GENDER NORMS, CRIME AGAINST WOMEN AND FEMALE EMPLOYMENT

Presented by

Ashapurna Baruah

Indian Institute of Management Raipur, India

(Co-authors: Indervir Singh & Kamal Singh)

Introduction

- Gender disparities in employment are a key development challenge, especially in developing countries like India (Klasen, 2019; Olivetti & Petrongolo, 2016).

- India has not only experienced a lower female labour force participation (FLFP) but also a declining participation rate since 2004 (Dubey et al., 2017; Klasen & Pieters, 2015; I. Singh et al., 2022).

- Several studies have sought to understand the determinants of the declining FLFP in India (Afridi et al., 2018; Baruah & Singh, 2020; Kapsos et al., 2014; Klasen & Pieters, 2015; Sarkar et al., 2019)

- One of the factors that received considerable attention in recent years is the impact of violence against women on female employment.

- Studies found a negative effect of violence against women on FLFP (Biswas, 2017; Chakraborty et al., 2018; Mishra et al., 2021).
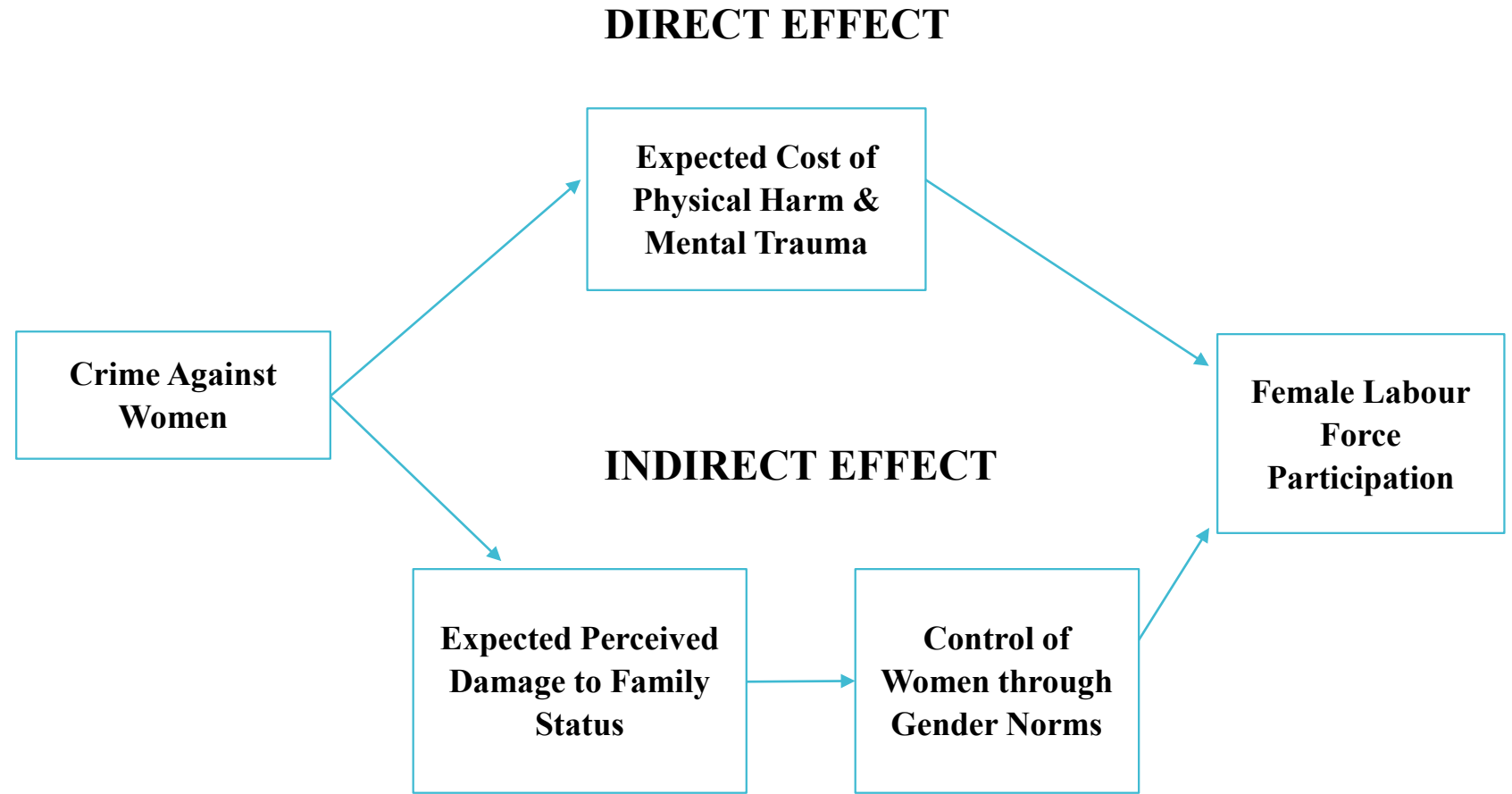
Introduction

