

### REPLICATION PAPER

# THE POWER OF POLITICAL VOICE: WOMEN'S POLITICAL REPRESENTATION AND CRIME IN INDIA

By: L. Iyer, A. Mani, P. Mishra, and P. Topalova

Author: Triffe Elysabeth

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#### 1 Introduction

Across countries women along with minorities have very little political representation. As a consequence, those discriminated groups face worst access to healthcare, to the labour market, disparities in education, or are more often victims to crimes. To move away from this situation, one proposed solution is affirmative action as political representation is a way for those minorities to voice their struggles, and act. The 73rd amendment of the Indian Constitution known as the Panchayati Raj and passed in 1993, takes a step in the direction of decentralization by creating elected administrative positions along with better political representation by assigning quotas of sits for women, and proportionally to the population of minorities tribes and castes in councils of villages, sub-districts, and districts. The later is key in the global trend to improve women and minorities outcomes in Indian society.

This change in policy is at the heart of [Iyer et al., 2012] which in the literature of development and crime literature are the first to assess the impact of political representation of disadvantaged groups on their crime outcomes. They aim to unveil the impact of political representation of a disadvantage group on its crime outcomes through lower documentation bias by the police officers, incentive to report, or potential changes in crime trends. Therefore, they ask the following:

How could political representatives from disadvantaged groups affect their crime outcomes?

Our replication work on [Iyer et al., 2012] will focus on the impact of women's political representation on their crime outcome, and thus will only rely on a sub part of all the data they collected for their study. This result is considered as the main argument of the paper by the authors, thus our choice to narrow down our work on it. Our goal will be to assess from which channel the rise in documented crime arise, and we will rely on 3 datasets. The "Crime in India" panel published by the National Crime Record Bureau from 1985 to 2007 reporting the number of crime reports submitted, charge-sheeting, and arrests per type of crimes, states, and years augmented with an amalgam of survey data on states to get information on literacy, population, proportion of females, and data sits reserved for disadvantaged groups. Then, the United Nations Interregional Crime and Justice Research Institute's (UNICRI) crime victimization survey with 2007 and 2008 rounds where individuals surveyed report if they were victims to a set of crimes in the past 12 months. And they use the extension of the Rajasthan crime survey which included a survey asking the respondent about his/her willingness to report a hypothetical crime to the police and file a First Information Report (FIR).

Under the scope that our replication work impose, they make three key findings in their research. First, they unveil a net increase in crime reporting after a women was elected to a position in local government. Secondly, they show that reports for crimes not targeted at women are steady in number. Finally, that the bias in reporting crimes toward women is decreasing as the quality of reports remained constant. Those results lead to the broader conclusion that this increase in crime reporting is positive as it's based on crimes reported but not an increase of the number of crimes. This work will in a first section highlight their methodology used to assess the causal impact of the policy. But also question the external validity, and the missing parts in the code. The second section will reproduce results, highlights differences, and analyses the figures leading to this conclusion. The third will conclude on the results, and differences found during replication.

#### 2 Identifying the effect of a woman elected on crime outcome targeted at women

#### 2.1 Chosen framework to overcome endogeinity

To unravel the chain of causality between the measured crime rate, and identify at which level change might arise, the authors adopt the framework developed by [Donohue III and Levitt, 2001]. They assume that crime reporting follows a three-stage process: a criminal commits the crime, then the victim decides whether to report it, and the police records the report and begins an investigation.

At each stage, agents (criminals, victims, and police) make decisions that can bias crime statistics, if the victims or the police doesn't report, or over report. [Iyer et al., 2012] identify three key effects within this framework, corresponding to each agent actions. Those effects are potentially responsible of changes in the documented crimes trend.

The 1993's reform political reservation did not affect India's law enforcement system, which remained independent of local offices. The study isolates the effect of female political representation through "soft-power" channels as they don't have a direct hand on law and order offices. Those women act as "role-model" reducing bias the police force (mainly masculine) might have on women, and therefore might be more likely to take women report seriously, they name this effect: "recording effect". The second channel is linked to the victim willingness to file a report to the police. Elected women might yield incentives for women through the similar "role-model" effect, or by increasing trust in administrations, this is the "reporting effect". The third channel is twofold for the criminals. Either the election of a women post reform can incentivize to commit crimes targeted at women: "retaliation effect", or deter them: "deterrence effect".

