Children of the Dictatorship: The Intergenerational Transmission of College (Un)enrollment in Chile*

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Abstract

A positive correlation between the educational attainment of parents and children has been amply documented. Despite the importance of higher education for social mobility, it remains unclear whether there is a causal link between the college enrollment of parents and children. We first document a large kink in college enrolment for cohorts that reached college age in the years after the 1973 military coup in Chile. This was caused by the reduction in the number of openings for incoming students decreed by the military government of Augusto Pinochet. Affected cohorts had worse economic outcomes throughout the life cycle and struggled to climb up the socioeconomic ladder, with women experiencing larger effects. We then show that children with parents in the affected cohorts are more likely to drop out of secondary education and are substantially less likely to have gone to college. Higher maternal age for women with college and positive assortative matching of parents with college help to explain this finding.

Keywords: Intergenerational transmission, higher education, social mobility, gender inequality
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1 Introduction

Education is often thought of as a major contributor to social mobility (Urahn et al., 2012; Greenstone et al., 2013). With nearly universal rates of primary completion and record-high rates of high-school graduation in many parts of the world, the role of the 'great equalizer' is increasingly falling on higher education (Chetty et al., 2017). In this regard, there is ample evidence that a college education has positive pecuniary and non-pecuniary effects (Card, 1999; Oreopoulos and Salvanes, 2011). A large literature has also documented that the educational attainment of parents and children is positively correlated (Black and Devereux, 2011; Björklund and Salvanes, 2011). However, most studies on these intergenerational effects are purely correlational and the causal evidence is largely limited to lower levels of education. It remains unclear whether there is a causal link between the college enrollment of parents and children. Arguably, it is at this level where confounders related to family background, such as parental wealth and innate ability, are likely to play a larger role (Holmlund et al., 2011). Distinguishing between correlation and causation can help us to determine whether policies that affect access to higher education have persistent effects across generations.

This question is difficult to answer because it requires both a source of plausibly exogenous variation in parental college enrolment and the ability to connect affected individuals to their children at a late enough age to measure the educational attainment of the latter. In this paper, we overcome these difficulties by leveraging variation in college enrollment caused by the military coup that brought Augusto Pinochet to power in Chile in 1973. We exploit the fact that the Pinochet dictatorship took full control of all universities in the country and systematically reduced the number of openings for incoming students over the following years. As a result, people that reached college age in the years shortly after the military coup were increasingly less likely to enroll in university relative to people that reached college age shortly before the coup. We combine this cohort-level variation in educational attainment with individual-level data from the 2017 population census to examine the likelihood of going to college for the next generation. Detailed information on household composition in the census allows us to connect parents and children for a subset of the population. Our empirical strategy relies on comparing children with parents in cohorts that reached college age in a narrow window around the time of the military coup in 1973, in the spirit of a regression kink design (Card et al., 2015). In particular, we use those cohorts that reached college age shortly before the coup as a counterfactual for the affected cohorts that did so shortly afterwards. The identifying assumption is that in the absence of the coup there should be no breaks relative to pre-existing cohort trends in our outcomes of interest.

In the first part of the paper, we study the effect of the incoming dictatorship on the educational attainment of the affected cohorts and provide evidence on the underlying mechanism. We restrict the analysis to high school graduates to have a more relevant counterfactual for college entry and

to shut down the potentially confounding effect of disruption at lower levels of education in the aftermath of the coup. We document a sharp kink in college entry and completion around the time of the military coup. We find that the cohorts reaching age twenty between 1965 and 1972 were making yearly gains of 0.2 percentage points (pp) in college enrolment. This trend reverses for the cohorts reaching the same age between 1973 and 1980, who experienced a net yearly decline in the enrolment rate of 1.5 pp. While 36% of high-school graduates reaching age twenty in 1972 went to college, only 25% of those reaching this age in 1980 did. This pattern is present in all data sources available. We find weak substitution of college education with technical school. A complementary analysis using different sets of countries to construct a synthetic control for college completion rates in Chile provides further evidence of a sizable gap in tertiary education after the coup.

Using administrative data on the yearly number of college applicants and the number of openings for incoming students, we show that demand was twice as large as supply throughout the sample period. Hence, it was the reduction in the number of openings decreed by the military regime that caused the drop in college entry. The reduction in openings affected all fields except the natural sciences, suggesting a broad effect on most college-age individuals. We also show that the kink in college entry is present within families as well as within all quintiles of housing wealth, providing further evidence of broad effects. We additionally find that the college premium increases for the affected cohorts. This is consistent with a reduction in the supply of college graduates and suggests that the quality of education did not dramatically decrease after the coup. The fact that this finding is unaffected once we control for occupation further indicates that the increase in the college premium is not driven by increased targeting of programs more prone to political activism and having arguably lower returns (i.e. social sciences).

We then examine whether the drop in parental college enrollment affects the educational attainment of the next generation. We connect parents that finished high school to their children using various combinations of positions in the household in the 2017 census. Most of our sample is made up of individuals that report being children of the household head or of the spouse. We also include household heads, their spouses or their siblings if their parents live with them. We provide reduced-form estimates of trend-breaks for children with parents reaching college age around the time of the military coup and instrumental variables (IV) estimates of the effect of parental college entry, using the break in the enrolment trend after 1973 as the excluded instrument. The IV estimates capture the average effect of college entry for the parents (i.e. compliers) whose college enrolment was affected by the changes in policy implemented by the military regime. The implied exclusion restriction requires that the change in outcomes for the children with parents in the cohorts that reached college age shortly after the coup is entirely driven by the restricted access to university, conditional on controls. Our preferred specification includes (i) county of birth x gender, (ii) parent's gender x gender, (iii) relationship to household head, and (iv) age fixed effects.

We estimate that having a parent that enrolled in college increases an individual's own probability of doing so by 28 pp. This effect is equivalent to 48% of the sample mean of 58% for children of high school graduates. Looking at lower levels, we find that parental college enrolment has no effect on primary education (which is mandatory in Chile), but does reduce dropout at all levels of secondary education. However, high-school dropout only explains 16% of the intergenerational effect on college enrollment. We do not find evidence of heterogeneous effects depending on the gender of the child, but do find that the effect of college enrollment is twice as large for the children that we are able to connect to the mother (36pp) than for those that we connect to the father (18pp), though the difference is statistically insignificant (p=0.13).

In the final part of the paper, we study the role of labor market outcomes, the marriage market and fertility patterns as mediating factors, paying particular attention to heterogeneous effects by gender in the affected cohorts. For this purpose, we use individual-level census data from 1992, 2002 and 2017, which we complement with data from a large household survey (CASEN) that is collected roughly every two years in the period 1990-2015.

We find large effects of college enrollment on labor market outcomes. Even though age effects could introduce bias in any single cross-sectional comparison between cohorts, the fact that we observe similar patterns at different points in the life cycle makes us confident that this is not driving the results. Affected cohorts were substantially less likely to be in the labor force during their prime working years in 1992 (late 30s) and 2002 (late 40s), with an estimated impact of college entry of 0.28 and 0.49 pp, respectively. These effects represent one-third and two-thirds of the corresponding sample means. Conditional on labor force participation, affected cohorts also had higher rates of unemployment. The corresponding IV estimates for college enrolment in 1992 and 2002 are -0.06 and -0.03 pp., relative to respective sample means of 3% and 6%. These effects are highly heterogeneous by gender. College entry has a 50-100% larger effect on labor force participation for women, while the effect on unemployment is 60-150% larger for men, providing evidence of responses along different margins. Affected cohorts are also less likely to be in salaried employment, with half of the effect coming from increased domestic work and unpaid work with relatives (the other half from business ownership). In particular, college entry increases the probability of salaried employment by roughly 8 pp in both 1992 and 2002, a more than 10% increase relative to the respective sample means. This effect is entirely driven by women. As expected, college entry also has a large positive effect on the probability of a high-skill, white-collar occupation, with respective IV estimates of 0.47 pp and 0.17 pp in 1992 and 2002. This effect is twice as large for women as for men.

Using information from the CASEN survey, we also find a sharp kink in various measures of reported income. One advantage of CASEN is that its relatively high frequency allows us to observe different cohorts at the same point in the life cycle. This enables us to run more stringent regressions in which we replace the cohort trend used to construct the counterfactual for the af-

fected cohorts with age fixed effects. The IV estimate of the effect of college enrolment on log total self-generated income (i.e. excluding government transfers) is 1.02, which comes down to 0.4 in the more conservative specification with age fixed effects. College entry increases the probability of being in the top income quintile by 25 pp in the more conservative specification, relative to a mean of 46% in our sample of high school graduates. This tells us that restricted access to higher education was a dramatic impediment to social mobility for the affected cohorts. Results using household wealth quintiles available in the 1992 census corroborate the large, positive effect of college enrolment on social mobility. College entry increases the probability of being in the top wealth quintile by 30 pp, a 60% increase relative to the sample mean.

Data on household composition from the three available censuses provides further evidence of economic vulnerability. At all points in time, we find that the affected cohorts are less likely to be household heads (or spouses of heads) and more likely to be dependents (i.e. children or parents of heads). In 2017, we estimate that college enrollment leads to a 25 pp increase in the probability of being the head of the household or the spouse of the head (a 29% increase over the sample mean). Looking at marital status in 1992 and 2002 (the question was not asked in 2017), we find that college enrollment leads to a large decrease in the probability of being a widow. This suggests that people in the affected cohorts have higher mortality rates as a result of worse health or riskier occupations (Buckles et al., 2016). This effect is 3-5 times larger for women.

We further explore the role of the marriage market in explaining the intergenerational effect of college entry. Among our sample of children linked to a parent, we find that parental college enrolment increases the probability of observing a spouse of the parent by 13 pp. More importantly, conditional on observing a spouse, parental college enrollment increases the probability that the spouse also has some college by 36 pp (relative to a sample mean of 21%). This effect is larger for women, but the difference is not significant. Controlling for college enrolment by the spouse of the parent reduces the intergenerational effect of parental college entry by 35%, indicating that assortative matching among college enrollees is an important factor explaining the higher educational attainment of their children.

Finally, we study the role of fertility. We find that college enrolment reduces the number of children per woman by 0.3, relative to a sample mean of 2.6. College entry also increases the share of children alive by 1.6 pp, consistent with the previous evidence on better economic conditions as well as with previous research on mother's education and birth outcomes (Currie and Moretti, 2003). Among the mothers that we can connect to their children, we find that college enrolment increases age at birth by about one year, but the estimate is noisy. Controlling for total fertility or for lost children has little effect on the magnitude of our IV estimate of the intergenerational effect. But controlling for age at birth (with either the cohort trend or age fixed effects) leads to a 25% reduction in the IV estimate, but has little effect on the OLS coefficient. This indicates that part of the effect of college enrollment comes from childbearing at a later age.

This paper connects several strands of literature. First, it contributes to the literature on the intergenerational transmission of human capital (see Black and Devereux, 2011 or Björklund and Salvanes, 2011 for overviews). Previous research has largely focused either on primary or secondary levels of parental education, often exploiting quasi-random variation in mandatory schooling requirements faced by parents (e.g, Black et al., 2005; Oreopoulos et al., 2006). A few studies have analyzed the relationship between college attainment of parents and early-life outcomes or lower levels of educational attainment in the next generation (e.g., Currie and Moretti, 2003; Maurin and McNally, 2008). But little is known about the causal link between the college enrollment of parents and children.[1] The novelty of our results relates to the unique features of the decision to go to college (increased agency of the student, limited supply, higher cost and foregone earnings, credit constraints), which set it apart from other critical junctures in the process of human capital accumulation. These features make it increasingly likely that variation in family background underlies the intergenerational correlation in college enrollment (Holmlund et al., 2011). We push the literature forward by providing evidence of a positive causal link in intergenerational college enrollment. More generally, we also complement a literature that has largely focused on a handful of developed countries by studying the intergenerational transmission of higher education in a developing-country setting.

Second, by exploring the mechanisms behind the inter-generational transmission of human capital, our paper adds to an extensive literature on the effects of higher education. More specifically, our work contributes to research on: i) the monetary and non-monetary returns to education (e.g., Card, 1999; Oreopoulos and Salvanes, 2011), ii) the effects of higher education on social mobility (e.g., Torche, 2011; Chetty et al., 2017), and iii) the differential effects of higher education on outcomes for women (e.g., Goldin, 1992, 2006). Particularly related is work by Zimmerman (2019) showing that attending an elite business-oriented program in Chile has large effects on the probability of attaining top jobs and top incomes, but that these effects are concentrated in men graduating from elite high schools. In contrast to these findings, we show that college entry systematically affects economic and non-economic outcomes throughout the life cycle and dramatically affects a person's chances of climbing up the socioeconomic ladder.[2] We further show that reduced access to higher education disproportionately affected women at a time of strong female progress in the labor market.

Finally, our work also adds to the empirical literature studying the relationship between democracy, education, and inequality (see Acemoglu et al., 2015 for an overview). The Chilean experience was by no means unique, as undemocratic regimes often respond to the political threat

[1] Suhonen and Karhunen (2019) find that the children of parents that benefited from the geographic expansion of the Finnish university system are more likely to have a higher tertiary degree (i.e. master's).

[2] Similarly to us, a few other studies exploit episodes of political disruption to higher education to study the relationship between college enrollment and economic outcomes (Maurin and McNally, 2008; Li and Meng, 2018; Ozturk and Tumen, 2018).

posed by universities with repression.[3] In this regard, Figure 1 shows a strong, negative correlation between a country's level of autocracy and its enrolment rate in tertiary education.[4] Existing literature on the relationship between political regimes and the provision of education has documented a positive effect of democracy on educational spending and enrolment at the primary and secondary levels (e.g., Brown and Hunter, 2004; Avelino et al., 2005)), but much less is known about the relationship between democracy and higher education. Our work contributes by providing causal evidence of a negative effect of autocratic rule on the provision of higher education. We also contribute to the study of democracy and inequality by showing that the policies on higher education implemented by a dictatorship hinder social mobility and female progress in the labor market. Thus, our findings stand in contrast to conventional narratives of the Pinochet dictatorship that highlight the introduction of sound economic reforms (albeit at a very high human cost, Bautista et al., 2019), that paved the way for sustained economic growth in the following years. Our results bring to light the dark side of the so-called 'Chilean miracle' and help explain the growing levels of social unrest and political protest seen in the country in the last decade.

2 Historical Background

2.1 Higher Education in Chile Before the Military Coup

There were eight universities in Chile when Salvador Allende took office in 1970 and this number would remain unchanged until the large educational reform implemented by the military government in 1981. The oldest university was Universidad de Chile, founded in 1842, and the most recent one to open was Universidad del Norte, founded in 1956. Formally, only two universities were public (i.e. run by the government), Universidad de Chile and Universidad Técnica del Estado, but the whole university system was mostly financed with government funds. Most universities had their main campuses in the larger cities of Santiago, Concepción and Valparaiso, and several had smaller campuses distributed throughout all the regions of the country. In 1967, 86% of faculty had a college degree, 8% had a master's degree and only 3% had a PhD. About a third of faculty had full-time appointments (Brunner, 1984).

College enrolment quickly expanded in the mid-20th century, growing from around 8,000 students in 1940 to 25,000 in 1960 and to 77,000 in 1970. Figure 2 shows that the gross enrolment rate jumped from 4.6% to 9.2% during the administration of Eduardo Frei between 1964 and 1970.

[3]Examples abound, including the dismissal of Jewish faculty and students in Nazi Germany (Waldinger, 2010), Soviet repression of the student-led 'Prague Spring' in 1968 and the student massacres in Tlatelolco (Mexico) and Tiananmen (China) in 1968 and 1989. The shutdown of Central European University by Hungarian strongman Viktor Orban in 2018 provides a more recent example (New York Times, 2018).

[4]Chile moved from 0.08 to 0.83 in the autocracy scale after the military coup, corresponding to a predicted drop in tertiary enrolment of around 20 pp.

The Socialist government of Salvador Allende (1970-1973) would oversee an even more dramatic increase in enrolment, which reached 146,000 students in 1973, corresponding to a gross enrolment rate of 16.8%. In this year, 39% of college students were female and 67% of students were enrolled in public universities.[5] In 1967, education programs held the largest share of students (29%), followed by engineering with 22%, social sciences with 15% and health with 13%. Other fields had less than 6% of students each. These numbers were very similar in 1973, except that engineering had become the largest field with 30% of students.

A movement for broad educational reform began in 1965 under the center-left government of Eduardo Frei from the Christian Democratic Party. At the university level, the reform started in 1967, partly in response to gains in political leverage made by the student movement in the previous years. Its main achievements included the large increase in enrolment and greater participation of students and faculty in university governance. Academic structures were modernized, in an effort to resemble the U.S. model, and increased funding allowed for new programs and research centers. During the Allende government, there was a deliberate effort to make access to university more inclusive, with mixed results (Castro, 1977; Schiefelbein and Farrell, 1984, 1985).

From 1850 until 1966, students wishing to enroll in college had to take a baccalaureate exam administered by Universidad de Chile. As part of the educational reforms, this test was replaced by a new one called "Prueba de Aptitud Académica" (Academic Aptitude Test) in 1967. The PAA test had mandatory modules in language and mathematics, as well as optional modules in other subjects. For admission purposes, each student provided a ranking of their preferred program-university combinations. Each student was also awarded a score equal to a weighted average of her grades in secondary and her results in the different components of the PAA test. The weight awarded to each component was determined by each university and could vary by program. Given the number of openings offered by each university in each of its programs, an algorithm allocated students to their higher-ranked options until all openings were filled. Students could take the PAA test multiple times, but there was only one sitting of the exam per year. Leaving aside some small modifications, the system remains largely unchanged until today.

2.2 Higher Education in Chile After the Military Coup

As mentioned above, the process of expansion and democratization of the university system accelerated during the government of Salvador Allende starting in 1970. Amid growing political polarization and deteriorating economic conditions, a military coup led by General Augusto Pinochet overthrew Allende on September 11, 1973. A military junta presided by Pinochet assumed all executive and legislative powers and would go on to govern the country until 1990.

[5] Brunner (1984) shows that this large increase in enrolment was similar to that seen in several other countries in Latin America during the same time period.

In its early days, the military government made it clear that one of its aims was to eliminate all sources of support for left-leaning political views. Universities were immediately targeted and intervened. Only two weeks after the coup, the junta put members of the armed forces at the head of all universities, both public and private. These military delegates had unrestricted power over university governance (Brunner, 1984; Castro, 1977). During the first months after the coup, many students and members of faculty and staff were expelled or fired, though the exact magnitude remains unclear.[6] Unfortunately, some university affiliates with undesirable political views in the eyes of the regime were detained, tortured, exiled or killed.[7] All student groups and teacher unions were monitored and any political activity was forbidden. Teaching materials were tightly controlled.

In the years immediately after the coup, the gains in college enrollment achieved during the period of educational reform were largely undone. Figure 2 shows a steady decline in the gross enrollment rate starting in 1974. By 1980, the enrollment rate was slightly above 10% and was not much different from what it had been at the start of the Allende years. Despite the dismissals and purges, most of the previously-enrolled students remained enrolled (Levy, 1986). Hence, the decline in enrolment was driven by variation in the yearly number of incoming students. To disentangle the role of demand and supply, we use administrative records on the number of people taking the PAA test each year since 1967, the subset of people that effectively apply to college and the total number of openings made available by the universities.[8]

Panel (a) in Figure 3 plots the three series. The data on openings shows positive growth in the late 1960s, followed by a dramatic expansion during the Allende government and a steady decline and stagnation after the military coup. More specifically, the number of openings grew 30% between 1967 and 1970, jumping from 16,000 to 20,000, and 130% between 1970 and 1973, when it reached its maximum of 47,214. It steadily declined after the coup, dropping to 32,954 by 1980 (a 30% drop relative to 1973). On the other hand, the number of test-takers and applicants steadily increased between 1967 and 1975, when both series exceeded 100,000. Both series similarly drop

[6] Brunner (1984) cites a study claiming that the total number of expelled students was 20,000 and that at least 25% of faculty had been dismissed by 1984. Castro (1977) claims that 7,000 students had been expelled only from the University of Concepción by 1974. He mentions that 228 researchers in the natural sciences left Chile between 1971 and June 1974, 165 of whom left after the military coup.

[7] Using detailed individual records from the final report by the "National Commission for Truth and Reconciliation" , we find that of the roughly 3,200 documented victims 24 were university professors and 252 were university students. The report by the subsequent "National Commission on Political Imprisonment and Torture" estimates that around 4,100 of the 38,000 subjects who experienced such human-rights violations were students from different levels (Comisión Valech, 2004; Comisión Rettig, 1996)

[8] Appendix Figure A8 considers two additional response margins. Panel (a) plots data on conscription, obtained using a Freedom-of-Information request, and shows that the number of enlisted soldiers if anything decreased after the coup. Panel (b) shows that the number of Chilean students abroad increases roughly until the year of the coup and remains relatively flat afterwards. In both cases, the variation is too small to explain the observed drop in college enrollment.

in the following years, although the number of test-takers picks back up in the last years of the sample period. The graph clearly shows that the number of applicants always exceeds the number of openings and was usually twice as large or more. This tells us that supply was the binding constraint for entry at all points in time. The lagged adjustment in demand suggests that the drop in openings was unexpected. In this regard, projections by UNESCO placed aggregate enrollment at around 200,000 for 1975 while the actual figure fell slightly short of 150,000 (Levy, 1986).

Panel (b) in Figure 3 shows that the drop in openings was larger in public universities, which had experienced faster growth in the years before the coup, though supply in private universities also stopped growing and weakly decreased. This is consistent with government control over all universities. Panel (c) shows the change in openings between 1973 and 1980 by field of study. Programs in agriculture and the social sciences were the ones that were worst affected, experiencing aggregate declines of around 50%, consistent with political targeting. However, all fields with the exception of the natural sciences saw a net decrease in the number of openings in the years after the coup. These include traditional fields such as health or law.

Regarding demand, panel (d) shows that average PAA test scores in the compulsory modules decreased in the years immediately before the coup and improved in the years after it. This suggests that the students driving the aggregate variation in test-taking observed in panel (a) are marginal students with relatively low performance and low chances of entry. It is likely that the increase in average test scores meant that the average enrolled college student in the years after the coup had higher ability than in previous years. We explore this possibility further when we estimate the returns to college below.

2.3 Higher Education after 1981

In 1981 the military government embarked on a program of large reform of higher education. A major feature of the reform was the reorganization of the entire higher education system. The existing set of eight universities was segmented and many new universities were created. This change mostly affected the regional branches of Universidad de Chile, while the other public university (Universidad Técnica del Estado) disappeared and was replaced by seven new ones. The original universities and those that were created from them belong to an elite group known as CRUCH, which dates back to 1964.[9] Eventually, new private universities not belonging to CRUCH would be created. Currently, there are 58 universities in Chile, 18 of which are private and 30 of which belong to CRUCH. The reform also reorganized a series of smaller institutions providing post-secondary technical training. These institutions were classified into two different categories, known as Institutos Profesionales (IP) and Centros de Formación Técnica (CPT). The main difference between the two is that the former can provide some bachelor degrees in a limited set of

[9]CRUCH is the Spanish acronym fro Consejo de Rectores de las Universidades Chilenas, which translates to "Council of the Rectors of Chilean Universities"

areas.

The government also used the 1981 reform to foster the generation of revenue by the universities. Even though the military regime reduced spending on higher education since 1973, it was only mildly successful in reducing the dependence of universities on government transfers [10] The 1981 reform introduced university fees, which would eventually be again eliminated by the government of Michele Bachelet in 2016.

3 Empirical Strategy

3.1 Data

In this section we briefly introduce the different data sources that we use in the paper.[11] The main data source are the Chilean household censuses of 1992, 2002 and 2017.[12] The census files provide quasi-universal information at the individual level on gender, age, educational attainment, labor force participation, unemployment, occupation, marital status and fertility. In each census, individuals are classified into households and one person is identified as the head within each households. For all other respondents, the census reports how they are related to the household head. The questions in the census and their level of detail vary slightly over time, especially in 2017 relative to the previous two. For example, this most recent census does not ask about employment categories (i.e. business-owner vs salaried employee), but does ask about completion of the highest educational level. Only the 1992 census includes an additional variable indicating the wealth quintile to which the household belongs, based on the observable characteristics of the dwelling and on the answers provided to questions on ownership of various assets.

We complement the information in these censuses using the twelve available waves of the biennial CASEN household survey between 1990 and 2015.[13] This is a repeated cross-section that is representative at the regional level.[14] In the most recent wave we use from 2015, the survey has data on more than 260,000 individuals in over 80,000 households. The CASEN survey includes information on education, health and economic conditions of all members of each surveyed household. It has several attractive features, including its relatively high frequency and the availability of information on self-reported income.

For the synthetic control analysis, we use harmonized census micro-data from the Integrated

[10] Appendix Figure A10 shows that higher education represented almost 50% of government spending on education in 1974. This number dropped to less than 30% in 1980.

[11] Online Appendix A provides more detailed information about these sources.

[12] A census was carried out in 2012, but the results were dismissed due to substantial methodological flaws.

[13] Survey years are 1990, 1992, 1994, 1996, 1998, 2000, 2003, 2006, 2009, 2011, 2013, 2015.

[14] Chile is administratively divided into 16 regions, which are subdivided into provinces (56) and counties (346).

Public Use Micro-data Series (IPUMS) - International. We use the most recent census that is available for each of the 57 countries for which harmonized data is available.[15] Our interest is on the internationally-coded variable on educational attainment, but we also use other characteristics of the countries to create a synthetic comparison group for Chile that best reproduces the values of the predictors of the higher education enrollment share in the years before the military coup.

The sample for the analysis of the affected cohorts includes census or survey respondents born between 1945 and 1960. People in these cohorts reached twenty years of age between 1965 and 1980, creating a 16-year window around the time of the military coup. We use twenty as the average age of college entry because this is the average age of first-year college students in 1960, 1970 and 1975.[16] We show below that the results are robust to changes in the age of college entry (i.e. changes in the kink point). We create a dummy for college entry and set it equal to one for all respondents that report"University" or higher (e.g. "Master's") as highest level of education. We only keep respondents that report having completed secondary in the 2017 census and proxy for secondary completion in other sources (which do not ask about completion) by restricting the sample to respondents reporting at least four years of secondary education. We introduce this restriction to have a valid counterfactual for college enrollment and to shut down any effects arising from disruption of lower levels of education in the aftermath of the military coup.

For the study of intergenerational effects in educational attainment, we exploit the information on household composition contained in the 2017 census. We focus our attention on this census because it is the one that best enables us to observe the final level of education obtained by children of people in the affected cohorts.[17] We connect children to their parents using several different combinations of positions in the household. About 90% of our sample (roughly 210,000 people) is composed of individuals reported as children of the household head (which we always observe). The second largest category is heads of households that include at least one individual reported as a parent of the household head.[18] We observe around 12,000 such cases (5%). The other categories are much smaller and include siblings of the household head (if a parent is observed), the spouse of the household head (if a parent-in-law resides in the household) or children of the spouse. We restrict the sample to children with ages between 25 and 40 years. By excluding younger individuals we improve our chances of observing final college enrollment. By excluding older individuals, we ensure balance in the distribution of parental cohorts. Having linked parents

[15] Appendix A provides the list of these countries.

