

**Online Appendix for “Longer Time for
School: The 1981 Marriage Law and Rural
Female Education in China”**

Lin Zhang

Appendix A: Additional Tables and Figures

Tables

Table A1: Excluding Violators of the Minimum Marriage Age

Outcome variable	Upper secondary school enrollment			
Panel A	RPJK-DID estimation: second stage			
IV	Jump	Kink	Jump&Kink	Jump&Kink
	(1)	(2)	(3)	(4)
Early marriage	-0.1240 (0.087)	-0.1371* (0.075)	-0.1314** (0.062)	-0.1939*** (0.063)
Bandwidth	16	16	16	22
Obs.	332890	332890	332890	427930
Kernel	Uniform	Uniform	Uniform	Triangular
Panel B	Cohort DID estimation			
Definition of Exposed	1963~	1963~	1962~	1962~
	(1)	(2)	(3)	(4)
Treat*Exposed	0.041*** (0.001)	0.044*** (0.002)	0.037*** (0.001)	0.026*** (0.002)
Individual control	Yes	Yes	Yes	Yes
County-by-cohort FE	Yes	Yes	Yes	Yes
Group-specific time trends		Yes		Yes
Obs.	1823441	1823441	1823441	1823441
R-squared	0.081	0.081	0.081	0.081
Mean of Y (pre-reform)	0.069	0.069	0.064	0.064

Notes: The treatment group is rural females. The control group is rural males. Panel A shows the results of RPJK-DID estimation. In Panel A, January 1963 is used as the cutoff. Panels B shows the results of cohort DID estimation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A2: Addressing Internal Migration

Outcome variable	Upper secondary school enrollment			
Panel A	RPJK-DID estimation: second stage			
IV	Jump	Kink	Jump&Kink	Jump&Kink
	(1)	(2)	(3)	(4)
Early marriage	-0.4862** (0.192)	-0.1685 (0.281)	-0.4062** (0.171)	-0.3500** (0.172)
Bandwidth	22	22	22	24
Obs.	514665	514665	514665	533513
Kernel	Uniform	Uniform	Uniform	Triangular
Panel B	Cohort DID estimation			
Definition of Exposed	1963~	1963~	1962~	1962~
	(1)	(2)	(3)	(4)
Treat*Exposed	0.047*** (0.001)	0.044*** (0.002)	0.040*** (0.001)	0.013*** (0.002)
Individual control	Yes	Yes	Yes	Yes
County-by-cohort FE	Yes	Yes	Yes	Yes
Group-specific time trends		Yes		Yes
Obs.	2065001	2065001	2065001	2065001
R-squared	0.083	0.083	0.082	0.082
Mean of Y (pre-reform)	0.063	0.063	0.059	0.059

Notes: The treatment group is rural females. The control group is rural males. Panel A shows the results of RPJK-DID estimation. In Panel A, January 1963 is used as the cutoff. Panels B shows the results of cohort DID estimation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A3: Controlling Mother's Education

Outcome variable	Upper secondary school enrollment			
Panel A	RPJK-DID estimation: second stage			
IV	Jump	Kink	Jump&Kink	Jump&Kink
	(1)	(2)	(3)	(4)
Early marriage	-0.4862** (0.192)	-0.1685 (0.281)	-0.4062** (0.171)	-0.3500** (0.172)
Mother's education	Yes	Yes	Yes	Yes
Bandwidth	22	22	22	24
Obs.	514665	514665	514665	533513
Kernel	Uniform	Uniform	Uniform	Triangular
Panel B	Cohort DID estimation			
Definition of Exposed	1963~	1963~	1962~	1962~
	(1)	(2)	(3)	(4)
Treat*Exposed	0.043*** (0.001)	0.041*** (0.002)	0.037*** (0.001)	0.011*** (0.002)
Individual control	Yes	Yes	Yes	Yes
County-by-cohort FE	Yes	Yes	Yes	Yes
Group-specific time trends		Yes		Yes
Mother's education	Yes	Yes	Yes	Yes
Obs.	2263800	2263800	2263800	2263800
R-squared	0.079	0.079	0.079	0.079
Mean of Y (pre-reform)	0.102	0.102	0.093	0.093

