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ABSTRACT

Gender, Crime and Punishment: Evidence from Women Police Stations in India*

We examine the impact of establishing women police stations (WPS) on reporting of gender-based violence. Using administrative crime data and exploiting staggered implementation across Indian cities, we find that the opening of WPS is associated with an increase in police reports of crimes against women of 29 percent, a result driven by domestic violence. This appears to reflect reporting rather than incidence as we find no changes in femicide or in survey-reported domestic violence. We also find some evidence of an increase in women's labor supply following WPS opening, consistent with women feeling safer once the costs of reporting violence fall.

JEL Classification: J12, J16, J78, K14, K31, K42, N92, I12

Keywords: women police stations, gender-based violence, women in policing, India

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"Our heads hang in shame when we hear of instances of crime against women. We must walk shoulder-to-shoulder to end all forms of discrimination or injustice against women"

— Prime Minister Modi — speaking on International Women's Day, 2015

1 Introduction

Gender-based violence (GBV) is a global social problem that defies boundaries of race, ethnicity, religion, culture, age, gender, wealth, and education. GBV damages the social fabric and imposes economic costs on women, society and future generations (Duvvury et al., 2013; Currie et al., 2020; Aizer, 2010, 2011). Data from a multi-country survey indicate that as many as one in three women have experienced intimate partner violence (Garcia-Moreno et al., 2006). While this makes it one of the most widespread violations of human rights, it is at the same time one of the least reported forms of crime (Palermo et al., 2014). Reporting rates for crimes in general are lower in developing countries (Soares, 2004) and the gap is likely to be larger for GBV in settings where women are less empowered. In the Indian state of Rajasthan, for instance, only 3 percent of women have ever had contact with the police despite a staggeringly high gender-based crime rate in the state (Banerjee et al., 2021).[1]

Under-reporting or under-utilization of the criminal system is likely to be driven by both demand and supply side factors. On the demand side, women fear male backlash, social stigma, economic hardship and adverse consequences for their children, and often rationalize violence as justified by men being providers and protectors. On the supply side, police officers are often hostile or dismissive of GBV complaints, and low rates of arrest and conviction for GBV undermine trust in the system (Boesten, 2012; Amaral et al., 2021b; Stepan et al., 2011; Banerjee et al., 2021).[2] As a result, male perpetrators of GBV are often not brought to justice, and recidivism

[1]Using primary data from the Indian state of Bihar, Amaral et al. (2021b) shows that police officers believe that only 5.3 out of 10 cases of rape are false.

[2]In their Rajasthan survey, (Banerjee et al., 2021) find that only 29% of all crime victims had filed a report, with an important reason being that victims felt the police would make no effort to assist them. The authors assigned field surveyors to pose as citizens trying to report incidents and found that they were turned away without being able to file a report half of the time. A lack of trust is further demonstrated by half of all survey

and repeat victimization are rampant (Hanmer et al., 1999; Walby and Allen, 2004; Daigle et al., 2008; Kuijpers et al., 2012). State governments in India have sought to address this problem by creating women police stations (WPS). WPS are staffed with female officers specialized in handling crimes against women and the station chief is typically a woman (Natarajan, 2016). The idea dates back to the late nineteenth century in the U.S., where separate police stations called Women's Bureaus in American cities were created to accommodate victims of sexual violence and to engage women in the police force (Owings, 1925; Schulz, 2004). They emerged from a broader feminist movement that similarly led to creation of all-female institutions in health, banking, politics, legal aid, and education across the country as a way to empower women (Thornton and Freedman, 1979).[3]

In this paper, we investigate whether creation of WPS in India facilitated reporting of GBV (e.g., domestic violence, rape) and whether it impacted the handling of cases as measured by arrest rates, their incidence measured by femicide, and women's labour supply, which previous work suggests has been limited by safety concerns (Siddique, 2020). Our analysis is timely as the Government of India (GoI) has been progressing a broader mandate to increase female representation in law enforcement through mandatory gender quotas in the hiring process (GOI, 2012), and contemplating further expansion of WPS. Administrative data from India's national crime records, which are drawn from data submitted by police stations, show an alarming rise in GBV since 1995, accelerating from 2005. The rise is large both in absolute terms and relative to other non-gendered violence and property crimes (Figure A.1). However, it is unclear whether this reflects an increase in incidence or in reporting and whether the WPS play a role.

We manually gathered information on the date and location (i.e., city) of all new WPS created from 2005 to 2013, and embedded this in a longitudinal data for 76 cities, of which 63 were treated. We also show results exploiting variation in state level adoption of the WPS policy through 1988–2013 across 19 states, of which 16 were treated. We use a difference-in-differences

respondents reporting that they fear the police. As GBV incidents including domestic violence and rape are often sensitive and personal, issues of trust are likely to be aggravated among female victims of GBV.

