Are Caste Categories Misleading? The Relationship Between Gender and Jati in Three Indian States

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What is caste?

- Varna categorizations based on ancient Hindu texts: Brahmins, Kshatriyas, Vaishyas, Shudras, and those outside the caste system ("outcastes")
- Government categories are very broad:
  - Defined since at least 1935
  - Examples: Forward Caste, Backward Caste (BC), Other Backward Caste (OBC), Scheduled Caste (SC), Scheduled Tribe (ST)
  - Definitions of who gets included in these govt. categories have changed with time and become increasingly political
- All large sample surveys restrict information on caste to these "broad" categories
- So our understanding of caste-based inequality is limited to these government categories

But…. caste is lived as *Jati,* which is rarely measured in surveys

- Several thousand jatis, no pan Indian ranking
- Endogamous groups
- Specific to regions and sub-regions
- They affect many aspects of life:
  - Marriage (Desai and Dubey 2010)
  - Political mobilization and access to public services (Banerjee and Somanathan, 2007)
  - Credit and insurance (Munshi and Rosenzweig 2006; Mazzocco 2012).
  - Employment and out-migration (Munshi and Rosenzweig 2006; Munshi 2011; Munshi 2016)
  - Gender norms (Eswaran, Ramaswami and Wadhwa, 2011; Joshi, Kochhar and Rao, 2017)

A large empirical literature argues that caste is a persistent source of inequality

- SCs and STs continue to be disadvantaged relative to the broader population (Dreze and Sen, 2002; Government of India 2014, 2017; Deshpande 2000a, 2000b, 2001, 2004; Thorat, 2009; Desai and Dubey, 2012)
- For women, higher caste status is associated with lower rates of labor participation, lower levels of mobility and weaker decision making autonomy
  - Typical of settled agricultural societies (Boserup, 1970)
  - Backward bending supply curve for women (Goldin, 1993)
  - Religion can also play a role (Srinivas, 1977)
- But most of this literature focuses on broad caste groups, not actual jatis…

Contribution of our work

- Looks at large samples from three states (today, just 1 state)
- Combines data on jati categories with data on household expenditures, female employment and bargaining power and mobility
- Compares how government caste categories and jati categories can give us very different understandings of the relationship between caste and gender
- This matters for public policy: affects the take-up of large poverty alleviation programs

Limitations of our work

- Baseline data from evaluations of women centered anti-poverty programs in rural areas
- So data is representative of poor, rural populations in these states and not of the entire state
- This is a reduced form exercise so we are not testing theory or making causal claims, but comparing associations of gendered outcomes with broad caste categories and *jati* categories

Data

- Our sample includes data from baseline surveys for impact evaluation of state rural livelihood programs
- 15000+ households used for analysis in this paper

- **Bihar:**

180GPs from 16 blocks in 7 districts where scale-up of JEEViKA was planned (random).

Hamlets where majority populations belonged to SC or St castes were identified.

Households were randomly selected from these hamlets

Distribution by district in each state

Table 1: Sample descriptives

Bihar (N=8973)		Odisha (N=2677)		Tamil Nadu (N=3888)	
Panel (a): Districts					
Gaya	3.38	Anugul	10.98	Ariyalur	20.7
Madhepura	31.06	Balasore	11.13	Dharmapuri	5.35
Madhubani	5.07	Bhadrak	9.82	Dindigul	10.03
Muzzafarpur	18.51	Cuttack	11.06	Karur	8.02
Nalanda	5.58	Jagatsinghpur	9.08	Krishnagiri	15.84
Saharsa	19.06	Jajpur	7.43	Madurai	10.01
Supaul	17.34	Kendrapada	10.95	Pudukkottai	10.01
		Khurda	7.96	Sivaganga	10.03
		Nayagarh	10.46	Virudhunagar	10.01
		Puri	11.13		
Panel (b): Caste					
SC	69.93	SC	26.71	SC	31.12
ST	1.13	ST	7.1	ST	1.65
OBC	16.9	OBC	33.77	MBC	24.23
EBC	4.65	Muslim	2.24	BC	41.72
Muslim	3.82	FC	30.18	Muslim	1.29
FC	3.58				

