and education, the difference in height-for-age stands at around 0.2 to 0.28 standard deviations (which translates into 1.3-2 centimetres of adult height). This difference persists once we compare children born to the same mother. Similarly to our results with LiTS, we find that cohorts born at the beginning of transition display higher life satisfaction than their peers (although the effects are not always

statistically significant).

The rest of the paper is structured as follows. We first provide a review of the related literature in section 2. Then, we describe the data and the methodology used for our analysis in sections 3 and 4. In section 5, we report the main results and discuss the potential mechanisms behind them. We also present various placebo tests which provide further confidence in our results, as well as the evidence obtained with the RLMS-HSE. In section 6, we present additional results and robustness checks. We conclude with a discussion of the policy implications of our findings for transition countries and other countries undergoing structural reforms.

2 Related literature

Our paper is related to two strands of research: first, the literature on the impact of non-genetic, environmental causes on anthropometric measures (height and health, in particular, morbidity or mortality), and, second, on the relationship between anthropometric measures or health indicators and later adult outcomes, such as cognitive skills, earnings or educational attainment.

Adult height is determined by genetics and external environmental conditions. Recent evidence by Jelenkovic et al. (2016) shows how the relative contribution of genetics to height varies over the lifetime and explains up to 83% and 76% of boys' and girls' height, respectively. On average, Silventoinen (2003) finds that genetic factors are responsible for 80% of the variation in height, while environmental conditions account for the remaining 20%. Although external factors appear to be only a minor determinant of adult height, they have been shown to contribute to most of the variation in average height across different populations (Steckel, 1995).

There are three key periods in a person's life when external conditions have the most profound impact on his/her height: the intrauterine period, childhood and adolescence (Beard and Blaser, 2002). Children grow very fast in their first three years of life; after this period, their growth rate starts to slow down to approximately 6 cm per year. Growth accelerates again during adolescence, when a second spurt occurs, during which individuals grow at approximately 10 cm per year. In advanced economies, the peak of adolescent growth is reached at age 12 for girls, and age 14 for boys. The moment when final adult height is attained depends crucially on the timing of the adolescent growth spurt. Under normal conditions, girls stop growing at age 16 and boys at age 18 (Beard and Blaser, 2002); however, under adverse conditions, children may experience an extension of their growth period (Steckel, 1995). For instance, in Bangladesh, India and Nepal – where levels of malnutrition are some of the highest in the world – women do not reach their full height until their early 20s (Deaton, 2007). Similarly, Nicholas and Steckel (1991) find that the English industrial revolution (between 1770 and 1815) led to a decrease in male adult height and to delayed growth (which continued at least until age 23). While a longer growth period could allow children to catch up, research has shown that, on average, the discrepancy in height between deprived individuals and their peers is not reduced to zero (Hack et al., 2003; Li et al., 2004; Martorell et al., 1994, 1990; Satyanarayana et al., 1989).

A growing body of literature has shown that external economic and environmental conditions, such as diseases or nutrition, can prove vital for height, particularly during the first few years of life. Important height gains were obtained in relatively deprived populations affected by positive income shocks. For instance, the extension of benefits and coverage of the South African pension programme to the black population benefited its recipients (Case, 2001), while also affecting positively the anthropometric status (weight-for-height and height-for-age) of girls living with female pensioners (Duflo, 2003). Conversely, adverse conditions can lead to

stunting. Schwekendiek and Pak (2009) show that in 1997, South Korean preschool children were on average 6 to 7 cm taller and about 3 kg heavier than their Northern counterparts; in 2002, the average gap was about 8 cm and 3 kg , and the BMI gap was about 1. North Korean boys and girls escaping to South Korea were also found to be on average about 3 to 4 cm shorter and 1 kg lighter than their Southern peers.

Bailey et al. (2018) examine the effects of coal-fired industrialisation and the associated pollution in nineteenth-century Britain, and find that the difference in final height (for males) between those from the least and the most coal-intensive districts amounts to about 2.2 cm. Sharygin (2011) uses detailed mortality series for three years before, during, and after a major famine in Russia in the 1930s, and finds that famine cohorts were on average 1 to 3 cm shorter, depending on the level that the mortality rate over the period spent in utero exceeded the average pre-famine mortality rate. Van den Berg et al. (2015) examine European famines in the twentieth century, and find that, for males, exposure to famine in the age interval from in utero until age 4 results in a reduction of around 3 centimetres in adult height. Batinti et al. (2019) show that suffrage extension in Europe since the middle of the 19th century increased average male heights by 0.7 to 1 cm, and including the extension of the rights to women increased average stature to 1.7 cm. This effect is driven by the fact that political contestation and participation reduced inequality and expanded health insurance coverage.

Maternal malnutrition, stress, smoking habits, drug use and alcohol consumption contribute to intrauterine growth retardation; smoking, for instance, reduces birth weight by 13 g per cigarette smoked per day (Saenger et al., 2007).[2] By scrutinising longitudinal data from the 1958 British birth cohort, Li et al. (2004) show that children living in disadvantaged households were 2-3 cm shorter than their counterparts at age 7. In addition, they find evidence that later catch-up growth was insufficient to overcome the initial gap in height growth as the adjusted deficit was as high as 1 cm in adulthood.

The first years of life have long-term consequences not only for adult height, but also for other outcomes as well. A large body of literature indeed finds a relationship between height, and cognitive skills, earnings and educational attainment. Height can therefore be used as a marker for the quality of life during the intrauterine period, childhood or adolescence. For instance, Almond (2006) examines the effect of the 1918 influenza pandemic with data from the U.S. Census. He finds that individuals who were in utero during that period have a reduced educational attainment, increased rates of physical disability, and lower income today compared to their counterparts who were not exposed to the pandemic. Maluccio et al. (2009) utilise a longitudinal survey from rural Guatemala to assess the effect of a programme that distributed nutritional food supplements to children. They find that female adults that participated in the intervention have a higher educational attainment, and that both female and male adults perform better on standardised reading comprehension and non-verbal cognitive ability tests.

Using data on mono-zygotic twins from the Minnesota Twin Registry, Behrman and Rosenzweig (2004) find that nutrition in utero, which in turn affects birth weight, is an important determinant of adult height, educational attainment and earnings (the latter is true only for babies born with a low weight). Linking administrative data on the population of Norway to their birth records, Black et al. (2007) show that birth weight has a significant effect on long-run outcomes such as adult height, IQ at age 18, earnings, and education. Height is also shown to be associated with cognition (Case and Paxson, 2010) as well as with non-cognitive traits such as confidence (Persico et al., 2004). Finally, there is evidence that taller workers earn more (Persico

[2] See Persson and Rossin-Slater (2018) on the negative link between maternal stress due to family ruptures and birth weight.

et al., 2004), a fact that also might be explained by the finding that employers appear to be using height as a screening device (Yamamura et al., 2015).

3 Data

The primary data source for our analysis is the Life in Transition Survey (administered by the EBRD and the World Bank), the third round of which was collected in 2016 (LiTS III). This latest wave is the first one to collect data on the height and weight of adults born before, during and after the start of the transition process in post-communist countries, thus providing us with the information required to assess the effects of transition on physical well-being.

The survey was implemented in 29 post-communist countries (excluding Turkmenistan), which experienced the transition from a planned to a market economy, as well as five comparator countries: Cyprus, Germany, Greece, Italy and Turkey. As part of the survey, 75 localities (primary sampling units - PSUs) in each of the 34 countries were visited, and over 51,000 interviews were completed with a primary randomly selected respondents and a secondary randomly selected respondent of the opposite gender (for modules that are not the focus of this paper).

We analyse the impact of transition on objective and subjective well-being at the individual level. Our main variables of interest are two anthropometric measures, self-reported height and BMI, and life satisfaction. While the survey contains information on measured height for one PSU per country (for a total of 20 individuals), the analysis focuses on the self-reported data. Additional checks show no systematic differences between self-reported height and measured height for those individuals who report both values. Although the literature shows that individuals tend to overestimate their height and underestimate their weight (Gorber et al., 2007)[3], this should not introduce additional biases in our empirical framework as we compare the current height of individuals born shortly before and after transition. When height is missing, that observation is dropped from the analysis; this reduces the sample by less than 6,000 observations, equivalent to 11 per cent of the total sample.

BMI is calculated as the ratio of individual weight (in kilograms) to height squared (in metres). We utilise BMI to construct two additional indicators: the first taking a value of one if the individual is underweight (BMI below 18.5), and the second one taking a value of one if the individual is overweight (BMI above 24.9). Life satisfaction is defined on a five-point scale and indicates whether the individual (strongly) disagrees or (strongly) agrees with the statement "All things considered, I am satisfied with my life now".[4] While these variables are the main focus of our analysis, we also examine the effect of transition on other attitudes and beliefs, e.g. support for democracy, support for the market economy, optimism for the future (defined as a binary variable that indicates whether the individual agrees or strongly agrees with the statement "Children who are born now will have a better life than my generation"), trust in society, and preferences for income equality.

In addition to the variables from LiTS III, we use the EBRD Transition Indicators to measure the start, the speed and the depth of transition reforms. EBRD Transition Indicators are made available on a yearly basis and reflect experts' judgment about country-specific progress in the transition from a planned to a market economy across six different areas: price liberal-

[3] The degree of misreporting varies significantly across individuals with factors including age and sex, for which we control in the regressions.

[4] Results are similar if we instead code life satisfaction as a binary variable.

isation, small-scale privatisation, large-scale privatisation, governance and enterprise restructuring, trade and foreign exchange system, and competition policy. The scores, which range from 1 (indicating little or no progress) to 4.33 (signalling that standards and performance typical of advanced economies are reached), were originally developed in the 1994 EBRD Transition Report. The EBRD Transition Indicators have been widely used in the literature to assess the status of economic and institutional reforms across countries and over time (see Frye (2010) for a discussion).

We incorporate data from three external sources to control for potential confounding effects in our analysis. We use historical GDP data from Gapminder to rule out that the effects we find on anthropometric measures and life satisfaction are effectively driven by differences in GDP per capita. We explore whether the collapse of the public health system was one of the channels through which people's physical well-being was affected. Given the absence of accurate and comprehensive data on health facilities and medical staff for the pre-transition period, we utilise a proxy obtained from the UN DESA Population Division: infant mortality rates. Furthermore, we control for war and violent conflict from the UCDP/PRIO Armed Conflict Dataset and the Correlates of War project, which enable us to disentangle the impact of transition from any possible consequences of war or conflict that might have taken place at the same time.

As an extension to our analysis, we use another household survey, the Russia Longitudinal Monitoring Survey of the Higher School of Economics (RLMS-HSE), a panel dataset consisting of various survey rounds from 1994 to 2016. Although RLMS-HSE covers only one transition country (Russia), it has three distinct advantages compared to LiTS III. First, the survey collects information on multiple respondents within the same household, thus providing information on adult and children members, including on their respective height. This allows us to control for household-level characteristics as well as for the genetic component of height in our regressions. Second, we can measure the immediate impact of transition on children, instead of inferring it from adult anthropometric data. We compute children's height-for-age z-scores using software made available by the World Health Organisation (WHO), which allows us to compare the anthropometric measures of Russian children to those of their peers (within the same birth cohort) born in other countries. Third, the survey makes it possible for us to compare siblings born and raised within the same household in terms of their anthropometric measures, thus enabling us to disentangle the effect of transition from other environmental conditions or time-invariant family characteristics. To control for economic conditions at the oblast (region) level, we incorporate data from the dataset Regions of Russia aggregated by Mirkina (2014) in some of the models.

4 Methodology

4.1 Critical moments in life

We explore the differential effect of transition by age cohorts. First, we assess the impact of transition by comparing the anthropometric outcomes (height and weight) of people who were zero, one or two years old at the start of transition to those of individuals born before or after. Even though environmental factors determine only around 20% of adult height, they account for most of the variation across populations (Steckel, 1995). Final adult height hinges importantly on the speed of growth during the first two years of life, which in turn depends on living standards experienced during that period. This is why deprivation (or, conversely, positive income

shocks) have been found to permanently affect final adult height.

In addition to early childhood, we look at three other moments in one's life that are considered critical stages for adult height: the time spent in utero and adolescence.[5] First, we examine the height of individuals who were in the womb the year when transition occurred. Second, we examine whether people who faced transition in their adolescence were affected by deprivation by contrasting their adult height with that of individuals that were not in their adolescence during transition. Adolescence years coincide with the second period of fast growth in height, also known as the "adolescence growth spurt". Adverse environmental conditions experienced during adolescence have been shown to delay the start of the growth spurt and to negatively affect final adult height (Steckel, 1995). We utilise two different definitions of adolescence. The lenient definition identifies it as the three-year period comprised between ages 11 to 13 for girls, and from ages 12 to 14 for boys, when the growth spurt normally occurs. The strict definition identifies adolescence as the two peak years in growth comprised between ages 11 to 12 for girls, and from ages 13 to 14 for boys.

We also examine the impact of transition on attitudes and life satisfaction. Analogously to the analysis of anthropometric measures as proxies for *objective* well-being, we use information on life satisfaction to evaluate *subjective* well-being for those born during transition. Furthermore, we study the life satisfaction levels and attitudes of people who experienced transition in their "formative years", based on the assumption that individual beliefs and attitudes are shaped in those years. Formative years are defined as the time period between age 18 and 25 and broadly correspond to the moment when individuals enter the labour market for the first time. Interdisciplinary research has provided evidence on the importance of this stage in life for the formation of political and interpersonal attitudes (see Giuliano and Spilimbergo (2014) for a review of this literature). While attitudes are likely to be shaped during formative years, height is normally not affected by conditions in the same period. For this reason, we focus our analysis for the formative years only on the former.

