# Education, Social Mobility and Religious Movements: The Islamic Revival in Egypt

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– Online Appendix –

# Contents

# 1 Changes in Egyptian Educational and Labor Market Institutions

Egyptian educational and labor market policies over the past half a century have been influenced heavily by high population growth. Egypt's population increased from 22 million in 1950, to 40 million in 1975 and 77 million in 2005 (UN Population Database). In this section, the main trends first in education and then in the labor market will be summarized (for more detail see, among others, World Bank 1991, Richards 1992, Assaad 1997, Hargreaves 1997, UNDP 1998, 2000, Assaad 2009).

## 1.1 The Expansion of the Schooling System

The expansion of the general schooling system began with the 1952 revolution under Gamal Abdel Nasser (Salmi 1990). Because of the Suez crises in 1956 and several wars in the 1960s and 1970s, resources were limited and the government introduced double and sometimes even triple shifts in primary schools in the early 1960s (Nagi 2001). Between 1952 and 1965-6, primary education experienced an enrollment growth rate of almost 9% per annum (Richards 1992, p. 8).[1] Among the population aged 10 and above, illiteracy rates fell from 85.2% in 1937 to 70.5% in 1960 and 57.2% in 1976 (World Bank 1991, p. 207). Secondary and post-secondary education expanded even more rapidly. Between 1960 and 1980, enrollment rates for secondary education grew at an average rate of 15% per annum (Salmi 1990, p. 96). In 1963, following the abolition of fees for primary and secondary schools, university fees were also abolished. Under Anwar El Sadat (1970-1981), policies to expand educational access continued. Several new universities were established in the 1970s (Shann 1992), and university enrollment increased by over 14% per annum between 1971 and 1977 (World Bank 1991, p. ii). However, access to university education became more restrictive in the 1980s and early 1990s in an effort to limit the supply of university graduates (compare Assaad 2007). Instead, the government put a greater emphasis on technical/vocational secondary education (Salmi, 1990).

In Egypt, students bound for university are placed on a separate educational track when

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[1]Between 1988 and 1999, primary education was reduced from 6 to 5 years (Salehi-Isfahani et al. 2009). This policy change does not, however, affect, the cohorts considered in this paper.

entering secondary school, i.e. around the age of 15 (Salehi-Isfahani et al. 2009). Only students with high scores in the national exam taken at the end of preparatory school are allowed to enter so-called "general secondary schools." All other students may enter technical/vocational secondary schools, which include a large commercial branch and which typically last three years; some last five. Admission to university as well as to a particular course of study depends on the results of an examination taken at the end of the general secondary school, called the *thanaawiya aama* (Hargreaves 1997). Only the best students are allowed to study medicine or engineering; those with lower grades may "only" become teachers. There is evidence that students (and their families) prefer university over vocational education even though earnings are not necessarily higher (Salmi 1990). One explanation is the low status attached to such technical schools; typically students who attend them previously failed to enter the university track (Salmi 1990, Richards 1992). More generally, education is highly valued in society and in the marriage market in particular, so that potential earnings are not the only concern (e.g., Salmi 1990, Hoodfar 1997). Another explanation is that a university diploma is important for obtaining a professional, formal job. Thus, even though the chances of obtaining such a job have declined, families may prefer not to forego the opportunity altogether (Salmi 1990, Hargreaves 1997).

There is ample evidence that private costs to education, in particular for private lessons, have been increasing over the last two to three decades (Richards 1992, Hargreaves 1997, UNDP 1998, 2000). Policies in the 1980s that introduced exams and reduced the ability of students to repeat grades at the end of primary and preparatory school education have been one reason for this increase (e.g. Hanushek & Lavy 1994). Furthermore, as real wages deteriorated from the mid-1980s, private tutoring – albeit still illegal – has become an extra source of income for teachers (UNDP 1998). These developments might also explain why a relatively high percentage of men in the young cohort have failed to obtain any formal educational degree. It could also be an additional driver of limited mobility at the top of the educational distribution, as low-income families are likely to lack the financial resources for extensive private tutoring.

## 1.2 The Employment Guarantee Scheme and its Legacies

Socialist policies led to the nationalization of Egypt's industries in the 1960s (World Bank 1991). In 1961, the government introduced an employment guarantee scheme for university graduates, and in 1964, extended it to include secondary school graduates (Assaad 1997, Handoussa & El Oraby 2004). The employment guarantee scheme is a reflection of the patron-client relationship, or "social contract", between the Egyptian state and its citizens (e.g. Bayat 2002, Richards & Waterbury 2008). The state perceives itself as the provider of jobs and welfare benefits (including a wide range of subsidies). In return for these services, Egyptian leaders expected political support. Since jobs in the government sector have traditionally meant high job security, social insurance, access to subsidized goods and accommodations as well as other benefits (Assaad 1997), the demand for higher education increased sharply with the introduction of this employment scheme, as did the number of applicants for government sector jobs.

Due to the high economic growth rates following the oil boom, revenues from the Suez Canal and high remittance flows, the employment guarantee scheme survived the 1970s. On average, the Egyptian economy grew at a rate of 9% per annum between 1974 and 1981 (World Bank 1991, p. 43). Labor supply pressures were partly reduced because of Sadat's open door policy, under which, by some estimates, about 10% of the labor force was abroad, particularly in Saudi Arabia, Kuwait, the United Arab Emirates, Qatar and Iraq (for a discussion see Sell 1988, Kandil & Metwally 1992). Nevertheless, over time, the employment guarantee scheme became more and more untenable (for details see Assaad 1997, Handoussa & El Oraby 2004). From 1978 onward, the government allowed public enterprises to circumvent the employment guarantee scheme. Public sector employees were also offered unpaid leave to work in the private sector. Nevertheless, by 1982-3 government employment was triple the 1966 level (Richards 1992, p. 33, based on Handoussa 1988). When Hosni Mubarak (1981-2011) came into power, the employment guarantee scheme was not immediately abolished. Rather, a number of changes to the scheme were made, including increased waiting periods, particularly for secondary school graduates. By the end of the 1980s, the waiting period was more than five years. Moreover, wages in the public sector deteriorated in real terms, such that by 1987, the salaries of government employees had fallen to 55 percent of their level in 1973 (Wickham 2002, p. 47). Despite these changes, there was still substantial demand in the 1990s for government sector jobs due to the extra benefits

they provided. Given the short working hours in government agencies, many workers made up for low wages by moonlighting after work. The mass private-sector resignations that occurred when the government decided in 1992 to take graduates with a private sector job off the government-job registry is one example of the public's strong preference for public sector work. Wickham (2002, p. 57) also notes that among the graduates she interviewed, manual occupations were seen as a last (and temporary) resort only.

In 1991, Egypt adopted the Economic Reform Structural Adjustment Program, a program supported by the International Monetary Fund and the World Bank (Korayem 1997). While labor market policies were introduced in the 1990s to make the economy more competitive, it was only in 2003 that rigid labor market regulations on hiring and firing were truly relaxed (Salehi-Isfahani et al. 2009). With a declining government sector and a constrained private sector, unemployment rates were highest for men with a technical secondary-school degree in both 1988 and 1998, particularly in rural areas (Assaad 2009). Furthermore, an increasing percentage of well-educated labor market entrants have been forced to take up jobs in the informal sector or work unpaid for the family (Amer 2009, Assaad 2009, Assaad et al. 2010). These labor market developments have also been aggravated by reduced employment opportunities in the Gulf that used to cushion labor supply pressures in Egypt, especially in the 1970s and early 1980s (Kandil & Metwally 1992, Aly & Shields 1996, Hoodfar 1997, Wickham 2002).

