

# **Social Norms and Human Capital Investment: Examining the Educational Impacts of Dowry in Rural India**

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# Introduction

- ▶ Culture : Values & Beliefs
  - ▶ Centrality & significance of marriage
  - ▶ Marriage customs
  - ▶ Decision making heuristic (Boyd & Richardson 1985)
- ▶ Institutions : Formal constraints
  - ▶ Legal systems governing marriage customs
  - ▶ Laws to regulate dowry practices
- ▶ Education access in developing countries
  - ▶ Socio-economic factors
- ▶ I examine the interplay between culture, institutions and educational attainment for women in India

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# Research Question

- ▶ How do exogenous changes in dowry practices affect educational investment for girls?
  - ▶ Use the 1986 amendment to the Anti-dowry law in India as a policy shock
  - ▶ Muslims governed by alternate system of law and provide a control group
- ▶ Contribution
  - ▶ Culture & economic outcomes (Montero and Yang,2021) (Suzuki,2021)
  - ▶ Laws in the presence of slow changing norms (Acemoglu & Jackson,2017)
  - ▶ Laws enhancing women's status (Anderson and Genicot,2015)
  - ▶ Gender gaps in education in developing countries

# Preview of Results

- ▶ Intensive margin decrease in dowry payments
- ▶ Decline in educational attainment for girls in the post amendment period
  - ▶ Effect driven by households most likely to be impacted by changes in dowry payments
  - ▶ No changes in match quality of spouses
- ▶ Dowry as a signal to communicate traditional household type
  - ▶ Greater impacts on educational attainment for households most reliant on dowry payments
  - ▶ Occupation based heterogeneity in educational impacts
  - ▶ Suggestive evidence linking traditional norms to declines in educational attainment

# Context

- ▶ Wealth transfers at the time of marriage from the bride's family to the groom's family
  - ▶ Sizable & widely prevalent (Anderson,2007)
  - ▶ Origin : Bequest (Botticini & Siow,2003), Marriage Squeeze (Bhaskar,2019), Social stratification (Anderson, 2003)
  - ▶ Social prestige & status : Dowry as a visible good (Roulet,1996)
- ▶ Dowry Prohibition Act,1961
  - ▶ Primary legal means of regulating and controlling dowry
  - ▶ Made exchange of dowry illegal
  - ▶ Burden of proof lies on the accused
- ▶ Amendment to the law
  - ▶ Increased penal and pecuniary penalties
  - ▶ Allocated funds to states for implementation
  - ▶ Hiring of "dowry officers"

# Conceptual Framework: Dowry & Education in Human Capital Production Function

- ▶ Complements
  - ▶ Dowry in Indian society
    - ▶ Marriage market match → social mobility
    - ▶ Social prestige → Builds social capital
  - ▶ Education & traditional attitudes :
    - ▶ Access : Sanitation, safety concerns, value on virginity
    - ▶ Returns to education : Social exclusion marker of social class → “*purdah*”, educated girls perceived more “rebellious”
    - ▶ Higher education for girls → ↓ social prestige of households
  - ▶ Presence of weak dowry signals push households to use education to signal traditional type
- ▶ Substitutes
  - ▶ Reduction in dowry increases demand for education
  - ▶ Price for education increase → hurts poorest groups



# Data and Empirical Strategy

- ▶ Rural Economic and Demographic Survey : Son and Daughter module
  - ▶ Individual level information - year of marriage, dowry payments (culture proxy), educational attainment (years) & religion
- ▶ Empirical Strategy
  - ▶ Policy shock : Amendment date
  - ▶ Birth cohorts
    - ▶ Across cohort level exposure - Age at Marriage Cohort Assignment
    - ▶ Within cohort exposure - household religion
  - ▶ Variation across & within cohorts in a Difference-in-differences framework Estimation Equation
- ▶ Identification
  - ▶ Parallel trends : Graph
  - ▶ No simultaneous changes in cost or access to education - DPEP (1993 onward)
  - ▶ Secular nature of education policy

