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The intergenerational transmission of higher education: Evidence from the 1973 coup in Chile*

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ABSTRACT—We estimate the transmission of higher education across generations using the arrival of the Pinochet dictatorship to Chile in 1973 as natural experiment. Pinochet promoted a large contraction in the number of seats available for new students across all universities. Using census data, we find that parents who reached college age shortly after 1973 experienced a sharp decline in college enrollment. Decades after democratization, we observe that their children are also less likely to enroll in higher education. The results imply large and persistent downstream effects of educational policies over more than half a century.

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1 Introduction

Intergenerational mobility is central to understanding the economic development of countries. In societies with low mobility, the role of family background is perceived as more important than the role of policy in shaping people's lives (Ferrie, 2005). The similarity of occupations across fathers and sons in 19*th* century Britain epitomizes this case (Long and Ferrie, 2007). In contrast, high mobility points towards a more malleable socioeconomic path, as observers noticed in 19*th* century United States (de Tocqueville, 1862). These two possibilities have invigorated a large literature studying intergenerational mobility within a given country over time (Chen et al., 2015), in comparative perspective (Long and Ferrie, 2013; Pérez, 2019), and in relation to economic policy (Parman, 2011). Whether intergenerational mobility can be influenced by policies is key to understand the extent to which countries have control of their development trajectories.

A key input in the large and growing literature on intergenerational mobility is education. Recent research finds a positive relation between parent's education and children's education (Black and Devereux, 2011). However, our knowledge remains limited as most contemporary and economic history studies focus on primary and secondary education and on developed countries (Black et al., 2005; Oreopoulos et al., 2006; Parman, 2011). The effects of parent's college education on children's college attendance are poorly understood historically, and we know very little about this relationship in developing countries. Moreover, highly educated parents tend to have children with better health who perform better at school (Currie and Moretti, 2003; Maurin and McNally, 2008), but the mechanisms behind the intergenerational transmission can be different when focusing on higher education in developing countries.

This paper examines intergenerational college attendance in Chile, leveraging a large reduction in college seats that occurred with the 1973 military coup. Shortly after the coup, dictator Augusto Pinochet took control of higher education and promoted a large reduction in seats available for incoming students.[1] As a result of the deferred acceptance algorithm used to fill seats since 1967 and throughout our study period, the students barred from higher education disproportionately came from less affluent families. Previous scholars have documented this contraction of higher

[1]This capture of higher education by an authoritarian regime is not unique (Connelly and Grüttner, 2005). Other examples include the Soviet Union in 1922, Nazi Germany in 1933, and China during the Cultural Revolution (Waldinger, 2010, 2011; Roland and Yang, 2017; Li and Meng, 2022; Alesina et al., 2022). The shutdown of the Central European University by Hungarian strongman Viktor Orban in 2018 is a more recent example.

education (Echeverría, 1980, 1982; Brunner, 1982; PIIE, 1984; Levy, 1986), and how it led to worse labor market outcomes for affected individuals (Bautista et al., 2022). In this paper, we estimate the intergenerational effects of this policy.

To study intergenerational college attendance in Chile, we use census data and an econometric strategy that is similar to a regression kink design (Card et al., 2015). We focus on individuals who reached college age between 1964 and 1981. Those reaching this age before 1973 enjoyed an expansion of college seats, and those reaching college age in the 1973-1981 period were exposed to ever fewer seats. We then build a sample with more than 230,000 parent-children observations from the 2017 census and exploit the exposure of parental cohorts to different college opportunities in the 1964-1981 period. The econometric estimation leverages the sharp decrease in college seats (and enrollment) that we observe in the 1973-1981 period.[2]

We find that individuals with parents directly exposed to fewer college opportunities are less likely to have enrolled in college by 2017, thirty years after Chile's return to democracy. We begin by documenting the direct consequences for parents. Then, we present evidence of downstream effects on their children. In particular, we find significantly lower college enrollment in the form of the same linear trend breaks among children with parents exogenously exposed to fewer college opportunities in their youth. We estimate that when parents were exposed to 30 percent fewer college openings, their children have three percentage points lower probability of enrolling in college from a base of 58 percent. We support these findings by showing null results among individuals with parents who drop out of high school and were thus ineligible for college enrollment.

How can a contraction of higher education have intergenerational consequences? Fewer college opportunities can have direct economic impacts on those who did not enroll in college. Indeed, Bautista et al. (2022) show that affected individuals experienced lower income, higher unemployment, and lower social mobility, all of which likely contributed to fewer educational opportunities for their children. This is particularly important in Chile, a country which developed heavily market-oriented educational systems that strongly depend on the income-generating capacity of households (Figlio and Loeb, 2011). College experiences also affect family decisions such as who you marry and how many children you have (Lawrence and Breen, 2016; Goldin, 2021; Kirkebøen et al., 2022). We provide evidence supporting both family-related mechanisms and show that as-

[2]Campante and Yanagizawa-Drott (2016) use a similar strategy in which they exploit how close to age 21 fathers were at the time of war to document the intergenerational transmission of wartime service.

sortative matching is likely the most important. These results suggest that the contraction of higher education pushed by the dictatorship affected marriage patterns, increased the number of children born, and probably changed parental investment on children (Becker and Lewis, 1973). In contrast, using data from the World Values Survey we fail to find evidence of changes in parental beliefs about the value of education, which could have affected their children's educational attainment.[3]

This paper contributes to three literatures. The first is the literature on intergenerational mobility in education. A large contemporary literature focuses predominantly on primary and secondary education and on developed countries.[4] In economic history, the literature on intergenerational mobility is large (e.g. Ferrie 2005; Long and Ferrie 2007; Parman 2011; Long and Ferrie 2013; Pérez 2019; Ager et al. 2021; Abramitzky et al. 2021), but significantly smaller for intergenerational education (Chen et al., 2015; Feigenbaum, 2018). In that sense, our focus on higher education in a developing country is novel. Previous work on intergenerational *higher* education in developed countries have shown that children benefit from parental higher education by having improved birth outcomes, school performance, and more years of education (Currie and Moretti, 2003; Maurin and McNally, 2008; Suhonen and Karhunen, 2019). Our contribution is threefold. First, we go beyond years of education and study the transmission of higher education decisions. Second, we study a contraction in higher education instead of an expansion of college openings. And third, we study parent-child transmission of college in a developing country in Latin America.

The second is the economic history literature on education in Latin America. Previous scholars have studied the expansion of education in the 19*th* and 20*th* centuries, its connection to growth and inequality, and the political economy of public spending (Sokoloff and Engerman, 2000; Frankema, 2009). Related work shows that differences in contemporary educational attainment can be explained by historical experiences of native cultures and religious missions (Gallego, 2010; Waldinger, 2017; Valencia Caicedo, 2019). Intergenerationally, Latin American countries exhibit relatively high parent-child schooling correlations that have been decreasing in recent decades (Hertz et al., 2007; Neidhöfer et al., 2018), and Chile is no exception (Celhay et al., 2010; Núñez and Miranda, 2011). Little work focuses on intergenerational *higher* education. An exception is Barrios-Fernández et al. (2022), which shows that elite college education in Chile is transmitted from parents to children. In contrast to that work, we study the college enrollment

[3]The context in which a person grows can shape beliefs across generations (Guiso et al., 2006; Alesina and Fuchs-Schündeln, 2007; Callen et al., 2014; Roland and Yang, 2017; Doepke and Zilibotti, 2017; Chen and Yang, 2019).

[4]See, for example, Behrman and Rosenzweig (2002); Black et al. (2005); Oreopoulos et al. (2006); Akresh et al. (2023), among others. Black and Devereux (2011); Holmlund et al. (2011) provide early reviews of the literature.

of parents and children in all universities, focus on a contraction of higher education driven by a dictatorial policy, provide a comprehensive analysis of mechanisms—including parental beliefs and preferences—and focus on low-income families who are most affected by the policy.

The third is the literature documenting the legacies of dictatorships (O'Donnell and Schmitter, 1986; Linz and Stepan, 1996; Simpser et al., 2018). Previous research has shown how authoritarian policies change the distribution of political and economic power after transition (Martínez Bravo et al., 2018). In the case of Chile, several papers have studied the long-term legacies of the Pinochet regime on firms, local governments, housing, and electoral outcomes (Aldunate et al., 2020; González et al., 2020, 2021; Carrera and Rojas-Ampuero, 2023; Bautista et al., 2023). We show that social effects within households can also explain the persistent effects of dictatorial policies. As such, our work evaluates the long-run effects of policies that have been extensively documented by previous scholars (Constable and Valenzuela, 1991; Spooner, 1994; Huneeus, 2006; Cavallo et al., 2011; Kornbluh, 2013; Ffrench-Davis, 2018).

2 Historical background

Chile hosted eight universities in the 1960s, all highly reliant on state funding. College enrollment grew from 25,000 (4.6% gross enrollment rate) students in 1960 to 146,000 (16.8%) by 1973 (panel (a) of Figure 1). This was a period of mass expansion of higher education throughout Latin America which aimed at improving equality of opportunity for the growing urban middle class (Brunner, 1984). Since 1967, all universities have used centralized admissions based on standardized testing. Under this system, applicants rank programs—-i.e. college-degree pairs—while universities rank applicants based on a weighted average of their high school grades and their admission exam's scores. Universities choose the weight awarded to each component and the number of openings per program. A deferred-acceptance algorithm then determines admissions.