## 1.3   Summary

By comparing men born between 1949 and 1960 (old cohort) and men born between 1968 and 1977 (young cohort), one can evaluate the overall effect of these changes in the educational system and the labor market on intergenerational mobility. Those born between the years 1949 and 1960 were the first to benefit from the expansion of the educational system with free schooling across all educational levels. Men of the older cohort were also eligible for the employment guarantee scheme, provided that they had succeeded in achieving a secondary or post-secondary degree. On the other hand, men born between the years 1968 and 1977 were confronted with very different conditions when they entered the labor market in the late 1980s and 1990s – in particular, the employment guarantee scheme was only partially in effect. Despite declining opportunities in the government sector, the private sector remained

highly regulated.

It is important to note that the decline in job opportunities in the formal sector as well as the decline in real wages in the government sector had other far-reaching social implications. Among other things, Egypt, and the Middle East more generally, has seen a strong delay in men's age at first marriage, despite the fact that pre-marital relationships have largely remained taboo. Based on the ELMPS06, the median age at first marriage for Egyptian men increased by around 3 years from around 25 for men born in the 1940s to around 28 for men born in the early 1970s (Assaad et al. 2010, p. 69). Men typically work for years in order to afford the costs associated with marriage, which not only include the costs for the wedding celebration but also for housing and electrical appliances (Singerman 1995, Hoodfar 1997, Assaad et al. 2010). In addition to sufficiently high earnings, the bride's parents expect the groom to hold a "respectable" job. In part, this is linked to social status, but also, having a stable, formal job simply assures the bride's family that the groom is able to guarantee a certain standard of living in the future and that he is able to support a family. Women's increased educational attainment has put further pressure on the groom's side as the following quote from a university graduate illustrates (Wickham 2002):

> I'm trying to get both, status and money; when you want to marry, you need both. If you tell the family of a girl you're interested in marrying that you have a government job, but you're only earning 70 pounds a month, they tell you to finish your tea and go home. And if you're just a plain taxi driver and the girl is educated, they also might not agree. [p. 58]

Consequently, despite the great value that family formation continues to play in the Middle East, only about 53% of men aged 25-29 were married in the 1990s, the lowest figure of all developing regions (Mensch et al. 2005).

# 2 Data

This section provides further details on the variables we use from the 2006 cross-section of the Egypt Labor Market Panel Survey, ELMPS06 (ERF, 2006). The survey covered 8,349 households with 37,140 individuals. Among them, 3,684 households had been previously interviewed in the 1998 survey wave and 2,167 households represented splits from these. The remaining 2,498 households were new (refresher sample). Since data collection took place in December 2005 and early 2006, information such as an individual's age generally refers to the year 2005. Unless otherwise stated, data are weighted.

We restrict our analysis throughout to males due to low female labor force participation in Egypt. While in recent decades, female market labor force participation has risen, it remained low at 21% in 1998 and 27% in 2006 (Assaad & El Hamidi 2009). With government sector employment contracting, educated women faced greater difficulty in obtaining jobs perceived as appropriate (e.g. Assaad & El Hamidi 2009), and many women stop working after marriage (e.g. Hoodfar 1997).

For both fathers and sons, educational degrees are grouped into the following major categories: no (formal) degree, lower-secondary degree (i.e. primary and preparatory degree), secondary school degree and post-secondary degree, a category which also includes 5-year technical secondary-school graduates. Alternatively, education is measured in terms of years of schooling based on the final degree obtained, i.e. 0 years for no formal education, 6 years for primary education, 9 years for preparatory education, 12 years for secondary education, 14 years for five-year technical secondary education, 16 years for university education and 19 for graduate education.

Figure S1 clearly shows the strong decline over the past decades in the share of men with no formal educational degree. At the same time, both the share of men with a secondary school degree and with a post-secondary degree has increased. The share of men with a primary or preparatory degree is comparatively small and has remained roughly unchanged. Figure S1 also illustrates the effect of the policy shift from university to technical secondary education in the 1980s that was described in section 1.

Similar to categories used elsewhere by economists (e.g., Schmidt & Strauss 1975, Long & Ferrie 2007), five occupational categories were constructed: professionals (i.e. lower and
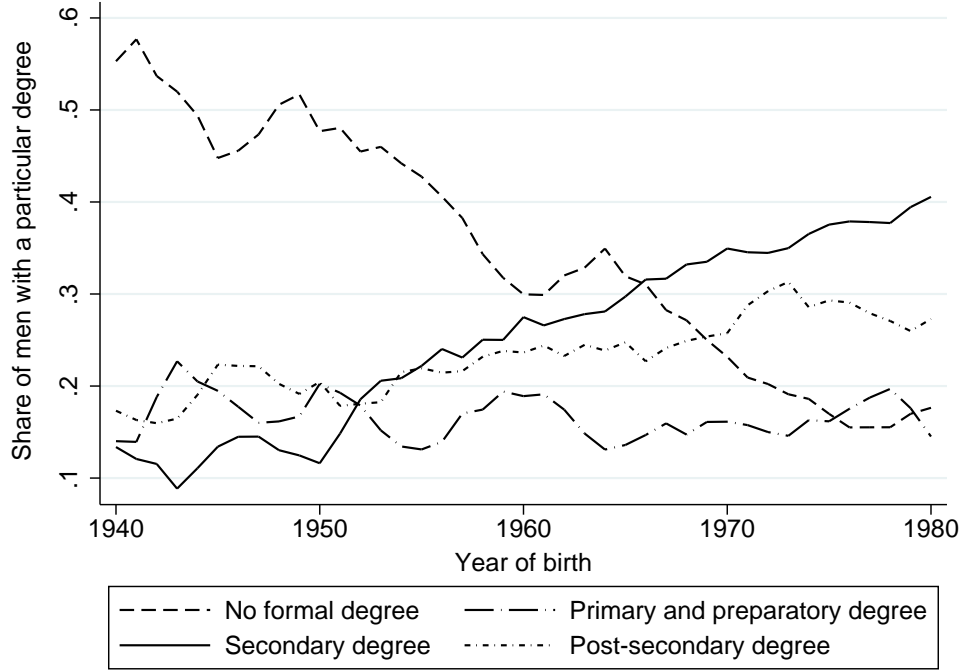
Notes: 3-year moving averages. Source: ELMPS06 (not weighted).

Figure S1: Changes in Educational Attainment of Men over Time, by Year of Birth.

higher service workers), (other) white-collar workers (i.e. routine non-manual), skilled manual laborers, semi/unskilled manual laborers and farmers. These five occupational categories were constructed as follows.[2] First, based on the codebook of the Central Agency for Public Mobilization and Statistics (CAPMAS), Egypt's National Statistical Bureau, the CAPMAS occupational codes were mapped to the ILO International Standard Classification of Occupations 1988 (ISCO-88; ILO 1991) codes at the 3-digit level, the highest digit level available in the codebook. The major difference between the CAPMAS and the ISCO-88 occupational scheme is that CAPMAS adapted the ILO scheme to include further sub-categories – for instance, whether the individual is working in the private or public sector. The ISCO-88 codes were then mapped to the "root" EGP classes based on the technique provided in Ganzeboom & Treiman (1996).[3] In order to consider exceptions in the mapping scheme at the 4-digit level, occupational categories were traced in the CAPMAS codebook and assigned to

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[2]The construction of occupational categories was part of a joint research project with Marwan Khawaja (UN-ESCWA).

[3]In contrast to the root EGP classes, the enhanced EGP scheme uses information about self-employment and supervisory status in order to further differentiate between occupations.

Table S1: Occupational Categories and Overall Distribution.

| | Overall share | Most numerous ISCO-88 titles |
|---|---|---|
| Professional | 27.10 | [Large Enterprise] Department Managers; Primary and Pre-Primary Education Teaching Professionals; Physical and Engineering Science Technicians |
| White collar | 15.74 | Shop Salespersons and Demonstrators; Housekeeping and Restaurant Services Workers; Administrative Associate Professionals; Material-Recording and Transport Clerks |
| Skilled manual | 20.72 | Building Frame, etc. Trades Workers; Building Finishers, etc. Trades Workers; Wood Treaters, Cabinet-Makers, etc. Trades Workers |
| Semi/Unskilled manual | 15.55 | Motor-Vehicle Drivers; Protective Service Workers; Domestic, etc. Helpers |
| Farmers | 20.88 | |

Notes: Based on the current primary job of men aged 20-65, N=8,193 (ELMPS).

