Radical Religious Rule and Human Capital

Evidence from the Taliban Control in Afghanistan (1996-2001)

Nikita Brunner and Alexander Mihailov

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Motivation

Education, religion, human rights and development

- Education is one of the **universal human rights** (UN, 1948, art. 26)
  - it empowers people to invest in their *human capital* and attain *skills* that can propel their career to *higher earnings in the labor market* and, hence, *higher standards of living*

- Religion can play a **decisive role in promoting or hindering education** and, hence, development
  - via vertical & horizontal cultural transmission of *social norms* and their interdependence with *institutions* (Galor, 2022)
  - *history, geography and trade* have shaped out the adoption and spread of religions (e.g., Michalopoulos, Naghavi and Prarolo, 2018)

Motivation

Economic growth, diversity, innovation and politics

- Human capital is a ***proximate*** **determinant of economic growth** (e.g., Mankiw, Romer and Weil, 1992; Gennaioli et al., 2013; Squicciarini and Voigtländer, 2015)

- Education has a potential to **preserve diversity, instill tolerance, diminish the probability of conflict** and enhance the occurrence of *new ideas and technological progress* (Ogaki and Mihailov, 2021)
  - similarly to religion, education and the related formation and transmission of beliefs and values in a society are also strongly influenced by *the political system* (e.g., Aslam, Farvaque and Mihailov, 2020)

Motivation

Radical religious rule: the Taliban (1996-2001)

- **Giving an equal opportunity to primary and secondary education** for every child at preschool and schooling age is the bare minimum of a benevolent government's policy embracing the goal of *fairness and human development*
- Yet, some governments do not endorse and implement such a general guiding principle, succumbing to radical religious or other considerations
- **The Taliban takeover of control over most of Afghanistan during 1996-2001 is perhaps the best known and striking example** of such policies across the modern world

Motivation

Radical religious rule: the Taliban (1996-2001) and women

- Women were **excluded from public life** and **denied access to education or labor market positions** outside their home (Rashid, 2010)
  - in accordance with the Taliban *own and unique radical interpretation* of *the Sharia law*, labeled as *"the strictest interpretation of the Sharia Law ever seen in the Muslim world"* by Rashid (2010)
  - in stark contrast with the situation in the few decades prior to the coming to power of the Taliban

"Afghan women participated in their communities' social, political and cultural life. Fifty percent of the students and 60 percent of the teachers at Kabul University were women. Similarly, women constituted 70 percent of all school teachers. Forty percent of the doctors in Kabul were women as were 50 percent of the civil government workers" (Herzer, 2001)

- Girls older than 8 years were **banned from going to school**
  - this has generally been blamed for the collapse of educational attainment of women (Ramadurai, 2012)
  - since the end of the Taliban rule in 2001, decisive strides ahead were made to repair this deplorable situation (UNESCO, 2021)

Motivation

Scarring effects from the past tend to persist in the future

- With the **return of the Taliban to power** in Afghanistan since August 2021, the international community has begun to *worry again* about women and their rights
  - to confirm such fears, women were **banned from all Afghan universities** in December 2022
  - with this ban, *nearly all Afghan women above 12 y.o.* are barred from education (Berger and George, 2022)

- There are **lessons to learn from the past**, and in this lies part of our motivation
  - many aspects of the Taliban rule would be worth investigating regarding human development concerns
  - we focus on its **long-term impact on human capital accumulation** because the prohibition of girls' education was not only unjust and devastating, but also seems persistent
  - moreover, boys' education might be endangered as well by the interdiction for female teachers to practice (Rashid, 2010)

Motivation

Related literature and our contributions

- Institutions and culture (including religion) are ***fundamental*** **determinants of growth**. We contribute to this literature in quantifying the long-term causal impact of a radical religious rule on human capital accumulation of men and women
  - ⇒ e.g., Przeworski and Limongi (1993); Acemoglu, Johnson and Robinson (2001); Acemoglu (2009); Becker and Woessmann (2009); Tabellini (2010); Léon (2012); Rohner, Thoenig and Zilibotti (2013); Akbulut-Yuksel and Yuksel (2015)

- Our paper relates to the general literature on the **impact of conflicts on education**
  - ⇒ e.g., Chamarbagwala and Morán (2011); Shemyakina, (2011); Léon (2012); Justino, Leone and Salardi (2014); Brown and Velásquez (2017); Monteiro and Rocha (2017); Brück, Di Maio and Miaari (2019)

- Our work adds to the literature on **religion economics** and the functioning of *sects* and *radical religious militias*
  - ⇒ e.g., Iannaccone (1992); Berman (2003); Berman and Laitin (2008); and for a survey, see Iyer (2016)

- In light of our empirical findings, we add to the literature on the **critical importance of early childhood for later life socioeconomic outcomes**
  - ⇒ e.g. Garbarino and Kostelny (1996); Kuterovac-Jagodić (2003); Barenbaum, Ruchkin and Schwab-Stone (2004); Gould, Lavy and Paserman (2011); León (2012); Heckman, Pinto and Savelyev (2013); Coutenier et al. (2019)

Motivation

Closest papers

- These papers, and ours, do not investigate the impact of radical religious militias' acts of violence, but rather the **impact of their extreme institutions**
  - in occupied territories, the Taliban enforced their *own interpretation* of the *Sharia law*
  - their radical norms were *formally* imposed and not only brought to people *informally* through insurgency violence, terror and destruction

- **Noury and Speciale (2016)**
  - focuses on the impact of the Taliban regime on women's education, labor market participation and fertility outcomes
  - DiD analysis on cohorts of birth and provinces of residence using data from the 2007/2008 National Risk and Vulnerability Assessment Survey (NRVA)
  - find that *one additional year of exposure* to the Taliban regime **while of school age** reduces women's likelihood of completing basic education by about 2 pp, literacy probability by about 3 pp, and total years of education by about 0.2 years

- **Maity and Shukla (2022)**
  - uses data from the 2015 Afghanistan DHS to estimate the impact of the Taliban rule on women's age at first marriage and at first childbirth
  - the authors argue that parents might have seen marriage as a way to ensure the security and mobility of their daughters given the strict gender policies implemented by the Taliban,
  - they confirm it empirically, finding an increase of about 7 months in the age at first marriage of Tajik and Uzbek women (the Northern Alliance was mainly composed of Tajiks and Uzbeks) relative to other ethnic groups, notably the Pashtuns (main ethnicity of the Taliban)
  - analogous results regarding age at first childbirth

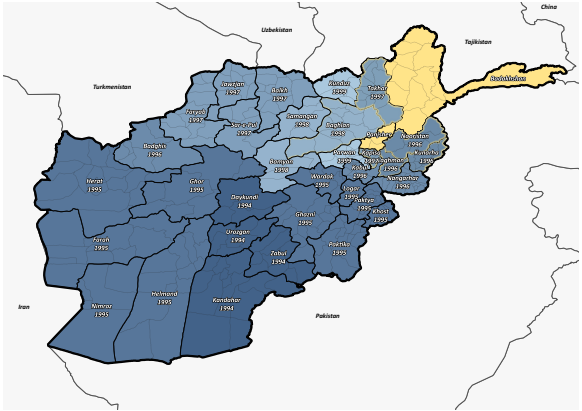
Preview of main results

- Our *main contribution* is to uncover that **the negative human capital accumulation effect of radical religious rule is mostly generated in the early childhood of women**, and – less so – men: that is, in preschool age and at the start of schooling

- Other studies have not considered preschool age, so **we introduce an important refinement**
  - the girls *who missed out on the chance of embarking on education* around the age of 6 years because of the Taliban ban were considerably disadvantaged, in a sort of *long-term "scarring" effect*
  - we quantify this damage to be of the order of nearly 50% reduction in the mean value of their years of schooling, literacy probability and primary school completion probability compared to the control provinces

- The **policy relevance** of our results is huge and immediate
  - in Afghanistan where the Taliban returned to rule in August 2021 and *resumed* their restrictive policies on women's education
  - in all countries where radical religious doctrines deprive children of their right to education and, hence, better career and life prospects