- However, these studies argue that women withdraw from the labour force due to the higher expected cost of being in the workforce.

- This explanation requires women to have decision-making power which is contrary to the existing understanding of gender relations in developing countries.

- The present study considers the following alternative explanation:
    - Crime against women (CAW) imposes a cost on the family as gender norms attach family prestige and social standing to women's sexuality.
    - Since women's decision to participate in the labour force depends on their family's approval, an increase in CAW lowers the likelihood of FLFP.

Gender Norms, Crime Against Women and Female Employment

- Patriarchal norms work by controlling female sexuality and associating it with her purity which is further linked to family prestige (Chakravarti, 1993; Field et al., 2010).

- Rise in CAW increases the expected cost of the family and the family responds by tightening control over women's work status.

- The control also prevents women from gaining training and developing knowledge-sharing networks to compete in the labour market (Field et al., 2010, 2016).

- Studies showed that caste is an important determinant of agency and autonomy among women (A. Singh et al., 2022).

- The privileged castes subject their women to stringent norms translating into their subjugation (Chakravarti, 1993; (Bidner & Eswaran, 2015; Field et al., 2010; Jayachandran, 2015).).

- Although widowed, divorced and separated women may not entirely elude gender norms, the control of family on their labour force participation may be considerably less (see Reed, 2020; Chattopadhyay et al., 2022).

- Comparing the effect of CAW on FLFP across caste groups and marital status may help us understand the relative strength of the direct and indirect mechanism in India.

Gender Norms, Crime Against Women and Female Employment

Figure 1. Crime against women and female labour force participation

DIRECT EFFECT

INDIRECT EFFECT

Crime Against Women

Expected Cost of Physical Harm & Mental Trauma

Female Labour Force Participation

Expected Perceived Damage to Family Status

Control of Women through Gender Norms

Data Sources

- The study uses data on crime at the district level for the year 2019 provided by the National Crime Records Bureau (NCRB).

- The crime rate at the district level was combined with the unit-level data of the Periodic Labour Force Survey (PLFS) 2019-20 by matching the districts in the two data sets.

- The merging of data sets faces the following issues in a few cases:
  - The districts in the crime data did not match the districts in PLFS due to the creation of new districts.
  - A district was divided into more than one police district.

- We solved the problem by using the PLFS classification and combining the crime data to represent the corresponding district.

Econometric Model

- The paper estimates the following Instrumental Variable (IV) Probit model to examine the effect of CAW on female labour force participation:

$$P(FLFP_{ikjds} = 1) = \gamma_0 + \gamma_1 CAW_d + \delta_{ij}X_{ij} + \vartheta_k H_k + \rho_s Z_s + \varepsilon_i$$

- $FLFP_{ikjds}$ is a dummy variable representing the labour force participation of a working-age (15-59 years) woman.

- CAW_d is the rate of crime against women in district d.

- X_{ij} is a vector of the individual-specific control variables such as formal years of schooling and age.

- H_k represent household-specific control variables like monthly per capita income, religion and area.

- Z_s are the state-specific control variables.

Selection of Instrumental Variable

- We have used the rate of cybercrimes in 2019 as an instrument.

- Stock et al. (2012) show that the first stage F-statistics of the two-step method can be used to identify the weak instrument. The paper suggests that F-statistics should be more than 10 for rejecting the hypothesis of weak instruments.