[16] Appendix Figure A2 shows the age distribution of students in the first and last (5+) year of college in these years.

[17] In 2002, the youngest cohort of parents was 42 years old, making it unlikely that their children had finished their education. In 2017, this same cohort of parents is 57 years old.

[18] In a small number of cases, we observe both parents of the household head and pick the oldest parent. Unfortunately, the sample is too small to enable us to use this information to further study potential complementarity or substitution in the effects of paternal and maternal education.

and children, we restrict the sample to parents meeting the same conditions as in the analysis of the affected cohorts: high-school graduates reaching age twenty between 1965 and 1980. Our final sample includes 228,608 individuals (i.e. children), 58% of whom report having enrolled in university.

3.2 Research Design

Our empirical strategy to analyze the first-stage effects on the affected cohorts involves comparing changes in trends for cohorts that reached college age in a narrow window around the time of the military coup in 1973, in the spirit of a regression kink design (Card and Yakovlev, 2014; Card et al., 2015). Our identification assumption is that in the absence of the coup, and within a sufficiently small window, there is no reason to expect a change in the trend of our outcomes of interest for cohorts reaching college age after this event. As mentioned above, we classify cohorts based on the year in which they reached twenty years of age, as this is the average age of first-year college students that we observe at different points in time, both before and after the coup. We work with the following reduced-form model to estimate the effect of exposure to the dictatorship:

$$Y_{i,a20} = \alpha + \beta X_i + \pi_0 f(a20) + \pi_1 \mathbb{1}(a20 \geq 1973) \times g(a20) + u_{i,a20} \tag{1}$$

where $Y_{i,a20}$ is the outcome of interest (e.g., enrollment in college) for individual i belonging to a cohort that reached age twenty in year $a20$. X_i is a set of observable characteristics, including gender-specific county-of-birth fixed effects, meaning that we restrict our comparison to individuals of the same gender born in the same county. $f(a20)$ and $g(a20)$ are smooth functions (polynomials) representing the birth date profile of outcome Y_{ia20}. We re-scale the running variable in these functions and set it equal to zero for 1972, the last year before the coup. $\mathbb{1}(a20 \geq 1973)$ is a dummy variable equal to one for those individuals (cohorts) that reached age twenty in 1973 (year of the coup) or later. Finally, u_{ia20} is an error term clustered at the county-of-birth level.

We are interested in quantifying the break in the trend of Y_{ia20} that was triggered by the dictatorship. To simplify exposition, our baseline specification uses a linear polynomial in $a20$ (i.e., $f(a20) = g(a20) = a20$), such that the parameter characterizing the change in trend before and after 1973 corresponds to π_1:

$$\pi_1 = \frac{\partial Y_{i,a20}}{\partial a20} \Big|_{\mathbb{1}(a20 \geq 1973)=1} - \frac{\partial Y_{ia20}}{\partial a20} \Big|_{\mathbb{1}(a20 \geq 1973)=0},$$

We use a bandwidth of sixteen cohorts reaching college age around the time of the military coup (eight before, eight after). These cohorts have birth years between 1945 and 1960 and reached age twenty between 1965 and 1980. This choice is determined by several factors. Given that our interest is the change in the trend of educational attainment caused by the military regime, rather than an abrupt discontinuity, we need a large enough bandwidth to provide the necessary variation.

This need is heightened by the absence of a mandatory minimum or maximum age of college entry, which leads to a fuzzy date of treatment onset. In this regard, we verify below that our results are not sensitive to small changes in the location of the kink. We cut the sample at the 1980 age-twenty cohort to mitigate the confounding effect of the large reform of the Chilean university system that was implemented by the military regime in 1981. Setting the 1965 age-twenty cohort as the start-point ensures a balanced sample centered at 1973.

We also use equation (1) to study changes in outcomes other than educational attainment. The coefficient π_1 provides reduced-form estimates of the change in outcome experienced by the affected cohorts, relative to the trend from the previous years. Again, the identifying assumption is that this trend provides a valid counterfactual within a short enough time window. A valid concern surrounding this strategy is that in any one cross-sectional comparison we could be picking up non-linearities caused by age effects. We address this concern in two ways. First, we exploit the availability of data at various points over a 25-year period to show that the effects are present in multiple years, corresponding to different stages in the life cycle. Second, the relatively high frequency of the CASEN survey allows us to observe different cohorts (on both sides of the kink) at the same age. This enables to estimate a more stringent specification that replaces the cohort trend with a set of flexible age fixed effects. In this case, the counterfactual for the affected cohorts is constructed using the average of the outcome among unaffected cohorts when they were at the exact same point in the life cycle.

We can also leverage the cross-cohort variation in college enrolment triggered by the dictatorship as an instrument to provide Instrumental Variables (IV) estimates of the effect of enrolment. For this purpose, we estimate the following system of equations:

$$C_{i,a20} = \alpha + \beta X_i + \pi_0 f(a20) + \pi_1 \mathbb{1}(a20 \geq 1973) \times g(a20) + u_{ia20}, \quad (2)$$

$$Y_{i,a20} = \phi + \delta C_{i,a20} + \gamma X_i + \rho_0 h(a20) + \epsilon_{ia20} \quad (3)$$

where $C_{i,a20}$ stands for college enrollment for individual i belonging to the cohort that reached age twenty in year $a20$. Similarly to Card and Yakovlev (2014), this approach overcomes the endogeneity of college entry using the break in trend after 1973 to instrument for it. We focus on college enrolment, rather than completion, because this is the margin that is arguably more responsive to the policies implemented by the regime. As a result, our estimates likely provide a lower bound for the effect of a full college education. Under standard assumptions, the 2SLS estimate of δ in equation 3 may be interpreted as a local average treatment effect (LATE) (Angrist et al., 1996). This is an average causal effect of college entry for compliers, i.e. those students who did not attend college because they reached the age of enrollment at a time of reduced supply by the military government. By restricting our sample to high school graduates, the IV estimate tells us the effect of college enrollment to compliers, relative to having a high school degree. To use the

trend-break after 1973 as a valid instrument for college entry, an additional exclusion restriction must hold. In our setting, this condition implies that the change in outcomes for the cohorts that reached age twenty after 1973, relative to those that did so shortly before them, is entirely driven by the lower probability of college enrolment experienced by the former.

To study the intergenerational effects of college enrollment, we use specifications analogous to the ones above. The main difference is that the cohort trends correspond to the parent that we are able to observe. Another difference is that we can expand the set of individual controls, X_i. In our most-preferred specification, we include (i) gender x county of birth, (ii) gender x parent's gender, (iii) relationship to household head and (iv) age fixed effects. By including the gender x parent's gender fixed effects we restrict our comparison to children of the same gender that we can connect to a parent of the same gender. The age fixed effects alleviate the concern that parents from later cohorts are more likely to have children that are younger in 2017, which could have different outcomes due to time trends. However, comparing children of the same age born to parents from different cohorts means that we are comparing children with parents of varying ages at the time of birth, which could also confound the analysis. In this regard, we follow an agnostic approach and present estimates with and without age fixed effects, as well as replacing them with age-at-birth fixed effects. In this case, we are comparing children with parents from different cohorts but that were of the same age at the time of birth.

The corresponding IV estimates tell us how does parental college enrollment affect the child's own probability of enrollment. As above, this is a LATE estimate capturing the effect of parental enrollment for children whose parents' enrollment was affected by the decrease in openings when they reached college age. The corresponding exclusion restriction states that the cohort of the parent only affects the child's educational attainment through its effect on the parent's college enrollment.

4 Educational Attainment of the Affected Cohorts

4.1 Non-parametric Analysis

We begin the analysis by examining cross-cohort patterns in educational attainment in the raw data from the 2017 population census. This preliminary inspection does not make any structural assumptions and helps motivate the parametric trend-break analysis that follows. First, panel (a) in Figure 4 shows that the number of people per cohort is relatively smooth around the year of the coup. In the x-axis, cohorts are organized by the year in which they turned 20 years old (year of birth in parenthesis). The vertical lines mark the year of the military coup (solid red) and the window used in the regression analysis below (dashed blue). The smooth population numbers suggest that violent repression at the hands of the military regime and increased out-migration during the dictatorship did not have large demographic effects. Panel (b) shows the share of census

respondents in each cohort that report "University" as their highest level of education. Within the 16-cohort window used for the regression analysis, we observe a systematic increase in college attendance for the cohorts that reached age twenty before the coup, followed by a large decline for those cohorts that reached this age after the coup. More specifically, college entry increased 4.2 percentage points (pp) between 1965 and 1973, corresponding to a 41% increase relative to the 10.3% rate observed in the initial year. By 1980, this rate was down to 11.9%, corresponding to an 18% decrease relative to the peak in 1973. Had the previous trend continued, the college entry rate would have been closer to 20% by this time.

Panel (c) shows the share of people in each cohort that report having completed secondary education. These are the individuals that constitute our baseline sample below, so it is reassuring to observe no large changes around the time of the coup. There is only a minor blip for the cohort that reached age 20 in 1979. This cohort reached age 14, which is the normal age of transition from primary to secondary, in 1973, providing evidence of disruption in lower levels of education in the year of the coup. Finally, panel (d) shows the share of people with any college among the population reporting completed secondary. We observe a large decline in enrolment starting with the cohort that reached age 20 in 1972. While almost 38% of high school graduates that reached age 20 in 1970 started college, only 25% of high school graduates that reached age 20 in 1980 did so, corresponding to a 34% aggregate decrease in college enrollment. Appendix Figure A4 shows that the patterns above are not exclusive to the 2017 census.

4.2 Parametric Analysis

To quantify the break in the trend of college enrollment, Table 1 presents estimates of equation (1). This specification formally extrapolates the upward trend in college enrollment among the 1965-1972 age-twenty cohorts to estimate the magnitude of the break for the ones reaching age 20 in the period 1973-1980. Column 1 shows that cohorts in the pre-coup period were experiencing an average *increase* in college enrollment of 0.2 pp per year. This trend experienced a 1.7 pp. *decrease* after the coup. The difference between the two coefficients indicates a net negative trend of 1.5 pp per year for the cohorts reaching college age after the coup. For the cohort that reached age 20 in 1980, these estimates imply that rather than experiencing a 1.8 pp increase in the college entry rate (relative to the 1972 age-twenty cohort), it faced a 12 pp decline. This reduction is equivalent to over one third of the average rate of college entry among high school graduates during the sample period.

Column 2 provides evidence of mild substitution of college education with technical schooling (lower-level tertiary education). The average yearly increase in the entry rate to these institutions increased from 0.01 pp in the pre-coup period to only 0.4 pp in the post-coup years. As a result, the cohorts affected by the coup experienced a net trend of entry into higher education of -1.1 pp, relative to a pre-coup trend of 0.2 pp per year. Columns 4-6 examine the change in trend for degree

completion. The results in column 4 show that the college graduation rate was flat in the pre-coup years, suggesting that almost all of the extra students entering college in the pre-coup years left without finishing their degree. This trend becomes -1.1 pp for the affected cohorts.[19] The fact that the drop in completion is only 60% as large as the drop in enrolment tells us that a large share of the people that did not go to college in the affected cohorts was unlikely to have completed their program. For technical schooling, the completion trends roughly coincide with the enrolment trends, suggesting that there was little dropout both before and after the coup. For higher education as a whole, the trend in the graduation rate experienced a net decline and reached -0.6 pp per year after the coup (column 6).

Appendix Table A10 provides disaggregate estimates by gender. In the pre-coup years, we observe a positive trend in college enrolment of 0.5 pp for women, none for men. After the coup, the net trend for men drops to -1.2 pp, while that of women becomes -1.7 pp. This means that it was also women who were disproportionately affected in their access to higher education in the years after the coup. All differences across genders and over time are statistically significant at the 0.1% level.

4.3 Synthetic control analysis

A synthetic control analysis provides additional evidence for the impact of the military coup on college entry (Abadie and Gardeazabal, 2003; Abadie et al., 2010). We use the most recent population census data available in IPUMS-International for 57 countries. Our baseline estimates use data from Latin American countries to construct the counterfactual for Chile, but results are unaffected if we also use data from other countries.[20] For each cohort in a census, we calculate the share of people with complete college education, complete secondary education, and complete primary education, restricting the sample to individuals over 20 years of age. We use college *completion* instead of *enrollment* as the outcome variable to compare across countries using the harmonized education variables reported in IPUMS. All estimates use lags of the share of people with com-

[19] Appendix Figure A5 plots the college completion rate by cohort among people reporting any college. We observe a 2.5 pp drop for the cohorts that reached age 20 in the period 1971-1973 (relative to a baseline graduation rate of 82% in 1970) and a 7 pp increase between 1974 and 1980. This indicates that the students that were already enrolled in college before the coup experienced a decrease in the probability of completion. On the other hand, those that enrolled afterwards experienced gains in the completion rate, arguably as a result of tighter admissions standards and the increased focus on academic achievement.

[20] The Latin American countries (census year) are: Argentina (2010), Bolivia (2001), Brazil (2010), Colombia (2005), Costa Rica (2011), Dominican Republic (2010), Ecuador (2010), Honduras (2001), Haiti (2003), Mexico (2015), Nicaragua (2005), Panama (2010), Peru (2007), Paraguay (2002), El Salvador (2007), Uruguay (2011). The data for Chile comes from the 2002 census. Figure A6 shows that the results are unaffected if we exclude all countries with a dictatorship in the years 1950-1990, or if we only use countries with a high Human Development Index.

pleted college education to build the synthetic control.[21] Our baseline estimates do not include controls, but results are unaffected if we control for the share of people between 18 and 65 years of age, the share of women, and the share of people with secondary education.

Figure 6 shows the results. The solid line corresponds to the rate of educational attainment by cohort in Chile. The dashed line shows the predicted rate from the synthetic control. In panel (a), the outcome is full college education. We observe that the synthetic control tracks the realized time series very closely up to the year of the coup. College completion increases from 3% in 1950 to slightly more than 6% in 1972. After the coup, both series diverge. The synthetic control keeps growing, reaching 8% around 1980, while the actual series stagnates and falls to around 5%.[22] The analysis further suggests that it is only after the return to democracy in 1990 that college completion starts growing again and comes closer to the counterfactual. Panel (b) shows a very similar pattern if we include additional controls. Panels (c) and (d) provide some validity checks on the methodology. Panel (c) shows that the synthetic control predicts very well the realized times series of complete secondary education, indicating that the observed effects in college cannot be attributed to changes in lower levels of education. In panel (d), we restrict attention to the pre-treatment period and create a synthetic control using a placebo treatment in 1960, following Abadie et al. (2015). Reassuringly, both groups behave similarly throughout the sample period.

4.4 Targeting and Quality of Education

We have established that it was the reduction in openings for incoming students decreed by the military regime that led to the drop in college entry for the affected cohorts. Still, several related questions remain regarding whether the composition of the student body or the quality of instruction changed as a result of these policies. For example, the regime may have targeted people with specific characteristics, deemed as dangerous, to prevent their entry into college. It could also have happened that people from privileged socioeconomic backgrounds were able to use their influence to crowd out those from less privileged backgrounds from the increasingly limited spots in college. The quality of education could have also changed as a result of the dismissal of faculty and the closure of programs, research centers and academic units. Answering these questions is important in order to have a better sense of potential differences in the characteristics of the average college student before and after the coup, which could affect our interpretation of the IV results below.

In this section, we present results from two exercises aimed at shedding light on these issues. The first one involves examining whether there is a kink in college entry among more tightly-

[21] We follow Ferman et al. (2019) and use only *odd* years to avoid cherry picking and overfitting. Table A2 shows that results are identical if we use *even* or *all* pre-treatment years. For reference, the R^2 of a regression between the treatment and the synthetic control in the pre-treatment period is always larger than 0.95.

[22] Placebo inference and confidence sets suggest this difference is statistically significant (Abadie et al., 2015; Firpo and Possebom, 2018). See Table A2 and Figure A7 for details.

defined sub-groups. In particular, we study entry within wealth quintiles using data from the 1992 census and within families using data from the three censuses available. The second exercise involves estimating the college earnings premium and examining whether it changes for the cohorts that went to college after the military coup.

Table 2 shows estimates of equation (1), estimated separately for each quintile of housing wealth in the 1992 census. As mentioned in section 3, households are classified into quintiles based on characteristics of the dwelling they inhabit and ownership of assets. The main caveat to this analysis is that these quintiles are assigned in 1992 and are quite plausibly affected by the observed changes in college entry. Still, insofar as there is persistence in socioeconomic status independently of educational attainment, these regressions can be informative about the potentially unequal incidence of the reduction in college enrolment. As expected, we find that the positive trend in college entry before the coup is largest for the top quintile and decreases monotonically as we go down the socioeconomic ladder. For people in the top quintile, each additional cohort up to 1972 experienced an increase of 1.9 percentage points (pp) in the college entry rate, while for those in the bottom quintile this increase was only 1.1 pp (a 47% reduction). After the coup, it is also the people at the very top who experienced the largest drop in college entry, with a net trend of -2 pp for the top quintile. For the bottom quintile, the net trend is -1.4 pp during the dictatorship. Hence, these results suggest that people across the entire socioeconomic spectrum were affected by the reduction in the supply of college education and that there was limited selective targeting of admissions.

To examine whether the kink in college enrolment is also observed within families, we exploit the information on household composition contained in the population censuses. In a first instance, we only include in the sample groups of two or more people within the same household that report being children of the household head. In an alternative specification, we only include household heads and those that report being their siblings. In both cases, we can be sure that the included individuals within the same household share at least one parent and we include household fixed effects to absorb all common characteristics. This exercise is motivated by previous findings of a strong correlation in educational attainment between siblings across various settings (Björklund and Salvanes, 2011). If the reduction in college entry disproportionately affected certain groups of people based on family-level characteristics, such as political affiliation of parents or location of residence, the inclusion of these fixed effects should absorb most of the cross-cohort variation in enrolment. The limitation of this exercise is that it relies on the selected sample of individuals that live with at least one of their siblings in 1992 or later.

Table 3 shows separate estimates of equation (1) for each census year and each way of constructing the sample. This analysis is quite demanding on the data, as the number of observations in all columns is an order of magnitude smaller than that in the full sample. In later years, there is a greater number of siblings of the household head and a smaller one of children of the house-

hold head. However, in all columns we observe the same trend-break that we found in the overall sample: cohorts that reached college-age in the years immediately before the military coup experienced a positive trend in college enrolment, while those that did so shortly afterwards saw a large reduction and a net decline in this trend. What is new about these results is that this pattern is present even among people that share at least one parent. Even though the estimates for the pre-coup cohorts are imprecise and lack statistical significance, their magnitude is very much comparable to that in the larger sample (e.g., column 6 in Table 3 vs column 1 in Table 1). All but one of the coefficients for the post-coup cohorts is statistically significant. These results provide further evidence of a widespread impact of the cut in college openings.

The previous results suggest that the entire population of high school graduates was to a large extent equally affected by the restrictive policies towards higher education implemented by the military regime. However, students going to college after the coup may have experienced a different quality of instruction or overall experience. We also have reasons to believe that the average quality of incoming students increased after the coup, as a result of the reduction in openings and the admissions criteria. We use data on earnings from the CASEN survey to shed light on these issues. If the quality of education deteriorated after the coup, we would expect the college graduates from these later cohorts to have a lower earnings premium over those that did not attend university. This reduction in the premium could be driven by the fact that these college students have less human capital than their peers from previous cohorts or because the signalling value of a college degree is lower in a less challenging environment. On the other hand, if the variation in the quality of education is second-order, relative to the reduction in the supply of college graduates, or if the average quality of college students was higher we would expect the college premium to increase. For this purpose, we estimate the following Mincer equation:

$$\ln \text{income}_{i,a20,j,t} = \kappa + \lambda X_{i,a20,j,t} + \omega_{a20} \mathbb{1}(\text{any college}) + \nu_{i,a20} \tag{4}$$

where $\ln \text{income}_{i,a20,j,t}$ is the natural log of reported real earnings for individual i belonging to age 20 cohort $a20$, that lives in county j and appears in the CASEN survey from year t. In our baseline analysis we use self-generated income as our income measure, but in Appendix Figure A12 we show that the results are robust to using other available income measures. $X_{i,a20,j,t}$ is a set of controls including gender-specific county-of-residence fixed effects, age fixed effects and year (i.e. CASEN survey wave) fixed effects.[23] Hence, we are only comparing people of the same gender that live in the same county, while flexibly allowing for age and time effects. ω_{a20} is a cohort-specific coefficient for the dummy variable $\mathbb{1}$(any college), which equals one for respondents that report university or more as their highest level of education. As before, the sample only includes respondents born between 1945 and 1960 that report having completed four years or more of

[23]CASEN does not specify county of birth. We verify that the results are not sensitive to the exclusion of the county-of-residence control, which could be endogenously affected by educational attainment.

secondary education.

Panel (a) in Figure 5 shows the results. For the cohorts that reached college age before the coup, we observe a positive effect of college attendance of about 70-75 log points. After the coup, there is a sharp increase and the college premium rises to between 80-85 log points. The difference between the pre-coup and the post-coup averages amounts to about 8 log points, which is equivalent to an 11% increase over the pre-coup average. This result indicates that college entry became more profitable in the post-coup years and is consistent with both a lower supply of college graduates and a higher quality. Furthermore, it shows that the educational policies of the military regime contributed to increased inequality between those that could and could not enrol in college. Panel (b) replicates the analysis including fixed effects for nine occupational categories. While the overall magnitude of the college premium decreases, consistent with the effect of college on income partly operating through occupational choice, we still observe around an 11% for the cohorts that reached college age after the coup.

5 Educational Attainment of Children with Parents in the Affected Cohorts

In this section, we study the educational attainment of children with parents in the cohorts whose college enrollment was affected by the military dictatorship. In particular, we want to know whether people with parents in these cohorts are themselves less likely to go to college. Our sample includes almost 230,000 people between the ages of 25 and 40 that we are able to connect to a parent reaching age twenty between 1965 and 1980. For this analysis, we use the same specifications from the previous section, with the exception that the cohort trend and break refers to the parent, while the main outcome of interest refers to the child. Before that, column 1 in Panel A of Table 4 shows that college enrollment among the parents of the children in our sample exhibits a pattern essentially identical to the full sample in Table 1. This suggests that the smaller sample of parents that we are using is not fundamentally different from the overall population.

Panel B shows reduced-form estimates of the relationship between the birth cohort of parents and the college enrollment of their children. For people with parents that reached college age before the coup, we observe a positive trend in college entry of 0.2 pp per year. However, for people with parents in the later, affected cohorts, the trend reverses and becomes -0.2 pp. This is evidence of a positive relationship between the college enrolment of the parents and the college enrolment of their children. If we use the break in trend for the parents' college entry as an excluded instrument for their own college enrolment, we find in panel C that having a parent that went to college increases a person's chances of enrolling by 21pp. This is equivalent to around a third of the sample mean of 58%. The IV estimate is 20% smaller than the corresponding OLS estimate presented in panel D, suggesting that only a small share of the intergenerational correlation in college enrollment is driven by selection. In all cases, we have a very strong first stage and the

Kleibergen-Paap F-statistic takes a value of around 200.

In column 1, the only controls are the gender x birth county fixed effects that we also included when analyzing the educational attainment of the affected cohorts. In columns 2 and 3 we further control for the gender of the observed parent and for gender of parent x gender of child, to ensure that differences in the gender composition of the sample across cohorts do not bias the estimates. The results change very little. In column 4 we include an additional set of dummies for the relationship of the individual (i.e. child) to the household head. Each of the ways in which we connect children to parents implies a different relationship of the child to the household head and this set of controls ensures that differences in the composition of the sample between cohorts along this margin do not confound the estimates. Again, we see little change.

In column 5 we introduce age fixed effects for the child. As mentioned above, these controls help address the concern that children with parents in later cohorts are themselves likely to be younger. This could, for instance, downward bias the estimate of the intergenerational effect if younger people benefit from positive trends in college enrollment in recent years. We find evidence consistent with this possibility, as the IV estimate controlling for age (26 pp) is almost 30% larger than the baseline estimate. The specification in column 5 is our preferred specification for this part of the analysis. However, it is worth noting that the increased comparability gained by the inclusion of these fixed effects comes at a cost, as children of the same age born to parents from different cohorts differ in the age of the parent at the time of birth, which could also be an important factor. We further study this factor below when we focus on the sample of mothers and the broader impact of fertility patterns.

Figure 7 provides a non-parametric visualization of this effect. For these plots, we replace the parametric trends pre-and post-coup with dummies for each parental cohort, leaving 1965 as the omitted category. The set of controls is the same as in column 5 of Table 4. Panel (a) shows the first-stage estimates and their 95% confidence interval. We see increasing college entry of parents by cohort before the coup, followed by a steady decline for those that reached college age after the coup. Panel (b) shows the reduced-form relationship between the cohort of the parent and college enrolment by the child. We observe a clear decline for children with parents that reached college age after the coup. The plot shows that a child with a parent reaching age 20 in 1980 is around 7pp less likely to go to college (roughly 12% of the sample mean) than a child of the same age with a parent born in 1972, eight years before. However, the latter individual is just as likely to attend college as a third individual of the same age with a parent born in 1965, seven years before.

To further understand at what stage in the educational process do children with parents in the affected cohorts lag behind, in column 6 pf Table 4 we include an additional dummy capturing whether the respondent (i.e. child) reports having graduated from high school. As expected, this additional control does absorb some of the variation in college enrolment, but its inclusion only leads to a 16% reduction in our IV estimate (23 pp). Hence, most of the effect of parental college

enrollment materializes on their children's educational attainment materializes after the children graduate from high school. To better understand the temporal pattern of the effect, Figure 8 plots the IV estimates from a specification analogous to column 5 of Table 4 using achievement beyond each grade in primary and secondary as the dependent variable. We observe no effect up to primary completion, which is consistent with primary education being mandatory in Chile and beyond the control of parents. Once primary is completed, we find that children with a parent with some college are more likely to move beyond all levels in secondary. In particular, the probability of high school completion is almost 10 pp higher for these children.

Table 5 provides disaggregate estimates of the intergenerational effect of parental college enrollment depending on the gender of the parent or the child. For this purpose, we use our preferred specification based on column 5 of Table 4. Focusing on columns 1 and 2 in panel B, we observe that while the OLS estimates for male and female parents are essentially identical, the IV estimates are twice as large for children that we connect to the mother than for those that we connect to the father, though the coefficients are not statistically different from each other (p=0.127). On the other hand, columns 3 and 4 show no heterogeneous effects depending on the gender of the child. In the following section, we explore whether the affected cohorts had different labor market and personal outcomes, in an attempt to explain the observed intergenerational effect. We pay particular attention to heterogeneous effects by gender to shed light on potential sources of heterogeneity in this effect.

6 Economic Outcomes for the affected cohorts

In this section, we document the effects of reduced college enrolment on the cohorts that reached college age after the military coup in Chile. We first examine several labor market outcomes. We rely on the 1992 and 2002 censuses for two reasons. One is that questions on occupation are not asked in the 2017 census. The other is that the kink in college enrollment roughly coincides with the age of retirement in 2017, potentially biasing the results.[24] We then look at measures of income using data from the CASEN household survey. Finally, we provide further evidence on social mobility using novel data on housing wealth from the 1992 census.

