INSTITUTO DE ECONOMÍA

DOCUMENTO de TRABAJO

542

2020

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www.economia.puc.cl • ISSN (edición impresa) 0716-7334 • ISSN (edición electrónica) 0717-7593

Chile's Missing Students: Dictatorship, Higher Education and Social Mobility*

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May 2020

Abstract

Hostile policies towards higher education are a prominent feature of authoritarian regimes. We study the capture of higher education by the military dictatorship of Augusto Pinochet in Chile following the 1973 coup. We find three main results: (i) cohorts that reached college age shortly after the coup experienced a large drop in college enrollment as a result of the systematic reduction in the number of openings for incoming students decreed by the regime; (ii) these cohorts had worse economic outcomes throughout the life cycle and struggled to climb up the socioeconomic ladder, especially women; (iii) children with parents in the affected cohorts also have a substantially lower probability of college enrollment. These results demonstrate that the political capture of higher education in non-democracies hinders social mobility and leads to a persistent reduction in human capital accumulation, even after democratization.

Keywords: Dictatorship, higher education, social mobility, intergenerational transmission
JEL codes: I23, I24, I25, P51

*We would like to thank Dan Black, José Joaquín Brunner, David Card, Kerwin Charles, José Díaz, Steven Durlauf, Fred Finan, James Robinson and seminar participants at the University of Chicago, the University of California - Berkeley, Universidad del Rosario, Universidad de Chile and the EH Clio Lab conference for comments and suggestions. We also thank Fondecyt (project 11170258) for financial support. Azize Engin, Katia Everke, Juan Manuel Monroy, Daniela Guerrero, Maria Paula Tamayo and Piera Sedini provided outstanding research assistance. Bautista and Martínez: University of Chicago, Harris School of Public Policy; González: Pontificia Universidad Católica de Chile, Instituto de Economía; Muñoz: University of California Berkeley, Department of Economics; Prem: Universidad del Rosario, Department of Economics.

1 Introduction

Institutions of higher education are typically devoted to critical enquiry and uncompromising debate. "Freedom in research and training is the fundamental principle of university life" says the *Magna Charta Universitatum* (OMCU, 2019).[1] Faculty and students often engage in political discussion, denunciation and mobilization, making universities a thorn in the flesh for governments of all types (Glaeser et al., 2007). While democracies often accommodate the demands of universities and of protest movements originating within them (Maurin and McNally, 2008), autocracies usually respond with hostility (Connelly and Grüttner, 2005). A well-known example is the dismissal of Jewish faculty and students in Nazi Germany (Waldinger, 2010, 2011). Other examples include Soviet repression against the 'Prague Spring' in 1968, the student massacres in Mexico (Tlatelolco) and China (Tiananmen) in 1968 and 1989, and the arrests and disappearances of students in Iran in 1999. A more recent example was the shutdown of Central European University by Hungarian strongman Viktor Orban in 2018. Moving beyond anecdotes, Figure 1 shows a strong, negative relationship between autocracy and tertiary enrollment in a cross-section of countries. It illustrates the inherent tension between higher education and authoritarian regimes.

Hostile policies towards higher education are likely to have long-lasting economic consequences, as universities have been shown to foster economic activity (Cantoni and Yuchtman, 2014; Valero and Van Reenen, 2019). The higher prevalence of such policies in non-democracies is a plausible but understudied mechanism that could help us answer the perennial question on the connection between political regimes and economic prosperity.[2] A related question concerns the relationship between democracy and inequality. A theoretical literature dating back to Meltzer and Richard (1981) posits a strong equalizing effect of democracy, but the empirical findings are quite mixed (Acemoglu et al., 2015). The possibility that hostility towards higher education causes inequality within non-democracies has seldom been considered before.

In this paper, we study the effects of the capture of higher education by the dictatorship of Augusto Pinochet in Chile following the military coup of 1973. As part of its attempt to eliminate any source of political opposition, the incoming regime quickly took over the administration of all universities in the country and, over the following years, systematically reduced the number of openings for incoming students. Using administrative historical records, we show that the supply of openings was the binding constraint for college admissions throughout this period and that the reduction extended to almost all fields of study in both public and private universities. As a result,

[1] Emperor Frederick I signed on 1155 the *Authentica Habita* granting scholars at the University of Bologna protection from persecution. Commemorating its 900th anniversary in 1988, this university released the *Magna Charta Universitatum*, which had been signed by almost 1,000 universities from around the world as of 2019.

[2] Previous work on the link between democracy and economic growth has mostly relied on cross-country comparisons and has struggled to find credible sources of identification. See, e.g., Barro (1996), Przeworski et al. (2000), Papaioannou and Siourounis (2008) and Acemoglu et al. (2019).

the gross college enrollment rate dropped 34% between 1974 and 1980.

We examine the effects of these policies on affected individuals along several margins: (i) human capital accumulation, (ii) economic and non-economic outcomes throughout the life cycle, (iii) intergenerational transmission of human capital. Our empirical strategy relies on comparing birth 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 the observed trend in the outcomes for cohorts that reached college age shortly before the coup as a counterfactual for the affected cohorts that did so shortly afterwards, under the identifying assumption that in the absence of the coup we should not observe systematic breaks or kinks. Most of the analysis uses individual-level census data from 1992, 2002 and 2017, which we complement with data from a large biennial household survey (CASEN) in the period 1990-2015. We pay particular attention to heterogeneous effects by gender, given that women were making large gains in access to higher education and labor force participation in the years before the military coup.

Naturally, a comparison of members of different cohorts at any single point in time may be confounded by non-linear age effects. We employ multiple strategies to address this problem. First, we exploit the availability of information from multiple censuses to document the presence of kinks in our outcomes of interest at various different points in the life cycle over a 25-year period. Second, we verify that our results hold under increasingly conservative bandwidths of cohorts reaching college age around the military coup, which are arguably less prone to non-linearities. Third, when using the biennial CASEN survey we estimate a more stringent specification that replaces the pre-coup trend with age fixed effects. This way we compare people from different cohorts at the same age, allowing the outcome to vary flexibly at each point in the life cycle.

In the first part of the paper, we study the effect of the incoming dictatorship on the educational attainment of the affected cohorts. We restrict the analysis to people reporting complete secondary to have a better counterfactual for college enrollment. We document a sharp kink in college entry and completion that coincides with the military coup. While 38% of those reaching college age in 1972 went to college, only 25% of people reaching the same age in 1981 did. This pattern is present in all data sources available. We find evidence of imperfect 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 military coup.

Since 1967, university admissions in Chile have operated through a deferred-acceptance algorithm that ranks students based on their grades in secondary and their performance on a centralized admissions exam. Hence, even though the military regime was able to restrict the supply of higher education, it could not perfectly target the identity of admitted students. As a result, we find that the kink in college enrollment is present within families (i.e. siblings) as well as within all quintiles of housing wealth, providing evidence of widespread effects. We additionally find that the college premium increases for the affected cohorts, even controlling for occupation, consistent with a reduction in the supply of college graduates and no large reductions in the quality of education.

In the second part of the paper, we examine the economic consequences of decreased access to higher education. We provide reduced-form estimates of trend breaks around the time of the military coup and instrumental variables (IV) estimates of the effect of college entry, using the break in the enrollment trend after 1973 as the excluded instrument. The IV estimates capture the average effect of college entry for the set of compliers whose college enrollment was affected by the changes in policy implemented by the military dictatorship. The implied exclusion restriction requires that the change in outcomes for the cohorts that reached college age shortly after the coup is entirely driven by the restricted access to university.

We find large kinks in labor force participation and unemployment throughout the life cycle. Affected cohorts were substantially less likely to be in the labor force during their prime working years in 1992 and 2002 (30s and 40s). These effects are 50-100% larger for women than for men, indicating that college enrollment was fundamental for female participation in the labor market (Goldin, 2006). Conditional on labor force participation, affected cohorts also had higher rates of unemployment. Access to university also affects occupation along several dimensions. Affected cohorts are less likely to be in salaried employment, rather than self-employment, business ownership, domestic work or unpaid work with relatives. This effect is almost entirely driven by women. People in the affected cohorts are also much less likely to have a high-skill, white-collar occupation. This effect is at least 50% larger for women than for men.

We also find a sharp kink in various measures of self-reported income in the CASEN survey between 1990 and 2015. Our IV estimate indicates that college enrollment increases income by more than 55 log points in our baseline specification and by roughly 20 log points in the more conservative specification with age fixed effects. Using information on the distribution of housing wealth from the 1992 census, we find that college enrollment increases the probability of being in the top quintile by 35 percentage points, equivalent to 70% of the sample mean. This effect is balanced by roughly equal decreases in the probability of being in each of the following three quintiles and by a smaller decrease in the probability of being in the bottom quintile. Hence, restricted access to higher education hindered social mobility for the affected cohorts.

We further find that people in the affected cohorts are significantly less likely to be household heads (or spouses of the head) in each of the 1992, 2002 and 2017 censuses. While this could be explained by the fact that these are younger cohorts, we find that they are more likely to report being children or parents of the household head in all three censuses. We interpret these results as further evidence of economic vulnerability. Additionally, members of the affected cohorts are more likely to report being widows (conditional on having ever been married), which suggests a negative relationship between college enrollment and mortality (Buckles et al., 2016).

The final part of the analysis examines whether the drop in educational attainment for the affected cohorts affects the human capital of the next generation, which reached college age after democratization. We first show that women in the affected cohorts report having more children. These women also report having a smaller share of their children still alive. This effect is present as early as 1992, suggesting that it is driven by child deaths in early life.

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 reported as children of the household head or spouse. We also include household heads, their spouses or their siblings if their parents live with them. The fact that we can only study individuals living with a parent naturally introduces some selection. People in our sample are more likely to attend college or to have full secondary education than the average, mostly as a result of the restriction that the linked parent must have full secondary. Our preferred specification includes (i) county of birth by gender, (ii) parent's gender by (own) 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 32 pp. This effect is equivalent to 55% of the sample mean of 58% for children of high school graduates. Looking at lower levels, we find that parental college enrollment has no effect on primary education (which is mandatory in Chile since 1965), but does reduce dropout at all levels of secondary education (which only became mandatory in 2003). However, dropout in secondary only explains 12% of the intergenerational effect on college enrollment. Additional exercises indicate that positive assortative matching of parents with college explains roughly 20% of the intergenerational effect.

This paper connects several strands of literature. First, it adds to the empirical literature studying the relationship between democracy, education and inequality. Several papers (relying mostly on country-level data) have documented a positive effect of democracy on educational spending and enrollment at the primary and secondary levels.[3] Higher education has received much less attention and the available evidence actually points to a null effect (Stasavage, 2005; Gallego, 2010). A separate line of work (also reliant on cross-country comparisons) has provided highly inconclusive results on the relationship between democracy and inequality.[4] This literature has been largely motivated by a robust theoretical prediction of a positive relationship between democracy and redistribution (Acemoglu and Robinson, 2006; Boix, 2003). We make two contributions. First, we provide within-country evidence of a negative effect of dictatorship on the provision

[3] See Baum and Lake (2003); Brown and Hunter (2004); Lindert (2004); Avelino et al. (2005); Ansell (2010); Harding and Stasavage (2013). Aghion et al. (2018) provide opposite findings.

[4] See Rodrik (1999); Li et al. (2001); Mulligan et al. (2004); Scheve and Stasavage (2009, 2017); Haggard and Kaufman (2012); Acemoglu et al. (2015).

of higher education. In our setting, this is a response to the perceived political threat that free universities represent, in line with the predictions of Glaeser et al. (2007).[5] Second, we provide micro evidence showing that the hostile policies towards higher education that are a hallmark of authoritarian regimes hinder social mobility and female progress in the labor market, plausibly contributing to persistent income and gender inequality (Simpser et al., 2018). In this regard, our findings 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 over the last decade.

Second, our paper also 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; Zimmerman, 2019), iii) the differential effects of higher education on outcomes for women (e.g., Goldin, 1992, 2006). Our findings 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, especially for women at a time of structural transformation and rapid progress in the labor market.[6]

The paper also contributes to the literature on the intergenerational transmission of human capital.[7] 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 parental college and early-life outcomes or educational attainment at lower levels 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.[8] The novelty of our results relates to the unique features of the decision to go to college (i.e., 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 contribute 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

[5]A related strand of literature has focused on the manipulation of educational content in autocracies to generate political subservience (Cantoni et al., 2017; Alesina et al., 2018).

[6]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). These studies largely rely on a single cross-section and do not explore persistent effects throughout the life cycle, nor do they directly examine social mobility or gender inequality.

[7]Black and Devereux (2011) and Björklund and Salvanes, 2011 provide overviews.

[8]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).

transmission of higher education in a developing-country setting.

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 not change until a large reform in 1981.[9] The oldest university was Universidad de Chile, founded in 1842, and the most recent one to open was Universidad del Norte, founded in 1956. Only two universities were public, but the entire system was largely financed by the government. Most universities had their main campuses in the larger cities of Santiago, Concepción and Valparaiso, but several had smaller satellite campuses distributed throughout all the regions of the country. Faculty mostly had part-time appointments and rarely had graduate degrees.[10]

College enrollment quickly expanded in the 1960s, growing from around 25,000 students in 1960 to 77,000 in 1970. Panel (a) in Figure 2 shows that the gross enrollment rate jumped from 4.6% to 9.2% during the administration of Eduardo Frei between 1964-1970. The Socialist government of Salvador Allende (1970-1973) would oversee an even more dramatic increase in enrollment, which reached 146,000 students in 1973, corresponding to a gross enrollment rate of 16.8%.[11] This was a time of massive expansion in access to higher education, not just in Chile, but throughout Latin America (Brunner, 1984).

A movement for educational reform began in 1965 under the center-left government of Eduardo Frei. At the university level, the reform started in 1967 in response to gains in political leverage made by the student movement. Besides the large increase in enrollment, the movement's main achievement was greater student and faculty involvement in university governance. Academic structures were also modernized, in an effort to resemble the U.S. model, and increased funding allowed for new programs and research centers. Differentiated tuition based on family income was introduced, but fees were not very high.[12] The Allende government tried to make access to university more inclusive, with mixed results (Castro, 1977; Schiefelbein and Farrell, 1984, 1985).

Between 1850 and 1966, students wishing to enroll in college had to take a baccalaureate exam administered by Universidad de Chile. The reform also replaced this test with a new one called

[9]Universidad de Chile, Universidad Técnica del Estado, Universidad Católica, Universidad de Concepción, Universidad Católica de Valparaiso, Universidad Austral, Universidad Federico Santa María, Universidad del Norte.

[10]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).

[11]On that year, 39% of college students were female, 67% were enrolled in public universities. Engineering was the largest field, with 30% of students, followed by education, social sciences and health. The distribution of students across fields was largely unchanged relative to 1967 (see Appendix Figure B1).

[12]In 1972, 2.6% of revenue at the most selective private university, Universidad Católica, came from tuition fees and 89% from government subsidies. In 1977, these figures were 7.5% and 69.8%, respectively (Brunner, 2008).

"Prueba de Aptitud Académica – PAA" (Academic Aptitude Test) in 1967. Students could take the PAA test multiple times, but there was only one sitting of the exam per year. Those applying to college provided a ranking of their preferred university-program combinations and were awarded a score based on their grades in secondary and their PAA results. The weight awarded to each component was determined by each university and could vary by program. Each university also determined the number of openings in each of its programs. A deferred-acceptance algorithm then matched students to openings (Koljatic and Silva, 2020). Leaving aside some small modifications, the admissions process remains largely unchanged until today.

2.2 *Higher Education in Chile After the Military Coup*

Amid growing political polarization and deteriorating economic conditions, Allende was overthrown by a military coup on September 11, 1973. A junta presided by General Augusto Pinochet assumed all executive and legislative powers and would go on to govern the country until 1990. In its early days, one of the main aims of the military government 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. When announcing this policy, the government claimed that

> "several campuses and universities have become centers for Marxist indoctrination and propaganda... A large part of the extremist agitation and hate preaching that almost drove Chile down a tragic abyss, originated in these universities"
> (Brunner, 2008, p.137, *own translation*).

The military delegates had unrestricted power over university governance (Castro, 1977; Brunner, 1984). During the first months after the coup, many students, faculty and staff were expelled or dismissed, though the exact numbers remain unclear.[13] Some were detained, tortured, or killed.[14] All student groups and faculty and staff unions were shut down. Political activity was forbidden and teaching materials were tightly controlled.

In the following years, the gains in college enrollment achieved during the period of educational reform were largely undone. Panel (a) in Figure 2 shows a steady decline in the gross enrollment rate from 16.4% in 1974 to 10.8% in 1980 (34% drop), only slightly higher than at the start of

[13] 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 just from Universidad de Concepción by 1974. According to Castro, 228 researchers in the natural sciences left Chile between 1971 and June 1974, 165 after the military coup.

[14] Using detailed individual records from the final report by Comisión Rettig (1996), we find that among the roughly 3,200 documented victims there were 24 university professors and 252 university students. The report by the subsequent Comisión Valech (2004) estimates that around 4,100 of the 38,000 subjects who experienced such human-rights violations were students from all levels.

the Allende government. This decline was mostly driven by a reduction in the yearly number of incoming students rather than by the dismissal of students already enrolled (Levy, 1986). To disentangle the role of demand and supply, panel (b) plots the yearly number of people taking the PAA test, the subset that effectively applied to college and the number of openings made available by the universities. Openings grew from 16,000 in 1967 to 20,000 in 1970 (30% increase), and reached a maximum of 47,214 in 1973, corresponding to a 130% growth rate during Allende's tenure. But they rapidly 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 both increased between 1967 and 1975, when they exceeded 100,000 each. Both series fell in the following years, suggesting staggered adaptation to the drop in openings.[15] Importantly, the number of applicants generously exceeded the number of openings in all years, indicating that supply was always the binding constraint for college enrollment.[16]

Panel (c) in Figure 2 shows that the drop in openings was larger in public universities, which had grown more in the years before the coup, though supply in private universities also stagnated, consistently with government control over all universities. Panel (d) shows the total change in openings between 1973 and 1980 by field of study. With the exception of the natural sciences, all fields saw a net decrease in the number of openings, including traditional ones such as health or law. Programs in agriculture and the social sciences were the worst affected, experiencing aggregate declines of around 50%.

The drop in openings was matched and arguably caused by a decrease in government funding. Panel (e) in Figure 2 shows that the share of education spending devoted to higher education increased in the years before the coup, reaching a staggering 40% in 1973 (6% of Gross National Product, GNP), but dropped to around 30% in the following years (4% of GNP). In the eyes of the regime, excessive growth led to a bloated and inefficient university system that served a privileged minority of students (Brunner, 2008). As part of its pro-market reforms, the regime floated the idea of having universities be fully self-sufficient by 1976, but this idea faced strong resistance and was not implemented. As a result, the share of the education budget (or GNP) going to higher education in 1980 remained comparable to that from the pre-reform period in the early 1960s.

The military regime also saw a connection between an excessively large university system, low standards of quality and political opposition. In the words of the Secretary of Interior:

> "the mediocrity that prevails in most of our higher education…[is] a source of

[15] Projections by UNESCO placed aggregate enrollment at around 200,000 for 1975 while the actual figure fell slightly short of 150,000 (Levy, 1986).

[16] Panel (a) in Appendix Figure B2 shows that this conclusion is unchanged if we use an alternative measure of 'regular' openings. Appendix Figure B3 considers two additional response margins. Panel (a) shows that the number of enlisted soldiers remained constant after the coup. Panel (b) shows that the number of Chilean students abroad increased between 1960-1975 and slightly decreases afterwards. In both cases, the variation is too small to explain the observed drop in college enrollment.

> frustration for thousands of students, who easily become a breeding ground for political agitation" (Brunner, 2008, p.147).

In this regard, panel (e) also shows that public spending per student increased after 1975 (i.e. enrollment fell disproportionately more than funding). This suggests that the quality of higher education if anything increased in the early years of the dictatorship, as proxied by funding, though it seems likely that expulsions, faculty dismissals and other forms of repression had a negative impact on the student experience. Panel (f) suggests that the ability of incoming students also improved. The figure shows that average scores in the verbal and math modules of the PAA test (unadjusted and, hence, comparable across years) decreased in the years immediately before the coup and improved afterwards. This suggests that students adjusted their expectations following the drop in openings and that only those with better expected scores took the exam.[17]

In 1981, the military government implemented a large reform of higher education. Satellite campuses of the existing public universities became independent institutions and the system was opened to competition by new universities. These were not eligible for government funding, which was also substantially reduced for existing universities, causing an increase in tuition fees. The reform also reorganized smaller institutions providing post-secondary technical training.

3 Data and Empirical Strategy

3.1 Data

Our main source of data are the Chilean household censuses of 1992, 2002 and 2017.[18] The census files provide 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 of each household. 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. For example, the 2017 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 calculated variable indicating the wealth quintile to which the household belongs based on the observable characteristics of the dwelling and ownership of various assets.

We complement the information in these censuses using twelve waves of the biennial CASEN household survey between 1990 and 2015.[19] This is a repeated cross-section that is representative

[17] Panel (b) in Appendix Figure B2 shows that the drop in test-taking was driven by students from previous cohorts.
[18] Online Appendix A provides more detailed information about these sources.
[19] Survey years are 1990, 1992, 1994, 1996, 1998, 2000, 2003, 2006, 2009, 2011, 2013, 2015.

at the regional level.[20] In 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 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.[21] Our interest is on the harmonized 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 evolution of college graduation in the years before the military coup.

Our main sample includes census or survey respondents born between 1943 and 1960. People in these cohorts reached age 21 between 1964 and 1981, creating an 18-year window around the year of the military coup, 1973. We verify that our results are robust to more conservative bandwidths. Using administrative data on the age range of first-year college students, we find that 20.5 is a conservative estimate for the average age of first-year students in 1970, the closest year before the coup for which data is available.[22] We show below that the results are robust to changes in the age of college entry (i.e. changes in the kink point). We only keep respondents that report having completed secondary in the 2017 census and those that report at least four years of secondary in other sources that do not ask about completion. We introduce this restriction to ensure a relevant counterfactual for college enrollment.

For the study of intergenerational effects, we exploit the information on household composition contained in the 2017 census. We use 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.[23] We connect children to their parents using several different combinations of positions in the household. About 90% of our sample (roughly 213,000 people) is composed of individuals reported as children of the household head (whom we always observe). The second largest category is comprised of heads of households in which at least one individual reports being a parent of the head.[24] 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 is observed) or children of the spouse. We restrict the sample to children with ages between 25 and 40. We exclude younger individuals to improve our chances of observing final college enrollment

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

[21]Appendix Table A1 provides the list of these countries.

[22]Appendix Figure B4 shows the age distribution of students in the first and last year of college in 1960-1975.

[23]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.

[24]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 study potential complementarities in the effects of both parents' education.

and older individuals to ensure balance in the distribution of parental cohorts. We verify that the results are robust to changes in the ages of children in the sample. Having linked parents and children, we restrict this sample to parents meeting the same conditions as in our main sample above: (i) secondary completion, (ii) reaching age 21 between 1964 and 1981. Our final sample includes 228,608 individuals (i.e. children), 58% of whom report having enrolled in university.

An important limitation of our analysis of intergenerational effects is that we can only connect parents and children living together at the time of the 2017 census. Appendix Table H1 provides summary statistics of various characteristics for a series of nested samples, starting with the entire population of 25-40 year-olds in the 2017 census and finishing with our estimating sample. Our sample is positively selected in education, primarily because we condition on the linked parent having full secondary. People in our sample are less likely to be employed and more likely to be studying. Hence, our sample has the desirable feature of including those individuals with non-negligible probability of enrolling in higher education. Children of the household head make up 90% of our sample, compared to 26% in the population with ages 25-40. Women in our sample have half as many children as in the broader population.