The identifying assumption is that the timing of the implementation of political reservations for women across states is exogenous. However, this assumption could be threatened if states strategically implemented the reform. Specifically if the variation in when states adopted the reform is driven by factors related to crime trends. As their measure of political representation is an indicator interacting states that passed the reform and held elections for local government, a threat to the assumption is the timing and motive for states to adopt the reform. A handful of states were early adopters as they were aware of the coming reform, or some were constrained by budget to postpone elections, some specified no reasons for not implementing it. Those states will be later removed for robustness checks as they threaten the causal impact estimation. The common trend and no anticipation assumptions being potentially breached. However, the identification assumption along with staggered adoptions of political reservations across states prompts the authors to employ a difference-in-differences design to estimate the causal impact of women political representation on crime outcomes.

#### 2.2 Empirical strategy

They study 17 major states in India over 1985-2007, which together account for 97% of the population. Newly created states (e.g., Jharkhand, Chhattisgarh, and Uttarakhand) are merged back with their parent states to avoid issues of attrition.

To assess whether the election of women post-reform led to changes in crime reporting by the police, the authors employ a two-way fixed-effects model with a staggered adoption of the treatment (the reform and the associated election of women). Untreated states serve as the control group. The baseline specification is the following:

$$ln(\frac{C_{st}}{P_{st}}) = fD_{st} + d^t X_{st} + fe_s + fe_t + \epsilon_{st}$$

with  $\frac{C_{st}}{P_{st}}$  the crimes per habitant in a given state and time,  $fe_t, fe_s$  being the time and states fixed effect,  $X_{st}$  the set of controls,  $d^t$  their coefficients, and  $D_{st}$  the political representation indicator, with f the coefficient of interest capturing the effect of reservation for women on their crime outcomes.

The controls are specific per state and time, later down the line aggregated per group with "demographic, economic": per capita incomes, male-female ratio, share of individuals with farming as main activity (urbanism); "female literacy", "political": woman elected as chief minister, and "police force": number of agents per 1000 habitant. Further fixed effects are added with state-specific time trends interacting the state and time fixed effects. The control on police is added as a separate controls as it could lead to simultaneity bias: a higher rate of crime could incentivize to a bigger police force, and the other way around. They cluster the standard error per state to rule out state specific trends of crime.

They amend the baseline model to address and identify which channel is affecting this surge in recording. To check wether this surge is due to an overall increase of crime targeted at women, of reporting, or of documentation by the police, they need to develop an approach to unravel which channel is impacted by the reform. To do that, they will use different specification of the baseline design, and various data gathered at different levels. To comply with the concision constraint imposed by this exercise, we narrow down to identifying the role of the three channels of this phenomenon.

To identify the deterrence or retaliation effect, they assess whether political reservations changed actual crime incidence, the authors analyze self-reported victimization data from the UNICRI Crime Victimization Survey in Rajasthan. Unlike police data, Using self-reported data also allows to better approximate the crime incidence as it remove the police documentation bias, and also the pressure for the individual to file a report. Therefore it captures actual crime experiences, with a lower bias. Some crimes might remain hidden from those statistics as taboos could lead to withhold the information. If actual crime rates (from victim surveys) remain unchanged but reported crimes (from police data) rise, this suggests improved reporting, not retaliation. But an increase in crime toward women, would induce retaliation, or deterrence if decrease. They use the following model:

$$ln(V_{dt}) = fD_{dt} + d^t X_{dt} + fe_d + fe_t + \epsilon_{dt}$$

with  $V_{dt}$  is an indicator for whether an individual reported being a crime victim in district d and year t, and  $fe_d$  the district fixed effect. The remaining variables are consistent with the first specification.

To identify the reporting effect, they directly measure victims' willingness to report crimes, through the Rajasthan Crime Survey, which asks individuals whether they would file a First Information Report (FIR) with the police. Declarative intention data has the advantage to already account for victims willingness to report, and remove potential documentation bias by the police. Therefore they give a better visual of the actual reporting rate. The authors compare this effect between men and women, ensuring that any increase is specific to female victims rather than a general shift in crime reporting. They further disaggregate crimes by type, as stigma and documentation biases may affect reporting rates differently across crimes. Therefore, if the reservation indicator is significant, thus women political representation significantly impact the willingness to report crimes. The model is the following:

$$R_{st} = fD_{dt} + fe_d + fe_t + \epsilon_{dt}$$

The final step in the chain is the police response. The authors analyze arrest rates and charge-sheeting rates (percentage of cases formally upheld by magistrates). Chargesheeting is a proxy of the quality of the report by the police as it signals investigation quality. A significant increase in both arrests and charge-sheeting rates without an increase in overall

crime incidence would provide strong evidence of the recording effect. The model is the same as the baseline one.

