Impact of British Colonial Gender Legal Reforms : Evidence from Child Marriage Abolition Act, 1929

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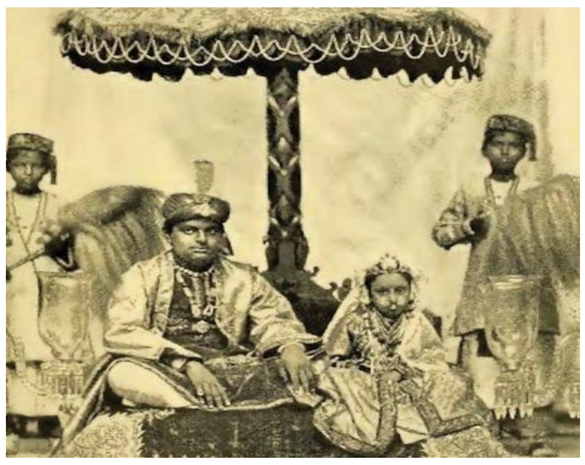


Abstract

The British colonial government raised the minimum age at the first marriage of females to 14 years in British India in 1929. The law had two distinct features: it was announced in 1929 but implemented six months later in 1930, and the law applied to only British India, which was directly ruled by the British government but not to Princely States (Indian Native States), which were under their indirect control. Using the Princely States in colonial India as a control group, we employ a difference-in-differences strategy to estimate the causal impact of the abolition of child marriage on underage female marriage in regions affected by the law. Analyzing historical census data from 1911-1931, we find an immediate unintended anticipation effect of the law that increased female child marriages in the affected regions in 1931, followed by a sharp decline of female child marriages in the affected region post-independence in 1961-1981. We further use three independent nationally representative data sets on female education and marriage to show a long-term decline in child marriages and an increase in educational attainment among women in affected regions. The short- vs. long-run contrast provides evidence of the efficacy of the legal reform. Although the native population in the short run took actions to preempt the law, the long-term results reveal that the colonial government succeeded in changing practice and possibly norms. Our findings speak to the importance of a very long follow-up in the study of interventions that promote social change.

Research Question

Can legal reform that raises the age at first marriage for girls have persistent effects on improving women's outcome?

Empirical Context

- Child Marriage Abolition Act, also called the Sarda Act was **announced** on the 28th of September 1929, but **came into effect** in April 1930. Marriage was such an important social and religious institution for the natives that British rulers were hesitant to legislate marriage reforms. However, the British rulers eventually advocated for the bill when the Home Member in 1929, Sir James Crerar, unlike his predecessors, became vocal about abolishing the practice of child marriage.

- This law could be put into effect only in **British India (alternatively called British Province)**. The British government divided areas under British rule into two territories: British India and Princely (or Native) States (Interpretation Act, 1889). The laws of British India rested upon laws passed by the British Parliament and the legislative powers of those laws vested in the various governments of British India, both central and local; in contrast, the courts of the Princely States existed under the authority of the respective rulers of those states (Interpretation Act, 1889).

- The law provided for a fine of Rs. 1,000 in addition to imprisonment for up to one month for adults solemnizing the marriage of a girl under the age of 14. Under Section 108 (a) of the Indian Penal Code, any citizen of British India aiding to contract a child marriage within British India and beyond can be prosecuted (Srinivasa Aiyar, 1930). Therefore, citizens of British India could not avoid the law by migrating to the Princely States.

- There are reasons to believe that people perceived a high level of enforcement. The colonial rule was a bureaucracy that served the interests and ideologies of the British (Potter, 1973). The British kept the Indian Police Services, which is thought to be the enforcing arm of an alien government (Compton, 1967), under British control by posting British officers "in junior ranks and to the ranks of superintendent of police" and to remote locations (Campion, 2003). In colonial judiciary, beliefs about gender reforms proved critical in the appointments of Indian judges (Chandrachud, 2015). The late nineteenth century and early twentieth centuries in India were the times when use of colonial judiciary among the women increased dramatically (Prasad, 2013)

Announcement Effect of Sarda Act, 1929: a rush to beat the onset of the policy

We use a difference-in-differences strategy with the Princely States as the control group. We compare the level of child marriage in 1931 between British Provinces and Princely States, and with the baseline differences in 1911-1921 before the announcement and introduction of the Sarda Act.

