

# Mahila Samakhya: A path to empower women?

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# Overview

- Socio-economic empowerment of women is expected to bring about a transformation in intra-household decision making process through changes in normative gender roles.
- We study the impact of Mahila Samakhya Program (MS), a women's empowerment program, on women's level of education and age at marriage.
- It is the first national study on performance of MS using nationally representative data.

# Mahila Samakhya Programme

- Launched in 1989 as part of New Education Policy 1986
  - 10 districts across the states of Gujarat, Uttar Pradesh and Karnataka
  - tried to give “special emphasis on the removal of disparities and to equalise educational opportunity," especially for Indian women, Scheduled Tribes (ST) and the Scheduled Caste (SC) communities.

## National Education Policy, 1986

*Education will be used as an agent of basic change in the status of women. In order to **neutralize the accumulated distortions of the past**, there will be a well-conceived edge in favor of women. ... will play a positive, interventionist role in the empowerment of women. ... foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers, decision-makers and administrators, and the active involvement of educational institutions. **This will be an act of faith and social engineering. Women's studies will be promoted as a part of various courses and educational institutions encouraged to take up active programmes to further women's development.***

*The removal of women's illiteracy and obstacles inhibiting their access to, and retention in elementary education will receive overriding priority, through provision of special support services, setting of time targets, and effective monitoring. Major emphasis will be laid on women's participation in vocational, technical and professions education at different levels. The policy of non-discrimination will be pursued vigorously to eliminate sex stereo-typing in vocational, technical, and professional education at different levels. **The policy of non-discrimination will be pursued vigorously to eliminate sex stereo-typing in vocational and professional courses and to promote women's participation in non-traditional occupations, as well as in existing and emergent technologies.***

# Mahila Samakhya Programme

- Launched in 1989 as part of New Education Policy 1986
- Education and Empowerment of marginalized women in rural areas
- Collective action and mobilization into *Sanghas* i.e. social groups
- Key objectives:
  - Enhance women's self esteem
  - Develop ability to think critically and to make decisions
  - Provide legal literacy
  - Encourage economic independence

# Literature and Renewed importance

- Women's functional role in society & economic development is clearer:
  - Education key to unlocking a women's role in economic growth and in promoting health and social welfare in society.
- Large and persistent gaps in women's educational and other outcomes
  - Out of 100 girls in year 1 of schooling, only 42 reach class 5
  - Out of 100 SC/ST girls in year 1 schooling, only 19 reach class 5
- In this context it becomes important to understand how can education for women be achieved and MS's experience acquires importance.
  - MS related national evaluations
  - Qualitative Field Studies
  - State Specific studies

# Literature and Renewed importance

Reference:	Research Question	Data & Variables used	Major Findings
Janssens, 2004, “The role of social capital in early childhood development: Evidence from rural India”, unpublished report by Amsterdam Institute for International Development	<p>Does MS participation enhances child outcomes through parental access to better knowledge about health and education</p> <p>Does the MS program stimulates the community level of empowerment?</p>	Primary Data from 70 MS villages and 35 adtnl control villages, Bihar	<ol style="list-style-type: none"> <li>1. Children in programme villages <b>more likely to be immunised</b> (TB, diphtheria and measles).</li> <li>2. MS.program <b>stimulates the community empowerment</b> through greater participation by MS member in School Management</li> <li>3. Children in MS villages are <b>more likely to enrolled for pre-school</b>.</li> </ol>
Janssens, 2011, “Women’s empowerment and the creation of social capital in Indian villages’, World Development, Vol. 38 No.7 Page 974-988	<p>Does the women empowerment create social capital in Indian villages? (Social capital defined on trust-trust in community &amp; strangers – as well as Cooperation)</p>	Primary Data from 70 MS villages and 35 adtnl control villages, Bihar	<ol style="list-style-type: none"> <li>1. MS increases trust and stimulates contribution to educational and infrastructure projects</li> <li>2. Has <b>improves social capital</b> - joint action to improve community schools and community infrastructure</li> <li>3. Non MS women in MS active villages <b>are more likely to engage in collective action and display trust</b></li> </ol>