Data – F1: Timing of the Taliban Occupation at the Province Level



- Map data from Noury–Speciale (2016) and Hijmans et al. (2015 a, b, c)
  - 26 ***ever*** **"treated"** provinces in dark (1994) to light (1999) blue
  - 6 ***partially*** **"treated"** provinces with yellow border
  - 2 ***never*** **"treated"** (i.e., "control") provinces in yellow
- Key chronology and facts below from Rashid (2010)
  - from 1994 to 1999, **the Taliban seized provinces one by one**
  - their rule in all treated provinces *lasted until late 2001* when US and NATO military forces launched *Operation Enduring Freedom* following the *September 11 2001* terror attacks
  - at the peak of rule, they controlled about 90% of Afghanistan
  - the remaining 10% were controlled by the *Northern Alliance* whose leaders also were Islamicists, but not radicals

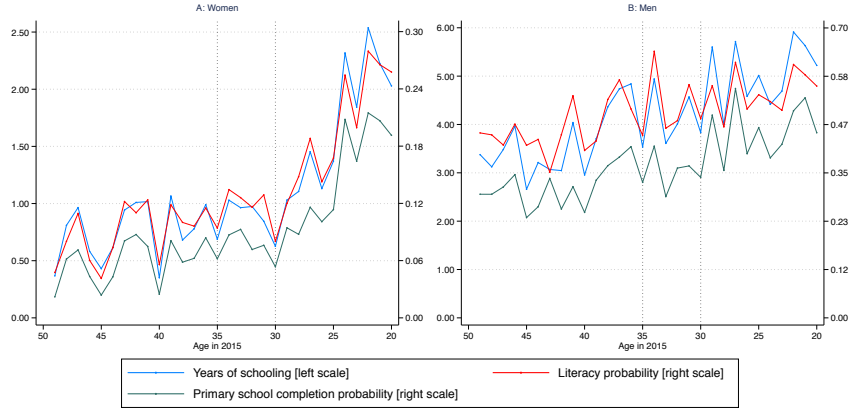
Data – T1: Descriptive Statistics – revealing DiD and gender gaps by outcome and exposure

	Women			Men		
	(1) Control provinces	(2) Treated provinces	(3) All	(4) Control provinces	(5) Treated provinces	(6) All
Observations	1,455	26,177	27,632	443	10,159	10,602
Percent	3.56%	96.44%	100.00%	3.08%	96.92%	100.00%
Total years of education	1.51	1.15	1.17	3.66	4.13	4.12
	(3.43)	(3.11)	(3.12)	(4.81)	(4.93)	(4.92)
Literacy rate	0.17	0.14	0.14	0.44	0.49	0.49
	(0.38)	(0.34)	(0.35)	(0.50)	(0.50)	(0.50)
Primary school completion rate	0.14	0.10	0.10	0.29	0.37	0.36
	(0.35)	(0.30)	(0.30)	(0.46)	(0.48)	(0.48)
Labour market participation rate	0.02	0.14	0.13	0.96	0.97	0.97
	(0.13)	(0.35)	(0.34)	(0.19)	(0.17)	(0.17)
School-aged exposure	0.00	0.59	0.57	0.00	0.51	0.49
	(0.00)	(0.49)	(0.50)	(0.00)	(0.50)	(0.50)
Preschool-aged exposure	0.00	0.23	0.22	0.00	0.13	0.13
	(0.00)	(0.42)	(0.42)	(0.00)	(0.34)	(0.34)
Years of school-aged exposure	0.00	2.39	2.30	0.00	2.21	2.15
	(0.00)	(2.49)	(2.49)	(0.00)	(2.56)	(2.55)
Years of preschool-aged exposure	0.00	0.74	0.72	0.00	0.38	0.37
	(0.00)	(1.58)	(1.55)	(0.00)	(1.14)	(1.12)

Notes: The table reports the mean value and the standard deviation (in parenthesis) of each outcome variable. The statistics are produced with a sample from the 2015 Afghanistan DHS of ever-married women (respectively men) aged 20 to 49 years old. All statistics are weighted with sample weights. Control provinces refer to provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. All the other provinces are considered treated.

- **2015 Afghanistan DHS:**
  - the DHS Program is a USAID funded program, collaborating with government agencies to carry out *standardized population surveys* to inform policy
  - conducted by the Central Statistics Organization (CSO) and the Ministry of Public Health (MoPH), 15 Jun 2015 – 23 Feb 2016
  - 1st and only (so far) such standard DHS in Afghanistan
  - collects data for 24,395 households, 29,461 ever-married women and 10,760 ever-married men, all aged 15-49
  - includes *sample weights* accounting for the prob that an individual is sampled, allowing for representative statistics
- Our estimation sample:
  - includes ever-married women and men aged **20-49** at the time of the survey
  - 59% of the women and 51% of the men in treated provinces were of compulsory age (6-14 y.o.) for at least 1 year under Taliban rule
  - 23% and 13%, respectively, were of pre-school age (0-5)
  - these subsets are the "treated" individuals, excluding people already out of school at Taliban arrival

Data – F2: Education Across Age Cohorts (All Provinces Combined) – trends of human capital ↑



▸ to F4

Methodology

1st approach: DiD (a) without and (b) with treatment intensity

- Our **baseline DiD equation**, in its two variants (with treatment intensity is denoted by the added [...]):

$$Outcome_{ibd} = \alpha_b + \delta_d + \beta_1(TalibanControl_p * [Years]SchoolAged[Exposure]_{bp}) + \beta_2(TalibanControl_p * [Years]PreschoolAged[Exposure]_{bp}) + \mathbf{X}_{ibd}\gamma + \epsilon_{ibd}$$

- *i* denotes individual, *b* birth cohort and *d* district (in each province)
- α_b and δ_d are birth cohorts *b* and districts *d* fixed effects
- $Outcome_{ibd}$ is one of: (1) completed years of education; (2) literacy; (3) primary school completion prob.; (4) labor market participation prob.
- $TalibanControl_p$ is an indicator variable for whether the province *p* ever was under Taliban rule
- $SchoolAged_{bp}$ and $PreschoolAged_{bp}$ are indicator variables taking value 1 if individuals of the birth cohort *b* in province *p* were of compulsory school age (6 to 14 years old) and of preschool age (0 to 5 years old), respectively, for at least one year under Taliban occupation
- $YearsSchoolAgedExposure_{bp}$ and $YearsPreschoolAgedExposure_{bp}$ are variables ranging from 0-8 and 0-5, respectively, indicating the number of years an individual of the birth cohort *b* in province *p* was of compulsory school age and preschool age under Taliban occupation
- $\mathbf{X}_{ibd}$ is a vector of potential individual *i* covariates varying both across cohorts *b* and districts *d*: it includes ethnicity and language dummies, an index of wealth and an indicator variable equal to 1 if the respondent is living in a rural area
- errors are clustered at the province level and sample weights are used in all regressions

Methodology

2nd approach: strategy akin to an event study to capture heterogeneous effects by age at Taliban arrival

- To complement the DiD analysis, we estimate this **equation (akin to an event study)**:

$$Outcome_{ibd} = \alpha_b + \delta_d + \sum_{\substack{j=0,\\ j\neq 15}}^{30} \beta_j AgeAtTalibanArrival_{bpj} + \mathbf{X}_{ibd}\gamma + \epsilon_{ibd}$$

- unless otherwise specified, the notation is as in the preceding slide
- $\forall\, j \in [1, 29]$, $AgeAtTalibanArrival_{bpj}$ is an indicator variable equal to 1 if individuals of cohort *b* in province *p* were aged *j* at the time the Taliban took control over their province of residence
- for provinces that never were controlled by the Taliban, $AgeAtTalibanArrival_{bpj} = 0, \forall j\ [0, 30]$
- Schmidheiny and Siegloch (2020) highlight the importance of binning the endpoints for identification in an event study. Therefore:
  - $AgeAtTalibanArrival_{bp30}$ is an indicator var. equal to 1 if individuals of cohort *b* in province *p* were aged 30 *or more* at first Taliban exposure
  - $AgeAtTalibanArrival_{bp0}$ is an indicator var. equal to 1 if individuals of cohort *b* in province *p* were aged 0 *or were yet to be born* at first exposure
- following Schmidheiny and Siegloch (2020), the first lag ($AgeAtTalibanArrival_{bp15}$) is dropped and age 15 at the Taliban arrival is used as reference