Amid growing political polarization and worsening economic conditions, socialist president Salvador Allende, democratically elected in 1970, was overthrown by a military coup on September 11, 1973. A junta presided by General Augusto Pinochet assumed all executive and legislative powers and would go on to govern the country until 1990. Two weeks after the coup, the junta appointed members of the military as rectors of all universities claiming that "universities have become centers for Marxist indoctrination" and that "the extremist agitation and hate preaching that

almost drove Chile down a tragic abyss originated in these universities" (Brunner, 2008, p.137). Several academic units and most student groups were shut down, political activity was forbidden and teaching materials were censored, as "the regime insisted on depoliticizing student movements and discouraging student self-government" (CIA, 1985).

The dictatorship's initial focus on repression and political control soon begun to incorporate a technocratic concern about the efficiency of public spending (Echeverría, 1980; PIIE, 1984; Velasco, 1994). This was the result of the growing influence of a group of market-friendly economists known as *Chicago Boys*, who argued that public subsidies failed to provide incentives for thrift or effort (CEP, 1992; Valdés, 1995).[5] Under their guidance, the Pinochet dictatorship embraced a more traditional concept of universities as centers of academic excellence and elite training. As early as 1974, the Ministry of Finance begun pushing for a reduction in subsidies to universities. The fact that these measures of fiscal austerity further helped to defuse the political threat posed by universities facilitated their implementation: "the regime's penchant for political control meshed conveniently with its penchant for economic conservatism" (Levy, 1986, p.105).

Panel (b) in Figure 1 shows that the share of the education budget devoted to higher education steadily declined after 1974 and returned to its pre-Allende level of 30% by 1980. This was a large financial blow to universities because subsidies were their main source of funding. A push for higher tuition met with strong resistance and was abandoned, thus forcing universities to downscale. Panel (c) shows that applicants always exceeded openings, meaning that supply was always the binding constraint on admissions. Openings rose in tandem with spending under Salvador Allende (1970-73), but fell and stagnated after the coup: there were 47,000 openings in 1973 but only 33,000 in 1980 (panel (c) in Figure 1). As a result of the contraction in the number of seats available, college enrollment sharply declined from 16.9% in 1973 to 10.5% in 1981 (panel (a) of Figure 1). Marginal applicants with lower test scores, who would have barely gained admission before, were the ones who mechanically failed to gain admission as the number of openings fell.

A market-oriented reform in 1981 turned satellite campuses into independent institutions, further reduced subsidies, and opened the system to competition by new universities which were not eligible for government funding. The higher education system has been institutionally the same since the 1981 reform. Enrollment rates increased after 1981 to become one of the largest in the

[5]The regime also connected their view on public funding with undesirable activism: "the mediocrity in higher education. . . [is] a source of frustration for students, who become a breeding ground for political agitation" (Brunner, 2008, p.147).

region, a trend mostly driven by private institutions. Perhaps the most important policy between 1981 and 2017 was the introduction of state-guaranteed loans in the early 2000s, which furthered increased college enrollment (Solis, 2017; Bucarey et al., 2020). In October 1988, a plebiscite was held to determine whether Pinochet would remain in power. The "NO" option won with 55% of votes and triggered the country's democratic transition, with the first presidential election held in 1989 and Pinochet stepping down as president in March 1990.

3 Empirical framework

3.1 Census and sample selection

To connect college decisions across generations, we use individual data from the 2017 census. We observe 17.5 million people in 5.6 million households. The chilean census is conducted by the National Statistics Bureau (INE) and records the following information: age, gender, ethnicity, country of origin, place of birth, and in the case of women older than 15 years old, number of children born alive. Crucially for our analysis, the census established the relationship of each individual to the household head (spouse, child, sibling, parent, other). It also asks questions about housing infrastructure (i.e. roof, floor, sewage, water supply), educational attainment (years and completion), occupation following international codes, and labor market status. Unfortunately, the census does not record information about income or wages.

We construct our sample in four steps. Table 1 shows sample characteristics after each step. First, we restrict attention to the 3.8 million people with ages 25-40 to ensure that college enrollment decisions have been made. Second, we identify their parents using combinations of within-household relationships, which means that we only observe parents who live with their children. Importantly, results are similar if we focus on children with ages 25-30 when cohabitation is more prevalent. The 1 million people living with their parents are highly comparable to the broader sample along many dimensions. They are only slightly younger, more likely to have enrolled in college, and much less likely to be household heads, which is to be expected given our linking method. Third, given our interest in parents exposed to the contraction, we focus on individuals whose parents finished secondary and were eligible to attend college, decreasing the sample to 438,237 observations. And fourth, we only study decisions made by individuals whose parents reached college age between 1964 and 1981. We set the age of first year in college as 21, which

corresponds to the average age of incoming students in 1970 (Figure A.1), but results are similar using other ages.

The final sample is composed by 234,334 individuals whose parents completed high school and reached college age around the 1973 coup. In 92% of cases, one of the parents is the household head, in 6% the child, and in 2% a parent-in-law. Throughout the empirical analysis, we focus on "Children" and refer to the parent who they live with as "Parents." All of the people we study were 25-40 years old in 2017, which means that the oldest ones reached age 21 in 1998, eight years after the end of the Pinochet dictatorship.

A final remark about the sample of children is important to interpret our findings. Although the children in our data are not a representative sample, they still represent a large part of the population. The differences in observables across the children in and out of our data imply that we are able to estimate a local average treatment effect, i.e. an average treatment effect on the subpopulation of children who live with their parents. The differences in observable characteristics do not provide clear indication of the direction of any such discrepancy. Children in our sample have higher secondary completion and college enrollment, which suggests better access to educational resources and plausibly dampens the intergenerational effect. At the same time, these children also have higher unemployment rates, which may indicate lower innate ability and a higher dependence on parents' college enrollment. To the extent that other children are less affected by the contraction of higher education in the 1970s, the local average treatment effect will then be higher than the average treatment effect.

3.2 Empirical strategy

We estimate changes in college enrollment among children of parents who reached college age right before or after the 1973 military coup. We leverage variation which is similar to a regression kink design (Card et al., 2015). More precisely, we estimate trend breaks in children's college enrollment, conditional on their parents completing secondary education, by estimating:

$$Y_{ic} = \beta_1 T_c + \beta_2 [T_c \times E_c] + \delta x_i + u_{ic} \quad (1)$$

where Y_{ic} is an outcome of children i whose parent belonged to cohort c. The cohort variable $T_c \in [-9, 9]$ indicates the year in which parents turned 21 years old relative to 1973. The indicator E_c

takes the value of one for all parents in cohorts reaching 21 years old after 1973 and zero otherwise. The main specification captures a wide range of unobservable differences across children using the following fixed effects x_i: county-of-birth by gender, all combinations of parent-child genders, and child age. Counties are the smallest administrative unit in the country and the inclusion of x_i allows us to compare children who are of the same age, gender, and were born in the same county but whose parents were barely exposed or non-exposed to the contraction. Finally, u_{ic} is an error term clustered at the level of children's county-of-birth.[6]

We complement the analysis of equation (1) with a more flexible specification that provides non-parametric estimates for each parental cohort::

$$Y_{ic} = \sum_{k=1965}^{1981} \gamma_k D_k + \delta x_i + u_{ic} \tag{2}$$

where D_k is an indicator that takes the value of one when the parent reached college age in year k and zero otherwise. The omitted category is $k = 1964$ and, therefore, the parameters γ_k measure the impact of parental cohort relative to 1964. All other variables are defined as previously.

The parameters β_1 and $(\gamma_{1965}, \ldots, \gamma_{1972})$ measure the change in Y_{ic} for children whose parents reached college age before the coup (1964-1972). Given the expansion in college opportunities before 1973 we expect $\widehat{\beta_1} > 0$ and $\widehat{\gamma_k} > 0$ with $k \in [1965, 1972]$. In contrast, β_2 and γ_k with $k \in [1973, 1981]$ measure the change in this trend for parents turning 21 years old after the coup. The contraction of higher education leads us to expect that $\widehat{\beta_2} < 0$ and $\widehat{\gamma_k} < \widehat{\gamma_{1972}}$ for $k \in [1973, 1981]$. When we interpret $\widehat{\beta_2}$, we compare it to $\widehat{\beta_1}$ to measure the magnitude of the trend disruption.

As we focus on contiguous cohorts of high school graduates, we interpret β_2 and γ_k with $k \in [1973, 1981]$ as the reduced form impact of reduced access to college for parents on the educational attainment of their children. To interpret the trend break as arising primarily from the college contraction we need two assumptions. First, that the trend in the period 1964-1972 among the outcomes we examine would have continued in the period 1973-1981 in the absence of a coup. We verify the plausibility of this assumption by checking the robustness of results to different time windows around 1973. Second, we need that any changes to factors other than access to college after 1973 (e.g. macroeconomic conditions) affect contiguous cohorts of high school graduated

[6]The precision of our estimates is similar if we account for correlation of the error term within parental cohorts using the Wild cluster bootstrap (Cameron et al., 2008). For simplicity, we only report clustered standard errors.

parents similarly. For example, we need to assume that high school graduates who were 23 and 21 years old experienced *non-college* changes similarly in 1974. The following section provides a battery of empirical exercises that support this interpretation.