Jati distribution, by state

SC: Chamar	20.44	SC: Barui	3.03	SC: Adi Dravidar	21.84
SC: Dobha/Dobh	2.51	SC: Bhoi	2.02	SC: Arunthatiyar	1.03
SC: Dom	0.67	SC: Dobha	2.76	SC: Chakkaliyan	1.52
SC: Dushad	16.72	SC: Hadi	0.93	SC: Madari	0.51
SC: Musahar	25.93	SC: Keuta	2.54	SC: Pallar	4.42
SC: Pasi	0.89	SC: Khodala	1.16	SC: Parayan	0.51
SC: Sardar	2.08	SC: Kondara	3.74	Other SCs	1.29
Other SCs	0.69	SC: Pana	7.58	STs	1.65
ST: Adivasi	0.86	Other SCs	2.95	MBC: Ambalakarar	3.19
Other STs	0.27	ST: Bhuiya	0.97	MBC: Kurumba	1.13
OBC: Dhanuk	1.19	ST: Ho	0.6	MBC: Muthuraja	1.95
OBC: Koeri	0.91	ST: Khond	1.42	MBC: Urali Gounder	0.85
OBC: Kurmi	1.27	ST: Kolha	0.6	MBC: Vannar	0.64
OBC: Shershabadia	0.78	ST: Savar	1.01	MBC: Vanniyar	13.27
OBC: Yadav	6.56	Other STs	2.5	Other MBCs	3.19
Other OBCs	6.17	OBC: Bagheti	1.57	BC: Chettiar	1.62
EBC: Keuta	0.53	OBC: Bania	0.9	BC: Kallar	4.94
EBC: Mallah	0.76	OBC: Chasa	8.48	BC: Maratha	1.26
EBC: Nat	0.99	OBC: Gauda	1.76	BC: Nadar	1.16
Other EBCs	2.36	OBC: Goala	4.48	BC: Naidu	1.44
Muslim: Ansari	0.68	OBC: Golla	1.23	BC: Nayakkar	1.08
Other Muslims	3.14	OBC: Guria	2.69	BC: Parkavakulam	4.14
FC: Brahmin	1.34	OBC: Kamar	1.01	BC: Pillaimar	1.11
FC: Rajput	1.46	OBC: Khumbara	1.53	BC: Reddiyar	1.49
Other FCs	0.78	OBC: Mali	0.6	BC: Thevar	2.13
		OBC: Marwari	0.71	BC: Valaiyar	0.85
		OBC: Raju	1.76	BC: Vellalar	10.31
		OBC: Tanti	2.47	BC: Vishwakarma	1.16
		OBC: Teli	2.58	BC: Yadava	2.19
		Others OBCs	2.02	Other BCs	6.74
		Muslims	2.24	Muslim: Lambai	0.57
		FC: Baisnab	0.93	Other Muslims	0.82
		FC: Brahmin	5.38		
		FC: Karan	2.61		
		FC: Khandayat	18.83		
		FC:Suda	1.49		
		Other FCs	0.93		

Panel (b): Household characteristics

	Bihar	Odisha	Tamil Nadu
Sample size	8969	2462	3384
Per capita household monthly consumption expenditure (average in rupees)	610.1	1176.9	2150.3
Land holding (average in acres)	0.5	0.6	1.96
Female household head	16.3	5.9	16.7
Number of members in the household (average)	5.9	5.2	4.4
Distance to nearest town (average in kilometers)	22.5	54.4	18.8
Employed adults females	68.2	17.5	62.1
Education profile of the household head			
Never went to school	56.6	20.5	31.3
Primary	18.2	33.2	10.1
Above primary but below or equal to senior secondary	22.5	20.1	54.7
Above senior secondary	2.6	26.2	3.9

Panel (c): Characteristics of female respondents (means)

	Bihar	Odisha	TN
Age	34.1	42.3	39.8
Age at the time of marriage	17.9	18.9	19.3
Employment	80.3	24.1	76.9
Marital status of the female respondent			
Married	96.3	93.1	90
Unmarried	1.3	0.9	0.7
Widowed/Separated/Not cohabiting	2.4	5.9	9.3
Education profile of female respondents			
Never went to school	78.1	37.6	40
Primary	11	29.4	9.1
Above primary but below or equal to senior secondary	10.3	17.7	48.5
Above senior secondary	0.6	15.3	2.4
Intra-household decision making: Does female respondent provide any input in the following decisions made in the household?			
Purchase of household durables	91.7	82.9	86.3
Children's education	84.1	63	84.8
Own livelihood activity	79.5	64.2	77.4
Politics (like who to vote for)	78.6	41.6	87.3
Mobility of female respondent			
Bank	20.1	21.1	76
Store	75.1	45.3	-
Health centre	93.1	94.1	-
Friend/ neighbour/ relative	97.4	96	-
Taluk Office	-	-	30
Police Station	-	-	5.5

We look at three groups of indicators of women's status

- Measures of intra-household decision-making: women were asked if they provide inputs into the following:
  - purchase of household durables,
  - children's education/ tuition,
  - own livelihood activity,
  - political vote
- Measures of female mobility: Women were asked if they go without seeking permission to the general store, health centre, bank, and to visit their friends, neighbours and relatives
- Labour force participation: We use a dummy variable that takes value 1 if the woman is employed in either the rainy and non-rainy season (or both)

Reduced form regressions

OUTCOMES:

- Female LFP, Measures of Intra-household decision-making, female physical mobility

CONTROLS:

- Household level controls: per capita monthly consumption expenditure and its squared, land holding, number of members in the household, gender of the household head, dummy for female headed household
- Individual controls: education level, age, age squared and age at marriage of the female respondent, and
- Panchayat-level fixed effects.