- F-statistics is found to be more than 10 for 25 of 28 regressions used in the paper.

- To examine that the instrumental variable does not violate the exclusion restriction, we have applied a simple falsification test used by Di Falco et al. (2011) and Di Falco & Veronesi (2013).

- The test is based on the logic that for the instrument to be valid, it should have a significant effect on the instrumented variable but not the outcome variable.

- The rate of cybercrimes pass the falsification test .

Crime Against Women in India

- The rate of crime against women (CAW) increased from 29 in 2001 to 78.6 in 2020.

- The increase in CAW was much higher after 2011.

- States vary significantly in terms of CAW with no clear relationship with development level.

- In 2019, when CAW in India was 62.4, the rate varied from 3 for Nagaland to 157.1 for Assam.

- Among the major states, Bihar, West Bengal and Jharkhand with a rate of 13.5, 17 and 17.1 had much lower CAW than 50.3, 44.9 and 44 of Andhra Pradesh, Rajasthan and Madhya Pradesh, respectively.

- The coefficient of variation (CV) of CAW increased from 43.5 percent in 2001 to 74.3 percent in 2019, suggesting a divergence among states.

- States doing worse in terms of CAW in 2001 continue to do so in most cases.

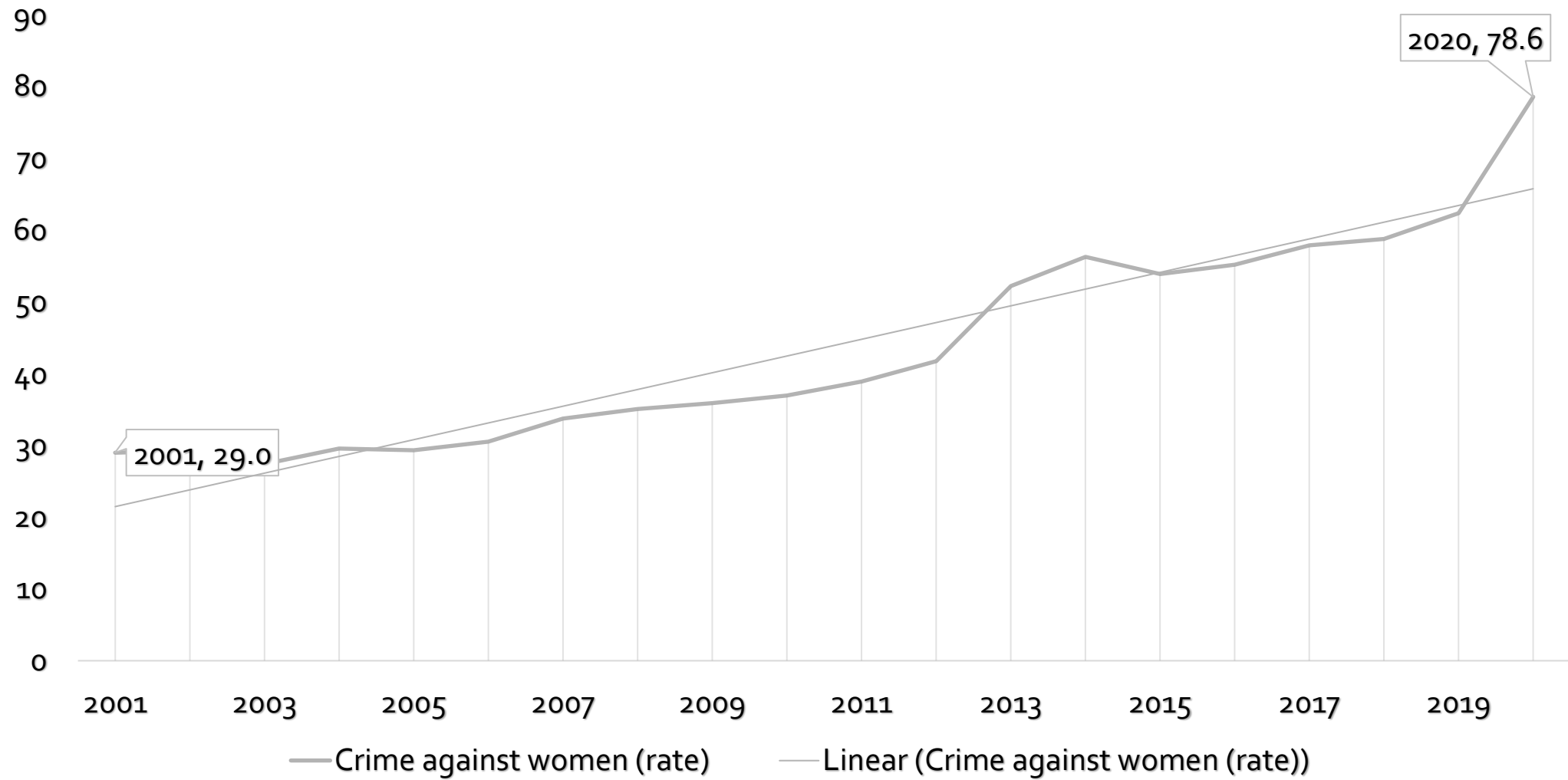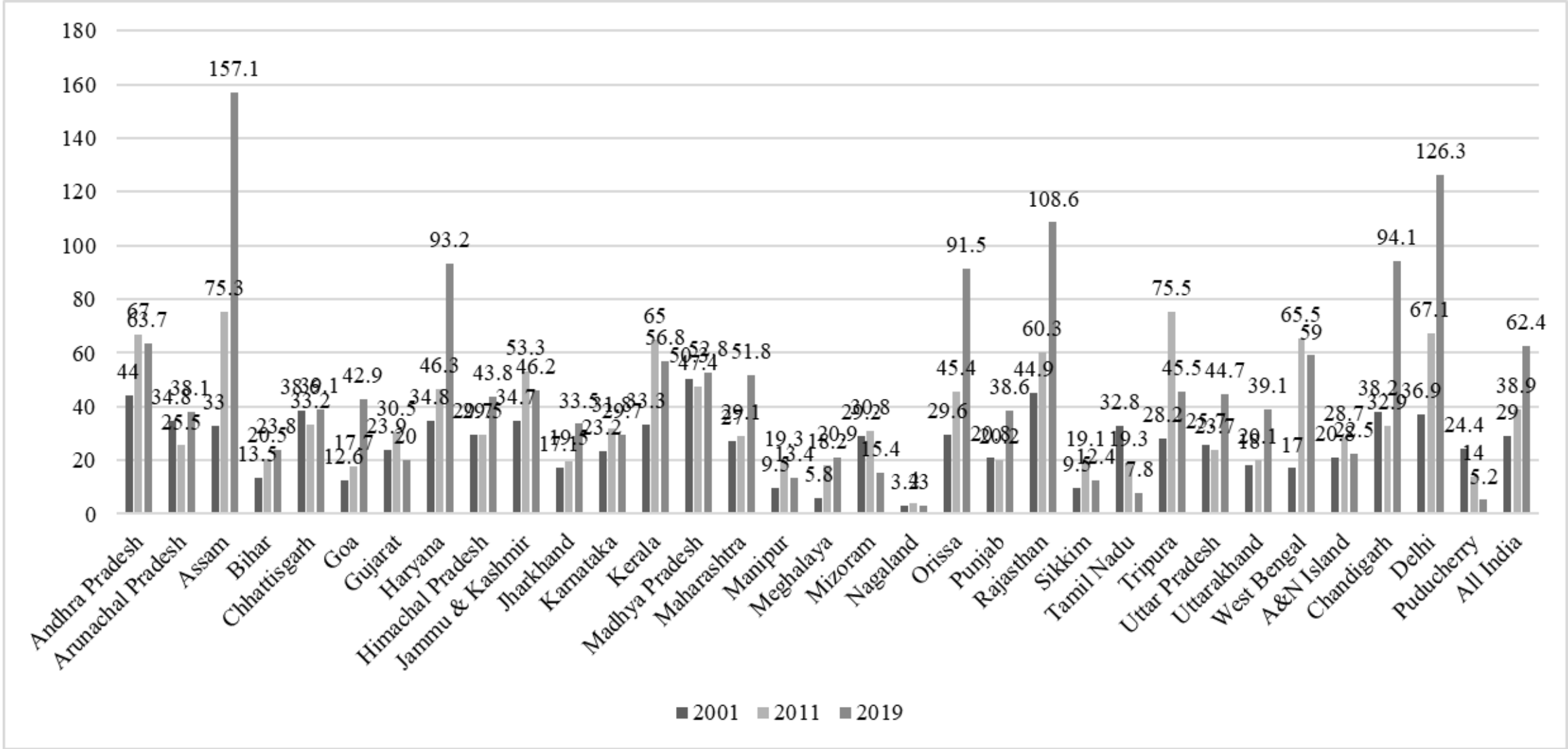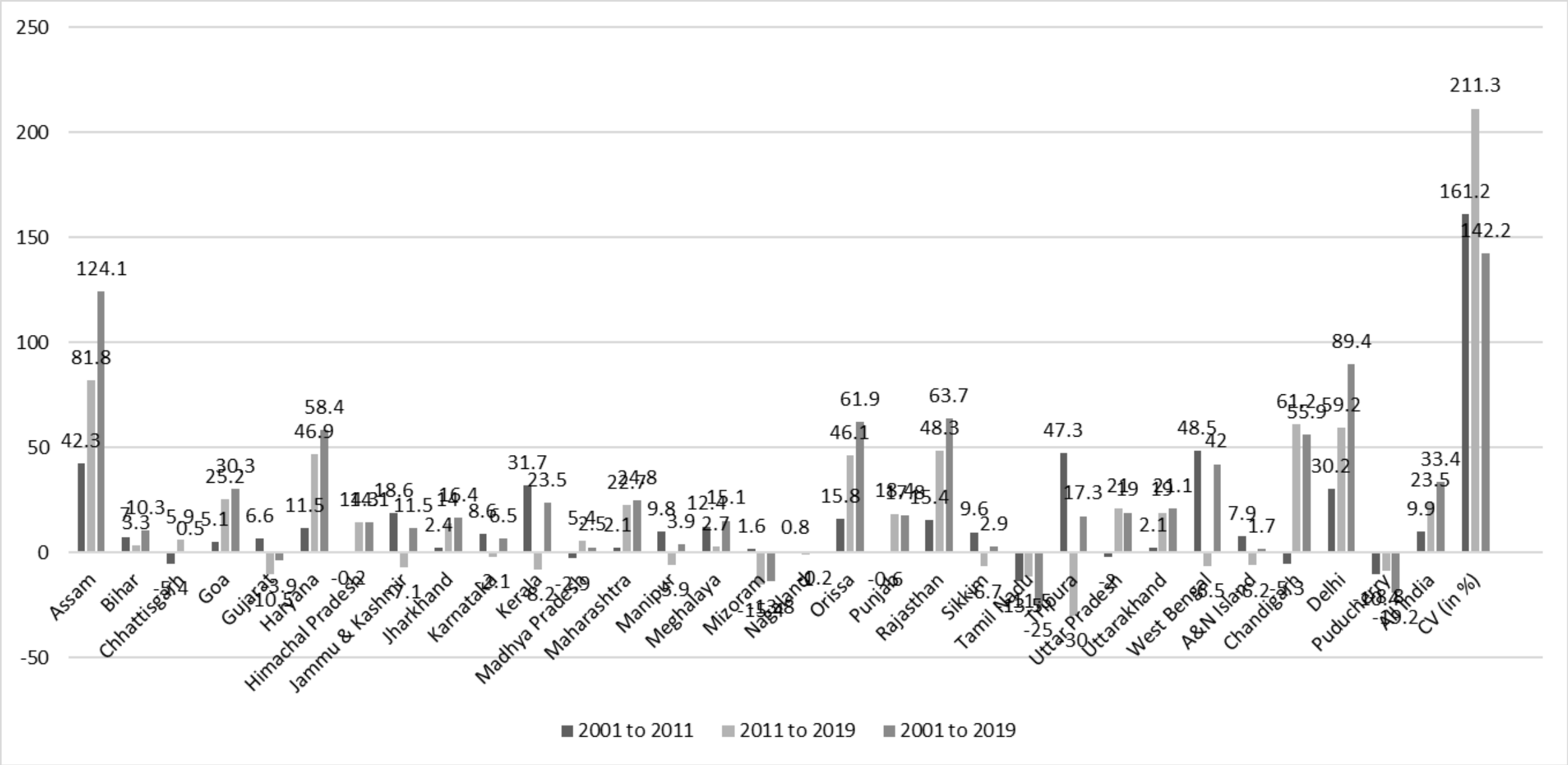**Figure 2**. Crime against women (rate) in India