4 Intergenerational effects of the contraction

4.1 Direct effects on parents

Panel (a) in Figure 2 presents cohort-level college enrollment averages among individuals (parents) who completed secondary and reached college age close to the 1973 coup. In line with the evidence in Bautista et al. (2022) for the broader population, panel (a) shows that cohorts reaching college age before the coup experienced a growing trend in college enrollment, which sharply declines for those cohorts reaching college after the coup. The solid lines in both panels capture the trends before and after 1973, while the dashed line represents our estimate of the counterfactual trend for the post-coup period. The college enrollment rate increased by 4 percentage points (pp) between the 1964 and 1972 cohorts and decreased by 12 pp between the 1973 and 1981 one. These trends are *not* driven by a decrease in education spending as a whole nor by a reduction in high school graduation, i.e. the contraction is specific to higher education (Bautista et al., 2022).

To calculate the magnitude of the break among parents, panel A in Table 2 presents estimates of equation (1) using an indicator for whether the parent enrolled in college as dependent variable. Column 1 includes county-by-gender fixed effects and shows that college enrollment increased by 0.6 pp for each new cohort reaching college age before the coup. In contrast, this trend *decreased* by 2.1 pp per cohort for those reaching the same age in the period 1973-1981. The difference between the two coefficients indicates a net enrollment trend of -1.5 pp per cohort after the coup. The remaining columns show the robustness of these coefficients to the inclusion of covariates related to gender, household composition, and their child.[7] Column 3 is our preferred specification as the latter two columns include controls which could be affected by the contraction.

Panel (c) in Figure 2 shows point estimates and 95% confidence intervals for γ_k in equation (2), using parental college enrollment as the dependent variable. We again estimate an upward

[7]Tables A.1 and A.2 show similar results using college completion and college years as dependent variables. We focus on college enrollment as our main outcome as this is the margin that is more directly affected by the supply-side changes in access to higher education that we study.

trend in college enrollment before the coup and a large contraction after 1973. The linear shape revealed in panels (a) and (c) is crucial for the interpretation of our results because it mimics the downward trend in higher education spending and enrollment at the yearly level in the 1973-1981 period, as shown in panel (d) of Figure 1. In contrast, other important macroeconomic variables such as GDP per capita evolved non-linearly in the same period, with marked differences between the 1973-1976 and 1977-1981 periods. Therefore, the linear decay in parental college enrollment lends support to the interpretation of the results for children as arising from the contraction of higher education implemented by the Pinochet regime.

Given that college admissions were determined by a standardized test and a deferred acceptance algorithm, the individuals affected by the policy are *not* necessarily representative of the cohort. We refer to those who failed to gain admissions in the cohort as compliers, i.e. individuals with a level of ability that puts them at the margin of being accepted in higher education. Although intergenerational effects on children are likely to differ across parents of different ability, the context only allows us to estimate the impact on children with parents at the margin. Nevertheless, given the widespread use of similar admissions criteria, the compliers are particularly interesting due to their connection to potential policy changes. Having documented the direct impact on the complier parents, what were the consequences of this policy for their children?

4.2 Downstream effects on children

Panel B in Table 2 presents estimates of equation (1) using the college enrollment of the child as dependent variable. Column 1 shows increasing college enrollment of 0.4 pp among children with parents reaching college age before the coup. This trend reverses among children with parents in the exposed cohorts and becomes -0.1 pp per year, suggesting a connection between parental exposure to the contraction and the college enrollment of the children. As in the case of parental college enrollment, panel (d) in Figure 2 presents non-parametric estimates that also support the linear parametric assumption in equation (1).

The inclusion of gender and child age fixed effects in panel B of Table 2 (columns 2-3) does not affect our estimates.[8] Controlling for age is important because children with parents in the exposed

[8]Table A.3 provides disaggregate estimates for all combinations of parent-child gender. The intergenerational effect is larger for pairs of mothers and sons. This result is consistent with evidence on the importance of mother's schooling (Amin et al., 2015; Akresh et al., 2023).

cohorts are likely to be younger, which could downward-bias the estimate of the intergenerational effect if younger people benefit from a positive secular trend in college enrollment after democratization.[9] After controlling for child age the pre-coup trend becomes negligible and insignificant, while the per-cohort decline after the coup increases from -0.5 pp to -0.7 pp. Column 4 adds indicators for different relations to the household head and results remain the same. Column 5 controls for whether the child completed secondary education. As expected, this control absorbs some of the variation in college enrollment, but its inclusion only leads to a small reduction in the trend break.[10] This suggests that while having a parent who did not enroll in college also affects educational attainment at lower levels (high school dropout), most of the effect on the college enrollment of the child materializes at the critical transition from secondary to higher education.

The lower college enrollment among parents who reached college age after 1973 and their children is mostly explained by geographic areas (regions) more exposed to the contraction of higher education. Table A.4 shows that the estimates are significantly larger in regions where higher education had been expanding more rapidly in the previous decade (1960-1970). This is expected since these are the regions where marginal college students were located.

4.3 Robustness checks

Are the results robust to our modelling and econometric decisions? We begin by assessing the extrapolated linear trend from the pre-coup cohorts, which might be a poor approximation of the counterfactual for the post-coup cohorts. Visual inspection of Figure 1 suggests that our linear modelling provides a parsimonious representation of the variation in college enrollment across cohorts. Moreover, college enrollment for parents and children is far below the upper bound of 100%. Importantly, Figure A.2 provides synthetic control evidence based on harmonized census data from other countries that allows for a more flexible non-parametric counterfactual for the college enrollment of the parents. The results suggests that our linear approximation for the counterfactual trend among the affected cohorts of parents is a reasonable modelling decision.

Are the results sensitive to changes in the composition of the sample or the construction of

[9]Note that the demand for college likely increased after democratization. To the extent that this shift in demand materializes slowly over time, the age fixed effects in our preferred specification will capture some of this effect. A failure to capture the higher demand would lead to lower (higher) estimated intergenerational effects if the demand for college increased more (less) among children with parents in the affected cohorts.

[10]Table A.7 shows a smaller trend break in completion of each year of high school (but not primary school), suggesting that the contraction affected high school dropout decisions of the children.

the main variables? The reader might worry that some people in our data were born under the dictatorship. Table A.5 shows that the intergenerational impacts are similar if we focus on other cohorts of children, including those born after Chile's return to democracy in 1990. The results are also similar if we expand the age of included individuals to 20-40 (column 1) or 25-45 (column 4) years old. Relatedly, one might worry that 21 years old might poorly characterizes the age of college entry in the 1970s and thus the definition of cohorts exposed to the contraction. Table A.6 shows that the results are similar if we consider 19 years old as the age of college entry.

4.4 Interpretation of results and alternative explanations

Cohorts reaching college age after 1973 may have been affected in ways other than through reduced access to higher education. Ultimately, political regime change is a bundled treatment and it is not possible to fully rule out other channels. However, we support the importance of higher education with three pieces of evidence. First, as mentioned above, the cross-cohort pattern in parental college enrollment mimics very well the yearly pattern in college spending and enrollment, while potential confounders such as GDP growth exhibit a non-monotonic trend (Figure 1).

Second, other changes after 1973 are arguably less of a concern when we use a tighter window of cohorts because they are more likely to have been similarly affected by these other changes. Reassuringly, Figure 3 shows that the results are hardly affected if we consider fewer (or more) parental cohorts. The three estimates to the left of the baseline specification use fewer parental cohorts and the three estimates to the right use more cohorts. The coefficient of interest is always negative, statistically significant at the 5% level, and of similar magnitude across specifications.

Third, if results are explained by parental exposure to fewer college opportunities, and not by other changes brought by the dictatorship, then we should *not* observe the previous patterns among children of high school dropouts. Even in the absence of the authoritarian contraction, high school dropouts did not have the opportunity to enroll in college because high school graduation was a prerequisite. Table 3 applies the same econometric strategy to the sample of children of high school dropouts. In particular, we now look at children of parents who reached college age in the same years but who missed one or two years of secondary education to graduate from high school. Columns 1 and 3 shows the absence of a trend break in college enrollment among children in this group. Moreover, columns 2 and 4 stack these samples to the original sample of the 233,136 children of high school graduates. The trend break is only statistically and economically significant

among the sample of children of high school graduates.

5 Mechanisms of intergenerational persistence

We study two sets of mechanisms linking parents and children college decisions. First, fewer college opportunities can have downstream effects through parental college enrollment. Going to college has significant economic (e.g. wage, employment) and social (e.g. marriage, fertility) consequences which affect the following generation. Second, turning college age during turbulent times can shape your beliefs about the world (e.g. returns to effort) permanently and shape those of your children.