4.2 Timing of the transition shock

For the purpose of our analysis, transition is defined as the year when post-communist countries made significant progress on price liberalisation reforms. That year corresponds to the moment when the EBRD Transition Indicator for Price Liberalisation for a given country reached the value of 3 for the first time. Overall, twelve countries implemented the bulk of their price liberalisation reforms between the fall of the Berlin wall and the dissolution of the Soviet Union, and another twelve countries followed suit between 1992 and 1993. The remaining five countries implemented reforms only later, between 1994 and 1995. The complete timeline is shown in Table 1.

We categorise LiTS III respondents' exposure to the transition shock based on the country where they were born. As shown in Figure 1, the sample comprises individuals from 29 post-communist countries that were affected by the transition process and 5 comparator countries (Cyprus, Germany, Greece, Italy and Turkey). We utilise the information derived from the EBRD Transition Indicator for Price Liberalisation to create three binary "treatment" variables, which indicate whether the individual was born in the transition year, or was born or was age one in the transition year, or alternatively, was born, was age one or or was two years old in the transition

[5] For in-utero analyses see Saenger et al. (2007) and Almond (2006). For growth during adolescence, see Beard and Blaser (2002), while for later life outcomes, see Persico et al. (2004).

year.[6]

In addition to the binary indicators for the start of transition, we also use alternative measures of transition that allow us to quantify the progress in reforms implemented over the period we analyse. In particular, we use the values of the Transition Indicator for Price Liberalisation and the average of all Transition Indicators calculated for specific periods of time. Similarly to the approach above, we create three variables, which indicate the value of the indicator in the year of birth of the respondent; the average of the values of the indicator in the year of birth of the respondent and in the year when the respondent turned one; and the average of the values of the indicator in the year of birth of the respondent, in the year when the respondent turned one, and in the year when the respondent turned two. Results with the continuous measures are quantitatively and qualitatively similar to those with the binary measures.

The binary and continuous measures should not be seen as substitutes but rather as complements in our study: they present different facets of transition and address critical concerns about reverse causality, which represents a non-trivial challenge to our analysis. In planned economies that were bankrupt and experiencing severe shortages of vital nutrients before reforms took place, political and economic transition might in fact have been a consequence of deprivation rather than the other way around. Controlling for GDP fluctuations and using continuous variables indicating the progress made with the transition to a market economy should address these concerns.

4.3 Identification

Our identification is based on the difference-in-differences approach. We compare individuals born or in infancy during the beginning of transition (treated cohorts) to those born before or after (control group).

To understand the impact of transition on anthropometric measures (height and BMI), we utilise the following specification:

$$Outcome_{icy} = \alpha_c + \beta * Born\,In\,Transition_{ic} + \gamma x_i + \delta x_{cy} + \theta_c y + \varepsilon_{icy} \quad (1)$$

where we regress $Outcome$ (height or BMI) of individual i, born in year y in country c, on an indicator, $Born\,In\,Transition$, which takes a value of one if the individual was born; or born or aged one; or born or aged one or two at the onset of transition. We control for a broad set of individual and household characteristics, captured by the vector x_i. These controls include gender, whether the respondent was born in an urban or rural locality, religion, and parental background (maternal and paternal education and sector of employment). Country fixed effects (α_c) capture any time-invariant country characteristics, while country-specific linear time trends $\theta_c y$ allow us to control for the "natural" increase in height over time prevailing in most middle-income countries. Survey weights, which ensure that the data are representative at the country level, are included in all specifications.

We also control for country- and birth-year-specific factors x_{cy} which are likely to affect the outcome of interest. In particular, we control for the incidence of war and log GDP per capita. The war variable indicates whether the country was involved in a conflict that caused at least 25 casualties per year in the relevant time period. For example, when we examine the impact

[6] In Section 6 we also carry out analysis of whether the individual was in utero, adolescent or in his/her formative years during transition; in these cases, the variables indicate whether the individual was in the womb, adolescent or aged 18 to 25, respectively, when transition started.

of being born, one or two at the onset of transition, the war indicator takes a value of one if a conflict occurred between the year of birth of the individual and the year when the individual turned two. Similarly, log GDP per capita is calculated over the same time period. In the analysis of the impact of transition on individuals in utero, in their adolescence or in their formative years, the two variables are constructed looking at the time period when the individual was in the womb, adolescent or in his or her formative years, respectively.

In the analysis of the impact of transition on life satisfaction and attitudes (support for democracy, support for the market economy, optimism for the future, trust in society or preference for income equality), we use a similar specification but replace country-specific time trends $\theta_c y$ with age and age squared. Indeed, unlike height (which is stable for adults), life satisfaction has a non-linear age profile. We are still able to identify the effects of being born in transition as reforms started at different moments in the various countries we study.[7]

4.4 Addressing endogeneity concerns

In order to check whether our results are driven by transition and not by other unrelated shocks or (pre-)trends, we run several placebo tests. First, we check whether adult height is affected by some common global time-specific shock, e.g. the fall of the Berlin Wall (1989) or the disintegration of the Soviet Union (1991). We also check whether there is a significant difference in height for similar-size cohorts born several years before or after transition.

An important concern for our identification strategy is the potential endogeneity of fertility choices. If the parents of children born in transition were fundamentally different from the average sample, or from the parents of children born before or after transition, then our findings might reflect such systematic differences and mistakenly ascribe them to the effects of having been born in transition. In order to address these concerns and control for such potential differences, we include parental education and parental sector of employment in the LiTS regressions and parental height and education in the RLMS-HSE regressions. Parental sector of employment and education are likely to be associated with resources available during childhood.

To further address the concern of endogenous fertility choices, we scrutinise the RLMS-HSE household data on Russia to uncover whether there are significant changes in the age of childbearing mothers. We find that mothers who gave birth during the year of transition or the year before were on average similarly educated, gave birth at a similar age and were 0.6 cm significantly *taller* than those who bore children in the previous two years; but they were not significantly different from those who bore children in the following two years.[8]

To address the issue of endogeneity of fertility, we conduct a couple of additional exercises with the RLMS-HSE data. First, we analyse within-family differences in height between siblings, when one of them was born during transition and the other was not. With this, we aim to control for most of the differences across families (or at least those that are not time-dependent), which should considerably alleviate any selection concerns.

[7] A 25-year old based in a country where transition started in 1990 would be classified as born after the start of transition (the LiTS was conducted in 2016). However, a 25-year old peer in a country where transition began in 1993 is considered to be born two years before the start of transition; hence her life satisfaction is likely to be affected.

[8] The literature is ambiguous as to whether economic shocks increase or decrease fertility (Billingsley and Duntava, 2017). Billingsley et al. (2011) examine the decline in second birth rates for men and women across different skill levels in Russia over three time periods: the Soviet era, economic crisis, and economic recovery. Interestingly, there is little evidence of endogeneous fertility, as the change in second birth rates was remarkably similar for all men and women, regardless of educational attainment or occupational class. Neither was there much change for first births: women continued to enter parenthood at mostly the same rate (the age at first birth in fact continued to decline over the first years of transition).

Second, we conduct propensity score matching exercises in which we produce treated and matched samples on the basis of parental characteristics (such as education, sector of employment, religion), urban locality of birth, gender, as well as the age at which the mother gave birth (to address the selection concern). Results confirm a significant reduction in height among those born in transition and they are available upon request.[9]

Finally, we use the RLMS-HSE data to evaluate the effects of transition on height at the pre-adulthood stage by computing height-for-age z-scores that compare children to their peers in other countries, in particular to those in the United States. All the analyses based on the RLMS-HSE data utilise specification (1), but models of life satisfaction include age and survey year controls since we observe individuals in different waves. Each individual only contributes one observation to the models. We use height-for-age z-scores instead of adult height to study the impact of transition on people that have not yet reached their adult height. The fixed effects are calculated at region (oblast) level, and the linear time trends at the country level. Results are robust to the inclusion of trends at the region level.

5 Results

5.1 Summary statistics

Figure 2 illustrates the evolution of average height in the post-communist region as a function of the difference between the birth year of the respondent and the year when transition occurred. Average height increased over time for all cohorts born before transition. However, a few years before the start of the transition process average height began to decline and then plateaued. The positive pre-transition trend resumed only for cohorts born five years after the start of transition, when average height started increasing again. The difference in the average height of those born around the start of transition from the trend is statistically significant.

This evidence raises two questions. First, how unusual is such an evolution in height? Second, is the pattern in the data really attributable to the reforms implemented during the transition period, or can other factors explain it? To answer the first question, we examine the evolution of height over time in four developed economies covered in LiTS III: Cyprus, Germany, Greece and Italy. We explore the second question using econometric analyses, presented in detail below.

The trend depicted in Figure 3 demonstrates a continuous and steep increase in average height for Cyprus, Germany, Greece and Italy until the 1970s; after this period average height plateaued. The figure shows that the flattening corresponds to the point where average GDP per capita was from 10,000 to 15,000 USD per capita in purchasing power parity (PPP) terms (right axis). Such a phenomenon of stagnation in height is known as "height satiation": beyond a certain level of development, additional material resources do not contribute much further to an improvement in height.[10] Almost all transition countries began transition with incomes below USD 15,000. However, as income increased over time in the post-communist region, height satiation might have explained, at least partially, the pattern observed in Figure 2. To alleviate this concern, we will present findings on the effect of transition on height separately for richer and for poorer countries. We will show that transition affected the stature of people in countries

[9] We do not present these results in the paper since given the difficulties in producing balanced matched samples we do not consider them as robust as the other results.

[10] See the results for developed countries in Bentham et al. (2016).

that were below a certain income threshold but not in others, suggesting that the diminishing returns of income to height are also at play in some post-communist countries.

5.2 Main results for adult height

We use econometric analysis to test whether the decline in average height depicted in Figure 2 can indeed be explained by the socio-economic stress of the early transition years.

We focus on those adults who were 21 years old or above when they participated in the LiTS, since we know that in adverse circumstances individuals continue to grow until their early twenties. Our results are shown in Table 2. We control for country-specific linear time trends in all our regressions to capture the "natural" increase in height over time experienced in most of the countries in our sample.

Individuals born or one year old when price liberalisation reforms took place are, on average, 1 centimetre shorter than older and younger cohorts (columns (1)-(2)). Individuals who were born, one or two years old when price liberalisation reforms occurred are, on average, 0.6 centimetres shorter than their older or younger counterparts (column (3)). The magnitude of these effects is large and shows how the early transition years left a deep and permanent mark on individuals who were born or very young at the time.[11]

In columns (4)-(6), we control for GDP per capita. The magnitude of the coefficient implies that a 10% decline in GDP per capita translated into between a 0.06- and a 0.08-centimetre decline in height. Inclusion of GDP per capita as a control does reduce the coefficient of the born-in-transition dummy by 0.11-0.19 centimetres.

Parental education, particularly maternal education, has, on the other hand, a positive impact on height. Exposure to conflict or war (not reported in the table) has an effect on height that is similar, yet smaller in size, to the impact of transition: children who were born during a war or who were very young at the time are today shorter than their counterparts by about 0.4 centimetres. However, once changes in GDP per capita are controlled for, the impact of conflict and war is no longer statistically significant. The effects of covariates controlling for maternal and paternal sector of occupation are not statistically significant.

The fact that the decline in height is only partially explained by GDP per capita (columns (4)-(6)) implies that the early transition shock was not limited to the economic recession, but that it possibly worked through multiple channels, e.g. a decline in the quality of public goods, state institutions or social capital. One such channel could have been particularly important: the collapse of the public health system. While data availability for immunisation rates, hospital beds and staffing in the pre-transition period is highly incomplete, information on infant mortality rates has a somewhat wider and longer coverage. We thus control for infant mortality rates at the time when respondents were born, or one or two years old as proxies for the state of the public health system at the time. Our findings (reported in Table 3) show that the negative impact of transition on height becomes weaker once we account for the collapse in the availability and quality of public health provision during the early years of the transition process. The result is not driven by differences in sample composition, as shown in Table A1 in the Appendix.

5.3 Life satisfaction and attitudes

The results presented in the previous section provide evidence of the hardship associated with the early years of the transition reforms. While the data show that people born at the onset of

[11] We also expanded the sample to include those who were 3 years old at the time of transition. Results are significant, as shown in Table A17.

transition are today shorter than their counterparts, it is important to investigate whether impacts go beyond physical well-being and extend, for instance, to life satisfaction and attitudes. If deprivation was substantial, individuals who lived during the transition period could still be affected today; for instance, they could have lower objective and/or subjective well-being than their peers. We include all individuals surveyed by the LiTS who were 21 and above at the time of the interview, and control for age and age squared.

Table 4 shows no lasting negative impact of transition on the current life satisfaction of cohorts born around the start of transition; on the contrary, we find that individuals who were in their infancy when transition occurred in fact report *higher* levels of life satisfaction than their peers. This effect is robust to specifications controlling for GDP per capita in the year of birth. The effects in columns (1) to (3) range from 0.074 to 0.128, which is 2.3% to 4% relative to the mean of the dependent variable (3.22, with a standard deviation of 1.1. We do not find an effect of being born around the start of transition on other attitudes, such as support for democracy, support for the market economy, optimism for the future, trust in society and preference for income equality.[12] This is consistent with the view that attitudes and beliefs are shaped during one's formative years rather than in early childhood.