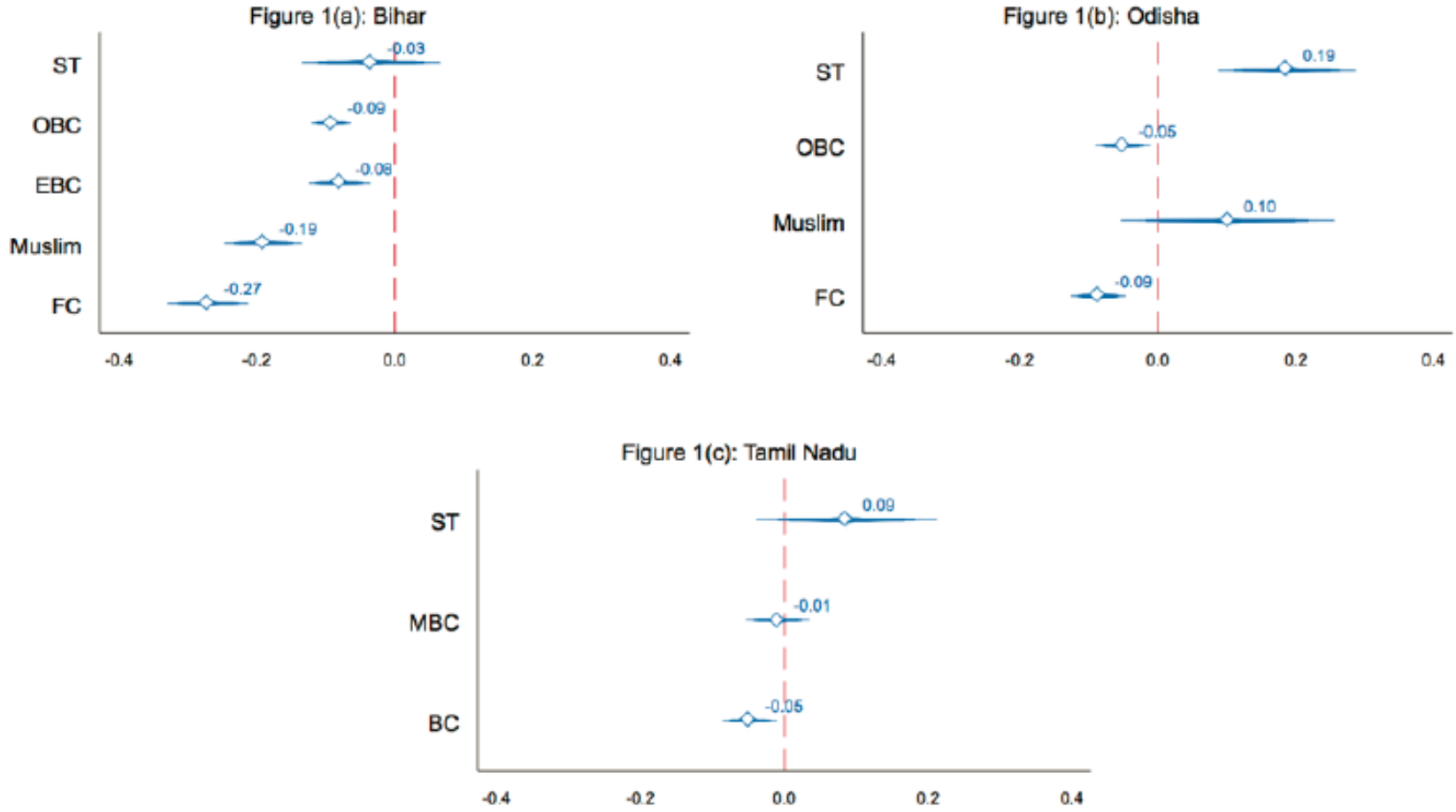
We first rely on government categories

Table 3: Empowerment regressions with government-defined caste categories

Panel (a): Bihar	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Input				Mobility			
	Employed	Durables	Tuition	Livelihoods	Politics	Store	Health Centre	Friend	Bank
ST	-0.0342	-0.0491	-0.0434	-0.0317	-0.105*	0.0252	-0.0753	0.00463	0.0460
	(-0.88)	(-1.37)	(-1.08)	(-0.80)	(-2.37)	(0.55)	(-1.92)	(0.24)	(0.98)
OBC	-0.0917***	0.00301	0.0226*	-0.0942***	-0.00350	-0.117***	-0.0239**	0.00192	-0.00377
	(-8.32)	(0.35)	(2.10)	(-7.09)	(-0.28)	(-8.44)	(-2.78)	(0.42)	(-0.28)
EBC	-0.0808***	-0.00748	0.0167	-0.0916***	0.0148	-0.0409*	-0.00227	-0.00809	0.0210
	(-4.67)	(-0.58)	(1.05)	(-4.43)	(0.77)	(-2.09)	(-0.20)	(-0.97)	(0.97)
Muslim	-0.191***	-0.000158	-0.00925	-0.134***	-0.0332	-0.118***	-0.000230	-0.0129	-0.0220
	(-8.72)	(-0.01)	(-0.44)	(-4.97)	(-1.38)	(-4.73)	(-0.02)	(-1.10)	(-0.91)
General	-0.271***	-0.0113	-0.00355	-0.185***	-0.0192	-0.271***	0.00219	-0.0210	-0.0501
	(-12.01)	(-0.80)	(-0.18)	(-6.59)	(-0.86)	(-9.52)	(0.16)	(-1.82)	(-1.85)
Some Schooling	-0.0936***	0.0198*	0.0364***	-0.0035	0.0256*	-0.0598***	0.0052	0.0084	0.115***
	(-8.62)	(2.38)	(3.49)	(-0.27)	(2.13)	(-4.49)	(0.67)	(1.79)	(8.85)
Female headed household	0.0507***	0.0193*	0.0338**	0.0596***	0.0272*	0.0462***	-0.0145	-0.0084	0.0158
	(4.98)	(2.34)	(3.03)	(5.13)	(2.21)	(3.85)	(-1.77)	(-1.51)	(1.26)