5.1 College enrollment and income effects

Fewer college opportunities can have large economic impacts. College offers the possibility to transit from blue- to white-collar jobs, attain stability in the labor market, and earn a higher income. Studying the same historical episode in Chile, Bautista et al. (2022) show that individuals exposed to the contraction of higher education after 1973 experienced the negative consequences of not going to college. The authors exploit repeated surveys to compare people who reached college age before and after 1973 but are of the same age at the time of the survey. The results indicate that college-aged individuals exposed to 30% fewer college openings are associated with a 2 pp higher probability of having a low-skill blue-collar occupation (e.g. street vendor), are 2 pp less likely to be part of the labor force, 1 pp more likely to be unemployed, and have 4% lower income.[11]

Negative economic consequences from fewer college opportunities are likely to be important anywhere, but we argue that they are particularly key in the case of Chile. In 1981, a large reform package incentivized the steady development of one of the most market-oriented educational systems in the world (Figlio and Loeb, 2011; Cuesta et al., 2020). As a consequence, the market for primary, secondary, and tertiary education has been led by relatively higher-quality private institutions that charge monthly fees and families aspire to get into. In this context, the income-generating capacity of households is particularly important for the following generation to have access to a high-quality primary and secondary education. Crucially, enrollment in higher education depends

[11] These estimates constitute Intention-to-Treat estimates. As such, some individuals in the exposed cohorts likely suffered negative economic consequences even if they would not have attended college in the absence of the coup.

heavily on school quality, both directly through performance relative to peers (i.e. high school dropout, rankings) and indirectly through performance in standardized tests.

5.2 Assortative matching and fertility

College experiences also affect a wide range of family-related decisions. Most prominently, higher education has been shown to change marriage and fertility decisions (Goldin, 2021; Kirkebøen et al., 2022). The college educated are more likely to get married to other college educated, a phenomenon known as assortative matching. Kaufmann et al. (2021) finds this type of evidence for the case of Chile. These findings are important because any impact of the contraction in parental college enrollment is likely to be amplified by the college enrollment of the spouse. For example, if the college education of one parent allows the family to invest more in their children, then the college education of two parents can have an even larger impact. Similarly, research has shown that the college-educated have fewer children (Goldin, 2021). This change in fertility implies that a child will receive more resources if their parents have a college education, even holding household income constant (Becker and Lewis, 1973).

To test for the role of assortative matching and fertility, we use the same econometric strategy but focus on relevant outcomes for the parents. Panel A in Table 4 presents results. Column 1 shows that parents in exposed cohorts exhibit a downward trend break in the probability of having a spouse. Column 2 reveals a large negative trend break in the probability that one's spouse attended college.[12] The latter estimate is significantly larger, both in absolute values (0.8 versus 0.3 pp per year) and relative to the baselines (65 and 20%). These results are consistent with assortative matching and add to previous studies emphasizing this mechanism (Suhonen and Karhunen, 2019). Columns 3-5 study fertility outcomes, which are only reported for women. Column 3 shows a large negative trend in fertility among pre-coup cohorts which weakens significantly after the coup. Six years of exposure to the contraction translate into 0.1 fewer children, suggesting a negative association between women's college enrollment and fertility as in previous literature (Goldin et al., 2006). Column 4 fails to find post-coup deviations in the number of children alive, but mother's age at time of first birth is lower among post-coup cohorts, although the magnitude of the change is economically small. Overall, these results suggest that the higher education policy

[12]Note that we lose 4% of the sample in column 1 because we cannot identify spouses of those who are not household heads. Column 2 further restricts econometric attention to the sub-sample of parents with a spouse, i.e. 65% of the sample in column 1.

promoted by Pinochet affected marriage patterns and increased the number of children born. As a consequence, this policy is likely to have changed parental investment in children (Becker and Lewis, 1973).

5.3 Parental beliefs

The sharp contraction of higher education could have also changed the beliefs of young people, regardless of their enrollment decisions. These beliefs can persist and be transmitted to the following generation after becoming a parent (Wilhelm et al., 2008; Roland and Yang, 2017). For example, when compared to older cohorts, individuals who turned college age after a turbulent political and cultural environment (such as after the 1973 coup), could believe that college education is less important than joining the labor market. Similarly, having experienced the military takeover of universities after 1973, future parents could have developed lower levels of trust in higher education institutions. Decades later, their children could have skipped college as a consequence of inherited parental beliefs. If this cultural mechanism can explain the linear decay in college enrollment among the following generation, we should observe a similar trend break in parental beliefs among cohorts reaching college age after 1973 when compared to slightly older parents.

To test for a trend break in parental beliefs, we use the same econometric strategy but now applied to household survey data from the World Values Survey (Inglehart et al., 2022). A total of 6,700 individuals have responded this survey between 1989 and 2022 in Chile, with a little more than 1,000 people in each of six waves. These data has been used by previous researchers to measure differences in beliefs and trust, among others (e.g. Guiso et al. 2003, 2009). Operationally, we again focus on the sub-sample of parents who completed high school education between 1964 and 1981. These restrictions lead to a final estimating sample of 832 individuals when we study survey questions repeated across all waves, but fewer observations when using other questions. The smaller sample prevents us from fully saturating the econometric model with fixed effects, so we interpret these results as relatively more suggestive empirical evidence.

Panel B of Table 4 presents results. Column 1 replicates the direct impact of the contraction on parents: cohorts reaching college age after the coup exhibit a linear decay in college enrollment between 1973 and 1981. Importantly, the 95 percent confidence interval contains the estimates in Table 2, thus the magnitude is similar to the census analysis. Column 2 shows a small growing concern about child education—1 pp every two years after 1973 from a base of 63%—but these

estimates are not different from zero. Column 3 shows that parents who reached college age after 1973 have the same level of trust in higher education institutions than pre-coup cohorts and we are able to statistically reject a negative impact of 5 pp from a base of 63%. The last two columns show little changes in parental beliefs about the importance of children's hard work (column 4) and the returns to hard work in general (column 5). We can reject changes larger than 2-3 pp in these beliefs each year after the coup from baselines of 25% and 59% respectively. Figure A.3 presents these estimates graphically. Overall, we find little evidence of a trend break in parental beliefs.

6 Conclusion

The contraction in college opportunities promoted by the Pinochet dictatorship in Chile suggests that enrollment in higher education has intergenerational effects. Children with parents exposed to restricted college access are less likely to enroll in college themselves. The impact of this contraction is large and persists even after critical junctures such as the country's democratization. Our estimates suggest that the returns to college expansions might be significantly larger than previously thought. Similarly, even temporary restrictions in access to higher education can be more costly than current estimates suggest. Finally, inspired by previous literature, we explored and provided tentative evidence of detrimental economic consequences, assortative matching, and fertility as potential mechanisms, with limited evidence for the role of parental beliefs.

The effect of policies within families over a fifty year period also speaks to the relative role of nature (e.g. genetics) versus nurture (e.g. investments) in driving the socioeconomic paths of individuals (Holmlund et al., 2011). Some have suggested that our fate could be strongly tied to the status of our parents and even grandparents (Clark, 2014). Under this view, the potential socioeconomic impact of policies is inevitable constrained (although not determined) by historical circumstances in individuals' family lineage. We have documented that policies implemented fifty years ago can have large consequences on the socioeconomic paths of individuals, affect life-changing decisions (college, marriage, work), and then affect the fate of their children. As such, our evidence lessens the modern importance of nature as driver of economic outcomes.

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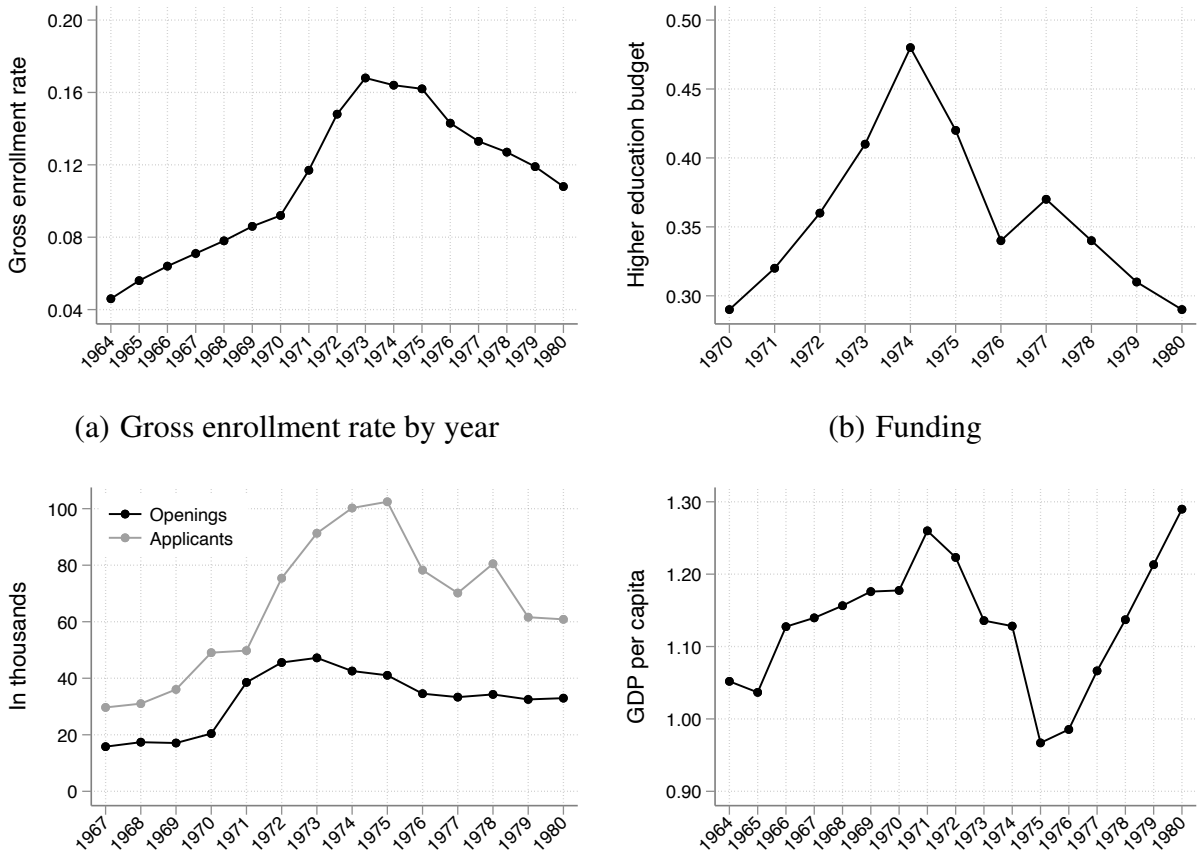
Figure 1: Higher education and economic growth