Why are cohorts born around the start of transition happier than their peers? Are there specific factors that could explain this result? Using data on individual characteristics, we test whether these cohorts systematically differ from others born at a different point in time. We find that people born around the beginning of the transition process are not significantly different from their older or younger peers in terms of labour market participation, type and sector of employment, or marital situation (results are available upon request). However, they are significantly better educated even after controlling for age. Table A2 implies that these cohorts are 13 to 20 percentage points more likely to have completed tertiary education. The post-communist expansion of tertiary education is thus a potential explanation for the higher level of life satisfaction of cohorts born at the onset of transition.[13]

5.4 Placebo tests

We test the validity of our results with a set of placebo tests. First, we examine whether our results could be driven by other major events, the effects of which coincided with the start of transition. The transformative period of transition was preceded by various highly consequential political and economic developments that symbolised the end of an era and heralded the beginning of a new order. Foremost among such events are the fall of the Berlin Wall, and the dissolution of the Soviet Union. In order to rule out that the previous results are nor driven by these events, we run a set of placebo tests to verify that people in their early childhood or born in those years (1989 and 1991, respectively) do not differ from their younger or older peers in terms of height or life satisfaction. Table A3 and Table A4 present the corresponding results (for the sample of those aged 21 and above), and show that these events do not explain our findings. It was exposure to price liberalisation reforms (which were enacted at different times in different countries), and not simply being born around the fall of the Berlin Wall or the dissolution of the Soviet Union, that caused respondents in transition countries to be shorter.

[12] Results are available upon request.

[13] The expansion of education in post-communist countries explains why those born in transition are better educated than their predecessors (see EBRD (2018) and WB (2019) for evidence on the high quantity and quality of education in formerly communist countries and on the expansion of higher education since the beginning of reforms). Those born after transition should eventually be even better educated but at the time of the survey (2016) most of them were still in school.

In a second placebo test, we check whether cohorts born in the early or mid-1990s in the comparator countries are shorter than their peers. This test also finds no significant effects (results are available on request).

Our third check is to look at the cohorts born just before or just after the beginning of transition. Regressions of height on a dummy for individuals four to six years before transition, or one to three years after transition confirm the pattern we showed in Figure 2. The corresponding results are shown in Table A5 and Table A6.

5.5 Continuous measure of transition

So far, we have used a binary measure of the start of transition, whereby transition began in the year when price liberalisation reforms were enacted. Table A7 presents the results of the analysis where the binary indicator is replaced with an alternative, continuous measure: the EBRD Transition Indicator for Price Liberalisation, an annual measure that tracks the status of reforms in a specific country. By controlling for the values taken by the Transition Indicator for Price Liberalisation at birth and in infancy, we add an additional layer to our analysis, as we can compare the effect of transition from central planning to a more liberalised system across countries taking into consideration the depth and speed at which they implemented such reforms. The results confirm the ones presented in Table 2, both in terms of statistical significance and in terms of the direction of the effect. Columns (1)-(3) show that a two-point change in the indicator, from a value of 1 (when most prices are formally controlled by the government) to 3 (when significant progress on reforms is made), translates into a decrease in height of approximately 0.65 to 0.73 cm. We find similar results if we instead use the average of all six Transition Indicators (results are available upon request).

In unreported results, we replicate the results for life satisfaction using the same setup as in Table A7 (while controlling for age and age squared). We find that in this case, the positive effect of being born or in infancy during transition disappears.

5.6 Heterogeneity analysis

In this subsection, we explore the differential effects of transition across different social groups or different post-communist regions and countries.

Although the results presented in the previous sections indicate that, on average, women are shorter than their counterparts, we do not find evidence of a differential effect of transition (results are available upon request). There are also no significant differences in the impact of transition on height or life satisfaction when it comes to respondents who were born in transition and are members of an ethnic minority or majority.

Since there are no data on the living standards of households in the pre-transition period, we utilise maternal and paternal education level, and maternal and paternal labour force participation as proxies for their socio-economic status. We estimate the impact of transition on height and life satisfaction by interacting the main treatment variable with different maternal characteristics, but we do not find any significant differences, suggesting that transition was not harder on more deprived households. We find similarly weak results for life satisfaction (results are available upon request)

Finally, it is important to check whether the effect of transition varied across the various post-communist countries, and whether these differences have to do with countries' level of development. This point is particularly relevant, as the most advanced post-communist countries

might have already reached – by the time transition happened – a level of GDP per capita beyond which further improvement in height was not possible ("height satiation"). As pointed out earlier, LiTS data on comparator countries shows that when GDP per capita reaches around USD 10,000 to 15,000, additional economic growth has very limited impact on average height. In order to determine whether this is also the case for the post-communist countries, we split them into two groups that fall below or above a certain per capita GDP threshold. As very few countries in our sample recorded such high GDP per capita values, we choose the median income per capita in the sample, USD 8,630. We evaluate the impact of transition on height separately for individuals in these two groups of countries. Our findings, presented in Table A8 and Table A9, suggest that the effect is driven by countries with GDP per capita below the median threshold, which seems to confirm that the height satiation already observed in the comparator countries was also present in some post-communist countries.

The observation that the impact of transition on height is concentrated in poorer countries is further substantiated if we look at the geographic regions that are driving our findings. We make use of a leave-one-out analysis, in which we scrutinise if and how our results change when we exclude one of the geographic regions that make up our sample at a time. We classify the post-communist countries into four groups: (i) Central Europe, the Baltic states and the Czech Republic; (ii) Central Asia; (iii) Eastern Europe, the Caucasus and Russia; and (iv) South-eastern Europe. Our regional analysis delivers two main results. Individuals from South-Eastern Europe, Central Europe, the Baltic states and the Czech Republic who were born during transition were less affected by the initial shock, as excluding them from the analysis increases the magnitude of the effect we find (Table A11 and Table A13). The opposite is true for Central Asia, Eastern Europe, the Caucasus and Russia: the negative impact of transition on height appears to be predominantly driven by individuals from those countries (Table A10 and Table A12).

5.7 Addressing endogeneity concerns: evidence from the RLMS-HSE

We address concerns about selection or endogenous fertility choices by cross-validating our results with the analysis of RLMS-HSE. The results based on RLMS-HSE confirm our general LiTS findings and should thus be seen as supporting evidence.

Table 5 shows that the results obtained with RLMS-HSE are consistent with those obtained for the sample of post-communist countries as a whole. As columns (1)-(3) show, adults born in the transition year are, on average, around 1.1 cm shorter than would be expected on the basis of historical trends, while those born in the transition year or the previous year are an average of around 1.4 cm shorter. Given that the RLMS-HSE started in 1994, it is possible to estimate the impact that the transition process has had on the heights of individuals born during this period while they were still children. Columns (4)-(6) show the coefficients estimated for height-for-age z-scores for the children's sample, which imply a significant reduction (of about 1.3-1.9 cm for girls and 1.4-2.0 cm for boys) in adult height after controlling for maternal height and education. Results are robust to the inclusion of either paternal height and education, or maternal current sector of employment in models (4)-(6) for the observations for which this information is available (see Table A14). For the subsample of adults for which we have parental information, results are similar to those in columns (1) to (3) after controlling for maternal height and education.

The validity of these results could be problematic if the parents of children born during the transition process were fundamentally different from those of children born before or after transition. In this case, there would therefore be a risk of mistakenly ascribing findings that might

reflect such systematic differences (such as differences in the age or level of education of childbearing parents) to the effects of having been born during transition. As we argued above, the literature shows that parental selection is unlikely to be a serious issue. Still, we explore RLMS-HSE data and find that mothers and fathers whose children were born in the transition year or in the previous year were, on average, similar to those whose children were born before or after that period (results available upon request).[14]

The estimates in Table 5 partially address the concerns regarding endogenous childbirth choices, as the analysis controls for parental height and education. In Table 6, we focus on the subsample of families for which we have data on several siblings (this reduces the sample size fivefold). Columns (1)-(3) present the results of a comparison looking at differences in height between siblings in the same family when one of them was born during transition. The implied impact of being born during transition in terms of differences in adult height between siblings is about 0.3 standard deviations (slightly larger than in the cross-section). In columns (4) to (6) we also include a time trend to account for a possible upward cohort shift over time within the world distribution. Under this strict condition of within family variation, along with time trend, results for those either born, or one or two years of age during transition are still marginally significant and of a size close to 0.2 standard deviations. In the Appendix, significance increases as we restrict the sample to only earlier waves, 1994-2010 (see the Appendix Table A15).

When exploring the underlying mechanisms, we check whether the results are explained by consumption of food. In Table A16 we control for dacha ownership and find that children born to families who own a dacha (columns (1)-(3)) and who are thus more likely to have direct access to home-grown food are taller. However, even when controlling for dacha ownership, we find that the impact of transition is similar (or even larger). In columns (4)-(6) we control for region-level per capita meat consumption in the year of birth, which however is only available starting in 1990 and thus limits our ability to capture cohorts born before transition. This proxy for living standards is signficantly associated with a child's height and explains a substantial part of the impact of transition shock on height.

Similarly to our analysis based on LiTS III, we also check whether Russians born around transition are as satisfied with their lives as their peers. Table 7 shows that they are happier (see columns (1) to (3) without age controls) or similarly happy (see columns (4) to (6) with controls for age and age squared). This is consistent with findings from LiTS III for the post-communist region as a whole.

6 Additional results and robustness checks

6.1 Robustness checks

Our main sample includes all LiTS respondents aged 21 years or older in order to make sure that we only observe their adult height. Our results are robust to expanding the sample to include all LiTS respondents (thus including individuals aged 18 or older). The results are very similar, though slightly weaker (Table A18): individuals born when price liberalisation reforms took place are, on average, 0.9 centimetres shorter than older and younger cohorts (column (1)). Individuals who were either born or were one year old when price liberalisation reforms occurred

[14] We also tried to carry out a propensity score matching analysis using observable parental characteristics (level of education, employment sector, religion and so on), whether the respondent was born in an urban location, gender and the age at which the mother gave birth. Our preliminary results suggest that the average effect of being born during transition is larger than that shown in the tables in the paper. However, the difficulty in producing balanced matched samples reduces the reliability of such estimates and we prefer to regard them as suggestive only.

are today, on average, 0.7 centimetres shorter than their older or younger counterparts (column (2)). Columns (4)-(6) indicate that the economic recession was an important mechanism through which the shock of transition affected individuals.

6.2 In utero or adolescent at the start of transition

In addition to the first two years of life, two other moments are considered as critical stages for adult height: the nine months spent in utero and adolescence (when the "adolescence growth spurt", the second period of fast growth in height during someone's life, occurs). We rerun our analyses and investigate whether people who were in the womb or adolescent at the start of transition display signs of deprivation like those who were born around that period. Our empirical analysis finds that there are no statistically significant differences in height between individuals who faced transition in the womb or in their adolescence vs. their older and younger peers (Tables A19 and A20). These results are confirmed when we expand the sample to adults aged 18 or above (results available upon request). Moreover, the finding regarding adolescence is robust to two different definitions of the "treatment": a lenient one, which identifies adolescence as the three-year period between ages 11 to 13 for girls, and between ages 12 to 14 for boys, when the growth spurt is supposed to occur (under normal environmental conditions), and a strict definition, which identifies adolescence as the two peak years in growth between ages 11 to 12 for girls, and between ages 13 to 14 for boys.

The fact that we find no results for the adult height of individuals who were in utero or adolescent at the start of transition is probably explained by the lack of statistical precision. We lack data on the exact day and month of birth of respondents; we time the transition shock up to the year (rather than month) of price liberalisation. The timing of the adolescent growth spurt spreads through several years of age (thus transversing the differences between timing of the start of transition in different countries and undermining our difference-in-differences identification strategy).

6.3 Weight

In addition to height, we collect data on weight and therefore can check if transition had an impact on BMI and the probability of being underweight or overweight.

Table A21 reports the results for BMI for those who were at least 21 years old when they participated in the survey. We focus on this sample since height, along with weight, is a component of BMI, and we therefore exclude those individuals who might have not yet reached their adult height when the survey was implemented. Columns (1)-(3) show that individuals who were born, one or two years old at the onset of transition have today a lower BMI than their older and younger peers, and that this effect is either largely (columns (4)-(5)) or fully (column (6)) explained by the fall in GDP per capita.[15]

For adults, a normal BMI ranges from 18.5 to 24.9: an individual whose BMI is below 18.5 is considered to be underweight; one whose BMI exceeds 24.9 is deemed overweight. To gain a better understanding of the direction in which average BMI changed as a result of transition, we estimate a linear probability model where the dependent variable is a binary indicator which takes a value of one if the respondent is underweight (Table A22) or overweight (Table A23). Results indicate that the negative effect on average BMI is driven by a lower probability of being

[15] As before, we repeat our analysis on the sample of adults who were 18 years old or above when they participated in the survey (results available upon request). The effect is now smaller and is fully explained by GDP per capita.

overweight for individuals being zero, one or two years old when transition started (by approximately 7 to 8 percentage points). Reassuringly, we do not find that people born around the beginning of the transition process are more likely to be underweight than their older or younger counterparts. We also check the robustness of results for the full sample (ages 18 or older) and find similar results (results available upon request) although the magnitude of the impact on the probability of being overweight is smaller (4 to 6 percentage points). This may be explained by the fact that individuals aged 18 to 21 who faced transition in their infancy are yet to increase their BMI later in life.

In unreported results, we find similar results if we use the continuous Transition Indicator for Price Liberalisation and the average of the six Transition Indicators, rather than the binary transition indicator.

We also find that those who were in utero during transition have lower BMI, and that they are more likely to be underweight and less likely to be overweight (Table A24).

6.4 Formative years at the start of transition

Transition may have also affected the life satisfaction and attitudes of those who experienced it in their formative years. In the Appendix, we report the results of an analysis similar to the one above, with the difference that now the "treated" cohorts are the ones that were aged 18 to 25 when price liberalisation reforms began. Table A25 shows that there are no significant differences in terms of preference for a market economy, optimism for the future, trust in society and preference for income equality between the two groups (columns (2) and (4)-(6)). However, individuals who were 18 to 25 years old when transition occurred are today less satisfied with their life and approximately 3 percentage points more likely to support democracy than their older and younger counterparts (columns (1) and (3)). However, the magnitude of the life satisfact effect is relatively small, and amounts to a difference of 0.037 points (the mean of life satisfaction in the sample is 3.22, with a standard error 1.11).