Per capita expenditure	-0.156**	-0.0684	0.0299	-0.106	0.122*	-0.0328	-0.0151	0.0335	0.225***
	(-3.00)	(-1.77)	(0.54)	(-1.70)	(2.00)	(-0.53)	(-0.42)	(1.31)	(3.34)
Per capita expenditure squared	0.0237	0.0223	-0.0440	0.0417	-0.0697*	-0.0343	0.00265	-0.0170	-0.0573
	(0.82)	(1.14)	(-1.45)	(1.24)	(-2.11)	(-1.04)	(0.15)	(-1.32)	(-1.51)
Land	-0.0112***	0.0007	0.004*	-0.005	0.001	-0.0163***	-0.0022	0.0023*	0.01**
	(-4.84)	(0.38)	(1.98)	(-1.45)	(0.38)	(-4.41)	(-0.91)	(2.45)	(2.93)
Observations	12584	8637	8637	8637	8637	8637	8637	8637	8637
Adjusted R-squared	0.302	0.087	0.122	0.118	0.135	0.205	0.090	0.024	0.086

Notes: (1) Source: Author's calculations based on data collected by Social Observatory, World Bank and Government of Bihar. (2) SC is the omitted caste group. (3) Each column represents a separate regression wherein an `empowerment indicator' is regressed on reported variables and additional controls, as reported in the text. The female employment regression is run for all female adults in the sample (individual level). (4) We report robust standard errors in the brackets. (5) We report the level of significance: * p value < .05 , ** p value < .01 and *** p value < .001.

Figure 1: Estimates from employment regression (caste coefficients)



Note: 1) SC is the omitted caste group.
2) 99%, 95% and 90% confidence intervals included.

Source: Authors' illustration based on data used in column 1 of Table 3, panel (a), (b) & (c) respectively.