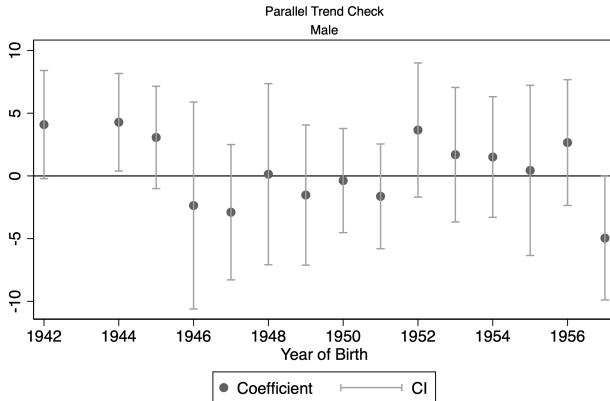


# Conclusion

- ▶ Relationship between female educational attainment and exogenous changes in dowry practices
  - ▶ Combine a policy shock with religious variation in scope of personal laws in India
- ▶ Document a reduction in educational attainment for girls in the post amendment period
- ▶ Evidence to support use of dowry as a signal of traditional norm adherence
- ▶ Rule out changes in match quality and price effects as mechanisms
- ▶ Results robust to alternate specifications and exposure assignment : [Table](#)

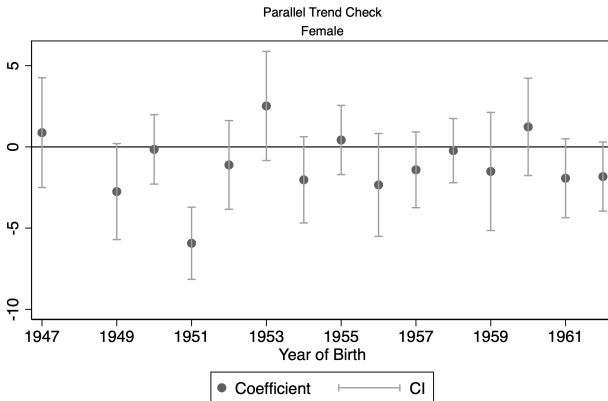
# Thank you

▶ [nj279@cornell.edu](mailto:nj279@cornell.edu)



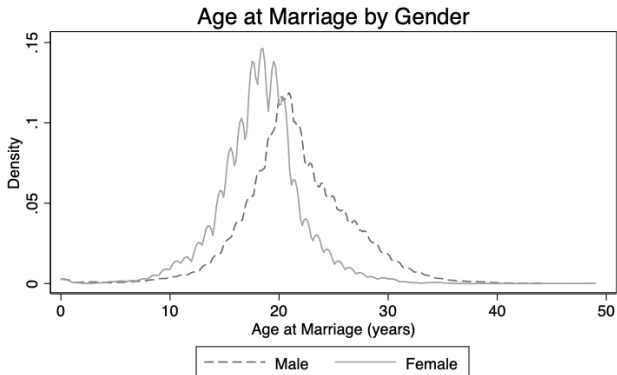
Graph plots the interaction on individual birth cohort with religion  
 95% confidence intervals are reported  
 Pre exposure cohorts only  
 Regression specification controls for total household members, household income as well as caste and birth order fixed effects

The figure plots the regression coefficient on the interaction between individual birth cohort with religion using specification 15 for all pre exposure male cohorts. 95% confidence intervals are reported. The sample comprises of all pre-exposure males and contains 999 observations. Source - REDS 1999.



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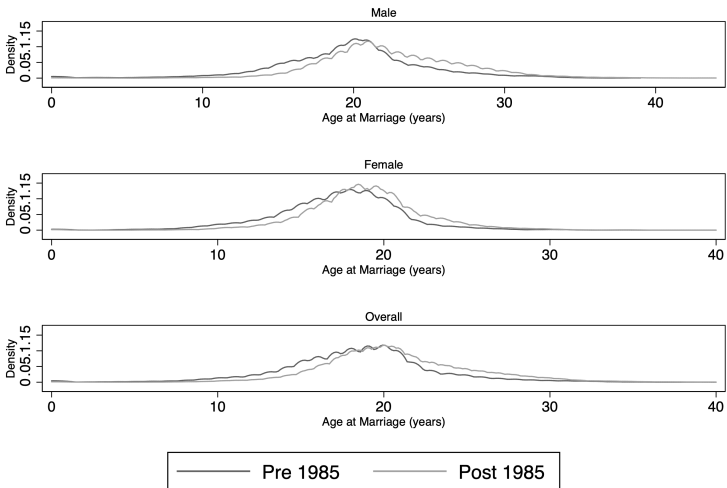
The figure plots the regression coefficient on the interaction between individual birth cohort with religion using specification 15 for all pre exposure female cohorts. 95% confidence intervals are reported. The sample comprises of all pre-exposure females and contains 1496 observations. Source - REDS 1999.