Table S2: Employment Status, Sector of Employment and Job Formality by Occupation.

| | Employment Status (N=8,193) | | | | Share of public sector jobs (N=4,196) | Share of formal jobs (N=5,541) |
|---|---|---|---|---|---|---|
| | Waged | Employer | Self-employed | Unpaid family work | | |
| Professional | 71.96 | 16.97 | 10.67 | 0.41 | 76.02 | 88.84 |
| White collar | 82.18 | 2.92 | 10.98 | 3.92 | 56.30 | 64.00 |
| Skilled manual | 74.71 | 11.61 | 11.53 | 2.14 | 22.70 | 20.86 |
| Semi/Unskilled manual | 88.27 | 3.35 | 7.69 | 0.69 | 49.63 | 41.06 |
| Farmers | 28.69 | 44.34 | 6.88 | 20.09 | 37.48 | 5.18 |
| Total | 67.64 | 17.24 | 9.64 | 5.47 | 56.21 | 51.42 |

Notes: Questions about the sector of employment and job formality were administered to wage workers only. A job is defined as "formal" if the worker has both a work contract and social insurance. Based on the current primary job of men aged 20-65 (ELMPS06).

the appropriate root EGP classes. Finally, the root EGP classes were collapsed to the five categories mentioned above. Given the high share of men working in agriculture in Egypt, farmers are kept in a category separate from other manual labor. We should also note that large enterprise department managers in the field of agriculture are coded as professionals, not as farmers. For each of the five categories, Table S1 lists the most numerous ISCO-88 titles for the current primary job based on the sample of men aged 20 to 65.

Table S2 illustrates how five occupational categories are related to various job characteristics based on the current primary job of men aged from 20 to 65. Compared to all other occupations, a relatively small share of farmers worked for a wage. As expected, unpaid family

Table S3: Average Monthly Earnings and Hourly Wage (in L.E., Egyptian Pound) by Occupation.

| | Average monthly earnings | | | Hourly wage | | |
|---|---|---|---|---|---|---|
| | Mean | Std. Dev. | N | Mean | Std. Dev. | N |
| *Rural Areas:* | | | | | | |
| Professional | 669.27 | 1,307.34 | 574 | 4.04 | 8.16 | 571 |
| White collar | 547.68 | 1,849.91 | 528 | 3.08 | 11.13 | 524 |
| Skilled manual | 445.23 | 280.25 | 661 | 2.51 | 2.17 | 640 |
| Semi/Unskilled manual | 557.32 | 1,250.15 | 655 | 2.53 | 5.57 | 647 |
| Farmers | 294.90 | 114.18 | 442 | 1.82 | 0.89 | 437 |
| Total | 511.46 | 1,168.26 | 2,861 | 2.82 | 6.73 | 2,820 |
| *Urban Areas:* | | | | | | |
| Professional | 1,116.28 | 1,921.00 | 1,017 | 6.11 | 10.31 | 1,010 |
| White collar | 623.63 | 908.22 | 531 | 3.11 | 4.50 | 524 |
| Skilled manual | 623.57 | 924.92 | 601 | 3.26 | 5.25 | 590 |
| Semi/Unskilled manual | 562.17 | 676.13 | 469 | 2.58 | 2.89 | 464 |
| Farmers | 453.51 | 417.28 | 41 | 2.65 | 2.34 | 40 |
| Total | 798.46 | 1,383.55 | 2,660 | 4.20 | 7.41 | 2,630 |

Notes: Based on the current primary job of men aged 20-65 living in rural/urban areas (ELMPS06). For wage workers with a regular income (permanent or temporary), average monthly earnings include bonus and other supplementary payments. For wage workers with an irregular income, average monthly earnings include both monetary income and income in kind. Using the exchange rate of January 2006, 1 US dollar is equivalent to 5.7 Egyptian pounds (L.E.).

work was more common among farmers. Similarly, the share of employers varies strongly across occupations. Note that the sector of employment and the formality of the job refer to wage and salary workers only. In particular, professional occupations are associated with working in the government sector and with having a formal job, i.e. a job providing both social insurance and a work contract. For wage earners, average monthly earnings, including bonuses and other supplementary payments for regular workers, are displayed in Table S3. Note that non-wage benefits, such as access to goods and services, are not captured here, which may be substantial.[4]

For our main analysis, we draw in particular on the employment history section of the ELMPS06, which contains information about up to two jobs an individual has had prior to his (her) current economic status, and which thus allows us to determine an individual's first,

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[4]Since consumer price indices were not available for urban and rural areas, for comparability the sample is split up based on men's current area of residence. Using the exchange rate as of January 2006, 1 US dollar is equivalent to 5.7 Egyptian pounds.

Table S4: Job versus Occupational Changes for Men Aged 20-65.

| | Age at obtaining first, etc. job | | | | | | Age at obtaining first, etc. occupation | | | | |
| | Mean | Std. Dev. | N | Min | Max | | Mean | Std. Dev. | N | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1st | 17.40 | 5.39 | 8,258 | 6 | 41 | 1st | 17.40 | 5.39 | 8,258 | 6 | 41 |
| 2nd | 23.83 | 8.97 | 5,771 | 6 | 63 | 2nd | 27.46 | 8.14 | 2,512 | 7 | 61 |
| 3rd | 29.86 | 10.01 | 1,891 | 10 | 63 | 3rd | 34.52 | 10.76 | 332 | 16 | 61 |
| 4th | 33.75 | 10.54 | 272 | 14 | 60 | 4th | 35.19 | 8.24 | 9 | 25 | 48 |

Notes: The descriptive statistics are restricted to men aged 20-65 with a valid job path (ELMPS06). The following five occupational categories are considered when determining occupational changes: professional, white-collar, skilled manual workers, semi-/unskilled manual workers and farmers.

second, etc. job. Intensive data cleaning and consistency checks of the employment history section and other sections on employment revealed that for merely 4.57% of men aged 20-65, we cannot determine their entire employment history, i.e., an individual's first job is not listed in the employment history section. In these cases, we are unable to determine whether the individual experienced additional job changes between his first job and the earliest job listed in the employment history section. For a small number of men, whose earliest job in the employment history section started at most one year after they took up their first job, it is assumed that they did not experience any job change in between. For another 2.50% of men in this age group, the employment history section contains inconsistencies or lacks information about the year an individual started an activity and/or about his employment status. Complete and consistent information – i.e., a valid job path – is thus available for 92.92% of men aged 20-65. This is the sample we draw on for our empirical analysis.[5]

In order to reduce potential lifecycle bias in intergenerational economic mobility estimates (e.g. Erikson et al. 1983, Jenkins 1987, Nicoletti & Ermisch 2007), we compare across cohorts men's (graduates') occupational attainment at a given age. While we would like men to have reached their permanent occupational status, we would also like to avoid dropping young individuals from the sample. On the left-hand side of Table S4, we report descriptive statistics for the age at which men started their first, second, etc. job. On the right-hand side of the table, we consider only job changes that implied an occupational change as well. In general, men in Egypt start working at an early age. This is particularly true of men in the old cohort, in which 49% of males started working by the age 15. Relatively few

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[5]As part of the robustness analysis in section 4.2 below (in particular Table S9), we can show that using information about an individual's current or, alternatively, first job in the event of an inconsistent or incomplete job path does not change results qualitatively.

changed jobs several times and if they did, it was usually at the beginning of their careers. If we consider only job changes that result in an occupational change, a high share of men had a maximum of two changes. On average, men had experienced this second occupational change by the age of 28. For this reason, the age of 28 is chosen as reference age. The main assumption being made is that transitions to permanent occupational status have not changed across the two cohorts, or rather that this transition is on average completed by the time they turn 28. Given that by the age of 28, even university graduates have been exposed to the labor market for several years, changes in the transition from school to work should have little effect. As part of the robustness analysis, however, we alternatively compare job and occupational outcomes at age 30.