3.2 Empirical Strategy

We measure the effects of the capture of higher education by the military regime by 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-one years of age because this was the average age of first-year college students at the time. We work with the following reduced-form model to estimate the effect of exposure to the dictatorship:

$$Y_{i,a21} = \alpha + \beta X_i + \pi_0 f(a21) + \pi_1 \mathbb{1}(a21 \geq 1973) \times g(a21) + u_{i,a21}, \tag{1}$$

where $Y_{i,a21}$ is the outcome of interest (e.g., enrollment in college) for individual i belonging to a cohort that reached age twenty-one in year $a21$. 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. $f(a21)$ and $g(a21)$ are smooth functions (polynomials) representing the birth cohort profile of outcome Y_{ia21}. We re-scale the running variable in these functions and set it equal to zero for 1972, the last year before the coup. $\mathbb{1}(a21 \geq 1973)$ is a dummy variable equal to one for those individuals (cohorts) that reached age twenty-one in 1973 or later. Finally, u_{ia21} is an error term clustered at the county-of-birth level. To simplify exposition, our baseline specification uses a linear polynomial in birth cohort (i.e., $f(a21) = g(a21) = a21$), such that π_1 captures the change in trend after 1973:

$$\pi_1 = \frac{\partial Y_{i,a21}}{\partial a21} |_{\mathbb{1}(a21 \geq 1973)=1} - \frac{\partial Y_{ia21}}{\partial a21} |_{\mathbb{1}(a21 \geq 1973)=0} .$$

We use a symmetrical bandwidth of 18 cohorts reaching college age around the year of the military coup. These cohorts have birth years between 1943 and 1960 and reached age 21 between 1964 and 1981. 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 regulated age of college entry, which leads to a fuzzy treatment assignment. We verify below that our results are not sensitive to small changes in the location of the kink. We end the sample with the 1981 cohort to mitigate the confounding effect of the large reform of the Chilean university system that was implemented by the military regime after that year. Starting with the 1964 cohort ensures a balanced sample centered at 1973. The discrete nature of the running variable prevents us from applying a non-parametric approach to select an optimal bandwidth, but we verify the robustness of our results to alternative choices.

A valid concern surrounding our empirical strategy is that our cross-cohort comparison may be picking up non-linear age effects in any one cross-section. We address this concern in three 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 us to estimate a more stringent specification that replaces the baseline cohort trend with a set of flexible age fixed effects (plus survey year fixed effects). In this case, the counterfactual for the affected cohorts is constructed using the average of the outcome among unaffected cohorts when they had the same age. Finally, the robustness of our results to shorter bandwidths reduces the likelihood of confounding non-linear age effects.

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

$$C_{i,a21} = \alpha + \beta X_i + \pi_0 f(a21) + \pi_1 \mathbb{1}(a21 \geq 1973) \times g(a21) + u_{ia21} \quad (2)$$

$$Y_{i,a21} = \phi + \delta C_{i,a21} + \gamma X_i + \rho_0 h(a21) + \epsilon_{ia21}, \quad (3)$$

where $C_{i,a21}$ stands for college enrollment for individual i belonging to the cohort that reached age

21 in year $a21$. Similarly to Card and Yakovlev (2014), this approach overcomes the endogeneity of college entry using the break in trend after 1973 as excluded instrument. We focus on college enrollment, rather than completion, because this is the margin that was most affected by the dictatorship's policies. Hence, 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 the average causal effect of college entry for compliers, i.e. those students whose college enrollment was affected because they reached college age in the years of reduced supply by the military government. By restricting our sample to people with full secondary education, the IV estimate provides the LATE of college enrollment relative to the relevant counterfactual of having a secondary degree. The IV analysis requires an additional exclusion restriction implying that the change in outcomes for the cohorts that reached age twenty-one after 1973 is solely driven by the lower probability of college enrollment.

To study the intergenerational effects of college enrollment, we use specifications analogous to the ones above. The corresponding IV estimate tells us the effect of parental college enrollment on the child's probability of enrollment. This is also a LATE estimate for those children with a parent whose enrollment was affected by the dictatorship. 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. The main change to the previous specifications is that the cohort trends correspond to the observed parent. We also expand the set of individual controls, X_i. In our most-preferred specification, we include (i) gender by county of birth, (ii) gender by parent's gender, (iii) relationship to household head and (iv) age fixed effects. The gender by parent's gender fixed effects limits our comparison to children of the same gender linked 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 implies comparing children with parents of varying ages at the time of birth, which could also confound the analysis. 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. Results are qualitatively similar across these different specifications and we use the fluctuation in the point estimates to learn about underlying mechanisms (i.e. effect of maternal age).

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.

Panel (a) in Figure 3 shows that cohort size is smooth around the year of the coup. In the x-axis, cohorts are organized by the year in which they turned 21 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 differential effects within our sample. Panel (b) shows the share of census respondents in each cohort that report completing secondary education (Media). These are the individuals that constitute our baseline sample below. There are no large changes around the time of the coup, only a minor blip for the cohort that reached age 21 in 1980. This cohort reached age 14 (the normal age of transition from primary to secondary) in 1973, suggesting that there was some disruption in lower levels of education in the year of the coup.

Panel (c) shows the share of people with full secondary that report attending university. We observe a systematic increase in college attendance for the cohorts that reached age twenty-one before the coup, followed by a large decline for those cohorts that reached this age after the coup. More specifically, college enrollment increased 4 percentage points (pp) between the 1964 and 1972 cohorts, corresponding to an 11% increase. Between the 1972 and 1981 cohorts, college enrollment decreased 14 pp, corresponding to a 36% decrease. Had the previous trend continued, the college entry rate would have been almost 45%, rather than 25%, in 1981.[25] Panel (d) disaggregates the data by gender. We observe that college enrollment was largely stable among men before the coup, but growing rapidly for women. After the coup, enrollment drops sharply for everyone.

Panel (e) shows that the probability of college graduation, conditional on enrollment, was stable around 81% for age 21 cohorts up to 1970. The graduation rate decreases to 79% for the 1974 cohort and rebounds sharply afterwards. This drop reflects exits by existing students in the aftermath of the coup (i.e. expulsions) and corresponds to a 10% increase in the dropout rate. The data shows that the vast majority of existing college students remained enrolled and finished their degrees. The increase in graduation rates after 1975 likely reflects both the tightening of admission standards caused by the drop in openings and the greater focus on academic achievement imposed by the regime.

[25] Appendix Figure B5 shows that these patterns are also present in previous censuses and the CASEN survey.

4.2 *Parametric Analysis*

Table 1 presents estimates of equation (1) for college enrollment using data from the 2017 census.[26] This specification formally extrapolates the upward trend in enrollment observed in the cohorts reaching age 21 between 1964-1972 to estimate the magnitude of the change experienced by those reaching this age between 1973-1981. Column 1 shows that college enrollment increased on average 0.5 pp per year for the cohorts reaching college age before the coup. This trend *decreased* by 1.9 pp after the coup. The difference between the two coefficients indicates a net negative trend of 1.4 pp per year for the cohorts reaching college age after the coup. Panel (a) in Figure 4 provides a visualization of our estimates. The markers show average college enrollment per cohort, while the lines indicate the respective trends before and after the coup. We find that the parsimonious linear trends approximate the break in the data very well in our small bandwidth.[27]

Column 2 in Table 1 provides evidence of mild substitution of college education with technical schooling (lower-level tertiary). The average yearly increase in the entry rate to these institutions increased from 0.01 pp in the pre-coup period to 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 0.5 pp per year (column 3). Columns 4-6 examine the change in trend for degree completion. The results in column 4 show that the college graduation rate was also growing in the pre-coup years, albeit at a lower rate than enrollment due to dropout. This trend becomes -1.0 pp for the affected cohorts. The drop in completion is equivalent to 71% of the drop in enrollment, indicating that most of the people that failed to enroll after the coup would have gone on to graduate. For technical schooling, the trends in enrollment and completion roughly coincide, suggesting little dropout before or after the coup. For higher education as a whole, the trend in the graduation rate experienced a net decline of -0.7 pp per year after the coup (column 6).

Appendix Table G1 provides disaggregate estimates by gender. In the pre-coup years, female college enrollment was growing 0.8 pp per cohort, while male enrollment had a yearly growth rate of 0.2 pp. After the coup, the net trend for men equals -1.3 pp, while for women it is -1.5 pp. This is consistent with the graphical evidence in panel (d) of Figure 3.

4.3 *Synthetic control analysis*

We conduct a synthetic control analysis to provide additional evidence on the impact of the dictatorship on college entry (Abadie and Gardeazabal, 2003; Abadie et al., 2010). For this purpose, we use the most recent 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

[26] Appendix Table C1 shows similar results for the 1992 and 2002 censuses and the CASEN household survey.

[27] Appendix Table C2 shows that the results are not sensitive to small changes in the location of the kink point (i.e. fuzzy onset of exposure to dictatorship), but that our baseline specification has the best fit on the data.

results are unaffected if we also use data from other countries.[28] We calculate the share of people with complete college education, complete secondary education, and complete primary education per cohort in each census, restricting the sample to individuals over 20 years of age. We use college *completion* instead of *enrollment* as the outcome variable because only the former is harmonized across countries in IPUMS. All estimates use lags of the share of people with completed college education to build the synthetic control.[29] Our baseline estimates do not include controls, but results are unaffected if we control for the share of people with ages 18-65, the share of women, or the share of people with secondary education.

Figure 5 shows the results. The solid line shows actual educational attainment by cohort in Chile. The dashed line shows the prediction from the synthetic control. In panel (a), the outcome is complete college education. We observe that the synthetic control tracks the realized time series very closely up to the year of the coup and exceeds it afterwards. The synthetic control keeps growing, while the actual series stagnates and falls.[30] 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 Heterogeneous Effects and College Premium

In this section, we examine whether the drop in college enrollment disproportionately affected certain socio-economic groups and whether it impacted the college earnings premium. Answering these questions helps us identify potential differences in the characteristics of the average college student before and after the coup that could affect the interpretation of our IV results below. We present results from two exercises aimed at shedding light on these issues. The first one involves

[28] 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. Appendix Figure D1 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.

[29] We follow Ferman et al. (2019) and use only *odd* years to avoid cherry picking and overfitting. Appendix Table D1 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.

[30] Placebo inference and confidence sets suggest this difference is statistically significant (Abadie et al., 2015; Firpo and Possebom, 2018). See Appendix Table D1 and Appendix Figure D2 for details.

examining whether there is a kink in enrollment within tightly-defined sub-groups: (i) families (i.e. siblings) using data from the three available censuses and (ii) wealth quintiles using data from the 1992 census. The second exercise involves estimating the college earnings premium and examining whether it changes for the cohorts reaching college age after the military coup.

To examine whether the kink in college enrollment is also observed within families, we exploit the information on household composition contained in the population censuses. A first sample includes groups of two or more people that report being children of the household head. A second sample is comprised of household heads and individuals that report being their siblings. In both cases, we can be sure that 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 existing evidence of a strong correlation in educational attainment between siblings in various settings (Björklund and Salvanes, 2011). If the reduction in college entry disproportionately affected certain people based on family-level characteristics, such as parental political affiliation or pre-coup socioeconomic status, the inclusion of these fixed effects should absorb most of the cross-cohort variation in enrollment. 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 2 shows separate estimates of equation (1) for each census year and each sub-sample. This analysis is quite demanding on the data, as the number of observations in all columns is an order of magnitude smaller than in the full sample. In later years, the sample of household heads and siblings increases while that of children of the household head decreases. In all columns, we observe the same trend break as in the main sample: cohorts that reached college age in the years before the military coup experienced a positive trend in enrollment, while those that did so shortly afterwards saw a net decline in this trend. We now learn that this pattern is present even among people that share at least one parent. The magnitude of the estimates is very similar to that in the larger sample (e.g., column 6 in Table 2 vs column 1 in Table 1).

Appendix Table C3 shows separate estimates of equation (1) 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 plausibly themselves affected by college enrollment. 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 enrollment. 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. Each additional cohort in the top quintile experienced an increase of 2.1 pp in the college entry rate up to 1972, while for those in the bottom quintile this increase was only 1.3 pp (39% smaller). After the coup, the top quintile has a net trend of -1.6 pp, while the bottom quintile has a net trend of -1.3 pp. These results indicate that people across the entire socioeconomic spectrum experienced a decline in college enrollment and that there was limited selective targeting of admissions. The regime could manipulate the total number of openings by reducing funding for universities, but could not affect individual admissions because of the algorithm employed.

The previous results provide evidence of a widespread impact of the drop in college enrollment. However, students going to college after the coup may have experienced a different quality of education or could have different innate ability. We use data on earnings from the CASEN survey to study related changes to the college premium. For this purpose, we estimate the following Mincer equation:

$$\ln \text{income}_{i,a21,j,t} = \kappa + \lambda X_{i,a21,j,t} + \omega_{a21}\mathbb{1}(\text{any college}) + \nu_{i,a21}, \tag{4}$$

where $\ln \text{income}_{i,a21,j,t}$ is the natural log of reported real earnings for individual i belonging to the cohort turning 21 in year $a21$, that lives in county j and appears in the CASEN survey from year t. Our baseline analysis uses self-generated income, but Appendix Figure F1 shows that the results are robust to using other available income measures. $X_{i,a21,j,t}$ is a set of controls including gender-specific county-of-residence fixed effects, age fixed effects and survey year fixed effects.[31] Hence, we are only comparing people of the same gender living in the same county, while flexibly allowing for age and time effects. ω_{a21} is a cohort-specific coefficient for the dummy variable $\mathbb{1}$(any college), which equals one for respondents that report attending college. As before, the sample only includes people born between 1943 and 1960 with 4+ years of secondary education.

Panel (a) in Figure 6 shows the results. For the cohorts that reached college age before the coup, we estimate a college premium of about 70 log points. After the coup, the college premium increases to about 80 log points (14% increase). This result indicates that the returns to college increased in the post-coup years, consistent with a lower supply of college graduates or a higher quality. In this regard, the educational policies of the military regime furthered inequality between those that could and could not attend college. Panel (b) replicates the analysis including fixed effects for nine occupational categories. While the overall magnitude of the college premium decreases, consistent with college partly affecting income through occupational choice, we still observe a 14% jump in the premium for the cohorts that reached college age after the coup.

5 Economic and Non-Economic Outcomes for the affected cohorts

In this section, we document the downstream effects of reduced college enrollment for the cohorts that reached college age after the military coup. We first examine several labor market outcomes.

[31] 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.

We rely on the 1992 and 2002 censuses for this part of the analysis because of data availability and because the kink in college enrollment roughly coincides with the age of retirement in 2017, potentially biasing the results.[32] We then look at measures of income using data from the CASEN household survey and study social mobility using novel data on housing wealth from the 1992 census. Finally, we examine marital status and the position within the household.

5.1 Labor Force Participation and Unemployment

Columns 1 and 2 in Table 3 show reduced-form estimates of equation (1) and IV estimates of equation (3) using labor force participation as the dependent variable. Each column uses data from a different census. The estimates show that the cohorts that reached college age before the coup had a positive trend in labor force participation. This could be a reflection of their higher educational attainment, but could also be caused by older cohorts leaving the labor market due to disability, early retirement, etc. In both years, we observe a large drop in the trend for the cohorts that reached college age after the coup. Panel (b) in Figure 4 illustrates this break in trend for 1992.[33] We observe the opposite pattern for unemployment in columns 3 and 4, controlling for labor-force participation. Here, the early cohorts had a weakly negative trend, which becomes positive for the affected cohorts. Panel (c) in Figure 4 shows this trend break in 1992. The fact that we observe kinks at two points in time that are ten years apart suggests that they are not driven by non-linearities related to age.[34] Appendix Figure F3 shows that the results are robust to additional tightening of the bandwidth, which should further reduce the importance of non-linear age effects.

The IV estimates reported at the bottom of the table allow us to quantify the effect of college enrollment implied by the previous reduced-form estimates. We find that college enrollment leads to a 33 pp increase in labor force participation in 1992 and to a 57 pp increase in 2002. These are large effects, equivalent to 43 and 74% of the respective sample means. Similarly, college enrollment reduces unemployment by 6 pp in 1992 and 2 pp 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 7 show IV estimates disaggregated by gender.[35] We find that the effect on labor force participation is 50-100% larger for women. Regarding unemployment, college enrollment has a larger impact for men in 1992, but there is no significant difference in 2002.

[32] Men retire at 65 (women at 60), which is the age in 2017 of the cohort that turned 21 in 1973.
[33] Appendix Figure E2 plots raw data and trends for all outcomes and years in Table 3.
[34] The cohorts in the sample have ages 32-47 in 1992 (kink at 39) and ages 42-57 in 2002 (kink at 49).
[35] Appendix G provides full results of these estimations.

5.2 *Occupation*

Columns 5 and 6 in Table 3 show results for the probability of salaried employment in 1992 or 2002. Other categories include business owners, self-employed, domestic workers and unpaid workers helping relatives. The patterns in the data are very similar for the two censuses: salaried employment increased pre-coup at a rate of 0.7 pp per cohort and slows down to 0.4 pp per cohort after the coup. Panel (d) in Figure 4 illustrates the break in trend. The IV estimates show that college enrollment increases the probability of salaried employment by around 9 pp, relative to sample means of about 70%. Appendix Table F1 shows that this gain in salaried employment comes at the expense of all other categories. Again, we see how reduced educational attainment substantially worsened the available employment opportunities for the affected cohorts.

These effects are also highly heterogeneous by gender and indicate that college enrollment dramatically affected women's chances of engaging in salaried employment. Panel (c) in Figure 7 shows that the effect of college enrollment on salaried employment is three to four times larger for women, with an estimated effect size of around 15 pp. The full results in Appendix Table G3 show that half of this effect came from lower domestic work in 1992 and the other half from self-employment and unpaid work with relatives. In 2002, self-employment and business ownership were the categories most affected by college enrollment.

Columns 7 and 8 in Table 3 show that the affected cohorts also experienced large declines in the probability of having a high-skill, white-collar occupation. Panel (e) in Figure 4 provides clear evidence of a kink in 1992. The IV estimates indicate that college enrollment increases the probability of this type of occupation by 48 pp in 1992 and 22 pp in 2002. Appendix Table F2 shows that college enrollment decreases the probability of having low-skill white-collar occupations (i.e. clerical work) and blue-collar occupations to roughly the same extent. College entry also increases the probability of being in the military in 1992, but the effect is much smaller. The magnitude of the estimates is smaller in 2002, but the pattern is very similar. In sum, college enrollment substantially determines access to the more prestigious occupations.

These effects are also much larger for women, as panel (d) in Figure 7 shows. The IV estimates for women in 1992 and 2002 are 62 pp and 29 pp, while for men they are 37 pp and 17 pp respectively. The full results in Appendix Table G4 further show that the increase in job status for college-educated women predominantly comes from reductions in white-collar, low-skill work (i.e. clerical work), while men with college experience larger reductions in blue-collar work.

5.3 *Income and Wealth*

To analyze the effects of college enrollment 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 pool all the survey waves for the main analysis and provide disaggregate results in the appendix. 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. This is less of a concern to the extent that measurement error equally affects the responses from people in different cohorts or is absorbed by the set of controls we discuss below.

Panel A in Table 4, shows reduced-form and IV estimates for all four income measures (in logs). The reduced-form results show generally positive trends for the pre-coup cohorts. On average yearly cohort gains amounted to 1.3 log points. After the coup, this trend reverses and becomes negative: each cohort has average income that is 1-1.5 log points lower than the one before. Panel (f) in Figure 4 shows the kink in self-generated income.[36] The IV estimates tell us that enrolling in college increases average income between 1990 and 2015 by 50 to 90 log points on average, depending on the measure.[37] Appendix Table G5 shows that these effects are larger for men.

Panel B in Table 4 shows results from a modified specification that replaces the baseline trend in income (i.e. cohorts turning 21 before the coup), 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 pre-coup cohorts at the exact same age. The IV estimates rely on this post-coup trend as an excluded instrument for college enrollment. We find a negative trend of 0.6 log points per year among the affected cohorts. Equivalently, college enrollment has a positive effect on income of around 20 log points. These estimates are smaller than those from our baseline specification, but remain quite sizable, especially when considering that our regressor of interest is college enrollment and not college graduation.

We complement the analysis on income using data on housing wealth from the 1992 population census. Based on characteristics of the dwelling and ownership of assets, households are classified into quintiles of housing wealth. Fifty percent of our sample belongs to households in the top wealth quintile, 25% to the fourth quintiles, and 15, 8 and 2% to the lower three quintiles in order. Table 5 shows results using the 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 -0.2 pp per year in the probability of belonging to the top wealth quintile, this trend drops sharply for the cohorts that reach college age after the coup

[36] Appendix Figure E3 shows plots for other income measures.

[37] Appendix Figure F2 shows separate estimates for each survey wave. The results are fairly stable, indicating that the affected cohorts experienced a systematic decline in income throughout the life cycle. Appendix Figure F4 shows that the IV estimates are also stable for different bandwidths.

and reaches -1.5 pp per year. Panel (g) in Figure 4 illustrates this drop. The IV estimate shows that college enrollment increases the probability of reaching the top quintile by 35 pp, equivalent to 70% of the sample mean. We estimate a 10-11 pp drop in the probability of being in each of the second, third and fourth wealth quintiles. We also find a quite sizable 2.4 pp decrease in the probability of being in the bottom quintile, larger than the sample mean.

Appendix Table G6 shows that the effect of college enrollment on wealth is larger for men. The estimated effect on the probability of being in the top quintile is 41 pp for men but only 30 pp for women. 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 enrollment on female social mobility. We explore the effect of college on marital status next.

5.4 Marital status

Table 6 shows results for marital status using data from the 1992 and 2002 censuses.[38] The dependent variable in columns 1 and 5 is a dummy for having ever been married. In columns 2-4 and 6-8, the dependent variables are dummies for being currently married, widowed or separated. In these columns, we restrict the comparison to people that have been married by including the appropriate control. Columns 1 and 5 show that the trend in ever married decreases for cohorts reaching college age under dictatorship. Panel (h) in Figure 4 illustrates the kink in 1992.[39] The IV estimates indicate that college enrollment increases the probability of marriage by 26 pp in 1992 and by 8 pp 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. The IV results show that college enrollment reduces the probability of being a widow by 5 pp in 1992 and by 12.4 pp in 2002, which correspond to more than four times the respective sample averages.[40] Increased widowing in younger cohorts goes against confounding age effects and suggests the existence of a negative relationship between college enrollment and mortality (Buckles et al., 2016), given that people usually marry within the same age group. However, the data sources we use in this paper are not ideal for studying this topic and we reserve further exploration for a future study.

Appendix Table G7 provides disaggregate results by gender. The effect of college enrollment on the probability of having ever been married is larger for men than for women (i.e. 12 pp vs 4 pp in 2002). One possible explanation is that women without college are more likely to get married than men without college. Another explanation is that college enrollment has two opposite effects

[38] Information on marital status was not collected in the 2017 census.

[39] Appendix Figure E5 plots the raw data and pre- and post-coup trends for all outcomes in Table 6.

[40] Panel (a) in Appendix Figure F5 shows IV estimates for different bandwidths.

on women. It makes them more attractive partners in the marriage market, but it also increases their leverage and allows them to wait for a better match. Given that the share of men without college ever married exceeds the share of women without college ever married, we find the second explanation to be more plausible.[41] The effect of college enrollment on widowing is 3-4 times larger for women, suggesting that college enrollment has a larger effect on male mortality.

5.5 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 or spouses, and children and parents of the head.[42] Table 7 shows the results. At all points in time, the trend in head/spouse status drops for cohorts reaching college age after the military coup, while the trends for dependents (parent or child of the head) increase. Panel (j) and (k) in Figure 4 provide visual evidence for 1992.[43] These results indicate that the affected cohorts experienced increased economic vulnerability throughout the life cycle and struggled to gain economic independence. It is striking to note that these cohorts have a higher probability of being parents of the household head as early as 1992 and have a higher probability of being a child of the head as late as 2017, which we would not expect purely as a result of age effects (i.e. older people are always more likely to be household heads). The IV estimates show that college enrollment increases the probability of being the household head or spouse by 15-39 pp.[44]

Appendix Table G8 provides disaggregate results by gender. College enrollment predominantly increases the probability of being the household head for men and the probability of being the spouse of the head for women. Also, while college enrollment leads to a reduction in the probability of being a dependent (i.e. child or parent) for both genders at all points in time, the effect on child status is larger for men, while that on parent status is larger for women.