(a) Gross enrollment rate by year

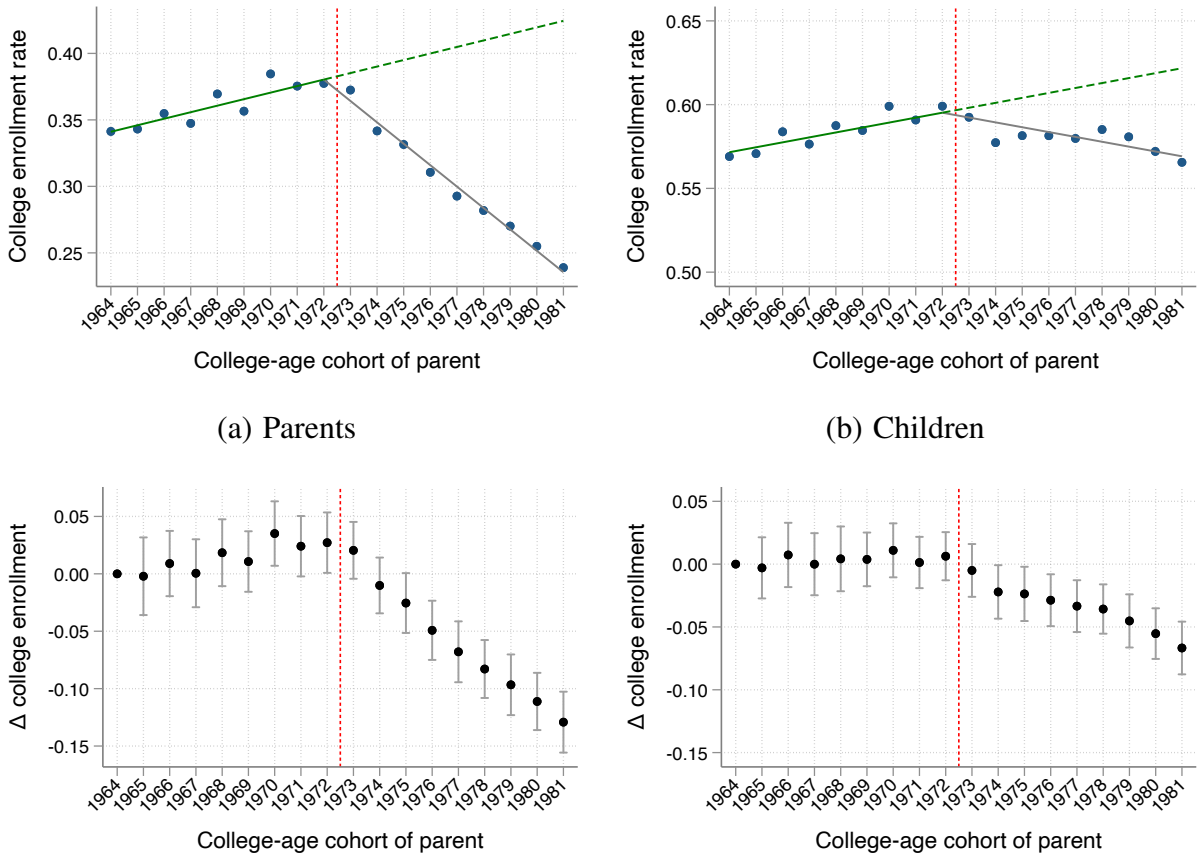
(b) Funding

(c) Applicants and openings

(d) GDP per capita

Notes: Panel (a) shows the gross enrollment rate in higher education as a share of the 20-24 year-old population. Panel (b) shows the share of the national government's education budget devoted to higher education. Panel (c) shows the yearly number of college applicants and openings since the start of the centralized college admissions in 1967. Panel (d) presents Chile's GDP per capita in millions of 1996 Chilean pesos. Sources: PIIE (1984); Universidad de Chile (2011); Díaz et al. (2016).

Figure 2: Changes in college enrollment across generations

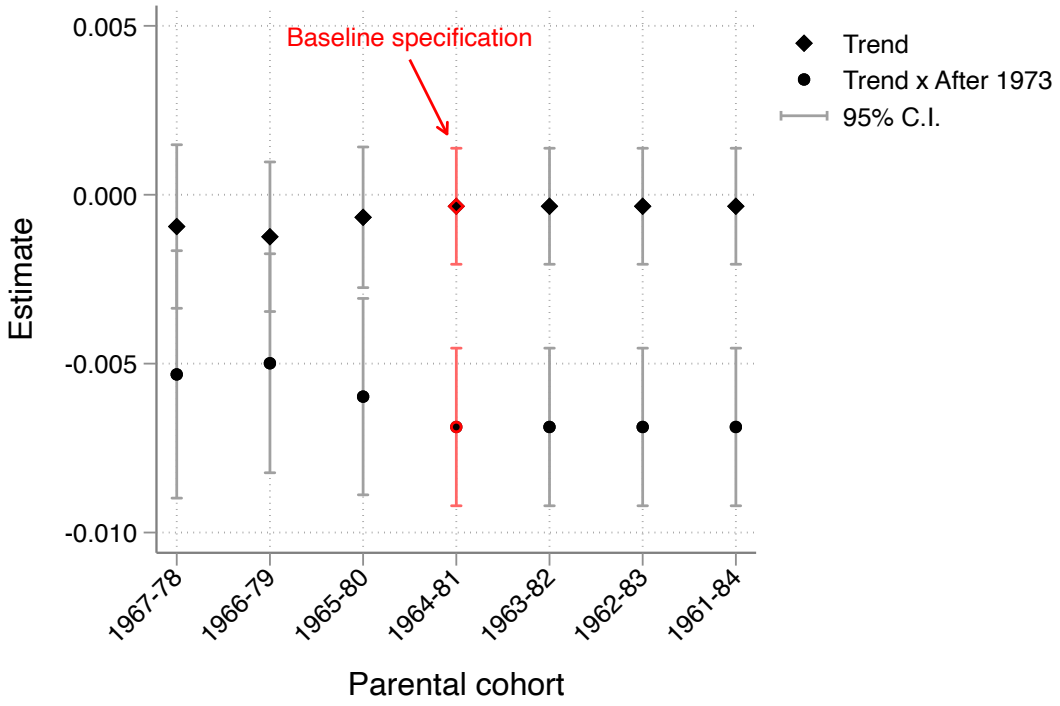


(a) Parents (b) Children

(c) Parents (d) Children

Notes: All panels use the sample of 233,136 parents/children from the 2017 census. Panel (a) displays the share of parents per college age cohort (x-axis, 1964-1981) who reported at least one year of higher education in the 2017 census. Panel (b) reports the same number but among children with a parent in the corresponding cohort. The red vertical line indicates indicate the year of the military coup. The solid green line corresponds to the best linear fit for cohorts reaching college age before 1973. The dashed green line shows the linear extrapolation for subsequent cohorts. The solid grey line corresponds to the best linear fit for cohorts reaching college age in 1973 or afterwards. The bottom two panels present the non-parametric analogues and thus the y-axis now measures changes in college enrollment per college age cohort relative to 1964. Panel (c) shows point estimates and 95% confidence intervals from a regression of parent's college enrollment on parent cohort dummies. Panel (d) repeats the exercise using children's college enrollment as outcome. Controls include county of birth by gender, parent's gender by (child) gender, and child age fixed effects. Standard errors clustered by county of birth.

Figure 3: Robustness of results



Notes: Each figure replicates the baseline specification (panel B of Table 2) using different windows of parental cohorts (x-axis). Vertical lines represent 95 percent confidence intervals. The sample always includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent who reached age 21 in the relevant years and who reported full secondary education. "Trend" is the parental cohort trend, i.e. a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "After 1973" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth.