## 3 Measuring through which channel women's political empowerment affects their crime outcome

This section presents the results of the replication work, and highlights potential discrepancies with [Iyer et al., 2012]. The original STATA code was transcribed into R, using the fixest package for the two-way fixed effects (TWFE) model resulting in some minor differences in standard deviation. It is important to note that the replication package did not contain code for generating the original graphs, making direct reproduction impossible. As a result, any graphical outputs were reconstructed through approximations, which did not yield identical results<sup>1</sup>. Moreover, some variables used were not available in the dataset and had to be approximated. This is the case of the total arrests for crimes against women per 1000 population or the crimes against women per 1000 population which were only expressed in 1000 of women. We used the following formula:

$$variable\ per\ 1000pop = \frac{variable\ per\ 1000women*female/male\ ratio}{1+female/male\ ratio}$$

Table 1 presents summary statistics on the numeric variables from the "Crime in India" panel. It shows the time period on which data is available, with great variation in crime recorded, and charge sheeting. The charge sheeting rate (cases where the charges are upheld by the procurer) is significantly higher for women, and lower spread indicating that potentially the police submits higher quality reports. The code to replicate this figure was only partially available with missing variables, and no labels. We can highlight some minors differences: Arrests for crimes against women per 1,000 population (1985-2007) had a mean higher by 0.004, and a standard deviation lower by 0.004; but also arrests for crimes other than those against women per 1000 pop was multiplied by 1000 in the original paper, once adjusted our computed statistics align with their reported results.

The baseline model results in table 2, show that political representation of women leads to a significant increase in the number of documented crimes reported by the police. This is evidenced by the coefficient f, which indicates a 0.365 increase in reported crimes against women significant at 5% under the robustness checks i.e. the result is robust to the inclusion of a large set of covariates. Importantly, when controlling for police force size, the estimated effect remains unchanged, suggesting that the observed increase in reported crimes is driven by women's political representation rather than an increase in policing capacity. The authors select Specification 3 as their preferred model, which estimates a 0.376 increase in crimes against women per 1,000 women (rather than per 1,000 population), thus a 46% increase. Panel B and C report similar results significant at 5% across rapes with 0.206 (a 23% rise), and kidnapping of women with 0.125 (a 13% rise). This suggest indeed a surge in crimes documented by the police after political representation of women was enforced through reserved sits. Now we need to disentangle the effects behind this surge.

Table 3 yields the results of the extension of the baseline model using the Crime Victimization survey provides a measure to assess the retaliation effect through the reservation of seats for women at village councils. Panel B represents the 2007 survey, and Panel C represents the 2008 survey. Over the 12 months before the survey, there are no significant changes in the amount of crime reported by women compared to villages without women's political reservation as all results are not significantly different than 0 even at 10%. This

<sup>&</sup>lt;sup>1</sup>JPEGs of the graphs reproduced are available in the reproduction package in the figures folder

Table 1: Summary statistics (reproduced)