6 Intergenerational Transmission of Human Capital

In this section, we explore potential effects on children with parents in the cohorts reaching college age after the military coup. We begin by studying the fertility of women in the affected cohorts and child survival. We then examine the educational attainment of these children.

[41] The respective averages for men and women (with full secondary but no college) are 89% and 81% in 1992. In 2002, these averages are 91% and 83%. Both differences in means are statistically significant at the 0.01% level.

[42] We combine (i) spouses and partners, (ii) own children, stepchildren and grandchildren, (iii) parents of the household head and parents of the spouse. A residual category includes people living with siblings or other relatives.

[43] Appendix Figure E6 includes plots for all outcomes and dates in Table 7.

[44] Panel (b) in Appendix Figure F5 shows IV estimates for different bandwidths.

6.1 Fertility and Child Survival

All censuses ask women the number of children they have given birth to. They also ask for the number of children still alive. Later sources provide better estimates of the total number of children per woman, but earlier ones allows us to learn about the timing of the effects as well.

Columns 1, 4 and 7 in Table 8 show results using the total number of children as dependent variable. All sources point to a negative trend in fertility among the pre-coup cohorts of -0.02 children per year. In 1992, the trend for the affected cohorts drops further and takes a net value of -0.07, but women in the affected cohorts are still in their thirties at the time and likely to have more children. In 2002, when the youngest cohort in our sample is already 42 years old, the trend break changes sign and becomes positive. This indicates that fertility fell at a lower rate for women in the affected cohorts. The results are very similar in 2017. The IV estimates show that college enrollment reduces total fertility by 0.3 children, equivalent to 13% of the sample mean of 2.3.

The dependent variable in all other columns is the share of children that are still alive. The reduced-form results tell us that pre-coup cohorts experienced yearly gains of 0.2 pp in child survival. The fact that the trends are so similar across censuses suggests that most of the variation in child mortality comes from deaths in early life. For women in the affected cohorts, this trend is 0.06-0.08 pp smaller, indicating higher mortality among their children. The IV results are quite stable across censuses and indicate that college enrollment reduces child mortality by about 2 pp, a large effect relative to the sample mean of 1.7%.[45]

The fall in the trend of child survival for women in the affected cohorts is already visible in 1992, when their fertility is still underway. Panel (l) in Figure 4 illustrates this result.[46] This suggests that the increased mortality is not entirely driven by a quantity-quality trade-off (Becker and Lewis, 1974). To further analyze this possibility, columns 3, 6 and 9 include a full set of fixed effects for the total number of children per woman. This restricts the comparison to women from different cohorts that report having the same number of children. We find that the effect of college enrollment on child survival is partially attenuated by the inclusion of this additional control, suggesting the presence of a quantity-quality trade-off. The IV estimates drop 40-50%.

6.2 Children's Educational Attainment

In this section, we study the educational attainment of children with parents in the affected cohorts. We are particularly interested in their own probability of college enrollment. Section 3 discusses the construction of the sample, which includes almost 230,000 people between the ages of 25 and 40 that we are able to connect to a parent reaching age 21 after the coup. For this analysis, we

[45]Panels (c) and (d) in Appendix Figure F5 show that the results on fertility and child survival are sensitive to the census year and bandwidth.

[46]Appendix Figure E7 shows plots for other outcomes and dates in Table 8.

use the same specifications as above, with the exception that the cohort-level variables refer to the parent, while the dependent variable mostly refers to the child.

To start, panel A of Table 9 shows that college enrollment among the parents of the children in our sample exhibits a pattern essentially identical to the full sample (i.e., Table 1), suggesting that this smaller sample of parents 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 a parent that reached college age before the coup, column 1 shows a positive trend in college entry of 0.4 pp per year. But this trend reverses for people with a parent in the affected cohorts and becomes -0.1 pp per year. This is evidence of a positive causal relationship between the college enrollment of parents and children. If we use the break in trend for the parents' college entry as an excluded instrument for their college enrollment, we find in panel C that having a parent that went to college increases a person's chances of enrolling by 26 pp. This IV estimate is equivalent to 45% of the sample mean (58%) and is only 7% smaller than the corresponding OLS estimate presented in panel D. This small difference between IV and OLS could indicate limited parental selection into college based on unobservable ability. Another interpretation is that while the IV estimate eliminates the selection effect causing an upward bias in OLS, it provides a LATE effect for a complier population of parents that benefit disproportionately from college enrollment (Card, 2001).

The only controls in column 1 are the gender by birth county fixed effects included in all previous regressions. In columns 2 and 3 we further control for the gender of the observed parent and for the combination of parent and child gender, ensuring that cross-cohort differences in the gender composition of the sample 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 child to the household head. Each way of connecting children to parents implies a different relationship of the child to the household head and this set of controls ensures that cross-cohort differences along this margin do not confound the estimates. Again, we see little change.

In column 5 we introduce age fixed effects for the child. These controls help address the concern that children with parents in later cohorts are themselves likely to be younger. This could bias downwards the estimate of the intergenerational effect if younger people benefit from positive trends in college enrollment in recent years. Indeed, we find that the IV estimate controlling for age (32 pp) is 26% 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.

Appendix Figure H1 shows that the results are hardly affected if we consider more conservative bandwidths for the ages of parents in the sample, while Appendix Table H2 shows that the results are also similar if we expand or restrict the window of ages of children included in the sample. For instance, the IV estimate of the intergenerational transmission of college for children with ages in the tighter 25-30 window is 0.29. Table H3 shows that the effect of parental college enrollment is stronger for individuals that are household heads or spouses than for those classified as children of the head. This is consistent with status within the household being endogenously co-determined with college enrollment (i.e. children of parents in the affected cohorts are less likely to go to college and more likely to move out of their parents' house). Table H4 provides disaggregate estimates of the intergenerational effect of parental college enrollment depending on the gender of the parent or the child. We find little evidence of heterogeneity.

Figure 8 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 9. 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 enrollment 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 21 in 1981 is around 7 pp less likely to go to college (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, column 6 of Table 9 includes an additional control indicating whether the child completed secondary education. As expected, this additional control absorbs some of the variation in college enrollment, but its inclusion only leads to a 12% reduction in our IV estimate (28 pp). Hence, most of the effect of parental college enrollment materializes after children complete secondary. In this regard, panel (c) in Figure 8 plots IV estimates from our preferred specification using completion of each grade in primary and secondary and college enrollment as the dependent variable. We observe no effect through primary, which is mandatory in Chile and beyond the control of parents. However, children with a parent with some college are more likely to move beyond all levels in secondary and have a 7 pp higher completion rate. Still, this effect is dwarfed by that on college enrollment.

6.3 Evidence on mechanisms

The results in the previous sections show that college enrollment has positive effects on several economic and non-economic outcomes likely to affect the intergenerational transmission of human capital. 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 this section, we study two testable mechanisms with data from the 2017 census. These are assortative matching by people with college and changes in fertility and maternal age.

To study the role of assortative matching, we focus on children whose linked parent is a household head, as we can identify the spouse of the parent for these individuals and his/her educational attainment. The dependent variable in column 1 of Appendix Table H5 is a dummy indicating presence of a spouse/partner of the parent. We find a negative trend break for the affected cohorts. The IV estimate indicates that college enrollment increases the probability of a spouse in the household by 17 pp. Column 2 then asks, for the sub-sample with observed spouses, whether the spouse has any college education. We find another negative trend break for post-coup cohorts, indicating positive assortative matching. College enrollment increases the probability of a spouse with any college by 40 pp, a very large effect relative to the sample mean of 21%. Column 3 re-estimates the intergenerational effect of parental college for the sub-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 baseline estimates in Table 9. 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 slightly to 0.29. Finally, column 5 uses the same sample and controls for whether the spouse of the parent has any college. The magnitude of the intergenerational correlation in college enrollment drops to 0.23. This is a 21% drop, indicating that assortative matching of people with college plays an important role in the propensity of their children to enroll in college themselves.

We study the role of fertility in Appendix Table H6. For this part of the analysis, we restrict the sample to those children that we link to their mother, as the census only contains information on fertility for women. Column 1 shows that the effect of college on total fertility is larger in this sample of mothers (0.57) than in the full sample of women in Table 8. Column 2 finds no evidence of a change in the trend of child survival for the post-coup cohorts in this sample. Column 3 studies maternal age. For this regression, we drop the age fixed effects for the child to avoid perfect multicollinearity with the cohort trend. Age at birth is systematically lower for linked mothers from younger cohorts, but we find no evidence of a kink after the 1973 coup. The dependent variable in columns 4-7 is again college enrollment.[47] Column 4 shows that controlling for total fertility of the mother leads only to a 7% decrease in the elasticity. This suggests that the intergenerational transmission of college enrollment is only weakly driven by a quantity-quality trade-off. Column 5 shows that additionally controlling for whether the mother reports having lost a child is largely inconsequential. In column 6, we replace the age fixed effects from our most-preferred specification with age-at-birth fixed effects. This is a very demanding specification, given the sharp gradient

[47]These estimates are comparable to the disaggregate ones for mothers in column 1 of Table H4

in maternal age shown in column 3. The IV estimate for the intergenerational effect drops to 0.2 (36% reduction), but remains positive and significant. Column 7 verifies that the results look fairly similar if we replace the cohort trend with age fixed effects.

7 Conclusion

This paper studies hostile policies towards higher education in an authoritarian regime and their socio-economic consequences. We exploit cross-cohort variation in the age of college enrollment around the time of the military coup that brought Augusto Pinochet to power in Chile. Cohorts that reached college age shortly after the coup experienced a sharp decline in enrollment as a result of the capture of all universities in the country by the incoming dictatorship and its attempt to silence all sources of political opposition. The resulting worsening of educational attainment had negative consequences that chased these cohorts for the rest of their lives: lower labor force participation, worse occupations, lower incomes and a higher probability of being a dependent of their parents or children, among others. Our findings show that small variation in birth year substantially affected these people's ability to go to college and their subsequent ability to climb up the socioeconomic ladder. Importantly, the military coup took place at a time of rapid female progress in the labor market. Women in the affected cohorts were disproportionately affected in their labor force participation and occupational choice. Unfortunately, we also find evidence of persistent effects on the educational attainment of children with parents in these cohorts.

We draw two main lessons from these findings. The first one concerns the relationship between political regimes, higher education and economic prosperity. Hostile policies towards higher education are a prominent feature of non-democracies. As Figure 1 shows, there is a robust, negative correlation between non-democracy and tertiary enrollment across countries. Our findings show that hostile policies towards higher education amid dictatorship can have long-lasting economic consequences. They reduce the human capital of those affected and their children, potentially also hampering productivity growth and long-term economic growth.

The second lesson concerns the role of higher education in social mobility more broadly. Our findings show that in a developing country, such as the Chile of the 1970s, growing college enrollment served as a platform that propelled people into better jobs and higher incomes. The collapse in college openings after the military coup effectively prevented an entire generation of Chileans, irrespective of background, from reaching the top of the socioeconomic pyramid. College was the great equalizer. One question that warrants further research is whether those left behind by lack of opportunities in higher education change their political attitudes, perhaps becoming increasingly mobilized against the regime.

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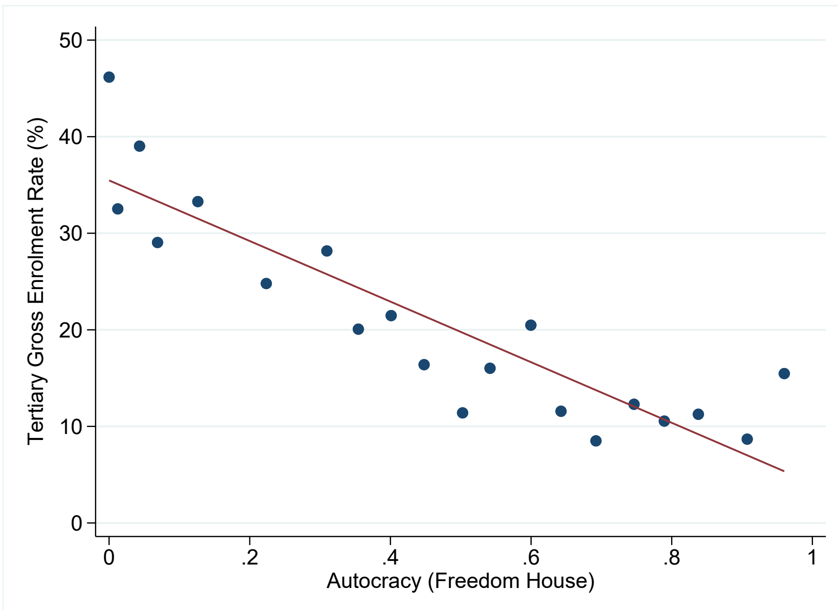
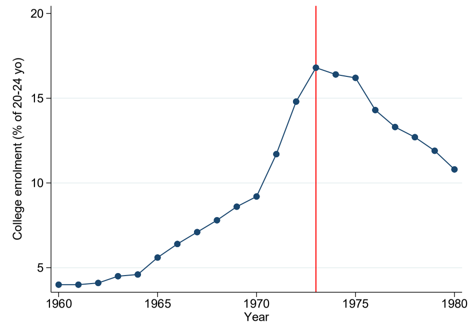
Figure 1: Autocracy and the Tertiary Enrollment Rate

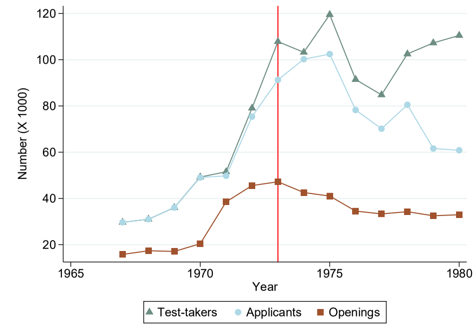


Notes: Figure shows a binned scatterplot of gross enrollment in tertiary education (i.e. number of students in higher education divided by population in the 5-year age group starting from the official secondary school graduation age) against the Freedom in the World index produced by Freedom House (normalized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

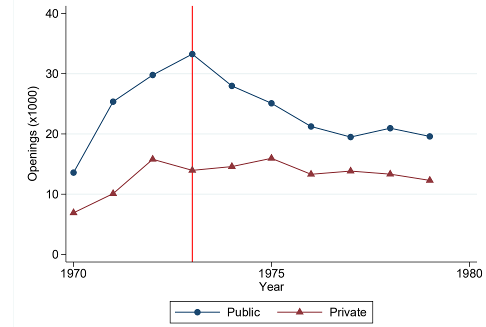
Figure 2: Demand and supply of college openings



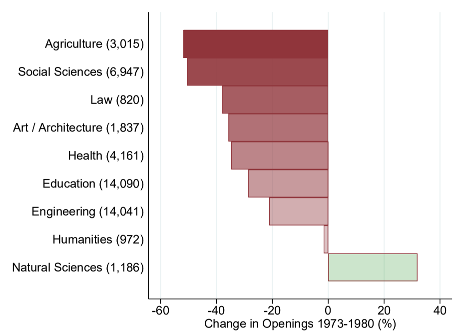
(a) Gross College Enrollment Rate



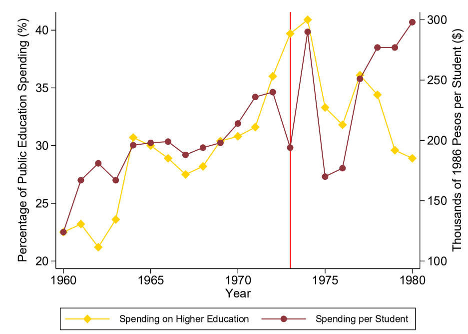
(b) Total Applicants and Openings



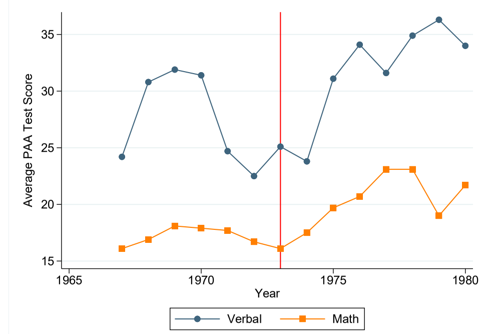
(c) Openings: Public vs Private Universities



(d) Change in Openings by Field



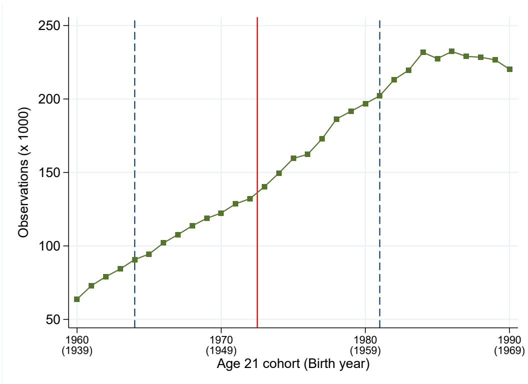
(e) Public Spending



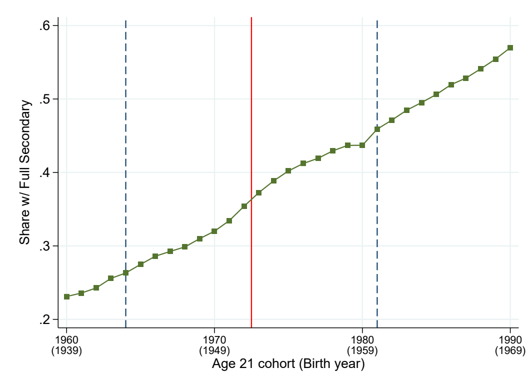
(f) PAA Test Scores

Notes: Panel (a) shows the gross college enrollment 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. Panel (b) 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 (c) shows the number of openings separately for the six private universities and for the two public ones. Panel (d) 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 (e) shows the percentage of public spending on education devoted to higher education and spending per student in thousands of real 1986 Chilean pesos. Panel (f) 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); Arriagada (1989).

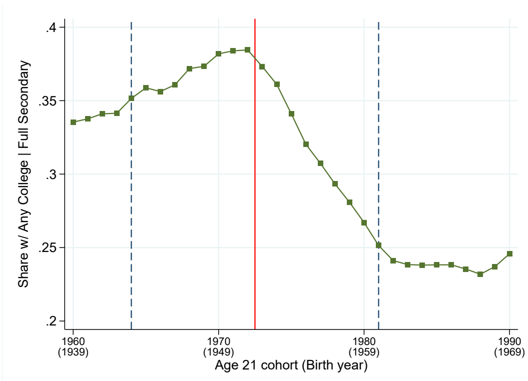
Figure 3: The military coup and college enrollment



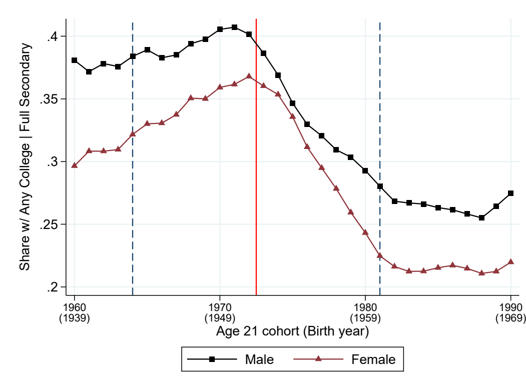
(a) Cohort Size



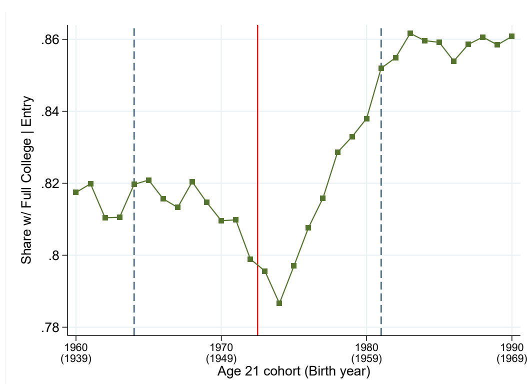
(b) Full Secondary



(c) Any College | Full Secondary



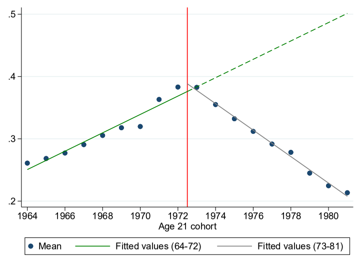
(d) Any College | Full Secondary (gender)



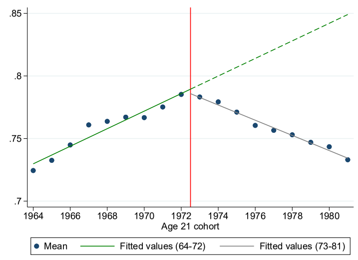
(e) Share with full college | entry

Notes: Panel (a) shows the total number of people per cohort (normalized to age 21) in the 2017 population census. Panel (b) shows the share of census respondents per cohort that report full secondary or higher, while panel (c) shows the share of people with complete secondary that report any college. Panel (d) shows the same information as panel (c), but disaggregated by gender. Panel (e) shows the share of people reporting full college, conditional on entry (information only available for 2017). The solid line shows the year of the military coup. Dashed lines show the start (1964) and end date (1981) of the sample of cohorts used in the analysis.