▸ Appendix to Methodology

Results – T2: DiD without Treatment Intensity

	(1) Total years of schooling	(2) Literacy	(3) Primary school completion	(4) Labor force participation
Panel A: Women				
Taliban control x School-aged	0.00708	-0.00425	-0.00283	0.00784
	(0.373)	(0.0410)	(0.0332)	(0.0193)
Taliban control x Preschool-aged	-0.442	-0.0466	-0.0406	0.00711
	(0.367)	(0.0347)	(0.0379)	(0.0143)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
Observations	27561	27537	27561	27579
R^2	0.348	0.342	0.292	0.313
Controls	Yes	Yes	Yes	Yes
Panel B: Men				
Taliban control x School-aged	-0.579*	-0.0558	-0.0649**	0.0150
	(0.336)	(0.0411)	(0.0287)	(0.0134)
Taliban control x Preschool-aged	-0.316	0.0276	-0.0545	0.0159
	(0.489)	(0.0611)	(0.0397)	(0.0133)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
N	10575	10560	10575	10591
R^2	0.573	0.589	0.504	0.972
Controls	Yes	Yes	Yes	Yes

Notes: The table reports the average effect of having been of compulsory school age (6-14) and of preschool age (0-5) under Taliban rule for at least one year on the four outcome variables considered. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are clustered at the province level and reported in parentheses. The estimation sample includes ever married women (respectively men) aged 20 to 49 in 2015. *Taliban control* is an indicator variable taking value one if the individual's province of residence ever was under Taliban rule; *School-aged* is an indicator variable taking value one if the individual was of compulsory school age (6 to 14 years old) at the time of the Taliban rule and *Preschool-aged* is an indicator variable taking value one if the individual was in their early childhood (0 to 5 years old) at the time of the Taliban rule. The (never treated) control group is composed of the provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression. Unweighted results are reported in the Appendix.

- T2 reports our baseline results from estimating the DiD eq. **without treatment intensity**
  - estimated coefficients of the interaction terms quantify the *average effect* on each of the four alternative dep. var. of having been, respectively, of compulsory school age (6 to 14 years old) or preschool age (0 to 5 years old) under Taliban rule *for at least 1 year*
  - **for women, both of these treatments do not have a statistically significant effect** on the investigated outcomes
  - for men as well, most coefficients are not statistically different from zero. We observe, however, a significant effect of compulsory school-aged exposure on men's total year of schooling (less by 0.58 years) and primary school completion probability (less by 6.5%) if under Taliban rule and compared to the control group

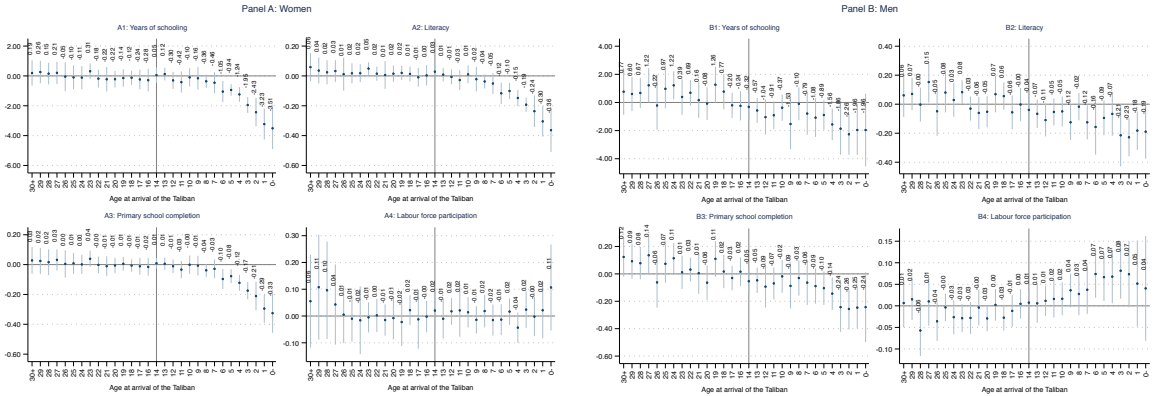
Results – T3: DiD with Treatment Intensity

	(1) Total years of schooling	(2) Literacy	(3) Primary school completion	(4) Labor force participation
Panel A: Women				
Taliban control x Years of school-aged exposure	-0.0807***	-0.0107***	-0.00564*	-0.000356
	(0.0247)	(0.00369)	(0.00282)	(0.00283)
Taliban control x Years of preschool-aged exposure	-0.485***	-0.0466***	-0.0443***	0.0146
	(0.130)	(0.0130)	(0.0120)	(0.0117)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
Observations	27561	27537	27561	27579
R^2	0.354	0.346	0.298	0.313
Controls	Yes	Yes	Yes	Yes
Panel B: Men				
Taliban control x Years of school-aged exposure	-0.0817	-0.0102	-0.00376	0.00634**
	(0.108)	(0.0105)	(0.00942)	(0.00301)
Taliban control x Years of preschool-aged exposure	-0.260	-0.0110	-0.0353**	0.00283
	(0.168)	(0.0199)	(0.0159)	(0.00809)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
N	10575	10560	10575	10591
R^2	0.573	0.589	0.504	0.972
Controls	Yes	Yes	Yes	Yes

Notes: The table reports the average effect of one additional year of compulsory school-aged (6-14) and of preschool-aged (0-5) exposure to the Taliban rule on the four outcome variables considered. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are clustered at the province level and reported in parentheses. The estimation sample includes ever married women (respectively men) aged 20 to 49 in 2015. *Taliban control* is an indicator variable taking value one if the individual's province of residence ever was under Taliban rule; *Years of school-aged exposure* is a variable ranging from 0 to 8 and indicating the number of years an individual was of compulsory school age (6 to 14 years old) at the time of the Taliban rule; and *Years of preschool-aged exposure* is a variable ranging from 0 to 6 and indicating the number of years an individual was of preschool age (0 to 5 years old) at the time of the Taliban rule. The (never treated) control group is composed of the provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression. Unweighted results are reported in the Appendix.

- T3 reports our baseline results from estimating the DiD eq. **with treatment intensity**
  - *one additional year* of both compulsory school-aged exposure and preschool-aged exposure have a **negative effect on all women's educational outcomes considered**
  - **the effect of preschool-aged exposure is larger**
  - *one additional year* of exposure to the Taliban regime between the ages of 6 and 14 reduces women's completed years of education by on average 0.08 years (5%), literacy probability by on average 1.07 pp (6%), and primary school completion probability by on average 0.56 pp (4%).
  - *one additional year* of preschool-aged exposure decreases women's completed years of schooling by 0.49 years (32%), literacy probability by 4.66 pp (27%) and primary school completion probability by 4.43 pp (32%). These effects are *very important* in terms of economic magnitude

Results – F3: Treatment Effect Heterogeneity by Age at the Taliban Arrival (estimated eq. (3))



▸ Appendix to Results: T4 (same results in tabular format) ▸ Appendix to Results: F5 (15-49 y.o.) ◂ to F4

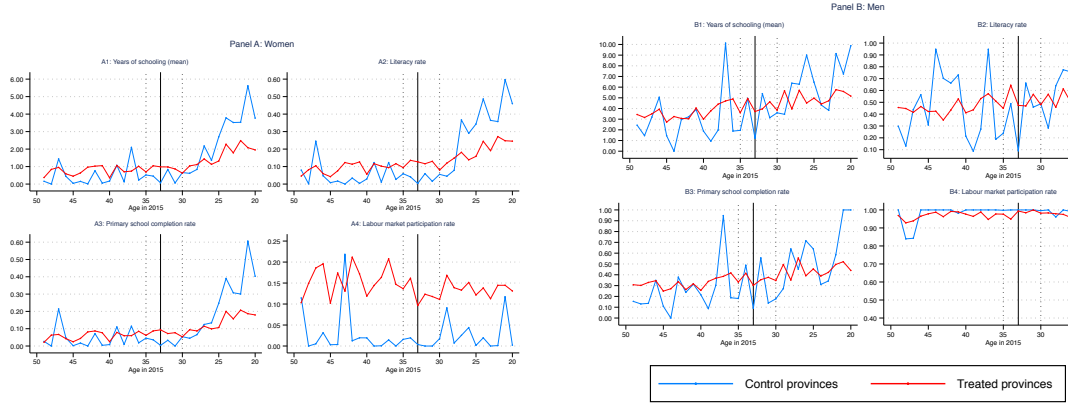
Results – T5: Analysis at the Start of Schooling

	(1) Total years of schooling	(2) Literacy	(3) Primary school completion	(4) Labor market participation
Panel A: Women				
Taliban control x Turned 6	-0.671**	-0.0756**	-0.0669**	-0.00347
	(0.255)	(0.0314)	(0.0288)	(0.0124)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
N	27561	27537	27561	27579
R^2	0.349	0.343	0.293	0.313
Controls	Yes	Yes	Yes	Yes
Panel B: Men				
Taliban control x Turned 6	-0.426	-0.0330	-0.0473	0.0390*
	(0.450)	(0.0406)	(0.0400)	(0.0214)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
N	10575	10560	10575	10591
R^2	0.573	0.589	0.503	0.972
Controls	Yes	Yes	Yes	Yes

Notes: The table reports the average effect of turning 6 years old under Taliban rule on the four outcome variables considered. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are clustered at the province level and reported in parentheses. The estimation sample includes ever married women (respectively men) aged 20 to 49 in 2015. *Taliban control* is an indicator variable taking value one if the individual's province of residence ever was under Taliban rule; *Turned 6* is an indicator variable taking value one if an individual turned 6 years old and thus should begin school at the time of the Taliban rule. The (never treated) control group is composed of the provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression. Unweighted results are reported in the Appendix.