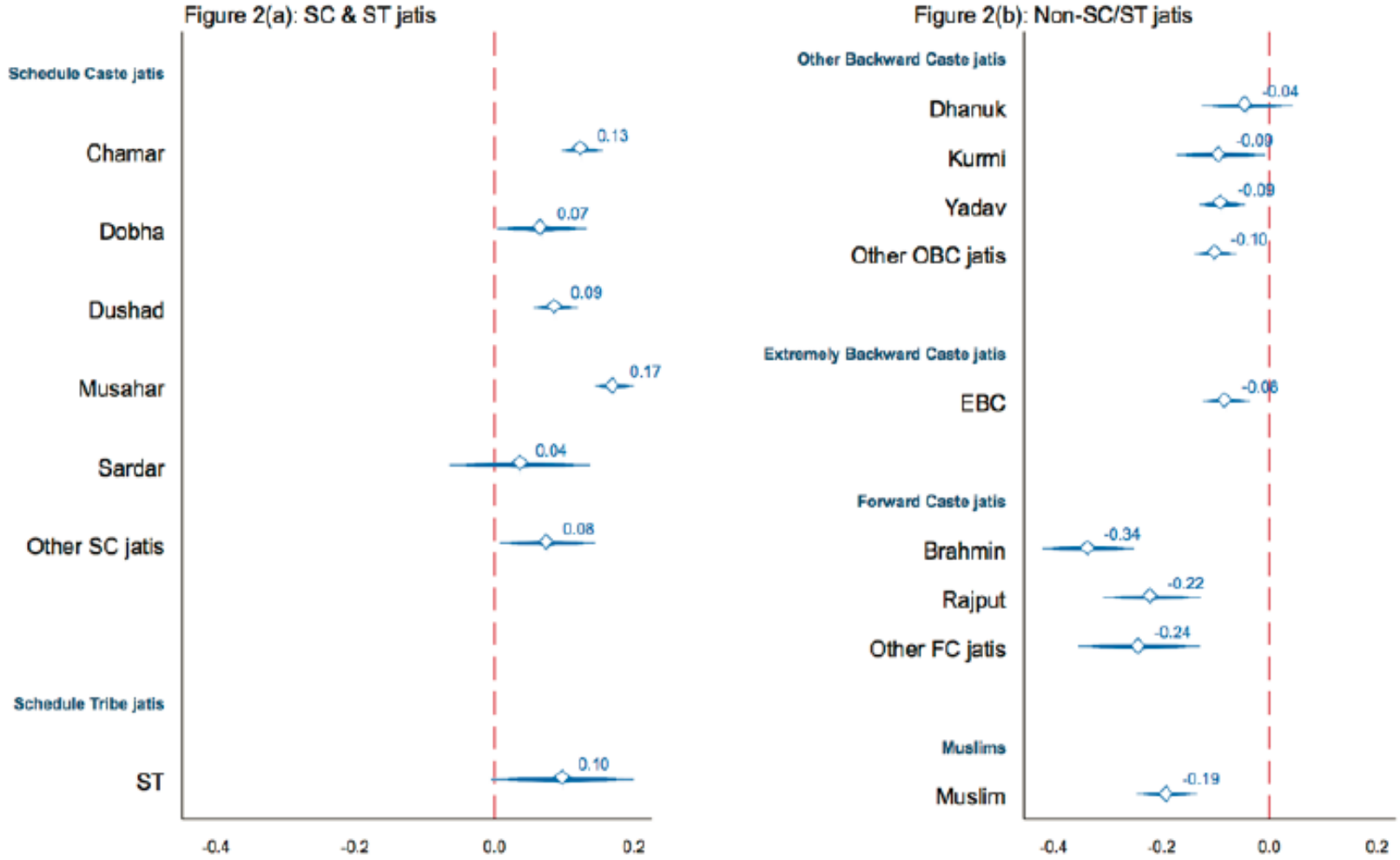
Next we examine the relationship between jati and gender

- For each state, we present two sets of regression results:
  - SC groups only (with all other castes treated as the excluded category)
  - Other groups only (with SC groups as the excluded category)
- We find considerable variation at the jati level