T-test of equality of mean across gender is rejected at 1% significance level  
 Use median +/- of the distribution to define interval of marriage  
 Men: 16-26 years  
 Women: 15-21 years

The figure plots the probability density for age at marriage using an Epanechnikov kernel function with optimal bandwidths. The sample comprises the entire married population and contains 11,054 observations over the time period 1960-1999. Source - REDS 1999.

# Age at Marriage Distribution



The figure plots shifts in the probability density for age at marriage by gender across pre and post amendment periods. Probability densities are calculated using an Epanechnikov kernel function with optimal bandwidths. The sample comprises the entire married population and contains 11,054 observations over the time period 1960-1999.

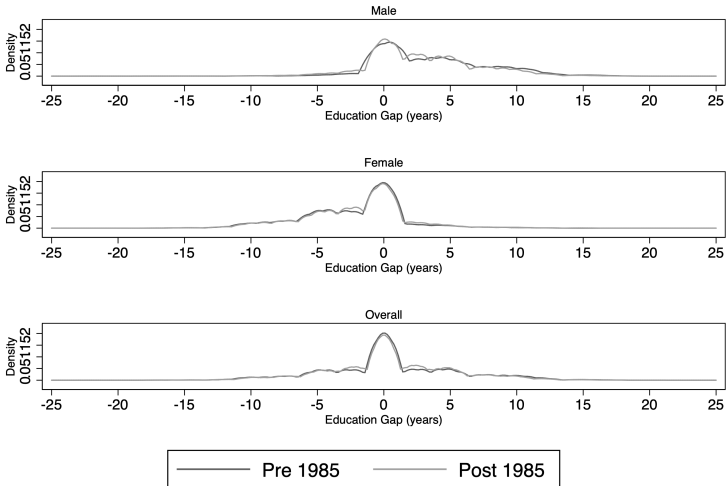


# Estimation Equation

$$y_{icfs} = c_1 + \beta_{1c} + \beta_2 Post_t * NonMuslim_{fs} + \beta_3 NonMuslim_{fs} + X'_{fs} \gamma + \alpha_s + \alpha_g + \varepsilon_{ifst}$$

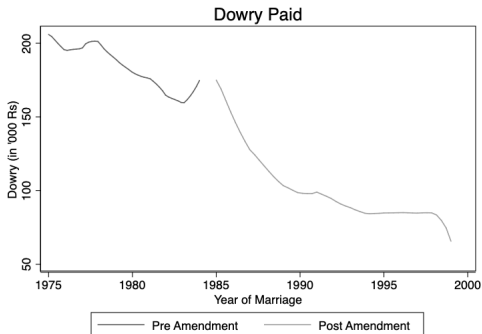
- ▶  $y_{icfs}$  : educational attainment for individual  $i$  born in cohort  $c$  and family  $f$  in state  $s$
- ▶  $\beta_{1c}$  : cohort of birth fixed effects
- ▶  $Post_t = 1$  if individual  $i$  marriage interval lies after 1985
- ▶  $NonMuslim_{fs} = 1$  if individual  $i$  is a member of a Non-Muslim family  $f$  in state  $s$
- ▶  $\alpha_g$  &  $\alpha_s$ : gender & state fixed effects
- ▶  $X_{fs}$  : vector of household level co-variate (total number of family members), caste and birth order fixed effects

# Education Gap



The figure plots shifts in the probability density for the difference in spousal education by gender across pre and post amendment periods. Probability densities are calculated using an Epanechnikov kernel function with optimal bandwidths. The sample comprises the entire married population and contains 11,054 observations over the time period 1960-1999. Source - REDS 1999.

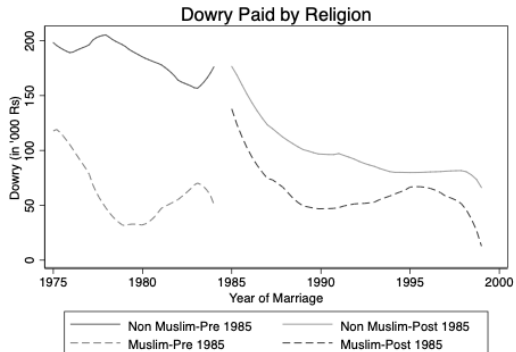
# First Stage



The figure plots estimates from a kernel-weighted local polynomial regression of dowry paid amounts on year of marriage. Bandwidth is 5. Dowry paid is defined as net dowry paid. Dowry amounts in 2015 prices. Sample includes all marriages since 1975 and comprises of 10,014 observations. Source - REDS 1999