[3]In contemporary times, a number of developing countries have also introduced WPS (Perova and Reynolds, 2017; Jassal, 2020).

approach, in which a city (or state) is deemed treated once a WPS is opened in that location. We test for a structural break in GBV outcome trends within cities (states) after the opening of a WPS and display event study plots in which lead coefficients provide unbiased estimates of dynamic effects, and lag coefficients permit a placebo test, using pre-trends in the outcomes. This allows us to test the identifying assumption that the timing of the opening of WPS is quasi-random.[4]

We find that the opening of a WPS in a city leads to an immediate and persistent increase in city-level reported violence against women. The estimates indicate an average effect of 29 percent, with this result being robust to controls for city level linear trends, and to iterative removal of one state at a time. Breaking GBV down by category, we show increases in reports of domestic violence, dowry deaths, and molestation. In order to disentangle reporting from incidence, we exploit the fact that female homicide tends to not be under-reported and scales with domestic violence (Miller and Segal, 2019; Iyer et al., 2012; Aizer and Currie, 2004; Perova and Reynolds, 2017). We find no impact of WPS opening on female homicide, suicide, or murders associated with love affairs. This is reinforced by our finding no increase in domestic violence reported in the Demographic and Health surveys (DHS) for India. Since the DHS carefully follow WHO guidance in ensuring privacy and safety of the respondent, we expect these survey data to provide a reasonable estimate of incidence. The DHS fields an additional module for women who mention they been victims of intimate partner violence and asks if they have reported this incident to the police, social support organization, or others e.g., lawyer or family. Again using state-year variation in WPS, we find that victimised women are more likely to report the incident following the opening of a WPS. We argue that the weight of the evidence points to the increase in GBV reports following WPS being an increase in reporting rather than incidence.

If opening a WPS involved building a new station and recruiting new staff, then WPS opening will have increased police capacity. It then becomes important to know whether our

[4]We also investigate this using a range of observables including the lagged outcome, as one might imagine that WPS would open earlier in cities with high baseline rates of GBV, and we cannot reject that the date of opening is orthogonal to the included observables.

results reflect police capacity rather than feminization of stations and officers. A fine-grained study of WPS opening in the Indian state of Haryana establishes that women were drawn from the existing police force to staff WPS and, therefore, there was no increase in capacity (Jassal, 2020). Our data also suggest no impact of WPS opening on police capacity and the share of women in the police force. Existing research on police capacity suggests that it reduces (the incidence of) crime (Levitt, 1997; Chalfin and McCrary, 2013). Given that we find an increase in reported crimes, if capacity drives our results it is likely to be via reporting. To examine this issue further, we check if there was a more general increase in reporting. However, we find no change in reports to the police of economic crimes or non-gendered violence. We additionally investigate whether cases from pre-existing stations are simply re-assigned to the new WPS stations using police station level data for the state of Rajasthan gathered by (Banerjee et al., 2021). We find that the presence of a WPS is associated with a small decrease in reporting of GBV to mixed-gender stations, but that this is overwhelmed by a larger increase in reporting to WPS—in line with the total increase in GBV reports that we find.

Increased reporting is only a positive outcome if it leads to penalties for men and deters subsequent crime, or if it makes women feel safer. We investigate this explicitly using data on arrests and chargesheeting (indictment) and on women's labour supply—all of which are available at that state rather than the city level. We find no impact of WPS opening on arrests (except for female kidnapping) or chargesheeting. While these are relatively crude proxies for improvements in taking men to task, these results are consistent with our finding of no decrease in incidence, proxied by both femicide and survey-reported domestic violence. However we do find a significant and persistent increase in female employment after WPS opening, that averages at 6.5%. Even if there is no increase in prosecutions for GBV, women may feel safeguarded if there is a WPS in their local area. This result is consistent with the fear of GBV victimization on the streets constraining women's participation at baseline (Borker, 2020; Siddique, 2020).

This paper contributes to an emerging literature investigating if under-reporting of GBV can be addressed by increasing the share of women in the police force (Miller and Segal, 2019) or

by creating women police stations (Perova and Reynolds, 2017; Kavanaugh et al., 2019; Jassal, 2020; Bhalotra et al., 2021). More broadly, this paper contributes to the literature studying the role of GBV deterrence policies (Iyengar, 2009; Chin and Cunningham, 2019; Aizer and Dal Bó, 2009; Amaral et al., 2015) and demonstrating that increasing women's representation in politics results in policy shifts that reflect the interests of women (Iyer et al., 2012; Clots-Figueras, 2011; Bhalotra and Clots-Figueras, 2014; Kumar and Prakash, 2017; Beaman et al., 2009). Moot is Iyer et al. (2012), a study set in India, which shows that mandating quotas for women in village councils led to an increase in reporting of GBV. However, the political economy literature has also identified instances of male backlash against women taking political power (Gangadharan et al., 2019; Gagliarducci and Paserman, 2012). On a similar note, Jassal (2020) provides evidence illustrating the manner in which gender bias can permeate the criminal justice system, frustrating the potential of WPS.[5] This underlines the importance of a broad empirical investigation of the impact of opening WPS.