Table 4: Empowerment regressions with jati identifiers, Bihar

	Employed	Input: Durables	Tuition	Livelihood	Politics	Store	Health center	Friend	Bank
Panel (a): SC-ST Jatis									
SC: Chamar	0.125***	-0.00461	-0.00392	0.102***	0.0221	0.126***	0.00781	0.00661	0.00429
	(10.79)	(-0.52)	(-0.34)	(7.52)	(1.69)	(9.26)	(0.97)	(1.27)	(0.31)
SC: Dobha	0.0673**	-0.0264	0.0164	0.0667*	-0.0563	-0.00181	0.0291*	-0.00699	0.0154
	(2.70)	(-1.35)	(0.70)	(2.25)	(-1.89)	(-0.06)	(2.20)	(-0.57)	(0.53)
SC: Dushad	0.0872***	0.0152	-0.00129	0.0975***	0.00896	0.0979***	0.0159	0.00948	0.0467**
	(7.05)	(1.74)	(-0.11)	(6.75)	(0.67)	(6.84)	(1.84)	(1.87)	(3.19)
SC: Musahar	0.172***	-0.00449	-0.0312**	0.123***	-0.0102	0.156***	0.0189*	0.00109	-0.0219
	(15.93)	(-0.47)	(-2.68)	(9.61)	(-0.78)	(11.56)	(2.14)	(0.19)	(-1.67)
SC: Sardar	0.0366	0.0112	-0.0160	0.141***	0.0944*	0.0180	0.00144	0.000129	0.0251
	(0.93)	(0.31)	(-0.38)	(3.40)	(2.15)	(0.35)	(0.05)	(0.00)	(0.50)
SC: Others	0.0757**	0.0152	-0.0747**	0.143***	0.00961	0.0710*	-0.00892	-0.00359	-0.0389
	(2.87)	(0.85)	(-2.64)	(5.29)	(0.32)	(2.37)	(-0.45)	(-0.28)	(-1.40)
ST	0.0976*	-0.0492	-0.0634	0.0830*	-0.0977*	0.149**	-0.0603	0.00741	0.0455
	(2.47)	(-1.35)	(-1.55)	(2.05)	(-2.17)	(3.16)	(-1.52)	(0.39)	(0.96)
Observations	12584	8637	8637	8637	8637	8637	8637	8637	8637
Adjusted R-squared	0.300	0.087	0.123	0.117	0.136	0.204	0.090	0.023	0.088
Panel (b): Non-SC Jatis									
OBC: Dhanuk	-0.0424	0.0244	0.0159	-0.0558	0.00743	-0.0872	-0.0922**	-0.00324	-0.0292
	(-1.30)	(0.78)	(0.47)	(-1.43)	(0.18)	(-1.94)	(-2.62)	(-0.21)	(-0.76)
OBC: Kurmi	-0.0910**	0.0285	0.0571	-0.0394	0.00484	-0.0584	0.0179	0.00726	0.00790
	(-2.84)	(1.29)	(1.89)	(-0.94)	(0.12)	(-1.50)	(0.85)	(0.72)	(0.19)
OBC: Yadav	-0.0877***	0.00336	0.0184	-0.0936***	0.0284	-0.157***	-0.00916	0.00732	-0.0104
	(-5.36)	(0.26)	(1.20)	(-4.57)	(1.63)	(-7.20)	(-0.75)	(1.19)	(-0.54)
OBC: Other	-0.101***	-0.00327	0.0227	-0.109***	-0.0277	-0.104***	-0.0285*	-0.00269	0.00182
	(-6.69)	(-0.29)	(1.55)	(-6.07)	(-1.64)	(-5.53)	(-2.38)	(-0.41)	(0.10)
EBC	-0.0801***	-0.00666	0.0173	-0.0913***	0.0165	-0.0423*	-0.000900	-0.00815	0.0202
	(-4.63)	(-0.52)	(1.09)	(-4.41)	(0.86)	(-2.16)	(-0.08)	(-0.98)	(0.93)
FC: Brahmin	-0.336***	-0.00521	-0.0136	-0.238***	-0.0166	-0.255***	0.0253	-0.0184	-0.0906*
	(-10.10)	(-0.25)	(-0.45)	(-5.34)	(-0.48)	(-5.60)	(1.41)	(-1.03)	(-2.28)
FC: Rajput	-0.218***	-0.00985	0.00279	-0.165***	-0.0491	-0.383***	0.00328	-0.0279	-0.0186
	(-6.21)	(-0.47)	(0.10)	(-3.90)	(-1.37)	(-9.30)	(0.15)	(-1.55)	(-0.44)
FC: Others	-0.242***	-0.0195	0.00648	-0.120*	0.0510	-0.106*	-0.0264	-0.0113	-0.0421
	(-5.51)	(-0.65)	(0.16)	(-2.22)	(1.33)	(-1.98)	(-0.92)	(-0.55)	(-0.79)
Muslims	-0.190***	0.000654	-0.00842	-0.133***	-0.0325	-0.118***	0.000623	-0.0130	-0.0223
	(-8.69)	(0.04)	(-0.40)	(-4.94)	(-1.36)	(-4.73)	(0.04)	(-1.12)	(-0.93)
Observations	12584	8637	8637	8637	8637	8637	8637	8637	8637
Adjusted R-squared	0.302	0.086	0.122	0.118	0.135	0.208	0.090	0.023	0.086

Figure 2: Estimates from employment regression, Bihar (jati coefficients)



Note: 1) OBC, EBC, FC & Muslim jatis are the omitted group.
2) 99%, 95% and 90% confidence intervals included.

Note: 1) SC jatis are the omitted group.
2) 99%, 95% and 90% confidence intervals included.

Source: Authors' illustration based on data used in column 1, Table 5.