6.1 Labor Force Participation and Unemployment

Columns 1 and 2 in Table 6 show reduced-form estimates of equation (1) and IV estimates of equation (3) using an indicator for labor force participation as the dependent variable. Each column uses the sample from a different census. Columns 1 and 2 show that at both points in time the cohorts that reached college age before the coup had a positive trend in labor force participation, meaning

[24]The retirement age in Chile is 65 years for men and 60 years for women. In 2017, the cohort that reached age twenty in 1973 (i.e. the location of the kink) is 64 years old.

that members of each new cohort had higher probability of being in the labor force than those from the cohort immediately preceding it. This could be a reflection of their higher educational attainment (i.e. more likely to go to college) improving their labor market success, but it could also be caused by older cohorts starting to leave the labor market due to disability, early retirement, etc. In both years, we observe a drop in this trend for the cohorts that reached college age after the coup. We observe the opposite pattern for unemployment in columns 3 and 4. Here, the early cohorts had a weakly negative trend, which becomes positive for the affected cohorts. The regressions for unemployment in these columns include labor-force participation as an additional control to ensure that we are only comparing the employment status of individuals interested in having a job. As mentioned above, these kinks could be driven by non-monotonicities in the outcomes associated with different stages in the life-cycle. However, the fact that we observe them for the same cohort at two points in time that are ten years apart suggests that this is unlikely. Our sample cohorts have ages 32-47 in 1992 (with the kink at 39) and ages 42-57 in 2002 (with the kink at 49).

The IV estimates reported at the bottom of the table allow us to quantify the effect of college enrolment that is implied by the previous reduced-form estimates. We find that college enrolment leads to a 28 percentage point (pp) increase in labor force participation in 1992 and to a 49 pp increase in 2002. These are large effects and correspond to 37 and 64% of the respective sample means (approx. 76% in both cases). Similarly, people that enrol in college face an unemployment rate that is 5.8 pp lower in 1992 and 2.8 pp lower in 2002. These are also large effects relative to the respective sample means of 3.3 and 6.3%.

Panels (a) and (b) in Figure 9 show IV estimates disaggregated by gender.[25] We find substantial heterogeneity in the effect of college entry on labor force participation, with the effect for women being 50-100% larger than for men. For women, college enrolment increases labor force participation by 36pp in 1992 and by 57pp in 2002, while the respective estimated effects for men are 17pp and 37pp. Regarding unemployment, we also find large heterogeneity, but in the opposite direction. College enrolment has a negative effect for women of -3.4pp in 1992 and -2.0pp in 2002. For men, the equivalent effects are -8.4pp and -3.2pp. All differences in the effects between men and women are statistically significant at the 0.1% level, except for unemployment in 2002 (p=0.47).

Taken together, the evidence on labor force participation and unemployment indicates that the cohorts that were affected by the reduction in the supply of college education implemented by the military regime faced substantially worse opportunities to participate in the labor market and find employment. For women, college enrolment largely determined labor force participation, while for men there was a larger effect on unemployment. This difference can help explain the different intergenerational effect by parental gender, as it suggests that affected mothers were more likely to withdraw from the labor market, arguably increasing their propensity to become economically-dependent on their children later in life.

[25] Appendix F provides full results of these estimations.

6.2 Occupation

Columns 5 and 6 in Table 6 show results for the probability of reporting being a salaried employee in 1992 or 2002. Other categories include business owners, domestic workers and unpaid workers helping relatives. The pattern in the data are very similar for the two censuses. Focusing on the IV estimates, we find that college enrolment increases the probability of salaried employment by around 8 pp, relative to sample means of about 70%. Appendix Table A6 shows that this gain in wage-earning status comes at the expense of business ownership, but also to a large extent from reductions in domestic work and unpaid work with relatives. Interestingly, there is little effect on self-employment, but this could be due to reclassifying of self-employment as business-ownership. Again, we see how reduced educational opportunities for the affected cohorts substantially worsened the occupational opportunities made available to them.

These effects are also highly heterogeneous by gender. Panel (c) in Figure 9 shows that the positive effect of college enrolment on salaried employment is entirely driven by women, with an estimated effect size of 15pp. For men, the effect is a quarter of the size and is not statistically significant. The full results by gender in Appendix Table A12 show that college enrolment reduced the probability that women engaged in domestic work or unpaid work with relatives by 9.9pp in 1992, relative to a summed average of 3.7%. The estimates for 2002 show an aggregate reduction of 4.2pp, relative to an average of 5.7%. Hence, restricted access to college prevented the affected women from accessing paid employment and led them to domestic or unpaid work.

Columns 7 and 8 in Table 6 show that college enrolment has a large positive effect on the probability of having a white-collar, high-skill occupation in 1992 and 2002. In 1992, the estimated effect is 47pp, relative to an average of 43%. Appendix Table A7 shows that college entry also increases the probability of being part of the military, but the effect is much smaller. This positive effect could be due to improved screening during the military regime or to the fact that military officers will often also obtain a college degree as part of their formation. The increase in these occupations comes at the expense of low-skill white-collar occupations (i.e. clerical work) and blue-collar occupations to roughly the same extent. The magnitude of the estimates is smaller in 2002, but the pattern is very similar. In sum, college enrolment substantially determines access to the more prestigious occupations.

Panel (d) in Figure 9 shows that the effect of college entry on the probability of having a high-skill, white-collar occupation is twice as large for women than for men. The IV estimates for women in 1992 and 2002 are 64pp and 25pp, relative to respective female averages of 49% and 64%. The full results in Appendix Table A13 further show that the increase in job status for college-educated women predominantly comes from reductions in white-collar, low-skill work, while for men the negative effects are larger on blue-collar work. As expected, the association between college education and military status is also substantially larger for men.

6.3 Income and Wealth

To analyze the effects of college enrolment on income, we rely on information from the CASEN household survey. As mentioned in section 3, this is a repeated cross-section collected roughly every two years since 1990. We combine all the survey waves and exploit their relatively high frequency to estimate a more stringent specification that flexibly accounts for age effects in addition to our baseline equations. The CASEN survey includes information on several different measures of income. These include income from the main occupation, total work income (i.e. more than one job), self-generated income (i.e. including non-work income, but excluding government transfers), and total income (i.e. including government transfers). An important limitation of this data is that it is entirely based on self-reports and prone to measurement error. To the extent that measurement error affects the responses from people in different cohorts to the same extent, or is absorbed by the set of controls we discuss below, this is less of a concern.

Panel A in Table 7, shows reduced-form and IV estimates for all four income measures (in logs). The reduced-form results show positive trends for the pre-coup cohorts for all income measures except income from the main occupation in column 1. In columns 2-4, we observe that each new cohort in the pre-coup years has an average income that is roughly 1.2 log points higher than that of the one immediately preceding it. After the coup, this trend reverses and becomes negative: each new cohort has average income that is 1.1-1.6 log points lower than the one immediately before it. The corresponding IV estimates tell us that enrolling in college increases income by 65-102 log points on average. These averages are calculated over a 25-year period between 1990 and 2015. Appendix Figure A13 shows separate estimates for each survey wave. The results are fairly robust, indicating that our average effects are not driven by a small subset of survey years and that the affected cohorts experienced a systematic decline in income throughout the life cycle. Appendix Table A14 shows that these effects are very similar for men and women.

Panel B in Table 7 shows results from a modified specification that replaces the overall trend in income (which we use to build the counterfactual for the affected cohorts in our baseline analysis), with a more stringent set of age fixed effects. These fixed effects allow income to flexibly vary year-on-year at different points in the life cycle. The reduced-form estimates now tell us whether there is a trend in income for the affected cohorts, relative to what we observe for the control ones at the exact same age. The IV estimates rely on this post-coup trend as an excluded instrument for college enrolment. Despite the smaller sample size of CASEN, relative to the censuses, the instrument remains very strong in all specifications (F-stat $\geq$ 195).

The reduced-form results point to a negative trend of 0.7-1.0 log points per year. The corresponding IV estimates show that college enrolment has a positive effect on average income of 25-42 log points. These estimates are substantially smaller than those from our baseline specification, but remain quite sizable, especially when considering that our regressor of interest is college enrolment and not college graduation. The estimates are also very precise, with the exception of

work income in column 2, which is not statistically significant at conventional levels (p=0.121).

We complement the analysis on income using data on housing wealth from the 1992 population census. Based on the characteristics of the dwelling they occupy and the ownership of assets, households are classified into quintiles of housing wealth. Fifty percent of our sample of high-school graduates reaching age twenty between 1965 and 1980 belong to households in the top wealth quintile, 25% to the fourth quintiles, and 15, 8 and 3% to the lower three quintiles in that order. Table 8 shows estimates using the resulting quintile dummies as dependent variables. We observe that the affected cohorts are increasingly less-likely to reach the top of the socioeconomic ladder. While the pre-coup cohorts faced a negative trend of -0.4pp per year in the probability of belonging to a household in the top wealth quintile, this trend drops sharply for the cohorts that reach college age after the coup and reaches -1.5pp per year. The IV estimate shows that college enrolment increases the probability of reaching the top quintile by 30pp, equivalent to 60% of the sample mean. We estimate a roughly equal 9pp drop in the probability of being in each of the second, third and fourth wealth quintiles. We also find a quite sizable decrease in the probability of being in the bottom quintile of 2.2pp, equivalent to almost 90% of the sample mean.

In Appendix Table A16 we show that the effect of college enrolment on wealth mobility is larger for men. In particular, college entry increases men's probability of belonging to a household in the top quintile by 37pp, while it only increases this probability for women by 25 pp. This result can plausibly be driven by the household-level measurement of wealth, if women that do not go to college are relatively more likely to marry college-educated men than men that do not go to college are to marry college-educated women. If this is the case, the marriage market would attenuate the effect of college enrolment on female social mobility. We explore the effect of college on marital status in the following section.

7 Non-Economic Outcomes for the affected cohorts

In this section, we explore the effects of reduced college enrollment on non-economic outcomes for the affected cohorts. We first study marital status. We then focus on status within the household as a measure of economic dependence and vulnerability.

7.1 Marital status

Table 9 shows results for marital status. Panel A shows uses data from the 1992 census, while panel B shows results for 2002. Unfortunately, information on marital status is not available for 2017. The dependent variable in column 1 is a dummy for having ever been married. In columns 2-4, the dependent variables are dummies for being currently married, widowed or divorced, respectively. In these columns, we include an ever-married dummy as an additional control to ensure that we are only comparing post-marriage outcomes among people that have been married at some point

in the past.

We find that the affected cohorts are less likely (relative to the pre-coup trend) to have ever been married. The IV estimates indicate that college enrolment increases the probability of marriage by 25pp in 1992 and by 7pp in 2002. We also find that conditional on having been married, the affected cohorts are increasingly likely to report being widows, both in 1992 and 2002. These effects are quite large and the IV results show that college enrolment reduces the probability of being a widow by 4.2 pp in 1992 and by 9.6 pp in 2002, which correspond in both cases to more than four times the sample average. The fact that we observe increased widowing in younger cohorts goes entirely against any possible age effects. More generally, this result suggests the existence of a negative relationship between college enrolment and mortality (Buckles et al., 2016), if we assume that people plausibly tend to marry people of roughly the same age. However, the data sources employed in this paper are not ideal for studying this topic and we reserve further exploration for a future study.

Panel (a) in Figure 10 shows IV estimates by gender for the probability of ever marrying (Appendix Table A18 provides full results). In both censuses, we observe that the effect of college enrolment on the probability of having ever been married is two to five times larger for men than it is for women. One possible explanation is that women without college are more likely to get married than men without college, which reduces the marital college premium for women. Another explanation is that college enrolment has two opposite effects on women. Even though it makes them more attractive partners in the marriage market, it also increases their leverage and enables them to wait for a better match, thereby partially offsetting the first effect. Given that in both years the share of men without college that have ever been married exceeds the share of women without college that have ever been married, we find the second explanation to be more plausible.[26]

Panel (b) in Figure 10 shows disaggregate estimates by gender of the effect of college enrollment on the probability of being a widow (conditional on having ever been married). The effect is 3-5 times larger for women. This suggests that the effect of college on mortality is actually larger for men. At the same time, this result indicates that as a result of higher widowing, women without college are more likely to lead single-parent households, which could also help explain the larger effect on their children's college enrollment.

7.2 Status Within the Household

We exploit the information on household composition available in all censuses to study the effects of reduced educational attainment on status within the household. We focus on household heads

[26]The respective averages for men and women are 89% and 81% in 1992. In 2002, these averages are 91% and 83%. In both years, the difference in means is statistically significant at the 0.01% level.

and their spouses, children and parents.[27]

Table 10 shows results for the probability of being in each of the above categories in each of the census years. One big pattern emerges. At all points in time, the cohorts affected by the reduction in college enrolment after the military coup experience a reduction in the trend for household head or spouse and a corresponding increase in the trend for child or parent of the household head. This constitutes evidence of increased economic vulnerability for the affected cohorts throughout the life cycle, which systematically prevents them from obtaining economic independence. It is striking to note that as early as 1992 we observe a relative increase in the probability of being parents of the household head for these cohorts and that as late as 2017 we observe a relative increase in their probability of being children of the head. These findings make it less likely that we are just capturing age effects (i.e. older people are always more likely to be household heads). The IV estimates tell us that college enrolment increases the probability of being the household head or spouse by 15-36 pp., amounting to 17-45% of the respective sample means.

Appendix Table A17 provides disaggregate results by gender. We find several interesting patterns. First, the effect of college enrolment on the probability of being the household head or spouse is 30-50% larger for men than for women in 1992 and 2017. Second, in these same years, the effect for men comes exclusively from household head status, while the effect for women comes exclusively from spouse status (see panel (c) in Figure 10). In other words, the women that are not living as dependents of their parents or children as a result of going to college, all report being spouses of the household head rather than heads themselves. Third, while college enrolment leads to a reduction in the probability of being a dependent (i.e. child or parent of the head) for both genders at all points in time, the effect on child status is systematically larger for men, while that on parent status is systematically larger for women.

8 Explaining the Inter-generational Transmission of College Enrollment

The results in the previous sections show that college enrollment has positive effects on several economic and non-economic outcomes. Unfortunately, most of these results rely on information from the 1992 and 2002 censuses, preventing us from directly testing for the possible role of these outcomes as mediating factors in the intergenerational transmission on college enrollment. In this section, we study two possible mechanisms that can actually be tested (to some extent) with the data from the 2017 census. The first one is assortative matching by people with a college education. The second one is changes in fertility and caring of children.

[27] We combine spouses and partners into a single category. We combine own children, stepchildren and grandchildren into a single category. We also combine parents of the household head and parents of the partner/spouse into a single category. A residual category left out of the analysis comprises individuals living with their siblings or other relatives.

8.1 Assortative Matching

To study the role of assortative matching, we focus on the set of children of the household head in our sample of linked parents and children. For these observations we can easily identify the spouse of the parent and his or her educational attainment. The dependent variable in column1 of Table 11 is a dummy indicating whether there is a person in the household reported as the spouse or partner of the parent (i.e. household head). We find that parents in the affected cohorts are less likely to have a spouse. The IV estimate indicates that college enrollment increases the probability of a spouse in the household by 13 pp. Column 2 then asks whether, conditional on a partner being present, that partner has any college education. We find strong evidence of positive assortative matching. Parents in the affected cohorts are substantially less likely to have a spouse with college and the IV estimate indicates that college enrollment increases the probability of a spouse with any college by 36 pp. This is a very large effect, relative to the sample mean of 21%. Panel (d) in Figure 10 shows that this effect is larger for women, though the gender-specific estimates are somewhat imprecise and not statistically different from one another.

Column 3 in Table 11 re-estimates the intergenerational effect of college enrollment (only for the sample of children of the household head), including an additional control for whether we observe a spouse of the parent. The results change very little compared to the estimates in column 5 of Table 4. In column 4, we restrict the sample to children of heads for which we can observe the spouse. The magnitude of the IV coefficient drops somewhat to 0.20. Finally, column 5 replicates the analysis for the same sample as in column 4, but including as an additional control a dummy for whether the spouse of the parent has any college. The magnitude of the intergenerational correlation in college enrollment drops 35% and the estimate is no longer statistically significant. This indicates that assortative matching of people with college plays an important role in the propensity of their children to enroll in college.

8.2 Fertility and Child Survival

Finally,in Table 12 we study the role of fertility. For this part of the analysis, we restrict the sample to those children that we are able to connect to their mother, as detailed information on fertility is only available for women in the census. Before that, column 1 in Table 12 shows results on the total number of children for the full sample of women in the census (i.e. with full secondary and reaching age twenty between 1965 and 1980). We find that fertility in the affected cohorts is higher relative to the pre-existing trend. The IV estimate indicates that college enrollment reduces total fertility by 0.29 children, which is equivalent to 12% of the sample average of 2.6 children per woman. Column 2 replicates the analysis for the sample of mothers. The point estimates are essentially identical to the larger sample, but the standard errors are much larger, arguably as a result of the 78% reduction in sample size.

Column 3 returns to the full sample of women and uses the share of children alive as dependent variable. The reduced-form results indicate that child survival drops for women in the affected cohorts. This suggests that children with mothers in the affected cohorts experienced worse health conditions on average. The IV result tells us that college enrolment reduces child mortality by 1.6 pp, which is a very large effect considering that 97% of children born to these women are still alive. Column 4 replicates the analysis for the smaller sample of mothers. Again, the results are quite similar to the ones in the larger sample, but the standard errors are much larger and the estimates are not statistically significant.

Using the sample of mothers, column 5 examines the effect of college enrollment on their age at the time the child was born. For this regression, we drop the age (of child) fixed effects to avoid perfect multicollinearity with the cohort trend. We find that age at birth is lower for women in the affected cohorts, with an IV estimate for the effect of college enrollment of one extra year. However, the estimate is imprecise and not statistically significant.

Columns 6-9 introduce additional controls related to fertility to examine their influence on the estimated effect of maternal college enrollment on the enrollment of their children. Controlling for the total number of children by the mother has little effect on the estimates (i.e. relative to the results in column 2 of table 5). This suggests that the intergenerational transmission of college enrollment is not driven by women without college having more children in a simple quantity-quality trade-off. Column 7 further shows that controlling for whether the mother reports having lost a child is also inconsequential. In column 8, we replace the age fixed effects from our most-preferred specification with age-at-birth fixed effects. This leads to a 25% reduction in the size of the IV estimate. Column 9 verifies that the results look fairly similar if we replace the cohort trend with age fixed effects. Taken together, these results indicate that lower age-at-birth on the part of mothers without college also plays an important role in the lower propensity to enroll in college of their children.

9 Conclusion

This paper studies the intergenerational link in college enrollment. Exploiting cross-cohort variation in the age of college enrolment around the time of the military coup that brought Pinochet to power, we show that the cohorts that reached college age shortly after the coup experienced a sharp decline in college enrolment. This reduction in educational attainment had profound effects that chased these cohorts for the rest of their lives. Higher unemployment, worse occupations, and lower incomes are just some of the economic consequences that we document. Ultimately, this reduction in educational attainment leads to a reduction in the probability of enrolling in college for their children. We estimate a causal effect of parental college enrollment of 22-28 percentage points. This is a large effect corresponding to about 50% of the college enrollment rate in our sam-

ple of children with ages between 25 and 40. Additional evidence indicates that positive assortative matching by parents with college and higher age-at-birth with mothers with college help explain a fair share of this effect.

We draw two main lessons from these findings. The first one concerns the role of higher education in social mobility. Our findings show that in a developing country, such as the Chile of the 1970s, growing college enrolment served as a platform that propelled people into better jobs and higher incomes. The collapse in college openings for incoming students after the military coup effectively prevented an entire generation of Chileans, irrespective of background, from reaching the top of the socioeconomic pyramid. Access to a college education was indeed the great equalizer in the setting we study. Our results further show that primary completion is unaffected by parental educational attainment, meaning that the playing field is level up to full primary (leaving aside differences in quality). However, as early as the first year of secondary, parental education starts to make a difference. Hence, policies that keep youth from disadvantaged backgrounds from dropping out before completing secondary education are also still needed.

The second concerns the relationship between political regimes, higher education and economic prosperity and equality. As Figure 1 shows, the negative correlation between non-democracy and enrolment in tertiary education is not a purely Chilean phenomenon. What our findings show is that the political impetus that drives authoritarian regimes to crack down on higher education can have long-lasting economic consequences. On the one hand, doing so reduces the human capital of those affected and their children, thereby plausibly reducing productivity growth and long-term economic growth. On the other hand, insofar as higher education is the 'great equalizer', the hostile policies towards higher education implemented by non-democracies impede social mobility and aggravate inequality. Whether those left behind by lack of opportunities in higher education become increasingly mobilized against the regime is a question that warrants further research.

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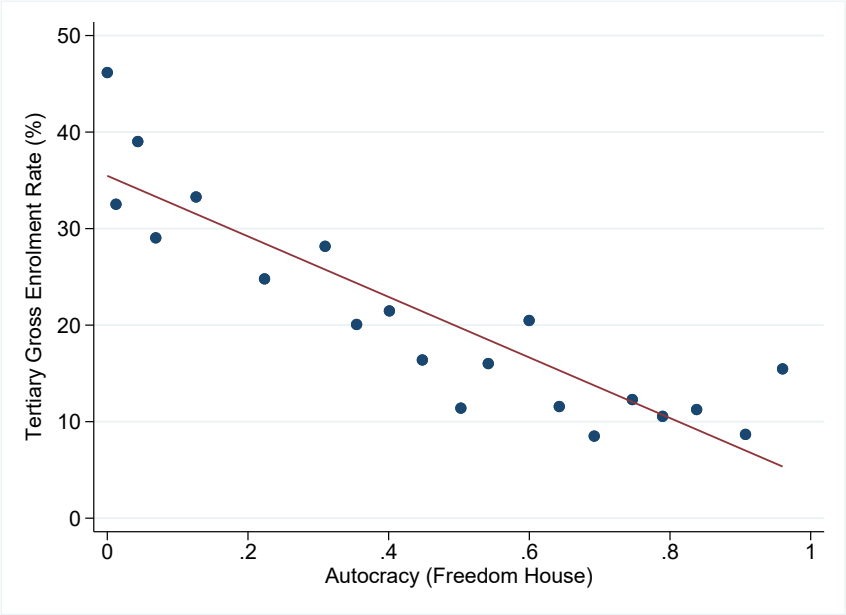
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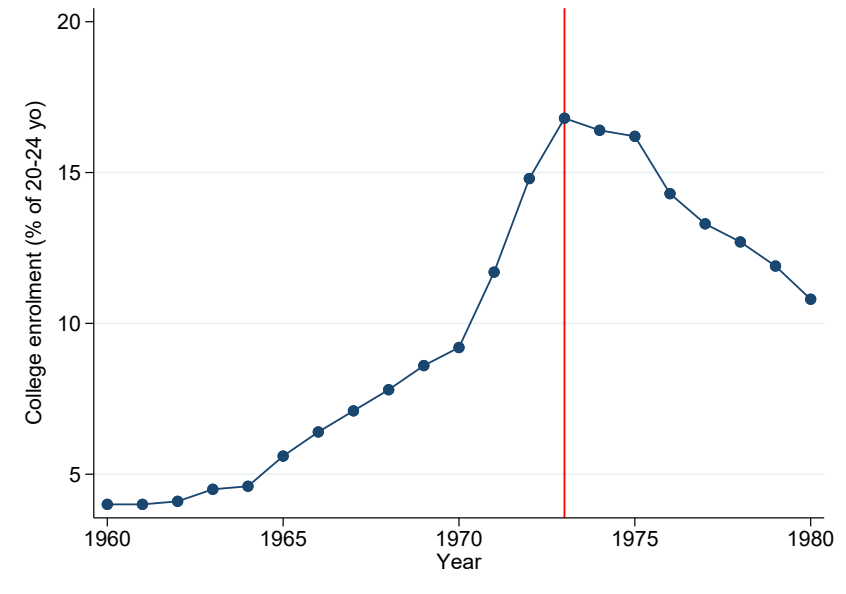
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Figure 1: Autocracy and the Tertiary Enrolment Rate



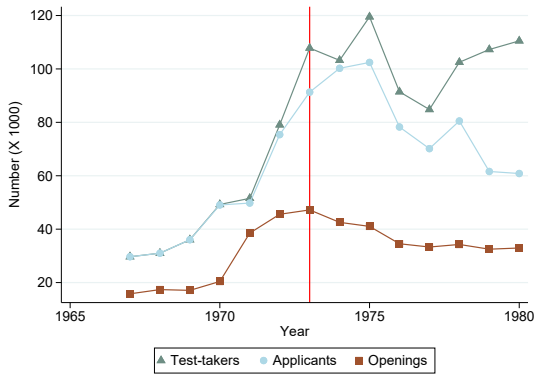
Notes: Figure shows a binned scatterplot of gross enrolment in tertiary education (i.e. number of students in higher education divided by population in the 5-year age group starting from the official secondary school graduation age) against the Freedom in the World index produced by Freedom House (normalized to range from zero to one, with higher values corresponding to more authoritarian regimes). Averages by country for the period 1972-2016.

Figure 2: Gross College Enrolment Rate

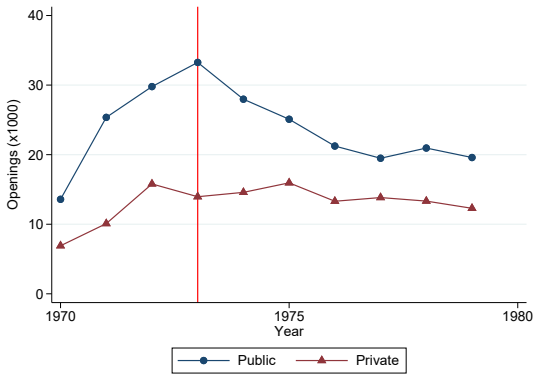


Notes: Figure shows the gross college enrolment rate, defined as the total number of college students divided by the population with ages 20-24. The solid line shows the year of the military coup.