- We *investigate* whether the effect mostly acts **at the start of schooling**
  - we compare people who turned 6 with people who were already older at the time of the Taliban takeover in a DiD
  - $Turned6_{bp}$ is an indicator variable taking the value of one if an individual was aged 6 *at some point under the rule*
  - T5 shows that a woman turning 6 years under Taliban rule has 0.67 years (44%) of education less, a literacy probability lowered by 7.56 pp (44%) and a primary school completion probability reduced by 6.69 pp (48%): again, these are large effects in economic terms

Results – F4: Graphical Support for the Parallel Trends Assumption



◂ to F1 ▸ to F3 ▸ Appendix to Placebo Regressions: T6

Results – Robustness tests

- **Robustness tests** conducted:
  - different estimation samples: (i) 20 to 40 years old in 2015; (ii) 19 to 49 years old in 2015
  - alternative group of control provinces: we include the *partially treated* provinces as control provinces
  - shifted timing of Taliban control (we assume the Taliban take control at the end rather than at the beginning of the year)
  - different compulsory school (resp. preschool) age definitions: (i) 6-20 (general definition); (ii) 7-15
  - two-way clustering (province-cohort level)

▸ Appendix to Robustness: T7 ▸ Appendix to Robustness: T8 ▸ Appendix to Robustness: T9 ▸ Appendix to Robustness: T10

Discussion

Scarring effects of Taliban rule since early childhood, especially for women

- We find that **both the length and timing of exposure** to the Taliban occupation mattered; and that the Taliban occupation mostly affected the education of individuals who were **very young** when first exposed
- **The central and original contribution of the paper is that the accumulation of years of preschool-aged exposure to the radical religious Taliban rule was particularly critical for individuals' lifelong human capital accumulation**
- This is **especially true for women** – but not negligible for men
- Our study is not the only to find that early childhood is critical for later life behaviors, beliefs and preferences
  - the **psychology literature** demonstrated that children exposed to wars and violence between 5 and 9 years are more vulnerable to war trauma (e.g., Garbarino and Kostelny, 1996; Kuterovac-Jagodic, 2003; Barenbaum, Ruchkin and Schwab-Stone, 2004)
  - in the **economics literature**, Couttenier et al. (2019) find that exposure to violent conflicts during childhood makes migrants more violence-prone; and León (2012) reports that while exposure to war has has a negative impact on human capital of all children in the ST, only children exposed while in utero or of preschool age are affected in the LT. The others succeed to catch up with their untreated peers
  - **further examples** of this literature: e.g., Gould, Lavy and Paserman (2011); Heckman, Pinto and Savelyev (2013); Fehr, Bernhard and Rockenbach, 2008; Fehr, Glätzle-Rützler and Sutter, 2013; Bauer, Chytilová and Pertold-Gebicka, 2013

Discussion

What mechanisms drive our results?

- One interpretation: **the effect might work upon exposure at the start of schooling**, especially for women
  - people who would have begun school did not because of the Taliban occupation, and hence *missed their chance* to get any education
  - people might have not begun school for *different reasons*, e.g., the Taliban's female education ban, reduced school supply (shortage of teachers and school closures), anticipation of schooling disruptions, etc.
  - T5 reports that exposure at age 6 (when one typically starts school) has a large negative effect on all educational outcomes of women but it is not significant for men. **It hence appears plausible that our results are driven by a large effect working at school start for women, while not for men**. This likely reflects the *consequences of the female schooling ban* after age 8 (New York Times, 1998)

- **Why this cannot be the only mechanism**:
  - we also observe **an effect for men**, which is not observed specifically at school start
  - if only the schooling ban prevented women to get education, i.e., if only exposure at the start of school matters, what could explain the fact that **additional years of preschool- aged exposure** (i.e., the intensity of treatment) **worsen the impact** of the Taliban institutions on lifelong human capital accumulation?
  - when including in the estimation sample **people aged 15 to 19 years** at the time of the survey, we still observe large effects on their educational outcomes, although they did not start schooling under Taliban rule, but after 2001. The Taliban rule could thus not have directly prevented them to begin their education, with a schooling ban, for instance. **There is a *persisting* effect, which cannot act at school start**

Discussion

What mechanisms drive our results (continued)?

- Exposure to the Taliban institutions in the early years of life impacted later human capital accumulation of both boys and girls in Afghanistan through a form of ***"scarring"* effect**
  - could be explained by *cultural assimilation* of the Taliban norms, *persistent fears* or *social pressure* caused by the experience of the rule, and/or *lowered expected returns* to education

- **Other mechanisms** possibly underlie the relationship between Taliban occupation and education, both *immediately* and *persistently*
  - a *decrease in school supply* (e.g., shortage of teachers, school closures)
  - insurgency *violence*
  - heightened *financial needs* as a result of the economic crisis triggered by the Taliban regime and the war

▸ Appendix to Discussion

Discussion
Limitations

- **Data limitations:**
  - The DHS data provides information on the current residence of respondents, not on their childhood residence
  - The data samples of both men and women are ever-married samples
    - not a drastic issue for older individuals but might be one for the younger ones
    - additional reason to remove respondent aged 15 to 19 from the main estimation sample
  - Measurement bias introduced by a rounding of ages and the yearly approximation of the timing of Taliban occupation

- **Potential violation of identification assumptions:**
  - **Migrations** (especially of the most educated families)
    - we might overestimate the true effect of the Taliban regime
    - we should test and control for this when pushing this study forward
    - Noury and Speciale's (2016) results are robust to emigration rates, which provides some preliminary reassurance
  - **Violence** might confound our results if treated provinces experienced more violence before, during and/or after the Taliban rule
    - this would change the interpretation of our results
    - we should test and control for this when pushing this study forward
    - we are especially worried about violence happening after 2001 given our result that the most strongly affected people are those who should have begun schooling under Taliban occupation but completed it after its end.
    - Noury and Speciale (2016) found that violence explains between 10% and 28% of their estimated effect size, while the rest is attributable to the Taliban institutions. This provides some preliminary reassurance

Discussion

Avenues for further research

- Discard the possibility that results are driven by insurgency **violence** or by **migrations**
- Determination of the **mechanisms** driving the observed relationship
  - e.g., *fear*, change in *expectations for the future*, alteration of *cultural norms*, *peer pressure*, destruction of *school supply*, *missed opportunity* at the start of school, *heightened financial needs*, etc.
- Impact of the Taliban rule on **other socioeconomic variables**
  - e.g., *type of jobs* performed by women, *gender roles*, *gender violence*, etc.

Conclusion

- This work aims at **estimating the long-term impact of costly norms and prohibitions imposed on the population by a radical religious regime such as that of the Taliban** between 1996 and 2001. More precisely, it focuses on the impact of the Taliban rule on lifelong human capital accumulation
- In light of the return of the Taliban to power in Afghanistan in August 2021, investigating such questions is of *utmost importance* and *immediate policy relevance*
- We find that both the **length of one's exposure** and **timing of exposure** to the Taliban rule matter
- **The central novel finding of our paper is that early childhood exposure to the radical religious Taliban rule was particularly unfavorable for later human capital accumulation**
- Our results highlight the *importance of targeting young children* with relief programs, and especially girls, to avoid a *permanent loss* of human capital in Afghanistan. They *imply* that the international community should insist on *easing* the Taliban gender policies and *facilitating* boys' and girls' access to education

Thank you!