Figure 3. State-wise rate of crime against women in India

Figure 4. State-wise change in rate of crime against women in India (percentage points)

Legend: ■ 2001 to 2011 ■ 2011 to 2019 ■ 2001 to 2019

Crime Against Women & Female Employment

- The IV-Probit results show that CAW lowers the likelihood of women entering into labour force.

- The marginal effect at mean shows a -0.208 percent decline in the likelihood of a woman entering into labour force with a unit increase in CAW.

- The negative effect of CAW is highest for the age group 26-40 years (0.506 percent) followed by the 41-59 years (0.368 percent).

- However, the coefficient of CAW is positive and insignificant for the age group 15-25 years.

- The insignificant effect of CAW in the younger age group raises the possibility that the CAW may be influencing FLFP by acting through gender norms enforced by the family.

- Women, in the older cohort, are much more likely to be married than the younger cohort. The average age of never-married women is 19 years.

- Since married women are more constrained by gender norms, their employment is more likely to be affected by an increase in CAW if its influence on FLFP is exerted through gender norms.

Table 1. Summary results of impact of crime against women on female labour force participation across age-groups

Explanatory Variables	Dependent variable: Female labour force participation (15-59 years)			
	All	**15-25 years**	**26-40 years**	**41-59 years**
CAW (all crimes)	**-0.006****	0.0004	**-0.013*****	**-0.01****
	(0.002)	(0.004)	**(0.004)**	**(0.004)**
Marginal effect at mean	**-.00208**	**.00010**	**-.00506**	**-.00368**
Constant	0.123*	-3.431***	1.252***	2.707***
	(0.065)	(0.144)	(0.116)	(0.142)
Number of observations	132668	41994	50147	40527
Log pseudolikelihood	-448858.04	-134028.9	-171849.4	-138631.9
Wald chi square	11842.22	4406.74	4942.85	3947.11
Wald test of exogeneity	7.2	1.15	0.00	3.82
First stage F-statistics	1395.82	442.18	541.59	418.66