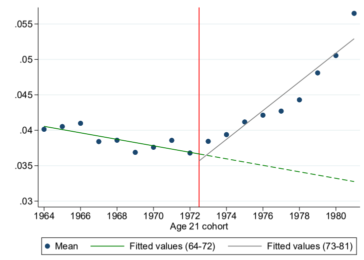
Figure 4: Visualization of Kink



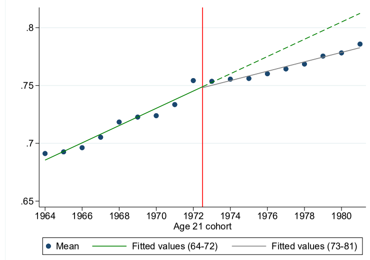
(a) Any College



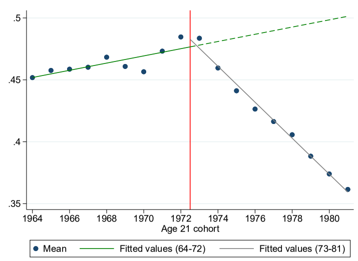
(b) In Labor Force



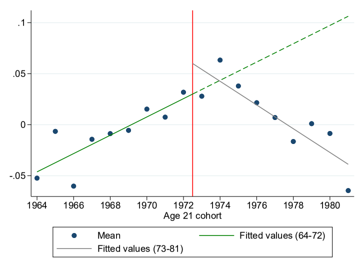
(c) Seeking Work



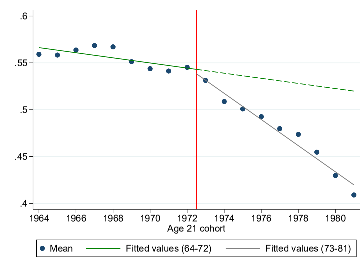
(d) Salaried Employment



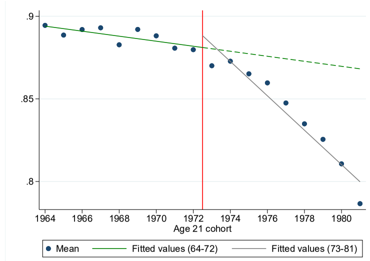
(e) White-collar, high-skilled



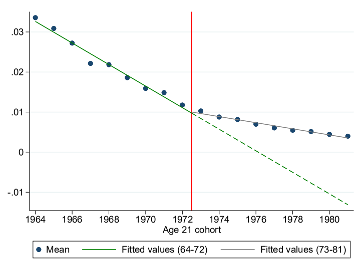
(f) Income



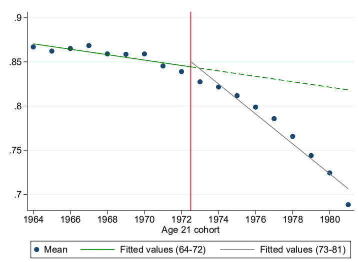
(g) Top wealth quintile



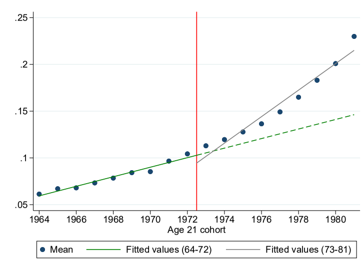
(h) Ever married



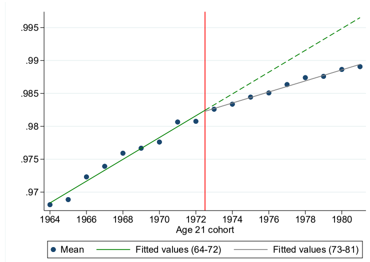
(i) Widow



(j) Household head/Spouse



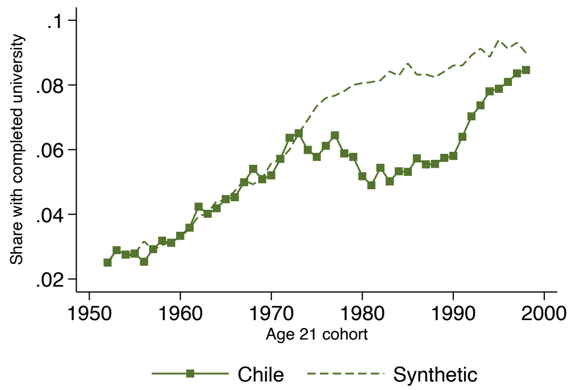
(k) Dependent: Child



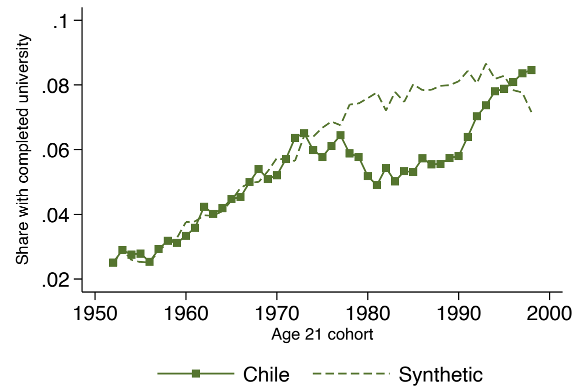
(l) Share of children alive

Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973. Dashed green line shows extrapolation for later cohorts.Solid grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards. All outcomes from 1992 population census, except income (panel f) from CASEN survey, which corresponds to residualized averages of self-generated income across survey years after accounting for year fixed effects.

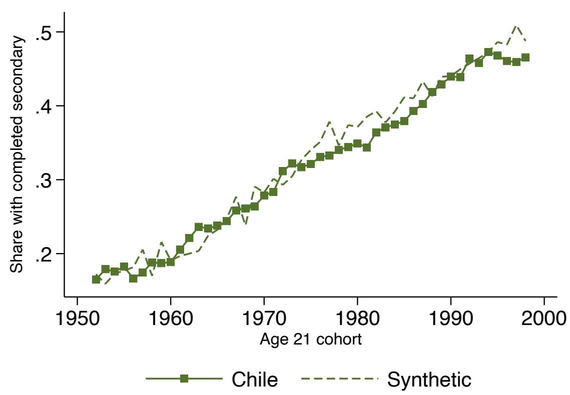
Figure 5: Synthetic control



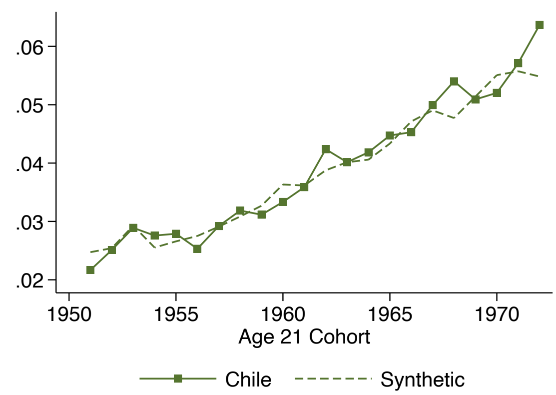
(a) Without controls



(b) With controls



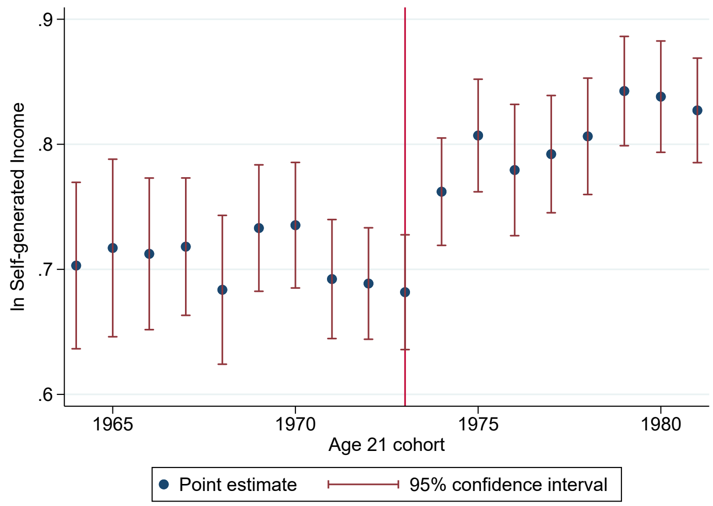
(c) Secondary education



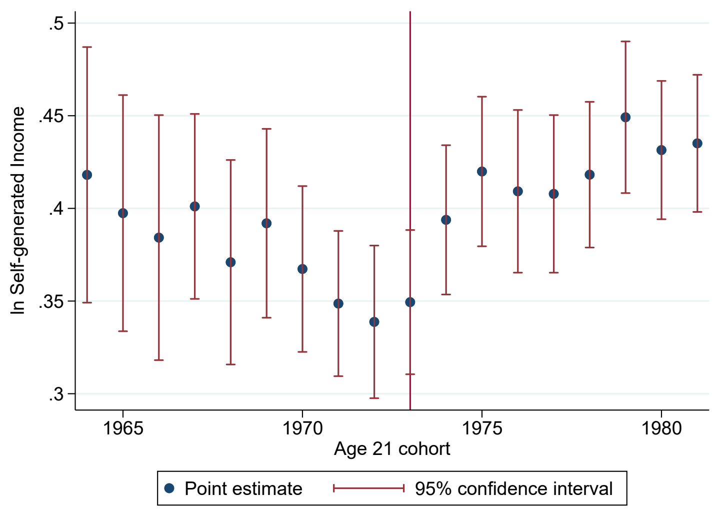
(d) Placebo

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 6: Cohort-specific Estimates of the College Premium



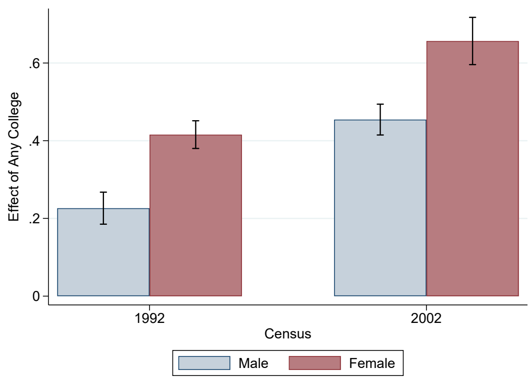
(a) Without occupation fixed effects



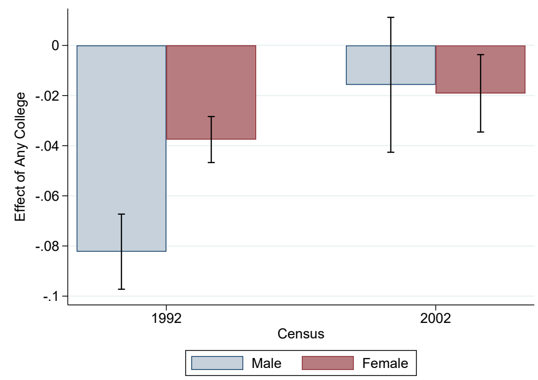
(b) With Occupation fixed effects

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 reaching age 21 between 1964 and 1981 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. 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=118,301 and 100,742 respectively.

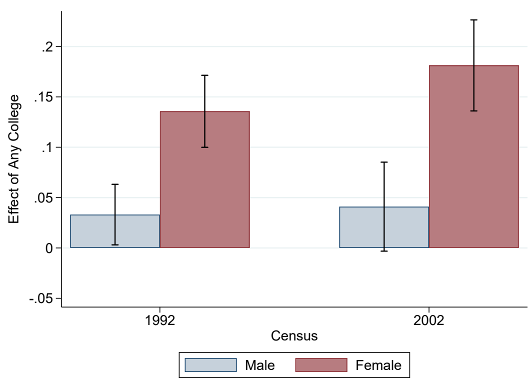
Figure 7: Heterogeneous Labor Market Effects of College Education by gender



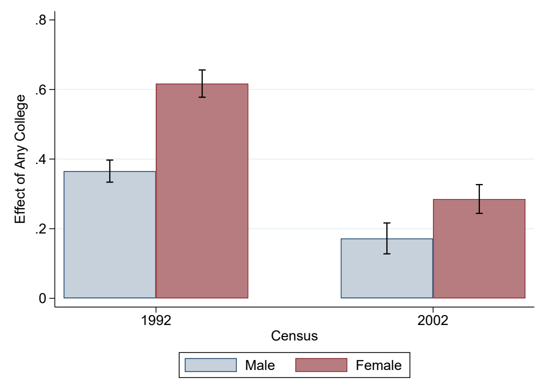
(a) Labor Force Participation



(b) Unemployment



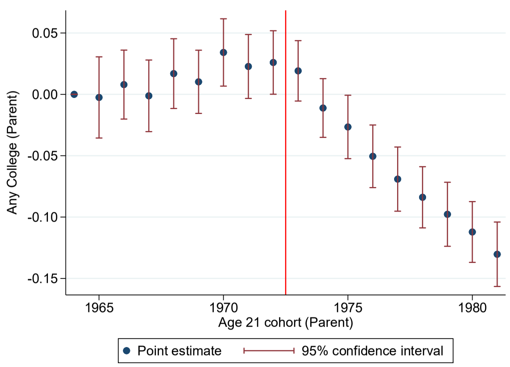
(c) Salaried Employment



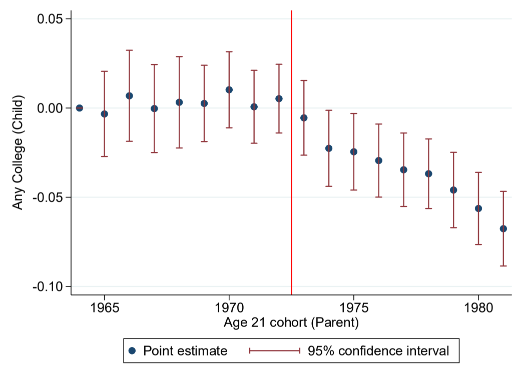
(d) White-Collar, High-Skill Occupation

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 reaching age 21 between 1964 and 1981 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). The gender-specific interaction term 'Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is used as the respective excluded instrument for any college education. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "$\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is a dummy for cohorts that reached age 21 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.

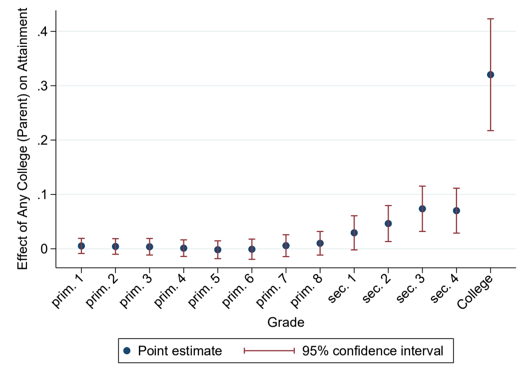
Figure 8: Inter-generational Transmission of Education



(a) Any College (Parent)



(b) Any College (Child)



(c) Educ. Attainment (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 21 between 1964 and 1981 (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. Panel (c) shows IV estimates of the effect of parental college enrollment on child's educational achievement by grade (primary 1-8, secondary 1-4). The excluded instrument is "Age 21 Parent x $\mathbb{1}$(Age 21 Parent $\geq$ 1973)", the interaction of a continuous variable indicating the year at which the HH head reached 21 years of age, normalized to zero in 1972, with a dummy for HH heads that reached age 21 on or after 1973. The baseline trend is an included instrument. The first-stage Kleibergen-Paap F-Statistic is 308. All panels 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.

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

Dependent variable:	Enrollment			Completion		
	College	Technical	Higher	College	Technical	Higher
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Yr Age 21	0.005***	0.0001	0.005***	0.002***	-0.0001	0.002***
	(0.0004)	(0.0003)	(0.0004)	(0.0003)	(0.0003)	(0.0004)
[b] Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)	-0.019***	0.004***	-0.016***	-0.012***	0.004***	-0.009***
	(0.0008)	(0.0003)	(0.0008)	(0.0006)	(0.0003)	(0.0006)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	962,039	962,039	962,039	962,039	962,039	962,039
R-squared	0.041	0.007	0.038	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 dep. var	0.322	0.118	0.440	0.266	0.109	0.375

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting full secondary education. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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: College enrollment: 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 21	0.021***	0.018***	0.012**	0.010***	0.015	0.007**
	(0.0028)	(0.0032)	(0.0047)	(0.0032)	(0.0100)	(0.0034)
[b] Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)	-0.043***	-0.038***	-0.029***	-0.022***	-0.034**	-0.020***
	(0.0038)	(0.0048)	(0.0059)	(0.0046)	(0.0132)	(0.0047)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Household FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27,392	14,806	14,291	14,039	4,780	20,552
R-squared	0.651	0.663	0.653	0.668	0.696	0.671
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	0.305	0.323	0.292	0.310

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 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 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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: Labor market outcomes (Census 1992, 2002)

	In Labor Force		Seeking Work		Wage-Earner		High-skill, white-collar	
Census year:	1992	2002	1992	2002	1992	2002	1992	2002
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
[a] Yr Age 21	0.008***	0.017***	-0.001***	0.0001	0.007***	0.008***	0.004***	-0.004***
	(0.0003)	(0.0004)	(0.0001)	(0.0001)	(0.0004)	(0.0003)	(0.0005)	(0.0004)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.012***	-0.014***	0.002***	0.0004**	-0.003***	-0.003***	-0.017***	-0.006***
	(0.0006)	(0.0004)	(0.0001)	(0.0002)	(0.0005)	(0.0004)	(0.0008)	(0.0005)
IV: Any College	0.333***	0.568***	-0.060***	-0.020**	0.080***	0.107***	0.476***	0.221***
	(0.017)	(0.021)	(0.004)	(0.008)	(0.013)	(0.017)	(0.015)	(0.016)
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	1,024,570	1,192,851	1,024,570	1,192,851	773,922	907,050	770,652	872,783
R-squared (RF)	0.200	0.133	0.013	0.024	0.017	0.016	0.032	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	2733.6	1079.8	2623.9	930.3	2120.2	761.5	2094.1	874.9
Mean of dep. var	0.758	0.762	0.033	0.063	0.750	0.677	0.431	0.596

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 3-4 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 4: 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 21	0.001	0.015***	0.013***	0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.015***	-0.024***	-0.022***	-0.020***
	(0.002)	(0.003)	(0.002)	(0.002)
IV: Any College	0.554***	0.920***	0.846***	0.761***
	(0.088)	(0.117)	(0.093)	(0.090)
		Panel B: Age Fixed effects		
Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.006**	-0.005	-0.005**	-0.006**
	(0.003)	(0.003)	(0.003)	(0.003)
IV: Any College	0.207**	0.200	0.201**	0.232**
	(0.096)	(0.131)	(0.101)	(0.099)
County x gender FE	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes
Age FE (panel B)	Yes	Yes	Yes	Yes
Observations	99,712	93,666	118,301	118,301
R-squared (RF - panel A)	0.165	0.146	0.152	0.153
R-squared (RF - panel B)	0.169	0.156	0.160	0.160
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.000
First-stage KP F-stat (panel A)	374.4	323.9	422.3	422.3
First-stage KP F-stat (panel B)	358.2	287.3	391.6	391.6
Mean of dependent variable (level)	674,304	712,472	737,297	740,530

Notes: Dependent variable in the header. Real income deflated using yearly CPI. Sample includes all respondents in the CASEN survey from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 5: 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 21	-0.0017***	-0.0002	0.0007***	0.0008***	0.0004***
	(0.0005)	(0.0004)	(0.0003)	(0.0003)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0128***	0.0041***	0.0042***	0.0035***	0.0009***
	(0.0007)	(0.0006)	(0.0004)	(0.0003)	(0.0001)
IV: Any College	0.348***	-0.113***	-0.115***	-0.097***	-0.024***
	(0.021)	(0.017)	(0.010)	(0.008)	(0.004)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	1,007,957	1,007,957	1,007,957	1,007,957	1,007,957
R-squared	0.114	0.013	0.032	0.052	0.050
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2859.4	2859.4	2859.4	2859.4	2859.4
Mean of dependent variable	0.50	0.25	0.15	0.08	0.02

Notes: Dependent variable in the header. Sample includes all respondents in the 1992 census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 6: Marital status (Census 1992, 2002)

Source:	Census 1992				Census 2002			
Dependent variable:	Ever	Current Status			Ever	Current Status		
	married	Married	Widowed	Separated	married	Married	Widowed	Separated
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
[a] Yr Age 21	-0.0002	0.0045***	-0.0025***	-0.0020***	-0.0008***	0.0045***	-0.0051***	0.0006***
	(0.0002)	(0.0002)	(0.0001)	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0093***	-0.0011***	0.0018***	-0.0007***	-0.0019***	-0.0006***	0.0031***	-0.0025***
	(0.0003)	(0.0003)	(0.0001)	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
IV: Any College	0.257***	0.030***	-0.050***	0.020***	0.076***	0.023***	-0.124***	0.100***
	(0.009)	(0.007)	(0.003)	(0.007)	(0.009)	(0.009)	(0.007)	(0.009)
Observations	1,024,570	1,024,570	1,024,570	1,024,570	1,192,851	1,192,851	1,192,851	1,192,851
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	2733.6	2783.3	2783.3	2783.3	1079.8	1083.8	1083.8	1083.8
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ever married FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
R-squared	0.025	0.630	0.013	0.024	0.019	0.444	0.027	0.029
Mean of dependent variable (Panel A)	0.853	0.787	0.009	0.058	0.874	0.749	0.0261	0.0993

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 2-4, 6-8 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 7: Position in the household (Census 1992, 2002, 2017)

Source:	Census 1992			Census 2002			Census 2017		
	Head/spouse	Child	Parent	Head/spouse	Child	Parent	Head/spouse	Child	Parent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
[a] Yr Age 21	-0.002***	0.004***	-0.001***	-0.002***	0.003***	-0.002***	0.002***	0.002***	-0.004***
	(0.0003)	(0.0002)	(0.00003)	(0.0004)	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0002)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.014***	0.009***	0.001***	-0.004***	0.002***	0.001***	-0.005***	0.003***	0.002***
	(0.0005)	(0.0003)	(0.00003)	(0.0005)	(0.0002)	(0.0001)	(0.0003)	(0.0001)	(0.0002)
IV: Any College	0.388***	-0.258***	-0.017***	0.149***	-0.092***	-0.048***	0.280***	-0.145***	-0.085***
	(0.014)	(0.010)	(0.001)	(0.017)	(0.009)	(0.003)	(0.015)	(0.008)	(0.008)
R-squared	0.029	0.031	0.004	0.050	0.015	0.009	0.005	0.011	0.015
County x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.800	0.134	0.001	0.858	0.071	0.007	0.878	0.032	0.034
First stage KP F-stat	2732.5	2732.5	2732.5	1079.8	1079.8	1079.8	630.5	630.5	630.5

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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. N= 1,023,353 and 1,192,851 and 1,036,105, respectively. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Fertility (Census 1992, 2002, 2017)

	Census 1992			Census 2002			Census 2017		
	Children	Share alive		Children	Share alive		Children	Share alive	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
[a] Yr Age 21	-0.023***	0.002***	0.001***	-0.023***	0.002***	0.001***	-0.017***	0.002***	0.002***
	(0.002)	(0.0001)	(0.0001)	(0.002)	(0.0001)	(0.0001)	(0.002)	(0.0001)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.043***	-0.0008***	-0.0009***	0.007***	-0.0006***	-0.0003**	0.006***	-0.0007***	-0.0004***
	(0.003)	(0.0001)	(0.0001)	(0.002)	(0.0001)	(0.0001)	(0.002)	(0.0001)	(0.0001)
IV: Any College	1.06***	0.02***	0.02***	-0.26***	0.02***	0.01**	-0.26***	0.03***	0.02***
	(0.069)	(0.003)	(0.003)	(0.063)	(0.005)	(0.005)	(0.087)	(0.006)	(0.006)
Observations	500,535	429,030	429,029	565,974	503,943	503,932	527,917	470,428	470,425
R-squared	0.040	0.006	0.029	0.008	0.005	0.097	0.007	0.006	0.043
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	2.090	0.983	0.983	2.336	0.978	0.978	2.339	0.971	0.971
First stage KP F-stat	2374.1	2136.7	2167.1	1047.8	976.3	1022.9	602.5	602.1	620.7
Total children FE	-	No	Yes	-	No	Yes	-	No	Yes

Notes: Dependent variable in the header. Sample includes all female census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 9: Educational attainment of children (Census 2017)

	(1)	(2)	(3)	(4)	(5)	(6)
	PANEL A: First Stage - Dependent variable: Any College (Parent)					
[a] Yr Age 21 Parent	0.006***	0.006***	0.006***	0.006***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 21 Parent	-0.021***	-0.021***	-0.021***	-0.020***	-0.022***	-0.021***
x 𝟙(Yr Age 21 Parent ≥ 1973)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	PANEL B: Reduced form - Dependent variable: Any College					
[a] Yr Age 21 Parent	0.004***	0.004***	0.004***	0.004***	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 21 Parent	-0.005***	-0.005***	-0.005***	-0.005***	-0.007***	-0.006***
x 𝟙(Yr Age 21 Parent ≥ 1973)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
	PANEL C: IV - Dependent variable: Any College					
Any College (Parent)	0.257***	0.257***	0.258***	0.254***	0.320***	0.283***
	(0.058)	(0.058)	(0.058)	(0.058)	(0.052)	(0.050)
	PANEL D: OLS - Dependent variable: Any College					
Any College (Parent)	0.274***	0.272***	0.272***	0.272***	0.262***	0.243***
	(0.0040)	(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	233,123	233,123	233,123	233,123	233,123	233,123
R-squared (panel A)	0.085	0.087	0.087	0.088	0.095	0.099
R-squared (panel B)	0.044	0.045	0.045	0.046	0.063	0.132
R-squared (panel D)	0.104	0.105	0.105	0.105	0.118	0.178
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)	0.000	0.002	0.002	0.001	0.000	0.000
Mean of dep. variable (panel A)	0.309	0.309	0.309	0.309	0.309	0.309
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)	291.8	289.0	289.3	281.8	308.1	310.3

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) was born between 1943 and 1960 (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 21 Parent" is a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "Yr Age 21 Parent x 𝟙(Yr Age 21 Parent ≥ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 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

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 enrollment and openings

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).[48] Data on the aggregate number of available openings 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 enrollment 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.).