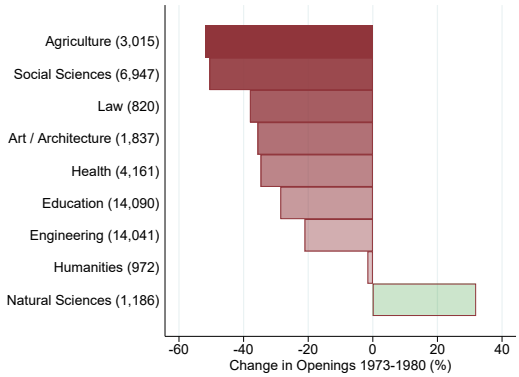
Figure 3: Demand and supply of college openings



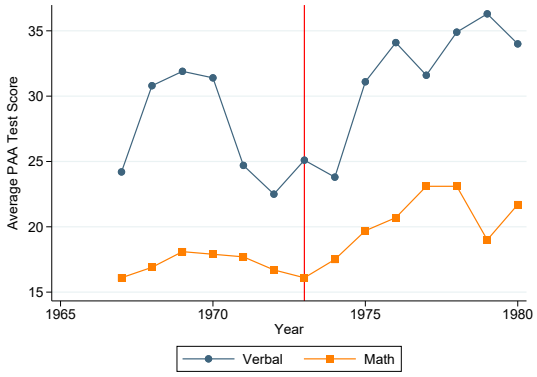
(a) Total Applicants and Openings



(b) Openings: Public vs Private Universities



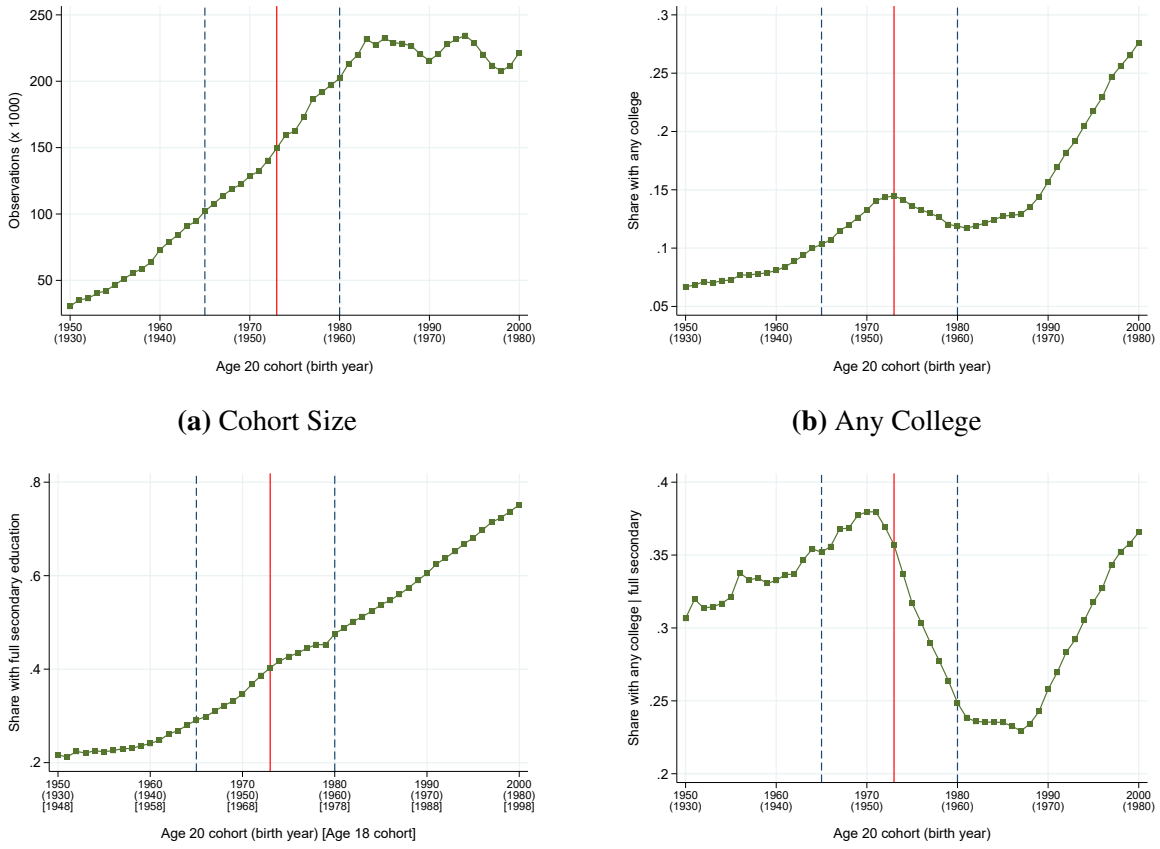
(c) Change in Openings by Field



(d) PAA Test Scores

Notes: Panel (a) shows the yearly number of people that took the PAA test for college admission, the number of applicants to college and the number of openings for incoming students offered by the universities. Panel (b) shows the number of openings separately for the six private universities and for the two public ones. Panel (c) shows the change in openings by field, using UNESCO categories, between 1973 and 1980. The number in parenthesis corresponds to the number of openings per field in 1973. Panel (d) shows the raw average in the verbal and math components of the PAA test. Sources: Universidad de Chile (1972, 2011); PIIE (1984); Brunner (1984); Echeverría (1980); Díaz and Himmel (1985).

Figure 4: The military coup and college enrolment



(a) Cohort Size

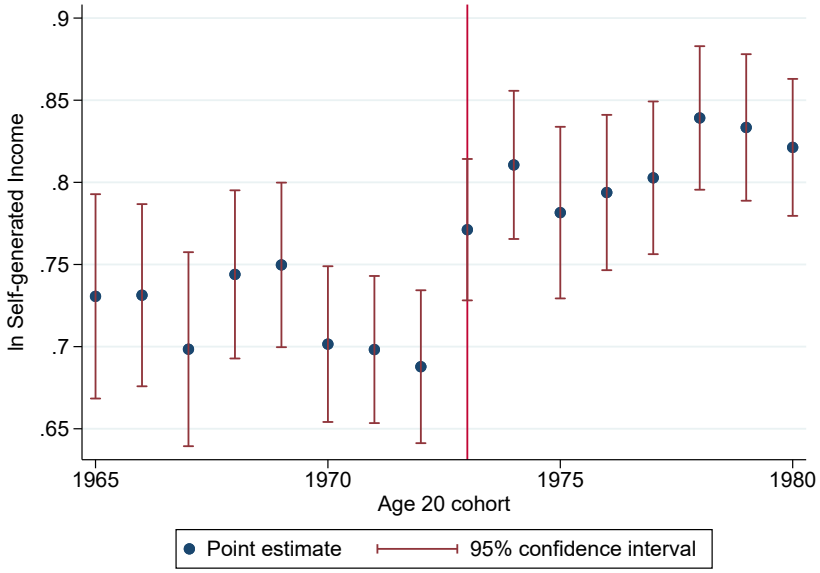
(b) Any College

(c) Full Secondary

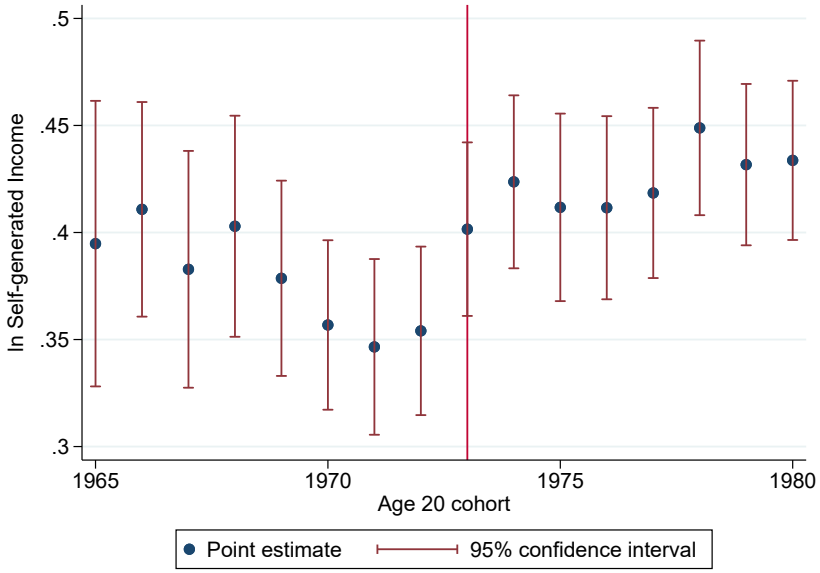
(d) Any College | Full Secondary

Notes: Panel (a) shows the total number of people per cohort in the 2017 population census. Panel (b) shows the share of census respondents per cohort (normalized to age 20) that report college as their highest educational level. Panel (c) shows the share of census respondents per cohort that report full secondary or higher, while panel (d) shows the share of people with complete secondary that report any college. The solid line shows the year of the military coup. Dashed lines show the start (1965) and end date (1980) of the sample period for the analysis.

Figure 5: Cohort-specific Estimates of the College Premium



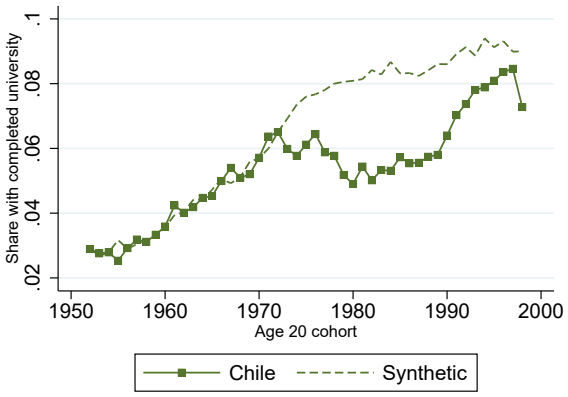
(a) Without occupation fixed effects



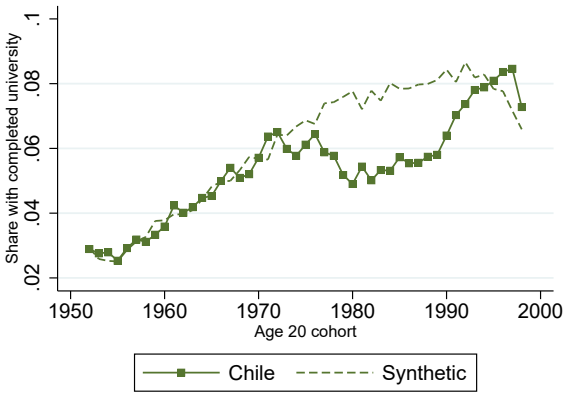
(b) With Occupation fixed effects

Notes: Both panels show results from a regression of log real self-generated income on a full set of interactions of a dummy for any college education with cohort fixed effects. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). Regressions include county of residence x gender, survey year and age fixed effects. Panel (b) also includes occupation fixed effects. Standard errors are clustered by county of residence. N=110,990 and 96,065 respectively.

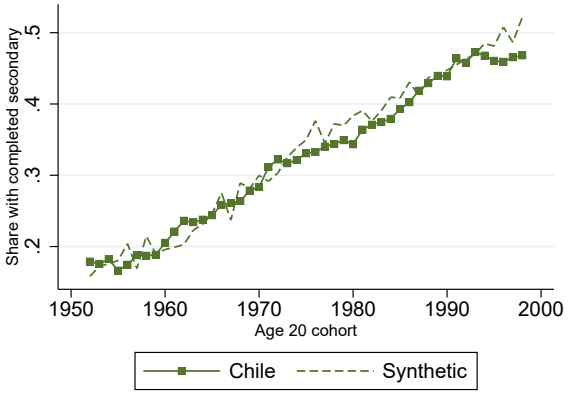
Figure 6: Synthetic control



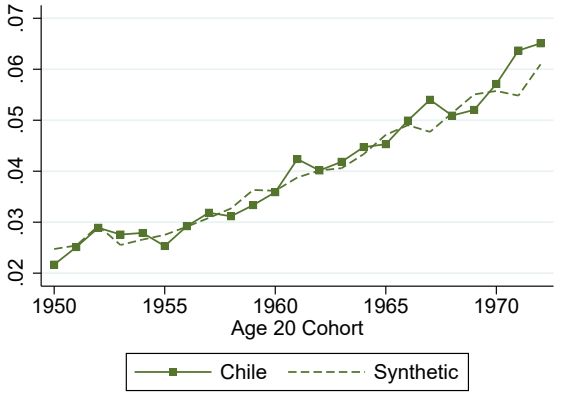
(a) Without controls



(b) With controls



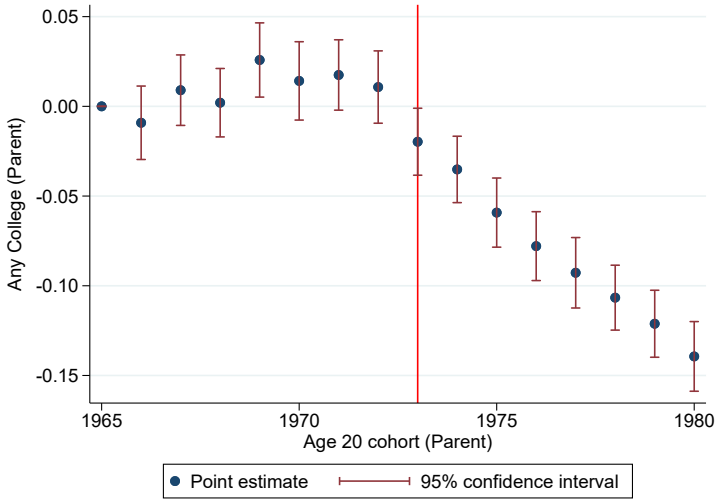
(c) Secondary education



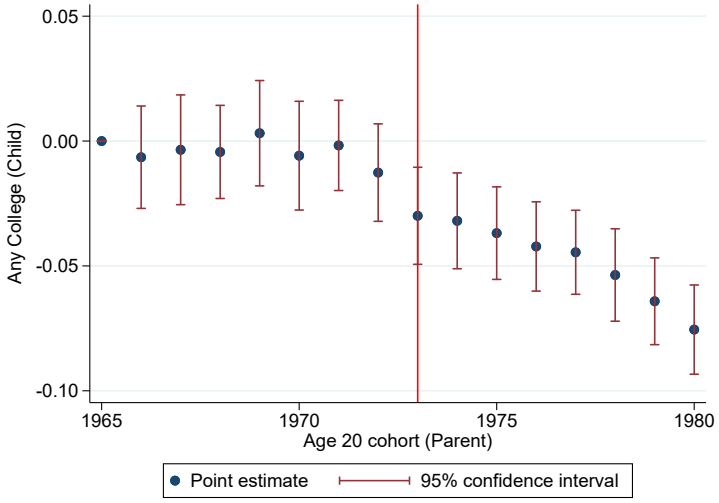
(d) Placebo

Note: Panels show observed rates of educational attainment by cohort in the 2002 population census (solid line) and counterfactuals from a synthetic control (dashed line). See the test for additional information on sample construction and estimation. The outcome in panels (a), (b) and (d) is the share of people with full college education, while in panel (c) is the share of people with full secondary education. Panel (b) includes the share of people with ages 18-65, the share of women and the share of people with secondary education as additional controls. Panel (d) uses 1960 as a placebo treatment date for the military coup.

Figure 7: Non-Parametric Estimates of Inter-generational Transmission of College Education



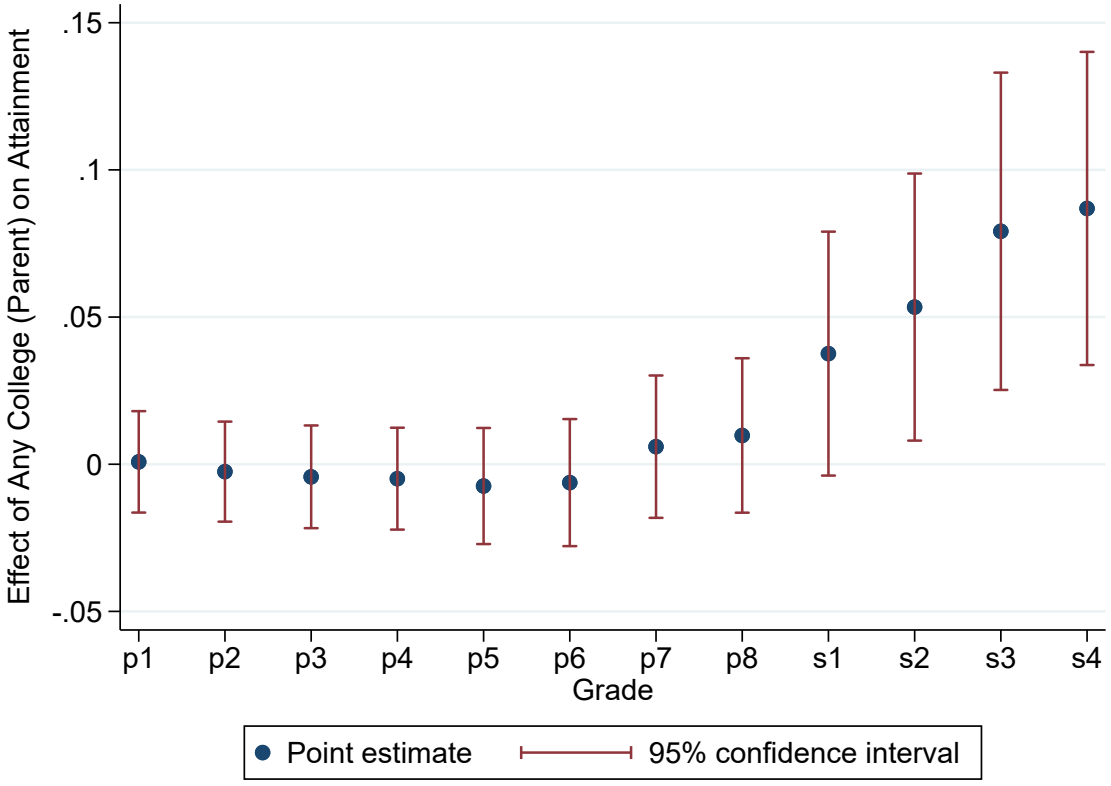
(a) Any College (Parent)



(b) Any College (Child)

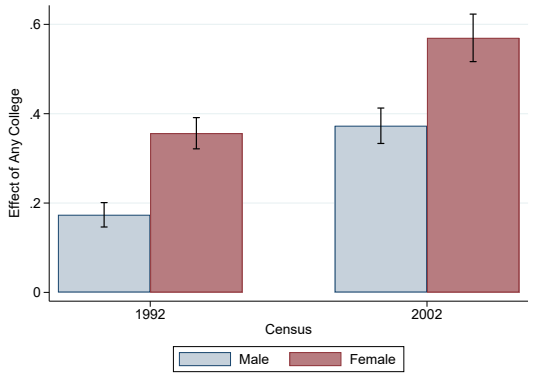
Notes: Sample includes all respondents in the 2017 census between the ages of 25 and 40 that we can connect to at least one parent that (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. Possible parent-child linkages include: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. Panel (a) shows results from a regression of Any College for the parent on a full set of parent cohort dummies. Panel (b) shows the equivalent regression using Any College for the child as dependent variable. Both regressions include county of birth x gender, parent's gender x (child) gender, age and relationship to household head fixed effects. Standard errors clustered by county of birth.

Figure 8: Educational Attainment of Children by Grade (Census 2017)

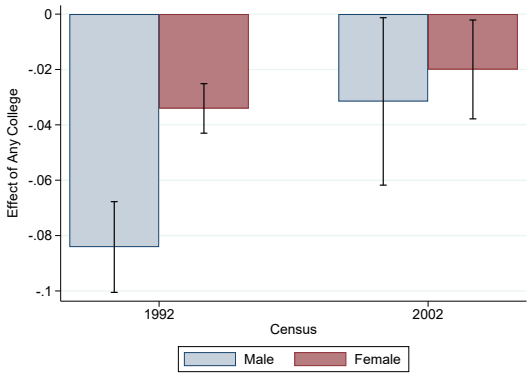


Notes: Each marker corresponds to a separate regression. Sample includes all respondents in the 2017 census between the ages of 25 and 40 that we can connect to at least one parent that (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. Possible parent-child linkages include: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. The dependent variable in each regression is a dummy equal to one if the child has education at or above the respective grade (primary 1-8, secondary 1-4). Each marker is the IV estimate of the effect of any college education by the parent. The excluded instrument is "Age 20 Parent x $\mathbb{1}$(Age 20 Parent $\geq$ 1973)", the interaction of a continuous variable indicating the year at which the HH head reached twenty years of age, normalized to zero in 1972, with a dummy for HH heads that reached age twenty on or after 1973. The first-stage Kleibergen-Paap F-Statistic is 206. The baseline trend is an included instrument in all regressions. All regressions include county of birth x gender, parent's gender x (child) gender, age and relationship to household head fixed effects. Standard errors clustered by county of birth.

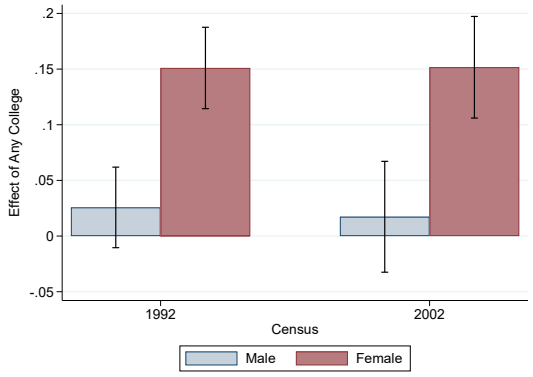
Figure 9: Heterogeneous Effects of College Education by gender



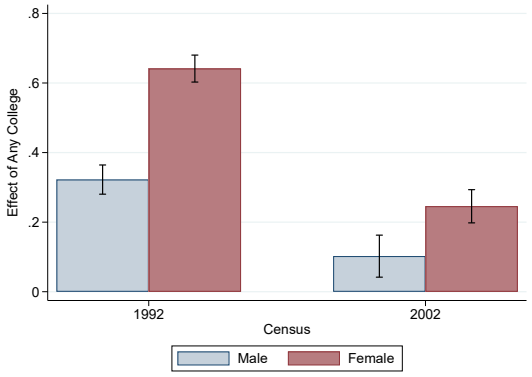
(a) Labor Force Participation



(b) Unemployment



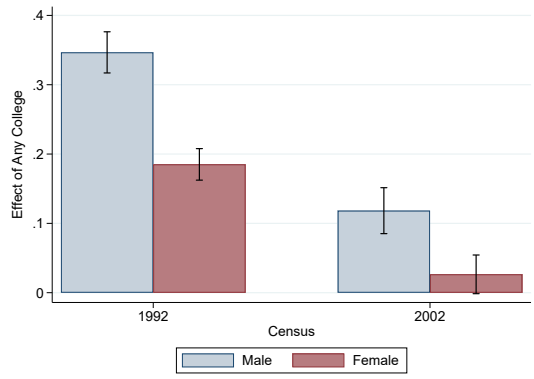
(c) Salaried Employment



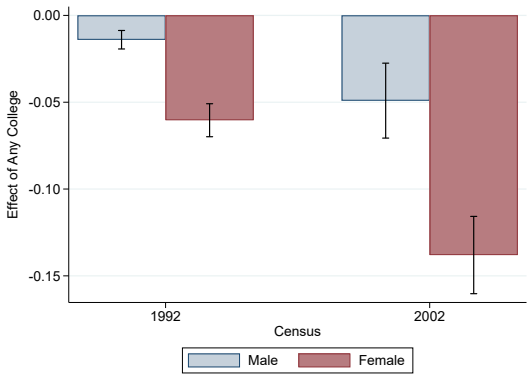
(d) White-Collar, High-Skill Occupation

Notes: Each pair of bars (male and female) shows IV gender-specific estimates of the effect of Any College on the variable in the caption. Sample includes all respondents from the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). The gender-specific interaction term 'Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is used as the respective excluded instrument for any college education. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "$\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is a dummy for cohorts that reached age twenty on or after 1973. The respective cohort-gender trends are included instruments. All regressions include county x gender fixed effects. Panel (b) includes labor-force participation fixed effects. Standard errors clustered by county of birth in parentheses. Full results available in the online appendix.

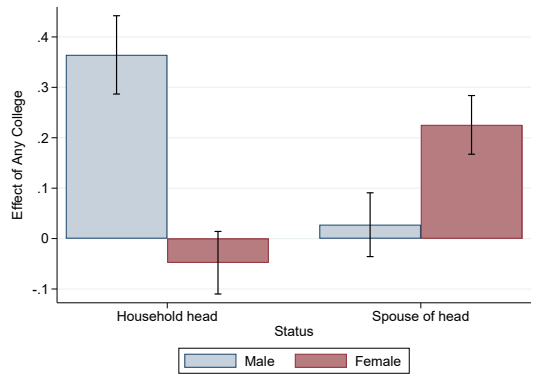
Figure 10: Heterogeneous Effects of College Education by gender (continued)



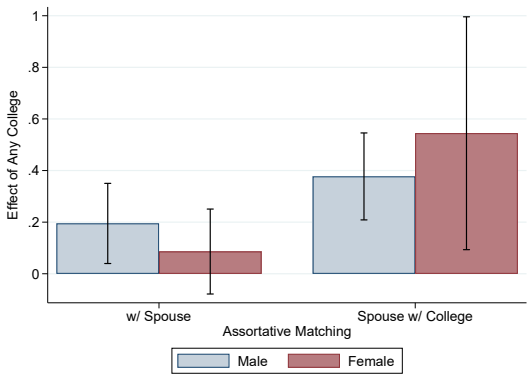
(a) Ever Married



(b) Widowed



(c) Within-Household Status (2017)



(d) Spousal Characteristics (2017)

Notes: Each pair of bars (male and female) shows IV gender-specific estimates of the effect of Any College on the variable in the caption. In panels (a) - (c), sample includes all respondents from the respective source from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). In panel (d), the sample includes all respondents in the 2017 census between the ages of 25 and 40 that are children of household heads meeting two conditions: (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. In the regression for educational attainment by parent's spouse, sample is further restricted to respondent's for which we observe the spouse of the household head. Spouse includes married, civil union and living together. The gender-specific interaction term "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is used as the respective excluded instrument for any college education. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "$\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is a dummy for cohorts that reached age twenty on or after 1973. The respective cohort-gender trends are included instruments. Regressions in panels (a)-(c) include county of birth x gender fixed effects. Regressions in panel (d) include county of birth x gender, parent's gender x (child) gender, and age (of child) fixed effects. Standard errors clustered by county in parentheses. Full results available in the online appendix.