Note that at the age of 28, 99% of men aged 20-65 with a valid job path had obtained their first job. Less than 12% of the male sample (aged 28-65) had experienced at least one longer unemployment phase by the time of the survey; less than 1% had experienced two. Most of these men were unemployed early in life after leaving school and before obtaining their first job; only a few individuals became unemployed at age 28. This reflects the fact that in Egypt unemployment is essentially a school-to-work-transition problem (World Bank 2004, Assaad 2009). Also, there are no (or little) social welfare benefits that can be claimed. Similarly, "jobless" periods including temporary disability and the residual category "other" have essentially occurred prior to age 28. Consequently, not working does not constitute a category of its own. Instead, the occupation prior to the unemployment or jobless period is used.

We relate a graduate's (son's) occupation, or job, to his father's occupation when he was aged 15. The reason is that for sons *not* living with their father, the son was asked about the father's occupation and sector of employment when he was 15 and about his father's highest educational degree. This was the case for the majority of sons in both cohorts (87.44%). Note that less than 1% of fathers were recalled as not working. These fathers and sons were dropped from the empirical analysis. For sons living with their father, occupational information about the father was derived from the father's self-reported employment history. Out of all men of both cohorts, the father's occupational status is available in 98% of cases. Missing information is most often related to fathers who were living in the household at the time of the survey and who had missing entries in the employment history section.

# 3 Additional Empirical Results: Intergenerational Educational Mobility

In the main text, we relate the son's years of schooling to his father's years of schooling, and examine how this relationship changed across cohorts. Alternatively, one can relate the son's education to his parents' education, i.e., the average of his father's and his mother's years of schooling. Results are similar, see Table S5.

Table S5: Relationship between Parental and Son's Years of Schooling

|  | Dependent variable: son's years of schooling | | |
|  | Full sample | Rural | Urban |
|  | (1) | (2) | (3) |
| Parental years of schooling | 0.939*** | 1.669*** | 0.767*** |
|  | (0.0474) | (0.121) | (0.0458) |
| Parental years of schooling | −0.457*** | −0.943*** | −0.325*** |
| × young cohort | (0.0502) | (0.130) | (0.0497) |
| Young cohort | 3.164*** | 3.753*** | 2.279*** |
|  | (0.211) | (0.291) | (0.289) |
| $R^2$ | 0.241 | 0.178 | 0.215 |
| N (not weighted) | 4,543 | 2,100 | 2,443 |

* p<0.10, ** p<0.05, *** p<0.01.
Notes: OLS results are reported with standard errors clustered at the household level in parentheses. Specification (1) includes a dummy for sons born in an urban area, and all specifications include a constant. The analysis is restricted to men (sons) born between 1949 and 1960 (old cohort) and between 1968 and 1977 (young cohort). "Rural" and "urban" refer to the son's place of residence at birth. Parental years of schooling is the average of the father's and the mother's years of schooling.

For greater comparability with other studies on intergenerational educational mobility, Table S6 shows the mobility estimates for the sample of sons and daughters. The results in column (1) are based on sons and daughters aged from 20 to 65. In order to examine changes over time, columns (2) and (3) show estimates for sons and daughters aged from 50 to 65 and, respectively, sons and daughters aged from 20 to 35.

Table S6: Intergenerational Educational Mobility Estimates for Different Samples.

| | Dependent variable: child's years of schooling | | | | | |
| | Aged 20-65 | | Aged 50-65 | | Aged 20-35 | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| --- | --- | --- | --- | --- | --- | --- |
| Father's years of schooling | 0.598*** | | 0.757*** | | 0.475*** | |
| | (0.007) | | (0.023) | | (0.009) | |
| Parental years of schooling | | 0.788*** | | 1.151*** | | 0.604*** |
| | | (0.009) | | (0.037) | | (0.011) |
| $R^2$ | 0.201 | 0.203 | 0.238 | 0.240 | 0.182 | 0.187 |
| N (not weighted) | 19,194 | 19,194 | 4,069 | 4,069 | 10,001 | 10,001 |

* p<0.10, ** p<0.05, *** p<0.01.
Notes: OLS results are reported with standard errors clustered at the household level in parentheses.
Parental years of schooling stands for the average of the father's and the mother's years of schooling.
All specifications include a constant.

# 4 Additional Empirical Results: Social Mobility Among the Educated

In the following, we first show a figure that plots for each cohort the educational distribution of workers across occupations (Figure S2). The figure is discussed at the beginning of section 3.3 of the paper. We then present, in section 4.1, further evidence on when social mobility among the educated declined, along with a more thorough discussion of the cohort definitions we use in the paper. Finally, in section 4.2, we conduct several robustness checks on our main results on social mobility among university graduates (Panel A of Table 2 of the main text).