Panel A: Crime data	n	mean	sd	min	max
Total crimes against women per 1000 women (1985-2007)	391	0.173	0.137	0.001	0.570
Rapes per 1000 women (1985-2007)	391	0.031	0.020	0.001	0.102
Kidnapping of women and girls per 1000 women (1988-2007)	340	0.038	0.031	0.005	0.149
Kidnapping of men and boys per 1000 men (1988-2007)	340	0.010	0.008	0.000	0.045
Crimes against property per 1000 pop (1985-2007)	391	0.446	0.191	0.099	1.087
Crimes against public order per 1000 pop (1985-2007)	391	0.110	0.086	0.000	0.449
Economic crimes per 1000 pop (1985-2007)	391	0.059	0.033	0.019	0.200
Murders per 1000 pop (1985-2007)	391	0.035	0.018	0.011	0.150
Atrocities against SCs per 1000 SC pop (1992-2007)	175		0.067	0.000	0.320
Civil rights violations of SC per 1000 SC pop (1992-2007)	175	0.008	0.013	0.000	0.080
Atrocities against STs per 1000 ST pop (1992-2007)	145	0.021	0.044	0.000	0.279
Civil rights violations of ST per 1000 ST pop (1992-2007)	145	0.003	0.010	0.000	0.087
Total crimes against SCs per 1000 SC pop (1992-2007)	175	0.171	0.175	0.000	0.766
Total crimes against STs per 1000 ST pop (1992-2007)	145	0.084	0.126	0.000	1.031
Panel B: Police activity (1988-2007)	n	mean	sd	min	max
Arrests for crimes against women per 1000 pop (1985-2007)	391	0.152	0.110	0.004	0.447
Arrests for rape per 1000 pop (1988-2007)	340	0.020	0.012	0.004	0.062
Arrests for kidnapping of women per 1000 pop (1988-2007)	340	0.020	0.016	0.000	0.101
Arrests for crimes excluding crimes against women (1988-2007)	340	0.006	0.005	0.001	0.027
Arrests for kidnapping of men per 1000 pop (1988-2007)	340	0.008	0.007	0.000	0.041
Chargesheeting rate for crimes against women (1991-2007)	289	89.602	7.753	60.500	98.300
Chargesheeting rate for all crimes (1991-2007)	289	76.663	10.901	41.500	94.500
Panel C: Control variables (1985-2007)	n	mean	$\operatorname{sd}$	min	max
Female-male ratio	391	0.937	0.045	0.859	1.070
Proportion of rural population	391	0.748	0.093	0.510	0.919
Proportion literate	391	0.513	0.121	0.273	0.811
Proportion with farming as main activity	391	0.178	0.054	0.021	0.294
Woman Chief Minister (dummy)	391	0.079	0.271	0.000	1.000
Police strength per 1000 population	391	1.541	0.885	0.084	5.923
Per capita state GDP ('000 rupees)	391	1.674	0.762	0.000	4.239

result is robust when separating the two rounds of the survey (Panels B and C) and across all types of crimes, and allow us to safely rule out that reserving sits had effects on crimes realization. This provides solid proof of the absence of retaliation or deterrence effects in the short run following women's political empowerment.

Table 4 reports the results of the willingness of individuals to file a FIR to the police per gender, and type of crime. Our replication aligns with the paper, except for the normalized average where we have a slight difference probably due to the method used to compute it (scale() method of R Vs. Stata). The table shows that if a women holds reserved sits in local councils, then women are more likely to report crimes on average, for stolen cell phone or if beaten up by someone. Those results are significant at 5%. Eve-teasing is not significant, but this could be due to the stigma around it. Compared to female, men seem to never be significantly affected by women political representation. Those results are weaker if we take apart the surveys (Panel B and C), but this might be driven by the lower sample size. Overall, those provide strong support for the reporting effect.

The last specification is based on the main dataset, and address police responsiveness to reports along with the quality of investigation measured by the charge-sheeting rate. Table 5 reveals that after political representation was insured and women were holding sits, the number of arrests increases if nearly 30% for all crimes against women. The numbers of

Table 2: Women's political representation and crimes against women

Panel A		T	otal crimes against v	vomen per 1000 wom	nen	
	(1)	(2)	(3)	(4)	(5)	(6)
Women's Reservation Implemented	0.365*	0.365**	0.376**	0.375**	0.225**	0.229**
•	(0.186)	(0.146)	(0.146)	(0.144)	(0.096)	(0.082)
Demographic and economic controls	` ′	<b>√</b>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	` √ ´	` /	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Control for female litteracy				✓		
Control for woman CM		✓	✓	✓		✓
Control for police strength			✓	✓		✓
Control for state specific time trend					✓	✓
Observations	391	391	391	391	391	391
$R^2$	0.84605	0.89603	0.89764	0.89781	0.94823	0.95330
stateid fixed effects	✓	✓	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓	✓	✓
Panel B	(4)	(0)		1000 women	(5)	(0)
	(1)	(2)	(3)	(4)	(5)	(6)
Women's Reservation Implemented	0.201**	0.199**	0.206**	0.203**	$0.147^{*}$	0.106
	(0.085)	(0.075)	(0.081)	(0.079)	(0.071)	(0.076)
Demographic and economic controls		✓	✓	✓		✓
Control for female litteracy				✓		
Control for woman CM		✓	✓	✓		✓
Control for police strength			✓	✓		✓
Control for state specific time trend					✓	✓
Observations	391	391	391	391	391	391
$\mathbb{R}^2$	0.81458	0.83161	0.83385	0.83707	0.90607	0.91986
stateid fixed effects	✓	✓	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓	✓	✓
Panel C				& girls per 1000 wor		
	(1)	(2)	(3)	(4)	(5)	(6)
Women's Reservation Implemented	0.160**	0.133**	0.125**	0.125**	0.135**	0.115**
	(0.055)	(0.048)	(0.046)	(0.046)	(0.057)	(0.052)
Demographic and economic controls		✓	✓	✓		✓
Control for female litteracy				✓		
Control for woman CM		✓	✓	✓		✓
Control for police strength			✓	✓		✓
Control for state specific time trend					✓	✓
Observations	340	340	340	340	340	340
$\mathbb{R}^2$	0.90878	0.92083	0.92184	0.92192	0.95512	0.95972
stateid fixed effects	✓	✓	✓	✓	✓	✓
year fixed effects	✓	✓	✓	✓	✓	✓