Notes: The treatment group is rural females. The control group is rural males. Panel A shows the results of RPJK-DID estimation. In Panel A, January 1963 is used as the cutoff. Panels B shows the results of cohort DID estimation. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A4: Alternative Model Specification

Outcome variable	Upper secondary school enrollment					
Definition of Exposed	1963~	1963~	1963~	1962~	1962~	1962~
	(1)	(2)	(3)	(4)	(5)	(6)
Treat*Exposed	0.041*** (0.013)	0.043*** (0.007)	0.043*** (0.001)	0.012 (0.017)	0.036*** (0.009)	0.037*** (0.001)
Individual control	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Group-specific time trends	Yes			Yes		
County-specific time trends			Yes			Yes
Obs.	2264560	2264560	2264560	2264560	2264560	2264560
R-squared	0.033	0.033	0.052	0.032	0.032	0.051
Mean of Y (pre-reform)	0.065	0.065	0.065	0.061	0.061	0.061

Notes: The treatment group is rural females. The control group is rural males. In columns (1), (2), and (3), the dummy variable $Exposed_{ib}$ is defined as the cohorts born from 1963, inclusive; and in columns (4), (5), and (6), the dummy variable $Exposed_{ib}$ is defined as the cohorts born from 1962, inclusive. Individual controls include ethnicity (one for Han). All specifications are estimated with a linear probability model. In columns (1) and (4), robust standard errors (in parentheses) are clustered at the cohort-group level. In columns (2) and (5), robust standard errors (in parentheses) are clustered at the cohort level. In columns (3) and (6), robust standard errors (in parentheses) are clustered at the county-cohort level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A5: Cluster at Cohort Level

Outcome variable	Upper secondary school enrollment				
	1963~ (1)	1963~ (2)	1963~ (3)	1963~ (4)	1963~ (5)
Treat*Exposed	0.043*** (0.007) [0.000]	0.041** (0.018) [0.060]	0.041** (0.018) [0.096]	0.043*** (0.007) [0.000]	0.043*** (0.007) [0.000]
Individual control	Yes	Yes	Yes	Yes	Yes
County-by-cohort FE	Yes	Yes			
Cohort FE			Yes	Yes	Yes
County FE					
Group-specific time trends		Yes	Yes		
County-specific time trends					Yes
Obs.	2263800	2263800	2264560	2264560	2264560
R-squared	0.079	0.079	0.033	0.033	0.051
Mean of Y (pre-reform)	0.065	0.065	0.065	0.065	0.065

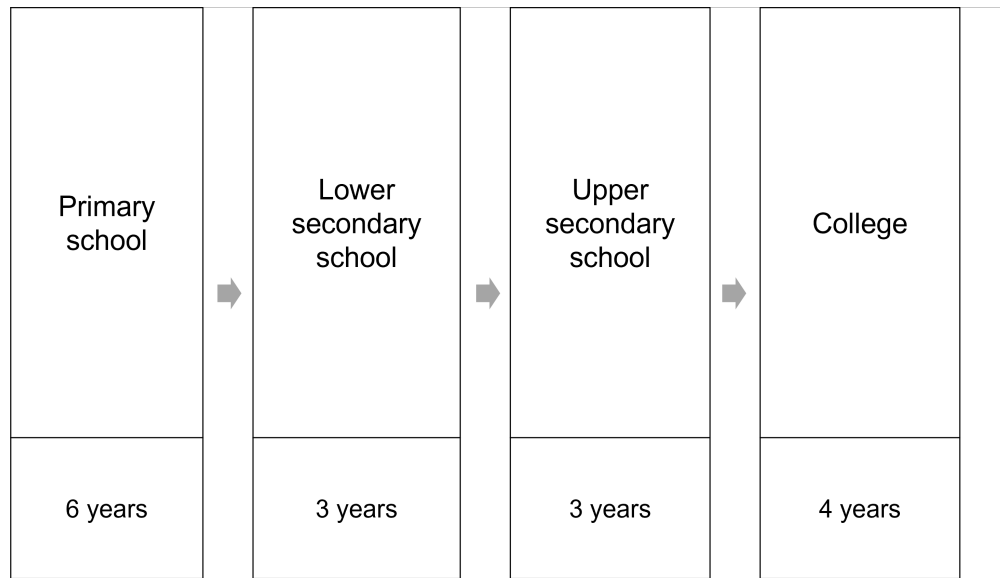
Notes: The treatment group is rural females. The control group is rural males. The dummy variable $Exposed_{ib}$ is defined as the cohorts born from 1963, inclusive. Individual controls include ethnicity (one for Han). All specifications are estimated with a linear probability model. Standard errors (in parentheses) are clustered at cohort level, and the p-values using the wild cluster bootstrap method are in square brackets.*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Figures