7 Conclusions and policy implications

This paper uses of the latest Life in Transition Survey to measure the impact of transition from planned to market economy on objective and subjective well-being in the post-communist region. The novel data allow us to quantify the socio-economic shock in the early years of transition. We examine the height of individuals facing transition in their first two years of life and find that today these cohorts are shorter than their older or younger peers. This confirms the view that the first few years of the transition process were a period of substantial socio-economic deprivation.

At the same time, the transition shock did not have negative long-term implications for levels of life satisfaction or other attitudes. If anything, cohorts born around the onset of the transition process are now happier (and better educated) than their peers. In this sense, we establish that the initial social cost of transition (potentially undermining the lifetime career perspectives and well-being of those born in transition) was later compensated by the drastic expansion of access to education after the transition.

The analysis of the impact of transition on well-being has important policy implications not only for the few remaining command economies around the world, but also more generally for countries undertaking major structural reforms. The fact that people who experienced depri-

vation in early transition do not display lower levels of life satisfaction today shows how economic reforms – however imperfectly designed or incomplete in some countries – have eventually delivered, at least in the minds of ordinary people (even if much later than was initially expected). The fact that it has taken transition countries two decades to catch up in terms of physical and subjective well-being should not discourage reformers elsewhere. Even a major reform of a labour market or of a pension system today is likely to be much less disruptive – and therefore, arguably, less painful – than the systemic change that the transition countries went through in the early 1990s.

In some post-communist countries, the transition shock has had lasting negative *political* implications. The deprivations of the early transition years have armed opportunistic politicians with an anti-reform narrative, ultimately leading to de-democratisation. Where these politicians have gained power, they have not delivered on their redistribution promises but instead entrenched themselves through a comprehensive removal of democratic checks and balances. Although their original anti-transition platforms are no longer valid, it is therefore hard to vote these politicians out of office. In order to avoid such lasting political implications, reformers should try to compensate potential losers in reform processes from the outset, preventing populists from potentially destroying political institutions. Unfortunately, the complexity of the reforms, the large number of stakeholders involved and the dynamic nature of interactions between them make identification of potential reform losers highly context-specific (Treisman, 2014). Our work provides important insights into identifying cohorts and households that were affected by such structural reforms.

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Figures and tables

Figure 1: Countries of origin

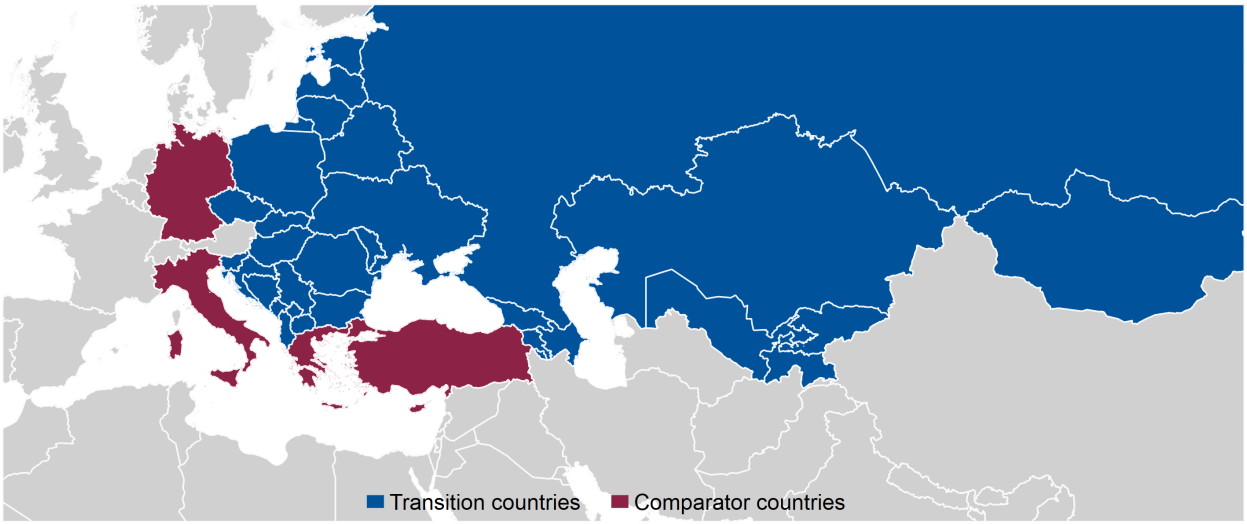
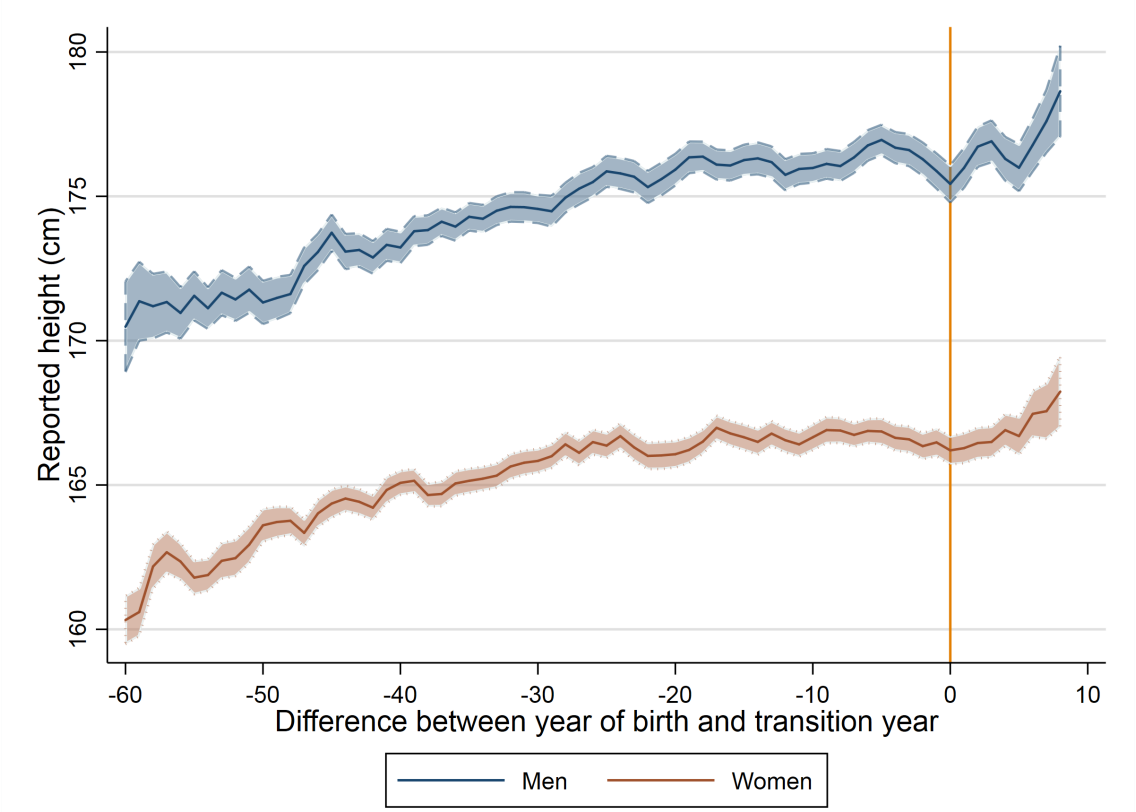
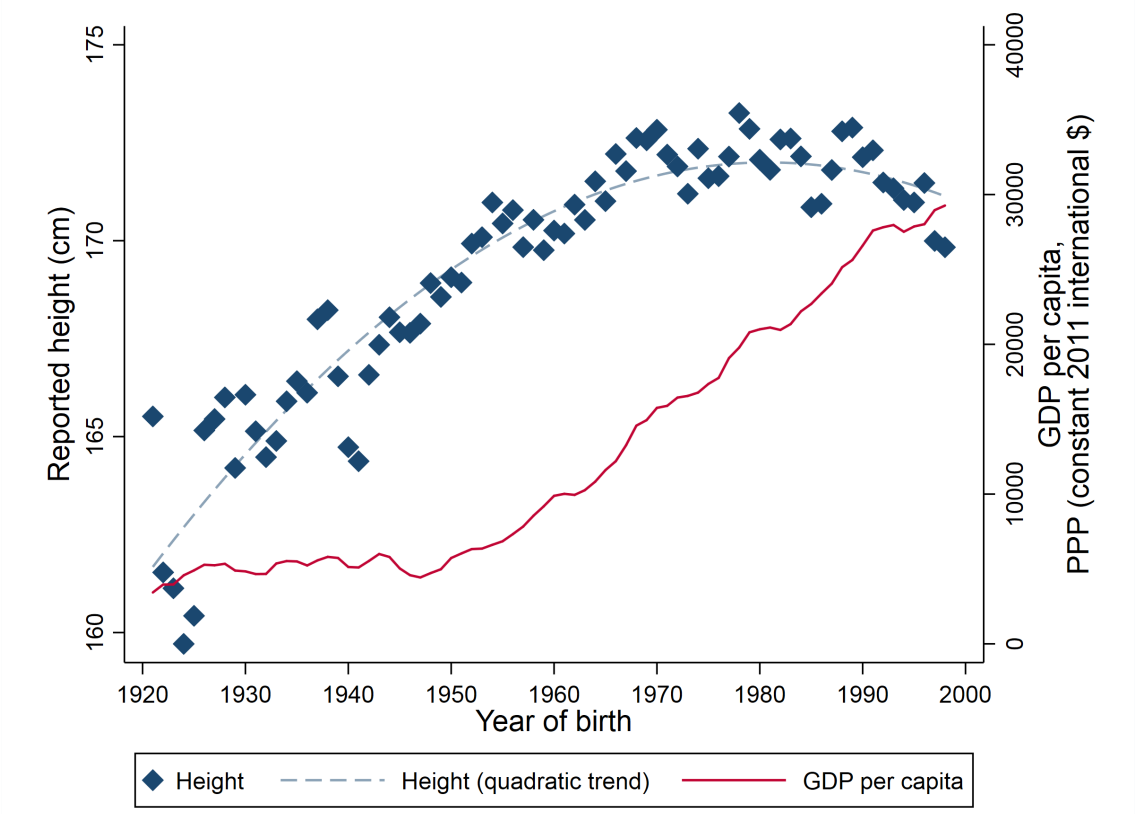


Figure 2: Height as a function of the difference between the birth year of the individual and the year when transition started



Source: Life in Transition Survey III and authors' calculations.
Notes: The blue line and the red line show the average height for men and women, respectively, calculated as moving averages over three consecutive years. The blue area and the red area show the 95 per cent confidence intervals for the respective means. The horizontal axis shows the difference between the year of birth of the individual and the year when transition occurred. The orange vertical line indicates the year of transition.

Figure 3: Height and GDP per capita in comparator countries



Source: Gapminder, Life in Transition Survey III, and authors' calculations.
Notes: The blue diamonds show average height by year of birth calculated as a moving average over three consecutive years, while the purple line shows average GDP per capita calculated as a moving average over three consecutive years. The horizontal axis shows the year of birth of individuals. Averages are calculated for four comparator countries (Cyprus, Germany, Greece and Italy). GDP per capita is expressed in PPP in constant 2011 international dollars.

Table 1: Timing of transition

Transition year	Countries
1990	Bosnia and Herzegovina Croatia FYR Macedonia Hungary Kosovo Montenegro Poland Serbia Slovenia
1991	Bulgaria Czech Republic Slovak Republic
1992	Armenia Georgia Latvia Moldova Mongolia Russia
1993	Albania Azerbaijan Estonia Kyrgyz Republic Lithuania Romania
1994	Uzbekistan
1995	Belarus Kazakhstan Tajikistan Ukraine

Source: EBRD Transition Indicators.
Notes: The table shows the year when the price liberalisation indicator reached the value of 3 for the first time. A value of 3 corresponds to a phase when significant progress on price liberalisation reforms has been made, but state procurement at non-market prices remains substantial in some sectors. For Kosovo the year reported is that of Serbia given that Kosovo was part of the country at that point in time. Turkmenistan is not part of our study as it is not included in LiTS.