Girls of primary school age attend school in Afghanistan in 2022. Girls are not permitted to attend secondary school. EPA-EFE/STRINGER

Appendix to Methodology

2nd approach: strategy akin to an event study – more detail

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- In a standard event study, lags are periods preceding the treatment and leads periods following it
  - since the people aged 14 at the time the Taliban arrived in their province of residence are the "just treated" individuals, $AgeAtTalibanArrival_{bp14}$ can be compared to the treatment timing
  - thus, $AgeAtTalibanArrival_{bp15}$ is the first lag, $AgeAtTalibanArrival_{bp16}$ is the second lag, etc.
  - similarly, $AgeAtTalibanArrival_{bp13}$ is the first lead, $AgeAtTalibanArrival_{bp12}$ is the second lead, etc.
  - dropping the indicator for the first lag normalizes β_{15} to zero, and it hence becomes a baseline

- The effect window [0 to 30]
  - is set such as to be the largest possible
  - while still paying attention to having a relatively large number of observations at the endpoints (see Table A3 in the appendix)

- The β_j are the coefficients of interest
  - each β_j reports the average difference in the considered outcome between treated and nontreated individuals aged *j* at the beginning of the Taliban rule, with respect to the base (age at Taliban arrival $= 15$)
  - in other words, the β_j capture the effect of exposure to the Taliban rule when this exposure starts at age *j*

Appendix to Results

Results – T4: Treatment Effect Heterogeneity by Age at the Taliban Arrival

	Women				Men			
	(1) Total years of schooling	(2) Literacy	(3) Primary school completion	(4) Labor force participation	(5) Total years of schooling	(6) Literacy	(7) Primary school completion	(8) Labor force participation
0-	-3.510***	-0.364***	-0.226***	0.107	-1.961	-0.180**	-0.245*	0.0406
	(0.683)	(0.0713)	(0.0646)	(0.0789)	(1.266)	(0.0916)	(0.125)	(0.0598)
1	-3.228***	-0.305***	-0.295***	0.0216	-1.959**	-0.182***	-0.246***	0.0516
	(0.506)	(0.0502)	(0.0470)	(0.0514)	(0.869)	(0.0652)	(0.0753)	(0.0491)
2	-2.452***	-0.226***	-0.211***	-0.00223	-2.261***	-0.228***	-0.256***	0.0734*
	(0.468)	(0.0519)	(0.0469)	(0.0358)	(0.719)	(0.0646)	(0.0733)	(0.0375)
3	-1.935***	-0.193***	-0.174***	0.0241	-1.864**	-0.214**	-0.243***	0.0814**
	(0.261)	(0.0233)	(0.0283)	(0.0335)	(0.911)	(0.105)	(0.0885)	(0.0318)
4	-1.240***	-0.148***	-0.122***	-0.0434	-1.559***	-0.0670	-0.144**	0.0678**
	(0.241)	(0.0266)	(0.0260)	(0.0278)	(0.552)	(0.0742)	(0.0581)	(0.0303)
5	-0.941***	-0.101***	-0.0775***	0.0166	-0.892*	-0.0945	-0.104*	0.0666**
	(0.189)	(0.0268)	(0.0228)	(0.0243)	(0.515)	(0.0588)	(0.0599)	(0.0271)
6	-1.059***	-0.116***	-0.0966***	-0.0133	-1.080	-0.157	-0.0693	0.0739***
	(0.347)	(0.0353)	(0.0332)	(0.0282)	(0.673)	(0.0841)	(0.0630)	(0.0270)
7	-0.455	-0.0508	-0.0285	-0.0152	-0.790	-0.125**	-0.0637	0.0373
	(0.347)	(0.0340)	(0.0308)	(0.0284)	(0.739)	(0.0579)	(0.0801)	(0.0275)
8	-0.361	-0.0374	-0.0383*	0.0186	-0.0957	-0.0171	-0.0103	0.0275
	(0.220)	(0.0232)	(0.0214)	(0.0299)	(0.574)	(0.0463)	(0.0630)	(0.0240)
9	-0.159	-0.0221	-0.00685	-0.0142	-1.530*	-0.125**	-0.0877	0.0361*
	(0.374)	(0.0401)	(0.0325)	(0.0252)	(0.883)	(0.0595)	(0.0808)	(0.0192)
10	-0.0978	0.0101	-0.000821	0.0140	-0.374	-0.0494	-0.0183	0.0164
	(0.300)	(0.0295)	(0.0301)	(0.0278)	(0.455)	(0.0508)	(0.0584)	(0.0189)
11	-0.416	-0.0277	-0.0335	0.0210	-0.909*	-0.0537	-0.0696	0.0161
	(0.347)	(0.0329)	(0.0282)	(0.0484)	(0.484)	(0.0458)	(0.0576)	(0.0213)
12	-0.300	-0.00672	-0.0109	0.0176	-1.042*	-0.109*	-0.0933	0.0117
	(0.283)	(0.0244)	(0.0225)	(0.0244)	(0.610)	(0.0552)	(0.0749)	(0.0171)
13	0.124	0.00842	0.00541	-0.0102	-0.568	-0.0662	-0.0470	0.00595
	(0.211)	(0.0223)	(0.0197)	(0.0363)	(0.434)	(0.0480)	(0.0453)	(0.0222)
14	0.0526	0.0282	0.00898	0.0205	-0.316	-0.0393	-0.0534	0.00743
	(0.254)	(0.0287)	(0.0174)	(0.0358)	(0.451)	(0.0589)	(0.0445)	(0.0134)
16	-0.284	0.00368	-0.0157	-0.00215	-0.240	-0.00223	0.0159	0.00474
	(0.374)	(0.0338)	(0.0292)	(0.0288)	(0.508)	(0.0562)	(0.0510)	(0.0168)
17	-0.237	-0.00922	-0.0110	-0.0125	-0.202	-0.0559	-0.0304	-0.0117
	(0.324)	(0.0309)	(0.0277)	(0.0539)	(0.442)	(0.0570)	(0.0434)	(0.0182)
18	-0.120	0.0130	-0.00618	0.0220	0.770	0.0559	0.0172	-0.0275*
	(0.232)	(0.0242)	(0.0201)	(0.0274)	(0.615)	(0.0462)	(0.0597)	(0.0146)
19	-0.141	0.0202	0.00566	-0.0225	1.262*	0.0689	0.110*	0.00225
	(0.286)	(0.0232)	(0.0223)	(0.0439)	(0.629)	(0.0615)	(0.0636)	(0.0180)
20	-0.219	0.0150	-0.00586	-0.00773	-0.0774	-0.0520	-0.0643	-0.0291*
	(0.273)	(0.0265)	(0.0252)	(0.0390)	(0.572)	(0.0526)	(0.0616)	(0.0145)
21	-0.223	0.00614	-0.0106	-0.0150	0.165	-0.0601	0.00503	-0.00395
	(0.401)	(0.0458)	(0.0327)	(0.0287)	(0.623)	(0.0549)	(0.0739)	(0.0203)
22	-0.184	0.0151	-0.00204	0.00239	0.688	-0.0302	0.0318	-0.0280
	(0.294)	(0.0234)	(0.0272)	(0.0305)	(0.445)	(0.0409)	(0.0423)	(0.0182)
23	0.312	0.0493**	0.0387	-0.00506	0.387	0.0830**	0.0116	-0.0287*
	(0.257)	(0.0206)	(0.0266)	(0.0276)	(0.424)	(0.0399)	(0.0402)	(0.0160)
24	-0.114	0.0181	0.00147	-0.0159	1.215**	0.0289	0.114**	-0.0262
	(0.378)	(0.0294)	(0.0313)	(0.0622)	(0.494)	(0.0563)	(0.0548)	(0.0194)
25	-0.0967	0.0175	0.00846	-0.00997	0.971	0.0804	0.0735	-0.00351
	(0.395)	(0.0330)	(0.0343)	(0.0423)	(0.682)	(0.0674)	(0.0680)	(0.0155)
26	-0.0481	0.0119	0.00453	0.00533	-0.215	-0.0487	-0.0622	-0.0358
	(0.477)	(0.0541)	(0.0448)	(0.0523)	(0.948)	(0.0832)	(0.0907)	(0.0224)
27	0.205	0.0327	0.0315	0.0431	1.219*	0.153**	0.136*	0.0103
	(0.364)	(0.0357)	(0.0347)	(0.0736)	(0.690)	(0.0692)	(0.0691)	(0.0277)
28	0.154	0.0244	0.0161	0.0062	0.673	-0.00272	0.0780	-0.0572*
	(0.355)	(0.0396)	(0.0423)	(0.0894)	(0.520)	(0.0575)	(0.0579)	(0.0292)
29	0.261	0.0358	0.0245	0.108	0.603	0.0707	0.0922	0.0153
	(0.372)	(0.0424)	(0.0426)	(0.0963)	(0.596)	(0.0549)	(0.0627)	(0.0237)
30+	-0.194	0.0590	0.0279	0.0553	0.766	0.0610	0.123*	0.00654
	(0.417)	(0.0459)	(0.0443)	(0.0851)	(0.806)	(0.0735)	(0.0704)	(0.0277)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27561	27537	27561	27579	10575	10560	10575	10591
R^2	0.356	0.348	0.300	0.317	0.577	0.593	0.508	0.972
Controls								