Figure A1: Policy Changes in the Relevant Period

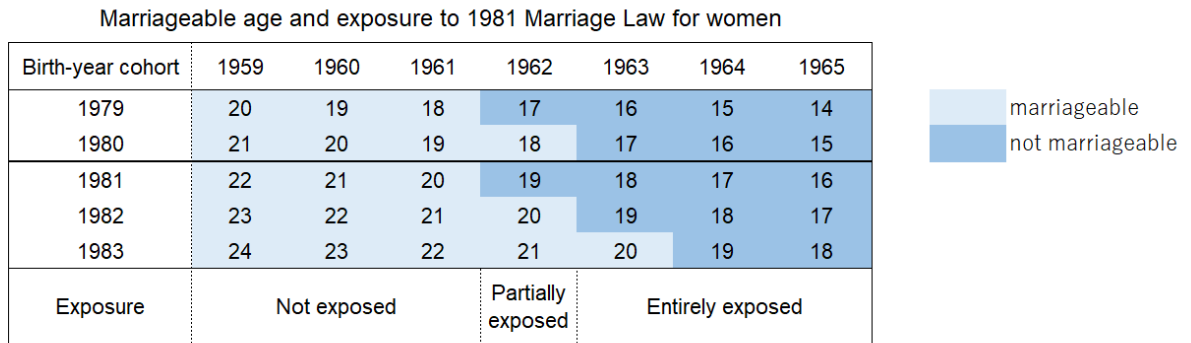
Year	1971	1979	1981
Policy	Later Longer Fewer campaign	One-child policy	Marriage Law
Component	Later marriage & Fertility restriction	Fertility restriction	Minimum marriage age modification

Figure A2: Education System in China



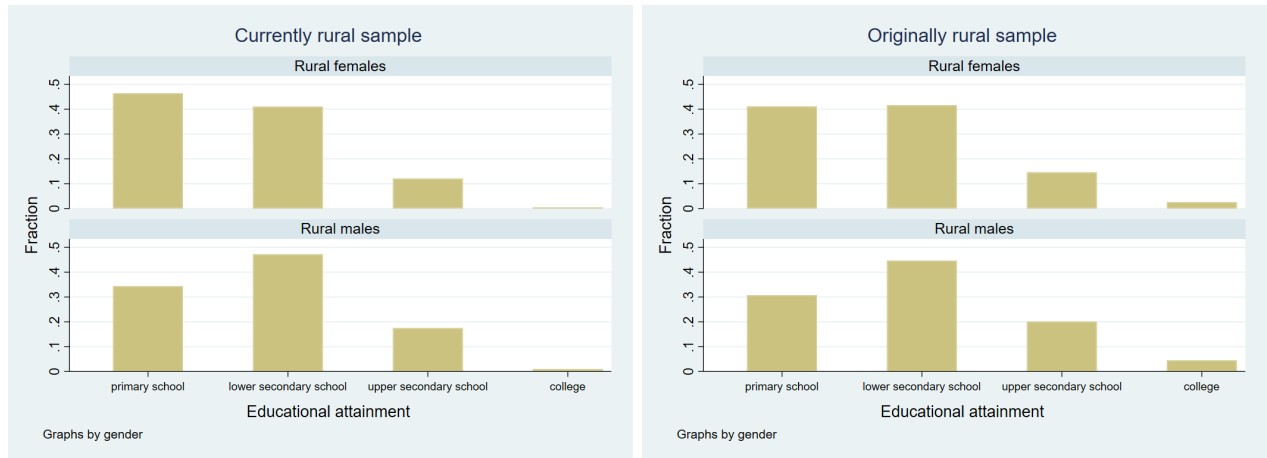
Notes: A typical pattern of education system in China and duration at each education level