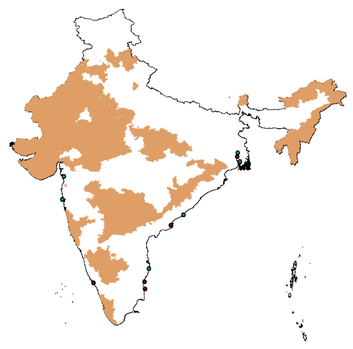
$$y_{it} = \beta BP_i * SardaAct(1931)_t \ + \mu_i + \gamma_t + \epsilon_{it}$$

where

- y_{it} is (log) female marriage rate (age 5-10) for district i in year t
- BP_i: District i in British provinces (i.e. British India)
- $Sarda\ Act(1931)_t$: Indicator for year 1931
- μ_i: District FE, γ_t: year FE

Data

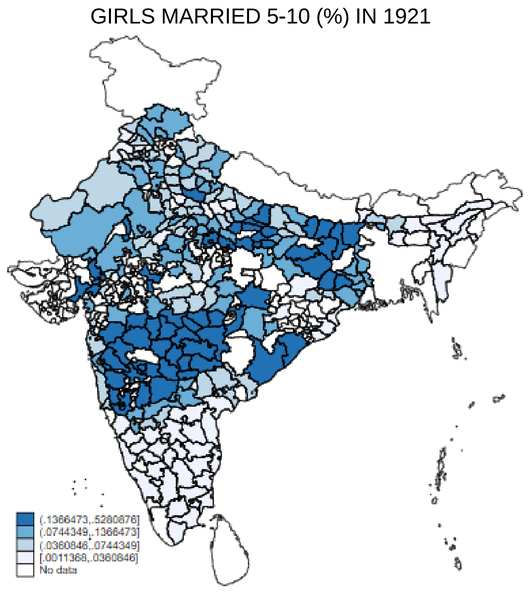
- Definition of Princely States: Baden-Powell 1892; Census Atlas 2011
- Marriage Rate by age, gender, and district using historical Census of India (1911, 1921, 1931)



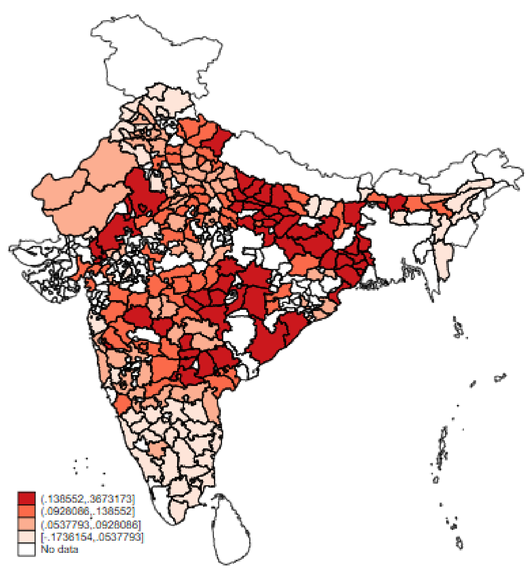
Shaded region shows the distribution of Princely States in Colonial India

Overall, we find that the proportion of females married at age 5-10 was increased by the announcement of the Sarda Act by 20-29 % (In 1911-1921, there were about 104 married girls out of 1000 girls in the age group of 5-10) in British India relative to the Princely States. The results are robust to clustering the standard errors at the province level.