Table 1: Descriptive statistics and sample selection

	Step-by-step sample selection:			
	All 25-40 year old	(1) + linked to parent	(2) + parent graduated from high school	(3) + parent turned college age in 1964-1981
	(1)	(2)	(3)	(4)
Age	32.09	30.51	29.59	31.06
	(4.61)	(4.48)	(4.14)	(4.39)
Female	0.50	0.48	0.49	0.49
	(0.50)	(0.50)	(0.50)	(0.50)
Primary completed	0.95	0.96	0.99	0.99
	(0.22)	(0.20)	(0.09)	(0.10)
Secondary completed	0.80	0.83	0.94	0.94
	(0.40)	(0.38)	(0.24)	(0.23)
College enrollment	0.31	0.35	0.55	0.58
	(0.46)	(0.48)	(0.50)	(0.49)
Household size	4.79	4.53	4.30	4.17
	(6.85)	(1.84)	(1.65)	(1.64)
Household head	0.35	0.05	0.04	0.05
	(0.48)	(0.22)	(0.20)	(0.22)
Spouse of household head	0.24	0.02	0.02	0.02
	(0.43)	(0.14)	(0.12)	(0.14)
Child of household head	0.26	0.90	0.92	0.91
	(0.44)	(0.30)	(0.27)	(0.28)
In labor force	0.81	0.81	0.81	0.83
	(0.39)	(0.39)	(0.40)	(0.38)
Unemployed	0.07	0.12	0.13	0.13
	(0.26)	(0.33)	(0.34)	(0.33)
Individuals	3,840,429	1,019,693	438,238	234,334

Notes: This table shows averages and standard deviations (in parenthesis) for socioeconomic variables described in each row. Column 1 shows values for the full sample of people with ages 25-40 in the 2017 population census. Column 2 shows the same statistics for the subsample that cohabits with a parent, irrespective of any characteristics of the parent. Column 3 further restricts the sample by only including parents who graduated from high school. Finally, column 4 (our estimating sample) restricts attention to the sample of individuals with parents born between 1943 and 1960, i.e. who turned college age in 1964-1981.

Table 2: Intergenerational estimates of the contraction of higher education

	(1)	(2)	(3)	(4)	(5)
Panel A	Dep. variable: Indicator for parents who attended college				
Parental cohort trend	0.006***	0.006***	0.004***	0.004***	0.004***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0008)
× After 1973 coup	-0.021***	-0.021***	-0.022***	-0.022***	-0.021***
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0012)
Panel B	Dep variable: Indicator for college enrollment				
Parental cohort trend	0.004***	0.004***	-0.000	-0.000	-0.001
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0008)
× After 1973 coup	-0.005***	-0.005***	-0.007***	-0.007***	-0.006***
	(0.0013)	(0.0013)	(0.0012)	(0.0012)	(0.0011)
Individuals	233,129	233,129	233,129	233,129	233,129
Fixed effects:					
County of birth by gender	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	No	Yes	Yes	Yes	Yes
Child age	No	No	Yes	Yes	Yes
Relation to household head	No	No	No	Yes	Yes
Child is high school graduate	No	No	No	No	Yes
R^2 (panel A)	0.085	0.087	0.094	0.095	0.099
R^2 (panel B)	0.044	0.045	0.063	0.063	0.132
Avg. dependent variable (panel A)	0.309	0.309	0.309	0.309	0.309
Avg. dependent variable (panel B)	0.582	0.582	0.582	0.582	0.582

Notes: The dependent variable is stated in the header of each panel. The sample includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 and who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table 3: Children of high school dropouts

Dependent variable: Indicator for college enrollment				
	Dropouts defined as: 1-2 years left of high school		Dropouts defined as: 1 year left of high school	
Sample:	Dropouts	Dropouts and high school graduates	Dropouts	Dropouts and high school graduates
	(1)	(2)	(3)	(4)
Parental cohort trend high school *dropouts*	-0.005***	-0.005***	-0.004	-0.004
	(0.0018)	(0.0018)	(0.0029)	(0.0029)
× After 1973 coup	0.000	0.000	-0.001	-0.001
	(0.0023)	(0.0023)	(0.0038)	(0.0038)
Parental cohort trend high school *graduates*		-0.000		-0.000
		(0.0009)		(0.0009)
× After 1973 coup		-0.007***		-0.007***
		(0.0012)		(0.0012)
Individuals	31,835	264,964	12,017	245,146
Fixed effects by dropouts/graduates:				
County of birth by gender	Yes	Yes	Yes	Yes
Parent gender by child gender	Yes	Yes	Yes	Yes
Child age	Yes	Yes	Yes	Yes
R^2	0.052	0.095	0.078	0.076
Avg. dependent variable	0.293	0.547	0.314	0.568

Notes: The dependent variable is an indicator for individuals who attended college for at least one year. The sample includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 and who reported having less than 2 (column 1) or 1 (column 3) year missing to graduate from high school. Columns 2 and 4 stack the sample of 233,136 individuals with a parent who graduated from high school. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table 4: Mechanisms of intergenerational persistence

Panel A: Parents in census	Dependent variable is one of the following:				
	Assortative matching		Fertility (only reported for women)		
	Has spouse	Spouse has any college	Total children	Share alive	Age at birth of first child
	(1)	(2)	(3)	(4)	(5)
Cohort trend	0.006***	-0.000	-0.026***	0.001***	-0.618***
	(0.0008)	(0.0010)	(0.0054)	(0.0003)	(0.0111)
× After 1973 coup	-0.004***	-0.008***	0.014**	-0.000	-0.033**
	(0.0010)	(0.0012)	(0.0063)	(0.0003)	(0.0150)
Panel B: Parents in World Values Survey		Dependent variable: Preferences and beliefs (all indicators)			
	Respondent attended college	Worried about child education	Has confidence in higher education	Hard work is important among children	Hard work brings success
Cohort trend	0.018**	0.020	-0.008	0.002	0.005
	(0.007)	(0.018)	(0.017)	(0.008)	(0.010)
× After 1973 coup	-0.027**	0.005	0.010	-0.009	-0.009
	(0.011)	(0.027)	(0.026)	(0.012)	(0.016)
Individuals (panel A)	213,059	133,200	93,695	93,693	93,695
Individuals (panel B)	832	190	190	832	591
Average dependent variable (panel A)	0.633	0.212	2.765	0.979	30.49
Average dependent variable (panel B)	0.192	0.626	0.626	0.250	0.591

Notes: The dependent variable in both panels is measured for individuals directly exposed to the contraction of higher education (i.e. parents) and the name of the outcome is stated in the header of each column. Panel A includes all parents observed in the 2017 census who were born between 1943 and 1960 and reported at least full secondary education. Panel B includes all survey respondents in 1989-2022 who (i) have at least one child, and (ii) completed secondary education between 1964 and 1981. All regressions in panel B include survey-wave fixed effects. "Cohort trend" is a continuous variable indicating the year at which these parents reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses in panel A and robust to heteroskedasticity in panel B. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

ONLINE APPENDIX

The intergenerational transmission of higher education: Evidence from the 1973 coup in Chile

María Angélica Bautista, Felipe González, Luis Martínez, Pablo Muñoz, and Mounu Prem

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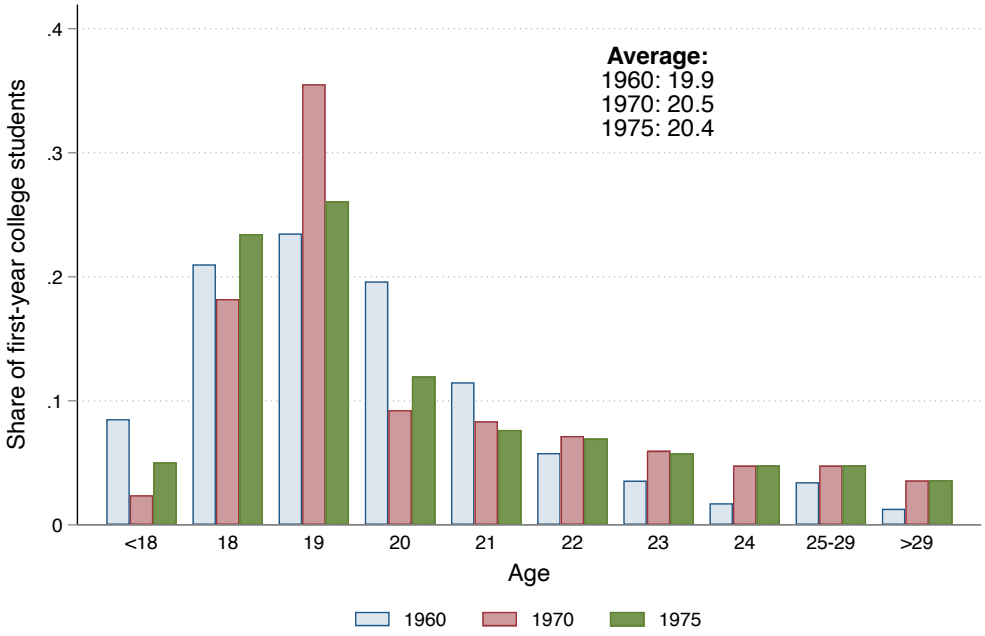
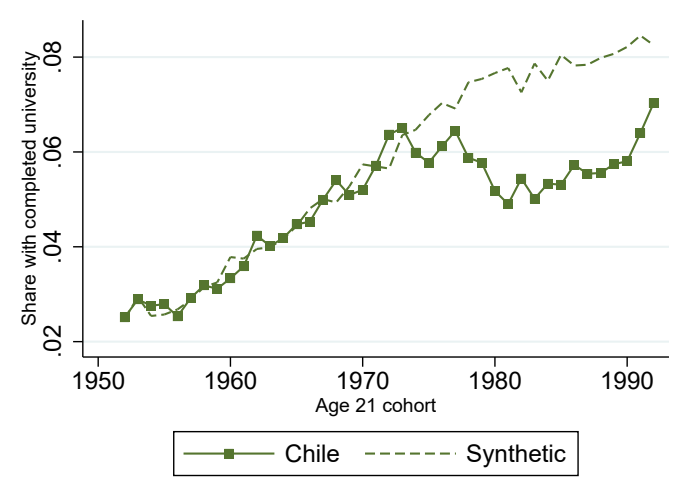
Figure A.1: Descriptive statistics – Age distribution of first-year college students