Notes: The table reports the average effect of exposure to the Taliban rule when this exposure starts at age j on the four outcome variables considered. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are clustered at the province level and reported in parentheses. The estimation sample includes ever married women (respectively men) aged 20 to 49 in 2015. Each dummy variable indicates whether an individual was the specified age at the arrival of the Taliban in their province of residence. 15 years old at Taliban arrival is used as base. Endpoints are binned, such that the dummy variable 0- takes value one if the individual was a newborn or yet to be born at the Taliban's arrival and the variable 30+ takes value one if the individual was 30 years old or older at the Taliban's arrival. The control group is composed of the provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regressions. Unweighted results are available in the Appendix.

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Appendix to Results

T6: Placebo Regressions

Panel A: Fake treatment	Women				Men			
	(1) Total years of schooling	(2) Literacy	(3) Primary school completion	(4) Labour market participation	(5) Total years of schooling	(6) Literacy	(7) Primary school completion	(8) Labour market participation
Taliban control x 21-24 at Taliban arrival	0.140	0.0126	0.0133	0.0234	0.374	0.00946	0.0570	-0.00821
	(0.353)	(0.0349)	(0.0325)	(0.0322)	(0.512)	(0.0547)	(0.0758)	(0.0160)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	5898	5898	5898	5902	2826	2822	2826	2832
R^2	0.285	0.267	0.232	0.357	0.550	0.580	0.497	0.975
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Irrelevant outcome variables	Women		Men	
	(1) tuberculosis	(2) cancer	(3) tuberculosis	(4) cancer
Taliban control x School-aged	0.00401	0.00257	0.0524	-0.00775
	(0.0131)	(0.00530)	(0.0320)	(0.0159)
Taliban control x Preschool-aged	-0.0118	0.00327	-0.00580	0.00728
	(0.0113)	(0.0107)	(0.0416)	(0.0176)
Age dummies	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes
N	20995	27535	7525	10573
R^2	0.155	0.078	0.146	0.115
Controls	Yes	Yes	Yes	Yes

Notes: The table reports the results of the different placebo tests implemented. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are clustered at the province level and reported in parentheses. In Panel A, the estimation sample includes ever married women (respectively men) aged 37 to 49 in 2015 while in Panel B, it includes ever married women (respectively men) aged 20 to 49 in 2015. *Taliban control* is an indicator variable taking value one if the individual's province of residence ever was under Taliban rule; *School-aged* is an indicator variable taking value one if an individual was of compulsory school age (6 to 15 years old) at the time of the Taliban rule; *Preschool-aged* is an indicator variable taking value one if an individual was in their early childhood (0 to 5 years old) at the time of the Taliban rule and *21-24 at Taliban arrival* is an indicator variable taking value one if an individual was 21 to 24 years old at the time the Taliban seized their province of residence. *Tuberculosis* is an indicator variable taking value one if the respondent was ever told they had tuberculosis, and *Cancer* is an indicator variable taking value one if the individual was ever diagnosed with cancer. The (never treated) control group is composed of the provinces that never were under Taliban rule between 1994 and 2001: Panjsher and Badakhshan. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression.

- **2 ways** of running a placebo analysis: both consist in *showing that the treatment has no effect* when it is artificially attributed to
  1. a "fake treatment": T6 Panel A – we here use people who were aged 21 to 24 years at the Taliban arrival, i.e., clearly too old to be affected by the education policies of the Taliban
  2. a "fake outcome": T6 Panel B – we here use tuberculosis and cancer occurrences (available in the 2015 Afghanistan DHS), since the diagnostic of any of these diseases over the course of one's life should arguably not be impacted by exposure to the Taliban rule, in preschool and compulsory school years specifically
- We find **no significant effect at all in any version (by column)** of the placebo checks, which provides *additional support* for the common trends assumption

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Appendix to Results

T7: Robustness, DiD without Treatment Intensity, Women

	(1) Reported baseline	(2) Ages 15 to 49	(3) Ages 20 to 40	(4) Alternative Control group	(5) Shifted Exposure	(6) School age: 6 to 20	(7) School age 7 to 15	(8) Province-age clustering
Panel A: Years of schooling								
Taliban control x School-aged	0.00708	0.149	0.198	0.171	-0.156	0.0132	0.267	0.00708
	(0.373)	(0.298)	(0.370)	(0.264)	(0.286)	(0.235)	(0.297)	(0.371)
Taliban control x Preschool-aged	-0.442	-0.528	-0.343	-0.298	-0.742***	-0.442	-0.670**	-0.442
	(0.367)	(0.429)	(0.374)	(0.323)	(0.264)	(0.376)	(0.270)	(0.343)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27561	29386	22846	27561	27561	27561	27561	27556
R^2	0.348	0.360	0.364	0.348	0.349	0.348	0.349	0.257
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Literacy								
Taliban control x School-aged	-0.00425	0.00486	0.0153	0.0163	-0.0281	0.00435	0.0104	-0.00425
	(0.0410)	(0.0354)	(0.0409)	(0.0270)	(0.0305)	(0.0253)	(0.0251)	(0.0426)
Taliban control x Preschool-aged	-0.0466	-0.0528	-0.0362	-0.0317	-0.0782***	-0.0467	-0.0756**	-0.0466
	(0.0347)	(0.0403)	(0.0354)	(0.0301)	(0.0241)	(0.0365)	(0.0320)	(0.0342)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27537	29361	22824	27537	27537	27537	27537	27532
R^2	0.342	0.353	0.359	0.342	0.343	0.342	0.343	0.235
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Primary school completion								
Taliban control x School-aged	-0.00283	0.00971	0.0108	0.0179	-0.0152	0.00306	0.0194	-0.00283
	(0.0332)	(0.0265)	(0.0348)	(0.0243)	(0.0260)	(0.0193)	(0.0231)	(0.0346)
Taliban control x Preschool-aged	-0.0406	-0.0487	-0.0324	-0.0312	-0.0764***	-0.0407	-0.0669**	-0.0406
	(0.0379)	(0.0445)	(0.0391)	(0.0321)	(0.0270)	(0.0391)	(0.0299)	(0.0340)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27561	29386	22846	27561	27561	27561	27561	27556
R^2	0.292	0.302	0.308	0.292	0.293	0.292	0.293	0.215
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: Labor market participation								
Taliban control x School-aged	0.00784	0.0106	0.000511	-0.00512	-0.00684	-0.00744	0.00295	0.00784
	(0.0193)	(0.0190)	(0.0162)	(0.0158)	(0.00780)	(0.0178)	(0.0204)	(0.0192)
Taliban control x Preschool-aged	0.00711	0.00347	-0.00428	0.0113	-0.0204	0.00735	-0.00346	0.00711
	(0.0143)	(0.0148)	(0.0153)	(0.0150)	(0.0140)	(0.0139)	(0.0124)	(0.0184)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27579	29406	22862	27579	27579	27579	27579	27574
R^2	0.313	0.308	0.317	0.313	0.313	0.313	0.313	0.207
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are reported in parentheses. The table presents the results of several robustness tests. Column (1) reports the baseline results. Columns (2) and (3) run the specification with an alternative sample, i.e. respectively including women aged 15 to 49 and women aged 20 to 40. Column (4) uses an alternative (never treated) control group including both provinces that never were under Taliban rule between 1994 and 2001 and provinces that were only partially under Taliban control: Panjsher, Badakhshan, Kapisa, Laghman, Kunhara, Nooristan, Baghlan and Takhar provinces. In column (5), the begin of the Taliban rule is shifted 1 year in the future to account for the fact that the actual begin of the Taliban rule at the province level is not precisely known. Columns (6) and (7) define school-age differently: a more general definition, including higher schooling, is used in column (6) (ages 6 to 20) and and alternative age of compulsory schooling is used in column (7) (ages 7 to 15). Column (8) clusters at the province-age level instead of the province level. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression.