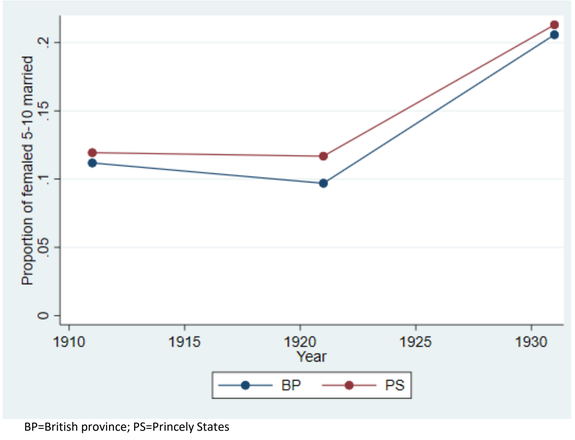
GIRLS MARRIED 5-10 (%) IN 1921



CHANGE IN GIRLS MARRIED 5-10 (%) 1921-1931



Female marriage rate (5-10), 1911-1931



BP=British province; PS=Princely States

Table 1: Short Run Difference-in-Differences

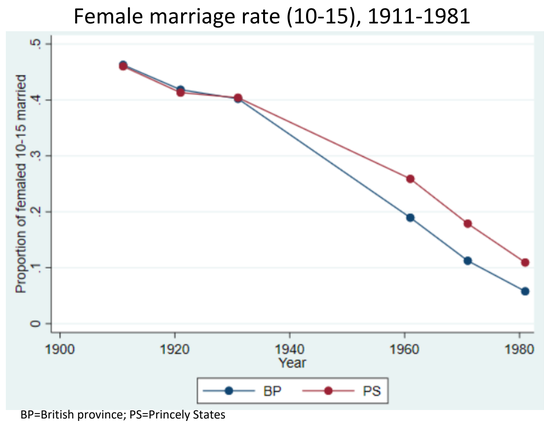
	Ln Married female (%) 5-10			
	(1)	(2)	(3)	(4)
Saradact/1931=1	0.479***	1.384***	1.155***	1.786***
	(0.0740)	(0.316)	(0.328)	(0.466)
Saradact/1931=1 × British Provinces =1	0.200***	0.291***	0.217*	0.286**
	(0.0741)	(0.0917)	(0.118)	(0.126)
Observations	849	750	849	750
Number of Districts	337	259	337	259
Year FE	Y	Y	Y	Y
District FE	Y	Y	Y	Y
Incl. Mysore	N	N	N	N
Ln pop. (1911) x year trend	N	Y	N	Y
Prov. trend	N	N	Y	Y

Note: The table presents estimates for equation 1 with additional controls. Sample includes panel data at district level for 1911-1931. Outcome variable are log proportion of female married between 5-10. Controls include log total population at age 10-15. Column (2) controls for log population in 1911 interacted with year trend, column (3) controls for province specific year trend, column (4) include both log population in 1911 interacted with year trend and province specific year trend. Province are defined according to the historical definition between 1911-1931. Sample includes Assam, Baroda, Bengal, Bihar and Orissa, Bombay, CIA, CP, Gwalior, Hyderabad, Madras, Punjab, Ra, UP. Standard errors are clustered at district level.

Medium-Run Effect of Sarda Act (1911-1981)

To estimate the effect of implementation in the medium run, we use our district level panel data on marital status of girls between 10-15 from 1911 to 1981 matched across the census years. We use difference-in-differences strategy with princely states as control group.

Female marriage rate (10-15), 1911-1981



BP=British province; PS=Princely States

$$y_{it} = \beta BP_i * SardaAct(1931)_t + \beta_2 BP_i * Post_t + \mu_i + \gamma_t + \epsilon_{it}$$

where

- y_{it} is (log) female marriage rate (age 10-15) for district i in year t
- BP_i: District i in British provinces
- $Sarda\ Act\ (1931)_t$: Indicator for year 1931
- $Post_t$: Indicator for 1961-1981
- μ_i: District FE, γ_t: year FE
- Sample: 1911-1931, 1961-1981

	Ln Married female (%) 10-15		
	(1)	(2)	(3)
BP=1 × Sarda Act (1931)=1	0.176***	0.184***	0.0858**
	(0.0554)	(0.0610)	(0.0430)
BP=1 × Post (1961-1981)=1	-0.506***	-0.585***	-0.427***
	(0.131)	(0.138)	(0.152)
Observations	1486	1443	1273
n_g	286	278	230
yearfe	Y	Y	Y
districtfe	Y	Y	Y
incMysore	Y	N	N
Ln pop. (1911) × year trend	N	N	Y

The table presents estimates of equation. Sample includes panel data at district level for 1911-1931 and 1961-1981. Outcome variables are log proportion of female married between 10-15 for column (1)-(3). Controls include log total population for male at age 10-15. Column (1) include Mysore in the sample. Column (2) exclude Mysore from the sample, and column (3) controls for log population interacted with year trend. Sample includes Assam, Baroda, Bengal, Bihar and Orissa, Bombay, CIA, CP, Hyderabad, Madras, Punjab, Ra, UP. Standard errors are clustered at district level.