Table 1: Educational attainment: Higher education (Census 2017)

Dependent variable:	Enrolment			Completion		
	College	Technical	Higher	College	Technical	Higher
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Yr Age 20	0.002***	0.0001	0.002***	0.0001	-0.0002	-0.0000
	(0.0005)	(0.0004)	(0.0006)	(0.0004)	(0.0004)	(0.0005)
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.018***	0.004***	-0.014***	-0.011***	0.004***	-0.006***
	(0.0007)	(0.0003)	(0.0007)	(0.0006)	(0.0003)	(0.0006)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	912,487	912,487	912,487	912,487	912,487	912,487
R-squared	0.042	0.007	0.039	0.031	0.007	0.027
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.320	0.119	0.440	0.265	0.110	0.374

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 2: Educational attainment (Within quintile - 1992)

Sample (Quintile):	Dependent variable: Any college				
	Q5 (highest)	Q4	Q3	Q2	Q1 (lowest)
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 20	0.019***	0.016***	0.016***	0.012***	0.011***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.039***	-0.032***	-0.031***	-0.027***	-0.025***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	468,096	236,922	138,177	76,104	23,345
R-squared	0.042	0.037	0.038	0.036	0.060
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.416	0.212	0.168	0.129	0.126

Notes: Dependent variable in the header. The sample in each column includes all 1992 census respondents from cohorts born between 1945 and 1960 (both inclusive) classified in the respective quintile, but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender and household fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3: Educational attainment: Within household (Census 1992, 2002 and 2017)

	Dependent variable: Any College					
Source (Census):	1992		2002		2017	
Relationship to HH head:	Children	Siblings	Children	Siblings	Children	Siblings
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Yr Age 20	0.016***	0.018***	0.008	0.005	0.002	0.005
	(0.003)	(0.004)	(0.005)	(0.004)	(0.009)	(0.004)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.040***	-0.041***	-0.027***	-0.020***	-0.020	-0.019***
	(0.004)	(0.006)	(0.007)	(0.005)	(0.013)	(0.005)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Household FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,924	13,230	13,602	12,081	4,722	18,512
R-squared	0.653	0.667	0.653	0.675	0.698	0.675
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.287	0.304	0.304	0.324	0.292	0.306

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). Odd-numbered columns include household heads and respondents classified as siblings. Even-numbered columns include respondents classified as children of the household head. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender and household fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4: Educational attainment of children (Census 2017)

	(1)	(2)	(3)	(4)	(5)	(6)
PANEL A: First Stage - Dependent variable: Any College (Parent)						
[a] Yr Age 20 Parent	0.002***	0.003***	0.003***	0.002**	-0.000	-0.001
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0009)
[b] Yr Age 20 Parent	-0.017***	-0.018***	-0.018***	-0.017***	-0.018***	-0.018***
x $\mathbb{1}$(Yr Age 20 Parent $\geq$ 1973)	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0012)
PANEL B: Reduced form - Dependent variable: Any College						
[a] Yr Age 20 Parent	0.002**	0.002***	0.002***	0.002**	-0.002***	-0.003***
	(0.0009)	(0.0009)	(0.0009)	(0.0009)	(0.0008)	(0.0007)
[b] Yr Age 20 Parent	-0.004***	-0.004***	-0.004***	-0.004***	-0.005***	-0.004***
x $\mathbb{1}$(Yr Age 20 Parent $\geq$ 1973)	(0.0013)	(0.0013)	(0.0013)	(0.0013)	(0.0012)	(0.0011)
PANEL C: IV - Dependent variable: Any College						
Any College (Parent)	0.214***	0.215***	0.216***	0.212***	0.275***	0.230***
	(0.0664)	(0.0659)	(0.0659)	(0.0666)	(0.0591)	(0.0564)
PANEL D: OLS - Dependent variable: Any College						
Any College (Parent)	0.274***	0.273***	0.273***	0.273***	0.263***	0.243***
	(0.0041)	(0.0041)	(0.0041)	(0.0041)	(0.0043)	(0.0040)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Parent gender FE	No	Yes	No	No	No	No
Parent gender x gender FE	No	No	Yes	Yes	Yes	Yes
Relationship to HH head FE	No	No	No	Yes	Yes	Yes
Age FE	No	No	No	No	Yes	Yes
Full secondary FE	No	No	No	No	No	Yes
Observations	228,608	228,608	228,608	228,608	228,608	228,608
R-squared (panel A)	0.085	0.087	0.087	0.088	0.095	0.099
R-squared (panel B)	0.044	0.045	0.046	0.046	0.063	0.132
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.000	0.000	0.000
p-value a+b=0 (panel B)	0.002	0.006	0.006	0.003	0.000	0.000
Mean of dep. variable (panel A)	0.308	0.308	0.308	0.308	0.308	0.308
Mean of dep. variable (Panels B-D)	0.582	0.582	0.582	0.582	0.582	0.582
First-stage KP F-stat (Panel C)	189.1	191.0	191.3	185.9	205.9	208.5

Notes: Dependent variable in the header of each panel. Sample includes all respondents in the 2017 census between the ages of 25 and 40 that we can connect to at least one parent that (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. Possible parent-child linkages include: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. "Yr Age 20 Parent" is a continuous variable indicating the year at which the parent reached twenty years of age, normalized to zero in 1972. "Yr Age 20 Parent x $\mathbb{1}$(Yr Age 20 Parent $\geq$ 1973)" is the interaction of this variable with a dummy for parents that reached age twenty on or after 1973. In panel C, the interaction term is used as excluded instrument for any college education by the Parent (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Columns 2 adds parent's gender fixed effects. Column 3 includes parent's gender x (child) gender fixed effects instead. Column 4 includes fixed effects for each possible relationship to the head of the household, based on the linkages above. Column 5 adds age (of child) fixed effects, and columns 6 adds a dummy for whether the children completed secondary. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5: Educational attainment of children: Heterogeneous effects by gender (Census 2017)

Source of heterogeneity:	**Parent's gender**		**Child's gender**	
	(1)	(2)	(3)	(4)
Panel A: First Stage and Reduced Form				
Dependent variable:	Any College (Parent)	Any College	Any College (Parent)	Any College
[a] Yr Age 20 Parent x 𝟙(Male)	-0.002*	-0.003***	0.000	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 20 Parent x 𝟙(Male) x 𝟙(Yr Age 20 Parent ≥ 1973)	-0.015***	-0.003*	-0.018***	-0.005***
	(0.002)	(0.002)	(0.002)	(0.002)
[c] Yr Age 20 Parent x 𝟙(Female)	0.002	-0.001	-0.001	-0.002**
	(0.001)	(0.001)	(0.001)	(0.001)
[d] Yr Age 20 Parent x 𝟙(Female) x 𝟙(Yr Age 20 Parent ≥ 1973)	-0.022***	-0.008***	-0.018***	-0.005***
	(0.002)	(0.002)	(0.001)	(0.001)
Panel B: OLS and IV - Dependent variable: Any College				
	OLS	IV	OLS	IV
[e] Any College Parent (Male)	0.265***	0.182*	0.269***	0.293***
	(0.004)	(0.095)	(0.005)	(0.083)
[f] Any College Parent (Female)	0.258***	0.360***	0.256***	0.256***
	(0.005)	(0.072)	(0.005)	(0.080)
Birth county x gender FE	Yes	Yes	Yes	Yes
Parent gender x gender FE	Yes	Yes	Yes	Yes
Relationship to household head FE	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes
Observations	228,608	228,608	228,608	228,608
R-squared [Panel A]	0.064	0.095	0.063	0.095
R-squared [Panel B]	0.118	-	0.118	-
p-value a+b=0 [Panel A]	0.000	0.000	0.000	0.000
p-value c+d=0 [Panel A]	0.000	0.000	0.000	0.000
p-value a=c [Panel A]	0.003	0.087	0.072	0.929
p-value a+b=c+d [Panel A]	0.001	0.001	0.565	0.221
p-value e=f [Panel B]	0.094	0.127	0.005	0.746
Mean of dependent variable (Female) [Panel A]	0.563	0.282	0.615	0.303
Mean of dependent variable (Male) [Panel A]	0.594	0.326	0.549	0.313
Mean of dependent variable (Female) [Panel B]	0.563	0.563	0.615	0.615
Mean of dependent variable (Male) [Panel B]	0.594	0.594	0.549	0.549
First-stage KP F-stat (Panel B)	-	43.5	-	90.9

Notes: Dependent variable in the header of each column in panel A, and Any College in panel B. Sample includes all respondents in the 2017 census between the ages of 25 and 40 that we can connect to at least one parent that (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. Possible parent-child linkages include: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. "Yr Age 20 Parent" is a continuous variable indicating the year at which the parent reached twenty years of age, normalized to zero in 1972. "Yr Age 20 Parent x 𝟙(Yr Age 20 Parent ≥ 1973)" is the interaction of this variable with a dummy for parents that reached age twenty on or after 1973. In the columns 1-2, we include separate versions of these variables by gender of the the observed parent. In columns 3-4, we include an analogous disaggregation by gender of the child. In the even-numbered columns in panel B, the interaction term is used as excluded instrument for "Any College" by the parent (the trend is an included instrument). All regressions include (i) county of birth x child gender, (ii) parent gender x child gender, and (iii) age (of child) fixed effects. Standard errors clustered by county of birth of child in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Labor market effects (Census 1992, 2002)

Census year:	In Labor Force		Seeking Work		Wage-Earner		High-skill, white-collar	
	1992	2002	1992	2002	1992	2002	1992	2002
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
[a] Yr Age 20	0.005***	0.014***	-0.0004***	-0.0000	0.007***	0.008***	0.003***	-0.006***
	(0.0002)	(0.0003)	(0.0001)	(0.0001)	(0.0004)	(0.0003)	(0.0005)	(0.0005)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.010***	-0.012***	0.002***	0.001***	-0.003***	-0.002***	-0.017***	-0.004***
	(0.0004)	(0.0004)	(0.0002)	(0.0002)	(0.0005)	(0.0005)	(0.0008)	(0.0005)
IV: Any College	0.281***	0.487***	-0.058***	-0.028***	0.085***	0.082***	0.469***	0.167***
	(0.013)	(0.020)	(0.004)	(0.010)	(0.014)	(0.019)	(0.017)	(0.019)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
In labor force FE	No	No	Yes	Yes	No	No	No	No
Observations	958,588	1,118,137	958,588	1,118,137	725,919	858,524	722,984	826,020
R-squared	0.202	0.132	0.014	0.023	0.016	0.015	0.033	0.022
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2124.3	999.9	1885.0	882.1	2002.8	751.0	1976.7	830.0
Mean of dependent variable	0.760	0.770	0.033	0.063	0.754	0.681	0.430	0.593

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Even-numbered columns include labor-force participation fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7: Reported income (CASEN 1990-2015)

Dependent variable (log income):	Main occupation	All work	Self-generated	Total
	(1)	(2)	(3)	(4)
		Panel A: Linear Trend		
[a] Yr Age 20	0.001	0.012***	0.014***	0.012***
	(0.002)	(0.003)	(0.002)	(0.002)
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.016***	-0.023***	-0.026***	-0.023***
	(0.003)	(0.003)	(0.003)	(0.003)
IV: Any College	0.650***	0.976***	1.021***	0.923***
	(0.111)	(0.142)	(0.117)	(0.114)
		Panel B: Age Fixed effects		
Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.007**	-0.006	-0.010***	-0.010***
	(0.003)	(0.004)	(0.003)	(0.003)
IV: Any College	0.288**	0.250	0.398***	0.417***
	(0.122)	(0.161)	(0.128)	(0.127)
County x gender FE	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes
Age FE (panel B)	Yes	Yes	Yes	Yes
Observations	95,144	89,297	110,990	110,990
R-squared (panel A)	0.166	0.147	0.152	0.154
R-squared (panel B)	0.169	0.155	0.159	0.159
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.000
First-stage KP F-stat (panel A)	294.6	262.3	316.2	316.2
First-stage KP F-stat (panel B)	250.7	195.7	281.4	281.4
Mean of dependent variable (level)	667,924	707,379	735,093	738,246

Notes: Dependent variable in the header. Real income deflated using yearly CPI. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of residence x gender and survey year fixed effects. In panel B, the cohort trend is replace by a full set of age fixed effects. Standard errors clustered by county of residence in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Housing wealth quintiles (Census 1992)

Dependent variable: Housing wealth quintile (dummy)	Q5 (highest)	Q4	Q3	Q2	Q1 (lowest)
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 20	-0.004***	0.0004	0.002***	0.001***	0.001***
	(0.0005)	(0.0004)	(0.0003)	(0.0003)	(0.0002)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.011***	0.004***	0.004***	0.003***	0.001***
	(0.0007)	(0.0006)	(0.0004)	(0.0003)	(0.0002)
IV: Any College	0.301***	-0.099***	-0.096***	-0.085***	-0.022***
	(0.021)	(0.016)	(0.012)	(0.008)	(0.004)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	942,879	942,879	942,879	942,879	942,879
R-squared	0.115	0.013	0.032	0.053	0.051
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2259.4	2259.4	2259.4	2259.4	2259.4
Mean of dependent variable	0.496	0.251	0.147	0.081	0.025

Notes: Dependent variable in the header. Sample includes all respondents in the 1992 census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Marital status (Census 1992, 2002)

Dependent variable:	Ever	Current Status		
	married	Married	Widowed	Separated
	(1)	(2)	(3)	(4)
		PANEL A: Census 1992		
[a] Yr Age 20	-0.001***	0.005***	-0.002***	-0.002***
	(0.0002)	(0.0002)	(0.0001)	(0.0001)
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.009***	-0.001***	0.002***	-0.0002
	(0.0003)	(0.0002)	(0.0001)	(0.0002)
IV: Any College	0.253***	0.037***	-0.042***	0.005
	(0.009)	(0.006)	(0.003)	(0.006)
		PANEL B: Census 2002		
[a] Yr Age 20	-0.001***	0.004***	-0.004***	0.0001
	(0.0002)	(0.0003)	(0.0002)	(0.0002)
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	-0.002***	-0.0003	0.002***	-0.002***
	(0.0003)	(0.0003)	(0.0002)	(0.0003)
IV: Any College	0.066***	0.013	-0.096***	0.082***
	(0.0103)	(0.0115)	(0.0088)	(0.0105)
Birth county x gender FE	Yes	Yes	Yes	Yes
Ever married FE	No	Yes	Yes	Yes
R-squared (Panel A)	0.024	0.642	0.011	0.023
R-squared (Panel B)	0.019	0.451	0.022	0.029
Mean of dependent variable (Panel A)	0.853	0.787	0.009	0.058
Mean of dependent variable (Panel B)	0.873	0.751	0.023	0.099

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. a + b always significant at 0.1% level. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). First-stage KP F-stat above 1,000. All regressions include county of birth x gender fixed effects. Columns 2-4 include an additional dummy for ever married. Standard errors clustered by county of birth in parentheses. N= 958,588 and 1,118,137, respectively. *** p<0.01, ** p<0.05, * p<0.1

Table 10: Position in the household (Census 1992, 2002, 2017)

Dependent variable:	HH Head	Spouse	Child	Parent
	(1)	(2)	(3)	(4)
		PANEL A: Census 1992		
[a] Yr Age 20	-0.007***	0.003***	0.005***	-0.001***
	(0.0003)	(0.0002)	(0.0002)	(0.00003)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.007***	-0.007***	0.009***	0.0004***
	(0.0004)	(0.0003)	(0.0003)	(0.00003)
IV: Any College	0.179***	0.181***	-0.252***	-0.012***
	(0.011)	(0.008)	(0.010)	(0.001)
		PANEL B: Census 2002		
[a] Yr Age 20	-0.005***	0.003***	0.004***	-0.002***
	(0.0003)	(0.0003)	(0.0001)	(0.0001)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.003***	-0.001***	0.002***	0.001***
	(0.0004)	(0.0004)	(0.0002)	(0.0001)
IV: Any College	0.103***	0.043***	-0.093***	-0.045***
	(0.0168)	(0.0150)	(0.0098)	(0.0034)
		PANEL C: Census 2017		
[a] Yr Age 20	-0.003***	0.005***	0.002***	-0.004***
	(0.0003)	(0.0003)	(0.0001)	(0.0002)
[b] Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)	-0.002***	-0.003***	0.002***	0.001***
	(0.0005)	(0.0003)	(0.0001)	(0.0003)
IV: Any College	0.097***	0.156***	-0.134***	-0.074***
	(0.025)	(0.021)	(0.009)	(0.014)
Birth county x gender FE	Yes	Yes	Yes	Yes
R-squared (Panel A)	0.375	0.375	0.029	0.003
R-squared (Panel B)	0.234	0.248	0.014	0.007
R-squared (Panel C)	0.117	0.116	0.010	0.013
Mean of dependent variable (Panel A)	0.479	0.316	0.139	0.001
Mean of dependent variable (Panel B)	0.557	0.299	0.073	0.006
Mean of dependent variable (Panel C)	0.609	0.270	0.033	0.032

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. a + b always significant at 0.1% level. First-stage F-stats are 2110, 1000 and 666, respectively. N = 957,459, 1,118,137 and 978,594, respectively. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Assortative matching (Census 2017)

Dependent variable:	Parent's spouse		Any College		
	observed	Any College			
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 20 Parent	0.004***	-0.002*	-0.003***	-0.004***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 20 Parent x $\mathbb{1}$(Yr Age 20 Parent $\geq$ 1973)	-0.002**	-0.006***	-0.004***	-0.003*	-0.002
	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
IV: Any College (Parent)	0.126**	0.363***	0.251***	0.203**	0.131
	(0.054)	(0.079)	(0.064)	(0.099)	(0.112)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes
Parent gender x gender FE	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes
Parent's spouse observed FE	No	No	Yes	No	No
Parent's spouse any college FE	No	No	No	No	Yes
Observations	208,554	130,432	208,554	130,432	130,432
R-squared	0.426	0.086	0.068	0.069	0.110
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	168.8	101.4	169.1	101.4	89.5
Mean of dependent variable	0.633	0.211	0.585	0.602	0.602

Notes: Dependent variable in the header of each panel. Sample includes all respondents in the 2017 census between the ages of 25 and 40 that are children of household heads meeting two conditions: (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) that reported full secondary education. In columns 2,4,5, sample is further restricted to respondent's for which we observe the spouse of the household head. Spouse includes married, civil union and living together. "Yr Age 20 Parent" is a continuous variable indicating the year at which the parent reached twenty years of age, normalized to zero in 1972. "Yr Age 20 Parent x $\mathbb{1}$(Yr Age 20 Parent $\geq$ 1973)" is the interaction of this variable with a dummy for parents that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education by the Parent (the trend is an included instrument). All regressions include (a) county of birth x gender (b) parent's gender x (child) gender, (c) age (of child) fixed effects. Column 3 adds a dummy indicating whether the spouse of the household head is observed. Column 5 includes a dummy indicating whether the spouse of the household head enrolled in college. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 12: Fertility (Census 2017)

Dependent variable:	Total children		Share alive		Mother's age at birth	Any College			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
[a] Yr Age 20	-0.020***		0.002***						
	(0.0014)		(0.0001)						
[b] Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)	0.007***		-0.0004**						
	(0.0018)		(0.0002)						
[a] Yr Age 20 Mother		-0.020***		0.001***	-0.645***	-0.002*	-0.002*	0.011***	
		(0.0044)		(0.0003)	(0.0115)	(0.0012)	(0.0012)	(0.0013)	
[b] Yr Age 20 Mother x 𝟙(Yr Age 20 Mother ≥ 1973)		0.006		-0.0003	-0.023	-0.007***	-0.007***	-0.005***	-0.005***
		(0.0057)		(0.0003)	(0.0168)	(0.0016)	(0.0016)	(0.0018)	(0.0018)
IV: Any College	-0.292***		0.016**						
	(0.0838)		(0.0073)						
IV: Any College (Mother)		-0.287		0.012	1.023	0.342***	0.341***	0.268***	0.265***
		(0.2571)		(0.0154)	(0.7680)	(0.0715)	(0.0718)	(0.0837)	(0.0835)
Sample	Full	IGT	Full	IGT	IGT	IGT	IGT	IGT	IGT
Birth county FE	Yes	No	Yes	No	No	No	No	No	No
Birth county x gender FE	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Relationship to HH head FE	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	No	Yes	No	Yes	No	Yes	Yes	No	Yes
Total children FE	No	No	Yes	No	No	No	No	No	No
Total children (Mother) FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Share children alive < 1 (Mother) FE	No	No	No	No	No	No	Yes	No	No
Age at birth FE	No	No	No	No	No	No	No	Yes	Yes
Observations	411,419	92,379	411,415	92,377	92,377	92,377	92,377	92,377	92,377
R-squared	0.008	0.030	0.041	0.062	0.308	0.079	0.080	0.080	0.081
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-
Mean of dependent variable	2.586	2.760	0.973	0.979	30.34	0.564	0.564	0.564	0.564
First-stage KP F-stat	639.1	152.0	626.8	147.5	154.0	147.5	147.0	107.4	106.9

Notes: Dependent variable in the header of each column. Full sample includes all women in the 2017 census that (I) reached age 20 between 1965 and 1980 (both years inclusive) and (II) reported full secondary education. IGT sample includes all respondents in the 2017 census that we can connect to their mother, who meets conditions I and II. Possible parent-child linkages in the IGT sample include: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. "Yr Age 20" is a continuous variable indicating the year at which the person reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x 𝟙(Yr Age 20 ≥ 1973)" is the interaction of this variable with a dummy for people that reached age twenty on or after 1973. In columns, 2, 4-9, we use analogous variables for the mother In the IV estimates, the interaction term is used as excluded instrument for any college education by respondent or mother (the trend is an included instrument). Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX (for online publication)

Appendix A Additional information on data sources

A.1 Censuses and surveys

We rely on the 1992, 2002, and 2017 censuses. These were *de facto population census* that happened in days declared national holidays to allow people to remain in their homes waiting for the enumerators. Among the people present during the census day, we only consider the people who was born in Chile, and we identify the cohort of birth using the respondents' age. We complement the censuses with a repeated cross-section of the National Socioeconomic Characterization Survey CASEN. This survey has been conducted biannually by the Ministry of Planning since 1987, and it includes detailed information on the labor market of the interviewed population.

A.2 Enrolment and seats

In Chile, students apply to institution-degree pairs through a centralized application authority, and admission into degrees is determined based on a deference acceptance algorithm that considers the number of seats available in a given institution-degree pair and the ranking of the student in a national college entrance exam (i.e., similar to SAT in USA).[28] Data on the aggregate number of available seats from 1967 onwards comes from the archival records held at the dependencies of the CRUCH. Data on test takers was digitized from hard copies of published application and wait-list announcements stored in the Biblioteca Nacional de Chile, and it includes all admitted students as well as a list of marginal rejected students that is typically equal in length to the list of admits.

A.3 Other sources

This project uses additional data sources, including: Freedom House, the World Bank, and the Integrated Public Use Micro-data Series (IPUMS). Data from Freedom House and World Bank is used to look at the across-country relationship between enrolment in tertiary education and authoritarianism, while data on IPUMS is used for the synthetic control analysis. In particular, we use data of 57 countries for which harmonized data is available (see Table A1 for details). Finally, we enrich our study with records obtained from Freedom-of-Information requests and previously published research (e.g., conscription, bilateral student flows at the tertiary level, average age at first- and last-year of college, etc.).

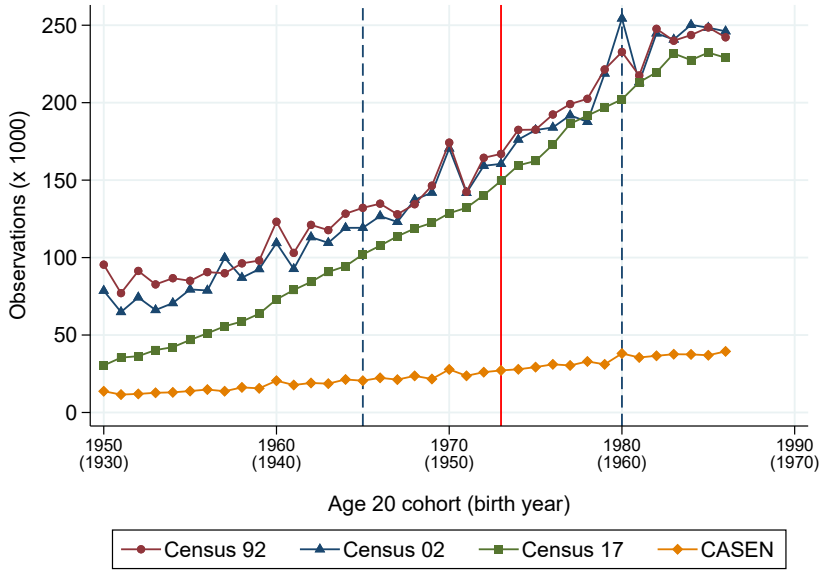
[28] Until the late 1990s, almost all college students in Chile attended one of the 25 (public and private) traditional universities belonging to the Universities of the Rectors' Council (CRUCH). Following their final year of high school, Chilean students take a standardized admissions exam, known as P.A.A. (Prueba de Aptitud Acadmica) before 2003, and as P.S.U. (Prueba de Seleccin Universitaria) afterwards.

Table A1: Countries and samples

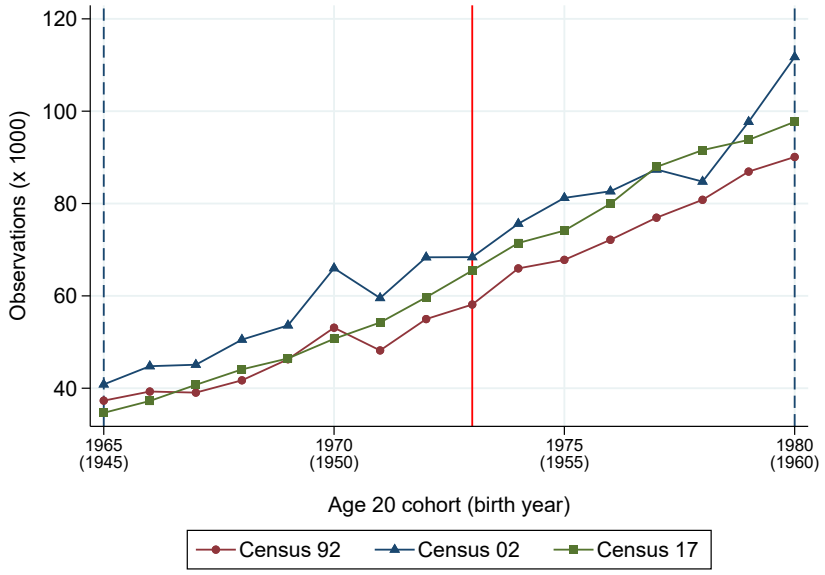
Country	Last year of Census
Without dictatorship beetween 1950-1990	
Armenia	2011
Austria	2011
Bangladesh	2011
Benin	2013
Botswana	2011
Cambodia	2008
Canada	2011
China	2000
Costa Rica	2011
El Salvador	2007
Ethiopia	2007
France	2011
India	2009
Ireland	2011
Jamaica	2001
Kenya	2009
Liberia	2008
Malaysia	2000
Mexico	2015
Morocco	2004
Senegal	2002
Switzerland	2000
Ukraine	2001
United States	2015
Vietnam	2009
With dictatorship beetween 1950-1990	
Argentina	2010
Bolivia	2001
Brazil	2010
Burkina Faso	2006
Chile	2002
Colombia	2005
Dominican Republic	2010
Ecuador	2010
Egypt	2006
Fiji	2007
Ghana	2010
Greece	2011
Haiti	2003
Honduras	2001
Hungary	2011
Indonesia	2010
Jordan	2004
Mongolia	2000
Nicaragua	2005
Nigeria	2010
Panama	2010
Paraguay	2002
Peru	2007
Philippines	2010
Poland	2011
Portugal	2011
Romania	2011
South Africa	2011
Spain	2011
Thailand	2000
Turkey	2000
Uruguay	2011

Appendix B Additional Background and Diagnostics

Figure A1: Attrition and Manipulation of Reported Age



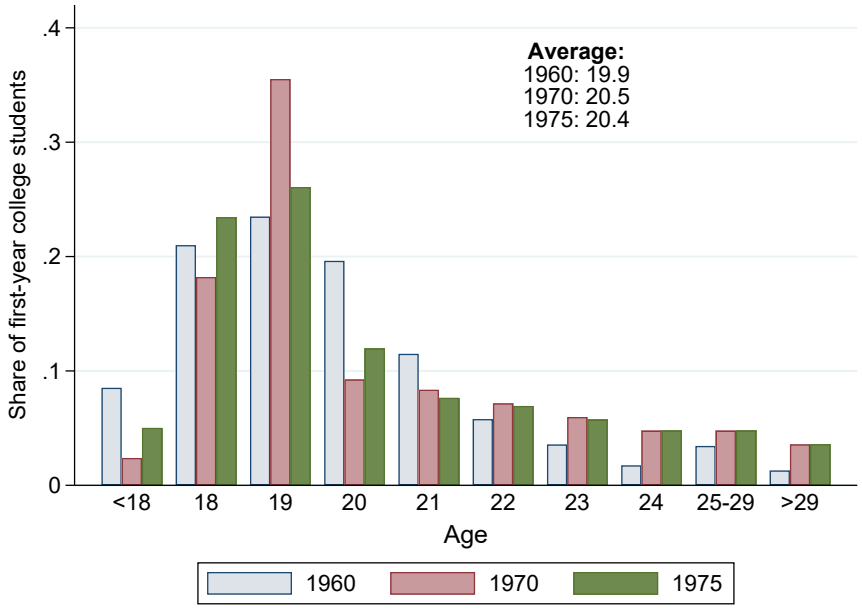
(a) Number of observations per cohort



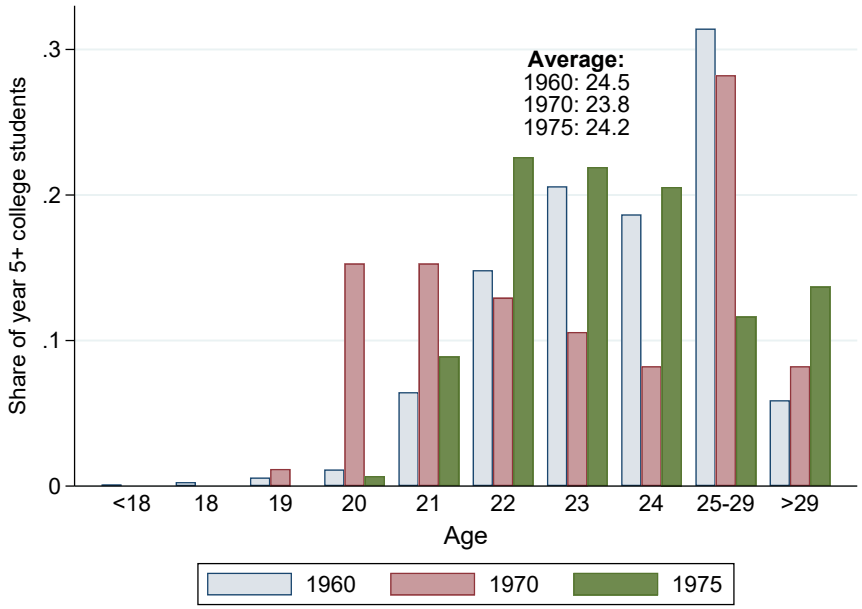
(b) Number of observations per cohort with 4+ years of high school

Notes: Panel (a) shows the number of observations per cohort in each data source, including the 1992, 2002 and 2017 population censuses and the CASEN household survey. Panel (b) shows for each of the censuses the number of people in each cohort that report at least four years of secondary education.