Table 2: Impact of being born or in infancy at the start of transition on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.187**			-1.057**		
	(0.465)			(0.469)		
Born or one year old during transition		-1.046***			-0.933***	
		(0.298)			(0.276)	
Born, one or two years old during transition			-0.614***			-0.448**
			(0.209)			(0.206)
GDP per capita when respondent born				0.637**		
				(0.253)		
GDP per capita when respondent born and one year old					0.668***	
					(0.237)	
GDP per capita when respondent born, one and two years old						0.787***
						(0.253)
Female	-9.415***	-9.411***	-9.415***	-9.433***	-9.430***	-9.432***
	(0.391)	(0.391)	(0.390)	(0.394)	(0.394)	(0.394)
Urban locality of birth	0.300*	0.295*	0.300*	0.234	0.229	0.231
	(0.153)	(0.154)	(0.154)	(0.163)	(0.163)	(0.163)
Mother completed primary education	0.630***	0.629***	0.627***	0.588***	0.586***	0.583***
	(0.169)	(0.168)	(0.169)	(0.163)	(0.162)	(0.161)
Mother completed secondary education	1.258***	1.258***	1.253***	1.137***	1.133***	1.128***
	(0.230)	(0.229)	(0.227)	(0.243)	(0.240)	(0.239)
Mother completed tertiary education	2.145***	2.148***	2.141***	1.948***	1.949***	1.942***
	(0.316)	(0.317)	(0.318)	(0.323)	(0.323)	(0.324)
Father completed primary education	0.496	0.490	0.490	0.520	0.514	0.513
	(0.318)	(0.318)	(0.318)	(0.320)	(0.320)	(0.320)
Father completed secondary education	1.011***	1.002***	1.007***	0.979***	0.971***	0.973***
	(0.312)	(0.313)	(0.312)	(0.310)	(0.310)	(0.310)
Father completed tertiary education	1.521***	1.514***	1.519***	1.501***	1.495***	1.498***
	(0.316)	(0.316)	(0.316)	(0.309)	(0.308)	(0.307)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.386	0.386	0.386	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table 3: Impact of being born or in infancy at the start of transition on reported height controlling for infant mortality rate (per 1,000 live births)

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.960*			-0.795		
	(0.510)			(0.515)		
Born or one year old during transition		-0.844**			-0.720**	
		(0.321)			(0.309)	
Born, one or two years old during transition			-0.407*			-0.258
			(0.221)			(0.231)
GDP per capita when respondent born				0.887**		
				(0.393)		
GDP per capita when respondent born and one year old					0.904**	
					(0.377)	
GDP per capita when respondent born, one and two years old						0.931**
						(0.392)
Infant mortality rate	-0.023***			-0.015**		
when respondent was born	(0.007)			(0.007)		
Infant mortality rate		-0.022***			-0.013*	
when respondent was born and one year old		(0.006)			(0.007)	
Infant mortality rate			-0.025***			-0.015*
when respondent was born, one and two years old			(0.007)			(0.007)
Female	-9.464***	-9.460***	-9.462***	-9.470***	-9.468***	-9.471***
	(0.432)	(0.432)	(0.431)	(0.435)	(0.435)	(0.435)
Urban locality of birth	0.346**	0.343**	0.345**	0.290	0.286	0.287
	(0.167)	(0.168)	(0.168)	(0.184)	(0.184)	(0.184)
Mother completed primary education	0.458**	0.464**	0.462**	0.425*	0.431*	0.426*
	(0.224)	(0.224)	(0.224)	(0.220)	(0.220)	(0.220)
Mother completed secondary education	1.043***	1.051***	1.052***	0.931***	0.936***	0.934***
	(0.208)	(0.207)	(0.208)	(0.206)	(0.205)	(0.205)
Mother completed tertiary education	2.054***	2.063***	2.062***	1.860***	1.867***	1.860***
	(0.309)	(0.309)	(0.310)	(0.303)	(0.303)	(0.305)
Observations	32771	32771	32771	31942	31942	31942
R^2	0.376	0.376	0.376	0.377	0.377	0.377
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, UN DESA, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table 4: Impact of being born or in infancy at the start of transition on life satisfaction

	Life satisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	0.128**			0.111**		
	(0.053)			(0.052)		
Born or one year old during transition		0.077**			0.064*	
		(0.031)			(0.032)	
Born, one or two years old during transition			0.074**			0.057
			(0.030)			(0.034)
GDP per capita when respondent born				-0.023		
				(0.037)		
GDP per capita when respondent born and one year old					-0.027	
					(0.038)	
GDP per capita when respondent born, one and two years old						-0.033
						(0.040)
Female	0.027	0.026	0.027	0.026	0.026	0.026*
	(0.016)	(0.016)	(0.016)	(0.015)	(0.015)	(0.015)
Urban locality of birth	-0.037*	-0.037*	-0.037*	-0.050**	-0.049**	-0.049**
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Mother completed primary education	0.059*	0.059*	0.059*	0.054	0.054	0.054
	(0.032)	(0.032)	(0.032)	(0.033)	(0.033)	(0.033)
Mother completed secondary education	0.190***	0.190***	0.190***	0.169***	0.169***	0.170***
	(0.042)	(0.042)	(0.042)	(0.043)	(0.043)	(0.043)
Mother completed tertiary education	0.227***	0.227***	0.228***	0.195***	0.195***	0.196***
	(0.056)	(0.055)	(0.055)	(0.056)	(0.055)	(0.055)
Father completed primary education	0.023	0.024	0.023	0.022	0.022	0.022
	(0.052)	(0.052)	(0.052)	(0.048)	(0.048)	(0.048)
Father completed secondary education	0.104*	0.104*	0.104*	0.091*	0.091*	0.091*
	(0.053)	(0.053)	(0.053)	(0.049)	(0.049)	(0.049)
Father completed tertiary education	0.279***	0.280***	0.279***	0.256***	0.256***	0.255***
	(0.064)	(0.064)	(0.064)	(0.059)	(0.059)	(0.059)
Observations	44967	44967	44967	43638	43638	43638
R^2	0.138	0.138	0.138	0.140	0.140	0.140
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects as well as for age and age squared. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table 5: Impact of being born or in infancy at the start of transition on reported adult height 21+ or height-for-age z-scores, Russia

	Reported height (cm) Adults (aged 21 or above)			Height-for-age z-scores Children		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.148***			-0.197**		
	(0.344)			(0.089)		
Born or one year old during transition		-1.459***			-0.263***	
		(0.242)			(0.065)	
Born or one year or two old during transition			-1.166***			-0.280***
			(0.186)			(0.054)
Maternal height (cm)				0.044***	0.044***	0.044***
				(0.003)	(0.003)	(0.003)
Mother Primary education				-0.953***	-0.943***	-0.944***
				(0.333)	(0.334)	(0.332)
Mother Secondary education				-0.672**	-0.661**	-0.660**
				(0.329)	(0.329)	(0.328)
Mother Tertiary education				-0.487	-0.477	-0.476
				(0.330)	(0.331)	(0.329)
Implied change in adult height (cm)						
Girls				-1.34	-1.80	-1.923
Boys				-1.40	-1.91	-2.04
Observations	39162	39162	39162	13225	13225	13225
R^2	0.505	0.505	0.505	0.194	0.194	0.195
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations.
Notes: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for region fixed effects and country linear time trends. Additionally, gender of the respondent and whether the respondent was born in an urban or rural locality are included as controls. Specifications (4)-(6) also control for maternal education (reference is no educaiton) and height. Children height is converted into height-for-age z-scores after subtracting the average and dividing by the standard deviation of the height of US children of the same age, using the WHO Global Database based on US population data.

Table 6: Impact of being born or in infancy at the start of transition on height-for-age z-scores children and within-family, Russia

	Height-for-age z-scores (within-family)					
	No linear trend			Linear trend		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.327**			-0.097		
	(0.158)			(0.158)		
Born or one year old during transition		-0.311***			-0.103	
		(0.119)			(0.117)	
Born or one year or two old during transition			-0.352***			-0.169*
			(0.095)			(0.093)
Observations	7995	7995	7995	7995	7995	7995
R^2	0.638	0.638	0.638	0.643	0.643	0.643
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	No	No	No	No	No	No
Country time trend	No	No	No	yes	yes	yes

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations. **Notes**: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. Gender of the respondent and whether the respondent was born in an urban or rural locality are included as controls. Specifications include mother fixed effects and robust errors. Columns (4) to (6) include a country linear trend. Children height is converted into height-for-age z-scores after subtracting the average and dividing by the standard deviation of the height of US children of the same age, using the WHO Global Database based on US population data.

Table 7: Impact of being born or in infancy at the start of transition on life satisfaction adults 21+, Russia

	Satisfied with life					
	No Age Control			With Age and age square		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	0.102***			0.026		
	(0.026)			(0.027)		
Born or one year old during transition		0.108***			0.028	
		(0.018)			(0.019)	
Born or one year or two old during transition			0.109***			0.026*
			(0.014)			(0.015)
Observations	40098	40098	40098	40098	40098	40098
R^2	0.130	0.130	0.131	0.141	0.141	0.141
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Survey year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Region-specific time trend	NO	NO	NO	NO	NO	NO

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations.

Notes: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for region fixed effects and survey year fixed effects and in columns (4) to (6) for age and age square. Additionally, gender of the respondent and whether the respondent was born in an urban or rural locality are included as controls.

A Online Appendix (Not for Publication)

Table A1: Impact of being born or in infancy at the start of transition on reported height, sample for which infant mortality rate (per 1,000 live births) is available

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.051**			-0.766		
	(0.501)			(0.511)		
Born or one year old during transition		-0.947***			-0.716**	
		(0.320)			(0.310)	
Born, one or two years old during transition			-0.533**			-0.261
			(0.218)			(0.233)
GDP per capita when respondent born				1.167***		
				(0.374)		
GDP per capita when respondent born and one year old					1.127***	
					(0.346)	
GDP per capita when respondent born, one and two years old						1.184***
						(0.365)
Female	-9.466***	-9.463***	-9.466***	-9.471***	-9.469***	-9.473***
	(0.432)	(0.432)	(0.432)	(0.435)	(0.435)	(0.435)
Urban locality of birth	0.362**	0.357**	0.361**	0.294	0.290	0.292
	(0.168)	(0.169)	(0.169)	(0.183)	(0.184)	(0.184)
Mother completed primary education	0.478**	0.481**	0.479**	0.433*	0.437*	0.433*
	(0.227)	(0.226)	(0.226)	(0.220)	(0.220)	(0.219)
Mother completed secondary education	1.077***	1.079***	1.080***	0.945***	0.945***	0.944***
	(0.212)	(0.210)	(0.210)	(0.206)	(0.205)	(0.205)
Mother completed tertiary education	2.070***	2.074***	2.070***	1.868***	1.871***	1.863***
	(0.308)	(0.307)	(0.308)	(0.302)	(0.302)	(0.303)
Father completed primary education	0.507	0.503	0.509	0.528	0.526	0.531
	(0.431)	(0.432)	(0.431)	(0.418)	(0.420)	(0.419)
Father completed secondary education	1.013**	1.007**	1.014**	0.965**	0.963**	0.970**
	(0.413)	(0.413)	(0.412)	(0.392)	(0.393)	(0.391)
Father completed tertiary education	1.458***	1.454***	1.461***	1.432***	1.430***	1.436***
	(0.423)	(0.423)	(0.422)	(0.393)	(0.392)	(0.391)
Observations	32771	32771	32771	31942	31942	31942
R^2	0.376	0.376	0.376	0.377	0.377	0.377
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, World Development Indicators, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 18 or above at the time of the interview.

Table A2: Impact of being born or in infancy at the start of transition on completed education

	Completed education					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	0.176*			0.197**		
	(0.091)			(0.092)		
Born or one year old during transition		0.145**			0.175**	
		(0.071)			(0.067)	
Born, one or two years old during transition			0.099			0.127**
			(0.073)			(0.062)
GDP per capita when respondent born				0.161		
				(0.133)		
GDP per capita when respondent born and one year old					0.186	
					(0.128)	
GDP per capita when respondent born, one and two years old						0.201
						(0.121)
Female	-0.027	-0.027	-0.026	-0.027	-0.027	-0.027
	(0.048)	(0.048)	(0.048)	(0.047)	(0.047)	(0.047)
Urban locality of birth	0.218***	0.219***	0.218***	0.135***	0.136***	0.135***
	(0.027)	(0.027)	(0.027)	(0.028)	(0.028)	(0.028)
Mother completed primary education	0.410***	0.410***	0.411***	0.398***	0.398***	0.399***
	(0.053)	(0.054)	(0.054)	(0.055)	(0.055)	(0.055)
Mother completed secondary education	0.816***	0.816***	0.816***	0.751***	0.750***	0.750***
	(0.057)	(0.057)	(0.057)	(0.060)	(0.059)	(0.059)
Mother completed tertiary education	1.380***	1.380***	1.380***	1.250***	1.249***	1.249***
	(0.075)	(0.075)	(0.075)	(0.074)	(0.074)	(0.073)
Father completed primary education	0.533***	0.533***	0.533***	0.515***	0.515***	0.515***
	(0.077)	(0.077)	(0.077)	(0.078)	(0.078)	(0.078)
Father completed secondary education	1.167***	1.167***	1.167***	1.110***	1.110***	1.109***
	(0.098)	(0.099)	(0.099)	(0.098)	(0.098)	(0.098)
Father completed tertiary education	2.045***	2.045***	2.044***	1.951***	1.951***	1.950***
	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)
Observations	45600	45600	45600	44166	44166	44166
R^2	0.348	0.348	0.348	0.356	0.356	0.356
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time trend	No	No	No	No	No	No