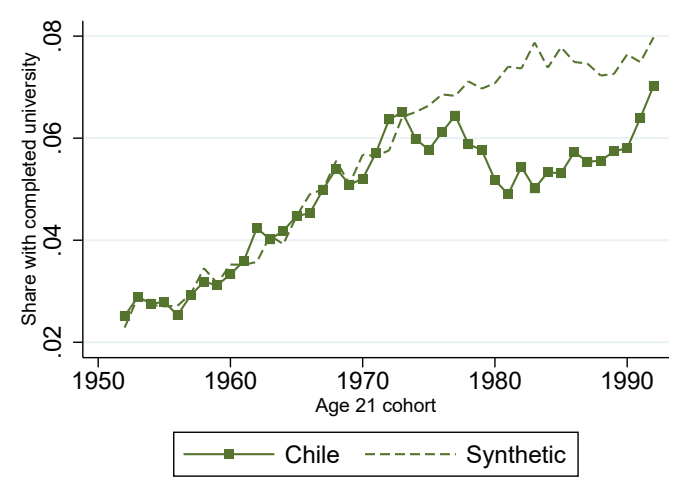


Notes: Information for 1960 comes from the 1960 population census (INE, 1965). The sources for 1970 and 1975 are Schiefelbein (1976) and Echeverría (1982), based on administrative records and the 1970 population census. Data for 1970 corresponds to the entire tertiary sector, i.e. including post-secondary vocational institutions. For the average, we set age at 17, 25 and 30 for the < 18, $25 - 29$ and > 29 age groups respectively, which likely leads to an underestimate of the age of first-year college students.

Figure A.2: Synthetic control analysis



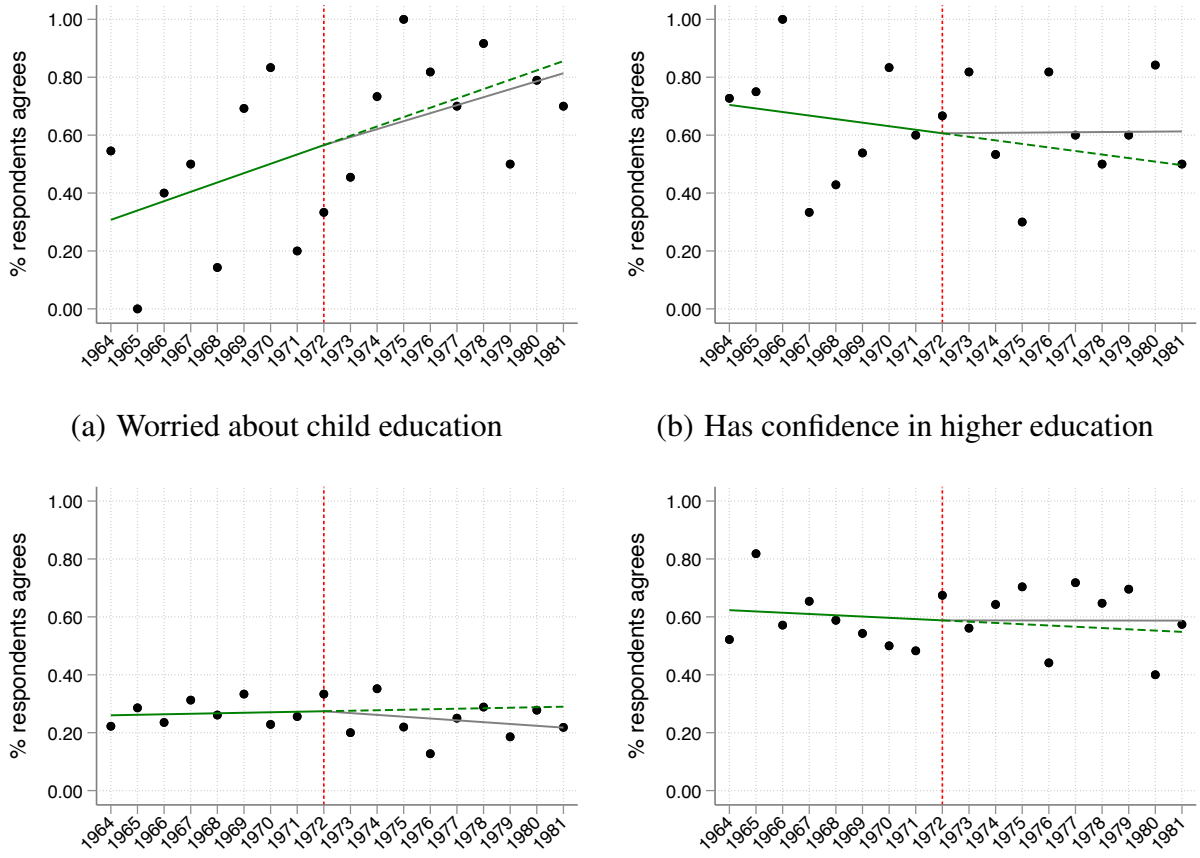
(a) Latin American countries



(b) All available countries

Notes: These figures show the results from a synthetic control analysis using harmonized data from IPUMS International. The dependent variable is the share of people older than 20 years of age who completed college. Data for Chile corresponds to 1992 census. For other countries, we use available censuses between 1987 and 1997. To build the synthetic control we use lags of the share of people with completed college education as well as the share of people between 18 and 65 years of age, the share of women, and the share of people with secondary education. Country codes for donors in panel (a) are: ARG, BOL, BRA, COL, DOM, ECU, HND, HTI, MEX, NIC, PAN, PER, PRY, SLV, and URY. Country codes for donors in panel (b) are the same as in panel (a) plus ARM, AUT, BEN, BFA, BGD, BWA, CAN, CHE, CHN, EGY, ESP, ETH, FJI, FRA, GHA, GRC, HUN, IDN, IND, IRL, JAM, JOR, KEN, KHM, LBR, MAR, MNG, MYS, NGA, PHL, POL, PRT, ROU, SEN, THA, TUR, UKR, USA, VNM, and ZAF.

Figure A.3: Additional results – World Values Survey



(a) Worried about child education

(b) Has confidence in higher education

(c) Hard work is important among children

(d) Hard work brings success

Notes: All figures focus on the population of individuals who responded questions related to education in the World Value Survey Time Series (1981-2020). Panel (a) displays the share of people who answered to be "very much" or "a great deal" worried about not being able to give one's children a good education. Panel (b) performs the same analysis but focuses on the share of respondents who reported to have "quite a lot" or "a great deal" of confidence in universities, respectively. Panels (c) and (d) replicate the analysis but now using as dependent variable the share of respondents who reported to agree "quite a lot" or "a great deal" with the statement that hard work is important for children (panel c) and brings success (panel d), respectively. Vertical lines indicate the year of the military coup. The solid green line corresponds to the best linear fit for cohorts reaching college age before 1973. The dashed green line shows the linear extrapolation for subsequent cohorts. The solid grey line corresponds to the best linear fit for cohorts reaching college age in 1973 or afterwards. Notice that WVS time-series shows how the values of Chile have been changing over time - rather than how the values of a selected group of people (panel) have been changing over their life.