# Literature and Renewed importance

Reference:	Research Question	Data & Variables used	Major Findings
Kandpal, et.al 2012 “Empowering women through education and influence: An evaluation of the Indian Mahila Samakhya Program”	<p>Does the MS program help women to increase bargaining power (access to employment, increased wages etc.) ?</p> <p>Does MS lead to spill over effects to other programs as well as non-participants and untreated women?</p>	Primary Data 487 Women from 6 districts in Uttarakhand	<ol style="list-style-type: none"> <li>Increases in women’s access to outside employment, ability to leave the house without permission and their political participation as the indicators of high bargaining power</li> <li>MS resulted spill over to the other programs like NREGS cards to its participants. MS program effected as positive spill over effects on non-participating neighbors</li> </ol>
Kandpal, Beylis 2012, Standing together: Peer networks, female empowerment, and child welfare	<p>Do the peers interactions from MS help women to increase their own bargaining power?</p> <p>Does social learning and influence cause from networks changes women’s parenting behavior?</p>	Primary Data from 6 districts in Uttarakhand. (four program villages and two non-program villages covering 487 women)	<ol style="list-style-type: none"> <li>Empowers women in the community level intervention</li> <li>Improved child nutrition</li> <li>Social learning and influence increase NREGA participation</li> <li>Social learning, identity, social norms improve children’s diet (rice, dairy products)</li> </ol>



# Strategy: how to compare women with and without MS?

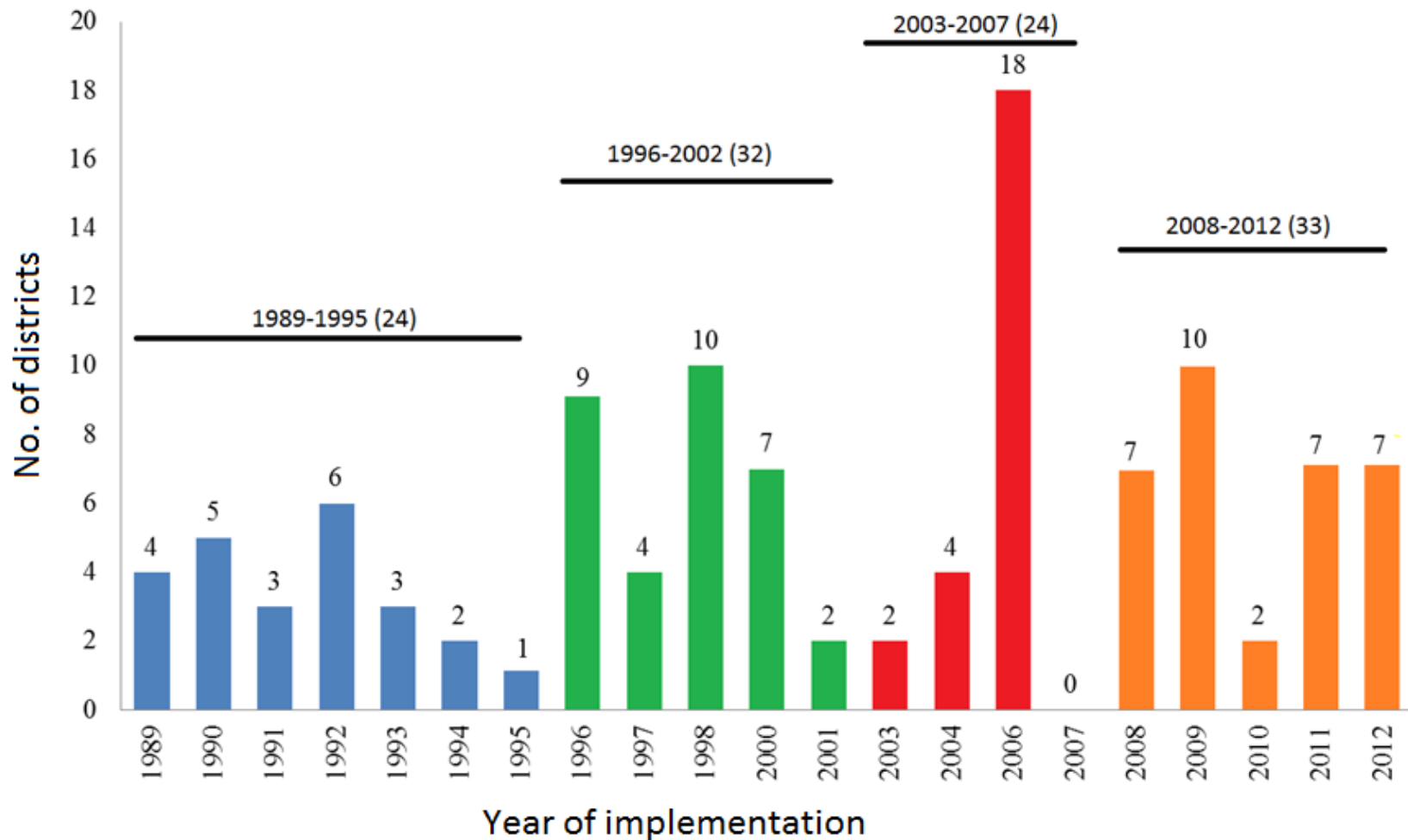
Individual's exposure is determined by district of residence and age at the time of interview