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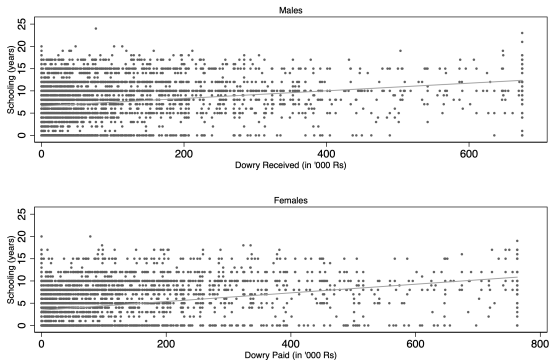
# Identification Strategy



The figure plots estimates from a kernel-weighted local polynomial regression of dowry paid amounts on year of marriage. Bandwidth is 5. Dowry paid is defined as net dowry paid. Dowry amounts in 2015 prices. Sample includes all marriages since 1975 and comprises of 10,014 observations. Source - REDS 1999

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## Education and Dowry



The figure combines a scatter plot and a linear regression of years of education on dowry payments. The sample comprises the entire married population and contains 11,054 observations over the time period 1960-1999. Outliers are capped at the 99 percentile level. Dowry amounts in 2015 prices. For males the correlation coefficient is 0.214 and for females it is 0.341. Source - REDS 1999.

	Marginal	Irrigated	Self-employed farming	Non-farming & Salary	Agricultural Wages
Marginal	1				
Irrigated	-0.1105	1			
Self-employed farming	0.0041	0.2764	1		
Non-farming & Salary	-0.0363	-0.1579	-0.5449	1	
Agricultural Wages	-0.0068	-0.2011	-0.3962	-0.222	1

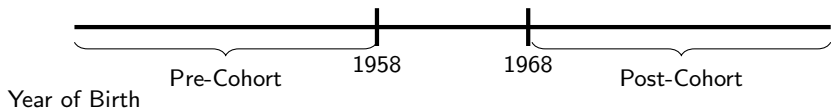
Marginal is an indicator (=1) if household landholding is less than 1 hectare of land

Irrigated is an indicator (=1) if households have above average irrigated land

Self-employed farming is an indicator (=1) if households are engaged in self employed farming or are agricultural family workers

Non-farming & Salary is an indicator (=1) if households are self-employed on non-farm activities, salaried, non-agricultural wage earners or non-agricultural family workers

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**Figure:** Cohort Assignment for Men with a marriage interval  $[16, 26]$ . If individual age is beyond the upper limit on the age of marriage interval at the time of amendment then individual is assigned to the pre-cohort. If individual age is below the lower limit on the marriage interval at the time of the amendment then the individual is considered as treated.

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# Summary Table

**Table:** REDS 1999 - Sons and Daughter module

Variable	(1) Mean	(2) SD	(3) Pre	(4) Post
Number of Households	7002			
Family Size	6.76	3.66		
Number of Boys	2.08	1.32		
Number of Girls	1.68	1.42		
Muslim	7.5%			
Years of education of household head	5.12	4.70		
Income (2015 Rs)	101,357	151,932		
Number of Marriages	11,063			
Marriages with Dowry	79%			
Dowry Amount (Rs)	136,127	287,133	1,54,894	79,673
Observations	26,426			

Notes: Source - Son and daughter module of the 1999 round of the Rural Economic and Demographic Survey (REDS). Detailed information on year of marriage, dowry amounts and demographic information.



# First Stage

**Table:** Impact on Dowry Practice

	Female	
	Log Dowry Amount (Rs) (1)	Dowry Paid (=1) (2)
Post X Non-Muslim	-0.18*** (0.06)	0.02 (0.02)
Non-Muslim (=1)	-0.09 (0.15)	-0.09** (0.04)
Control Mean	11.23	.75
Household Control	X	X
Birth Order Fixed Effect	X	X
Observations	4198	5446
R <sup>2</sup>	0.38	0.25

Notes: The sample includes all married women in the son and daughter module of the 1999 wave of the REDS data. *Log Dowry Amount (Rs)* is used to capture intensive margin changes and is measured as the log of deflated dowry amount in rupees. *Dowry Paid = 1* is an indicator to capture extensive margin changes and measures if any positive dowry amount was paid. The variable *Post* is an indicator equal to one if the marriage occurs after 1985. *Non-Muslim* is an indicator to identify if the female belongs to a non-muslim household. Household Controls include reported income in 1999, caste and total number of household members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10 , \*\* p < 0.05 , \*\*\* p < 0.01.