(a) 1949-1960 Cohort
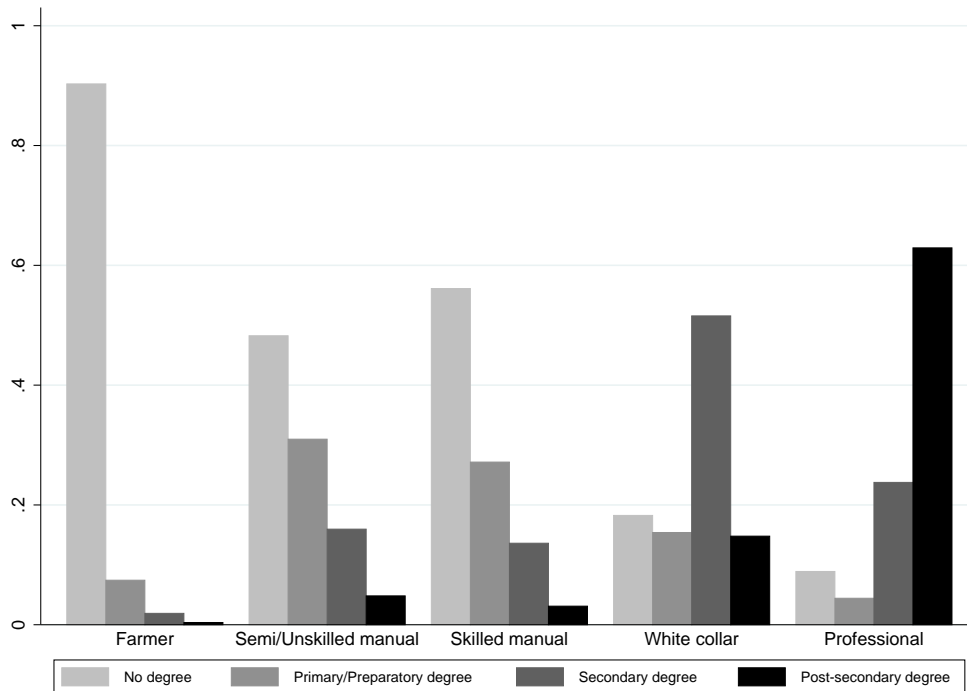


(b) 1968-1977 Cohort
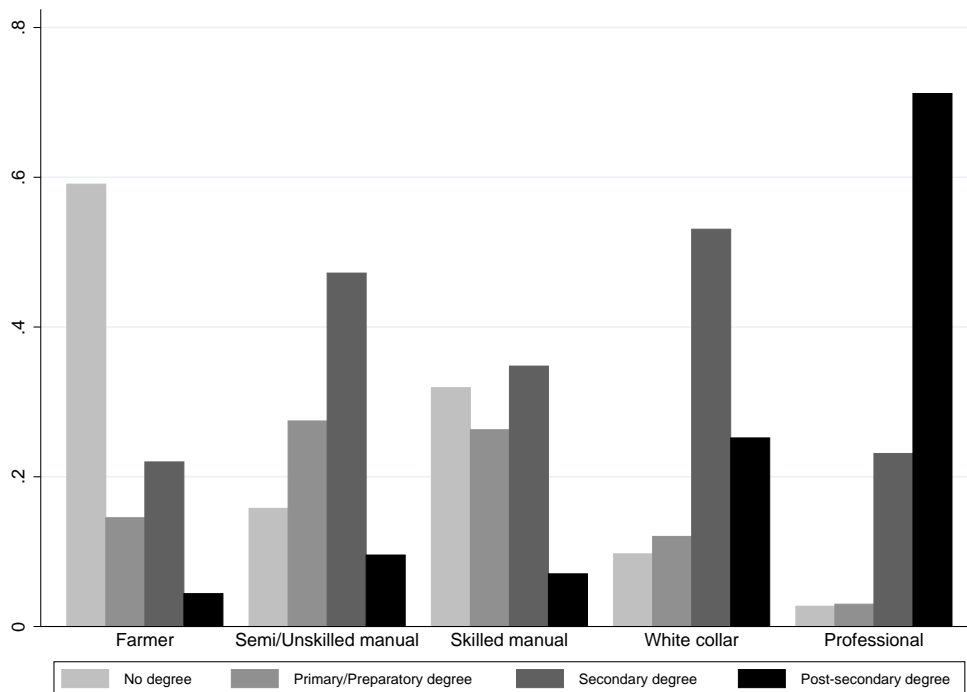


Source: ELMPS06.

Figure S2: Distribution of Educational Attainment across Occupations.

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## 4.1 Changes in Social Mobility Among the Educated over Time

Because the employment guarantee scheme was gradually suspended, we compare social mobility of university graduates born between the years 1949 and 1960 (old cohort) to those born between the years 1968 and 1977 (young cohort), leaving out university graduates born in 1961-1967. That is, we essentially follow a difference-in-differences approach and compare social mobility among the educated before and after the suspension of the scheme. We focus on graduates of these two cohorts because secondary and post-secondary school graduates obtain their first job in their early 20s, on average. Hence, graduates of the old cohort entered the labor market in the 1970s and early 1980s on average, when the employment guarantee scheme was still in place, while those of the young cohort entered the labor market in the late 1980s and 1990s, on average, when the scheme was essentially not in effect anymore. Note that we restrict the old cohort to those born in 1949 and later (up to 1960) because they were the first to benefit from the expansion of the educational system with free schooling across all educational levels. The young cohort, on the other hand, is restricted to those born in 1977 because we compare occupational outcomes at age 28 across educated cohorts and our data source, the ELMPS06, provides information as of 2005.

To examine the sensitivity of our results, we do three things. First, as part of the robustness analysis in section 4.2 below, we present results based on slightly different definitions for the old and the young cohort (see specifications g. and h. of Table S9). Compared to secondary school graduates, university graduates obtain their first job around 2 years later, on average. Hence, if we were to examine university graduates only, a more appropriate cohort definition might be 1949-1958 for the old cohort and 1966-1977 for the young cohort. Using these cohort definitions, we obtain similar results as those shown in Panel A of Table 2 in the paper.

Second, we report results when keeping the intermediate cohort—i.e., those born between 1961 and 1967 ('middle cohort')—in the sample (see Table S7). In contrast to our main specification, this specification includes a dummy for the middle cohort and an interaction term between this variable and the father working as a professional. The results indicate that while the middle cohort already experienced a decline in job opportunities (albeit to a somewhat lesser extent than the young cohort), this decline was not yet concentrated among those from the lower socioeconomic strata, something that changed dramatically for the

Table S7: Alternative Specification, Panel A of Table 2.

| | Dependent variable: Son's probability to obtain a | | |
|---|---|---|---|
| | professional occupation (1) | formal sector job (2) | public sector job (3) |
| Father: professional | −0.006 | −0.063 | 0.022 |
| | (0.049) | (0.050) | (0.051) |
| Father: professional | −0.032 | 0.080 | −0.015 |
| × middle cohort | (0.083) | (0.083) | (0.090) |
| Father: professional | 0.191*** | 0.239*** | −0.016 |
| × young cohort | (0.062) | (0.0611) | (0.070) |
| Middle cohort | −0.079 | −0.152*** | −0.127** |
| | (0.051) | (0.049) | (0.053) |
| Young cohort | −0.178*** | −0.207*** | −0.249*** |
| | (0.042) | (0.038) | (0.043) |
| $R^2$ | 0.0315 | 0.0438 | 0.0699 |
| N (not weighted) | 1,250 | 1,080 | 1,081 |

* $p<0.10$, ** $p<0.05$, *** $p<0.01$.
Notes: OLS coefficient estimates are reported with robust standard errors clustered at the household level in parentheses. The analysis is restricted to sons with post-secondary (university) degrees who are born between 1949 and 1960 (old cohort), between 1961 and 1967 (middle cohort), and between 1968 and 1977 (young cohort) with the old cohort being the omitted category. The dependent variable refers to the son's job (occupation) at age 28. All specifications include a dummy for sons born in an urban area and a constant.

young cohort.

Finally, we examine how the association between sons' and fathers' occupational status changed on a year-by-year basis, as suggested by one of our referees. Ideally, we would estimate, for the sample of university graduates, the immobility parameter for each birth cohort separately and show moving averages over time. However, since the sample becomes too small for older university graduates—it reduces to 20 to 30 observations for each birth cohort, with few graduates whose father worked as a professional—we instead lump together the data from five birth cohorts. We then regress whether the son obtained a professional occupation by the age of 28 on a dummy variable indicating whether the father was a professional and a dummy variable for sons born in an urban area. The results are reported in Table S8 and are shown graphically in Figure S3. For example, the intergenerational immobility estimate for university graduates born in 1960 is based on the sample of university graduates born in 1958, 1959, 1960, 1961, and 1962. The results indicate that there is a sud-
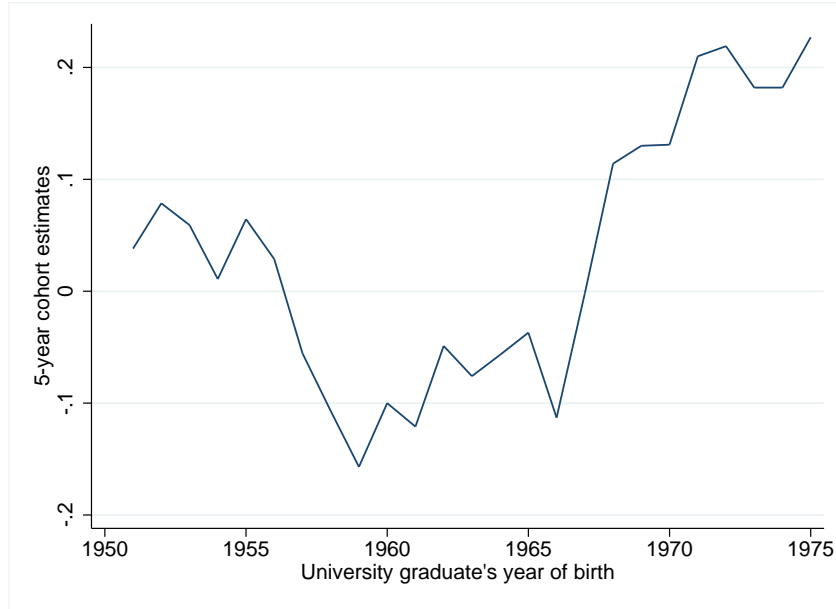
Figure S3: Changes in Social Mobility for University Graduates.

Notes: This figure shows the coefficient estimates on the father being a professional, based on regression results reported in Table S8.