Source: Life in Transition Survey III, EBRD Transition Indicators, and authors' calculations.
Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and birth year fixed effects. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A3: Impact of being born at the fall of Berlin Wall on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born at the fall of Berlin Wall	-0.284			-0.290		
	(0.320)			(0.308)		
Born or one year old at the fall of Berlin Wall		-0.220			-0.288	
		(0.276)			(0.272)	
Born, one or two years old at the fall of Berlin Wall			-0.226			-0.299
			(0.265)			(0.262)
GDP per capita when respondent born				0.778***		
				(0.263)		
GDP per capita when respondent born and one year old					0.893***	
					(0.262)	
GDP per capita when respondent born, one and two years old						0.947***
						(0.268)
Female	-9.416***	-9.416***	-9.415***	-9.434***	-9.433***	-9.432***
	(0.391)	(0.391)	(0.391)	(0.395)	(0.394)	(0.394)
Urban locality of birth	0.301*	0.301*	0.300*	0.232	0.230	0.228
	(0.154)	(0.154)	(0.154)	(0.163)	(0.164)	(0.164)
Mother completed primary education	0.626***	0.626***	0.625***	0.583***	0.581***	0.579***
	(0.169)	(0.169)	(0.169)	(0.163)	(0.161)	(0.161)
Mother completed secondary education	1.261***	1.262***	1.258***	1.136***	1.131***	1.126***
	(0.230)	(0.230)	(0.228)	(0.242)	(0.240)	(0.238)
Mother completed tertiary education	2.139***	2.138***	2.138***	1.939***	1.937***	1.937***
	(0.317)	(0.317)	(0.317)	(0.325)	(0.323)	(0.323)
Father completed primary education	0.502	0.503	0.496	0.526	0.523	0.515
	(0.316)	(0.316)	(0.317)	(0.319)	(0.319)	(0.320)
Father completed secondary education	1.019***	1.018***	1.013***	0.984***	0.980***	0.973***
	(0.310)	(0.311)	(0.311)	(0.309)	(0.310)	(0.310)
Father completed tertiary education	1.533***	1.535***	1.531***	1.512***	1.510***	1.502***
	(0.313)	(0.314)	(0.314)	(0.307)	(0.307)	(0.307)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.385	0.385	0.385	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A4: Impact of being born at the collapse of Soviet Union on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born at the collapse of Soviet Union	-0.472			-0.389		
	(0.357)			(0.382)		
Born or one year old at the collapse of Soviet Union		-0.397			-0.331	
		(0.289)			(0.313)	
Born, one or two years old at the collapse of Soviet Union			-0.351			-0.262
			(0.245)			(0.246)
GDP per capita when respondent born				0.753***		
				(0.260)		
GDP per capita when respondent born and one year old					0.851***	
					(0.257)	
GDP per capita when respondent born, one and two years old						0.894***
						(0.262)
Female	-9.415***	-9.415***	-9.414***	-9.434***	-9.433***	-9.431***
	(0.391)	(0.391)	(0.391)	(0.394)	(0.394)	(0.394)
Urban locality of birth	0.301*	0.300*	0.300*	0.233	0.230	0.229
	(0.154)	(0.154)	(0.154)	(0.163)	(0.163)	(0.163)
Mother completed primary education	0.628***	0.627***	0.625***	0.585***	0.584***	0.582***
	(0.169)	(0.169)	(0.168)	(0.163)	(0.162)	(0.161)
Mother completed secondary education	1.260***	1.261***	1.256***	1.136***	1.132***	1.128***
	(0.230)	(0.230)	(0.228)	(0.243)	(0.240)	(0.238)
Mother completed tertiary education	2.140***	2.141***	2.141***	1.941***	1.941***	1.940***
	(0.317)	(0.318)	(0.318)	(0.325)	(0.324)	(0.324)
Father completed primary education	0.501	0.500	0.494	0.525	0.522	0.515
	(0.317)	(0.317)	(0.318)	(0.320)	(0.320)	(0.320)
Father completed secondary education	1.018***	1.016***	1.011***	0.985***	0.981***	0.974***
	(0.311)	(0.311)	(0.312)	(0.309)	(0.310)	(0.310)
Father completed tertiary education	1.532***	1.531***	1.527***	1.513***	1.508***	1.502***
	(0.314)	(0.314)	(0.314)	(0.307)	(0.307)	(0.306)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.385	0.385	0.385	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A5: Impact of being born four to six years before the start of transition on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born four years before transition	-0.391			-0.481		
	(0.414)			(0.394)		
Born four or five years before transition		-0.032			-0.111	
		(0.346)			(0.341)	
Born four, five or six years before transition			0.104			-0.001
			(0.290)			(0.291)
GDP per capita when respondent born				0.786***		
				(0.263)		
GDP per capita when respondent born and one year old					0.884***	
					(0.258)	
GDP per capita when respondent born, one and two years old						0.919***
						(0.268)
Female	-9.417***	-9.416***	-9.415***	-9.434***	-9.434***	-9.432***
	(0.391)	(0.391)	(0.391)	(0.394)	(0.394)	(0.394)
Urban locality of birth	0.303*	0.301*	0.301*	0.234	0.231	0.230
	(0.155)	(0.154)	(0.154)	(0.164)	(0.163)	(0.163)
Mother completed primary education	0.625***	0.628***	0.629***	0.581***	0.583***	0.583***
	(0.168)	(0.168)	(0.168)	(0.162)	(0.161)	(0.160)
Mother completed secondary education	1.260***	1.263***	1.260***	1.133***	1.131***	1.129***
	(0.230)	(0.230)	(0.228)	(0.242)	(0.240)	(0.238)
Mother completed tertiary education	2.134***	2.139***	2.140***	1.932***	1.937***	1.939***
	(0.317)	(0.316)	(0.316)	(0.325)	(0.323)	(0.323)
Father completed primary education	0.505	0.504	0.499	0.529	0.526	0.518
	(0.316)	(0.316)	(0.317)	(0.319)	(0.319)	(0.320)
Father completed secondary education	1.021***	1.021***	1.019***	0.987***	0.984***	0.979***
	(0.310)	(0.310)	(0.312)	(0.309)	(0.309)	(0.310)
Father completed tertiary education	1.538***	1.536***	1.535***	1.517***	1.513***	1.507***
	(0.313)	(0.313)	(0.314)	(0.307)	(0.306)	(0.307)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.385	0.385	0.385	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A6: Impact of being born one to three years after the start of transition on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born one year after transition	-0.702			-0.443		
	(0.516)			(0.484)		
Born one or two years after transition		-0.500			-0.012	
		(0.407)			(0.432)	
Born one, two or three years after transition			-0.288			0.413
			(0.347)			(0.412)
GDP per capita when respondent born				0.716***		
				(0.249)		
GDP per capita when respondent born and one year old					0.873***	
					(0.284)	
GDP per capita when respondent born, one and two years old						1.077***
						(0.326)
Female	-9.416***	-9.416***	-9.416***	-9.435***	-9.434***	-9.432***
	(0.391)	(0.391)	(0.391)	(0.394)	(0.394)	(0.394)
Urban locality of birth	0.299*	0.297*	0.298*	0.233	0.231	0.230
	(0.153)	(0.154)	(0.154)	(0.163)	(0.163)	(0.163)
Mother completed primary education	0.628***	0.628***	0.627***	0.586***	0.584***	0.583***
	(0.169)	(0.168)	(0.169)	(0.163)	(0.162)	(0.161)
Mother completed secondary education	1.262***	1.261***	1.257***	1.138***	1.133***	1.127***
	(0.230)	(0.230)	(0.228)	(0.243)	(0.240)	(0.238)
Mother completed tertiary education	2.141***	2.142***	2.141***	1.942***	1.939***	1.935***
	(0.315)	(0.317)	(0.317)	(0.324)	(0.324)	(0.324)
Father completed primary education	0.500	0.500	0.495	0.526	0.526	0.523
	(0.316)	(0.316)	(0.317)	(0.319)	(0.319)	(0.320)
Father completed secondary education	1.016***	1.016***	1.013***	0.986***	0.984***	0.981***
	(0.310)	(0.310)	(0.310)	(0.308)	(0.309)	(0.309)
Father completed tertiary education	1.533***	1.531***	1.530***	1.514***	1.512***	1.509***
	(0.314)	(0.313)	(0.313)	(0.307)	(0.306)	(0.307)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.385	0.385	0.385	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A7: Impact of the price liberalisation TI on reported height

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Price liberalisation TI when respondent born	-0.325***			-0.276**		
	(0.085)			(0.121)		
Price liberalisation TI when respondent born and one year old		-0.368***			-0.318**	
		(0.089)			(0.118)	
Price liberalisation TI when respondent born, one and two years old			-0.365***			-0.299**
			(0.091)			(0.115)
GDP per capita when respondent born				0.274		
				(0.348)		
GDP per capita when respondent born and one year old					0.280	
					(0.330)	
GDP per capita when respondent born, one and two years old						0.338
						(0.330)
Female	-9.413***	-9.412***	-9.411***	-9.432***	-9.430***	-9.430***
	(0.391)	(0.390)	(0.390)	(0.395)	(0.394)	(0.394)
Urban locality of birth	0.286*	0.284*	0.284*	0.231	0.228	0.228
	(0.152)	(0.152)	(0.152)	(0.163)	(0.163)	(0.163)
Mother completed primary education	0.628***	0.627***	0.624***	0.587***	0.586***	0.584***
	(0.168)	(0.168)	(0.168)	(0.163)	(0.163)	(0.163)
Mother completed secondary education	1.253***	1.250***	1.244***	1.143***	1.139***	1.133***
	(0.229)	(0.229)	(0.227)	(0.242)	(0.241)	(0.240)
Mother completed tertiary education	2.154***	2.154***	2.153***	1.956***	1.957***	1.955***
	(0.314)	(0.315)	(0.316)	(0.320)	(0.321)	(0.321)
Father completed primary education	0.479	0.475	0.471	0.508	0.504	0.500
	(0.318)	(0.318)	(0.319)	(0.319)	(0.319)	(0.319)
Father completed secondary education	0.990***	0.984***	0.981***	0.970***	0.964***	0.961***
	(0.311)	(0.312)	(0.312)	(0.308)	(0.308)	(0.308)
Father completed tertiary education	1.503***	1.498***	1.496***	1.493***	1.487***	1.485***
	(0.313)	(0.314)	(0.313)	(0.305)	(0.304)	(0.304)
Observations	40910	40910	40910	39943	39943	39943
R^2	0.386	0.386	0.386	0.387	0.387	0.387
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A8: Impact of being born or in infancy at the start of transition on reported height for countries with income below US$ 8,630

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-2.076***			-1.977***		
	(0.689)			(0.666)		
Born or one year old during transition		-1.505***			-1.272***	
		(0.435)			(0.400)	
Born, one or two years old during transition			-0.816**			-0.482
			(0.326)			(0.348)
GDP per capita when respondent born				0.774*		
				(0.395)		
GDP per capita when respondent born and one year old					0.812**	
					(0.359)	
GDP per capita when respondent born, one and two years old						0.949**
						(0.405)
Female	-8.676***	-8.674***	-8.677***	-8.680***	-8.680***	-8.682***
	(0.631)	(0.631)	(0.631)	(0.637)	(0.637)	(0.637)
Urban locality of birth	0.242	0.237	0.246	0.194	0.189	0.194
	(0.258)	(0.260)	(0.260)	(0.276)	(0.278)	(0.279)
Mother completed primary education	0.739***	0.741***	0.740***	0.698***	0.695***	0.687***
	(0.252)	(0.250)	(0.252)	(0.238)	(0.234)	(0.233)
Mother completed secondary education	1.365***	1.371***	1.365***	1.327***	1.325***	1.318***
	(0.325)	(0.323)	(0.319)	(0.335)	(0.329)	(0.327)
Mother completed tertiary education	2.107***	2.114***	2.102***	2.027***	2.024***	2.009***
	(0.391)	(0.389)	(0.390)	(0.392)	(0.390)	(0.393)
Father completed primary education	0.496	0.486	0.478	0.543	0.540	0.538
	(0.572)	(0.575)	(0.575)	(0.570)	(0.571)	(0.570)
Father completed secondary education	0.529	0.519	0.525	0.468	0.465	0.470
	(0.514)	(0.517)	(0.514)	(0.496)	(0.497)	(0.495)
Father completed tertiary education	0.925*	0.912*	0.915*	0.896*	0.892*	0.895*
	(0.483)	(0.487)	(0.484)	(0.471)	(0.471)	(0.469)
Observations	22342	22342	22342	21803	21803	21803
R^2	0.348	0.348	0.348	0.350	0.350	0.350
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A9: Impact of being born or in infancy at the start of transition on reported height for countries with income equal or over US$ 8,630

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.141			-0.044		
	(0.420)			(0.484)		
Born or one year old during transition		-0.453			-0.474	
		(0.327)			(0.318)	
Born, one or two years old during transition			-0.305			-0.319
			(0.242)			(0.224)
GDP per capita when respondent born				0.382		
				(0.287)		
GDP per capita when respondent born and one year old					0.467	
					(0.287)	
GDP per capita when respondent born, one and two years old						0.594*
						(0.308)
Female	-10.278***	-10.275***	-10.276***	-10.318***	-10.314***	-10.314***
	(0.273)	(0.273)	(0.273)	(0.264)	(0.264)	(0.265)
Urban locality of birth	0.211	0.208	0.209	0.124	0.117	0.115
	(0.147)	(0.146)	(0.146)	(0.150)	(0.150)	(0.149)
Mother completed primary education	0.639***	0.636***	0.634***	0.621***	0.618***	0.616***
	(0.194)	(0.194)	(0.194)	(0.193)	(0.191)	(0.190)
Mother completed secondary education	1.481***	1.477***	1.470***	1.345***	1.338***	1.330***
	(0.282)	(0.280)	(0.278)	(0.315)	(0.312)	(0.308)
Mother completed tertiary education	2.497***	2.498***	2.495***	2.284***	2.288***	2.288***
	(0.370)	(0.370)	(0.370)	(0.396)	(0.396)	(0.395)
Father completed primary education	0.899**	0.900**	0.896**	0.911**	0.910**	0.902**
	(0.361)	(0.361)	(0.363)	(0.364)	(0.365)	(0.368)
Father completed secondary education	1.520***	1.519***	1.518***	1.474***	1.470***	1.466***
	(0.356)	(0.356)	(0.357)	(0.357)	(0.357)	(0.358)
Father completed tertiary education	2.079***	2.081***	2.081***	1.963***	1.959***	1.957***
	(0.347)	(0.344)	(0.345)	(0.338)	(0.334)	(0.336)
Observations	24493	24493	24493	23919	23919	23919
R^2	0.428	0.428	0.428	0.430	0.430	0.431
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A10: Impact of being born or in infancy at the start of transition on reported height excluding Central Asia