In Bihar, we see considerable variation within broad caste groupes

- Relative to upper castes, Musahar women have significantly higher employment than any other SC jati
- Relative to the SC group, female employment is 7—8 percentage lower among the Yadavs, Kurmis and Dhanuks, who are also classified as backward castes
- Women from the highest ranked castes Brahmins and Rajputs and 33 and 28 per cent less likely to be employed compared to SCs
- Similar patterns for female decision-making and mobility variables

Next, we examine how effectively poverty alleviation programs target women

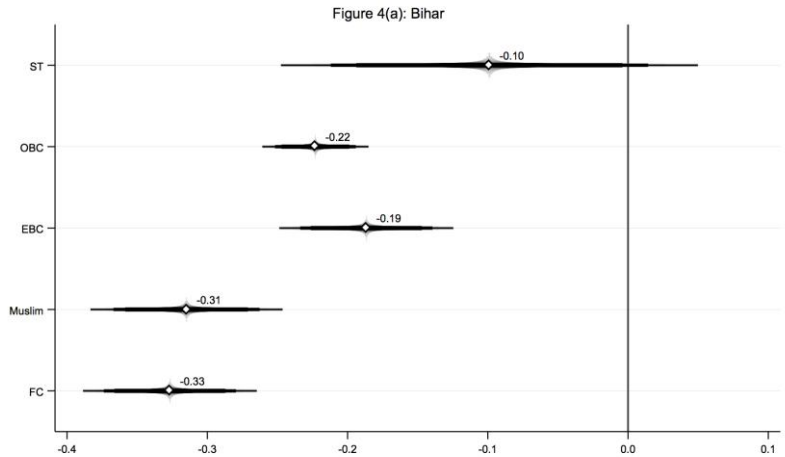
OUTCOMES:

- Possession of a job-card for access to an employment guarantee program
- participation in a female livelihoods program

CONTROLS:

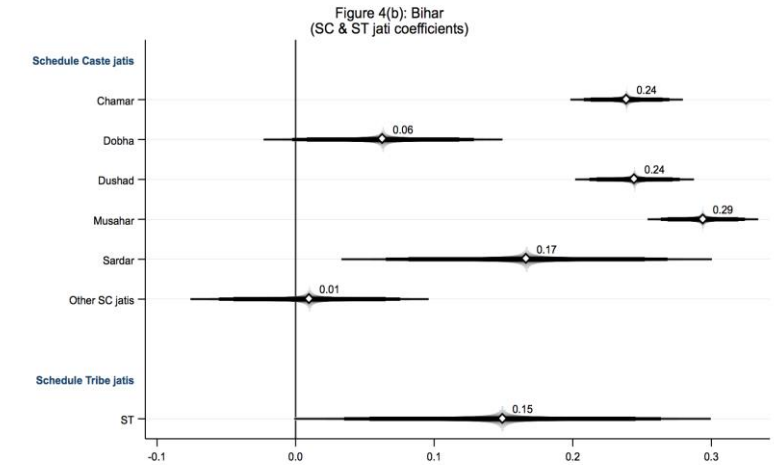
- Household level controls: per capita monthly consumption expenditure and its squared, land holding*, number of members in the household, gender of the household head, dummy for female headed household
- Panchayat-level fixed effects.

NREGA in Bihar



Note: 1) SC is the omitted caste group.
2) 99%, 95% and 90% confidence intervals included.

Source: Authors' illustration based on data used in Table X, column 1.