- Program identification
  - District level
  - Staggered roll-out (sample restricted to rural areas of 113 of 273 districts)
    - Ever (1989-2006) Vs. Never (2008-2012)
    - 4 cohorts to study length of exposure
- Intergenerational changes
  - Women at different points in their life course
  - Account for changing trends that affect choices over time unrelated to MS
  - Segregate women (ever and never married) into 5-year age intervals
- Exploit the variation across all combinations of MS and age cohorts to study the impact of the policy

# Data Sources

- **District Level Household Survey-3 2007-08**
  - Nationally representative covering 601 districts
  - Cross-sectional dataset
  - Household, ever-married women, never-married women, facility, and village surveys
  - Sampled 1000-1500 households per district
  - Information on health, education, and family welfare
- **Information on Mahila Samakhya Program**
  - Year of implementation from annual reports/publications and state head quarters

# Number of MS Districts in India by its Implementation Year



# Methodology: Models

- Education outcomes → Linear mixed-effects model
- Marital and Fertility outcomes → Cox proportional hazard model
  - Time until the occurrence of event
  - Right censoring
  - Hazard: likelihood of women marrying within next one year

$$h(t|x) = h_0(t) \exp \left\{ \beta_0 + \sum_{k=2}^7 \beta_{1k} Age_{ids} + \sum_{l=2}^4 \beta_{2l} MS_{ds} + \sum_{k=2}^7 \sum_{l=2}^4 \theta_{k,l} Age_{ids} MS_{ds} + \dots + \epsilon_{ids} \right\}$$

# Methodology: Estimation equation for Education

$$Y_{ids} = \beta_0 + \sum_{k=2}^7 \beta_{1k} Age_{ids} + \beta_2 MS_{ds} + \sum_{k=2}^7 \theta_k Age_{ids} MS_{ds} + \vec{\lambda} \vec{X}_{ids} + \vec{\gamma} \vec{X}_{ds} + \eta_{ds} + \mu_s + \epsilon_{ids}$$

where,

$Y_{ids}$  : Education level of woman  $i$  residing in district  $d$  within state  $s$

$Age_{ids}$  : Age cohort (oldest age group is the reference)

$MS_{ds}$  : MS cohort (2008-12 is the reference)

$\theta_{k,l}$  : Parameter of interest

$\vec{X}_{ids}$  : Woman and household level covariates

$\vec{X}_{ds}$  : District covariates

$\eta_{ds}$  : District random effects

$\mu_s$  : State Fixed effects

# Methodology: Estimation equation variants

$$Y_{ids} = \beta_0 + \sum_{k=2}^7 \beta_{1k} Age_{ids} + \beta_2 MS_{ds} + \sum_{k=2}^7 \theta_k Age_{ids} MS_{ds} + \vec{\lambda} \vec{X}_{ids} + \vec{\gamma} \vec{X}_{ds} + \eta_{ds} + \mu_s + \epsilon_{ids}$$