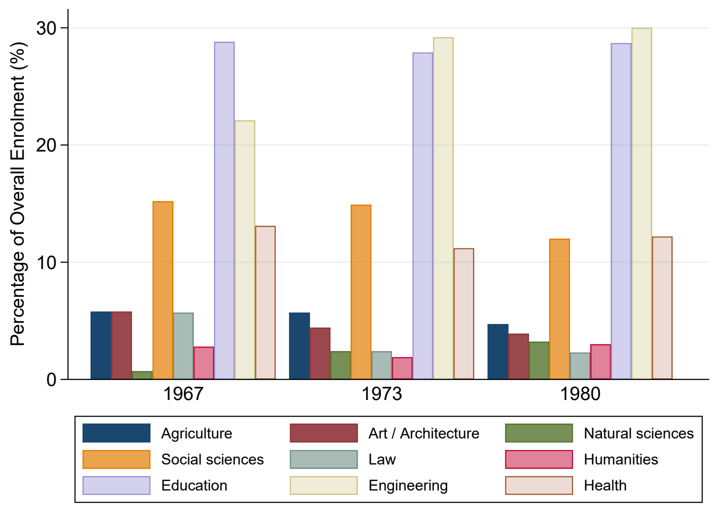
[48] Until the late 1990s, almost all college students in Chile attended one of the 25 (public and private) traditional universities belonging to the Universities of the Rectors' Council (CRUCH). Following their final year of high school, Chilean students take a standardized admissions exam, known as 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

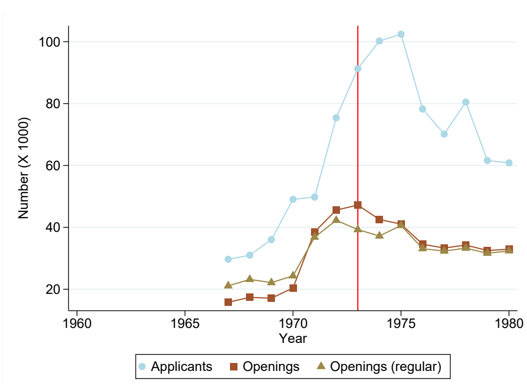
Appendix B Additional background figures

Figure B1: Share of students by Field of Study

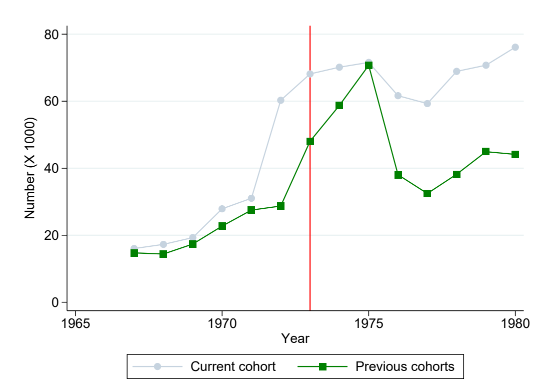


Notes: Figure shows the share of students enrolled in programs corresponding to different fields of study in 1967, 1973 and 1980. Classification corresponds to UNESCO categories.

Figure B2: Further Evidence on Supply and Demand for College



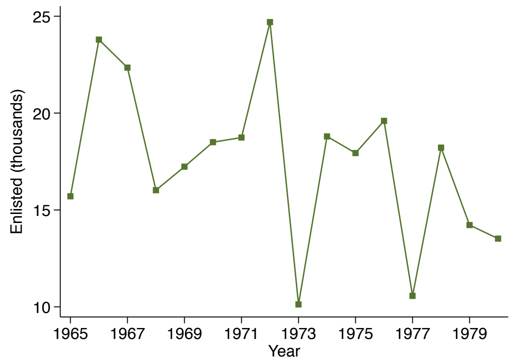
(a) Applications vs Openings: Alternative measure



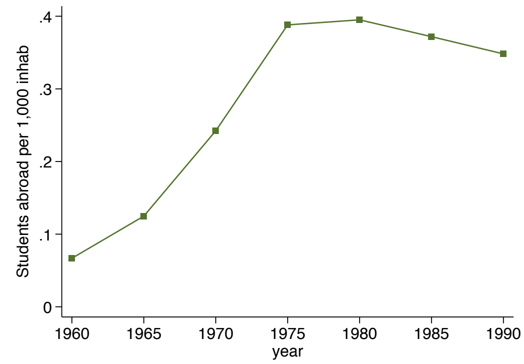
(b) PAA Registration: Old vs Current Cohort

Notes: Panel (s) shows the number of applicants and openings per year, but includes an alternative measure of regular openings. Panel (b) 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.

Figure B3: Alternative mechanisms



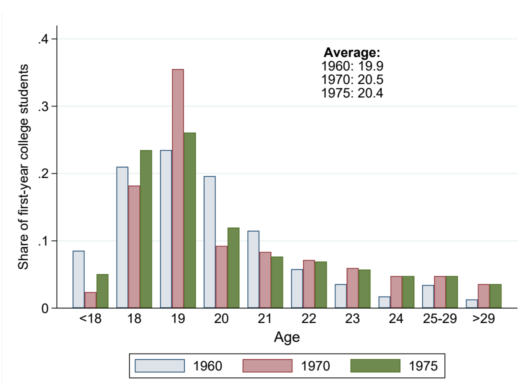
(a) Conscription



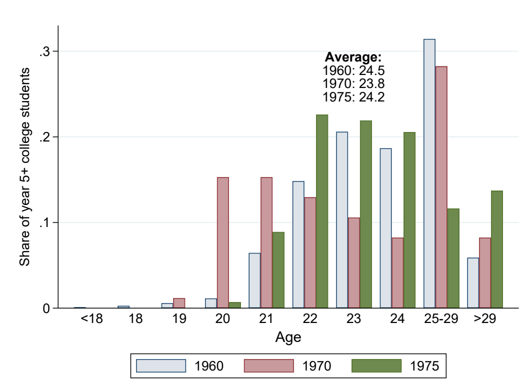
(b) Students abroad

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 through a Freedom-of-Information request and the number of students abroad come from Spilimbergo (2009).

Figure B4: Age distribution of first- and last-year college students



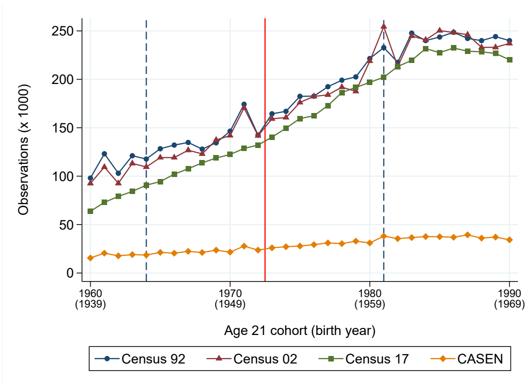
(a) Year 1



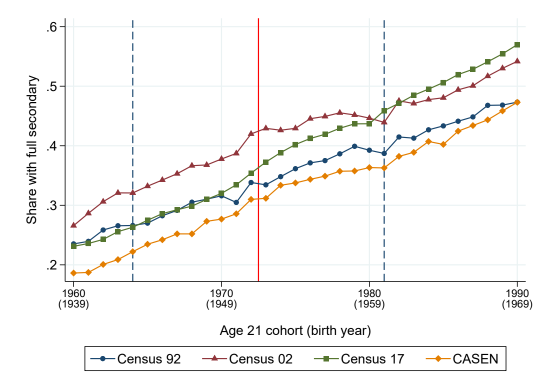
(b) Year 5+

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.

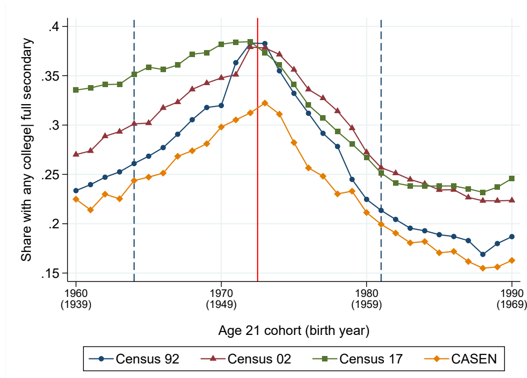
Figure B5: Cohort size and educational attainment - different sources



(a) Number of observations



(b) Share with 4+ years secondary



(c) Share with any college | 4+ years secondary

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 source the share of people in each cohort that report at least four years of secondary education. Panel (c) shows the share of people with any college, conditional on having 4+ years of secondary education. Dashed lines show start (1965) and end date (1980) of sample period for the analysis.

Appendix C Robustness Checks: Educational Attainment

Table C1: Educational Attainment: Other sources

Source:	Census 1992		Census 2002		CASEN	
	Any College	Any Higher	Any College	Any Higher	Any College	Any Higher
	(1)	(2)	(3)	(4)	(5)	(6)
[a] Yr Age 21	0.018***	0.019***	0.012***	0.011***	0.012***	0.012***
	(0.0004)	(0.0003)	(0.0005)	(0.0004)	(0.0007)	(0.0008)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.036***	-0.030***	-0.025***	-0.013***	-0.024***	-0.019***
	(0.0007)	(0.0006)	(0.0008)	(0.0007)	(0.0012)	(0.0013)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,024,570	1,024,570	1,192,851	1,192,851	148,069	148,069
R-squared	0.040	0.034	0.035	0.030	0.056	0.052
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.295	0.379	0.325	0.452	0.260	0.352

Notes: Dependent variable in the header. Sample includes all respondents of the respective census or survey from cohorts born between 1943 and 1960 (both inclusive). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 C2: College entry w/ different kink points (RKD)

	Dependent variable: Any college				
Kink point (x):	1971	1972	1973	1974	1975
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 21	0.010***	0.007***	0.005***	0.003***	0.001**
	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.022***	-0.021***	-0.019***	-0.018***	-0.017***
	(0.0010)	(0.0009)	(0.0008)	(0.0007)	(0.0007)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	962,039	962,039	962,039	962,039	962,039
R-squared	0.0412	0.0414	0.0415	0.0414	0.0412
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.322	0.322	0.322	0.322	0.322

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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

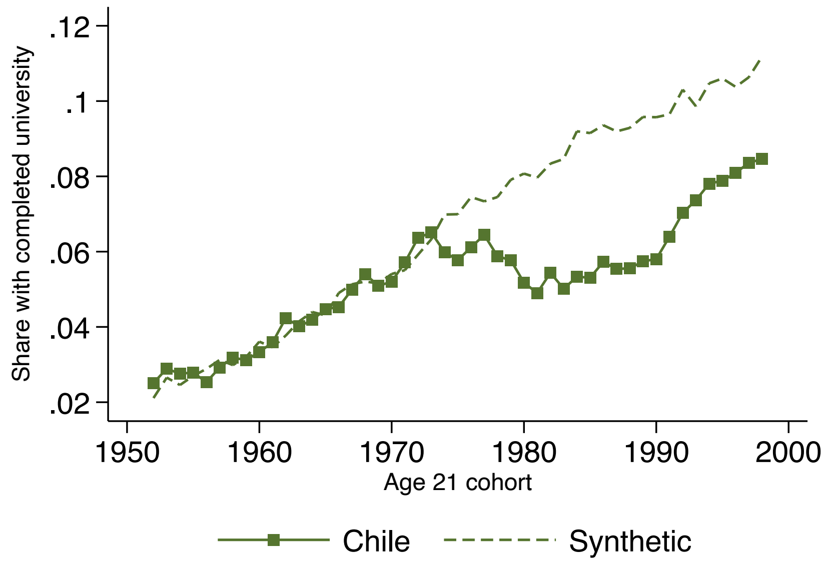
Table C3: College enrollment (Within quintile - 1992)

	Dependent variable: Any college				
Sample (Housing wealth quintile):	5th Quintile (highest)	4th Quintile	3rd Quintile	2nd Quintile	1st Quintile (lowest)
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 21	0.021***	0.018***	0.018***	0.015***	0.013***
	(0.0005)	(0.0007)	(0.0009)	(0.0008)	(0.0012)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.037***	-0.031***	-0.031***	-0.027***	-0.026***
	(0.0009)	(0.0012)	(0.0014)	(0.0013)	(0.0018)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes
Observations	504,456	252,358	146,316	80,095	24,493
R-squared	0.042	0.036	0.038	0.035	0.059
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
Mean of dependent variable	0.413	0.209	0.165	0.127	0.125

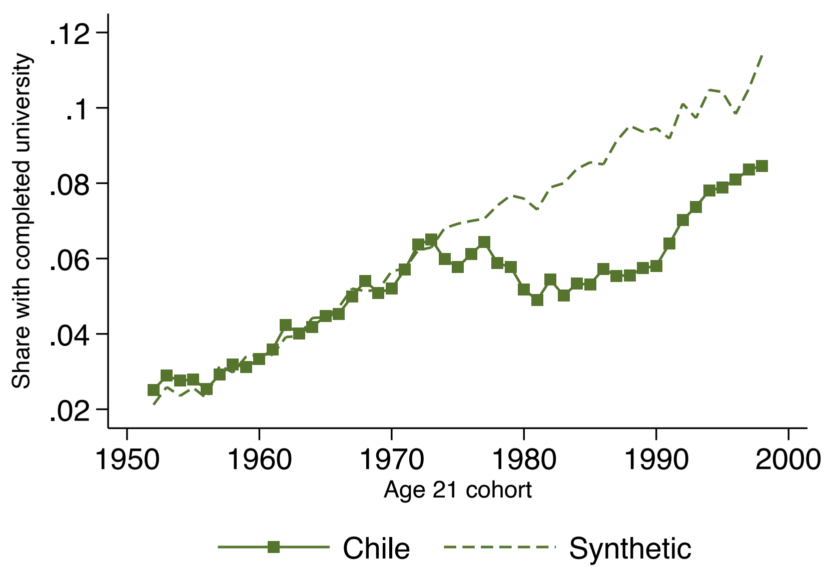
Notes: Dependent variable in the header. The sample in each column includes all 1992 census respondents from cohorts born between 1943 and 1960 (both inclusive) classified in the respective quintile, but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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

Appendix D Additional Results on Synthetic control

Figure D1: Robustness of synthetic control analysis



(a) Countries without dictatorship in the synthetic control



(b) Countries with high HDI in the synthetic control

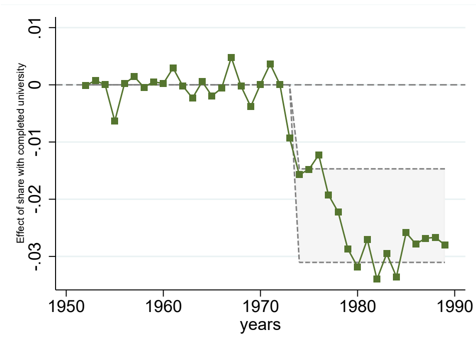
Note: Panel (a) excludes country-year pairs under dictatorship as control units to be potentially used in the synthetic control. Similarly, panel (b) uses countries with a high Human Development Index (HDI larger than 6). For reference Chile is classified as decil 8 in the year 1990. Both panels use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

Table D1: Robustness checks to the synthetic control analysis

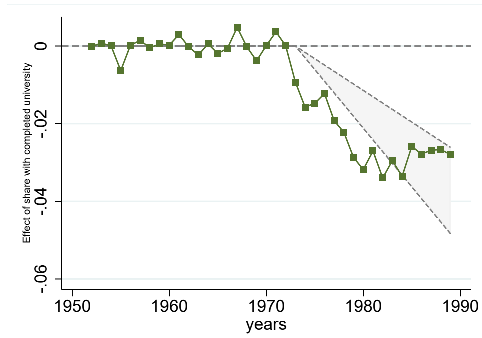
Sample:	R^2	Average effect	p-value Unrestricted	p-value Restricted
Panel A: Using even pre-treatment period outcomes for matchings				
LA without controls	97%	-2,58%	0,00	0,00
LA with controls	95%	-2,00%	0.00	0.00
All countries without controls	95%	-2,32%	0.00	0.00
All countries with controls	96%	-1,83%	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.

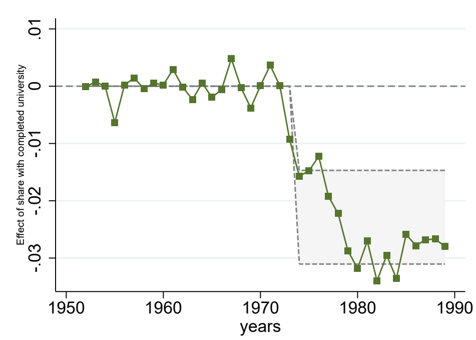
Figure D2: Confidence sets for Latin America



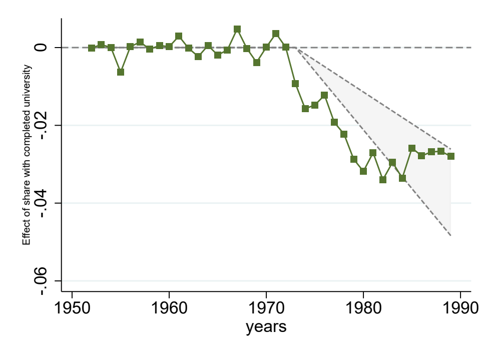
(a) Constant effect, $\phi = 0$



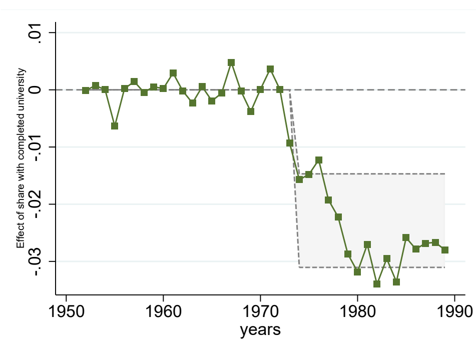
(b) Linear effect, $\phi = 0$



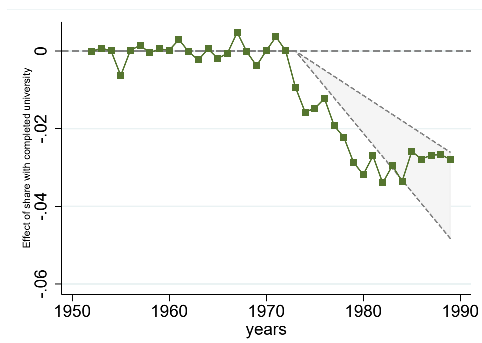
(c) Constant effect, $\phi = 1$



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



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

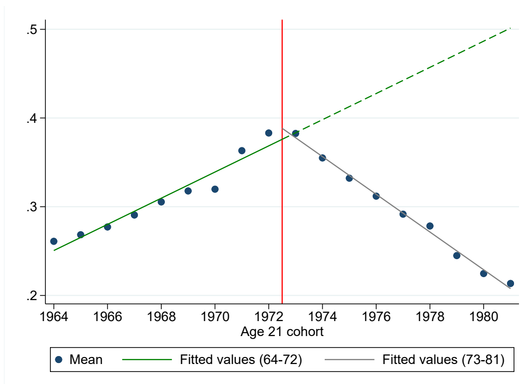


(f) Linear effect, $\phi = 2$

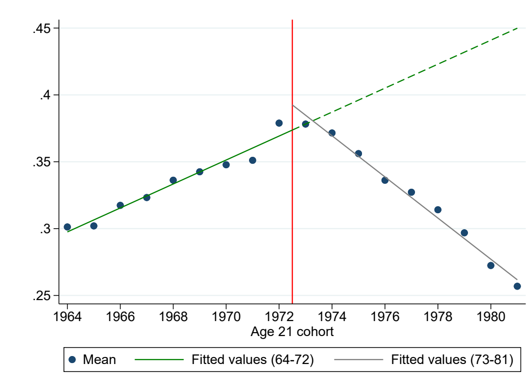
Notes: This figure shows the confidence set proposed by Firpo and Possebom (2018) for a constant and a linear treatment effect. Panels A and B use a sensitivity parameter of 0, while Panels C and D (E and F) use a sensitivity parameter of 1 (2). The sample is all Latin American countries and we use as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

Appendix E Raw data and Visualization of Kink

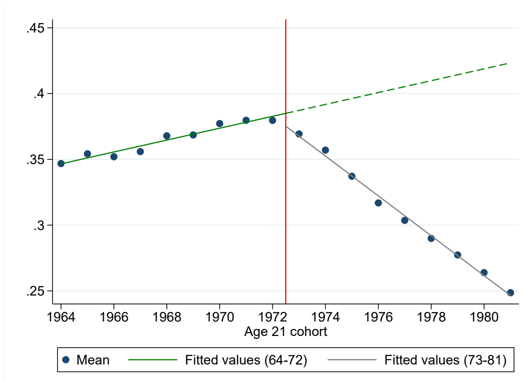
Figure E1: Visualization of Kink: Higher Education



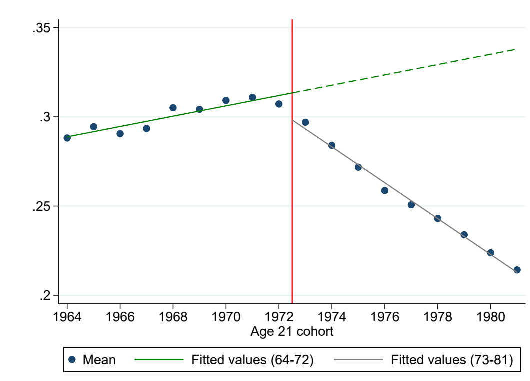
(a) Any College - 1992



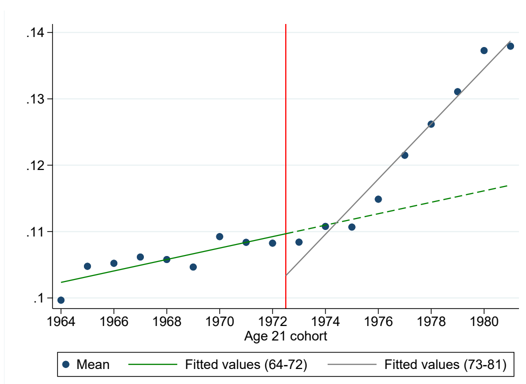
(b) Any College - 2002



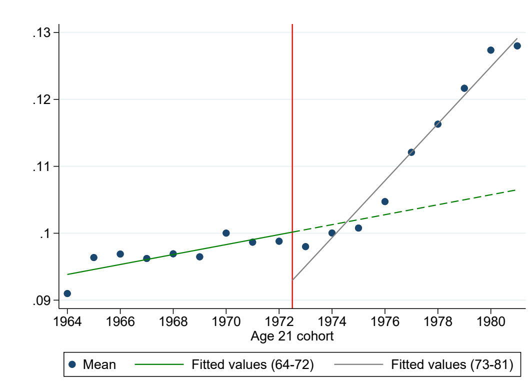
(c) Any College - 2017



(d) Full College - 2017



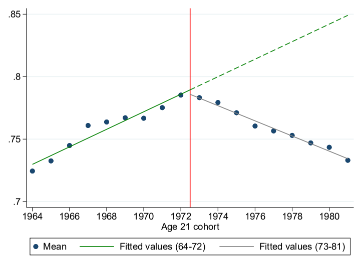
(e) Any Technical - 2017



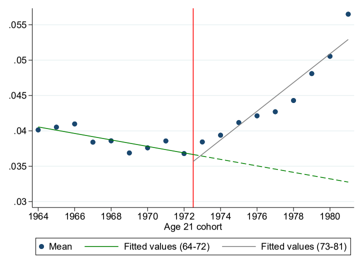
(f) Full Technical - 2017

Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

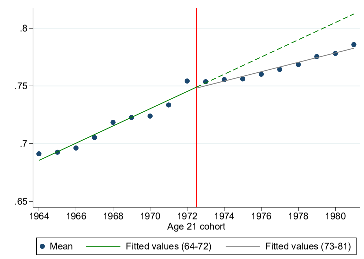
Figure E2: Visualization of Kink: Economic outcomes