arrests rise also for kidnapping against women of 18% while not significantly changing for men, and jump of 25% for crimes not targeted at women but this does not hold if we introduce time-state specific trends, under which only arrests for crimes against women and kidnapping of women are significant. Meanwhile, under both panel we observe no significant change of charge-sheeting rate indicating that the quality of investigation by the police remains constant. Those results unveil a rise in the number of arrests for crimes against women, without a decline in the quality of police action. This is an evidence of the recording effect.

Table 3: Women's political representation and crimes against women : evidence from a victimization survey

Panel A. Rural sample: Baseline and End-line survey	Any crime (1)	Molestation (2)	Eve-teasing (3)	Attack (4)
Village council head position reserved for women in 2005	0.0019	0.0001	0.0006	0.0006
	(0.0018)	(0.0002)	(0.0005)	(0.0007)
Observations	25,359	25,359	25,359	25,359
$\mathbb{R}^2$	0.00091	0.00013	0.00035	0.00051
district fixed effects	✓	✓	✓	✓
Panel B. Rural sample: Baseline survey	Any crime	Molestation	Eve-teasing	Attack
	(1)	(2)	(3)	(4)
Village council head position reserved for women in 2005	0.0018	-0.0001	0.0010	0.0015
	(0.0027)	(0.0001)	(0.0011)	(0.0014)
Observations	7,953	7,953	7,953	7,953
$\mathbb{R}^2$	0.00155	0.00052	0.00239	0.00102
district fixed effects	✓	$\checkmark$	✓	✓
Panel C. Rural sample: End-line survey	Any crime	Molestation	Eve-teasing	Attack
	(1)	(2)	(3)	(4)
Village council head position reserved for women in 2005	0.0020	0.0002	0.0005	0.0003
	(0.0016)	(0.0002)	(0.0007)	(0.0006)
Observations	17,406	17,406	17,406	17,406
$\mathbb{R}^2$	0.00104	0.00027	0.00037	0.00058
district fixed effects	✓	✓	✓	✓

Table 4: Women's political representation and willingness to report crimes

Panel A. Rural sample: Baseline and End-line survey	Normaliz	ed average	Eve-t	easing	Stolen c	Stolen cell phone		by someone
und End mie survey	F	M	F	M	F	M	F	M
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village council head position re- served for women in 2005	0.083**	0.024	0.035	0.011	0.061**	0.018	0.043**	0.012
	(0.040)	(0.036)	(0.024)	(0.024)	(0.025)	(0.024)	(0.020)	(0.021)
Observations	2,302	2,302	2,304	2,303	2.302	2.303	2,304	2,303
$\mathbb{R}^2$	0.03409	0.04179	0.02993	0.03027	0.04534	0.04912	0.02217	0.03547
district fixed effects	✓	✓	✓	✓	✓	✓	✓	✓
Panel B. Rural sample: Baseline survey	Normalized average		Eve-teasing		Stolen cell phone		Beaten up by someone	
barvey	F	M	F	M	F	M	F	M
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village council head position re- served for women in 2005	0.054	0.025	0.019	0.018	0.072**	-0.020	0.029	0.035
	(0.059)	(0.054)	(0.033)	(0.040)	(0.032)	(0.034)	(0.026)	(0.023)
Observations	790	687	790	688	790	688	790	688
$\mathbb{R}^2$	0.03804	0.04878	0.01210	0.02241	0.04879	0.02201	0.02964	0.03597
district fixed effects	✓	✓	✓	✓	✓	✓	✓	✓
Panel C. Rural sample: End-line survey	Normaliz	ed average	Eve-t	easing	Stolen co	ell phone	Beaten up	by someone
	F	M	F	M	F	M	F	M
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village council head position re- served for women in 2005	0.091*	0.024	0.043	0.007	0.054	0.033	0.048*	0.004
	(0.052)	(0.045)	(0.031)	(0.030)	(0.033)	(0.030)	(0.026)	(0.027)
Observations	1,512	1,615	1,514	1,615	1,512	1,615	1,514	1,615
$\mathbb{R}^2$	0.01483	0.02465	0.01815	0.03451	0.01293	0.02373	0.02040	0.03053
district fixed effects	✓	✓	✓	✓	✓	✓	✓	✓