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.111*			-0.998		
	(0.590)			(0.588)		
Born or one year old during transition		-1.115***			-1.050***	
		(0.385)			(0.353)	
Born, one or two years old during transition			-0.694**			-0.601**
			(0.259)			(0.220)
GDP per capita when respondent born				0.598*		
				(0.293)		
GDP per capita when respondent born and one year old					0.631**	
					(0.283)	
GDP per capita when respondent born, one and two years old						0.733**
						(0.297)
Female	-9.956***	-9.952***	-9.954***	-9.983***	-9.979***	-9.981***
	(0.287)	(0.287)	(0.287)	(0.288)	(0.288)	(0.288)
Urban locality of birth	0.238	0.232	0.236	0.161	0.154	0.155
	(0.172)	(0.172)	(0.173)	(0.179)	(0.179)	(0.180)
Mother completed primary education	0.586***	0.584***	0.583***	0.564***	0.562***	0.560***
	(0.175)	(0.174)	(0.175)	(0.172)	(0.170)	(0.170)
Mother completed secondary education	1.333***	1.332***	1.327***	1.224***	1.219***	1.213***
	(0.247)	(0.245)	(0.244)	(0.264)	(0.261)	(0.259)
Mother completed tertiary education	2.186***	2.188***	2.186***	2.003***	2.005***	2.001***
	(0.355)	(0.356)	(0.357)	(0.362)	(0.362)	(0.364)
Father completed primary education	0.658*	0.651*	0.651*	0.661*	0.653*	0.650*
	(0.337)	(0.338)	(0.338)	(0.342)	(0.342)	(0.343)
Father completed secondary education	1.191***	1.179***	1.183***	1.134***	1.123***	1.123***
	(0.338)	(0.341)	(0.340)	(0.337)	(0.339)	(0.338)
Father completed tertiary education	1.745***	1.740***	1.744***	1.692***	1.686***	1.689***
	(0.328)	(0.328)	(0.327)	(0.318)	(0.316)	(0.316)
Observations	34713	34713	34713	33871	33871	33871
R^2	0.406	0.406	0.406	0.408	0.408	0.408
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A11: Impact of being born or in infancy at the start of transition on reported height excluding Central Europe, the Baltic states, and the Czech Republic

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.357**			-1.213**		
	(0.580)			(0.570)		
Born or one year old during transition		-1.249***			-1.055***	
		(0.337)			(0.311)	
Born, one or two years old during transition			-0.774***			-0.509*
			(0.238)			(0.250)
GDP per capita when respondent born				0.822***		
				(0.264)		
GDP per capita when respondent born and one year old					0.854***	
					(0.237)	
GDP per capita when respondent born, one and two years old						0.945***
						(0.258)
Female	-8.928***	-8.924***	-8.927***	-8.950***	-8.948***	-8.949***
	(0.475)	(0.475)	(0.475)	(0.481)	(0.480)	(0.480)
Urban locality of birth	0.263	0.256	0.263	0.236	0.230	0.233
	(0.190)	(0.191)	(0.191)	(0.202)	(0.203)	(0.203)
Mother completed primary education	0.734***	0.736***	0.732***	0.708***	0.709***	0.704***
	(0.169)	(0.168)	(0.169)	(0.159)	(0.157)	(0.156)
Mother completed secondary education	1.278***	1.283***	1.274***	1.211***	1.211***	1.203***
	(0.248)	(0.247)	(0.245)	(0.264)	(0.261)	(0.259)
Mother completed tertiary education	2.095***	2.100***	2.092***	1.994***	1.996***	1.988***
	(0.346)	(0.347)	(0.350)	(0.354)	(0.354)	(0.356)
Father completed primary education	0.572	0.562	0.561	0.616	0.608	0.607
	(0.356)	(0.357)	(0.357)	(0.366)	(0.366)	(0.366)
Father completed secondary education	0.969**	0.956**	0.961**	0.973**	0.962**	0.965**
	(0.352)	(0.354)	(0.353)	(0.356)	(0.357)	(0.356)
Father completed tertiary education	1.500***	1.488***	1.495***	1.524***	1.515***	1.518***
	(0.338)	(0.340)	(0.338)	(0.343)	(0.343)	(0.342)
Observations	30689	30689	30689	29928	29928	29928
R^2	0.367	0.368	0.367	0.370	0.370	0.370
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A12: Impact of being born or in infancy at the start of transition on reported height excluding Eastern Europe, the Caucasus, and Russia

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.802**			-0.658		
	(0.355)			(0.401)		
Born or one year old during transition		-0.752***			-0.660**	
		(0.237)			(0.243)	
Born, one or two years old during transition			-0.461**			-0.321
			(0.185)			(0.212)
GDP per capita when respondent born				0.627**		
				(0.240)		
GDP per capita when respondent born and one year old					0.636***	
					(0.217)	
GDP per capita when respondent born, one and two years old						0.776***
						(0.235)
Female	-9.466***	-9.465***	-9.466***	-9.493***	-9.491***	-9.492***
	(0.457)	(0.457)	(0.457)	(0.460)	(0.459)	(0.459)
Urban locality of birth	0.443***	0.439***	0.444***	0.365**	0.362**	0.364**
	(0.156)	(0.155)	(0.156)	(0.161)	(0.161)	(0.161)
Mother completed primary education	0.615***	0.615***	0.611***	0.565***	0.564***	0.560***
	(0.164)	(0.163)	(0.164)	(0.158)	(0.156)	(0.155)
Mother completed secondary education	1.225***	1.225***	1.217***	1.051***	1.049***	1.040***
	(0.239)	(0.238)	(0.235)	(0.258)	(0.255)	(0.252)
Mother completed tertiary education	2.314***	2.320***	2.307***	2.031***	2.035***	2.023***
	(0.297)	(0.298)	(0.297)	(0.306)	(0.305)	(0.304)
Father completed primary education	0.604*	0.599*	0.598*	0.650**	0.645**	0.643*
	(0.313)	(0.313)	(0.314)	(0.312)	(0.312)	(0.314)
Father completed secondary education	1.135***	1.130***	1.134***	1.116***	1.111***	1.113***
	(0.313)	(0.314)	(0.314)	(0.313)	(0.313)	(0.313)
Father completed tertiary education	1.562***	1.556***	1.559***	1.519***	1.512***	1.513***
	(0.347)	(0.346)	(0.346)	(0.337)	(0.335)	(0.335)
Observations	32426	32426	32426	31702	31702	31702
R^2	0.394	0.394	0.394	0.396	0.396	0.396
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A13: Impact of being born or in infancy at the start of transition on reported height excluding South-eastern Europe

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-1.479**			-1.452**		
	(0.580)			(0.578)		
Born or one year old during transition		-1.053**			-1.005***	
		(0.390)			(0.355)	
Born, one or two years old during transition			-0.491*			-0.367
			(0.280)			(0.284)
GDP per capita when respondent born				0.356		
				(0.343)		
GDP per capita when respondent born and one year old					0.451	
					(0.337)	
GDP per capita when respondent born, one and two years old						0.601
						(0.377)
Female	-9.383***	-9.380***	-9.385***	-9.385***	-9.382***	-9.387***
	(0.507)	(0.507)	(0.507)	(0.512)	(0.512)	(0.512)
Urban locality of birth	0.155	0.152	0.154	0.071	0.066	0.065
	(0.173)	(0.175)	(0.175)	(0.189)	(0.190)	(0.190)
Mother completed primary education	0.651**	0.649**	0.651**	0.601**	0.595**	0.594**
	(0.272)	(0.272)	(0.272)	(0.267)	(0.265)	(0.264)
Mother completed secondary education	1.437***	1.433***	1.434***	1.368***	1.356***	1.354***
	(0.339)	(0.339)	(0.337)	(0.351)	(0.349)	(0.346)
Mother completed tertiary education	2.207***	2.207***	2.203***	2.063***	2.055***	2.048***
	(0.412)	(0.414)	(0.413)	(0.424)	(0.424)	(0.424)
Father completed primary education	0.418	0.422	0.415	0.401	0.409	0.402
	(0.543)	(0.542)	(0.543)	(0.539)	(0.538)	(0.538)
Father completed secondary education	0.813	0.815	0.816	0.699	0.703	0.703
	(0.496)	(0.496)	(0.495)	(0.475)	(0.476)	(0.475)
Father completed tertiary education	1.288**	1.290**	1.292**	1.179**	1.185**	1.184**
	(0.476)	(0.476)	(0.475)	(0.453)	(0.452)	(0.452)
Observations	30861	30861	30861	30141	30141	30141
R^2	0.378	0.378	0.377	0.378	0.378	0.378
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A14: Impact of being born or in infancy at the start of transition on height-for-age z-scores adding either father's characteristics or mother sector of employment, Russia

	Height-for-age z-scores					
	Adding father's height and education			Adding mother's current employment sector		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.156			-0.259***		
	(0.114)			(0.099)		
Born or one year old during transition		-0.221***			-0.317***	
		(0.083)			(0.072)	
Born or one year or two old during transition			-0.266***			-0.276***
			(0.069)			(0.062)
Observations	8965	8965	8965	8205	8205	8205
R^2	0.215	0.216	0.216	0.162	0.163	0.163
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations.
Notes: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for region fixed effects and country linear time trends. Additionally, gender of the respondent and whether the respondent was born in an urban or rural locality, maternal education (reference is no educaiton) and maternal height are included as controls. Children height is converted into height-for-age z-scores after subtracting the average and dividing by the standard deviation of the height of US children of the same age, using the WHO Global Database based on US population data.

Table A15: Impact of being born or in infancy at the start of transition on height-for-age z-scores, Children (within-family), Russia

	Height-for-age z-scores)					
	All waves with control for Old child			1994-2010 waves with trend		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.198			-0.162		
	(0.158)			(0.168)		
Born or one year old during transition		-0.210*			-0.158	
		(0.117)			(0.121)	
Born or one year or two old during transition			–0.278***			-0.202**
			(0.094)			(0.095)
Observations	7995	7995	7995	5422	5422	5422
R^2	0.625	0.625	0.625	0.638	0.638	0.638
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	No	No	No	No	No	No
country time trend	No	No	No	Yes	Yes	Yes

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations.
Notes: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. Gender of the respondent and whether the respondent was born in an urban or rural locality are included as controls. Specifications include mother fixed effects and robust errors. columns (1) to (3) include all waves and add control for old child when comparing children within a family. Columns (4) to (6) restrict observations to 1994-2010 waves and include linear trend. Children height is converted into height-for-age z-scores after subtracting the average and dividing by the standard deviation of the height of US children of the same age, using the WHO Global Database based on US population data.

Table A16: Impact of being born or in infancy at the start of transition on height-for-age z-scores with either dacha ownership or oblast per capita meat consumption, Russia

	Height-for-age z-scores					
	With Dacha ownership			With Oblast meat consumption		
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.226			0.056		
	(0.172)			(0.096)		
Born or one year old during transition		-0.373***			-0.036	
		(0.124)			(0.080)	
Born or one year or two old during transition			-0.455***			-0.163*
			(0.100)			(0.097)
Dacha owned	0.166**	0.162**	0.156**			
	(0.077)	(0.077)	(0.077)			
Oblast meat consumption per capita when born				0.007***		
				(0.002)		
Oblast meat consumption per capita when born and one year old					0.008***	
					(0.002)	
Oblast meat consumption per capita when born, one and two years old						0.012***
						(0.003)
Observations	8965	8965	8965	8151	8159	8167
R^2	0.215	0.216	0.216	0.112	0.112	0.112
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Russia Longitudinal Monitoring Survey-HSE, EBRD Transition Indicators, and authors' calculations.
Notes: Robust standard errors in parentheses. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for region fixed effects and country linear time trends. Additionally, gender of the respondent and whether the respondent was born in an urban or rural locality, and maternal height are included as controls. Columns (1) to (3) controlfor whether the houshehold owns a dacha and columns (4) to (6) control for consumption of meat and meat products per capita (kg) in the oblast when respondent was born (Data available only for cohorts born in 1990 onward). Children height is converted into height-for-age z-scores after subtracting the average and dividing by the standard deviation of the height of US children of the same age, using the WHO Global Database based on US population data.

Table A17: Impact of being born, one, two or three years old at the start of transition on reported height

	Reported height (cm)	
	(1)	(2)
Born, one, two or three years old during transition	-0.740***	-0.551***
	(0.198)	(0.181)
GDP per capita when respondent was born, one, two and three years old in		0.853***
		(0.253)
Female	-9.411***	-9.429***
	(0.391)	(0.394)
Urban locality of birth	0.297*	0.228
	(0.154)	(0.163)
Mother completed primary education	0.623***	0.579***
	(0.169)	(0.161)
Mother completed secondary education	1.251***	1.125***
	(0.228)	(0.239)
Mother completed tertiary education	2.145***	1.944***
	(0.320)	(0.325)
Father completed primary education	0.492	0.512
	(0.317)	(0.320)
Father completed secondary education	1.004***	0.966***
	(0.312)	(0.309)
Father completed tertiary education	1.518***	1.493***
	(0.315)	(0.307)
Observations	40910	39943
R^2	0.386	0.387
Other controls	Yes	Yes
Country fixed effects	Yes	Yes
Birth year fixed effects	No	No
Time trend	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specification (2) also controls for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A18: Impact of being born or in infancy at the start of transition on reported height, respondents 18+

	Reported height (cm)					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.884*			-0.725		
	(0.465)			(0.468)		
Born or one year old during transition		-0.710**			-0.578*	
		(0.298)			(0.285)	
Born, one or two years old during transition			-0.275			-0.116
			(0.215)			(0.228)
GDP per capita when respondent born				1.045***		
				(0.228)		
GDP per capita when respondent born and one year old					1.102***	
					(0.219)	
GDP per capita when respondent born, one and two years old						1.180***
						(0.238)
Female	-9.371***	-9.369***	-9.371***	-9.392***	-9.390***	-9.391***
	(0.404)	(0.404)	(0.404)	(0.406)	(0.406)	(0.406)
Urban locality of birth	0.292*	0.290*	0.293*	0.225	0.222	0.223
	(0.159)	(0.160)	(0.160)	(0.169)	(0.170)	(0.170)
Mother completed primary education	0.710***	0.711***	0.710***	0.663***	0.662***	0.660***
	(0.181)	(0.181)	(0.181)	(0.174)	(0.172)	(0.171)
Mother completed secondary education	1.343***	1.345***	1.342***	1.207***	1.204***	1.200***
	(0.253)	(0.253)	(0.251)	(0.260)	(0.257)	(0.255)
Mother completed tertiary education	2.242***	2.245***	2.240***	2.023***	2.023***	2.018***
	(0.323)	(0.324)	(0.324)	(0.316)	(0.315)	(0.315)
Father completed primary education	0.467	0.464	0.462	0.477	0.474	0.471
	(0.310)	(0.311)	(0.311)	(0.321)	(0.321)	(0.321)
Father completed secondary education	1.002***	0.997***	1.000***	0.957***	0.953***	0.954***
	(0.302)	(0.303)	(0.302)	(0.310)	(0.310)	(0.309)
Father completed tertiary education	1.518***	1.515***	1.520***	1.493***	1.489***	1.492***
	(0.292)	(0.292)	(0.291)	(0.293)	(0.292)	(0.291)
Observations	42244	42244	42244	41225	41225	41225
R^2	0.381	0.381	0.381	0.383	0.383	0.383
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 18 or above at the time of the interview.