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# Female Educational Attainment

	Female School-Yrs		
	(1)	(2)	(3)
Post X Non-Muslim	-0.82** (0.34) [0.02]	-0.72** (0.34) [0.05]	-0.65* (0.34) [0.07]
Non-Muslim (=1)	1.66*** (0.31)	1.11*** (0.32)	2.37*** (0.39)
Control Mean	3.6	3.6	3.6
Household Control	X	X	X
Birth Order Fixed Effect	X	X	X
Upper Caste F.E		X	
ALL Caste F.E			X
Effect Size	-22%	-19%	-18%
Observations	9797	9797	9797
R <sup>2</sup>	0.26	0.28	0.29

Notes: The sample includes all females in the son and daughter module of the 1999 wave of the REDS data. *Female School-Yrs* measures reported years of schooling. The variable *Post* is an indicator equal to one if the female belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the female belongs to a non-muslim household. Household Controls include reported income in 1999, caste and total number of household members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. Brackets reports p-values based on a t-test against the null for the coefficient of interest, using wild bootstrap heteroskedasticity robust errors. \* p < 0.10 , \*\* p < 0.05 , \*\*\* p < 0.01 .

# Placebo : Male Educational Attainment

	Male School-Yrs		
	(1)	(2)	(3)
Post X Non-Muslim	-0.08 (0.67)	0.08 (0.67)	0.17 (0.68)
Non-Muslim (=1)	1.01 (0.66)	0.43 (0.66)	0.85 (0.69)
Control Mean	6.91	6.91	6.91
Household Control	X	X	X
Birth Order Fixed Effect	X	X	X
Upper Caste F.E		X	
ALL Caste F.E			X
Effect Size	-1.2%	1.1%	2%
Observations	11298	11298	11298
$R^2$	0.26	0.27	0.28

Notes: The sample includes all males in the son and daughter module of the 1999 wave of the REDS data. *Male School-Yrs* measures reported years of schooling. *Post* is an indicator equal to one if the male belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the male belongs to a non-Muslim household. Household Controls include reported income in 1999, caste and total number of household members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. Brackets reports p-values based on a t-test against the null for the coefficient of interest, using wild bootstrap heteroskedasticity robust errors. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

# Gender of First-Born

**Table:** Impact on Years of Schooling

	School-Yrs		
	Male (1)	Female (2)	ALL (3)
Post X Non-Muslim X FB Female	-1.08* (0.58)	-0.11 (0.35)	-0.08 (0.28)
Post X FB Female	0.97*** (0.32)	-0.00 (0.28)	0.64*** (0.21)
Non-Muslim X FB Female	0.47 (0.48)	0.29 (0.20)	-0.27 (0.18)
Post X Non-Muslim	0.34 (0.69)	-0.57 (0.38)	-0.19 (0.39)
Non-Muslim (=1)	0.80 (0.69)	2.19*** (0.41)	1.66*** (0.40)
Control Mean	6.91	3.6	4.92
Gender Fixed Effect			X
Household Control	X	X	X
Post X Non-Muslim + Post X Non-Muslim X FB Female	-.73	-.68	-.27
P-value	.38	.07	.5
Observations	11298	9797	21095
R <sup>2</sup>	0.28	0.29	0.29

Notes : The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. *School-Yrs* measures reported years of schooling. *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. *FB Female* is an indicator equal to one if the individual belongs to a household with a first born female. The test statistic  $Post_{ic} * NonMuslim + Post * NonMuslim * FBFemale$  represents the overall effect on educational attainment of having a female firstborn exposed to the amendment as compared to a male first born. Household Controls include reported income in 1999, caste and total number of household members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10 , \*\* p < 0.05 , \*\*\* p < 0.01.

# Educational Attainment by Net Payer Status

**Table:** Impact on Years of Schooling : Net Payers & Receivers

	Net Payers			Net Receivers		
	Male (1)	Female (2)	ALL (3)	Male (4)	Female (5)	ALL (6)
Post X Non-Muslim	-1.94 (2.36)	-1.34*** (0.47)	-1.42*** (0.49)	0.41 (0.72)	-0.16 (0.47)	0.37 (0.48)
Non-Muslim (=1)	3.28 (2.48)	2.93*** (0.56)	2.81*** (0.54)	0.60 (0.72)	1.97*** (0.53)	0.88* (0.49)
Control Mean	4.26	5.32	4.92	4.26	5.32	4.92
Gender Fixed Effect			X			X
Household Control	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X
Observations	1957	5275	7232	9341	4522	13863
R <sup>2</sup>	0.31	0.30	0.30	0.28	0.29	0.29

Notes: The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. The estimation is performed separately for individuals belonging to households classified as "Net Payers" and "Net Receivers". Net Payer (Net Receiver) status is assigned based on if the household has a greater number of female children (male children). *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. Household controls include reported income in 1999, caste and total number of members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10 , \*\* p < 0.05 , \*\*\* p < 0.01.