Table S8: Social Immobility Estimates for University Graduates (by Year of Birth).

| | Dependent variable: son's probability to obtain a professional occupation (by the age of 28) | | | | | | | | |
| | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 |
|---|---|---|---|---|---|---|---|---|---|
| Father: | 0.0381 | 0.0786 | 0.0591 | 0.0109 | 0.0644 | 0.0287 | −0.0555 | −0.107 | −0.157* |
| professional | (0.101) | (0.0886) | (0.0763) | (0.0620) | (0.0549) | (0.0631) | (0.0749) | (0.0758) | (0.0811) |
| N | 108 | 121 | 136 | 138 | 144 | 160 | 154 | 163 | 162 |
| | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 |
| Father: | −0.100 | −0.121 | −0.0489 | −0.0759 | −0.0568 | −0.0370 | −0.113 | −0.0019 | 0.114 |
| professional | (0.0746) | (0.0823) | (0.0766) | (0.0801) | (0.0760) | (0.0820) | (0.0834) | (0.0790) | (0.0747) |
| N | 171 | 167 | 182 | 183 | 191 | 189 | 201 | 203 | 214 |
| | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | | |
| Father: | 0.130* | 0.131** | 0.210*** | 0.219*** | 0.182*** | 0.182*** | 0.227*** | | |
| professional | (0.0664) | (0.0623) | (0.0522) | (0.0496) | (0.0531) | (0.0544) | (0.0503) | | |
| N | 240 | 277 | 306 | 335 | 352 | 363 | 385 | | |

* $p<0.10$, ** $p<0.05$, *** $p<0.01$.
Notes: OLS results are reported with standard errors clustered at the household level in parentheses. Results are based on regressions of whether the son had obtained a professional occupation by the age of 28 on whether the father worked as a professional and a dummy variable for sons born in an urban area. Each regression pools five birth cohorts, the stated birth cohort as well as the two birth cohorts prior and after that year. Coefficient estimates are shown graphically in Figure S3.

den increase in the association between sons' and fathers' occupational status for university graduates born in the late 1960s, which remains relatively stable thereafter. This matches well with our young cohort definition. For university graduates born in the 1970s, having a father working as a professional is associated with a roughly 20 percentage point increase in his likelihood of obtaining a professional occupation by the age of 28, which is also highly statistically significant. (For university graduates born in the late 1950s and early/mid 1960s, the corresponding coefficient estimates are negative but close to zero and/or estimated with noise due to the small sample.)

## 4.2   Robustness Analysis

The following robustness analysis, the results of which are shown in Table S9, has been conducted for the subsample of sons with post-secondary (university) degrees. Hence, the estimates in Table S9 are to be compared to the estimates shown in Panel A of Table 2 in the main text.

The first specification ($a$) shows average marginal effects based on estimating equation 1 in the paper as a probit model. The average marginal effects are very close to the OLS estimates provided in Panel A of Table 2 in the main text. Next, for university graduates with an inconsistent or incomplete job history, we use information about their first job (specification $b$) and their current job (specification $c$). Similar to the original specification, the results for $b$ and $c$ show that the father's occupation had essentially no significant effect on job-related outcomes for the old cohort, but it did have an effect for the young cohort.

So far, we have compared sons' labor market outcomes at age 28, the underlying assumption being that by this age, men of both cohorts have essentially reached their permanent occupational status. While we provide evidence in favor of this assumption in section 2, we now alternatively compare sons' job and occupational outcomes at age 30. Consequently, the young cohort no longer includes men born in 1976 and 1977, leading to a smaller sample. Results are shown under specification $d$ in Table S9. The coefficient estimates for belonging to the young cohort are around 4 percentage points smaller in columns (2) to (4), suggesting that some graduates of the young cohort do experience an occupational change, e.g., attain a professional occupation, between the ages 28 and 30. In line with the main results, the positive "effect" of having a father working as professional roughly offsets, on average, the

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decline in the availability of jobs across cohorts except for public sector jobs.

Estimation results are also robust to including year of birth dummies for sons (Table S9, specification $e$). Specification $f$, in turn, shows results for using a more comprehensive occupational measure for fathers. Note that the reference group here is fathers who are farmers. University graduates whose fathers were farmers experienced a decline in the probability of attaining a professional occupation of 13 percentage points and a 19 (24) percentage point decline in the probability of holding a formal job (public sector job) by the age of 28. In comparison to these graduates, graduates whose fathers worked as professionals did not experience such a decline, once again with the exception of public sector jobs.

We conclude the robustness analysis by presenting results for changing the cohort parameters of the old cohort to men born between 1949 and 1958 (specification $g$) and of the young cohort to men born between 1966 and 1977 (specification $h$). Overall, the coefficient estimates are similar to our main results.

Table S9: Robustness Analysis.

| | Dependent variable: Son's probability to obtain a | | |
|---|---|---|---|
| | professional occupation (1) | formal sector job (2) | public sector job (3) |
| *a. Average marginal effects (probit)* | | | |
| Father: professional (old cohort) | −0.005 | −0.064 | 0.011 |
| | (0.048) | (0.050) | (0.048) |
| Father: professional (young cohort) | 0.186*** | 0.175*** | 0.015 |
| | (0.039) | (0.039) | (0.051) |
| Young cohort | −0.180*** | −0.206*** | −0.257*** |
| | (0.042) | (0.038) | (0.043) |
| N (not weighted) | 999 | 868 | 868 |
| *b. If inconcistent or incomplete job path: information about the first job* | | | |
| Father: professional | −0.008 | −0.066 | −0.043 |
| | (0.045) | (0.047) | (0.051) |
| Father: professional | 0.192*** | 0.214*** | 0.042 |
| × young cohort | (0.058) | (0.059) | (0.069) |
| Young cohort | −0.195*** | −0.213*** | −0.276*** |
| | (0.040) | (0.037) | (0.041) |
| $R^2$ | 0.0417 | 0.0475 | 0.0903 |
| N (not weighted) | 1,096 | 948 | 948 |
| *c. If inconcistent or incomplete job path: information about the current job* | | | |
| Father: professional | −0.010 | −0.0622 | −0.006 |
| | (0.045) | (0.046) | (0.052) |
| Father: professional | 0.184*** | 0.212*** | −0.004 |
| × young cohort | (0.058) | (0.058) | (0.070) |
| Young cohort | −0.187*** | −0.206*** | −0.243*** |
| | (0.039) | (0.036) | (0.042) |
| $R^2$ | 0.0383 | 0.0494 | 0.0802 |
| N (not weighted) | 1,091 | 944 | 942 |
| *d. Comparing job and occupational outcomes of sons at age 30* | | | |
| Father: professional | 0.005 | −0.020 | 0.047 |
| | (0.048) | (0.043) | (0.050) |
| Father: professional | 0.151** | 0.134** | −0.046 |
| × young cohort | (0.064) | (0.059) | (0.074) |
| Young cohort | −0.135*** | −0.156*** | −0.209*** |
| | (0.043) | (0.039) | (0.044) |
| $R^2$ | 0.0256 | 0.0358 | 0.0765 |
| N (not weighted) | 860 | 742 | 742 |
| *e. Including year of birth dummies* | | | |
| Father: professional | −0.001 | −0.083* | 0.011 |
| | (0.050) | (0.050) | (0.052) |
| Father: professional | 0.185*** | 0.251*** | −0.003 |
| × young cohort | (0.062) | (0.060) | (0.070) |
| $R^2$ | 0.0854 | 0.0970 | 0.124 |
| N (not weighted) | 999 | 868 | 868 |