Figure A2: Age distribution of first- and last-year college students



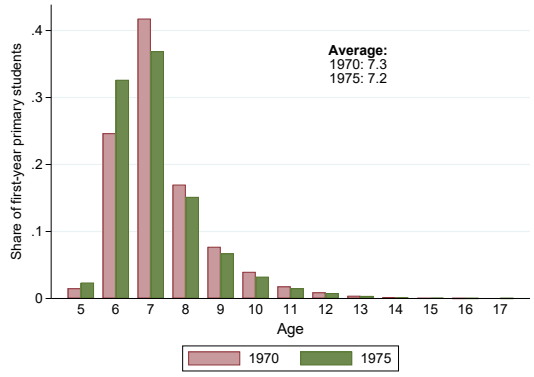
(a) Year 1



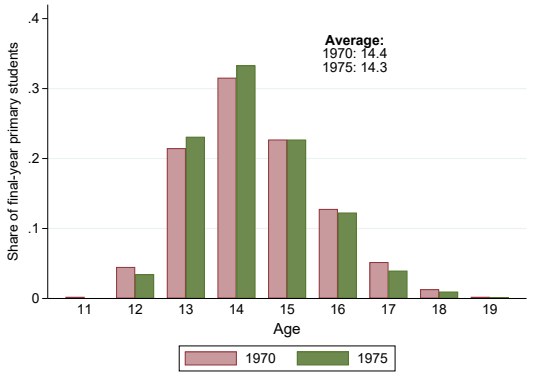
(b) Year 5+

Notes: Information for 1960 comes from the published results from that year's population census (INE, 1965). The respective 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 entire tertiary sector (i.e., including technical education). For the averages, we set age at 17, 25 and 30 for the < 18, $25 - 29$ and > 29 age groups respectively, which likely leads to an underestimate.

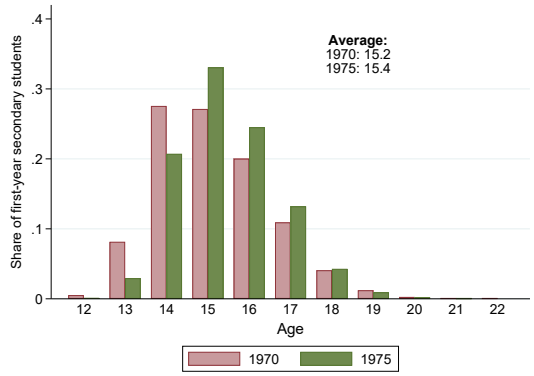
Figure A3: Age distribution of students at start and end of primary and secondary



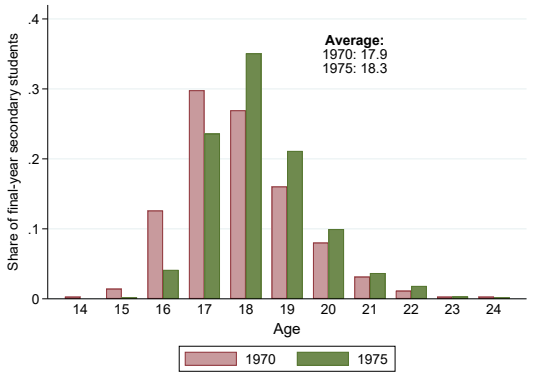
(a) Primary: first year



(b) Primary: final year



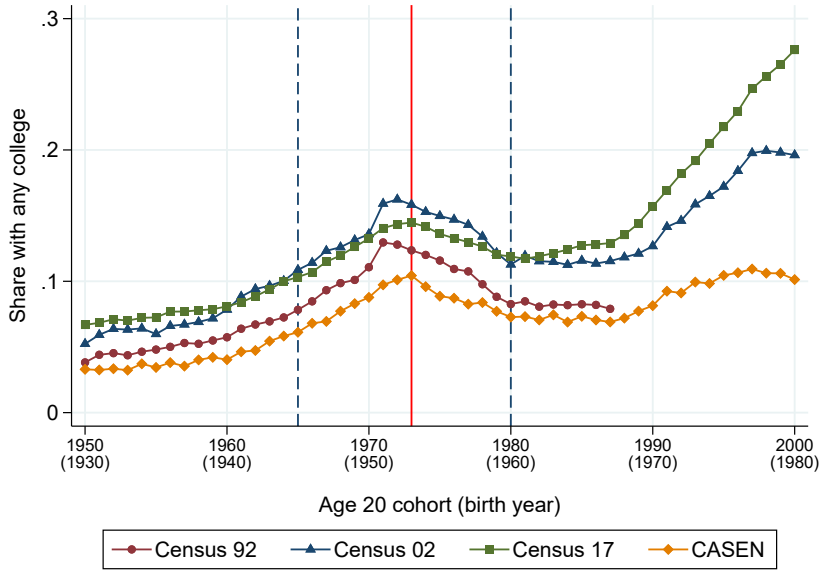
(c) Secondary: first year



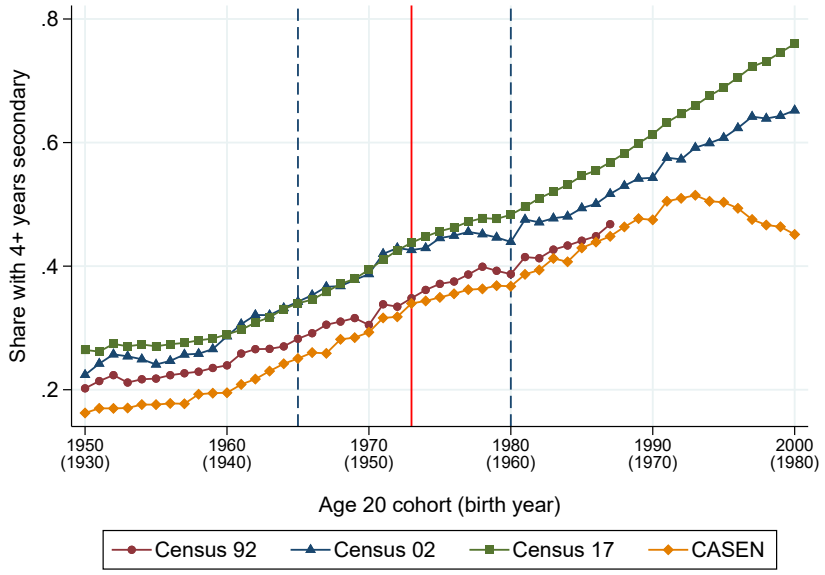
(d) Secondary: final year

Notes: Information for 1960 comes from the published results from that year's population census (INE, 1965). The respective 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 entire tertiary sector (i.e., including technical education). For the averages, we set age at 17, 25 and 30 for the < 18, $25 - 29$ and > 29 age groups respectively, which likely leads to an underestimate.

Figure A4: Educational Attainment (All sources)



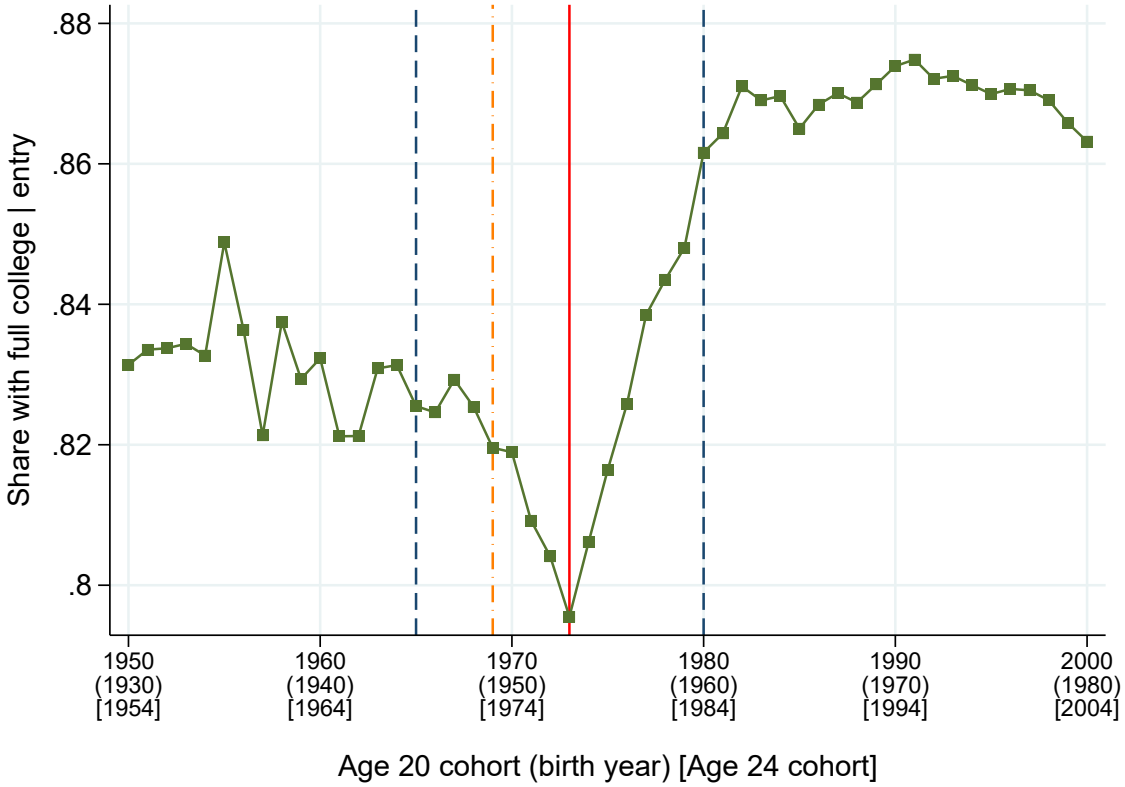
(a) Any College



(b) 4+ years of secondary

Notes: Panel (a) shows the share of respondents per cohort that report college as their highest educational level in each source. Panel (b) shows the share that reports 4+ years of high school. The solid line shows the year of the military coup. Dashed lines show start (1965) and end date (1980) of sample period for the analysis.

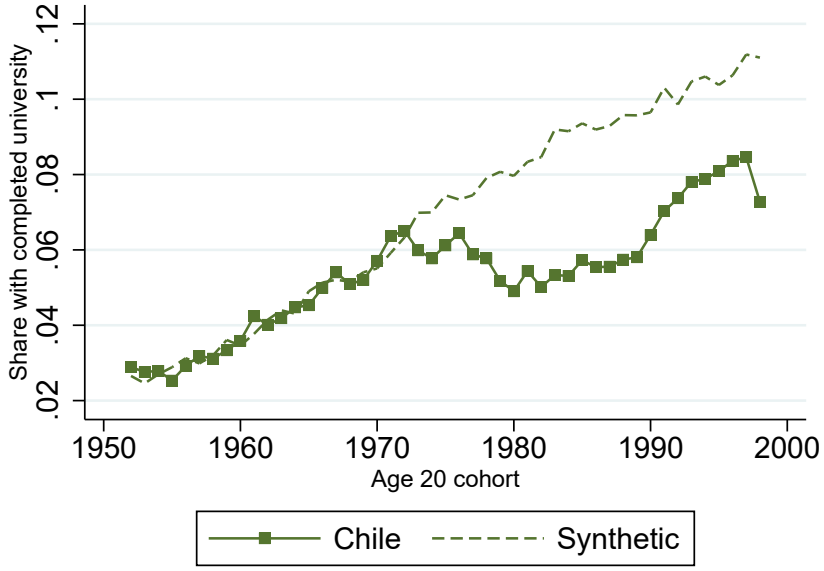
Figure A5: College completion conditional on Enrollment



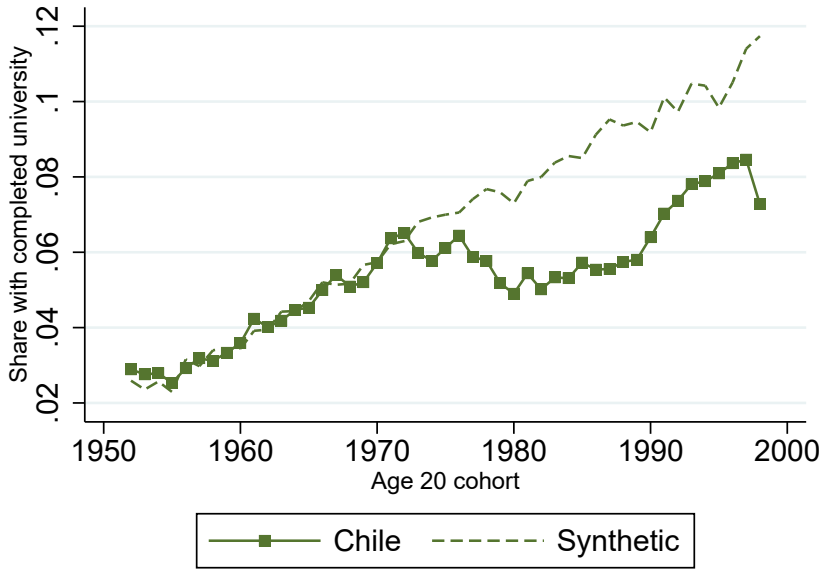
Notes: Figure shows the share of people per cohort in the 2017 census that reports full college among those that report college as their highest educational level. The solid line shows the year of the military coup. Dashed lines show start (1965) and end date (1980) of sample period for the analysis.

Appendix C Robustness Checks: Educational Attainment

Figure A6: Robustness of synthetic control analysis



(a) Countries without dictatorship in the synthetic control



(b) Countries with high HDI in the synthetic control

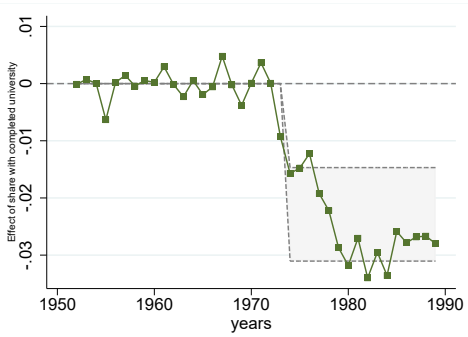
Note: Panel (a) excludes country-year pairs under dictatorship as control units to be potentially used in the synthetic control. Similarly, panel (b) uses countries with a high Human Development Index (HDI larger than 6). For reference Chile is classified as decil 8 in the year 1990. Both panels use the specification with controls and all countries in the sample of potential controls.

Table A2: Robustness checks to the synthetic control analysis

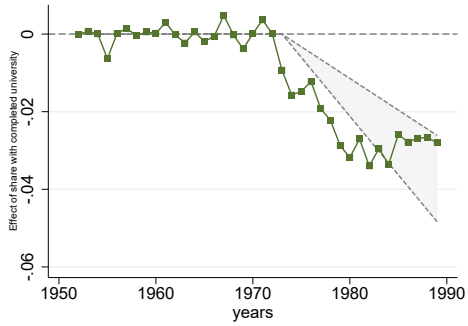
Sample:	R^2	Average effect	p-value Unrestricted	p-value Restricted
Panel A: Using even pre-treatment period outcomes for matchings				
LA without controls	97%	-2,58%	0,00	0,00
LA with controls	95%	-2,00%	0.00	0.00
All countries without controls	95%	-2,32%	0.00	0.00
All countries with controls	96%	-1,83%	0.04	0.04
Exclude dictatorships without controls	95%	-3.05%	0.05	0.05
Exclude dictatorships with controls	96%	-2.91%	0.05	0.05
Panel B: Using all pre-treatment period outcomes for matchings				
LA without controls	97%	-2,34%	0,00	0,00
All countries without controls	96%	-1,67%	0.00	0.00
Exclude dictatorships without controls	95%	-1.75%	0.00	0.00

Notes: This table presents the goodness of fit of the matching and the treatment effects. We present the results for different samples and different set of matching characteristics. The R^2 comes from a regression between the Chilean data and their synthetic control during the pre-treatment period. The *Average effect* is the average difference between Chile and the synthetic control between 1974 and 1990. The *p-value* is computed based on placebo treatments, for each country in the control group we construct their synthetic control and then we create the ratio between the RMSPE in the post (1974-1990) and the RMSPE in the pre-treatment period. Then we see how likely is to find a ratio as large as the one for Chile for the case of a negative effect. The *unrestricted* version uses all the countries, while the *unrestricted* uses only countries with a RMSPE in the pre-treatment period that is smaller than two times the one of Chile.

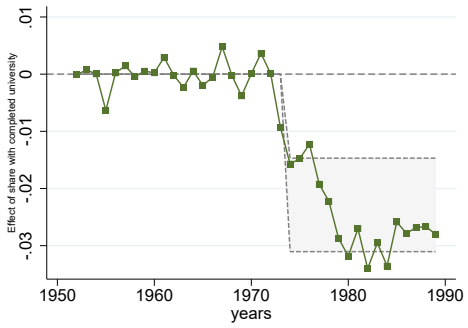
Figure A7: Confidence sets for Latin America



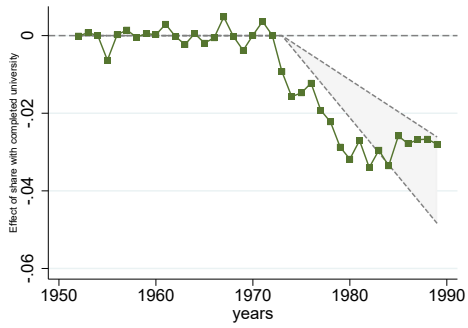
(a) Constant effect, $\phi = 0$



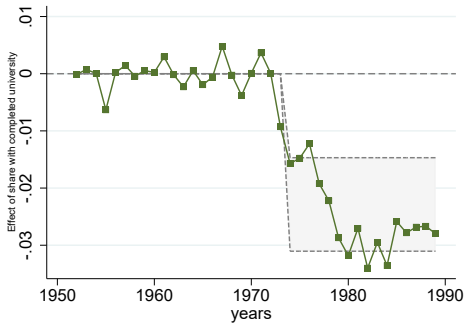
(b) Linear effect, $\phi = 0$



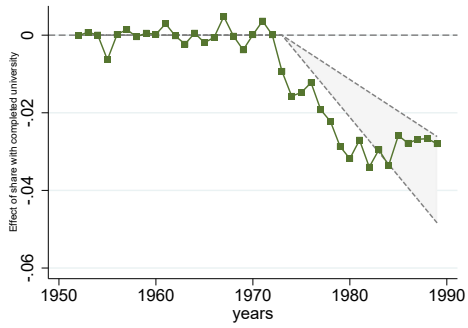
(c) Constant effect, $\phi = 1$



(d) Linear effect, $\phi = 1$



(e) Constant effect, $\phi = 2$



(f) Linear effect, $\phi = 2$

Notes: This figure shows the confidence set proposed by Firpo and Possebom (2018) for a constant and a linear treatment effect. Panels A and B use a sensitivity parameter of 0, while Panels C and D (E and F) use a sensitivity parameter of 1 (2). The sample is all Latin American countries and we use as matching characteristics the even pre-treatment outcomes.

Table A3: College entry w/ different kink points (RKD)

Kink point (x):	Dependent variable: Any college				
	1971	1972	1973	1974	1975
	(1)	(2)	(3)	(4)	(5)
[a] Trend (Age 20)	0.011***	0.008***	0.005***	0.003***	0.001*
	(0.0006)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ x)	-0.021***	-0.019***	-0.017***	-0.016***	-0.015***
	(0.0009)	(0.0007)	(0.0007)	(0.0006)	(0.0006)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	978,594	978,594	978,594	978,594	978,594
R-squared	0.0371	0.0372	0.0372	0.0371	0.0368
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.300	0.300	0.300	0.300	0.300

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

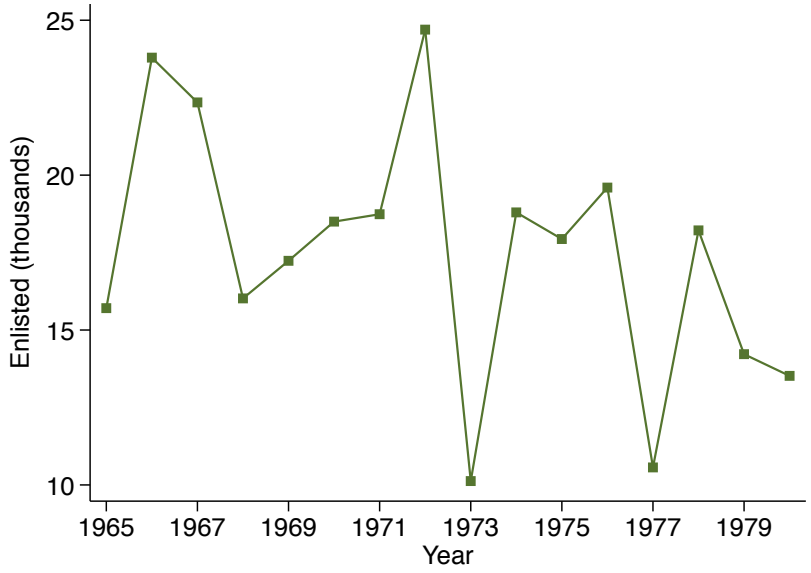
Table A4: Educational Attainment: Other sources

Source:	Dependent variable: Any College					
	Census 1992		Census 2002		CASEN	
Sample:	All	Full HS	All	Full HS	All	Full HS
	(1)	(2)	(3)	(4)	(5)	(6)
Trend (Age 20)	0.008***	0.016***	0.008***	0.011***	0.006***	0.009***
	(0.0004)	(0.0005)	(0.0004)	(0.0005)	(0.0003)	(0.0008)
Trend (Age 20) x $\mathbb{1}$(Age20 $\geq$ 1973)	-0.013***	-0.037***	-0.014***	-0.025***	-0.010***	-0.024***
	(0.0008)	(0.0008)	(0.0007)	(0.0008)	(0.0005)	(0.0013)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,736,864	958,588	2,675,508	1,118,137	432,309	138,930
R-squared	0.046	0.040	0.054	0.036	0.059	0.057
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.104	0.297	0.136	0.326	0.084	0.261

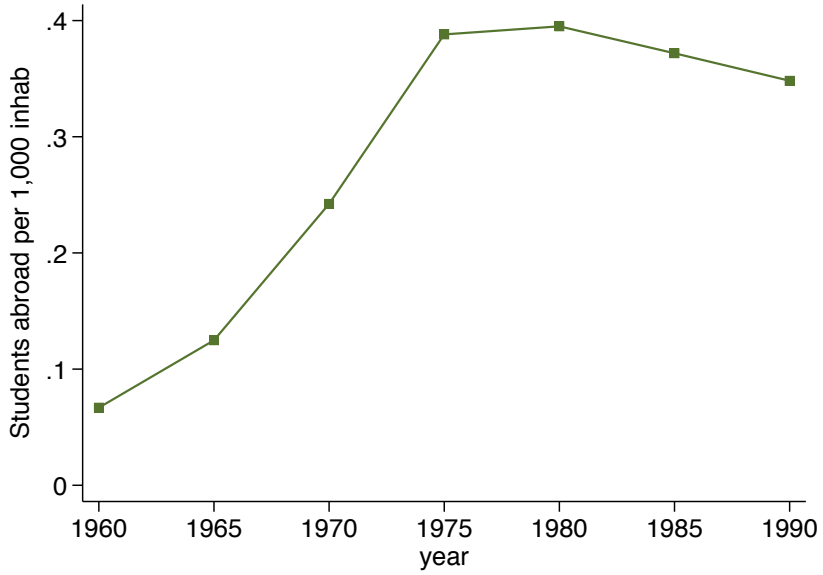
Notes: Sample includes all respondents of the respective census or survey from cohorts born between 1945 and 1960 (both inclusive). Even-numbered columns further restrict the sample to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix D Additional Results on Mechanism

Figure A8: Alternative mechanisms



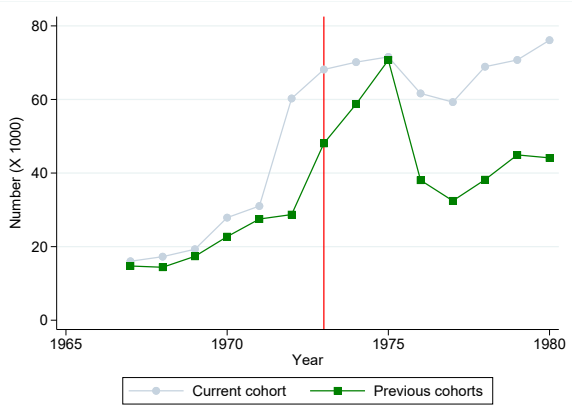
(a) Conscription



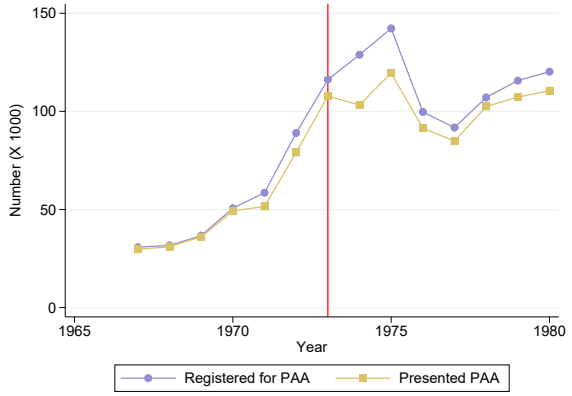
(b) Students abroad

Notes: Panel (a) shows the number of army conscripts per year. Panel (b) shows the number of Chilean students abroad (per 1,000 inhabitants). Sources: records of conscripts per year were obtained using the Chilean equivalent to a Freedom-of-Information-Act request and the number of students abroad come from Spilimbergo (2009).