Data

- Using Census of India (1911,1921,1931,1961,1971,1981): District level Panel Data of Marriage Rates of 10-15 years old. Data on marital status of girls between 5-10 are not available in the census of post-independence India. We focused on 10-15 to trace child marriage from colonial times to post independent India.
- To match districts of colonial to post colonial era: Census Atlas 2011, Govt. of India district records

	Marriage ratio: 10-15 female					
Year	1911	1921	1931	1961	1971	1981
Assam	0.17	0.15	0.20	0.02	0.01	0.01
Baroda	0.46	0.34	0.32	0.06	0.03	0.02
Bengal	0.58	0.50	0.51	0.17	0.05	0.02
Bihar and Orissa	0.50	0.44	0.46	0.27	0.16	0.01
Bombay	0.58	0.50	0.42	0.14	0.06	0.03
CIA	.	.	0.43	0.42	0.32	0.18
Central Province	0.54	0.50	0.50	0.23	0.13	0.05
Gwalior	.	0.52	0.46	0.48	0.35	0.21
Hyderabad	0.69	0.59	0.58	0.36	0.21	0.11
Madras	0.25	0.21	0.21	0.07	0.03	0.01
Mysore	0.21	0.18	0.18	0.05	0.03	0.01
Punjab	0.38	0.33	0.31	0.09	0.06	0.03
Rajputana	0.43	0.40	0.40	0.32	0.25	0.18
United Province	0.52	0.50	0.46	0.28	0.20	0.11

Note: The table present the average proportion of female married at age 10-15 for each province in 1911 and 1981. Proportion of female married is measured by number of married female and widowed female divided by total population of female at age 10-15. Data from Census of India 1911-1981.

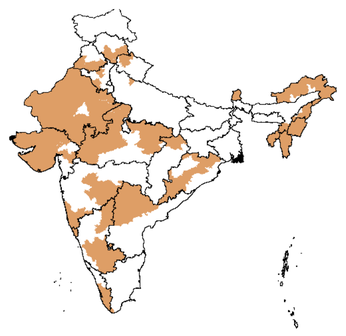
The short- vs. medium-run effect contrast makes it clear that the law had an impact. In particular, when governments force some parts of society to change, those parts of society often respond by taking actions to undermine the new policy such as a backlash. The short-run results provide evidence of that behavior, and yet the medium-run results show that the colonial government succeeded in changing practice and possibly even norms. The results highlight the importance of very long follow-up in the study of interventions that promote social change.

Long Run Impact on Under Legal Age Marriage and Gender Gap in Education

We exploit the State Re-organisation Act 1956 which led to a quasi-random distribution of British India and Princely States within each modern state that made up independent India. We compare, within each modern state, the gender differential in human capital investment between the regions that were under British India and those that were Princely States in pre-independence India.

Data

National representative household survey data from India after the 1990s, including the National Sample Survey (NSS round 64,66), District Information System for Education (DISE, 2005-2013) and District Level Household and Facility Survey (DLHS,'07-08).



We exploit variation in historical institution within each modern state to identify long-run effect

DLHS DATA

$$M_{sd} = \sigma BP_{sd} + X_{sd}\Phi + \kappa_s + \tau_{sd}$$

- M_{sd}: District level marriage outcome
  - % of under age marriage
  - Mean age of marriage
- BP_{sd}: District d was British Province
- κ_s: State FE
- X_{sd}: District level controls: Ln GDP pc (2000), distance to coast, latitude

Our estimates suggest that British Provinces have approximately 4.6 percentage points fewer marriages under the legal age for females.

Outcome:	% under legal age		Mean age of marriage	
	(1)	(2)	(3)	(4)
BP	-4.578***	-4.740***	0.359***	0.320**
	(1.294)	(1.317)	(0.133)	(0.135)
Distance to coast	-0.0140***	-0.0131**	0.000395	0.000147
	(0.00525)	(0.00518)	(0.000576)	(0.000531)
Latitude	1.129**	0.865*	-0.0984*	-0.0843
	(0.545)	(0.519)	(0.0564)	(0.0523)
Ln GDPpc 2000		-11.87***		1.189***
		(1.656)		(0.164)
Observations	559	507	561	507
mean	22.84	23.69	19.40	19.21
State FE	Y	Y	Y	Y

Note: Sample includes percentage of marriage under legal age for female*100 reported of each districts, recorded from District Level Household and Facility Survey in 2006-2007 (from DevInfo 3.0); Mean age of marriage are district level mean age of marriage from DLHS 2002-2004 (from DevInfo 3.0); Robust standard errors are reported in parenthesis