*f. Using more detailed occupational codes for fathers*

| | | | |
|---|---|---|---|
| Father: semi/unsk. manual | −0.035 | 0.024 | 0.028 |
| | (0.079) | (0.052) | (0.066) |
| Father: skilled manual | 0.022 | −0.053 | −0.067 |
| | (0.090) | (0.078) | (0.107) |
| Father: white collar | −0.104 | −0.065 | −0.052 |
| | (0.092) | (0.079) | (0.085) |
| Father: professional | −0.041 | −0.088 | 0.006 |
| | (0.066) | (0.063) | (0.061) |
| Father: semi/unsk. manual | −0.044 | 0.004 | 0.035 |
| × young cohort | (0.109) | (0.089) | (0.106) |
| Father: skilled manual | −0.204* | −0.092 | −0.113 |
| × young cohort | (0.119) | (0.120) | (0.137) |
| Father: white collar | 0.013 | −0.012 | 0.024 |
| × young cohort | (0.113) | (0.108) | (0.115) |
| Father: professional | 0.148* | 0.220*** | −0.021 |
| × young cohort | (0.083) | (0.080) | (0.087) |
| Young cohort | −0.133* | −0.186*** | −0.244*** |
| | (0.069) | (0.065) | (0.067) |
| $R^2$ | 0.0478 | 0.0638 | 0.0942 |
| N (not weighted) | 999 | 868 | 868 |

*g. Old cohort defined as men born between 1949 and 1958*

| | | | |
|---|---|---|---|
| Father: professional | 0.031 | −0.069 | 0.015 |
| | (0.053) | (0.053) | (0.053) |
| Father: professional | 0.157** | 0.246*** | −0.006 |
| × young cohort | (0.065) | (0.063) | (0.071) |
| Young cohort | −0.169*** | −0.240*** | −0.286*** |
| | (0.046) | (0.038) | (0.043) |
| $R^2$ | 0.0403 | 0.0647 | 0.0958 |
| N (not weighted) | 930 | 808 | 808 |

*h. Young cohort defined as men born between 1966 and 1977*

| | | | |
|---|---|---|---|
| Father: professional | 0.002 | −0.066 | 0.014 |
| | (0.047) | (0.047) | (0.049) |
| Father: professional | 0.186*** | 0.242*** | −0.003 |
| × young cohort | (0.060) | (0.059) | (0.068) |
| Young cohort | −0.159*** | −0.193*** | −0.236*** |
| | (0.040) | (0.038) | (0.041) |
| $R^2$ | 0.0343 | 0.0471 | 0.0798 |
| N (not weighted) | 1,067 | 922 | 922 |

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

Notes: Except for specification *a*, OLS coefficient estimates are reported with robust standard errors clustered at the household level in parentheses. The analysis is restricted to sons with post-secondary (university) degrees who are born between 1949 and 1960 (old cohort) and between 1968 and 1977 (young cohort), unless otherwise stated. Except for specification *d*, the dependent variable refers to the son's job (occupation) at age 28. The omitted category in specification *f* are fathers who are farmers. All specifications include a dummy for sons born in an urban area and a constant.

# 5    Mobility Tables and Key Odds Ratios

In this section, we present the raw mobility tables for fathers' and sons' educational and occupational attainment as well as key odds ratios.

## 5.1    Intergenerational Educational Mobility

Table S10 is composed of mobility tables for each cohort. Below the diagonal in the mobility table are sons who earned a higher degree than their fathers, i.e. are upwardly mobile, while sons above the diagonal are less educated than their fathers, i.e. are downwardly mobile. Based on the two mobility tables, Table S11 displays overall shares of downwardly mobile, upwardly mobile and immobile sons belonging to the old and the young cohort. These shares suggest that intergenerational educational mobility has increased markedly from the old to the young cohort: the share of upwardly mobile men went up from 50% to 68%. This increase is entirely due to a decrease in the share of immobile men.

An alternative to regressing sons' education on fathers' education in order to obtain an estimate for the overall correlation between sons' and fathers' education, and thus an estimate for intergenerational immobility, is to calculate odds ratios from raw mobility tables which account for changes in the marginal distribution (see, for example, Goodman 1969, Long & Ferrie 2013). Since we are particularly interested in mobility into higher levels of education and in order to obtain a single odds ratio for each cohort, Tables S12 and S13 first aggregate the four educational groups into the following two groups: fathers and sons without and with a secondary or post-secondary school degree (Table S12) and fathers and sons without and with a post-secondary (university) degree (Table S13). Below each table, i.e. for each cohort, we report the corresponding odds-ratio.

The first odds ratio shown in Table S12 is 26.56.[6] This odds ratio implies that, for the old cohort, the sons of fathers with a secondary or post-secondary school degree were 26.56 times more likely to achieve a secondary or post-secondary school degree (rather than a below secondary degree) than were the sons of fathers without a secondary or post-secondary school degree. For the young cohort, the comparable odds ratio is 18.20. That is, the advantage of having a well-educated rather than low-educated father in achieving a secondary or post-

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[6]It is computed as follows: $(137.09275/9.8152828)/(589.91691/1121.664) = 26.56$.

Table S10: Mobility Tables for Fathers' and Sons' Educational Attainment, Frequencies (Percent).

1949-1960 Cohort

|  |  | Son's education | | | | |
|  |  | (1) | (2) | (3) | (4) | Total |
|---|---|---|---|---|---|---|
|  | (1) No degree | 795.52 | 284.08 | 281.07 | 191.07 | 1,551.74 |
|  |  | (42.80) | (15.29) | (15.12) | (10.28) | (83.49) |
| Father's | (2) Primary/preparatory degree | 20.37 | 21.69 | 42.49 | 75.30 | 159.84 |
|  |  | (1.10) | (1.17) | (2.29) | (4.05) | (8.60) |
| education | (3) Secondary degree | 3.65 | 5.09 | 22.55 | 46.10 | 77.40 |
|  |  | (0.20) | (0.27) | (1.21) | (2.48) | (4.17) |
|  | (4) Above secondary degree | 0.00 | 1.07 | 8.50 | 59.94 | 69.51 |
|  |  | (0.00) | (0.06) | (0.46) | (3.23) | (3.74) |
|  | Total | 819.54 | 311.94 | 354.60 | 372.41 | 1,858.49 |
|  |  | (44.10) | (16.78) | (19.08) | (20.04) | (100.00) |

1968-1977 Cohort

|  |  | Son's education | | | | |
|  |  | (1) | (2) | (3) | (4) | Total |
|---|---|---|---|---|---|---|
|  | (1) No degree | 510.92 | 385.91 | 713.31 | 365.02 | 1,975.15 |
|  |  | (19.42) | (14.67) | (27.11) | (13.87) | (75.07) |
| Father's | (2) Primary/preparatory degree | 17.91 | 39.96 | 121.31 | 115.80 | 294.97 |
|  |  | (0.68) | (1.52) | (4.61) | (4.40) | (11.21) |
| education | (3) Secondary degree | 1.71 | 8.57 | 70.68 | 102.19 | 183.16 |
|  |  | (0.06) | (0.33) | (2.69) | (3.88) | (6.96) |
|  | (4) Above secondary degree | 0.84 | 2.71 | 17.82 | 156.27 | 177.64 |
|  |  | (0.03) | (0.10) | (0.68) | (5.94) | (6.75) |
|  | Total | 531.38 | 437.15 | 923.11 | 739.28 | 2,630.92 |
|  |  | (20.20) | (16.62) | (35.09) | (28.10) | (100.00) |

Source: ELMPS06.

Table S11: Overall Change in Intergenerational Educational Mobility.

|  | 1949-1960 Cohort | 1968-1977 Cohort |
|---|---|---|
| Upwardly mobile | 0.50 | 0.68 |
| Downwardly mobile | 0.02 | 0.02 |
| Immobile | 0.48 | 0.30 |

Notes: Calculations are based on Table S10.

secondary degree (rather than a below-secondary degree) was almost 1.5 times greater for the old compared to the young cohort. Table S13 distinguishes between fathers and sons without and with a university degree. Here, the odds ratios are 29.61 for the old cohort and 23.46 for the young cohort. Thus, consistent with our regression results shown in columns

Table S12: Odds Ratios Using Secondary School Degree as Cutoff.