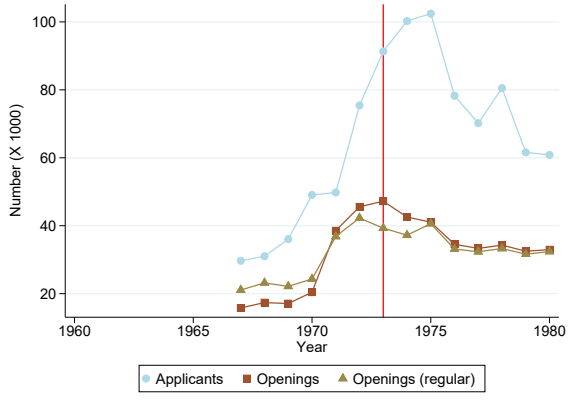
Figure A9: Further Evidence on Supply and Demand for College



(a) PAA Registration: Old vs Current Cohort



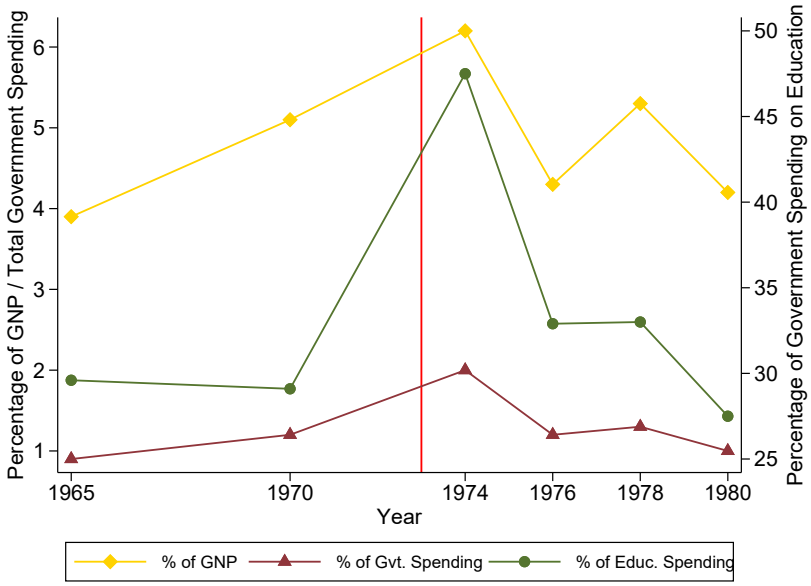
(b) PAA: Registration vs Test-taking



(c) Applications vs Openings: Alternative measure

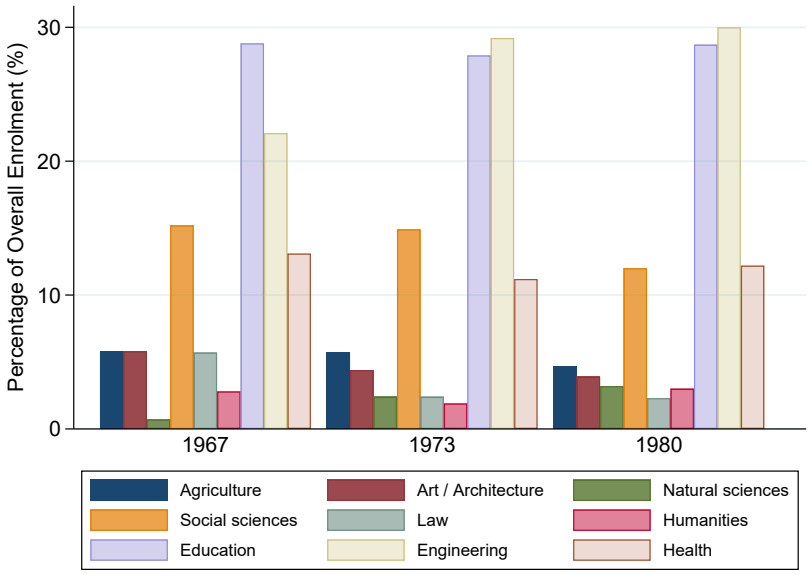
Notes: Panel (a) shows the number of students that registered to take the PAA test every year, disaggregated between graduates from secondary education from the same year and those from previous cohorts. Panel (b) shows the total numbered of students that registered to take the test and the number that effectively presented the exam. Panel (c) shows the number of applicants and openings per year, but includes an alternative measure of regular openings.

Figure A10: Government Spending on Higher Education



Notes: Figure shows government spending on higher education normalized in three different ways: as a percentage of Gross National Product (yellow line with diamond markers, left axis); as a percentage of total government spending (red line with triangular markers, left axis); as a percentage of government spending on education (green line with round markers, right axis). Source: Levy (1986).

Figure A11: Share of students by Field of Study



Notes: Figure shows the share of students enrolled in programs corresponding to different fields of study in 1967, 1973 and 1980. Classification corresponds to UNESCO categories.

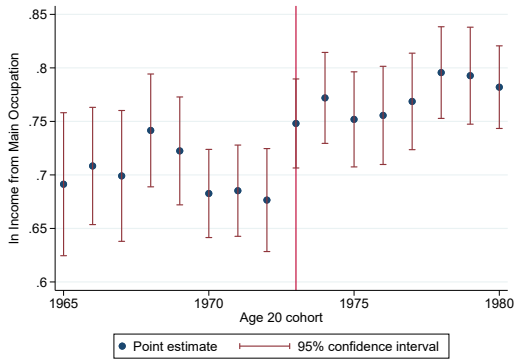
Appendix E Additional results on economic consequences

Table A5: Income Quintiles (CASEN)

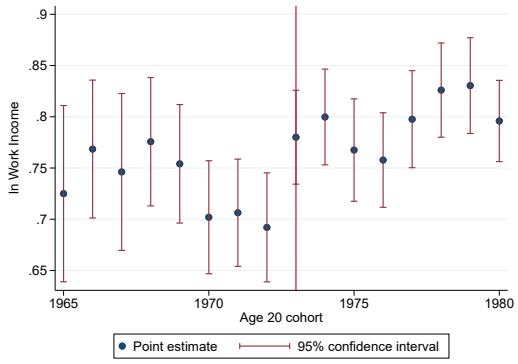
Dependent variable: Income quintile (dummy)	Q5 (highest)	Q4	Q3	Q2	Q1 (lowest)
	(1)	(2)	(3)	(4)	(5)
			Panel A: Linear Trend		
[a] Trend (Age 20)	0.005***	0.004***	0.001	-0.005***	-0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	-0.013***	-0.001	0.004***	0.006***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IV: Any College	0.512***	0.023	-0.165***	-0.248***	-0.122***
	(0.053)	(0.045)	(0.039)	(0.035)	(0.030)
			Panel B: Age Fixed effects		
Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	-0.006***	0.0003	0.004***	0.002**	0.0003
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IV: Any College	0.248***	-0.014	-0.144***	-0.077**	-0.012
	(0.058)	(0.050)	(0.041)	(0.033)	(0.032)
County x gender FE	Yes	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes	Yes
Age FE (panel B)	Yes	Yes	Yes	Yes	Yes
Observations	110,990	110,990	110,990	110,990	110,990
R-squared (panel A)	0.110	0.021	0.027	0.040	0.064
R-squared (panel B)	0.115	0.022	0.027	0.043	0.068
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat (panel A)	316.2	316.2	316.2	316.2	316.2
First-stage KP F-stat (panel B)	281.4	281.4	281.4	281.4	281.4
Mean of dependent variable (level)	0.464	0.231	0.128	0.097	0.079

Notes: Dependent variable in the header. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of residence x gender and survey year fixed effects. In panel B, the cohort trend is replace by a full set of age fixed effects. Standard errors clustered by county of residence in parentheses. *** p<0.01, ** p<0.05, * p<0.1

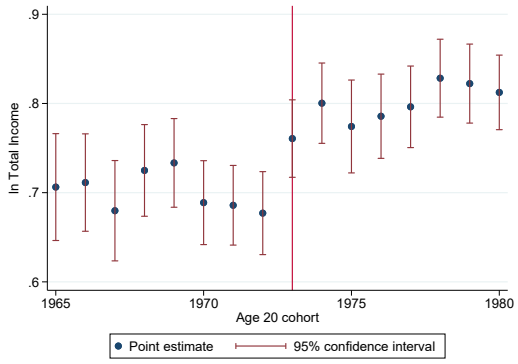
Figure A12: Cohort-specific Estimates of the College Premium



(a) Primary occupation (RF)



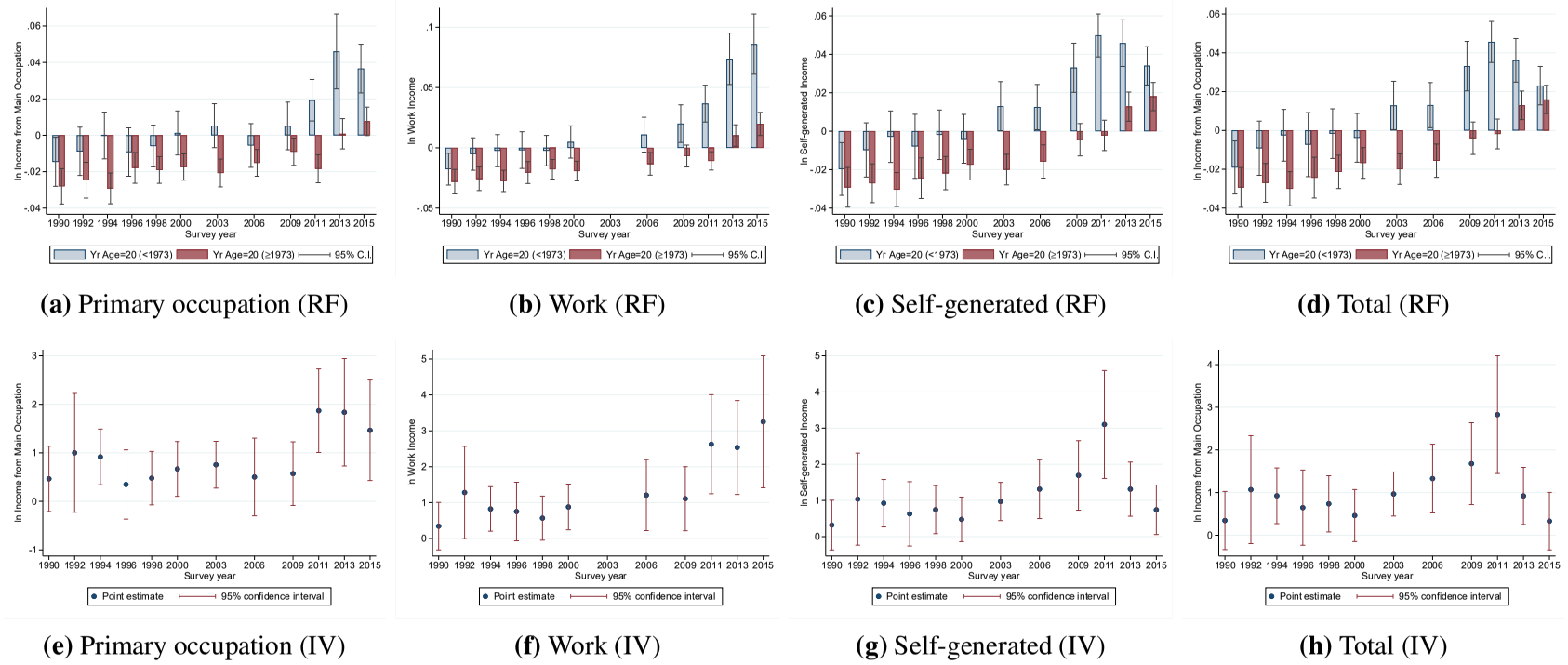
(b) Work (RF)



(c) Total (RF)

Notes: Each panel shows results of a regression of log income from the category in the caption on a full set of interactions of a dummy for any college education with cohort fixed effects. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). Regression includes county of residence x gender, survey year and age fixed effects. Standard errors are clustered by county of residence.

Figure A13: Educational Attainment and Reported Income - Yearly estimate



(a) Primary occupation (RF) **(b)** Work (RF) **(c)** Self-generated (RF) **(d)** Total (RF)

(e) Primary occupation (IV) **(f)** Work (IV) **(g)** Self-generated (IV) **(h)** Total (IV)

Notes: Panels (a)-(d) show results from regressions of log income (for the type in the caption) on separate age trends for birth cohorts that reached age 20 before and after 1973, both normalized to zero in 1972. The sample for each regression includes all respondents in the CASEN survey of the respective year from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). Panels (e)-(h) show the corresponding IV regressions, in which the trend-break after 1973 (inclusive) is used as excluded instrument for any college education (the baseline trend is an included instrument). All regressions include county of residence x gender fixed effects. Standard errors clustered by county of residence.

Table A6: Employment category

Dependent variable:	Business owner	Wage earner	Self-employed	Domestic worker	Unpaid w/ relative
	(1)	(2)	(3)	(4)	(5)
			PANEL A: Census 1992		
[a] Trend (Age 20)	-0.003***	0.007***	-0.003***	-0.001***	-0.0002***
	(0.0003)	(0.0004)	(0.0003)	(0.0001)	(0.0001)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	0.001***	-0.003***	0.0003	0.001***	0.001***
	(0.0003)	(0.0005)	(0.0004)	(0.0002)	(0.0001)
IV: Any College	-0.026***	0.085***	-0.009	-0.034***	-0.015***
	(0.008)	(0.014)	(0.010)	(0.005)	(0.003)
Observations	725,919	725,919	725,919	725,919	725,919
R-squared	0.013	0.016	0.012	0.024	0.005
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2002.8	2002.8	2002.8	2002.8	2002.8
Mean of dependent variable	0.098	0.754	0.131	0.011	0.007
			PANEL B: Census 2002		
[a] Trend (Age 20)	-0.002***	0.008***	-0.005***	-0.0002**	-0.001***
	(0.0002)	(0.0003)	(0.0003)	(0.0001)	(0.0001)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	0.001***	-0.002***	0.0003	0.0004***	0.0003***
	(0.0002)	(0.0005)	(0.0004)	(0.0001)	(0.0001)
IV: Any College	-0.043***	0.082***	-0.011	-0.015***	-0.013***
	(0.009)	(0.019)	(0.015)	(0.005)	(0.004)
Observations	858,524	858,524	858,524	858,524	858,524
R-squared	0.010	0.015	0.015	0.027	0.003
p-value a+b=0	0.000	0.000	0.000	0.022	0.014
First-stage KP F-stat	751.0	751.0	751.0	751.0	751.0
Mean of dependent variable	0.074	0.681	0.216	0.019	0.010
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A7: Occupation

Dependent variable:	White-collar		Blue-collar		Military
	High-skill	Low-skill	High-skill	Low-skill	
	(1)	(2)	(3)	(4)	(5)
			PANEL A: Census 1992		
[a] Trend (Age 20)	0.003***	-0.003***	-0.002***	-0.003***	0.004***
	(0.0005)	(0.0004)	(0.0002)	(0.0002)	(0.0002)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	-0.017***	0.010***	0.005***	0.007***	-0.005***
	(0.0008)	(0.0006)	(0.0003)	(0.0005)	(0.0003)
IV: Any College	0.469***	-0.279***	-0.137***	-0.178***	0.126***
	(0.017)	(0.014)	(0.009)	(0.012)	(0.010)
Observations	722,984	722,984	722,984	722,984	722,984
R-squared	0.033	0.028	0.050	0.025	0.028
p-value a+b=0	0.000	0.000	0.000	0.000	0.002
First-stage KP F-stat	1976.7	1976.7	1976.7	1976.7	1976.7
Mean of dependent variable	0.430	0.323	0.104	0.108	0.035
			PANEL B: Census 2002		
[a] Trend (Age 20)	-0.006***	0.002***	0.0001	0.002***	0.002***
	(0.0005)	(0.0003)	(0.0002)	(0.0003)	(0.0001)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	-0.004***	0.002***	0.002***	0.001***	-0.001***
	(0.0005)	(0.0004)	(0.0003)	(0.0004)	(0.0002)
IV: Any College	0.167***	-0.096***	-0.061***	-0.038***	0.028***
	(0.019)	(0.013)	(0.010)	(0.014)	(0.006)
Observations	826,020	826,020	826,020	826,020	826,020
R-squared	0.022	0.015	0.034	0.018	0.012
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	830.0	830.0	830.0	830.0	830.0
Mean of dependent variable	0.593	0.194	0.079	0.122	0.011
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A8: Fertility and Children's Survival (Census 1992, 2002)

	Census 1992			Census 2002		
	Children	Share alive		Children	Share alive	
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Trend (Age 20)	-0.032***	0.0015***	0.0010***	-0.028***	0.0015***	0.0010***
	(0.002)	(0.0001)	(0.0001)	(0.002)	(0.0001)	(0.0001)
[b] Trend (Age 20) x $\mathbb{1}$(Age 20 $\geq$ 1973)	-0.027***	-0.0006***	-0.0008***	0.009***	-0.0004***	-0.0002*
	(0.0023)	(0.0001)	(0.0001)	(0.0019)	(0.0001)	(0.0001)
IV: Any College	0.635***	0.015***	0.018***	-0.309***	0.015***	0.008*
	(0.051)	(0.003)	(0.003)	(0.063)	(0.005)	(0.005)
County of birth FE	Yes	Yes	Yes	Yes	Yes	Yes
Total children FE	No	No	Yes	No	No	Yes
Observations	402,188	402,188	402,187	473,819	473,819	473,808
R-squared	0.043	0.005	0.027	0.011	0.004	0.098
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2096.2	2096.2	2028.4	942.1	942.1	948.9
Mean of dependent variable	2.39	0.98	0.98	2.60	0.98	0.98

Notes: Dependent variable in the header. Sample includes all female census respondents from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 20" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Yr Age 20 x $\mathbb{1}$(Yr Age 20 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term is used as excluded instrument for any college education (the trend is an included instrument). All regressions include county of birth x gender fixed effects. Columns 2-3 and 5-6 include total children (births) fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A9: Migration (RKD)

	Migration status (relative to birthplace)				Living
	Never left	Left ≥ 5 yrs ago	Left < 5 yrs ago	Returned	abroad 5 yrs ago
	(1)	(2)	(3)	(4)	(5)
			PANEL A: Census 1992		
[a] Yr Age=20	0.002***	-0.004***	0.001***	0.001***	0.0002***
	(0.0004)	(0.0004)	(0.0001)	(0.0001)	(0.00004)
[b] Yr Age=20 x 𝟙(Yr Age=20 ≥ 1973)	0.003***	-0.006***	0.002***	0.0003***	-0.0002***
	(0.0004)	(0.0004)	(0.0002)	(0.0001)	(0.0001)
Observations	2,652,429	2,652,429	2,652,429	2,652,429	2,652,429
R-squared	0.113	0.108	0.034	0.007	0.073
p-value a+b=0	0.000	0.000	0.000	0.000	0.642
Mean of dep. var	0.350	0.580	0.0493	0.0213	0.0108
			PANEL B: Census 2002		
[a] Yr Age=20	0.002***	-0.003***	0.001***	0.0003***	0.0000
	(0.0004)	(0.0004)	(0.0001)	(0.00004)	(0.00003)
[b] Yr Age=20 x 𝟙(Yr Age=20 ≥ 1973)	0.002***	-0.003***	0.001***	0.0003***	-0.0001**
	(0.0003)	(0.0003)	(0.0001)	(0.0001)	(0.00004)
Observations	2,562,631	2,562,631	2,562,631	2,562,631	2,562,631
R-squared	0.104	0.102	0.004	0.002	0.002
p-value a+b=0	0.000	0.000	0.000	0.000	0.007
Mean of dep. var	0.327	0.637	0.0217	0.0148	0.00437
			PANEL C: Census 2017		
[a] Yr Age=20	0.002***	-0.003***	0.0002***	0.0004***	0.0001*
	(0.0004)	(0.0004)	(0.0001)	(0.0001)	(0.00004)
[b] Yr Age=20 x 𝟙(Yr Age=20 ≥ 1973)	0.002***	-0.002***	0.0003***	-0.0002***	-0.0002***
	(0.0003)	(0.0004)	(0.0001)	(0.0001)	(0.0001)
Observations	2,306,989	2,306,989	2,306,989	2,306,989	2,306,989
R-squared	0.114	0.113	0.004	0.003	0.003
County x gender FE	Yes	Yes	Yes	Yes	Yes
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
year	1992	1992	1992	1992	1992
Mean of dep. var	0.317	0.649	0.0194	0.0148	0.00798

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix F Disaggregate results by gender

Table A10: Educational Attainment (Higher Education) by gender

Dependent variable:	Enrolment			Completion		
	College	Technical	Higher	College	Technical	Higher
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Yr Age 20 x 𝟙(Male)	-0.001	-0.001***	-0.002***	-0.003***	-0.002***	-0.004***
	(0.0006)	(0.0004)	(0.0006)	(0.0004)	(0.0004)	(0.0006)
[b] Yr Age 20 x 𝟙(Male) x 𝟙(Yr Age 20 ≥ 1973)	-0.013***	0.004***	-0.009***	-0.006***	0.004***	-0.002**
	(0.0008)	(0.0005)	(0.0008)	(0.0007)	(0.0004)	(0.0008)
[c] Yr Age 20 x 𝟙(Female)	0.005***	0.001***	0.007***	0.003***	0.001***	0.004***
	(0.0006)	(0.0004)	(0.0007)	(0.0005)	(0.0004)	(0.0007)
[d] Yr Age 20 x 𝟙(Female) x 𝟙(Yr Age 20 ≥ 1973)	-0.022***	0.004***	-0.018***	-0.015***	0.004***	-0.011***
	(0.0009)	(0.0004)	(0.0008)	(0.0008)	(0.0004)	(0.0008)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	912,487	912,487	912,487	912,487	912,487	912,487
R-squared	0.042	0.007	0.039	0.031	0.007	0.028
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.000	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.000	0.036	0.000	0.000	0.106
Mean of dependent variable (Female)	0.302	0.132	0.434	0.250	0.123	0.374
Mean of dependent variable (Male)	0.340	0.106	0.446	0.279	0.095	0.374

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting full secondary education. "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A11: Labor Force Participation and Unemployment by gender

Source:	Census 1992		Census 2002	
Dependent variable:	In labor force	Seeking work	In labor force	Seeking work
	(1)	(2)	(3)	(4)
[a] Trend (Age 20) x 𝟙(Male)	0.004***	-0.001***	0.014***	-0.001***
	(0.0003)	(0.0002)	(0.0004)	(0.0002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.006***	0.003***	-0.008***	0.001**
	(0.0004)	(0.0003)	(0.0004)	(0.0003)
[c] Trend (Age 20) x 𝟙(Female)	0.006***	0.0002**	0.014***	0.001***
	(0.0004)	(0.0001)	(0.0007)	(0.0002)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.015***	0.001***	-0.017***	0.001**
	(0.0007)	(0.0002)	(0.0007)	(0.0002)
[e] IV: Any College (Male)	0.174***	-0.084***	0.373***	-0.032**
	(0.014)	(0.008)	(0.020)	(0.015)
[f] IV: Any College (Female)	0.356***	-0.034***	0.570***	-0.020**
	(0.018)	(0.005)	(0.027)	(0.009)
County of birth x gender FE	Yes	Yes	Yes	Yes
In labor force FE	No	Yes	No	Yes
Observations	958,588	958,588	1,118,137	1,118,137
R-squared	0.202	0.014	0.133	0.023
p-value a+b=0	0.000	0.000	0.000	0.389
p-value c+d=0	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.600	0.000	0.000
First-stage KP F-statistic	640.0	635.8	290.2	291.9
p-value e=f	0.000	0.000	0.000	0.474
Mean of dependent variable (Female)	0.573	0.028	0.619	0.049
Mean of dependent variable (Male)	0.949	0.038	0.913	0.077

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Even-numbered columns include labor-force participation fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A12: Employment category by gender

Source:	Census 1992					Census 2002				
Dependent variable:	Business owner	Wage earner	Self-employed	Domestic worker	Unpaid w/ relative	Business owner	Wage earner	Self-employed	Domestic worker	Unpaid w/ relative
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
[a] Trend (Age 20) x 𝟙(Male)	-0.004***	0.007***	-0.003***	-0.0000	-0.0001	-0.002***	0.008***	-0.005***	-0.0002***	-0.0003***
	(0.0004)	(0.0005)	(0.0003)	(0.0001)	(0.0001)	(0.0003)	(0.0004)	(0.0004)	(0.00004)	(0.0001)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	0.001*	-0.001	-0.0003	0.0001	0.0002***	0.001*	-0.0004	-0.001	0.0002**	0.0002**
	(0.0004)	(0.0006)	(0.0004)	(0.0001)	(0.0001)	(0.0004)	(0.0006)	(0.0005)	(0.0001)	(0.0001)
[c] Trend (Age 20) x 𝟙(Female)	-0.003***	0.007***	-0.003***	-0.002***	-0.001***	-0.002***	0.008***	-0.005***	-0.0003	-0.001***
	(0.0003)	(0.0006)	(0.0004)	(0.0002)	(0.0001)	(0.0003)	(0.0005)	(0.0005)	(0.0002)	(0.0001)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	0.001***	-0.007***	0.001**	0.003***	0.001***	0.002***	-0.005***	0.002***	0.001**	0.001***
	(0.0004)	(0.0009)	(0.0005)	(0.0004)	(0.0003)	(0.0004)	(0.0007)	(0.0006)	(0.0004)	(0.0002)
[e] IV: Any College (Male)	-0.024*	0.026	0.009	-0.003	-0.008***	-0.031*	0.017	0.030	-0.007**	-0.010**
	(0.0127)	(0.0184)	(0.0135)	(0.0026)	(0.0027)	(0.0166)	(0.0253)	(0.0209)	(0.0029)	(0.0046)
[f] IV: Any College (Female)	-0.026***	0.151***	-0.030**	-0.071***	-0.024***	-0.053***	0.152***	-0.056***	-0.024**	-0.018***
	(0.0094)	(0.0186)	(0.0121)	(0.0088)	(0.0063)	(0.0134)	(0.0232)	(0.0199)	(0.0115)	(0.0061)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	725,919	725,919	725,919	725,919	725,919	858,524	858,524	858,524	858,524	858,524
R-squared	0.013	0.016	0.013	0.024	0.005	0.010	0.015	0.015	0.027	0.003
p-value a+b=0	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.791	0.027
p-value c+d=0	0.000	0.313	0.000	0.000	0.001	0.350	0.000	0.000	0.018	0.063
p-value a=c	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.001	0.000
p-value a+b=c+d	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.000	0.018	0.541
First-stage KP F-stat	625.1	625.1	625.1	625.1	625.1	276.8	276.8	276.8	276.8	276.8
p-value e=f	0.895	0.000	0.024	0.000	0.016	0.366	0.000	0.002	0.157	0.226
Mean of dependent variable (Female)	0.080	0.788	0.096	0.026	0.011	0.055	0.709	0.179	0.043	0.014
Mean of dependent variable (Male)	0.109	0.733	0.152	0.002	0.004	0.087	0.663	0.240	0.003	0.007