# Reliance on Dowry Payments & Educational Attainment

	Above Median Payment			Below Median Payment		
	Male (1)	Female (2)	ALL (3)	Male (4)	Female (5)	ALL (6)
Post X Non-Muslim	-0.17 (0.83)	-0.85** (0.42)	-0.48 (0.46)	1.43 (1.29)	-1.05 (0.68)	0.12 (0.66)
Non-Muslim (=1)	0.92 (0.86)	2.43*** (0.48)	1.65*** (0.49)	-0.07 (1.25)	2.86*** (0.77)	1.49** (0.70)
Control Mean	7.64	4.55	5.84	5.62	2.17	3.46
Gender Fixed Effect			X			X
Household Control	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X
Observations	6857	5862	12719	4441	3935	8376
R <sup>2</sup>	0.30	0.31	0.30	0.26	0.22	0.26

Notes: The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. The estimation is performed separately for individuals belonging to households tagged as above and below baseline dowry payments. Households are classified as above (below) median dowry payments if they reside in states where the state-level pre-1985 median dowry payment is higher (lower) than the region-specific pre-1985 median dowry payment. States are divided into regions based on similarity of social norms. The outcome measures reported years of schooling. *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. Household controls include reported income in 1999, caste and total number of members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

# Household Occupation & Educational Attainment

	Self-employed farming			Non-farm salary & wage			Agricultural wages		
	M (1)	F (2)	ALL (3)	M (4)	F (5)	ALL (6)	M (7)	F (8)	ALL (9)
Post X Non-Muslim	1.68 (1.04)	-0.31 (0.52)	0.90 (0.63)	-4.85*** (1.09)	-2.35*** (0.83)	-2.68*** (0.92)	2.81 (2.72)	2.63** (1.09)	2.85** (1.15)
Non-Muslim (=1)	-0.41 (1.07)	2.26*** (0.64)	0.54 (0.66)	5.76*** (1.19)	3.74*** (0.89)	3.78*** (0.97)	-3.08 (2.76)	-0.81 (1.29)	-2.03* (1.20)
Control Mean	6.5	3.33	4.49	6.21	3.07	4.21	4.21	3.93	2.71
Gender Fixed Effect			X			X			X
Household Control	X	X	X	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X	X	X	X
Observations	5651	4872	10523	2774	2362	5136	1526	1427	2953
R <sup>2</sup>	0.27	0.27	0.28	0.43	0.41	0.40	0.35	0.32	0.32

Notes: The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. The estimation is performed by household occupation. Households are clubbed under three broad occupation types based on the reported occupation of household heads. "Self-employed farming" includes occupations reported as self-employed farming and agricultural family workers. "Non-farm salary & wage" are households with self-employment on non-farm activities, such as salaried, non-agricultural wage earners and non-agricultural family workers. "Agricultural Wage Earners" are households with household head engaged in agricultural activities in exchange for wage on land which is not self-owned. *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. Household controls include reported income in 1999, caste and total number of members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

# Traditional Norms & Educational Attainment

	Traditional			Non-traditional		
	Male (1)	Female (2)	ALL (3)	Male (4)	Female (5)	ALL (6)
Post X Non-Muslim	2.47 (2.02)	-1.13 (0.87)	0.04 (0.91)	-0.67 (0.95)	-0.82 (0.53)	0.04 (0.91)
Non-Muslim (=1)	-1.23 (2.03)	2.75*** (0.95)	1.45 (0.92)	1.01 (1.05)	2.81*** (0.69)	1.45 (0.92)
Control Mean	6.95	3.94	5.07	5.89	3.07	4.14
Gender Fixed Effect			X			X
Household Control	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X
Observations	4396	3993	8389	4337	3796	8389
R <sup>2</sup>	0.35	0.31	0.33	0.29	0.31	0.33

Notes: The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. The estimation is performed separately for individuals belonging to households classified as "Traditional" using adherence to gender unequal social norms. Households are tagged as "Traditional" if at least one member reported gender segregation while eating meals. "Non-traditional" households are those where no member reports gender segregation while eating meals. *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. Household controls include reported income in 1999, caste and total number of members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01 .