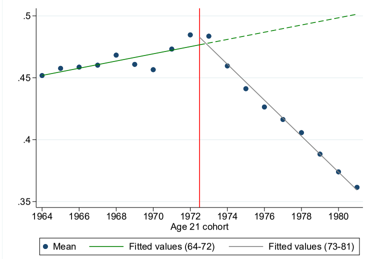
(a) In labor force - 1992



(b) Seeking work - 1992

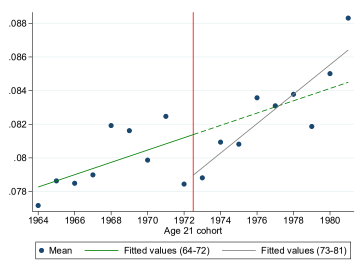


(c) Salaried employment - 1992

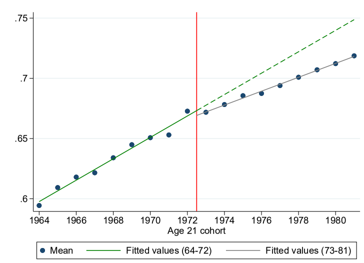


(d) White-collar, high-skill - 1992

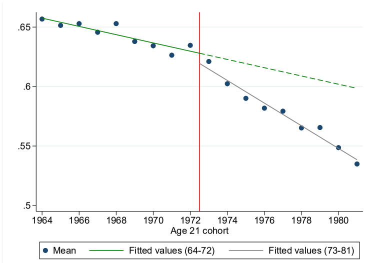
(e) In labor force - 2002



(f) Seeking work - 2002



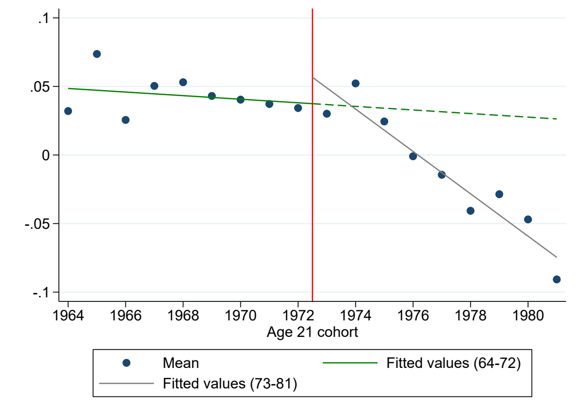
(g) Salaried employment - 2002



(h) White-collar, high-skill - 2002

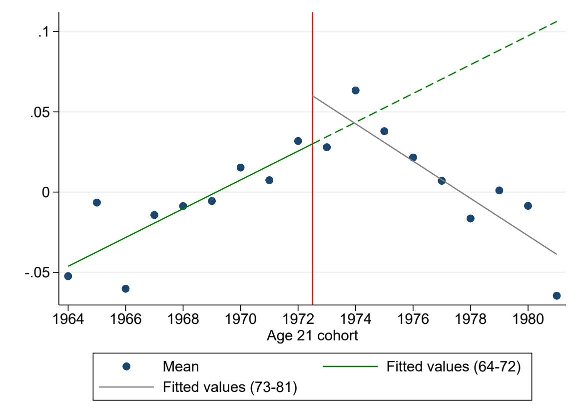
Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

Figure E3: Visualization of Kink: Income

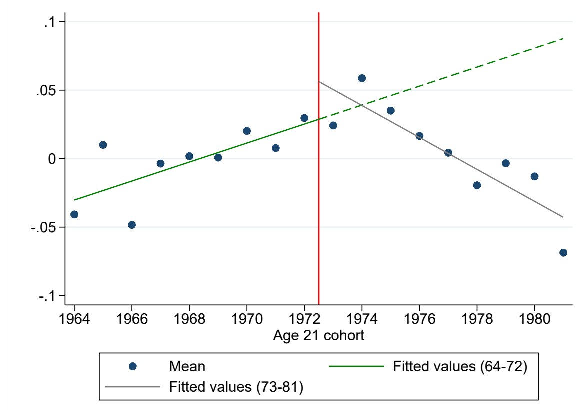


(a) Main Occupation

(b) All Work



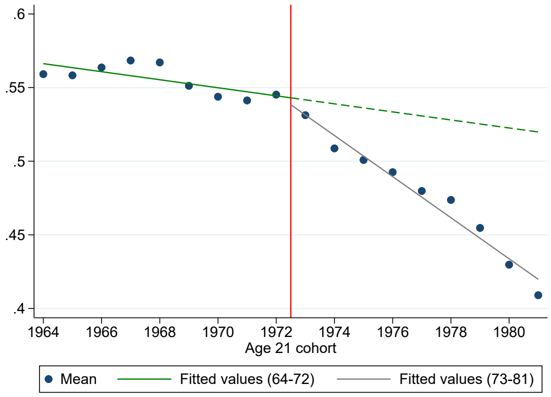
(c) Self-generated



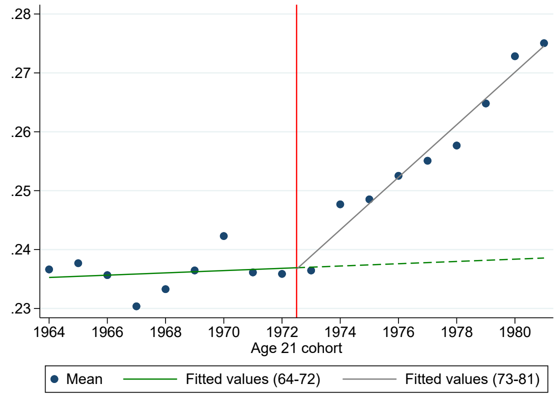
(d) Total

Note: Panels show residualized averages by cohort for the variable in the caption, after controlling for county by gender fixed effects and survey year fixed effects. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

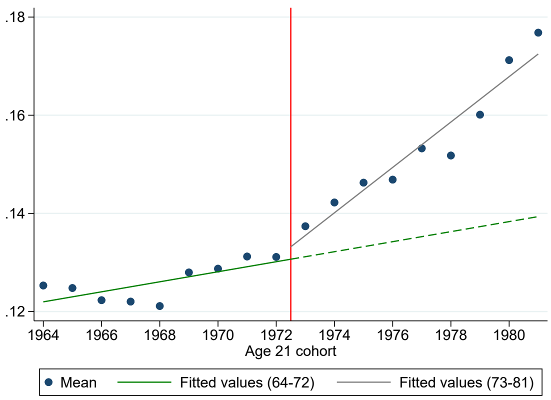
Figure E4: Visualization of Kink: Wealth Quintiles



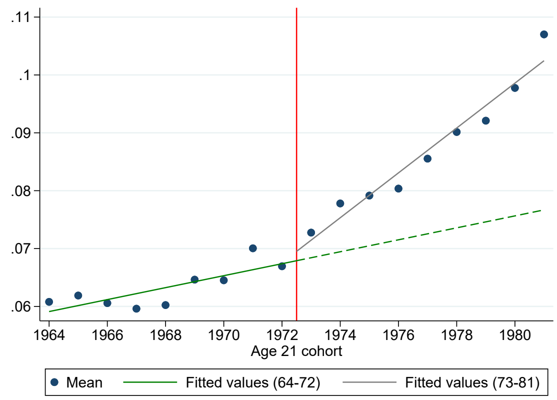
(a) Fifth (top) quintile



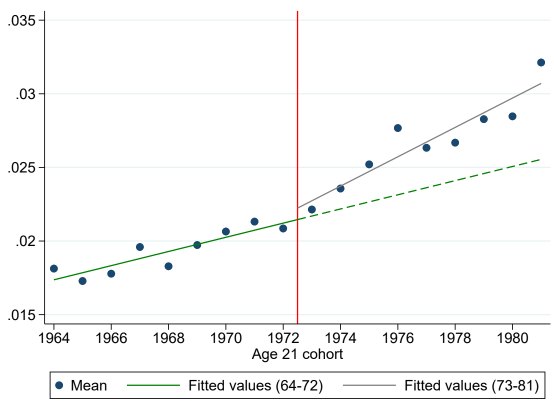
(b) Fourth Quintile



(c) Third Quintile



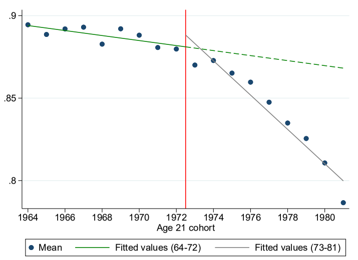
(d) Second Quintile



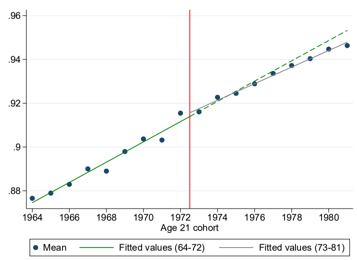
(e) First (bottom) Quintile

Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

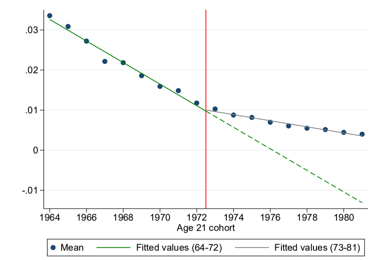
Figure E5: Visualization of Kink: marital status



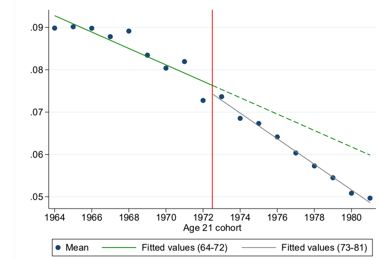
(a) Ever married - 1992



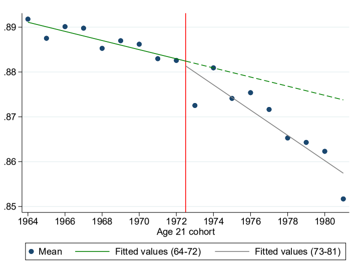
(b) Married (if ever) - 1992



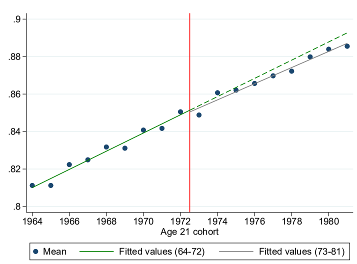
(c) Widow - 1992



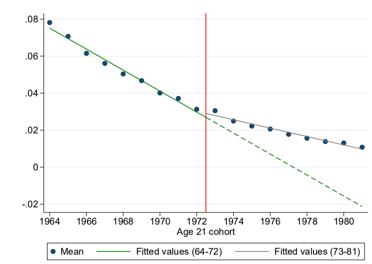
(d) Separated - 1992



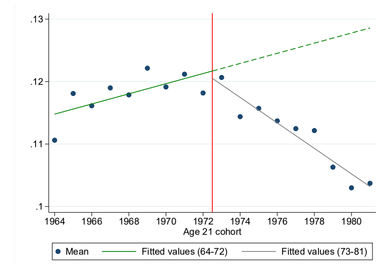
(e) Ever married - 2002



(f) Married (if ever) - 2002



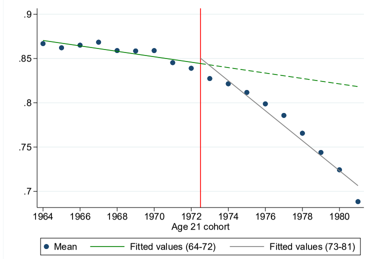
(g) Widow - 2002



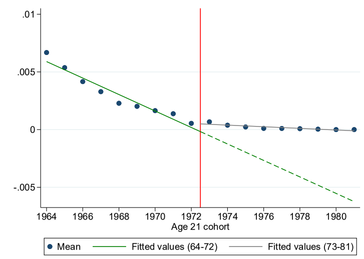
(h) Separated - 2002

Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

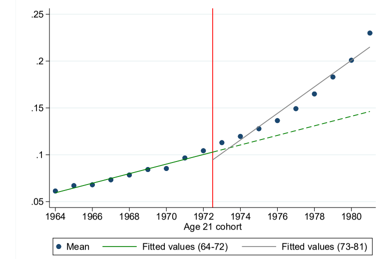
Figure E6: Visualization of Kink: Status in Household



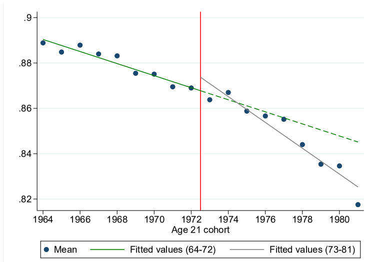
(a) Household head / spouse - 1992



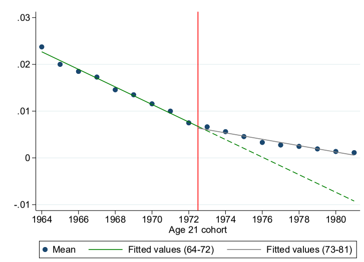
(b) Parent - 1992



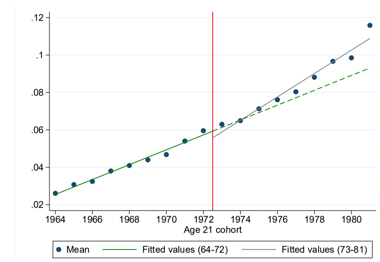
(c) Child - 1992



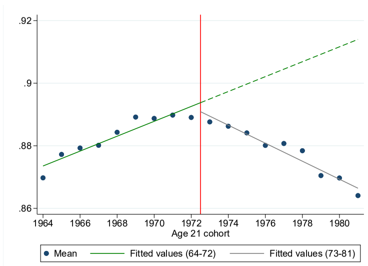
(d) Household head / spouse - 2002



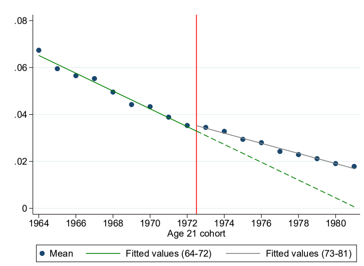
(e) Parent - 2002



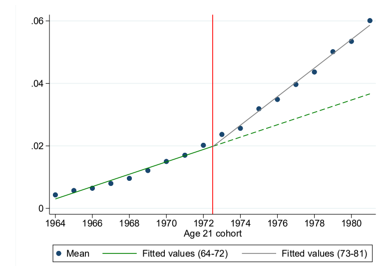
(f) Child - 2002



(g) Household head / spouse - 2017



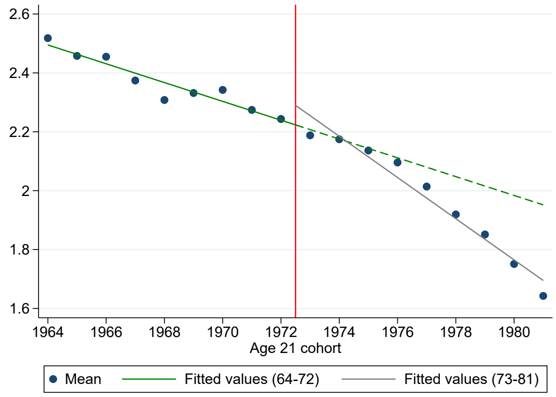
(h) Parent - 2017



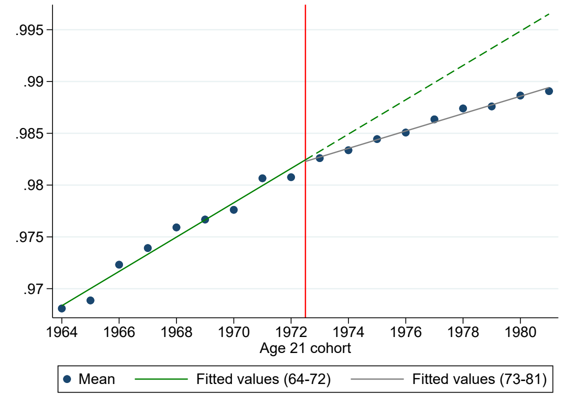
(i) Child - 2017

Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

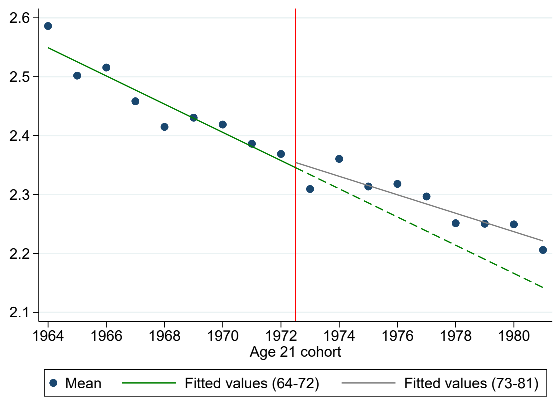
Figure E7: Visualization of Kink: Fertility



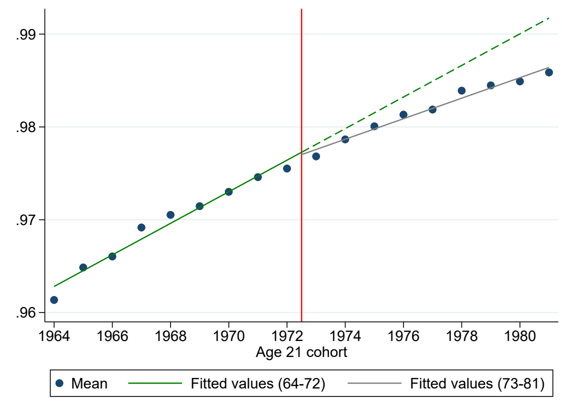
(a) Number of Children - 1992



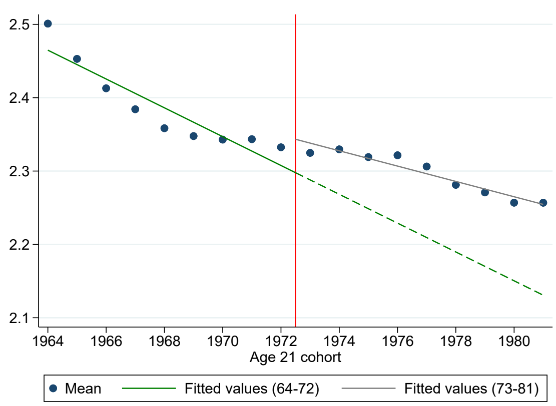
(b) Share of Children alive - 1992



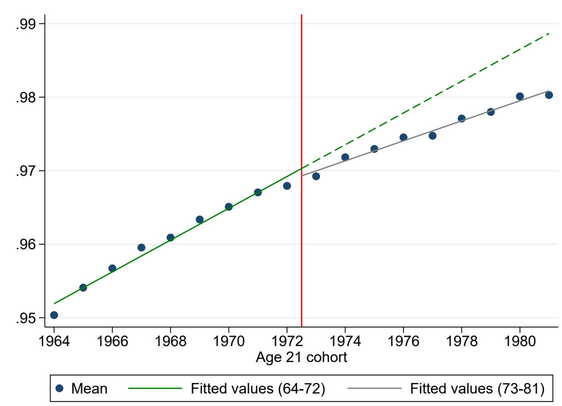
(c) Number of Children - 2002



(d) Share of Children alive - 2002



(e) Number of Children - 2017

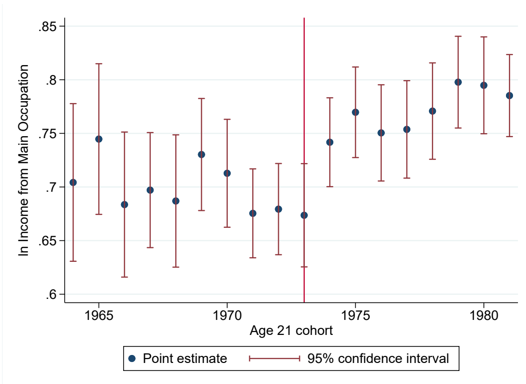


(f) Share of Children alive - 2017

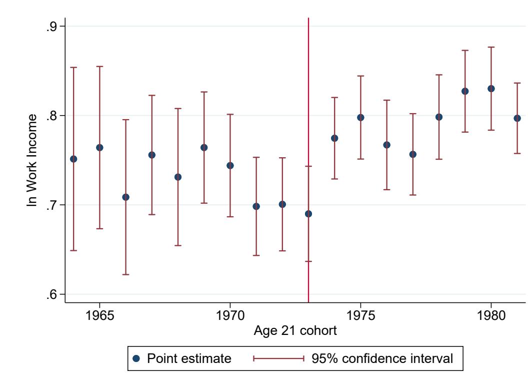
Note: Panels show averages by cohort for the variable in the caption. Solid green line corresponds to line of best fit for cohorts reaching college age before 1973, which we extrapolate for later cohorts (dashed line). Grey line corresponds to line of best fit for cohorts reaching college age in 1973 or afterwards.

Appendix F Additional results on economic consequences

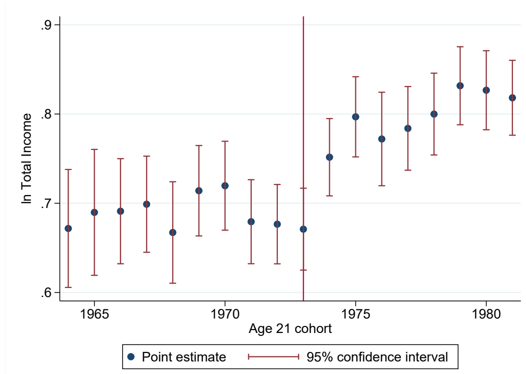
Figure F1: Cohort-specific Estimates of the College Premium (Other Income Measures)



(a) Primary occupation (RF)



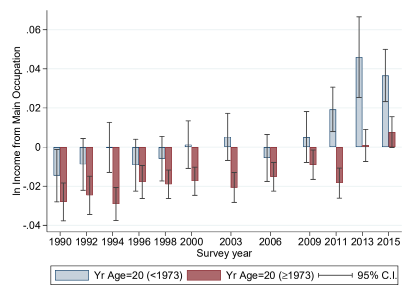
(b) Work (RF)



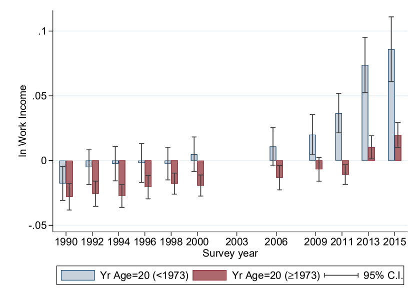
(c) Total (RF)

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 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. Regression includes county of residence x gender, survey year and age fixed effects. Standard errors are clustered by county of residence.