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A13: Occupation by gender

Source:	Census 1992					Census 2002				
Dependent variable:	White-collar		Blue-collar		Military	White-collar		Blue-collar		Military
	High-skill	Low-skill	High-skill	Low-skill		High-skill	Low-skill	High-skill	Low-skill	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
[a] Trend (Age 20) x 𝟙(Male)	-0.001**	-0.002***	-0.001***	-0.002***	0.006***	-0.007***	0.002***	0.001**	0.002***	0.003***
	(0.0005)	(0.0005)	(0.0003)	(0.0003)	(0.0003)	(0.0007)	(0.0003)	(0.0003)	(0.0003)	(0.0002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.010***	0.004***	0.006***	0.006***	-0.006***	-0.002***	0.001	0.002***	0.001	-0.001***
	(0.0008)	(0.0006)	(0.0005)	(0.0006)	(0.0005)	(0.0007)	(0.0005)	(0.0004)	(0.0005)	(0.0003)
[c] Trend (Age 20) x 𝟙(Female)	0.010***	-0.004***	-0.002***	-0.004***	0.001***	-0.003***	0.003***	-0.001***	0.0003	0.0002***
	(0.0008)	(0.0006)	(0.0002)	(0.0003)	(0.0002)	(0.0005)	(0.0004)	(0.0002)	(0.0003)	(0.00004)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.029***	0.020***	0.003***	0.007***	-0.002***	-0.007***	0.005***	0.001***	0.002***	-0.0001**
	(0.0013)	(0.0009)	(0.0003)	(0.0006)	(0.0002)	(0.0008)	(0.0006)	(0.0003)	(0.0005)	(0.0001)
[e] IV: Any College (Male)	0.322***	-0.133***	-0.199***	-0.190***	0.199***	0.102***	-0.033	-0.090***	-0.024	0.044***
	(0.021)	(0.018)	(0.016)	(0.017)	(0.017)	(0.031)	(0.020)	(0.017)	(0.021)	(0.011)
[f] IV: Any College (Female)	0.641***	-0.445***	-0.068***	-0.165***	0.036***	0.246***	-0.162***	-0.030***	-0.058***	0.004**
	(0.020)	(0.018)	(0.007)	(0.012)	(0.006)	(0.024)	(0.021)	(0.009)	(0.015)	(0.002)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	722,984	722,984	722,984	722,984	722,984	826,020	826,020	826,020	826,020	826,020
R-squared	0.033	0.030	0.051	0.025	0.028	0.022	0.016	0.035	0.018	0.013
p-value a+b=0	0.000	0.000	0.000	0.000	0.130	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.146	0.000	0.110
p-value a=c	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.000	0.000	0.001	0.356	0.020	0.000	0.000	0.010	0.000
First-stage KP F-stat	620.2	620.2	620.2	620.2	620.2	327.4	327.4	327.4	327.4	327.4
p-value e=f	0.000	0.000	0.000	0.115	0.000	0.001	0.000	0.002	0.142	0.000
Mean of dependent variable (Female)	0.485	0.410	0.034	0.064	0.007	0.646	0.242	0.026	0.084	0.002
Mean of dependent variable (Male)	0.396	0.270	0.146	0.135	0.052	0.559	0.163	0.114	0.147	0.017

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A14: Reported Income by gender (CASEN)

Dependent variable (log income):	Main occupation	All work	Self-generated	Total
	(1)	(2)	(3)	(4)
[a] Trend (Age 20) x 𝟙(Male)	-0.002	0.009***	0.008***	0.007***
	(0.003)	(0.003)	(0.003)	(0.002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.012***	-0.020***	-0.022***	-0.020***
	(0.004)	(0.004)	(0.004)	(0.004)
[c] Trend (Age 20) x 𝟙(Female)	0.006**	0.020***	0.022***	0.018***
	(0.003)	(0.004)	(0.003)	(0.003)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.024***	-0.030***	-0.032***	-0.028***
	(0.004)	(0.006)	(0.004)	(0.004)
[e] IV: Any College (Male)	0.568***	1.013***	1.012***	0.942***
	(0.166)	(0.207)	(0.162)	(0.160)
[f] IV: Any College (Female)	0.749***	0.970***	1.048***	0.918***
	(0.122)	(0.177)	(0.145)	(0.139)
County x gender FE	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes
Observations	95,144	89,297	110,990	110,990
R-squared	0.166	0.147	0.153	0.154
p-value a+b=0	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000
p-value a=c	0.063	0.000	0.000	0.000
p-value a+b=c+d	0.120	0.719	0.109	0.095
First-stage KP F-stat	65.8	56.0	78.5	78.5
p-value e=f	0.343	0.870	0.854	0.902
Mean of dependent variable (Female)	483,347	501,582	510,437	513,173
Mean of dependent variable (Male)	782,244	837,389	893,780	897,227

Notes: Dependent variable in the header. Real income deflated using yearly CPI. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of residence x gender and survey year fixed effects. Standard errors clustered by county of residence in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A15: Income Quintiles by gender (CASEN)

Dependent variable: Income quintile (dummy)	Q5 (highest)	Q4	Q3	Q2	Q1 (lowest)
	(1)	(2)	(3)	(4)	(5)
[a] Trend (Age 20) x 𝟙(Male)	0.003**	0.004***	0.0002	-0.003***	-0.004***
	(0.0011)	(0.0009)	(0.0007)	(0.0006)	(0.0005)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.011***	0.0004	0.004***	0.004***	0.003***
	(0.0017)	(0.0014)	(0.0011)	(0.0009)	(0.0007)
[c] Trend (Age 20) x 𝟙(Female)	0.008***	0.003***	0.001	-0.007***	-0.006***
	(0.0015)	(0.0011)	(0.0011)	(0.0010)	(0.0011)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.016***	-0.002	0.005***	0.009***	0.004**
	(0.0022)	(0.0017)	(0.0017)	(0.0015)	(0.0015)
[e] IV: Any College (Male)	0.511***	-0.018	-0.175***	-0.188***	-0.129***
	(0.076)	(0.065)	(0.053)	(0.043)	(0.034)
[f] IV: Any College (Female)	0.520***	0.061	-0.151***	-0.310***	-0.120**
	(0.071)	(0.055)	(0.055)	(0.052)	(0.049)
County x gender FE	Yes	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes	Yes
Observations	110,990	110,990	110,990	110,990	110,990
R-squared	0.110	0.021	0.027	0.040	0.064
p-value a+b=0	0.000	0.000	0.000	0.030	0.028
p-value c+d=0	0.000	0.090	0.000	0.000	0.001
p-value a=c	0.000	0.000	0.456	0.000	0.000
p-value a+b=c+d	0.432	0.008	0.065	0.037	0.021
First-stage KP F-stat	78.5	78.5	78.5	78.5	78.5
p-value e=f	0.924	0.327	0.746	0.065	0.883
Mean of dependent variable (Female)	0.346	0.231	0.152	0.135	0.136
Mean of dependent variable (Male)	0.547	0.232	0.111	0.070	0.039

Notes: Dependent variable in the header. Real income deflated using yearly CPI. Sample includes all respondents in the CASEN survey from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of residence x gender and survey year fixed effects. Standard errors clustered by county of residence in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A16: Housing Wealth Quintiles by gender (1992)

Dependent variable: Housing wealth quintile (dummy)	Q5 (highest)	Q4	Q3	Q2	Q1 (lowest)
	(1)	(2)	(3)	(4)	(5)
[a] Trend (Age 20) x 𝟙(Male)	-0.005***	0.001**	0.002***	0.001***	0.001***
	(0.0006)	(0.0004)	(0.0004)	(0.0004)	(0.0002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.012***	0.004***	0.004***	0.004***	0.001***
	(0.0009)	(0.0008)	(0.0006)	(0.0004)	(0.0002)
[c] Trend (Age 20) x 𝟙(Female)	-0.003***	-0.0001	0.001***	0.002***	0.001***
	(0.0005)	(0.0005)	(0.0004)	(0.0003)	(0.0002)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.011***	0.004***	0.003***	0.003***	0.001***
	(0.0007)	(0.0006)	(0.0005)	(0.0003)	(0.0002)
[e] IV: Any College (Male)	0.373***	-0.118***	-0.128***	-0.110***	-0.018***
	(0.028)	(0.024)	(0.017)	(0.012)	(0.007)
[f] IV: Any College (Female)	0.249***	-0.086***	-0.073***	-0.065***	-0.026***
	(0.019)	(0.016)	(0.013)	(0.008)	(0.005)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes	Yes
Observations	942,879	942,879	942,879	942,879	942,879
R-squared	0.115	0.013	0.032	0.053	0.051
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.033	0.000	0.000	0.002
p-value a+b=c+d	0.000	0.000	0.000	0.055	0.007
First-stage KP F-stat	702.1	702.1	702.1	702.1	702.1
p-value e=f	0.000	0.152	0.003	0.001	0.296
Mean of dependent variable (Female)	0.493	0.253	0.149	0.082	0.024
Mean of dependent variable (Male)	0.500	0.250	0.144	0.080	0.026

Notes: Dependent variable in the header. Sample includes all respondents in the 1992 census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A17: Status within the household by gender

Source:	Census 1992				Census 2002				Census 2017			
	HH Head	Spouse	Child	Parent	HH Head	Spouse	Child	Parent	HH Head	Spouse	Child	Parent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
[a] Trend (Age 20) x 𝟙(Male)	-0.003***	-0.001***	0.004***	-0.0002***	-0.003***	0.0002	0.003***	-0.001***	-0.002***	0.002***	0.002***	-0.002***
	(0.0003)	(0.0002)	(0.0002)	(0.00002)	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0004)	(0.0003)	(0.0001)	(0.0002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.013***	0.0001	0.011***	0.0002***	-0.002***	-0.001***	0.003***	0.001***	-0.005***	-0.0003	0.003***	0.001***
	(0.0006)	(0.0002)	(0.0004)	(0.00003)	(0.0005)	(0.0003)	(0.0003)	(0.0001)	(0.0005)	(0.0004)	(0.0002)	(0.0002)
[c] Trend (Age 20) x 𝟙(Female)	-0.010***	0.007***	0.006***	-0.001***	-0.006***	0.006***	0.004***	-0.003***	-0.005***	0.008***	0.003***	-0.005***
	(0.0004)	(0.0004)	(0.0003)	(0.0001)	(0.0005)	(0.0006)	(0.0002)	(0.0001)	(0.0005)	(0.0005)	(0.0001)	(0.0004)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	0.0001	-0.013***	0.008***	0.001***	-0.003***	-0.001*	0.002***	0.002***	0.001	-0.005***	0.002***	0.001***
	(0.0005)	(0.0006)	(0.0005)	(0.0001)	(0.0006)	(0.0007)	(0.0004)	(0.0002)	(0.0007)	(0.0006)	(0.0002)	(0.0004)
[e] IV: Any College (Male)	0.418***	-0.003	-0.332***	-0.005***	0.084***	0.053***	-0.111***	-0.027***	0.364***	0.028	-0.206***	-0.087***
	(0.020)	(0.007)	(0.016)	(0.001)	(0.022)	(0.013)	(0.013)	(0.004)	(0.040)	(0.032)	(0.021)	(0.017)
[f] IV: Any College (Female)	-0.002	0.321***	-0.189***	-0.017***	0.110***	0.046*	-0.076***	-0.063***	-0.048	0.226***	-0.094***	-0.067***
	(0.012)	(0.015)	(0.012)	(0.002)	(0.022)	(0.025)	(0.014)	(0.005)	(0.032)	(0.030)	(0.009)	(0.018)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	957,459	957,459	957,459	957,459	1,118,137	1,118,137	1,118,137	1,118,137	978,594	978,594	978,594	978,594
R-squared	0.376	0.375	0.029	0.004	0.235	0.249	0.014	0.008	0.117	0.116	0.010	0.014
p-value a+b=0	0.000	0.000	0.000	0.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.000	0.051	0.004	0.000	0.000	0.002	0.000	0.000	0.000	0.996	0.000
First-stage KP F-stat	640.1	640.1	640.1	640.1	290.2	290.2	290.2	290.2	129.8	129.8	129.8	129.8
p-value e=f	0.000	0.000	0.000	0.000	0.351	0.805	0.049	0.000	0.000	0.000	0.000	0.373
Mean of dependent variable (Female)	0.181	0.598	0.162	0.001	0.321	0.530	0.086	0.010	0.450	0.415	0.036	0.046
Mean of dependent variable (Male)	0.782	0.031	0.116	0.000	0.781	0.079	0.062	0.003	0.778	0.116	0.031	0.017

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A18: Marital Status by gender

Source:	Census 1992				Census 2002			
	Ever	Current Status			Ever	Current Status		
	married	Married	Widowed	Separated	married	Married	Widowed	Separated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
[a] Trend (Age 20) x 𝟙(Male)	-0.001***	0.002***	-0.001***	-0.001***	-0.001***	0.001***	-0.002***	0.001***
	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0003)	(0.0002)	(0.0002)
[b] Trend (Age 20) x 𝟙(Male) x 𝟙(Age 20 ≥ 1973)	-0.011***	-0.001***	0.001***	0.0001	-0.003***	0.001*	0.001***	-0.002***
	(0.0004)	(0.0002)	(0.0001)	(0.0002)	(0.0003)	(0.0003)	(0.0002)	(0.0003)
[c] Trend (Age 20) x 𝟙(Female)	-0.001***	0.007***	-0.004***	-0.004***	-0.001***	0.008***	-0.007***	-0.001**
	(0.0003)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0004)	(0.0003)	(0.0003)
[d] Trend (Age 20) x 𝟙(Female) x 𝟙(Age 20 ≥ 1973)	-0.008***	-0.002***	0.003***	-0.0003	-0.001*	-0.002***	0.004***	-0.002***
	(0.0005)	(0.0004)	(0.0002)	(0.0004)	(0.0004)	(0.0005)	(0.0003)	(0.0004)
[e] IV: Any College (Male)	0.347***	0.021***	-0.018***	-0.003	0.118***	-0.025*	-0.053***	0.077***
	(0.015)	(0.007)	(0.003)	(0.007)	(0.017)	(0.014)	(0.011)	(0.014)
[f] IV: Any College (Female)	0.185***	0.056***	-0.063***	0.007	0.026*	0.056***	-0.139***	0.083***
	(0.012)	(0.009)	(0.005)	(0.009)	(0.014)	(0.016)	(0.011)	(0.013)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ever married FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Observations	958,588	958,588	958,588	958,588	1,118,137	1,118,137	1,118,137	1,118,137
R-squared	0.024	0.643	0.013	0.024	0.019	0.451	0.025	0.029
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	640.0	638.6	638.6	638.6	290.2	290.0	290.0	290.0
p-value e=f	0.000	0.001	0.000	0.345	0.000	0.000	0.000	0.759
Mean of dependent variable (Female)	0.814	0.725	0.014	0.075	0.831	0.669	0.038	0.124
Mean of dependent variable (Male)	0.892	0.849	0.003	0.040	0.914	0.829	0.010	0.075

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1945 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the cohort reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age twenty on or after 1973. In the IV regression, the interaction term for each gender is used as the respective excluded instrument for any college education (the trends are included instruments). All regressions include county of birth x gender fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Appendix G Additional results on IGT of Education

Table A19: Educational Attainment of Children (CASEN Survey)

	(1)	(2)	(3)	(4)	(5)
	PANEL A: First Stage - Dependent variable: Any College (Parent)				
[a] Trend (Age 20) (Parent)	0.012***	0.012***	0.012***	0.007***	0.007**
	(0.0029)	(0.0029)	(0.0029)	(0.0028)	(0.0028)
[b] Trend (Age 20) x 𝟙(Age 20 ≥ 1973) (Parent)	-0.027***	-0.026***	-0.026***	-0.027***	-0.026***
	(0.0046)	(0.0046)	(0.0046)	(0.0045)	(0.0045)
	PANEL B: Reduced form - Dependent variable: Any College				
[a] Trend (Age 20) (Parent) 0.008***	0.008***	0.008***	-0.000	-0.002	
	(0.0030)	(0.0030)	(0.0030)	(0.0030)	(0.0028)
[b] Trend (Age 20) x 𝟙(Age 20 ≥ 1973) (Parent)	-0.007	-0.006	-0.006	-0.006	-0.004
	(0.0044)	(0.0044)	(0.0044)	(0.0043)	(0.0041)
	PANEL C: IV - Dependent variable: Any College				
Any College (Parent) 0.250	0.237	0.237	0.236	0.134	
	(0.1596)	(0.1610)	(0.1610)	(0.1596)	(0.1536)
	PANEL D: OLS - Dependent variable: Any College				
Any College (Parent)	0.291***	0.288***	0.288***	0.273***	0.257***
	(0.0120)	(0.0120)	(0.0120)	(0.0118)	(0.0118)
County x Gender FE	Yes	Yes	Yes	Yes	Yes
Parent Gender FE	No	Yes	No	No	No
Parent Gender x Gender FE	No	No	Yes	Yes	Yes
Age FE	No	No	No	Yes	Yes
Full Secondary FE	No	No	No	No	Yes
Observations	16,406	16,406	16,406	16,406	16,167
R-squared (panel A)	0.160	0.162	0.162	0.173	0.178
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable (panel A)	0.285	0.285	0.285	0.285	0.286
R-squared (panel B)	0.144	0.148	0.148	0.176	0.220
p-value a+b=0 (panel B)	0.483	0.314	0.314	0.001	0.002
First-stage KP F-stat	33.7	33.1	33.1	34.4	34.5
Mean of dependent variable (Panels B, C, and D)	0.558	0.558	0.558	0.558	0.563

Notes: Dependent variable in the header of each panel. Sample includes all respondents in the 2006, 2009, 2011, 2013, and 2015 reported as children of a household head (HH head) who completed secondary education and who are within the 25-40 age range (both inclusive). "Trend (Age 20)" is a continuous variable indicating the year at which the HH head reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for HH heads that reached age twenty on or after 1973. In panel C, the interaction term is used as excluded instrument for any college education by the HH head (the trend is an included instrument). All regressions include survey year and county residence x gender fixed effects. Columns 2-5 include HH head gender fixed effects. Column 3 includes HH head gender x gender fixed effects. Column 4 includes age fixed effects, and columns 5 includes a dummy for whether the children completed secondary. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A20: Comparison Table (IGT - CASEN)

	Different Samples			
	(1)	(2)	(3)	(4)
Age	29.09	29.85	30.42	32.48
	(3.85)	(4.18)	(4.62)	(4.77)
Female	0.37	0.32	0.32	0.52
	(0.48)	(0.47)	(0.47)	(0.50)
Head of Household	0.00	0.00	0.00	0.44
	(0.00)	(0.00)	(0.00)	(0.50)
Partner of Head of Household	0.00	0.00	0.00	0.30
	(0.00)	(0.00)	(0.00)	(0.46)
Child of Head of Household	1.00	1.00	1.00	0.22
	(0.00)	(0.00)	(0.00)	(0.41)
Personas in Household	4.18	4.33	4.31	4.27
	(1.51)	(1.70)	(1.72)	(1.73)
Married	0.00	0.00	0.00	0.34
	(0.06)	(0.06)	(0.06)	(0.47)
Average Earnings ($US/100)	69.16	50.13	47.67	56.14
	(69.67)	(51.01)	(55.33)	(76.45)
Hours of Work	48.98	50.90	52.09	49.63
	(80.54)	(85.60)	(91.47)	(75.66)
Any College	0.56	0.30	0.27	0.17
	(0.50)	(0.46)	(0.44)	(0.38)
Complete High School	0.95	0.76	0.72	0.65
	(0.22)	(0.43)	(0.45)	(0.48)
Set of Sample Restrictions				
Age $\in$ (25,40)	Yes	Yes	Yes	Yes
Child of Head of Household	Yes	Yes	Yes	No
Parents $\in$ Bandwidth	Yes	Yes	No	No
Parents Complete Household	Yes	No	No	No
Observations	12,269	32,084	54,344	248,224

Table A21: Children's Education: Heterogeneous effects by Child's gender

	(1)	(2)	(3)	(4)	(5)	(6)
	PANEL A: First Stage - Dependent variable: Any College (Parent)					
[a] Trend (Age 20 Parent) x 𝟙(Male)	0.006***	0.003***	0.002**	0.003***	0.002	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Trend (Age 20 Parent) x 𝟙(Male) x 𝟙(Age 20 Parent ≥ 1973)	-0.018***	-0.018***	-0.019***	-0.018***	-0.018***	-0.015***
	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
[c] Trend (Age 20 Parent) x 𝟙(Female)	0.005***	0.002**	0.001	0.002**	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[d] Trend (Age 20 Parent) x 𝟙(Female) x 𝟙(Age 20 Parent ≥ 1973)	-0.017***	-0.018***	-0.019***	-0.018***	-0.016***	-0.014***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
R-squared	0.086	0.093	0.095	0.098	0.106	0.231
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.007	0.076	0.009	0.280	0.199
p-value a+b=c+d	0.631	0.446	0.439	0.442	0.787	0.997
	PANEL B: Reduced form - Dependent variable: Any College					
[a] Trend (Age 20 Parent) x 𝟙(Male)	0.005***	-0.000	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
[b] Trend (Age 20 Parent) x 𝟙(Male) x 𝟙(Age 20 Parent ≥ 1973)	-0.005***	-0.006***	-0.006***	-0.005***	-0.005**	-0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
[c] Trend (Age 20 Parent) x 𝟙(Female)	0.003***	-0.002*	-0.002**	-0.002**	-0.002*	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[d] Trend (Age 20 Parent) x 𝟙(Female) x 𝟙(Age 20 Parent ≥ 1973)	-0.002*	-0.004***	-0.004***	-0.003**	-0.003*	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
R-squared	0.047	0.067	0.071	0.135	0.069	0.110
p-value a+b=0	0.887	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.141	0.000	0.000	0.000	0.000	0.000
p-value a=c	0.000	0.210	0.109	0.045	0.157	0.202
p-value a+b=c+d	0.167	0.367	0.451	0.374	0.857	0.962
	PANEL C: IV - Dependent variable: Any College					
[e] Any College (Parent) x 𝟙(Male)	0.269***	0.315***	0.299***	0.269***	0.262**	0.188
	(0.0890)	(0.0835)	(0.0814)	(0.0789)	(0.1217)	(0.1333)
[f] Any College (Parent) x 𝟙(Female)	0.142*	0.206***	0.209***	0.155**	0.219*	0.162
	(0.0806)	(0.0766)	(0.0755)	(0.0746)	(0.1275)	(0.1333)
First-stage KP F-stat	66.8	82.4	88.4	80.2	33.8	31.9
p-value e=f	0.235	0.309	0.396	0.268	0.805	0.879
County of birth x Gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Female Parent FE	Yes	Yes	Yes	Yes	Yes	Yes
Own age FE	No	Yes	Yes	Yes	Yes	Yes
Total children in HH FE	No	No	Yes	No	No	No
Rank of child in HH FE	No	No	Yes	No	No	No
Full Secondary FE	No	No	No	Yes	No	No
Any College Partner/Spouse FE	No	No	No	No	No	Yes
Observations	221,842	221,842	221,840	221,842	138,390	138,390
Mean of dependent variable (Female) (Panel A)	0.293	0.293	0.293	0.293	0.300	0.300
Mean of dependent variable (Male) (Panel A)	0.298	0.298	0.298	0.298	0.305	0.305
Mean of dependent variable (Female) (Panels B & C)	0.612	0.612	0.612	0.612	0.628	0.628
Mean of dependent variable (Male) (Panels B & C)	0.542	0.542	0.542	0.542	0.561	0.561

Notes: Dependent variable in the header of each panel. Sample includes all respondents in the 2017 reported as children of a household head (HH head) that was born between 1945 and 1960 (both inclusive) and reported four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the HH head reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for HH heads that reached age twenty on or after 1973. In panel C, the interaction term is used as excluded instrument for any college education by the HH head (the trend is an included instrument). All regressions include county of birth x gender and HH head gender fixed effects. Columns 2-6 include age fixed effects for the respondent (child). Column 3 includes fixed effects for the number of respondents classified as children of the HH head and for parity. Column 4 includes a dummy for complete secondary education by the respondent (child). Columns 5-6 restrict the sample to households including a respondent reported as spouse or partner of the HH head. Column 6 includes a dummy for any college by the spouse/partner of the HH head. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A22: Children's Education by grade (RKD)

Dependent variable:	Primary education (basic)								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)
						PANEL A: Reduced form						
[a] Trend (Age 20 Parent)	0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0001	0.0002	0.0003*	0.0008***	0.0010***	0.0009**	0.0009**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0004)	(0.0004)
[b] Trend (Age 20 Parent) x 𝟙(Age 20 Parent ≥ 1973)	0.0000	0.0001	0.0001	0.0000	0.0001	0.0001	-0.0001	-0.0003	-0.0008**	-0.0011***	-0.0015***	-0.0016***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0003)	(0.0004)	(0.0004)	(0.0005)	(0.0005)
						PANEL B: IV						
Any College (Parent)	-0.001	-0.004	-0.005	-0.002	-0.006	-0.006	0.005	0.014	0.045**	0.061***	0.081***	0.090***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.011)	(0.012)	(0.013)	(0.015)	(0.021)	(0.023)	(0.026)	(0.027)
County of birth x Gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female HH Head FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Own age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	221,842	221,842	221,842	221,842	221,842	221,842	221,842	221,842	221,842	221,842	221,842	221,842
R-squared	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.008	0.011	0.013	0.015	0.017
p-value a+b=0	0.427	0.356	0.292	0.303	0.071	0.070	0.212	0.491	0.983	0.341	0.002	0.000
F-excluded instrument	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1	204.1
Mean of dependent variable	0.996	0.996	0.996	0.995	0.994	0.993	0.992	0.990	0.981	0.975	0.960	0.949

Notes: Dependent variable is a dummy indicating educational attainment at or above the level in the header. Sample includes all respondents in the 2017 reported as children of a household head (HH head) that was born between 1945 and 1960 (both inclusive) and reported four or more years of secondary education (media). "Trend (Age 20)" is a continuous variable indicating the year at which the HH head reached twenty years of age, normalized to zero in 1972. "Trend (Age 20) x 𝟙(Age 20 ≥ 1973)" is the interaction of this variable with a dummy for HH heads that reached age twenty on or after 1973. In the IV regressions, the interaction term is used as excluded instrument for any college education by the HH head (the trend is an included instrument). All regressions include county of birth x gender, HH head gender and respondent age fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1