# Bequest Ability & Educational Impact

	Marginal			Non-marginal		
	Male (1)	Female (2)	ALL (3)	Male (4)	Female (5)	ALL (6)
Post X Non-Muslim	-0.43 (0.71)	-0.50 (0.38)	-0.36 (0.37)	1.00 (1.24)	-0.49 (0.89)	0.91 (0.96)
Non-Muslim (=1)	1.87** (0.73)	2.91*** (0.46)	2.28*** (0.42)	-1.22 (1.21)	0.95 (0.85)	-0.76 (0.92)
Control Mean	6.82	3.46	4.8	7.34	4.21	5.46
Gender Fixed Effect			X			X
Household Control	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X
Observations	8239	7063	15302	3059	2734	5793
R <sup>2</sup>	0.26	0.29	0.28	0.37	0.33	0.34

Notes: The sample includes all males and females in the son and daughter module of the 1999 wave of the REDS data. The estimation is performed by household landholding size. Marginal households have land ownership less than 2.5 acres, whereas "Non-marginal" households are households with greater than 2.5 acres of land. *Post* is an indicator equal to one if the individual belongs to the post-cohort based on the reference age at marriage. *Non-Muslim* is an indicator to identify if the individual belongs to a non-muslim household. Household controls include reported income in 1999, caste and total number of members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis. \* p < 0.10 , \*\* p < 0.05 , \*\*\* p < 0.01.

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**Table:** Impact on Years of Schooling

	State Time Varying			Legal Age			Clustering		
	M (1)	F (2)	ALL (3)	M (4)	F (5)	ALL (6)	M (7)	F (8)	ALL (9)
Post X Non-Muslim	-0.12 (0.70)	-0.87** (0.37)	-0.37 (0.38)				0.17 (0.60)	-0.65* (0.37)	-0.16 (0.39)
Post_Legal X Non-Muslim				-0.17 (0.88)	-0.74* (0.43)	-0.37 (0.45)			
Non-Muslim (=1)	1.02 (0.71)	2.33*** (0.42)	1.55*** (0.41)	1.20 (0.88)	2.51*** (0.46)	1.77*** (0.47)	0.85 (0.64)	2.37*** (0.36)	1.53*** (0.40)
Control Mean	6.91	3.6	4.92	7.16	3.57	4.71	6.91	3.6	4.92
Gender Fixed Effect			X			X			X
Household Control	X	X	X	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X	X	X	X
Observations	11298	9797	21095	12238	9984	22222	11298	9797	21095
R <sup>2</sup>	0.29	0.30	0.29	0.27	0.28	0.28	0.28	0.29	0.29

Notes: The sample includes all females in the son and daughter module of the 1999 wave of the REDS data. *Female School-Yrs* measures reported years of schooling. Columns (1),(2),and (3) report estimates for the sample of males, females, and pooled sample respectively while controlling for state time varying trends in equation (2). Columns (4),(5), and (6) report estimates for the sample of males, females, and pooled sample respectively using equation (2) with cohort exposure assigned using the legal age of marriage. Columns (7), (8), and (9) report estimates for the sample of males, females and pooled sample respectively using equation (2) with state level clustered standard errors in parenthesis. *Post* is an indicator equal to one if the female belongs to the post-cohort based on the reference age at marriage. *Post Legal* is an indicator equal to one if the female belongs to the post-cohort based on the *legal* age at marriage. *Non-Muslim* is an indicator to identify if the female belongs to a non-muslim household. Household Controls include reported income in 1999, caste and total number of household members. All regressions control for state fixed effects. Robust standard errors are reported in parenthesis for columns (1) through (6). \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

# Robustness by Net Payer Status

**Table:** Impact on Years of Schooling

	State Time Varying			Legal Age			Clustering		
	M (1)	F (2)	ALL (3)	M (4)	F (5)	ALL (6)	M (7)	F (8)	ALL (9)
Post X Non-Muslim	0.40 (2.81)	-1.46*** (0.56)	-1.21** (0.57)				-2.01 (2.54)	-1.47** (0.56)	-1.55** (0.58)
Post_Legal X Non-Muslim				-6.99*** (1.37)	-1.66*** (0.61)	-2.00*** (0.55)			
Non-Muslim (=1)	0.45 (2.91)	2.62*** (0.65)	2.23*** (0.63)	8.53*** (1.55)	3.22*** (0.65)	3.42*** (0.59)	3.32 (2.80)	2.98*** (0.86)	2.89*** (0.91)
Control Mean	6.86	3.76	4.26	6.61	3.77	4.09	6.86	3.76	4.26
Gender Fixed Effect			X			X			X
Household Control	X	X	X	X	X	X	X	X	
Birth Order Fixed Effect	X	X	X	X	X	X	X	X	X
Observations	2115	5776	7891	2252	5864	8116	2115	5776	7891
R <sup>2</sup>	0.39	0.35	0.35	0.37	0.34	0.34	0.38	0.34	0.34