Figure 5. Average age (in years) of women in working age across caste groups and marital status
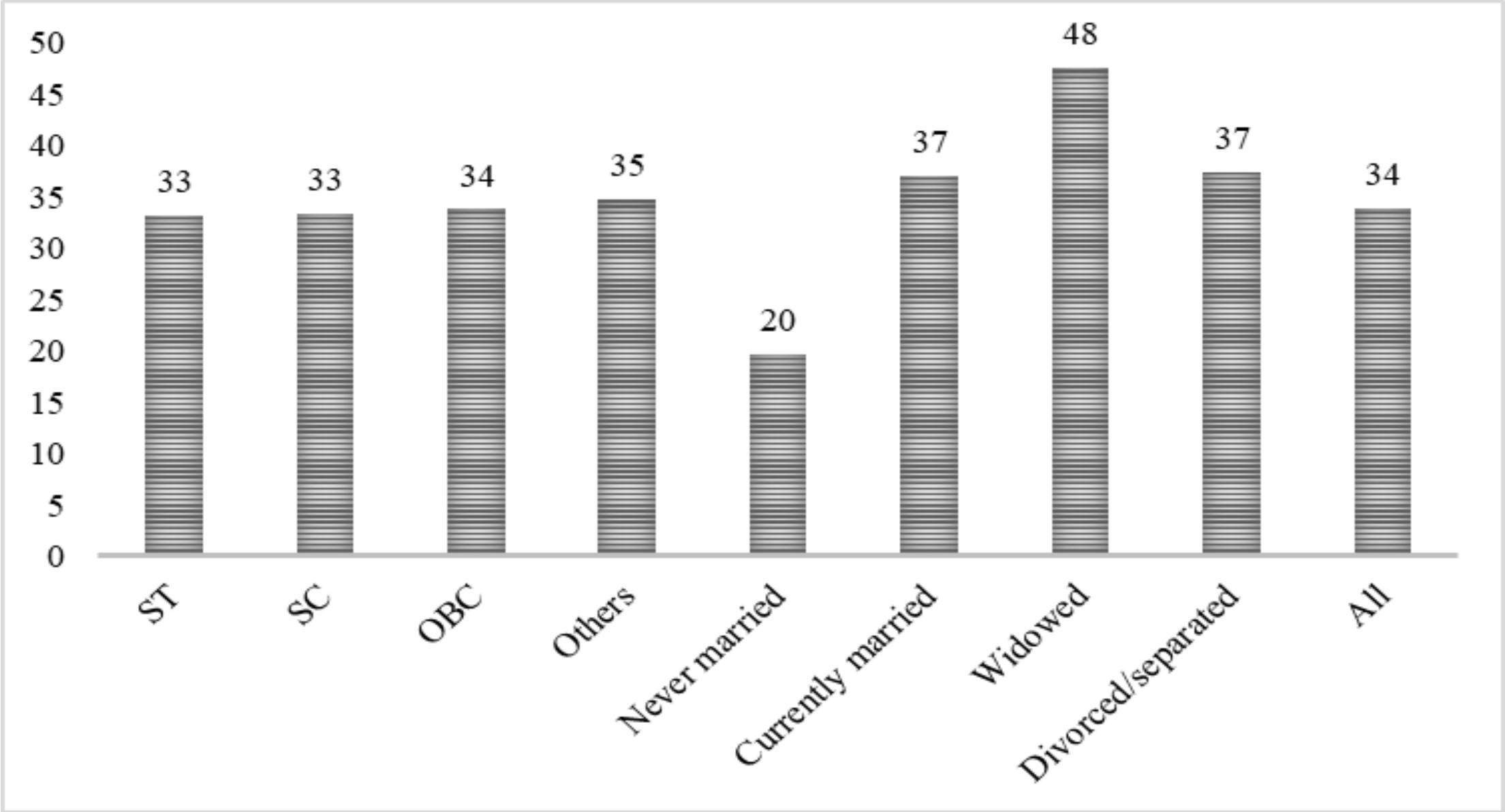
Gender Norms and Heterogenous Effect of Crime Against Women

- The coefficient of CAW is negative and significant for women in Others category but is insignificant for women for scheduled tribes (ST), scheduled caste (SC) and other backward castes (OBC).

- CAW shows a negative and significant effect on employment decisions of women in Others category whether we consider all crimes against women, murder & rape, or aid attack.

- The regression results across marital status show that CAW has negative and significant coefficients for currently married women for all types of crimes.

- The coefficients of CAW are significant for divorced & separated too. However, the coefficient is negative just for an acid attack.

- The heterogeneous effect of CAW across marital status is unexpected if CAW works through the expected cost of harm.

Table 2. Summary results of impact of crime against women on female labour force participation across caste groups