1949-1960 Cohort

|  |  | Son's education | | |
|---|---|---|---|---|
|  |  | (1) | (2) | Total |
| Father's education | (1) Below secondary degree | 1,121.66 | 589.92 | 1,711.58 |
|  | (2) Secondary or post-secondary degree | 9.82 | 137.09 | 146.91 |
|  | Total | 1,131.48 | 727.01 | 1,858.49 |

Odds ratio: 26.56

1968-1977 Cohort

|  |  | Son's education | | |
|---|---|---|---|---|
|  |  | (1) | (2) | Total |
| Father's education | (1) Below secondary degree | 954.69 | 1,315.42 | 2,270.12 |
|  | (2) Secondary or post-secondary degree | 13.83 | 346.96 | 360.80 |
|  | Total | 968.53 | 1,662.39 | 2,630.92 |

Odds ratio: 18.20

Notes: The mobility tables are based on Table S10.

Table S13: Odds Ratios Using Post-Secondary Degree as Cutoff.

1949-1960 Cohort

|  |  | Son's education | | |
|---|---|---|---|---|
|  |  | (1) | (2) | Total |
| Father's education | (1) Secondary degree or below | 1,476.52 | 312.46 | 1,788.98 |
|  | (2) Post-secondary (university) degree | 9.57 | 59.94 | 69.51 |
|  | Total | 1,486.08 | 372.41 | 1,858.49 |

Odds ratio: 29.61

1968-1977 Cohort

|  |  | Son's education | | |
|---|---|---|---|---|
|  |  | (1) | (2) | Total |
| Father's education | (1) Secondary degree or below | 1,870.27 | 583.01 | 2,453.28 |
|  | (2) Post-secondary (university) degree | 21.37 | 156.27 | 177.64 |
|  | Total | 1,891.64 | 739.28 | 2,630.92 |

Odds ratio: 23.46

Notes: The mobility tables are based on Table S10.

(4)-(5) of Table 1 of the paper, educational mobility appears to have increased less at the very top.

## 5.2   Intergenerational Occupational Mobility

Table S14: Mobility Tables for Fathers' and Sons' Occupational Attainment, Frequencies (Percent).

### 1949-1960 Cohort

|  |  | Son's occupation | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | (1) | (2) | (3) | (4) | (5) | Total |
|  | (1) Farmer | 393.64 | 83.66 | 71.09 | 92.97 | 123.86 | 765.22 |
|  |  | (24.34) | (5.17) | (4.40) | (5.75) | (7.66) | (47.32) |
|  | (2) Semi/Unskilled manual | 10.02 | 41.91 | 41.40 | 40.21 | 56.69 | 190.23 |
| Father's |  | (0.62) | (2.59) | (2.56) | (2.49) | (3.51) | (11.76) |
|  | (3) Skilled manual | 8.00 | 31.89 | 74.53 | 21.69 | 42.42 | 178.53 |
| occupation |  | (0.49) | (1.97) | (4.61) | (1.34) | (2.62) | (11.04) |
|  | (4) White collar | 8.14 | 29.14 | 55.60 | 49.44 | 55.39 | 197.70 |
|  |  | (0.50) | (1.80) | (3.44) | (3.06) | (3.43) | (12.23) |
|  | (5) Professional | 6.20 | 22.68 | 36.79 | 65.87 | 153.78 | 285.32 |
|  |  | (0.38) | (1.40) | (2.28) | (4.07) | (9.51) | (17.65) |
|  | Total | 426.00 | 209.28 | 279.40 | 270.19 | 432.14 | 1,617.01 |
|  |  | (26.34) | 12.94) | (17.28) | (16.71) | (26.72) | (100.00) |

### 1968-1977 Cohort

|  |  | Son's occupation | | | | | |
|---|---|---|---|---|---|---|---|
|  |  | (1) | (2) | (3) | (4) | (5) | Total |
|  | (1) Farmer | 331.23 | 104.92 | 180.74 | 84.31 | 121.62 | 822.81 |
|  |  | (14.28) | (4.52) | (7.79) | (3.63) | (5.24) | (35.46) |
|  | (2) Semi/Unskilled manual | 22.24 | 100.98 | 72.53 | 58.29 | 90.06 | 344.10 |
| Father's |  | (0.96) | (4.35) | (3.13) | (2.51) | (3.88) | (14.83) |
|  | (3) Skilled manual | 8.76 | 53.71 | 131.60 | 50.14 | 62.01 | 306.22 |
| occupation |  | (0.38) | (2.31) | (5.67) | (2.16) | (2.67) | (13.20) |
|  | (4) White collar | 27.43 | 57.90 | 87.92 | 92.44 | 99.00 | 364.69 |
|  |  | (1.18) | (2.50) | (3.79) | (3.98) | (4.27) | (15.72) |
|  | (5) Professional | 14.66 | 41.95 | 71.58 | 86.11 | 268.11 | 482.41 |
|  |  | (0.63) | (1.81) | (3.08) | (3.71) | (11.56) | (20.79) |
|  | Total | 404.32 | 359.46 | 544.37 | 371.29 | 640.80 | 2,320.23 |
|  |  | (17.43) | (15.49) | (23.46) | (16.00) | (27.62) | (100.00) |

Source: ELMPS06.

Table S14 presents occupational mobility tables for the old and the young cohort. We next compute odds ratios for each cohort. In order to compare the odds ratios with the regression results shown in columns (1) and (4) of Table 2 of the paper, we aggregate occupational categories into two groups only, professional and non-professional, and condition either on the son having a post-secondary (university) degree or at least a secondary degree. Results are

Table S15: Odds Ratios for the Subsample of Sons with a Post-Secondary Degree.

1949-1960 Cohort

| | | Son's occupation | | |
| | | (1) | (2) | Total |
|---|---|---|---|---|
| Father's | (1) Non-Professional | 38.42 | 158.07 | 196.50 |
| occupation | (2) Professional | 25.61 | 96.22 | 121.82 |
| | Total | 64.03 | 254.29 | 318.32 |

Odds ratio: 0.91

1968-1977 Cohort

| | | Son's occupation | | |
| | | (1) | (2) | Total |
|---|---|---|---|---|
| Father's | (1) Non-Professional | 145.52 | 245.10 | 390.63 |
| occupation | (2) Professional | 48.19 | 201.06 | 249.26 |
| | Total | 193.72 | 446.17 | 639.89 |

Odds ratio: 2.48

Table S16: Odds Ratios for the Subsample of Sons with a Secondary Degree and Above.

1949-1960 Cohort

| | | Son's occupation | | |
| | | (1) | (2) | Total |
|---|---|---|---|---|
| Father's | (1) Non-Professional | 204.63 | 236.26 | 440.89 |
| occupation | (2) Professional | 52.54 | 125.00 | 177.54 |
| | Total | 257.17 | 361.26 | 618.43 |

Odds ratio: 2.06

1968-1977 Cohort

| | | Son's occupation | | |
| | | (1) | (2) | Total |
|---|---|---|---|---|
| Father's | (1) Non-Professional | 711.67 | 346.97 | 1,058.64 |
| occupation | (2) Professional | 147.76 | 249.38 | 397.15 |
| | Total | 859.44 | 596.35 | 1,455.79 |

Odds ratio: 3.46

shown in Tables S15 and S16. Consistent with our regression results, having a father working as a professional was beneficial for obtaining a professional (rather than non-professional) occupation by the age of 28 for university graduates of the young cohort only. The advantage was more than 2.5 times greater for the young cohort compared to the old cohort (Table

S15).

If we consider the subsample of sons with at least secondary education, we find that even for the old cohort, there was an advantage of having a father working as a professional, which is in line with column (4) of Table 2 of the paper. Furthermore, their advantage became even more pronounced over time: graduates of the young cohort with a father working as a professional were 3.46 times more likely to obtain a professional occupation by the age of 28 (rather than a non-professional occupation) than were those with a father not working as a professional (compared to 2.06 for the old cohort).

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