Note: 1) OBC, EBC, FC & Muslim jatis are the omitted group.
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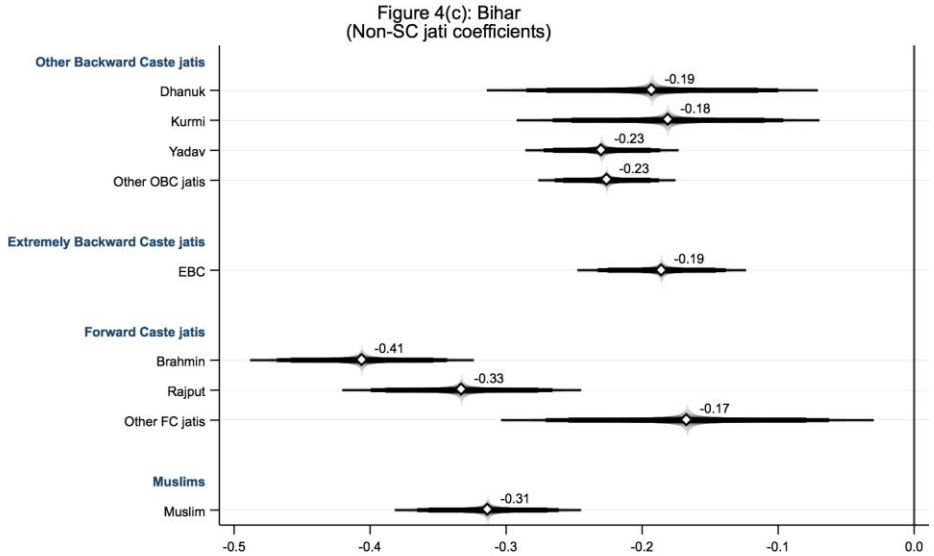
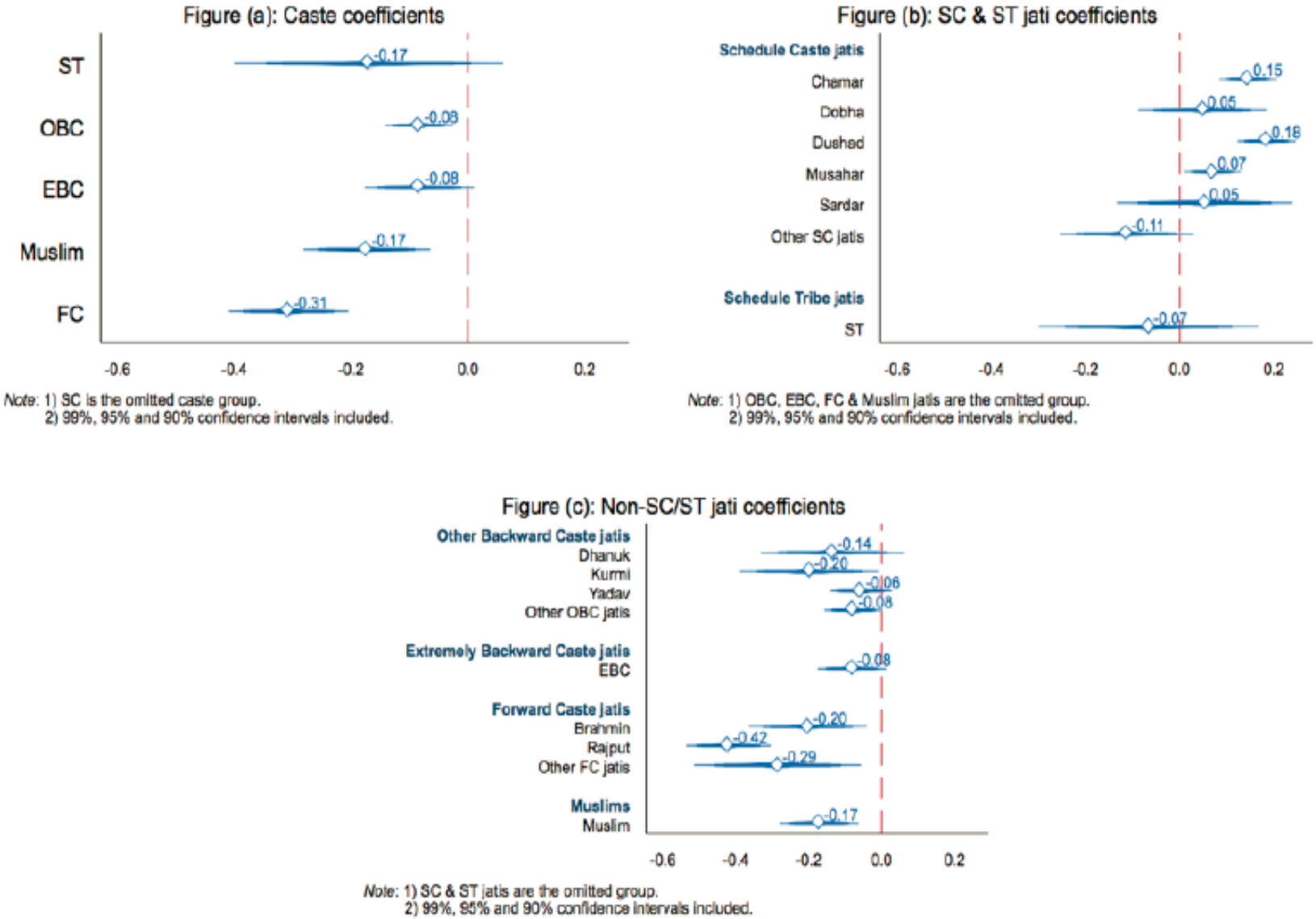


Note: 1) SC jatis are the omitted group.
2) 99%, 95% and 90% confidence intervals included.

Source: Authors' illustration based on data used in Table X, column 1.

Figure 6: Household targeting under JEEViKA, Bihar



Source: Authors' illustration based on data used in column 1 of Table 12, panel (a), (b) and (c) respectively.

Conclusions

- Focusing on government-defined broad caste categories can hide many details on the lived reality of how caste and gender is experienced
- Focusing on actual social identity is hard – data limitations!
- We find that for both upper and lower castes, there are important and interesting differences between jatis
- This has implications for policy, particular the design and targeting of interventions