Variant 1

$$Y_{ids} = \beta_0 + \sum_{k=2}^6 \beta_{1k} Age_{ids} + \beta_2 MS_{ds} + \sum_{k=2}^6 \theta_k Age_{ids} MS_{ds} + \vec{\lambda} \vec{X}_{ids} + \vec{\gamma} \vec{X}_{ds} + \lambda_1 Baseline Y_{ds} + \eta_{ds} + \mu_s + \epsilon_{ids}$$

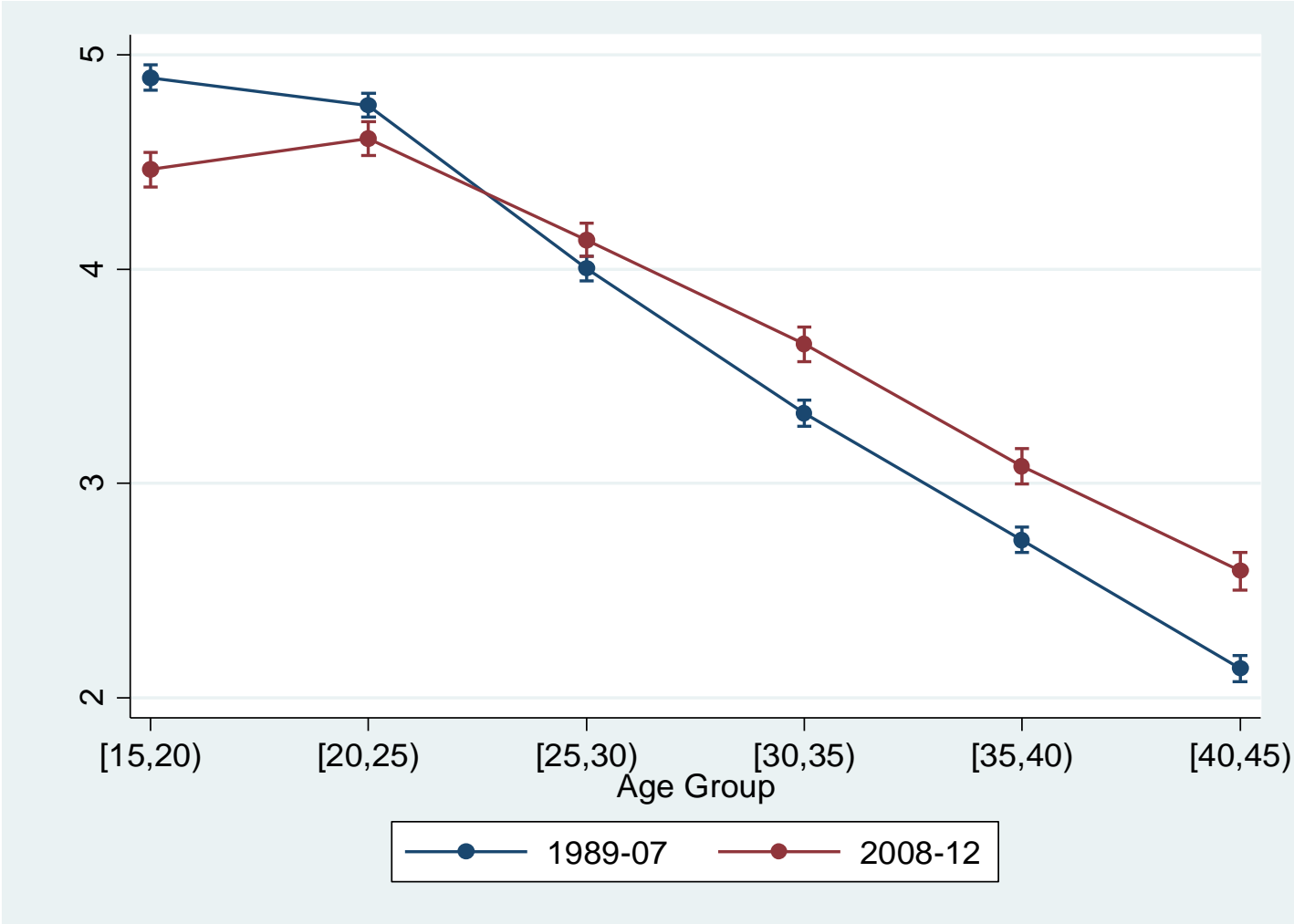
Variant 2

$$Y_{ids} = \beta_0 + \sum_{k=2}^6 \beta_{1k} Age_{ids} + \sum_{l=2}^4 \beta_{2l} MS_{ds} + \sum_{k=2}^6 \sum_{l=2}^4 \theta_{k,l} Age_{ids} MS_{ds} + \vec{\lambda} \vec{X}_{ids} + \vec{\gamma} \vec{X}_{ds} + \lambda_1 Baseline Y_{ds} + \eta_{ds} + \mu_s + \epsilon_{ids}$$

## Level of Education: Ever vs. Never

	Raw	Model 1	Model 2	SC/ST	Poorest SC/ST
	Estimate (Std. Error)	Estimate (Std. Error)	Estimate (Std. Error)	Estimate (Std. Error)	Estimate (Std. Error)
Intercept	1.931*** (0.082)	3.964*** (0.154)	4.330*** (0.157)	3.206*** (0.290)	-1.660*** (0.336)
MS: Ever	-0.300*** (0.098)	-0.329*** (0.066)	-0.456*** (0.055)	-0.336*** (0.080)	-0.247*** (0.073)
MS Ever: 15–19	1.042*** (0.113)	0.782*** (0.077)	0.885*** (0.067)	0.842*** (0.105)	0.805*** (0.111)
MS Ever: 20–24	0.898*** (0.115)	0.513*** (0.081)	0.612*** (0.071)	0.711*** (0.108)	0.575*** (0.108)
MS Ever: 25–29	0.457*** (0.116)	0.220*** (0.080)	0.323*** (0.070)	0.367*** (0.106)	0.223** (0.101)
MS Ever: 30–34	0.230* (0.119)	0.031 (0.081)	0.134* (0.071)	0.175 (0.106)	0.112 (0.100)
MS Ever: 35–39	0.133 (0.121)	0.008 (0.081)	0.113 (0.072)	0.232** (0.103)	0.149 (0.093)
MS Ever: 40–44	-0.084 (0.128)	-0.106 (0.083)			
District Baseline					
Education	No	No	Yes	Yes	Yes