- 1st column replicates the baseline results of T2
- 2nd and 3rd columns re-estimate with different samples
- 4th column reverses the assumption of the 6 provinces that were initially assigned as treated to now control provinces. Doing so, we expect to find **lower treatment effects** and this is indeed so
- 5th column: if the Taliban arrived in a province in December of a given year it would be more accurate to account for the year of arrival as non-treated and only the following year as treated (in F1)
    - this shift would in reality be necessary for some provinces while not for others, but we do not know for which ones
    - we can expect that the true effect lies **somewhere between** the estimation results obtained in the baseline and in this shifted exposure test
- 6th and 7th columns change the definition of schooling age
- 8th column uses province-age clustering of the errors
- Further robustness tests are in the appendix tables (on the start of schooling and on the event study analysis)
- **Essentially, the baseline results remain stable**

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Appendix to Results

T8: Robustness, DiD without Treatment Intensity, Men

	(1) Reported baseline	(2) Ages 15 to 49	(3) Ages 20 to 40	(4) Alternative Control group	(5) Shifted Exposure	(6) School age: 6 to 20	(7) Schoo age: 7 to 15	(8) Province-age clustering
Panel A: Years of schooling								
Taliban control x School-aged	-0.579*	-0.617*	-0.512	-0.305	-0.657**	-0.207	-0.287	-0.579
	(0.336)	(0.359)	(0.341)	(0.378)	(0.281)	(0.330)	(0.346)	(0.344)
Taliban control x Preschool-aged	-0.316	-0.308	-0.228	-0.370	-0.824**	-0.314	-0.435	-0.316
	(0.489)	(0.487)	(0.476)	(0.465)	(0.380)	(0.488)	(0.450)	(0.459)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10575	10733	8195	10575	10575	10575	10575	10571
R^2	0.573	0.576	0.596	0.573	0.573	0.573	0.573	0.274
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Literacy								
Taliban control x School-aged	-0.0558	-0.0595	-0.0629	-0.0239	-0.0576*	0.00677	-0.0219	-0.0558
	(0.0411)	(0.0425)	(0.0451)	(0.0410)	(0.0303)	(0.0391)	(0.0361)	(0.0380)
Taliban control x Preschool-aged	0.0276	0.0261	0.0160	0.00990	-0.00520	0.0289	-0.0337	0.0276
	(0.0611)	(0.0613)	(0.0622)	(0.0565)	(0.0886)	(0.0625)	(0.0405)	(0.0767)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10560	10718	8181	10560	10560	10560	10560	10556
R^2	0.589	0.592	0.611	0.589	0.589	0.589	0.589	0.191
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Primary school completion								
Taliban control x School-aged	-0.0649**	-0.0621**	-0.0574**	-0.0278	-0.0387	-0.0373	-0.0311	-0.0649**
	(0.0287)	(0.0272)	(0.0265)	(0.0358)	(0.0365)	(0.0373)	(0.0311)	(0.0248)
Taliban control x Preschool-aged	-0.0545	-0.0568	-0.0560	-0.0482	-0.0908***	-0.0550	-0.0483	-0.0545*
	(0.0397)	(0.0402)	(0.0381)	(0.0395)	(0.0319)	(0.0402)	(0.0397)	(0.0319)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10575	10733	8195	10575	10575	10575	10575	10571
R^2	0.504	0.508	0.526	0.504	0.504	0.504	0.503	0.219
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: Labour market participation								
Taliban control x School-aged	0.0150	0.0158	0.0109	0.0229*	0.0124	-0.000958	0.01000	0.0150
	(0.0134)	(0.0143)	(0.0156)	(0.0109)	(0.0167)	(0.0119)	(0.0110)	(0.0127)
Taliban control x Preschool-aged	0.0159	0.0148	0.0117	0.0136	0.0115	0.0156	0.0394*	0.0159*
	(0.0133)	(0.0122)	(0.0145)	(0.0109)	(0.0157)	(0.0140)	(0.0213)	(0.00900)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10591	10749	8205	10591	10591	10591	10591	10587
R^2	0.972	0.971	0.973	0.972	0.972	0.972	0.972	0.088
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are reported in parentheses. The table presents the results of several robustness tests. Column (1) reports the baseline results. Columns (2) and (3) run the specification with an alternative sample, i.e. respectively including men aged 15 to 49 and men aged 20 to 40. Column (4) uses an alternative (never treated) control group including both provinces that never were under Taliban rule between 1994 and 2001 and provinces that were only partially under Taliban control: Panjsher, Badakhshan, Kapisa, Laghman, Kunhara, Nooristan, Baghlan and Takhar provinces. In column (5), the begin of the Taliban rule is shifted 1 year in the future to account for the fact that the actual begin of the Taliban rule at the province level is not precisely known. Columns (6) and (7) define school-age differently: a more general definition, including higher schooling, is used in column (6) (ages 6 to 20) and and alternative age of compulsory schooling is used in column (7) (ages 7 to 15). Column (8) clusters at the province-age level instead of the province level. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression.

1. Same assumption changes as in previous slide / T7
2. Same bottom-line conclusion as in previous slide / T7

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Appendix to Results

T9: Robustness, DiD with Treatment Intensity, Women

	(1) Reported baseline	(2) Ages 15 to 49	(3) Ages 20 to 40	(4) Alternative Control group	(5) Shifted Exposure	(6) School age: 6 to 20	(7) School age: 7 to 15	(8) Province-age clustering
Panel A: Years of schooling								
Taliban control x Years of school-aged exposure	-0.0807***	-0.0596**	-0.0820***	-0.00809	-0.0971***	-0.0329	-0.0273	-0.0807***
	(0.0247)	(0.0248)	(0.0222)	(0.0372)	(0.0342)	(0.0356)	(0.0302)	(0.0258)
Taliban control x Years of preschool-aged exposure	-0.485***	-0.491***	-0.485***	-0.264***	-0.566***	-0.481***	-0.433***	-0.485***
	(0.130)	(0.122)	(0.129)	(0.110)	(0.147)	(0.127)	(0.110)	(0.120)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27561	29386	22846	27561	27561	27561	27561	27556
R^2	0.354	0.365	0.370	0.351	0.354	0.354	0.354	0.263
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Literacy								
Taliban control x Years of school-aged exposure	-0.0107***	-0.00906**	-0.0105**	-0.00154	-0.0117**	-0.00564	-0.00551	-0.0107**
	(0.00369)	(0.00388)	(0.00404)	(0.00430)	(0.00465)	(0.00388)	(0.00377)	(0.00435)
Taliban control x Years of preschool-aged exposure	-0.0466***	-0.0468***	-0.0461***	-0.0249**	-0.0535***	-0.0468***	-0.0429***	-0.0466***
	(0.0130)	(0.0119)	(0.0122)	(0.0115)	(0.0148)	(0.0137)	(0.0110)	(0.0122)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27537	29361	22824	27537	27537	27537	27537	27532
R^2	0.346	0.357	0.363	0.344	0.346	0.346	0.346	0.240
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Primary school completion								
Taliban control x Years of school-aged exposure	-0.00564*	-0.00360	-0.00636**	0.000734	-0.00739**	-0.00178	-0.000642	-0.00564**
	(0.00282)	(0.00286)	(0.00292)	(0.00333)	(0.00363)	(0.00269)	(0.00276)	(0.00257)
Taliban control x Years of preschool-aged exposure	-0.0443***	-0.0445***	-0.0446***	-0.0249**	-0.0516***	-0.0437***	-0.0399***	-0.0443***
	(0.0120)	(0.0119)	(0.0118)	(0.0103)	(0.0136)	(0.0121)	(0.0104)	(0.0111)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27561	29386	22846	27561	27561	27561	27561	27556
R^2	0.298	0.308	0.314	0.295	0.298	0.297	0.298	0.221
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: Labor market participation								
Taliban control x Years of school-aged exposure	-0.000356	-0.000102	-0.00718	-0.00196	0.00203	0.00395	0.000536	-0.000356
	(0.00283)	(0.00254)	(0.00440)	(0.00149)	(0.00367)	(0.00458)	(0.00291)	(0.00312)
Taliban control x Years of preschool-aged exposure	0.0146	0.0116	0.00650	0.0102	0.0241	0.0171	0.0115	0.0146
	(0.0117)	(0.0110)	(0.00817)	(0.00822)	(0.0169)	(0.0134)	(0.00990)	(0.0108)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	27579	29406	22862	27579	27579	27579	27579	27574
R^2	0.313	0.309	0.318	0.313	0.314	0.314	0.313	0.207
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are reported in parentheses. The table presents the results of several robustness tests. Column (1) reports the baseline results. Columns (2) and (3) run the specification with an alternative sample, i.e. respectively including women aged 15 to 49 and women aged 20 to 40. Column (4) uses an alternative (never treated) control group including both provinces that never were under Taliban rule between 1994 and 2001 and provinces that were only partially under Taliban control: Panjsher, Badakhshan, Kapisa, Laghman, Kunhara, Nooristan, Baghlan and Takhar provinces. In column (5), the begin of the Taliban rule is shifted 1 year in the future to account for the fact that the actual begin of the Taliban rule at the province level is not precisely known. Columns (6) and (7) define school-age differently: a more general definition, including higher schooling, is used in column (6) (ages 6 to 20) and and alternative age of compulsory schooling is used in column (7) (ages 7 to 15). Column (8) clusters at the province-age level instead of the province level. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regression.