Explanatory Variables	Dependent variable: Female labour force participation (15-59 years)											
	All crimes				Murder & rape				Acid attack & attempt to acid attack			
	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others
CAW	0.0002 (0.007)	0.009 (0.006)	-0.001 (0.004)	-0.013*** (0.004)	-0.331 (13.796)	10.29 (7.501)	-2.829 (8.517)	-17.659*** (4.773)	-1.33 (52.214)	56.328 (37.902)	-6.182 (19.892)	-56.139*** (14.098)
Marginal effect	-.00011	.00327	-.00050	-.00432	-.12991	3.68395	-.96046	-5.65136	-.52208	23.81571	-2.13263	-16.54404
Constant	0.123* (0.065)	-3.431*** (0.144)	1.252*** (0.116)	2.707*** (0.142)	0.800 (1.022)	0.097 (0.147)	0.707*** (0.105)	-1.231*** (0.118)	0.783*** (0.254)	0.63* (0.375)	0.696*** (0.106)	-1.786*** (0.16)
No of obs	18877	23411	52197	38179	18877	23411	52197	38179	18877	23411	52197	38179
Log pseudolikelihood	-59032.0	-78682.6	-168418.4	-135962.9	35689.2	55558.1	132108.4	81578.05	68676.4	70173.2	172497.3	110468.7
Wald chi square	1835.37	2334.6	4898.68	2455.49	1837.96	2363.95	4911.32	2846.6	1837.55	2889.18	4894.14	3161.39
Wald test of exogeneity	10.04	5.18	1.55	4.07	0.00	0.41	0.46	15.87	0.01	2.11	0.05	9.64
First-stage F-statistics	595.99	173.19	569.5	408.2	96.37	26.53	45.03	78.60	83.91	42.44	43.70	72.83

Table 3. Summary results of impact of crime against women on female labour force participation across marital status

Explanatory Variables	Dependent variable: Female labour force participation (15-59 years)											
	All crimes				Murder & rape				Acid attack & attempt to acid attack			
	Never married	Currently married	Widowed	Divorced/ Separated	Never married	Currently married	Widowed	Divorced/ Separated	Never married	Currently married	Widowed	Divorced/ Separated
CAW	0.003 (0.005)	-0.009*** (0.003)	-0.014 (0.009)	0.06* (0.033)	5.274 (7.595)	-14.86*** (4.464)	-19.551 (12.884)	31.911** (15.146)	13.866 (19.886)	-49.439*** (14.718)	-51.11 (31.336)	-119.361*** (43.416)
Marginal effect	.00087	-.00325	-.00537	.02144	1.4377	-5.29737	-8.29227	12.25951	3.79926	-17.17378	-21.0092	-55.77104
Constant	-2.714*** (0.151)	0.853*** (0.079)	2.49*** (0.267)	2.964*** (0.825)	-3.07*** (0.23)	0.891*** (0.079)	2.31*** (0.27)	2.73*** (0.938)	-2.895*** (0.161)	0.61*** (0.09)	2.065*** (0.356)	2.092* (1.139)
No of obs	32228	92378	7223	831	32228	92378	7223	831	32228	92378	7223	831
Log pseudolikelihood	-103311.8	-314994.7	-24718.4	-2786.9	76412.1	205057.8	15586.8	1852.1	105489.6	284029.1	22076.4	2633.5
Wald chi square	3690.42	7047.68	821.01	95.79	3715.21	7579.15	946.32	124.36	3710.63	7826.43	915.71	151.02
Wald test of exogeneity	3.2	3.41	0.91	3.65	0.53	14.85	2.71	2.01	0.53	7.05	1.4	3.68
First stage F-statistics	465.44	1058.3	98.77	11.47	50.4	99.9	9.41	4.88	84.77	223.07	21.74	6.53

Discussion & Conclusion

- Following two important findings come through in the analysis:
  i. A rise in CAW lowers the chances of a female participating in the labour force if the woman belongs to a group with stringent gender norms with the family exerting considerable control over her employment decision.
  ii. The effect of CAW on FLFP turns insignificant if the gender norms are relatively lenient within the group or if it is in the family's interest not to control a woman's employment.

- The first holds for the deprived caste groups who have less restrictive gender norms

- The second was observed in the case of widows, divorced and separated women *(The existing studies have found higher workforce participation among widows, divorced and separated women, especially if they stay with their in-laws or are heads of their households (Reed, 2020)).*

- These findings favour the indirect effect as the main reason behind the lowering of FLFP with a rise in CAW in India.

Discussion & Conclusion

- If physical injury and mental trauma were the reason, the negative effect should have been found among all groups.

- The findings of the study are significant for three reasons:
    i. The indirect effect is compatible with the existing understanding of gender norms, unlike the direct effect which requires women to have decision-making power.
    ii. The findings show that the effect of CAW is likely to be much smaller in the absence of family's control over female mobility (at least in India).
    iii. The findings suggest that increasing FLFP will require the policy to focus on changing gender norms in addition to controlling CAW.