NSS DATA

$$y_{sdi} = \beta BP_{sd} * female_i + \gamma_s + \phi_s * female_{sdi} + X'_{sdi}\eta + D'_{sd}\sigma + \epsilon_{sdi}$$

- $y_{sdi} \in \{0,1\}$: Principal activities of female (age 10-16) in the past 365 days of individual i
  - School attendance, casual labor or market work
- BP_{sd}: District d was princely state
- γ_s: State FE, ϕ_s: State-female FE
- X_{sdi}: Individual/household level controls (ethnicity, rural/urban, landownership, caste, age, educ of hh head), D_{sd}: district level controls

The estimated interaction term British Provinces*female is significant for school attendance, which shows that girls in districts that were formerly in British India are 1.2 percentage points more likely to attend school than girls in Princely State regions within the same modern state.

	School	School	Casual Labour	Casual Labour	DW	DW
	(1)	(2)	(3)	(4)	(5)	(6)
BP=1	-0.00351	-0.00904*	0.00688***	0.00548**	0.00181	0.00127
	(0.00544)	(0.00528)	(0.00249)	(0.00277)	(0.00259)	(0.00133)
BP=1 × Female=1		0.0117*		0.00297		0.00113
		(0.00640)		(0.00275)		(0.00508)
Observations	148413	148413	148413	148413	148413	148413
State FE	Y	Y	Y	Y	Y	Y
State*female FE	Y	Y	Y	Y	Y	Y
Sample: 10-16 at time of interview						

Human capital investment for age group 10-16; SE clustered at district level
Other controls include: Hindu/Muslim, Rural/Urban, Landownership, Caste, age FE, Education of Household head

School: main activity of previous year - attending school
Casual Labor: main activity of previous year - working as casual labor
DW: main activity of previous year - domestic work

DISE DATA

$$MFR_{sdct} = \alpha BP_{sd} + X'_{sd}\xi + \delta_s + \gamma_t + \mu_{sdct}$$

- MFR_{sdct}: Male-Female enrolment ratio of class c state s district d in year t
- BP_{sd}: District d was British province
- δ_s: State FE, γ_t: Year FE
- X_{sd}: Latitude, ln GDPpc (2000), dist. to coast, average no. of classrooms, proportion of rural schools

For the ratio of gross enrollment of boys to girls in Class 7, the coefficient suggests that on average there are 2% more boys enrolled in school than girls in former Princely States versus British India regions.

	Outcome: Ratio of boy/girl enrollment			
	Class 7	Class 6	Class 5	Class 4
	(1)	(2)	(3)	(4)
BP	-0.0190*	-0.0114	-0.0137	-0.00649
	(0.0107)	(0.00933)	(0.00924)	(0.00936)
Proportion of rural schools	-0.0886**	-0.0834**	-0.0484	-0.0199
	(0.0430)	(0.0407)	(0.0374)	(0.0326)
Number of classrooms	-0.0234***	-0.0201***	-0.0130***	-0.00739**
	(0.00601)	(0.00563)	(0.00479)	(0.00371)
Ln GDPPC (2000)	-0.0383**	-0.0305*	-0.0175	-0.0140
	(0.0176)	(0.0166)	(0.0132)	(0.0114)
Observations	2745	2745	2745	2745
State FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y

Evidence of Intergenerational transmission using NFHS- 2 Data

	Daughter Married at Age		
	14	16	18
Age at First Marriage of Mother	-0.0019	-0.0055**	-0.0151***
	(0.001)	(0.002)	(0.003)
Age of Mother FE	Y	Y	Y
Caste FE	Y	Y	Y
Religion FE	Y	Y	Y
State FE	Y	Y	Y
Other Controls	Y	Y	Y
Sample of Mothers having only one daughter	14 yr old	16 year old	18 year old
Observations	4,434	4,269	3,919

To examine the persistence of the age of marriage, we use data from the National Family Health Survey (NFHS-2), which was conducted in 1998--1999, covering surveys of 90,303 women from 26 states between the ages of 15 and 49 years. We show that mothers' age at first marriage is positively associated with their daughters' age at first marriage.

Discussion

- It has been shown that former Princely States have higher levels of access to health centres, schools and roads compared to former British provinces (Iyer, 2010). Therefore, Princely States can be expected to have more market opportunities compared to British Provinces, which might encourage more girls to go to school. However, in our long run analysis, we show that British Provinces do better in terms of gender outcomes compared to the Princely States.

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