Figure A3: Heterogeneous Exposure to the 1981 Marriage Law (Women)



Notes: Figure A3 shows how the partially and entirely exposed cohorts are determined.

Figure A4: Distribution of Educational Attainment

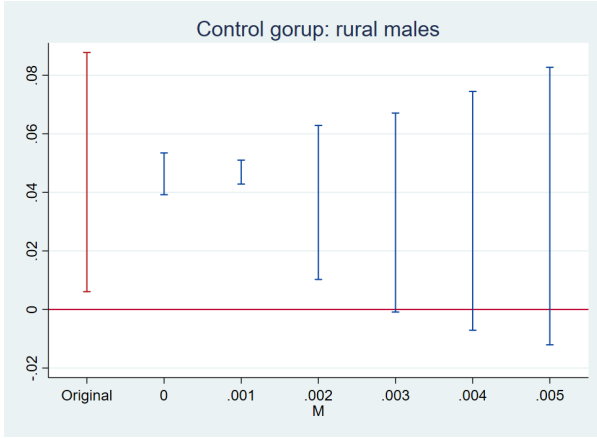


(a) Currently rural sample

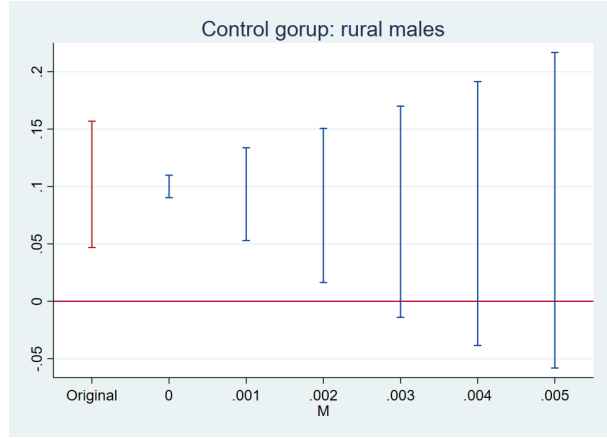
(b) Originally rural sample

Notes: Calculation is based on the 2010 CFPS.

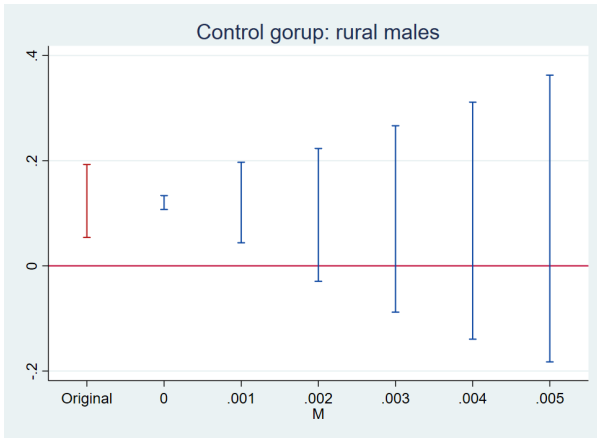
Figure A5: Sensitivity Analysis: Effect on Upper Secondary Education