Table 5: Women's political representation and police activity

		Chargesheeting rate					
Panel A. Without state-specific time trends	Crimes against women	Rape	Kidnapping of women	All crimes other than against women	Kidnapping of men	Crimes against women	All crimes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Women's Reservation Implemented	0.296* (0.149)	0.116 (0.074)	0.175*** ( 0.058)	0.251** (0.117)	-0.062 (0.106)	0.345 (0.949)	-0.216 (1.81)
Demographic, economic and political controls	✓	✓	✓	✓ ′	✓ ′	V	✓ ′
Control for woman CM	✓	✓	✓	✓	✓	✓	✓
Control for police strength Control for state specific time trend	✓	✓	✓	✓	✓	<b>√</b>	✓
Observations	340	340	323	340	312	289	289
$\mathbb{R}^2$	0.87745	0.84798	0.86839	0.77617	0.73440	0.82624	0.87073
stateid fixed effects	✓	✓	✓	✓	✓	<b> </b> ✓	✓
year fixed effects	✓	✓	✓	✓	✓	✓	✓
	Log (Arrests per 1000 population)					Chargesheeting rate	
Panel B. With state-specific time trends	Crimes against	Rape	Kidnapping of	All crimes other	Kidnapping of	Crimes against	All crimes
	women		women	than against women	men	women	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			(-)	(-)	(-)	(*)	
Women's Reservation Implemented	0.271***	0.092	0.148**	0.095	-0.100	1.28	1.47
•	0.271*** (0.087)						1.47 (1.27)
Demographic, economic and political controls		0.092	0.148**	0.095	-0.100	1.28	
Demographic, economic and political controls Control for woman CM		0.092	0.148**	0.095	-0.100	1.28	
Demographic, economic and political controls Control for woman CM Control for police strength		0.092	0.148**	0.095	-0.100	1.28	
Demographic, economic and political controls Control for woman CM		0.092	0.148**	0.095	-0.100	1.28	
Demographic, economic and political controls Control for woman CM Control for police strength		0.092	0.148**	0.095	-0.100	1.28	
Demographic, economic and political controls Control for woman CM Control for police strength Control for state specific time trend	(0.087)  ✓  ✓  ✓	0.092 (0.066) ✓ ✓	0.148** (0.066) ✓ ✓	0.095 (0.104) ✓ ✓	-0.100 (0.095) ✓ ✓	1.28 (1.30) ✓ ✓	(1.27) ✓ ✓ ✓
Demographic, economic and political controls Control for woman CM Control for police strength Control for state specific time trend	(0.087)  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓  ✓	0.092 (0.066) ✓ ✓ ✓ ✓	0.148** (0.066) ✓ ✓ ✓ ✓ ✓	0.095 (0.104) ✓ ✓ ✓ ✓	-0.100 (0.095) ✓ ✓ ✓ ✓ ✓	1.28 (1.30) ✓ ✓ ✓ ✓ ✓	(1.27)

#### 4 Conclusion

This replication exercise aimed at reproducing a key conclusion drawn by [Iyer et al., 2012]. Using data from the Panchayati Raj reform in India, they show that political representation for disadvantaged minorities is key in encouraging crime reporting, and better response from the police. Our replication shows that political representation for women without direct effect on police force, leads to no significant increase in incidence of crime against women (no evidences of deterrence or retaliation effect), but an increase in willingness to report crimes (reporting effect), and for police officers to record crimes against women (recording effect) without changes in the quality of investigation. Our results therefore align with [Iyer et al., 2012], and are signs of better outcomes for women when interacting with the judicial system in India after the reform.

However, we found some discrepancies mainly due to the usage of *fixest* to run our models which altered the standard deviation of our coefficients, and missing code. Some variables had to be approximated leading to small differences. Overall, our results align with the one displayed in the paper, and some issues observed on some variables could have been solved in the final release of the paper, which we did not have access to.

Finally, the result presented here relies on political representation without direct influence on the composition of the police forces. To complete this paper, we suggest [Amaral et al., 2021] which broaden this picture by studying the outcomes on women in India after the implementation of women only police station. They found similar increase in the reporting, and recording channel, while crime targeted at women remained constant. The effect seems therefore similar.

#### References

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