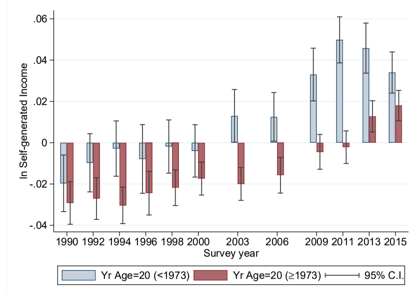
Figure F2: Educational Attainment and Reported Income - Yearly estimate



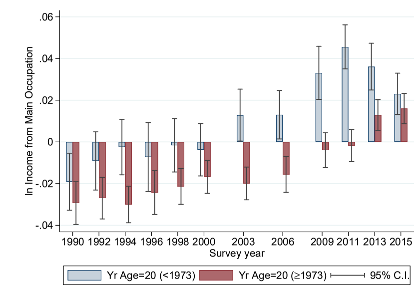
(a) Primary occupation (RF)



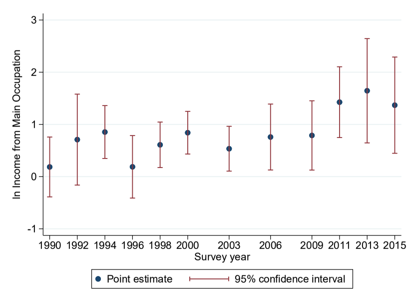
(b) Work (RF)



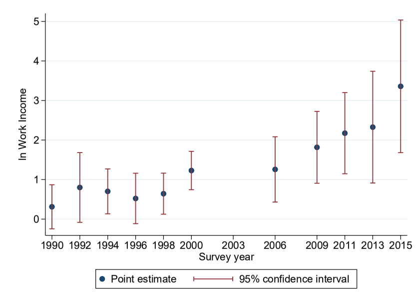
(c) Self-generated (RF)



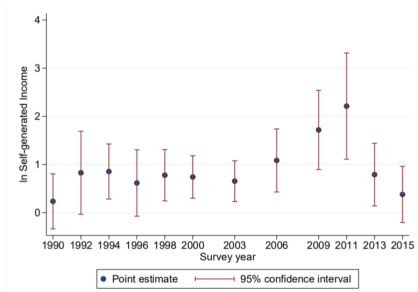
(d) Total (RF)



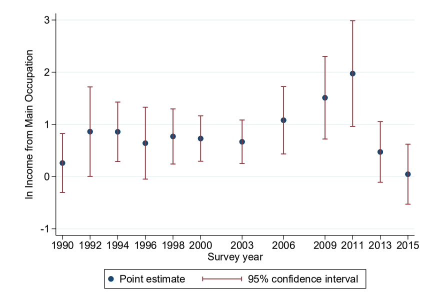
(e) Primary occupation (IV)



(f) Work (IV)



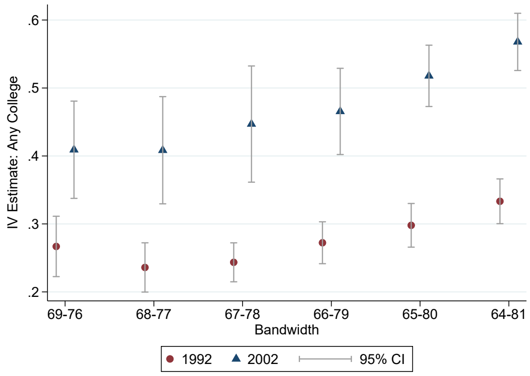
(g) Self-generated (IV)



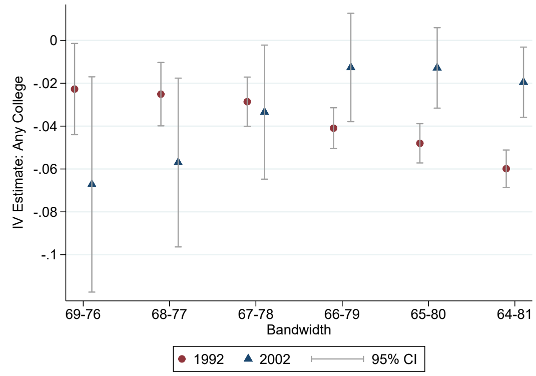
(h) Total (IV)

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 21 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 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. 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.

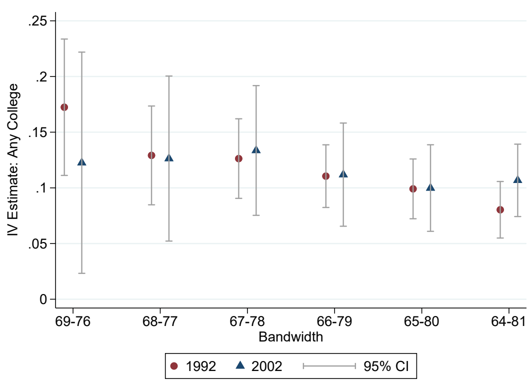
Figure F3: Robustness: Labor Market Outcomes w/ Different Bandwidths



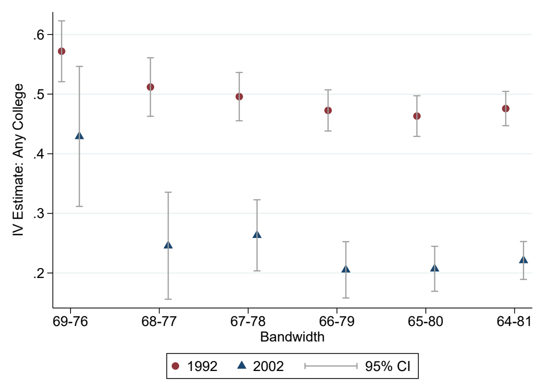
(a) Labor Force Participation



(b) Unemployment



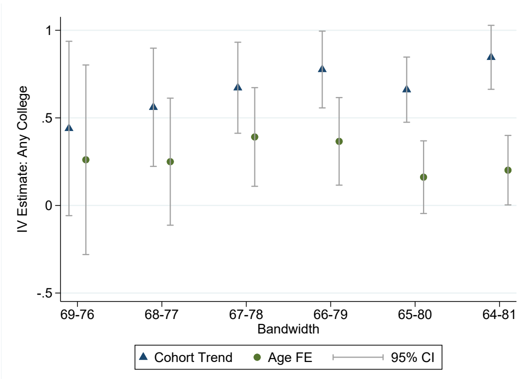
(c) Salaried employment



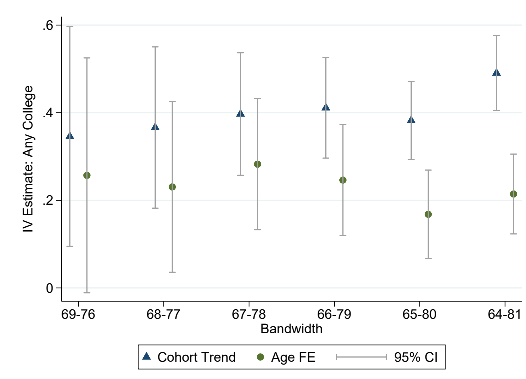
(d) White-Collar High-Skill

Notes: Each figure replicates the IV analysis for the outcome in the caption for the different bandwidths in the x-axis. Sample includes all respondents in the relevant source from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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. The regression for unemployment in panel (b) includes a labor-force participation dummy as well. Standard errors clustered by county of birth in parentheses.

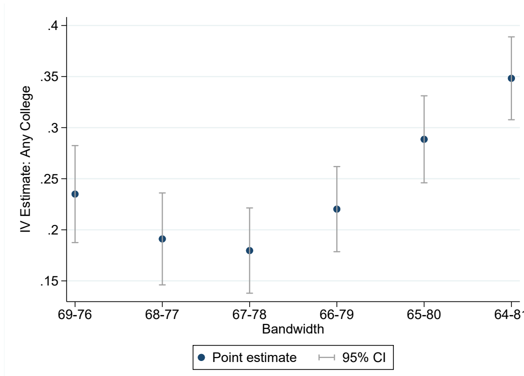
Figure F4: Robustness: Income and Wealth w/ Different Bandwidths



(a) Income



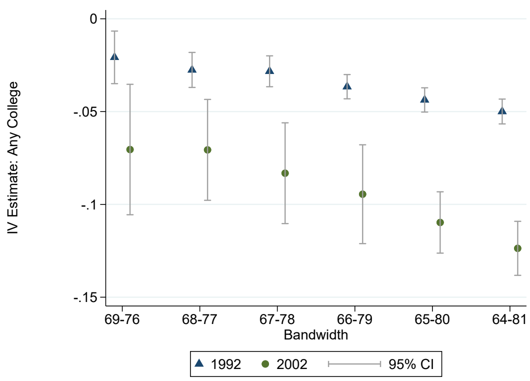
(b) Top income quintile



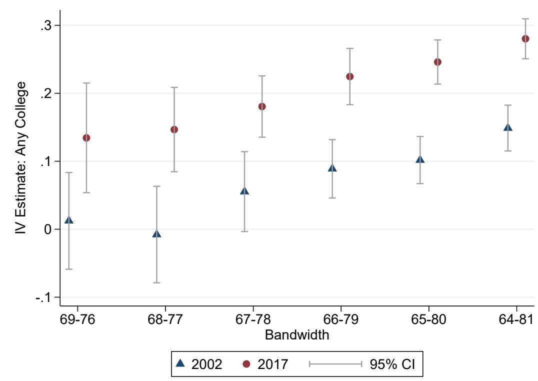
(c) Top wealth quintile

Notes: Each figure replicates the IV analysis for the outcome in the caption for the different bandwidths in the x-axis. Sample includes all respondents in the relevant source (CASEN in panels (a) and (b) and 1992 census in panel (c)) from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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. Panels (a) and (b) also include survey year fixed effects and show estimates with cohort trend as included instrument or age fixed effects instead. Standard errors clustered by county of birth in parentheses.

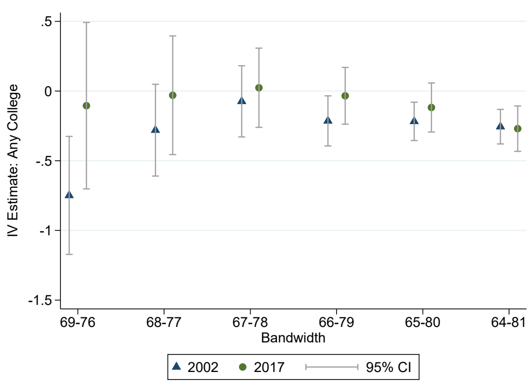
Figure F5: Robustness: Non-economic Outcomes w/ Different Bandwidths



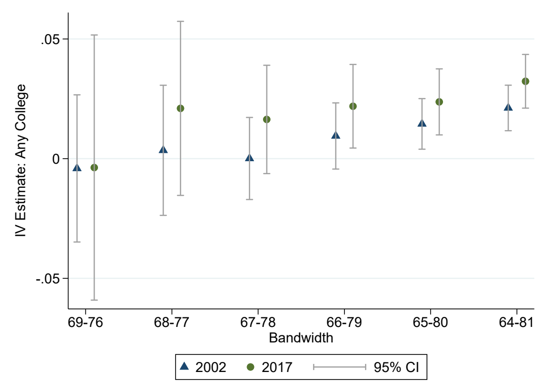
(a) Widow



(b) Household Head or Spouse



(c) Number of children



(d) Share of children alive

Notes: Each figure replicates the IV analysis for the outcome in the caption for the different bandwidths in the x-axis. Sample includes all respondents in the relevant source from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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.

Table F1: 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] Yr Age 21	-0.003***	0.007***	-0.003***	-0.001***	-0.0003***
	(0.0002)	(0.0004)	(0.0002)	(0.0001)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	0.001**	-0.003***	0.0004	0.001***	0.001***
	(0.0003)	(0.0005)	(0.0003)	(0.0002)	(0.0001)
IV: Any College	-0.017**	0.080***	-0.012	-0.034***	-0.018***
	(0.008)	(0.013)	(0.008)	(0.005)	(0.003)
Observations	773,922	773,922	773,922	773,922	773,922
R-squared	0.014	0.017	0.013	0.024	0.005
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	2120.2	2120.2	2120.2	2120.2	2120.2
Mean of dependent variable	0.100	0.750	0.133	0.011	0.007
			PANEL B: Census 2002		
[a] Yr Age 21	-0.002***	0.008***	-0.005***	-0.0003***	-0.001***
	(0.0002)	(0.0003)	(0.0002)	(0.0001)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	0.001***	-0.003***	0.001**	0.001***	0.0004***
	(0.0002)	(0.0004)	(0.0003)	(0.0001)	(0.0001)
IV: Any College	-0.039***	0.107***	-0.033**	-0.019***	-0.016***
	(0.008)	(0.017)	(0.013)	(0.005)	(0.004)
Observations	907,050	907,050	907,050	907,050	907,050
R-squared	0.010	0.016	0.016	0.027	0.003
p-value a+b=0	0.000	0.000	0.000	0.015	0.003
First-stage KP F-stat	761.5	761.5	761.5	761.5	761.5
Mean of dependent variable	0.075	0.677	0.219	0.019	0.010
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. “Yr Age 21” is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. “Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)” is the interaction of this variable with a dummy for cohorts that reached age 21 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 F2: Occupation

Dependent variable:	White-collar High-skill	White-collar Low-skill	Blue-collar High-skill	Blue-collar Low-skill	Military
	(1)	(2)	(3)	(4)	(5)
			PANEL A: Census 1992		
[a] Yr Age 21	0.004***	-0.004***	-0.002***	-0.003***	0.004***
	(0.0005)	(0.0004)	(0.0002)	(0.0002)	(0.0002)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.017***	0.010***	0.005***	0.007***	-0.004***
	(0.0008)	(0.0005)	(0.0003)	(0.0005)	(0.0003)
IV: Any College	0.476***	-0.270***	-0.126***	-0.178***	0.098***
	(0.015)	(0.012)	(0.008)	(0.011)	(0.009)
Observations	770,652	770,652	770,652	770,652	770,652
R-squared	0.032	0.027	0.049	0.024	0.027
p-value a+b=0	0.000	0.000	0.000	0.000	0.103
First-stage KP F-stat	2094.1	2094.1	2094.1	2094.1	2094.1
Mean of dependent variable	0.431	0.323	0.104	0.109	0.034
			PANEL B: Census 2002		
[a] Yr Age 21	-0.004***	0.002***	0.0002	0.001***	0.001***
	(0.0004)	(0.0002)	(0.0002)	(0.0002)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.006***	0.003***	0.001***	0.001***	-0.0001
	(0.0005)	(0.0003)	(0.0002)	(0.0003)	(0.0001)
IV: Any College	0.221***	-0.126***	-0.053***	-0.045***	0.002
	(0.016)	(0.013)	(0.009)	(0.013)	(0.004)
Observations	872,783	872,783	872,783	872,783	872,783
R-squared	0.022	0.015	0.034	0.017	0.012
p-value a+b=0	0.000	0.000	0.000	0.000	0.000
First-stage KP F-stat	874.9	874.9	874.9	874.9	874.9
Mean of dependent variable	0.596	0.193	0.080	0.121	0.011
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 F3: Income Quintiles (CASEN)

Income quintile (dummy)	5th Quintile (highest)	4th Quintile	3rd Quintile	2nd Quintile	1st Quintile (lowest)
	Dependent variable:				
	(1)	(2)	(3)	(4)	(5)
	Panel A: Linear Trend				
[a] Yr Age 21	0.006***	0.002***	0.0002	-0.005***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.013***	0.001	0.004***	0.006***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IV: Any College	0.491***	-0.055	-0.165***	-0.231***	-0.040
	(0.043)	(0.037)	(0.032)	(0.031)	(0.027)
	Panel B: Age Fixed effects				
Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)	-0.006***	0.002	0.004***	0.001*	-0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
IV: Any College	0.214***	-0.064	-0.151***	-0.055*	0.055**
	(0.046)	(0.040)	(0.033)	(0.029)	(0.027)
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	118,301	118,301	118,301	118,301	118,301
R-squared (RF - Panel A)	0.111	0.021	0.026	0.040	0.064
R-squared (RF - Panel B)	0.117	0.021	0.026	0.044	0.069
p-value a+b=0 (panel A)	0.000	0.000	0.000	0.002	0.000
First-stage KP F-stat (panel A)	422.3	422.3	422.3	422.3	422.3
First-stage KP F-stat (panel B)	391.6	391.6	391.6	391.6	391.6
Mean of dependent variable	0.464	0.230	0.127	0.0982	0.0803

Notes: Dependent variable in the header. Income quintiles calculated using self-generated income (deflated using yearly CPI) over the entire survey sample. Sample for the regressions includes all respondents in the CASEN survey from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary. "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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

Appendix G Disaggregate results by gender

Table G1: 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 21 x $\mathbb{1}$(Male)	0.002***	-0.001***	0.001*	-0.001**	-0.001***	-0.002***
	(0.0005)	(0.0004)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
[b] Yr Age 21 x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.015***	0.003***	-0.012***	-0.008***	0.004***	-0.004***
	(0.0007)	(0.0004)	(0.0008)	(0.0006)	(0.0004)	(0.0007)
[c] Yr Age 21 x $\mathbb{1}$(Female)	0.008***	0.001***	0.009***	0.006***	0.001***	0.007***
	(0.0005)	(0.0003)	(0.0005)	(0.0004)	(0.0004)	(0.0005)
[d] Yr Age 21 x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.023***	0.004***	-0.020***	-0.017***	0.004***	-0.013***
	(0.0009)	(0.0004)	(0.0010)	(0.0008)	(0.0004)	(0.0008)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	962,039	962,039	962,039	962,039	962,039	962,039
R-squared	0.042	0.007	0.038	0.031	0.007	0.027
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	0.757	0.000	0.000	0.678
Mean of dependent variable (Female)	0.303	0.130	0.433	0.251	0.122	0.373
Mean of dependent variable (Male)	0.342	0.106	0.448	0.282	0.095	0.376

Notes: Dependent variable in the header. Sample includes all respondents of the 2017 census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting full secondary education. " Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. ' Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 G2: 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] Yr Age 21 x 𝟙(Male)	0.006***	-0.001***	0.016***	-0.001***
	(0.0004)	(0.0002)	(0.0004)	(0.0002)
[b] Yr Age 21 x 𝟙(Male) x 𝟙(Yr Age 21 ≥ 1973)	-0.007***	0.003***	-0.010***	0.0003
	(0.0007)	(0.0002)	(0.0004)	(0.0003)
[c] Yr Age 21 x 𝟙(Female)	0.009***	0.0001	0.017***	0.001***
	(0.0004)	(0.0001)	(0.0007)	(0.0001)
[d] Yr Age 21 x 𝟙(Female) x 𝟙(Yr Age 21 ≥ 1973)	-0.017***	0.001***	-0.018***	0.001**
	(0.0007)	(0.0002)	(0.0007)	(0.0002)
[e] IV: Any College (Male)	0.226***	-0.082***	0.454***	-0.016
	(0.021)	(0.008)	(0.020)	(0.014)
[f] IV: Any College (Female)	0.416***	-0.038***	0.657***	-0.019**
	(0.018)	(0.005)	(0.031)	(0.008)
County of birth x gender FE	Yes	Yes	Yes	Yes
In labor force FE	No	Yes	No	Yes
Observations	1,024,570	1,024,570	1,192,851	1,192,851
R-squared	0.200	0.014	0.133	0.024
p-value a+b=0	0.002	0.000	0.000	0.072
p-value c+d=0	0.000	0.000	0.014	0.000
p-value a=c	0.000	0.000	0.000	0.000
p-value a+b=c+d	0.000	0.846	0.000	0.000
First-stage KP F-statistic	949.6	957.3	318.5	338.3
p-value e=f	0.000	0.000	0.000	0.474
Mean of dependent variable (Female)	0.571	0.027	0.612	0.048
Mean of dependent variable (Male)	0.946	0.038	0.904	0.077

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). " Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. ' Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 G3: 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] Yr Age 21 x $\mathbb{1}$(Male)	-0.0038***	0.0072***	-0.0032***	-0.0001	-0.0002***	-0.0023***	0.0082***	-0.0054***	-0.0002***	-0.0004***
	(0.00028)	(0.00043)	(0.00027)	(0.00006)	(0.00005)	(0.00021)	(0.00037)	(0.00033)	(0.00004)	(0.00008)
[b] Yr Age 21 x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	0.0007**	-0.0011**	-0.0001	0.0001	0.0003***	0.0006*	-0.0009*	-0.0001	0.0001**	0.0003**
	(0.00035)	(0.00050)	(0.00037)	(0.00009)	(0.00007)	(0.00032)	(0.00051)	(0.00045)	(0.00006)	(0.00012)
[c] Yr Age 21 x $\mathbb{1}$(Female)	-0.0019***	0.0071***	-0.0027***	-0.0019***	-0.0006***	-0.0017***	0.0084***	-0.0054***	-0.0006**	-0.0008***
	(0.00023)	(0.00051)	(0.00039)	(0.00026)	(0.00013)	(0.00025)	(0.00051)	(0.00047)	(0.00023)	(0.00012)
[d] Yr Age 21 x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	0.0003	-0.0058***	0.0014***	0.0030***	0.0012***	0.0014***	-0.0052***	0.0021***	0.0010***	0.0006***
	(0.00038)	(0.00082)	(0.00051)	(0.00042)	(0.00024)	(0.00035)	(0.00071)	(0.00062)	(0.00033)	(0.00016)
[e] IV: Any College (Male)	-0.0227**	0.0331**	0.0044	-0.0046	-0.0102***	-0.0266*	0.0410*	0.0031	-0.0058**	-0.0116**
	(0.01065)	(0.01530)	(0.01127)	(0.00287)	(0.00231)	(0.01423)	(0.02247)	(0.02009)	(0.00258)	(0.00540)
[f] IV: Any College (Female)	-0.0062	0.1357***	-0.0314***	-0.0706***	-0.0276***	-0.0498***	0.1813***	-0.0747***	-0.0358***	-0.0209***
	(0.00867)	(0.01819)	(0.01198)	(0.00894)	(0.00571)	(0.01316)	(0.02298)	(0.02062)	(0.01111)	(0.00573)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	773,922	773,922	773,922	773,922	773,922	907,050	907,050	907,050	907,050	907,050
R-squared	0.014	0.017	0.013	0.024	0.005	0.010	0.016	0.016	0.027	0.003
p-value a+b=0	0.000	0.000	0.000	0.025	0.000	0.000	0.000	0.000	0.276	0.014
p-value c+d=0	0.000	0.017	0.000	0.000	0.001	0.032	0.000	0.000	0.007	0.014
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	0.000	0.026	0.000	0.000	0.000	0.005	0.358
First-stage KP F-stat	835.7	835.7	835.7	835.7	835.7	306.7	306.7	306.7	306.7	306.7
p-value e=f	0.191	0.000	0.027	0.000	0.006	0.312	0.000	0.013	0.011	0.189
Mean of dependent variable (Female)	0.080	0.785	0.097	0.026	0.011	0.055	0.706	0.181	0.043	0.014
Mean of dependent variable (Male)	0.111	0.728	0.154	0.002	0.005	0.088	0.659	0.244	0.003	0.007

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). " Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. ' Yr Age 21 x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 G4: 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] Yr Age 21 x $\mathbb{1}$(Male)	0.001**	-0.002***	-0.002***	-0.002***	0.005***	-0.006***	0.001***	0.001**	0.002***	0.002***
	(0.0005)	(0.0005)	(0.0003)	(0.0003)	(0.0003)	(0.0006)	(0.0003)	(0.0003)	(0.0003)	(0.0001)
[b] Yr Age 21 x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.012***	0.004***	0.006***	0.006***	-0.005***	-0.004***	0.002***	0.002***	0.001	0.0001
	(0.0007)	(0.0005)	(0.0004)	(0.0006)	(0.0005)	(0.0006)	(0.0004)	(0.0004)	(0.0004)	(0.0002)
[c] Yr Age 21 x $\mathbb{1}$(Female)	0.010***	-0.005***	-0.002***	-0.004***	0.001***	-0.002***	0.003***	-0.001***	-0.0001	0.0001***
	(0.0008)	(0.0006)	(0.0002)	(0.0004)	(0.0001)	(0.0004)	(0.0004)	(0.0002)	(0.0003)	(0.00003)
[d] Yr Age 21 x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.026***	0.019***	0.002***	0.007***	-0.001***	-0.008***	0.005***	0.001***	0.002***	-0.0001*
	(0.0013)	(0.0010)	(0.0003)	(0.0006)	(0.0002)	(0.0008)	(0.0006)	(0.0002)	(0.0004)	(0.00005)
[e] IV: Any College (Male)	0.366***	-0.130***	-0.191***	-0.193***	0.149***	0.172***	-0.069***	-0.075***	-0.026	-0.002
	(0.016)	(0.015)	(0.014)	(0.015)	(0.015)	(0.023)	(0.017)	(0.015)	(0.018)	(0.008)
[f] IV: Any College (Female)	0.6170***	-0.438***	-0.048***	-0.161***	0.030***	0.285***	-0.186***	-0.029***	-0.073***	0.003*
	(0.020)	(0.017)	(0.006)	(0.012)	(0.004)	(0.021)	(0.018)	(0.008)	(0.014)	(0.002)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	770,652	770,652	770,652	770,652	770,652	872,783	872,783	872,783	872,783	872,783
R-squared	0.032	0.029	0.050	0.024	0.028	0.022	0.016	0.034	0.017	0.013
p-value a+b=0	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.000	0.041	0.000	0.000	0.000	0.000	0.433	0.000	0.005
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	0.000	0.000	0.135	0.000	0.000	0.002	0.000
First-stage KP F-stat	827.3	827.3	827.3	827.3	827.3	417.1	417.1	417.1	417.1	417.1
p-value e=f	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.009	0.030	0.540
Mean of dependent variable (Female)	0.485	0.409	0.034	0.065	0.007	0.649	0.240	0.026	0.084	0.002
Mean of dependent variable (Male)	0.399	0.271	0.146	0.135	0.050	0.563	0.163	0.113	0.145	0.016