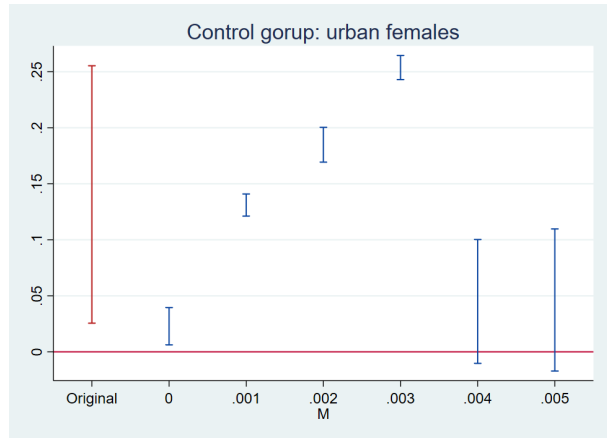
(a) 1963 (Control group: rural male)



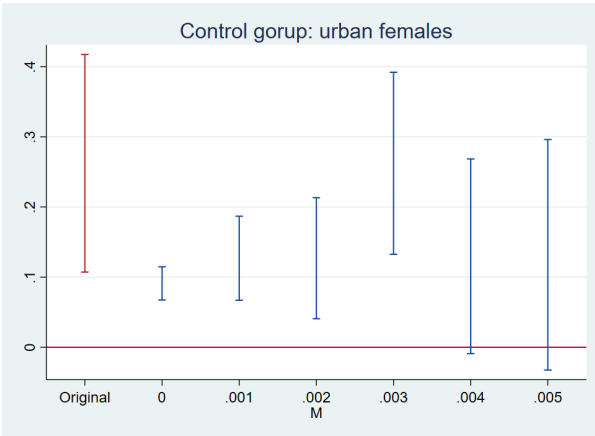
(b) 1966 (Control group: rural male)



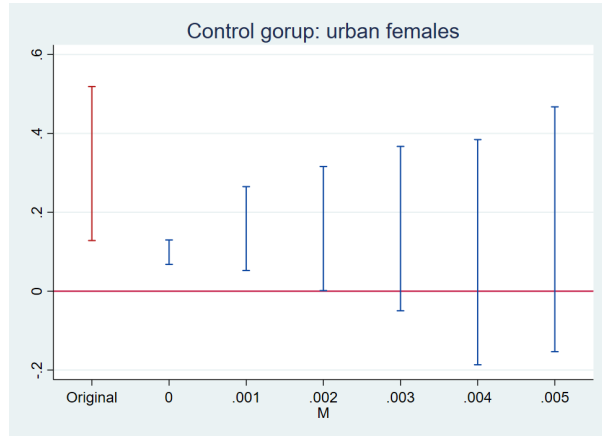
(c) 1969 (Control group: rural male)



(d) 1963 (Control group: urban female)



(e) 1966 (Control group: urban female)



(f) 1969 (Control group: urban female)

Notes: Figure A5 shows the sensitivity analysis of estimated effects on upper secondary education to potential violations of the parallel-trend assumptions following the approach introduced by Rambachan and Roth (2023). In each subfigure, the blue bar represents the 95% confidence interval of the DID estimate for each cohort (i.e., 1963, 1966, or 1969). The red bars represent fixed length confidence intervals (FLCIs) when allowing for per-cohort violations of parallel trends of up to M . Subfigures (a)-(c) use rural males as the control group, and subfigures (d)-(f) use urban females as the control group.

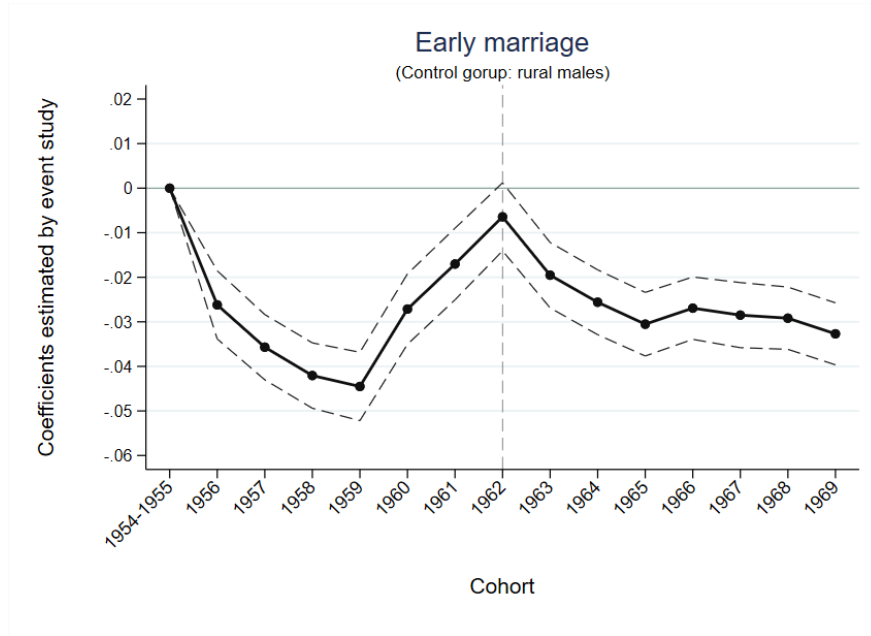
Appendix B: Event Study for Early Marriage