1. Same assumption changes as in previous slides / T7, T8
2. Same bottom-line conclusion as in previous slides / T7, T8

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Appendix to Results

T10: Robustness, DiD with Treatment Intensity, Men

	(1) Reported baseline	(2) Ages 15 to 49	(3) Ages 20 to 40	(4) Alternative Control group	(5) Skilled Exposure	(6) School age 6 to 29	(7) School age 7 to 15	(8) Province-age clustering
Panel A: Years of schooling								
Taliban control x Years of school-aged exposure	-0.0847	-0.0993	-0.0787	-0.0416	-0.0696	-0.0894	-0.0695	-0.0847
	(0.108)	(0.114)	(0.137)	(0.0858)	(0.108)	(0.0872)	(0.107)	(0.0908)
Taliban control x Years of preschool-aged exposure	-0.260	-0.204	-0.256	-0.190	-0.329*	-0.292	-0.248	-0.260
	(0.168)	(0.160)	(0.173)	(0.146)	(0.177)	(0.182)	(0.165)	(0.161)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10575	10733	8195	10575	10575	10575	10575	10571
R^2	0.573	0.576	0.596	0.573	0.573	0.573	0.573	0.275
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: Literacy								
Taliban control x Years of school-aged exposure	-0.0102	-0.0112	-0.0188	-0.00220	-0.00615	-0.00130	-0.00692	-0.0102
	(0.0105)	(0.0107)	(0.0128)	(0.00863)	(0.0102)	(0.0107)	(0.0104)	(0.00920)
Taliban control x Years of preschool-aged exposure	-0.0110	-0.00759	-0.0222	-0.0124	-0.0249	-0.00952	-0.0131	-0.0110
	(0.0198)	(0.0185)	(0.0203)	(0.0151)	(0.0176)	(0.0219)	(0.0157)	(0.0261)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10560	10718	8181	10560	10560	10560	10560	10556
R^2	0.569	0.592	0.611	0.569	0.569	0.569	0.569	0.191
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Primary school completion								
Taliban control x Years of school-aged exposure	-0.00376	-0.00286	-0.00465	-0.00125	-0.00304	-0.00201	-0.00262	-0.00376
	(0.00842)	(0.00926)	(0.0104)	(0.00769)	(0.00947)	(0.00905)	(0.00885)	(0.00733)
Taliban control x Years of preschool-aged exposure	-0.0353**	-0.0320**	-0.0376**	-0.0220	-0.0401**	-0.0250*	-0.0314**	-0.0353**
	(0.0159)	(0.0158)	(0.0165)	(0.0154)	(0.0179)	(0.0180)	(0.0154)	(0.0140)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10575	10733	8195	10575	10575	10575	10575	10571
R^2	0.504	0.508	0.526	0.504	0.504	0.504	0.504	0.219
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel D: Labor market participation								
Taliban control x Years of school-aged exposure	0.00634**	0.00633*	0.00530	0.00955***	0.00655*	0.00484**	0.00446*	0.00634**
	(0.00301)	(0.00318)	(0.00427)	(0.00227)	(0.00332)	(0.00226)	(0.00256)	(0.00306)
Taliban control x Years of preschool-aged exposure	0.00283	0.00120	0.00147	0.00145	0.00120	0.00413	0.00730	0.00283
	(0.00809)	(0.00679)	(0.00955)	(0.00659)	(0.0163)	(0.00789)	(0.00804)	(0.00678)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	10591	10749	8205	10591	10591	10591	10591	10587
R^2	0.372	0.371	0.373	0.372	0.372	0.372	0.372	0.088
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$. Standard errors are reported in parentheses. The table presents the results of several robustness tests. Columns (1) repeats the baseline results. Columns (2) and (3) run the specification with an alternative sample, i.e. respectively including men aged 15 to 49 and men aged 20 to 40. Column (4) uses an alternative (never-treated) control group including both provinces that never were under Taliban rule between 1994 and 2001 and provinces that were only partially under Taliban control: Panjsher, Badakhshan, Kapisa, Laghman, Kandaher, Nuristan, Baghlan and Takhar provinces. In column (5), the begin of the Taliban rule is shifted 1 year in the future to account for the fact that the actual begin of the Taliban rule at the province level is not precisely known. Columns (6) and (7) define school-age differently: a more general definition, including higher schooling, is used in column (6) (ages 6 to 29) and and alternative age of compulsory schooling is used in column (7) (ages 7 to 15). Column (8) clusters at the province-age level instead of the province level. The set of potential covariates includes ethnicity and language dummies, an index of wealth and an indicator variable equal to one if the respondent is living in a rural area. Sampling weights are used in all regressions.

1. Same assumption changes as in previous slides / T7, T8, T9
2. Same bottom-line conclusion as in previous slides / T7, T8, T9

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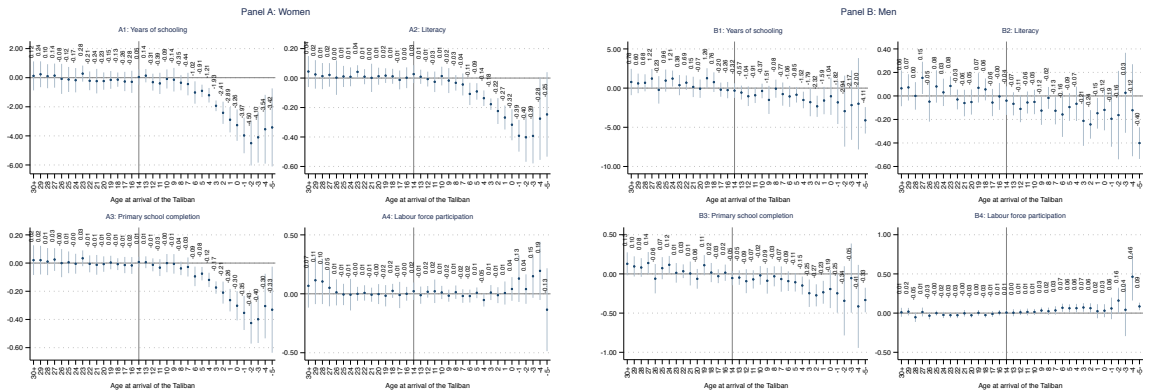
Appendix to Results

Results – F5: Treatment Effect Heterogeneity by Age at Taliban Arrival: 15 to 49 Year-Olds



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Appendix to Discussion

Puzzle: no effect for girls older than 8 years old at first exposure

- **Puzzling observation:** *no statistically significant effect of the Taliban rule on the educational outcomes of girls aged $>$ 8 y.o. at first exposure to the treatment, despite them being specifically targeted by the female education ban*

- Possible explanations:
  - older girls at first exposure were on average **already out of school** anyway
  - schooling was initially low in control and treated provinces alike, so that people would not have gone to school *regardless* of the Taliban rule Then, as education *democratized* later on, it might have increased in control provinces more than in treated provinces because **the Taliban rule had *stopped* this development** in the latter
  - people who were older at first exposure and possibly already went to school for a few years before the change in institutions **might have been able, in the long run, to *catch up* in terms of human capital with untreated individuals**, while younger people at first exposure could not (see León, 2012; Stoelinga, 2022)

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