Table A.1: College completion

	(1)	(2)	(3)	(4)	(5)
Panel A	Dep. variable: Indicator for parents who completed college				
Parental cohort trend	0.002***	0.002***	0.000	-0.000	-0.000
	(0.0007)	(0.0007)	(0.0008)	(0.0008)	(0.0007)
× After 1973 coup	-0.012***	-0.012***	-0.013***	-0.013***	-0.013***
	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Panel B	Dep. variable: Indicator for completing college				
Parental cohort trend	0.001	0.001	-0.001	-0.001	-0.001*
	(0.0010)	(0.0010)	(0.0009)	(0.0009)	(0.0009)
× After 1973 coup	-0.006***	-0.006***	-0.005***	-0.006***	-0.005***
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0011)
Individuals	233,129	233,129	233,129	233,129	233,129
Fixed effects:					
County of birth by gender	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	No	Yes	Yes	Yes	Yes
Child age	No	No	Yes	Yes	Yes
Relation to household head	No	No	No	Yes	Yes
Child is high school graduate	No	No	No	No	Yes
R^2 (panel A)	0.075	0.077	0.084	0.085	0.089
R^2 (panel B)	0.041	0.042	0.049	0.050	0.091
Avg. dependent variable (panel A)	0.250	0.250	0.250	0.250	0.250
Avg. dependent variable (panel B)	0.459	0.459	0.459	0.459	0.459

Notes: The dependent variable is stated in the header of each panel. The sample of individuals includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 and who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.2: Years of college

	(1)	(2)	(3)	(4)	(5)
Panel A	Dep. variable: Parents' years of college				
Parental cohort trend	0.013*	0.014*	0.003	0.002	0.002
	(0.0077)	(0.0078)	(0.0078)	(0.0078)	(0.0078)
× After 1973 coup	-0.086***	-0.086***	-0.091***	-0.090***	-0.089***
	(0.0094)	(0.0094)	(0.0095)	(0.0095)	(0.0095)
Panel B	Dep. variable: Years of college				
Parental cohort trend	0.024**	0.026**	-0.003	-0.003	-0.004
	(0.0118)	(0.0118)	(0.0122)	(0.0122)	(0.0118)
× After 1973 coup	-0.024	-0.024	-0.035**	-0.035**	-0.031**
	(0.0157)	(0.0157)	(0.0156)	(0.0156)	(0.0151)
Individuals	233,129	233,129	233,129	233,129	233,129
Fixed effects:					
County of birth by gender	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	No	Yes	Yes	Yes	Yes
Child age	No	No	Yes	Yes	Yes
Relation to household head	No	No	No	Yes	Yes
Child is high school graduate	No	No	No	No	Yes
R^2 (panel A)	0.024	0.024	0.026	0.026	0.027
R^2 (panel B)	0.006	0.007	0.010	0.010	0.017
Avg. dependent variable (panel A)	1.486	1.486	1.486	1.486	1.486
Avg. dependent variable (panel B)	3.305	3.305	3.305	3.305	3.305

Notes: The dependent variable is stated in the header of each panel. The sample of individuals includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 and who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.3: Heterogeneity by gender

	Dependent variable: Indicator for college enrollment							
Gender of parent:	Both		Female			Male		
Gender of child:	Female	Male	Both	Female	Male	Both	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Parental cohort trend	-0.000	-0.000	0.000	-0.001	0.002	-0.001	-0.000	-0.001
	(0.0010)	(0.0012)	(0.0014)	(0.0015)	(0.0021)	(0.0009)	(0.0013)	(0.0013)
× After 1973 coup	-0.006***	-0.007***	-0.008***	-0.006***	-0.011***	-0.006***	-0.006***	-0.006***
	(0.0014)	(0.0015)	(0.0019)	(0.0020)	(0.0027)	(0.0013)	(0.0018)	(0.0018)
Individuals	114,021	119,108	94,599	47,927	46,672	138,498	66,076	72,422
Fixed effects:								
County of birth	Yes	Yes	No	Yes	Yes	No	Yes	Yes
County of birth by gender	No	No	Yes	No	No	Yes	No	No
Parent gender by child gender	Yes	Yes	No	No	No	No	No	No
Child age	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.052	0.065	0.061	0.050	0.061	0.068	0.058	0.070
Avg. dependent variable	0.615	0.549	0.563	0.602	0.523	0.594	0.625	0.566

Notes: The dependent variable is an indicator for individuals who attended at least one year to college. Sample includes all respondents in the 2017 census between the ages of 25 and 40 that we can connect to at least one parent born between 1943 and 1960 and who reported having graduated from high school. Each column further restricts the sample by gender of parent or child as indicated in the header. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.4: Heterogeneity by regional exposure

Dependent variable: Indicator for college enrollment				
Heterogeneity (high/low exposure):	Based on regional growth in share college attendance		Based on regional growth in years of college	
Sample:	Parents	Children	Parents	Children
	(1)	(2)	(3)	(4)
Parental cohort trend (low exposure)	0.002**	-0.002	0.002**	-0.002
	(0.0011)	(0.0011)	(0.0010)	(0.0010)
× After 1973 coup	-0.018***	-0.004***	-0.018***	-0.005***
	(0.0016)	(0.0016)	(0.0015)	(0.0015)
Parental cohort trend (high exposure)	0.010***	0.006***	0.011***	0.006***
	(0.0015)	(0.0018)	(0.0017)	(0.0019)
× After 1973 coup	-0.038***	-0.019***	-0.038***	-0.018***
	(0.0024)	(0.0027)	(0.0026)	(0.0028)
Individuals	233,129	233,129	233,129	233,129
Fixed effects:				
County of birth by gender	Yes	Yes	Yes	Yes
Parent gender by child gender	Yes	Yes	Yes	Yes
Child age	Yes	Yes	Yes	Yes
R^2	0.096	0.063	0.095	0.063
Avg. dependent variable	0.309	0.582	0.309	0.582

Notes: The dependent variable is an indicator for individuals who attended college for at least one year. Columns 1 and 3 shows the results for parental college enrollment, while columns 2 and 4 for children. The sample of individuals includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 and who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. We interact the parental cohort trend with an indicator for regions with (i) low exposure to the contraction of higher education and (ii) high exposure to the contraction. In columns 1 and 2, we define high/low exposure using the regional growth between in college enrollment between 1960 and 1970 using census data from both of these years. In columns 3 and 4, we define high/low exposure similarly but now using the regional growth in average years of college between 1960 and 1970. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.5: Robustness of results – Different windows for the age of children

	Dependent variable: Indicator for college enrollment				
Ages of individuals included:	20-40	30-40	25-35	25-45	25-30
	(1)	(2)	(3)	(4)	(5)
Parental cohort trend	-0.000	0.001	0.003***	-0.000	0.004***
	(0.0009)	(0.0011)	(0.0010)	(0.0009)	(0.0013)
× After 1973 coup	-0.007***	-0.013***	-0.009***	-0.007***	-0.006***
	(0.0012)	(0.0016)	(0.0013)	(0.0012)	(0.0016)
Individuals	233,129	131,150	187,158	233,129	118,909
Fixed effects:					
County of birth by gender	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	Yes	Yes	Yes	Yes	Yes
Child age	Yes	Yes	Yes	Yes	Yes
R^2	0.063	0.056	0.055	0.063	0.053
Avg. dependent variable	0.582	0.533	0.608	0.582	0.639

Notes: The dependent variable is an indicator for individuals who attended at least one year to college. The estimating sample in the paper includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 who reported full secondary education. Alternative samples are described in the header of each column."Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.6: Robustness of results – College age is 19 years old

	(1)	(2)	(3)	(4)	(5)
Panel A	Dep. variable: Indicator for parents who attended college				
Parental cohort trend	0.001	0.001*	-0.002***	-0.002***	-0.002***
	(0.0006)	(0.0006)	(0.0005)	(0.0005)	(0.0005)
× After 1973 coup	-0.017***	-0.017***	-0.018***	-0.018***	-0.017***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
Panel B	Dep variable: Indicator for college enrollment				
Parental cohort trend	0.002***	0.003***	-0.002***	-0.002***	-0.002***
	(0.0007)	(0.0007)	(0.0006)	(0.0006)	(0.0005)
× After 1973 coup	-0.005***	-0.005***	-0.006***	-0.006***	-0.005***
	(0.0011)	(0.0011)	(0.0010)	(0.0010)	(0.0009)
Individuals	259,819	259,819	259,819	259,819	259,819
Fixed effects:					
County of birth by gender	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	No	Yes	Yes	Yes	Yes
Child age	No	No	Yes	Yes	Yes
Relation to household head	No	No	No	Yes	Yes
Full secondary	No	No	No	No	Yes
R^2 (panel A)	0.086	0.088	0.096	0.097	0.101
R^2 (panel B)	0.044	0.045	0.062	0.063	0.131
Avg. dependent variable (panel A)	0.301	0.301	0.301	0.301	0.301
Avg. dependent variable (panel B)	0.579	0.579	0.579	0.579	0.579

Notes: The dependent variable is stated in the header of each panel. Sample includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent that was born between 1943 and 1960 who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 19, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 19 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

Table A.7: Dropout decisions in primary and secondary school

Dependent variable:	Primary education								Secondary education			
	1st	2nd	3rd	4th	5th	6th	7th	8th	1st	2nd	3rd	4th
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Parental cohort trend	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000*	0.001**	0.001***	0.001**	0.001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0004)	(0.0004)
× After 1973 coup	-0.000	-0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.000	-0.001*	-0.001***	-0.002***	-0.002***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0004)	(0.0005)	(0.0005)
Individuals	233,129	233,129	233,129	233,129	233,129	233,129	233,129	233,129	233,129	233,129	233,129	233,129
Fixed effects:												
County of birth by gender	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parent gender by child gender	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Child age	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.005	0.005	0.005	0.005	0.006	0.006	0.007	0.007	0.010	0.011	0.013	0.015
Avg. dependent variable	0.996	0.996	0.996	0.995	0.994	0.993	0.992	0.991	0.981	0.976	0.961	0.950

Notes: The dependent variable is an indicator for last year of completed education, from 1st year of primary (column 1) up to last year of high school (column 12). Sample includes all respondents in the 2017 census between the ages of 25 and 40 who we can connect to at least one parent born between 1943 and 1960 who reported full secondary education. "Parental cohort trend" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "After 1973 coup" is an indicator for parents who reached age 21 on or after 1973. Standard errors clustered by county of birth in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1

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