In this subsection, I examine how rural women's marriage age responds to the marriage-related policies. I replace the outcome variable with this early-marriage dummy and apply a similar event study approach as in Figure 5. The by-cohort estimation results for early marriage are shown in Figure B1.

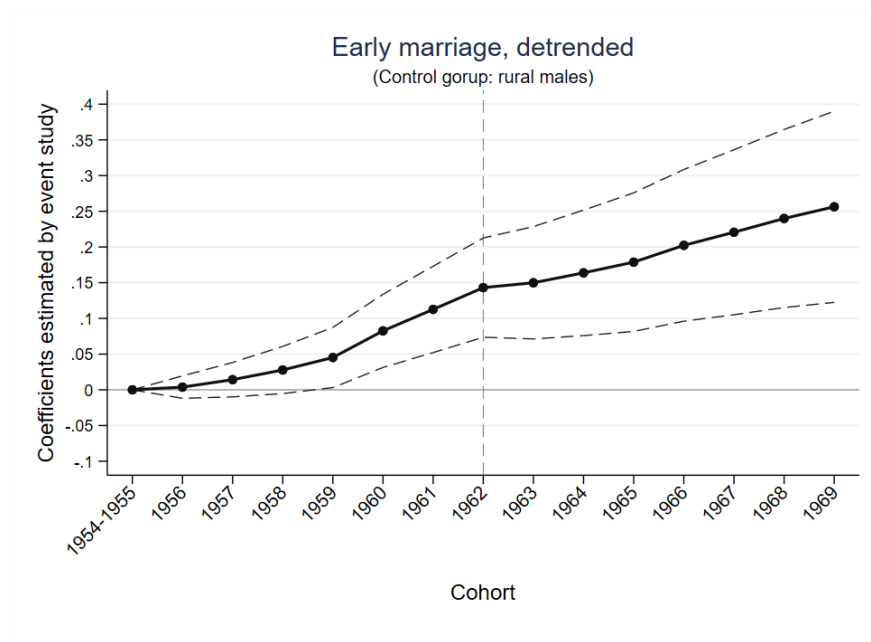
In Figure B1(a), the coefficient estimates decrease for cohort born between 1954-1959, caused by the later-marriage requirement of the LLF campaign in the 1970s. Starting with the cohort 1960, the coefficient temporally rises, corresponding to the relaxation of the later-marriage requirement. This is strong evidence that the LLF campaign was replaced by other policies. From cohort 1963 (the oldest entirely exposed cohort), the coefficient begins to decline again, coinciding with the timing of the law reform.

Note that there is a temporary increase in the possibility of early marriage for rural women, but the estimates of education do not noticeably decline for these cohorts. One plausible explanation is that they have completed their education when the policy is changed, resulting in little negative effect on education from the relaxation of the later-marriage campaign.

Figure B1: Event Study: Rural Women’s Probability of Early Marriage (Control Group: Rural male)



(a) By-cohort estimation



(b) By-cohort estimation, detrended

Notes: Coefficients and 95% confidence intervals of the interaction terms from Equation (3) and (4) are plotted, respectively. In Figure B1(b), group-specific time trends are included. The control group is rural males. Cohorts 1954-1955 are used as benchmark.