Table A19: Impact of being in utero at the start of transition on reported height

	Reported height (cm)	
	(1)	(2)
In utero during transition	-0.738	-0.536
	(0.498)	(0.483)
GDP per capita when respondent in utero		0.683***
		(0.247)
Female	-9.417***	-9.435***
	(0.391)	(0.395)
Urban locality of birth	0.298*	0.234
	(0.153)	(0.163)
Mother completed primary education	0.630***	0.589***
	(0.171)	(0.165)
Mother completed secondary education	1.265***	1.143***
	(0.232)	(0.245)
Mother completed tertiary education	2.143***	1.940***
	(0.317)	(0.324)
Father completed primary education	0.504	0.534
	(0.318)	(0.320)
Father completed secondary education	1.018***	0.992***
	(0.312)	(0.310)
Father completed tertiary education	1.537***	1.523***
	(0.315)	(0.308)
Observations	40905	39938
R^2	0.385	0.387
Other controls	Yes	Yes
Country fixed effects	Yes	Yes
Birth year fixed effects	No	No
Time trend	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specification (2) also controls for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A20: Impact of being adolescent at the start of transition on reported height

	Reported height (cm)			
	(1)	(2)	(3)	(4)
Adolescent (lenient definition) during transition	0.133		0.214	
	(0.245)		(0.253)	
Adolescent (strict definition) during transition		0.036		0.128
		(0.270)		(0.272)
GDP per capita when respondent was adolescent (lenient definition)			1.182***	
			(0.284)	
GDP per capita when respondent was adolescent (strict definition)				1.156***
				(0.277)
Female	-9.419***	-9.419***	-9.408***	-9.383***
	(0.391)	(0.391)	(0.393)	(0.392)
Urban locality of birth	0.305*	0.306*	0.239	0.238
	(0.154)	(0.154)	(0.166)	(0.166)
Mother completed primary education	0.629***	0.628***	0.553***	0.554***
	(0.171)	(0.170)	(0.159)	(0.159)
Mother completed secondary education	1.267***	1.266***	1.118***	1.120***
	(0.232)	(0.231)	(0.235)	(0.235)
Mother completed tertiary education	2.140***	2.140***	1.929***	1.929***
	(0.318)	(0.318)	(0.320)	(0.321)
Father completed primary education	0.517	0.518	0.489	0.487
	(0.317)	(0.316)	(0.316)	(0.316)
Father completed secondary education	1.029***	1.029***	0.957***	0.955***
	(0.310)	(0.310)	(0.301)	(0.301)
Father completed tertiary education	1.545***	1.546***	1.488***	1.486***
	(0.314)	(0.314)	(0.300)	(0.301)
Observations	40910	40910	39943	39943
R^2	0.385	0.385	0.387	0.387
Other controls	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No
Time trend	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (2) and (4) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A21: Impact of being born or in infancy at the start of transition on Body Mass Index (BMI)

	BMI					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.699***			-0.536***		
	(0.200)			(0.192)		
Born or one year old during transition		-0.571***			-0.387**	
		(0.160)			(0.191)	
Born, one or two years old during transition			-0.518***			-0.284
			(0.171)			(0.179)
GDP per capita when respondent born				0.728***		
				(0.227)		
GDP per capita when respondent born and one year old					0.756***	
					(0.223)	
GDP per capita when respondent born, one and two years old						0.764***
						(0.214)
Female	-0.977***	-0.974***	-0.974***	-0.981***	-0.978***	-0.977***
	(0.099)	(0.099)	(0.099)	(0.101)	(0.101)	(0.101)
Urban locality of birth	-0.232***	-0.236***	-0.235***	-0.195**	-0.199***	-0.198***
	(0.067)	(0.066)	(0.067)	(0.072)	(0.072)	(0.072)
Mother completed primary education	0.207	0.207	0.204	0.208	0.207	0.204
	(0.139)	(0.139)	(0.138)	(0.148)	(0.147)	(0.147)
Mother completed secondary education	-0.194	-0.195	-0.201	-0.215	-0.219	-0.223
	(0.167)	(0.167)	(0.166)	(0.174)	(0.174)	(0.173)
Mother completed tertiary education	-0.386**	-0.385**	-0.388**	-0.357*	-0.356*	-0.358*
	(0.188)	(0.188)	(0.188)	(0.195)	(0.196)	(0.195)
Father completed primary education	0.104	0.096	0.087	0.092	0.084	0.075
	(0.193)	(0.192)	(0.193)	(0.192)	(0.191)	(0.192)
Father completed secondary education	0.114	0.106	0.099	0.115	0.109	0.102
	(0.227)	(0.226)	(0.226)	(0.225)	(0.224)	(0.225)
Father completed tertiary education	-0.155	-0.162	-0.168	-0.122	-0.128	-0.134
	(0.240)	(0.239)	(0.239)	(0.233)	(0.232)	(0.233)
Observations	39322	39322	39322	38412	38412	38412
R^2	0.103	0.103	0.104	0.105	0.106	0.106
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A22: Impact of being born or in infancy at the start of transition on the probability of being underweight

	Probability of being underweight					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	0.013			0.003		
	(0.009)			(0.009)		
Born or one year old during transition		0.014*			0.005	
		(0.008)			(0.007)	
Born, one or two years old during transition			0.012			-0.000
			(0.007)			(0.007)
GDP per capita when respondent born				-0.031***		
				(0.006)		
GDP per capita when respondent born and one year old					-0.033***	
					(0.006)	
GDP per capita when respondent born, one and two years old						-0.034***
						(0.005)
Female	0.023***	0.023***	0.023***	0.023***	0.023***	0.023***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Urban locality of birth	0.002	0.002	0.002	0.001	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Mother completed primary education	-0.001	-0.001	-0.001	-0.002	-0.002	-0.002
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Mother completed secondary education	0.001	0.001	0.001	0.001	0.001	0.001
	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)
Mother completed tertiary education	0.001	0.001	0.001	0.000	0.000	0.000
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Father completed primary education	-0.002	-0.002	-0.001	-0.001	-0.001	-0.001
	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)
Father completed secondary education	-0.001	-0.001	-0.001	0.000	0.000	0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Father completed tertiary education	0.005	0.005	0.005	0.005	0.005	0.005
	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)
Observations	39322	39322	39322	38412	38412	38412
R^2	0.021	0.022	0.022	0.024	0.025	0.025
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A23: Impact of being born or in infancy at the start of transition on the probability of being overweight

	Probability of being overweight					
	(1)	(2)	(3)	(4)	(5)	(6)
Born during transition	-0.078***			-0.060**		
	(0.025)			(0.025)		
Born or one year old during transition		-0.073***			-0.053**	
		(0.019)			(0.023)	
Born, one or two years old during transition			-0.069***			-0.046**
			(0.020)			(0.022)
GDP per capita when respondent born				0.070**		
				(0.028)		
GDP per capita when respondent born and one year old					0.070**	
					(0.028)	
GDP per capita when respondent born, one and two years old						0.069**
						(0.026)
Female	-0.126***	-0.126***	-0.126***	-0.126***	-0.126***	-0.126***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Urban locality of birth	-0.034***	-0.034***	-0.034***	-0.031***	-0.032***	-0.032***
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
Mother completed primary education	0.020	0.020	0.019	0.019	0.019	0.019
	(0.017)	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)
Mother completed secondary education	-0.009	-0.009	-0.010	-0.010	-0.010	-0.011
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Mother completed tertiary education	-0.016	-0.016	-0.016	-0.012	-0.012	-0.013
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Father completed primary education	0.012	0.011	0.010	0.010	0.009	0.008
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Father completed secondary education	0.014	0.013	0.013	0.015	0.014	0.013
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Father completed tertiary education	-0.020	-0.021	-0.022	-0.016	-0.017	-0.018
	(0.029)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Observations	39322	39322	39322	38412	38412	38412
R^2	0.088	0.089	0.090	0.090	0.091	0.091
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specifications (4)-(6) also control for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A24: Impact of being in utero at the start of transition on Body Mass Index (BMI), the probability of being underweight and overweight

	BMI		Probability of being underweight		Probability of being overweight	
	(1)	(2)	(3)	(4)	(5)	(6)
In utero during transition	-0.706***	-0.571**	0.022**	0.016	-0.070***	-0.051*
	(0.219)	(0.235)	(0.009)	(0.010)	(0.025)	(0.026)
GDP per capita when respondent in utero		0.511*		-0.027***		0.056*
		(0.273)		(0.006)		(0.032)
Female	-0.978***	-0.982***	0.023***	0.023***	-0.126***	-0.126***
	(0.099)	(0.102)	(0.002)	(0.002)	(0.012)	(0.012)
Urban locality of birth	-0.236***	-0.193**	0.003	0.001	-0.034***	-0.031***
	(0.068)	(0.072)	(0.002)	(0.002)	(0.009)	(0.010)
Mother completed primary education	0.211	0.213	-0.001	-0.002	0.020	0.019
	(0.138)	(0.146)	(0.004)	(0.004)	(0.017)	(0.018)
Mother completed secondary education	-0.184	-0.201	0.000	0.000	-0.008	-0.008
	(0.167)	(0.173)	(0.004)	(0.005)	(0.019)	(0.019)
Mother completed tertiary education	-0.381*	-0.355*	0.001	-0.000	-0.015	-0.012
	(0.188)	(0.195)	(0.007)	(0.007)	(0.024)	(0.024)
Father completed primary education	0.104	0.098	-0.002	-0.001	0.012	0.011
	(0.194)	(0.194)	(0.004)	(0.005)	(0.022)	(0.022)
Father completed secondary education	0.113	0.123	-0.001	0.000	0.014	0.015
	(0.228)	(0.227)	(0.004)	(0.004)	(0.026)	(0.025)
Father completed tertiary education	-0.149	-0.109	0.005	0.005	-0.019	-0.015
	(0.240)	(0.233)	(0.005)	(0.006)	(0.029)	(0.028)
Observations	39317	38407	39317	38407	39317	38407
R^2	0.103	0.104	0.022	0.024	0.088	0.089
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear	Linear	Linear	Linear	Linear	Linear

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects and country-specific linear time trends. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. Specification (2) also controls for parental sector of employment and log GDP per capita. The sample is composed of respondents aged 21 or above at the time of the interview.

Table A25: Impact of being in one's formative years at the start of transition on life satisfaction and attitudes

	Life satisfaction	Market economy is preferable to alternative	Democracy is preferable to alternative	Optimistic for the future	People can be trusted	The gap between the rich and the poor should be reduced
	(1)	(2)	(3)	(4)	(5)	(6)
Formative years during transition	-0.037**	0.014	0.029**	-0.005	-0.012	-0.030
	(0.018)	(0.010)	(0.013)	(0.023)	(0.008)	(0.020)
Female	0.014	-0.030***	-0.012	-0.005	0.013**	0.002
	(0.017)	(0.007)	(0.008)	(0.015)	(0.006)	(0.018)
Urban locality of birth	-0.037	0.012	-0.002	-0.053*	-0.011	-0.007
	(0.022)	(0.014)	(0.009)	(0.027)	(0.008)	(0.026)
Mother completed primary education	0.072**	0.004	-0.006	-0.079	0.003	0.010
	(0.033)	(0.017)	(0.016)	(0.050)	(0.014)	(0.034)
Mother completed secondary education	0.192***	0.030	0.012	0.033	0.032	-0.042
	(0.044)	(0.021)	(0.021)	(0.061)	(0.023)	(0.039)
Mother completed tertiary education	0.230***	0.069**	0.054**	0.026	0.064**	-0.016
	(0.057)	(0.026)	(0.023)	(0.083)	(0.024)	(0.059)
Father completed primary education	0.009	0.007	0.008	-0.028	0.013	-0.056
	(0.053)	(0.016)	(0.021)	(0.065)	(0.013)	(0.043)
Father completed secondary education	0.101*	0.016	0.047**	-0.027	0.016	-0.007
	(0.050)	(0.019)	(0.023)	(0.064)	(0.019)	(0.038)
Father completed tertiary education	0.272***	0.047*	0.091***	0.079	0.061***	0.031
	(0.061)	(0.025)	(0.023)	(0.078)	(0.020)	(0.050)
Observations	41892	37390	38715	39225	41002	41165
R^2	0.137	0.084	0.094	0.162	0.045	0.065
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Birth year fixed effects	No	No	No	No	No	No
Time trend	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic	Linear & quadratic

Source: Life in Transition Survey III, EBRD Transition Indicators, Gapminder, Correlates of War Data, UCDP/PRIO Armed Conflict Dataset, and authors' calculations.

Notes: Standard errors in parentheses are clustered at the country level. ***, ** and * indicate significance at 1%, 5% and 10% level, respectively. All specifications control for country fixed effects as well as age and age squared. Additionally, gender of the respondent, whether the respondent was born in an urban or rural locality, religion, parental education, and the incidence of war are included as controls. The sample is composed of respondents aged 21 or above at the time of the interview.