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. 'Yr Age 21 x $\mathbb{1}$(Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21on 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 G5: Reported Income by gender (CASEN)

Dependent variable (log income):	Main occupation	All work	Self-generated	Total
	(1)	(2)	(3)	(4)
[a] Yr Age 21 x 𝟙(Male)	0.000	0.013***	0.011***	0.009***
	(0.002)	(0.003)	(0.002)	(0.002)
[b] Yr Age 21 x 𝟙(Male) x 𝟙(Yr Age 21 ≥ 1973)	-0.014***	-0.023***	-0.022***	-0.021***
	(0.003)	(0.004)	(0.003)	(0.003)
[c] Yr Age 21 x 𝟙(Female)	0.003	0.020***	0.017***	0.013***
	(0.003)	(0.004)	(0.003)	(0.003)
[d] Yr Age 21 x 𝟙(Female) x 𝟙(Yr Age 21 ≥ 1973)	-0.017***	-0.027***	-0.022***	-0.018***
	(0.004)	(0.005)	(0.004)	(0.004)
[e] IV: Any College (Male)	0.569***	0.996***	0.962***	0.905***
	(0.128)	(0.156)	(0.128)	(0.124)
[f] IV: Any College (Female)	0.533***	0.858***	0.728***	0.612***
	(0.113)	(0.163)	(0.120)	(0.116)
County x gender FE	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes
Observations	99,712	93,666	118,301	118,301
R-squared	0.165	0.146	0.152	0.154
p-value a+b=0	0.000	0.000	0.000	0.000
p-value c+d=0	0.000	0.001	0.014	0.007
p-value a=c	0.694	0.000	0.000	0.000
p-value a+b=c+d	0.536	0.203	0.003	0.003
First-stage KP F-stat	111.2	92.3	125.5	125.5
p-value e=f	0.833	0.529	0.157	0.069
Mean of dependent variable (Female)	486,608	503,336	509,694	512,561
Mean of dependent variable (Male)	789,228	843,026	897,598	901,089

Notes: Dependent variable in the header. Real income deflated using yearly CPI. Sample includes all respondents in the CASEN survey from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached 21 years of age, normalized to zero in 1972. "Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 G6: 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] Yr Age 21 x 𝟙(Male)	-0.002***	0.0003	0.001***	0.001*	0.001***
	(0.0006)	(0.0004)	(0.0003)	(0.0003)	(0.0002)
[b] Yr Age 21 x 𝟙(Male) x 𝟙(Yr Age 21 ≥ 1973)	-0.014***	0.004***	0.005***	0.004***	0.001***
	(0.0008)	(0.0007)	(0.0005)	(0.0004)	(0.0002)
[c] Yr Age 21 x 𝟙(Female)	-0.001*	-0.001*	0.001*	0.001***	0.0004***
	(0.0006)	(0.0005)	(0.0003)	(0.0003)	(0.0001)
[d] Yr Age 21 x 𝟙(Female) x 𝟙(Yr Age 21 ≥ 1973)	-0.012***	0.004***	0.004***	0.003***	0.001***
	(0.0008)	(0.0007)	(0.0004)	(0.0003)	(0.0002)
[e] IV: Any College (Male)	0.412***	-0.129***	-0.143***	-0.120***	-0.019***
	(0.025)	(0.021)	(0.016)	(0.012)	(0.006)
[f] IV: Any College (Female)	0.299***	-0.101***	-0.094***	-0.077***	-0.027***
	(0.022)	(0.017)	(0.011)	(0.008)	(0.005)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes
Survey year FE	Yes	Yes	Yes	Yes	Yes
Observations	1,007,957	1,007,957	1,007,957	1,007,957	1,007,957
R-squared	0.114	0.013	0.032	0.052	0.050
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	0.001	0.032	0.019	0.005	0.004
p-value a+b=c+d	0.000	0.000	0.000	0.069	0.005
First-stage KP F-stat	996.1	996.1	996.1	996.1	996.1
p-value e=f	0.000	0.130	0.004	0.000	0.255
Mean of dependent variable (Female)	0.496	0.253	0.148	0.080	0.023
Mean of dependent variable (Male)	0.505	0.248	0.143	0.079	0.026

Notes: Dependent variable in the header. Sample includes all census respondents from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). " Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. ' Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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 G7: 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] Yr Age 21 x $\mathbb{1}$(Male)	-0.0004*	0.0019***	-0.0008***	-0.0011***	-0.0011***	0.0010***	-0.0020***	0.0010***
	(0.00022)	(0.00018)	(0.00008)	(0.00016)	(0.00024)	(0.00020)	(0.00018)	(0.00020)
[b] Yr Age 21 x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0108***	-0.0005*	0.0007***	-0.0001	-0.0026***	0.0006**	0.0014***	-0.0020***
	(0.00035)	(0.00027)	(0.00009)	(0.00027)	(0.00031)	(0.00027)	(0.00019)	(0.00026)
[c] Yr Age 21 x $\mathbb{1}$(Female)	0.0001	0.0073***	-0.0043***	-0.0030***	-0.0005**	0.0084***	-0.0085***	0.0001
	(0.00028)	(0.00024)	(0.00019)	(0.00026)	(0.00025)	(0.00029)	(0.00024)	(0.00021)
[d] Yr Age 21 x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0080***	-0.0020***	0.0031***	-0.0011***	-0.0012***	-0.0022***	0.0053***	-0.0030***
	(0.00044)	(0.00036)	(0.00020)	(0.00037)	(0.00042)	(0.00034)	(0.00026)	(0.00029)
[e] IV: Any College (Male)	0.330***	0.016*	-0.020***	0.005	0.117***	-0.027**	-0.060***	0.086***
	(0.013)	(0.008)	(0.003)	(0.008)	(0.015)	(0.012)	(0.010)	(0.013)
[f] IV: Any College (Female)	0.200***	0.050***	-0.078***	0.028***	0.044***	0.081***	-0.190***	0.109***
	(0.012)	(0.009)	(0.005)	(0.009)	(0.015)	(0.012)	(0.010)	(0.011)
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	1,024,570	1,024,570	1,024,570	1,024,570	1,192,851	1,192,851	1,192,851	1,192,851
R-squared	0.025	0.631	0.016	0.025	0.020	0.445	0.031	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	0.225	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	949.6	956.5	956.5	956.5	318.5	318.6	318.6	318.6
p-value e=f	0.000	0.002	0.000	0.011	0.002	0.000	0.000	0.146
Mean of dependent variable (Female)	0.816	0.723	0.017	0.077	0.832	0.664	0.042	0.125
Mean of dependent variable (Male)	0.895	0.850	0.004	0.041	0.915	0.829	0.011	0.075

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. "Yr Age 21 x $\mathbb{1}$(Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21 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

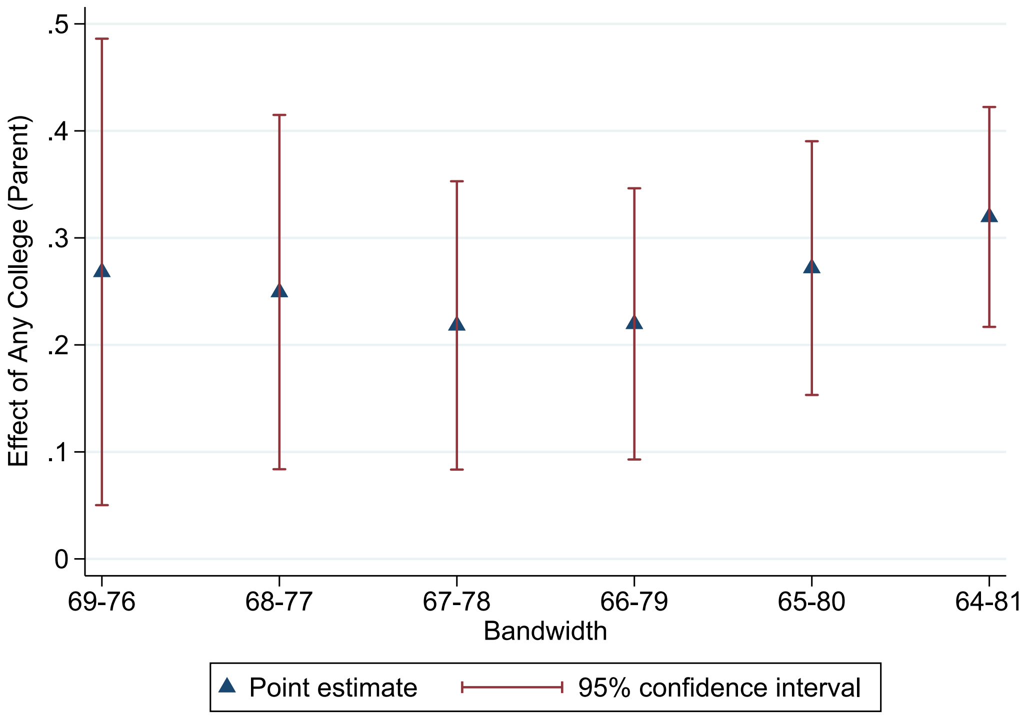
Table G8: Status within the household by gender

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] Yr Age 21 x $\mathbb{1}$(Male)	-0.0022***	-0.0003**	0.0027***	-0.0003***	-0.0033***	0.0003*	0.0029***	-0.0010***	-0.0006	0.0011***	0.0015***	-0.0024***
	(0.00039)	(0.00013)	(0.00018)	(0.00003)	(0.00027)	(0.00019)	(0.00013)	(0.00006)	(0.00037)	(0.00024)	(0.00010)	(0.00016)
[b] Yr Age 21 x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0133***	-0.0003	0.0105***	0.0003***	-0.0018***	-0.0012***	0.0024***	0.0006***	-0.0057***	0.0003	0.0030***	0.0011***
	(0.00058)	(0.00021)	(0.00034)	(0.00004)	(0.00051)	(0.00028)	(0.00022)	(0.00007)	(0.00049)	(0.00035)	(0.00020)	(0.00018)
[c] Yr Age 21 x $\mathbb{1}$(Female)	-0.0094***	0.0082***	0.0047***	-0.0011***	-0.0065***	0.0064***	0.0041***	-0.0031***	-0.0050***	0.0092***	0.0021***	-0.0051***
	(0.00036)	(0.00040)	(0.00023)	(0.00005)	(0.00043)	(0.00048)	(0.00018)	(0.00013)	(0.00037)	(0.00034)	(0.00010)	(0.00026)
[d] Yr Age 21 x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 $\geq$ 1973)	-0.0011**	-0.0135***	0.0082***	0.0010***	-0.0026***	-0.0021***	0.0021***	0.0019***	0.0011*	-0.0058***	0.0023***	0.0019***
	(0.00050)	(0.00058)	(0.00039)	(0.00006)	(0.00053)	(0.00057)	(0.00032)	(0.00015)	(0.00056)	(0.00042)	(0.00016)	(0.00029)
[e] IV: Any College (Male)	0.408***	0.008	-0.320***	-0.008***	0.078***	0.054***	-0.107***	-0.029***	0.398***	-0.020	-0.208***	-0.079***
	(0.020)	(0.006)	(0.013)	(0.001)	(0.022)	(0.012)	(0.011)	(0.003)	(0.032)	(0.025)	(0.017)	(0.012)
[f] IV: Any College (Female)	0.027**	0.338***	-0.205***	-0.025***	0.092***	0.075***	-0.076***	-0.068***	-0.050*	0.268***	-0.106***	-0.087***
	(0.012)	(0.016)	(0.011)	(0.002)	(0.019)	(0.020)	(0.011)	(0.005)	(0.027)	(0.025)	(0.008)	(0.012)
County of birth x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,023,353	1,023,353	1,023,353	1,023,353	1,192,851	1,192,851	1,192,851	1,192,851	1,036,105	1,036,105	1,036,105	1,036,105
R-squared	0.375	0.374	0.031	0.005	0.234	0.246	0.015	0.010	0.116	0.115	0.012	0.016
p-value a+b=0	0.000	0.000	0.000	0.064	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	0.320	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.871	0.000
First-stage KP F-stat	943.7	943.7	943.7	943.7	318.5	318.5	318.5	318.5	191.3	191.3	191.3	191.3
p-value e=f	0.000	0.000	0.000	0.000	0.583	0.344	0.022	0.000	0.000	0.000	0.000	0.665
Mean of dependent variable (Female)	0.187	0.596	0.157	0.002	0.326	0.527	0.083	0.011	0.452	0.410	0.034	0.049
Mean of dependent variable (Male)	0.786	0.031	0.112	0.000	0.784	0.079	0.059	0.003	0.779	0.115	0.029	0.018

Notes: Dependent variable in the header. Sample includes all respondents in the respective census from cohorts born between 1943 and 1960 (both inclusive), but is restricted to respondents reporting four or more years of secondary education (media). "Yr Age 21" is a continuous variable indicating the year at which the cohort reached age 21, normalized to zero in 1972. 'Yr Age 21 x $\mathbb{1}$(Age 21 $\geq$ 1973)" is the interaction of this variable with a dummy for cohorts that reached age 21on 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 H Additional results on IGT of Education

Figure H1: Robustness: Child's College Enrollment w/ Different Bandwidths



Notes: Each figure replicates the IV analysis of child's college enrollment for the different bandwidths in the x-axis. 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 21 in the relevant bandwidth (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 21 Parent" is a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent $\geq$ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 on or after 1973. 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, parent's gender x (child) gender, age and relationship to household head fixed effects. Standard errors clustered by county of birth.

Table H1: Educational attainment of children: Sample Characteristics (Census 2017)

			Full	Full	Any	HH	Position in HH			Children	In labor		
	Age	Female	primary	secondary	college	size	Head	Spouse	Child	(women)	force	Unemployed	Studying
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I: All 25-40 yo	32.10	0.50	0.95	0.80	0.31	24.82	0.36	0.24	0.26	1.45	0.81	0.06	0.12
N=3,781,382	(4.61)	(0.50)	(0.22)	(0.40)	(0.46)	(242.67)	(0.48)	(0.43)	(0.44)	(1.21)	(0.39)	(0.24)	(0.33)
II: I + linked to parent	30.51	0.48	0.96	0.83	0.35	4.52	0.05	0.02	0.90	0.96	0.81	0.10	0.17
N=1,013,071	(4.48)	(0.50)	(0.20)	(0.38)	(0.48)	(1.84)	(0.22)	(0.14)	(0.30)	(1.05)	(0.39)	(0.30)	(0.37)
III: II + parent w/ full secondary	29.59	0.49	0.99	0.94	0.55	4.30	0.04	0.02	0.92	0.70	0.81	0.10	0.23
N=435,949	(4.14)	(0.50)	(0.09)	(0.24)	(0.50)	(1.65)	(0.20)	(0.12)	(0.27)	(0.93)	(0.40)	(0.31)	(0.42)
IV: III + parent age 21 ∈ [1964, 1981]	31.06	0.49	0.99	0.94	0.58	4.17	0.05	0.02	0.91	0.74	0.83	0.10	0.19
N=233,134	(4.39)	(0.50)	(0.10)	(0.23)	(0.49)	(1.64)	(0.22)	(0.14)	(0.28)	(0.98)	(0.38)	(0.31)	(0.39)

Notes: Table shows averages and standard deviations (in parenthesis) for the characteristic described in the header. Top row shows values for the full sample of people with ages 25-40 in the 2017 population census. Second row shows corresponding statistics for the subsample that cohabits with a parent, irrespective of any characteristics of the parent. Third row further restricts the sample by only including parents with full secondary. Finally, the bottom row (our estimating sample) limits the sample to parent born between 1943 and 1960.

Table H2: Educational attainment of children: Robustness to different bandwidths in age of children (Census 2017)

	Dependent variable: Any College (child)				
Ages of children (bandwidth):	20-40	30-40	25-35	25-45	25-30
	(1)	(2)	(3)	(4)	(5)
IV: Any College (Parent)	0.230***	0.468***	0.377***	0.171***	0.286***
	(0.052)	(0.057)	(0.051)	(0.060)	(0.071)
OLS: Any College (Parent)	0.255***	0.278***	0.255***	0.264***	0.243***
	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)
Observations	308,121	131,742	187,525	262,711	119,055
R-squared (OLS)	0.115	0.114	0.109	0.125	0.105
Birth County x Gender FE	Yes	Yes	Yes	Yes	Yes
Parent Gender x Gender FE	Yes	Yes	Yes	Yes	Yes
Relationship to HH head FE	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes
First-stage KP F-stat	247.9	432.6	303.6	256.7	131.3
Mean of dependent variable	0.583	0.533	0.608	0.563	0.639

Notes: Sample includes all respondents in the 2017 census with ages in the bandwidth described in the header that we can connect to at least one parent that (I) was born between 1943 and 1960 (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 21 Parent" is a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent $\geq$ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 on or after 1973. 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, parent's gender x (child) gender, age and relationship to household head fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table H3: Educational attainment of children: Heterogeneous effects by relationship to HH Head (Census 2017)

	Dependent variable: Any College (child)				
Position in household:	Child	Head	Spouse	Child of spouse	Sibling
	(1)	(2)	(3)	(4)	(5)
IV: Any College (Parent)	0.325***	0.468***	0.494*	0.022	-0.340
	(0.055)	(0.159)	(0.252)	(0.203)	(0.780)
OLS: Any College (Parent)	0.261***	0.267***	0.283***	0.022	0.286***
	(0.004)	(0.010)	(0.017)	(0.203)	(0.028)
Observations	213,059	11,616	4,502	1,965	1,522
R-squared (OLS)	0.121	0.130	0.151	0.207	0.214
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
First-stage KP F-stat	270.3	47.3	14.5	22.5	2.9
Mean of dependent variable	0.585	0.565	0.549	0.508	0.499

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) was born between 1943 and 1960 (both years inclusive) and (II) that reported full secondary education. Each column considers a different possible parent-child linkage: (i) HH head + children, (ii) HH head + parent, (iii) spouse + parent, (iv) spouse + children, (v) sibling + parent. "Yr Age 21 Parent" is a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent $\geq$ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 on or after 1973. In the IV regressions, 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, parent's gender x (child) gender, age and relationship to household head fixed effects. Standard errors clustered by county of birth in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table H4: 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 21 Parent x $\mathbb{1}$(Male)	0.002**	-0.000	0.005***	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 21 Parent x $\mathbb{1}$(Male) x $\mathbb{1}$(Yr Age 21 Parent ≥ 1973)	-0.019***	-0.006***	-0.022***	-0.007***
	(0.002)	(0.001)	(0.001)	(0.002)
[c] Yr Age 21 Parent x $\mathbb{1}$(Female)	0.006***	-0.000	0.002**	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
[d] Yr Age 21 Parent x $\mathbb{1}$(Female) x $\mathbb{1}$(Yr Age 21 Parent ≥ 1973)	-0.026***	-0.008***	-0.021***	-0.006***
	(0.002)	(0.002)	(0.002)	(0.001)
Panel B: OLS and IV - Dependent variable: Any College				
	IV	OLS	IV	OLS
[e] Any College Parent (Female)	0.318***	0.258***	0.305***	0.255***
	(0.069)	(0.005)	(0.069)	(0.005)
[f] Any College Parent (Male)	0.311***	0.265***	0.332***	0.268***
	(0.066)	(0.004)	(0.068)	(0.005)
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	233,123	233,123	233,123	233,123
R-squared [Panel A]	0.095	0.063	0.095	0.063
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]	0.045	0.663	0.000	0.998
p-value a+b=c+d [Panel A]	0.002	0.010	0.328	0.392
p-value e=f [Panel B]	0.934	0.097	0.754	0.005
Mean of dependent variable (Female) [Panel A]	0.283	0.563	0.305	0.615
Mean of dependent variable (Male) [Panel A]	0.328	0.594	0.314	0.549
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)	76.4	-	93.2	-

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 21 between 1964 and 1981 (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 21 Parent" is a continuous variable indicating the year at which the parent reached 21 years of age, normalized to zero in 1972. "Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent ≥ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 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 odd-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 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 of child in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table H5: Assortative matching and IGT of Education (Census 2017)

Dependent variable:	Parent's spouse observed	Parent's spouse Any College	Any College	Any College	Any College
	(1)	(2)	(3)	(4)	(5)
[a] Yr Age 21 Parent	0.006***	-0.0001	-0.0003	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
[b] Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent ≥ 1973)	-0.004***	-0.008***	-0.007***	-0.006***	-0.004**
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
IV: Any College (Parent)	0.171***	0.395***	0.317***	0.290***	0.228**
	(0.047)	(0.060)	(0.055)	(0.080)	(0.091)
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	213,059	133,200	213,059	133,200	133,200
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	270.3	185.1	271.7	185.1	145.9
Mean of dependent variable	0.633	0.212	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) born between 1943 and 1960 (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 21 Parent" is a continuous variable indicating the year at which the parent reached age 21, normalized to zero in 1972. "Yr Age 21 Parent x $\mathbb{1}$(Yr Age 21 Parent ≥ 1973)" is the interaction of this variable with a dummy for parents that reached age 21 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 H6: Fertility and IGT of Education (Census 2017)

Dependent variable:	Mother's characteristics: Total children	Mother's characteristics: Share alive	Mother's characteristics: Age at birth	Any College			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
[a] Yr Age 21 Mother	-0.027***	0.001***	-0.653***	-0.002	-0.002	0.010***	
	(0.005)	(0.0003)	(0.011)	(0.001)	(0.001)	(0.001)	
[b] Yr Age 21 Mother	0.014**	-0.0004	-0.013	-0.007***	-0.007***	-0.004**	-0.004**
x 𝟙(Yr Age 21 Mother ≥ 1973)	(0.006)	(0.0003)	(0.015)	(0.002)	(0.002)	(0.002)	(0.002)
IV: Any College (Mother)	-0.568**	0.016	0.642	0.297***	0.297***	0.195**	0.192**
	(0.252)	(0.013)	(0.590)	(0.067)	(0.067)	(0.080)	(0.080)
Birth county x gender FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Relationship to HH head FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Total children (Mother) FE	No	No	No	Yes	Yes	Yes	Yes
Share children alive < 1 (Mother) FE	No	No	No	No	Yes	No	No
Age at birth FE	No	No	No	No	No	Yes	Yes
Observations	93,690	93,690	93,690	93,688	93,688	93,688	93,688
R-squared	0.030	0.014	0.333	0.079	0.079	0.080	0.081
p-value a+b=0	0.000	0.000	0.000	0.000	0.000	0.000	-
Mean of dependent variable	2.765	0.979	30.49	0.564	0.564	0.564	0.564
First-stage KP F-stat	177.1	168.7	179.2	168.7	169.1	133.2	133.2

Notes: Dependent variable in the header of each column. Sample includes all respondents in the 2017 census that we can connect to their mother, who meets the following conditions: (I) reached age 21 between 1964 and 1981 (both years inclusive) and (II) 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 21 Mother" is a continuous variable indicating the year in which the mother reached age 21, normalized to zero in 1972. "Yr Age 21 x 𝟙(Yr Age 21 ≥ 1973)" is the interaction of this variable with a dummy for mothers that reached age 21 on or after 1973. In the IV estimates, the interaction term is used as excluded instrument for any college education by the 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