# Predicted Level of Education: Ever vs. Never

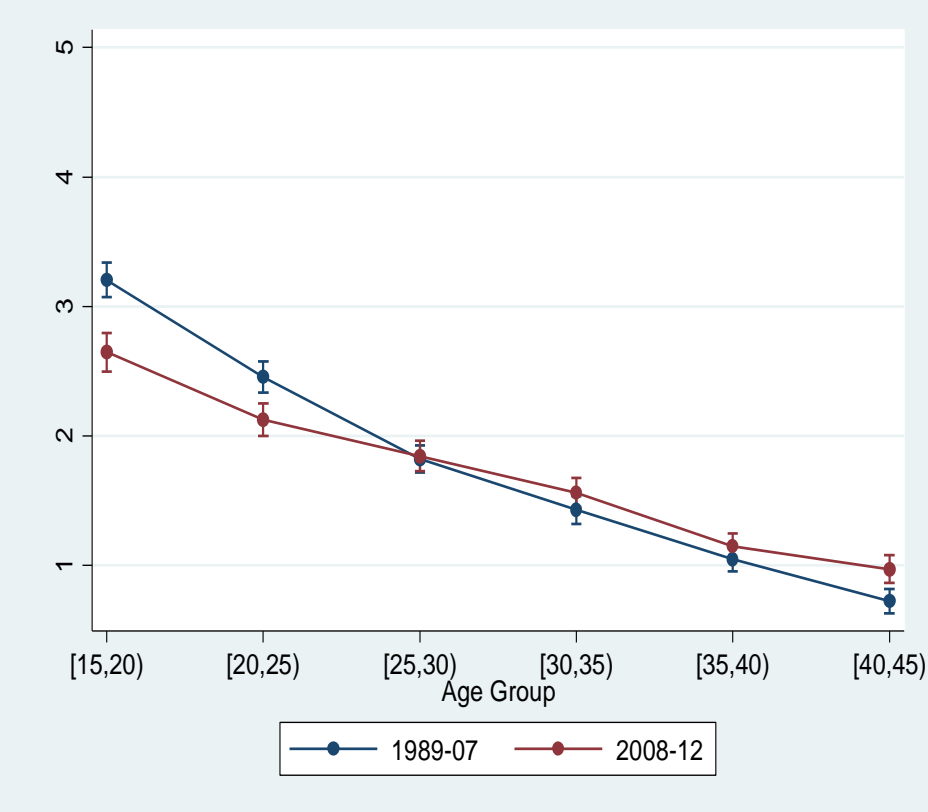
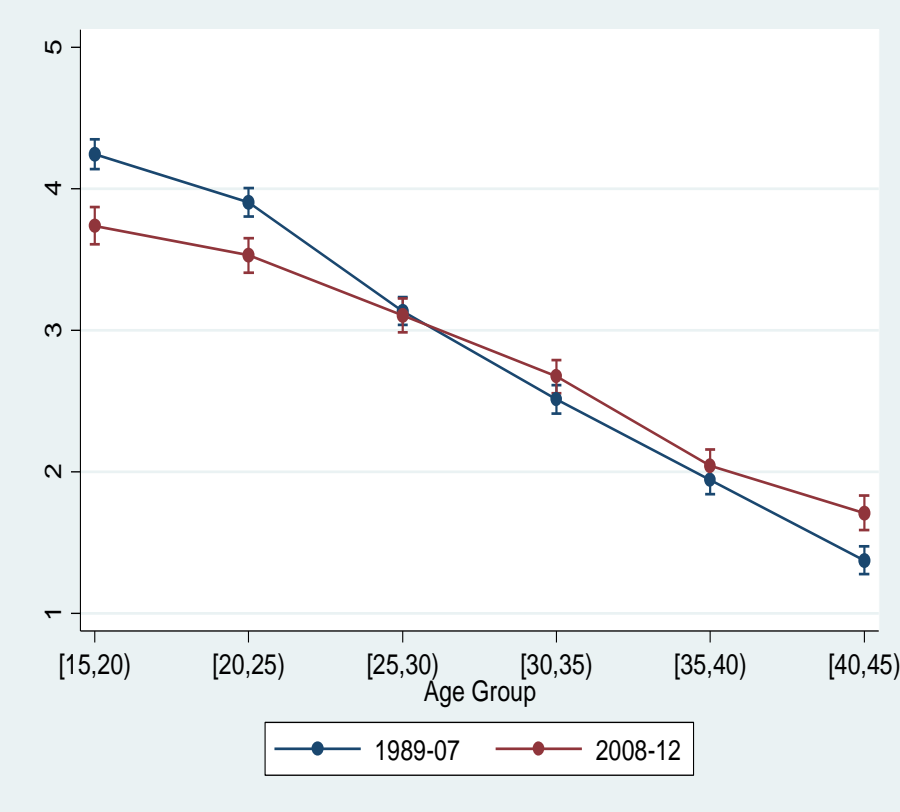