Notes: Data consists of the 1999 wave of the REDS data. Robust standard errors are reported for Columns 1-6. Sample comprises of all sons and daughter of household head. All regressions control for state fixed effects. Household controls include reported income in 1999, caste and total number of members.

# Robustness by Net Receiver Status

**Table:** Impact on Years of Schooling

	State Time Varying			Legal Age			Clustering		
	M (1)	F (2)	ALL (3)	M (4)	F (5)	ALL (6)	M (7)	F (8)	ALL (9)
Post X Non-Muslim	0.04 (0.73)	-0.61 (0.47)	0.02 (0.49)				0.30 (0.56)	-0.25 (0.42)	0.26 (0.40)
Post.Legal X Non-Muslim				0.21 (0.92)	-0.28 (0.55)	0.15 (0.58)			
Non-Muslim (=1)	0.85 (0.73)	2.08*** (0.50)	1.02** (0.50)	0.79 (0.92)	2.04*** (0.58)	1.07* (0.60)	0.70 (0.59)	1.95*** (0.65)	0.94* (0.47)
Control Mean	6.92	3.41	5.32	7.25	3.34	5.14	6.92	3.41	5.32
Gender Fixed Effect			X			X			X
Household Control		X							
Birth Order Fixed Effect	X	X	X	X	X	X	X	X	X
Observations	10144	4871	15015	10947	4970	15917	10144	4871	15015
R <sup>2</sup>	0.36	0.34	0.35	0.33	0.32	0.33	0.35	0.33	0.34

Notes: Data consists of the 1999 wave of the REDS data. Robust standard errors are reported for Columns 1-6. Sample comprises of all sons and daughter of household head. All regressions control for state fixed effects. Household controls include reported income in 1999, caste and total number of members.

# Heterogeneity by Access to Irrigation

**Table:** Impact on Years of Schooling

	Non-irrigated			Irrigated		
	Male (1)	Female (2)	ALL (3)	Male (4)	Female (5)	ALL (6)
Post X Non-Muslim	-0.32 (0.93)	-0.68* (0.38)	-0.56 (0.44)	0.49 (1.18)	-0.71 (0.66)	0.30 (0.69)
Non-Muslim (=1)	1.10 (0.94)	2.16*** (0.42)	1.70*** (0.45)	1.53 (1.16)	3.65*** (1.18)	1.71** (0.80)
Control Mean	7.69	4.19	5.63	6.55	3.33	4.61
Gender Fixed Effect			X			X
Household Control	X	X	X	X	X	X
Birth Order Fixed Effect	X	X	X	X	X	X
Observations	9088	7906	16994	3171	2741	5912
R <sup>2</sup>	0.35	0.34	0.34	0.40	0.35	0.37

Notes: Data consists of the 1999 wave of the REDS data. Robust standard errors are reported. Sample comprises of all sons and daughter of household head. All regressions control for state fixed effects. Household controls include reported income in 1999, caste and total number of members.

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# Net Payer and Receiver Household

**Table:** Balance Table

Variable	(1) Net Receivers	(2) Net Payers	(3) Difference
HH head male (=1)	0.939 (0.240)	0.926 (0.262)	-0.013* (0.007)
HH head marital status	1.103 (0.304)	1.105 (0.306)	0.001 (0.008)
HH income at time of survey ('000 Rs)	102.900 (162.288)	97.856 (124.621)	-5.043 (3.572)
Fathers years of education	5.055 (4.696)	5.283 (4.737)	0.229* (0.127)
Mothers years of education	2.596 (3.807)	2.629 (3.859)	0.033 (0.103)
Total number of household members	6.350 (3.513)	5.717 (2.727)	-0.633*** (0.078)
Observations	4,895	2,104	6,999

Notes: Data consists of the 1999 wave of the REDS data. Net Payer households are defined as households with more number of girl child.

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