# Predicted Level of Education: Ever vs. Never

Scheduled Caste & Scheduled Tribe

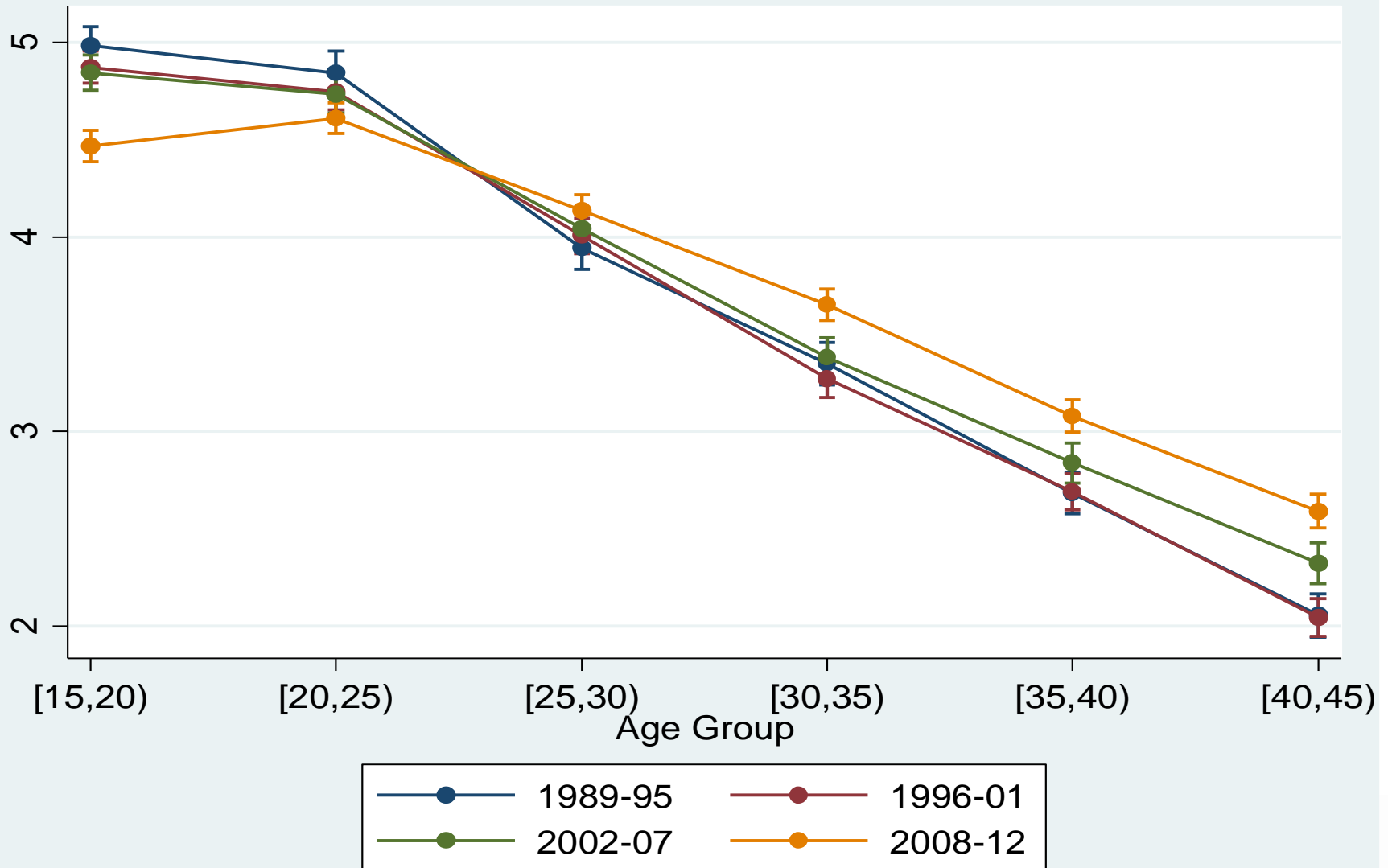
Poorest SC & ST



## Level of Education: MS Cohorts

	Model 1	SC/ST	Poorest SC/ST
	Estimate (Std. Error)	Estimate (Std. Error)	Estimate (Std. Error)
Intercept	4.308*** (0.158)	3.168*** (0.293)	-2.562*** (0.343)
MS Phase 1989-95 X Age Cohort 15-19	1.052*** (0.0907)	0.772*** (0.143)	0.744*** (0.148)
MS Phase 1996-01 X Age Cohort 15-19	0.950*** (0.0824)	0.852*** (0.128)	0.841*** (0.141)
MS Phase 2002-07 X Age Cohort 15-19	0.643*** (0.0873)	0.888*** (0.152)	0.803*** (0.168)
MS Phase 1989-95 X Age Cohort 20-24	0.767*** (0.0985)	0.448*** (0.152)	0.351** (0.147)
MS Phase 1996-01 X Age Cohort 20-24	0.680*** (0.0876)	0.759*** (0.133)	0.537*** (0.140)
MS Phase 2002-07 X Age Cohort 20-24	0.390*** (0.0919)	0.889*** (0.155)	0.890*** (0.165)
MS Phase 1989-95 X Age Cohort 25-29	0.342*** (0.0967)	0.0336 (0.145)	0.0803 (0.130)
MS Phase 1996-01 X Age Cohort 25-29	0.415*** (0.0872)	0.383*** (0.131)	0.158 (0.131)
MS Phase 2002-07 X Age Cohort 25-29	0.175* (0.0872)	0.647*** (0.131)	0.481*** (0.131)

# Longer exposure $\rightarrow$ Better formal education??



# Narrative

- Evidence for higher level of education among women in MS districts
  - Presence of Mahila Samakhya has led to an average increase of 0.89 years of education
  - Correction for district heterogeneity: evidence for targeting worse off districts
- Weaker, nonetheless comparable, estimates for marginalized women
  - Average increase of 0.84 years of education for SC/ST women
  - Average increase of 0.81 years of education for poorest SC/ST women
- Evidence for higher impact in older MS districts
  - Average increase of 1.05 years in 1989-95 districts, 0.95 years in 1996-01 districts, and 0.64 years in 2002-07 districts.
  - Mixed evidence when only SC/ST population considered
- Threshold effect
  - Systematic higher impact in younger age groups
  - No significant impact in women aged above 35 years

# Age at First Marriage: Ever vs Never

		N=131593, E= 103846				
Model 1		Covariate	Estimate	Hazard Ratio	S. Error	p-value
Full Sample		<b>MS: 15-19</b>	-0.082	0.92	0.068	0.23
15-49 years						
		N=122649, E= 94983				
Model 2		Covariate	Estimate	Hazard Ratio	S. Error	p-value
Full Sample		<b>MS: 15-19</b>	-0.107	0.89	0.056	0.05
15-44 years						
		N=27975, E=22448				
Model 3		Covariate	Estimate	Hazard Ratio	S. Error	p-value
Poor SC ST		<b>MS: 15-19</b>	-0.160	0.85	0.079	0.04
15-44 years						

## Age at First Marriage: Full Models

	(1) Whole Sample	(2) Whole Sample	(3) 15-44 years	(4) SC & ST	(5) Poorest SC & ST
MS Ever: 15–19	0.82** (0.04)	0.84** (0.03)	0.87** (0.03)	0.79** (0.07)	0.77** (0.08)
MS Ever: 20–24	0.95 (0.03)	0.92** (0.03)	1.01 (0.03)	0.96 (0.05)	0.94 (0.07)
MS Ever: 25–29	0.95 (0.03)	1.01 (0.03)	1.03 (0.03)	1.02 (0.05)	1.02 (0.07)
MS Ever: 30–34	0.98 (0.03)	0.99 (0.03)	1.07* (0.03)	0.99 (0.05)	1.04 (0.07)
MS Ever: 35–39	0.95 (0.03)	1.03 (0.03)	1.03 (0.03)	1.05 (0.06)	1.10 (0.07)
MS Ever: 40–44	0.94 (0.03)	1.01 (0.03)			
Control Variables	No	Yes	Yes	Yes	Yes
Observations	131,960	131,593	122,649	42,575	27,975

# Narrative

- **Marital choices**
  - Correcting for district heterogeneity: evidence for targeting worse off districts
  - Marginalized women targeted: evidence for equity in program design
  - Evidence for better outcomes in older districts
- **Fertility choices**
  - No significant difference once marital choices are accounted for

## MS: A path to empower women? YES!

- MS has expanded roll-out from 10 districts to over 130 districts and created a program for change among women in rural India
- This program has led to intergenerational improvements in women's outcomes
  - Education is higher for women in MS districts
  - Age at Marriage for women is higher in MS districts



# Thank You!

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