2 Background on Women Police Stations

Demand and supply channels. The creation of WPS can encourage reporting through two channels. First, it can lower the cost to women of reporting crimes against them by providing a safe, female-friendly environment (Miller and Segal, 2019).[6] However, facilitating reporting of GBV can also trigger male backlash which can manifest as an increase in the incidence of GBV. Male backlash manifest as household-level domestic violence has been noted in response to a relative improvement in the economic position of women (Bobonis et al., 2013; Erten and Keskin, 2018; Guarnieri and Rainer, 2020; Bhalotra et al., 2016). If women perceive a significant

[5]He argues that if female police officers are tasked with handling GBV cases and, by design, most of these do not lead to charges or arrest, their career progression is inhibited. One can imagine that this feeds back into their motivation as well as into the quality of female applicants to the police forces.

[6]Violence against women, especially by an intimate partner, is a sensitive matter for women to discuss and there is abundant anecdotal evidence that women prefer to have such discussions with female rather than male police officers (Telegraph, 2013). Qualitative evidence from the U.S. reveals that the prejudice, education, and race of police officers plays a significant role in the way that rape cases are handled and judged (O'Neal, 2019; Pattavina et al., 2007; Burt, 1980).

risk of male backlash then they may not increase reporting even if a WPS is in reach. A second channel through which the creation of WPS can encourage reporting - and also lower incidence- is if women officers raise the return to reporting. This is the case if WPS officers are more likely to progress a report to a charge or an arrest. However, if male police officers feel threatened by women police officers taking positions of power, they may react by limiting cooperation, and frustrating the progress of cases put forward by women officers. An alternative threat to the effectiveness of WPS is state capacity. For instance, new officers may not be adequately trained and provided with adequate resources, or WPS may make no discernible difference until they reach a threshold density at which most victims can access a station. All in all, it is clear that creating WPS has the potential to lower the cost of and elevate the return to reporting GBV, but their effectiveness may be hampered by backlash from either male partners or male police officers, and be dependent upon resources and training.

Existing evidence on women in the police. Using US data, Miller and Segal (2019) show that an increase in the share of female police officers in an area is associated with an increase in reported domestic violence, which they interpret as an increase in reporting, as we do. They also find a decrease in femicide, a marker of lower incidence, which they interpret as improved policing quality. As discussed, we do not find any clear evidence of lower incidence marked by femicide. While he does not study femicide, Jassal (2020), a study of WPS in Haryana, provides possible explanations of this, including that WPS in Haryana acted to encourage reconciliation with perpetrators rather than arrest them, and that women police officers appeared to carry the same gendered stereotypes as men.[7] Similar to our result for Rajasthan, Jassal (2020) finds that, once WPS appear, a share of GBV cases is re-allocated from mixed-gender to woman police stations. However, in contrast with his results, we find an increase in total reported GBV. A possible explanation of this difference is that the barriers to reporting are more deep-rooted among women in Haryana than in the rest of India, consistent with Haryana being among the most intensely gender-biased states in India. In fact, this is consistent with the main finding in

[7]Because Haryana reformed more recently, it is not among the treated states in our sample. As a result, our findings are not strictly comparable with those of Jassal (2020)

Perova and Reynolds (2017), who show that WPS in Brazil were not effective on average, but were in metropolitan areas with less traditional social norms. However, they focus on femicide (a measure of incidence), and they do not analyse under-reporting), while we present estimates for a range of measures of GBV which are sensitive to reporting. Another difference of this study relative to both Perova and Reynolds (2017) and Kavanaugh et al. (2019) who analyse WPS in Peru is that in Brazil and Peru WPS providing a safe space to report were supplemented by other provisions to support victimized women. Indeed, Bhalotra et al. (2021) show that the Maria da Penha law that formalized the additional protection of women and strengthened prosecution capacity was critical in facilitating reporting of GBV as we also show in this paper.

Establishment of women police stations in India. Women have been involved in law enforcement in India since 1939, with considerable state variation in the timing of their entry. The states of Kerala and Maharashtra were the first to incorporate women in the police in 1939, followed by Delhi and Gujarat in 1948. Uttar Pradesh and Tamil Nadu included women from 1967 and 1973, respectively. Although the share of women in the police has increased over time (Figure A.4), women still account for only 6 percent of the force, ranging from 8.4 percent in Tamil Nadu and 5 percent in Maharashtra to 1.6 percent in Uttar Pradesh and 0.4 percent in Assam. To put these numbers in perspective, the share of women in the police in the United States is close to 10 percent, and in England and Wales it is 29 percent. The share of female officers varies considerably by rank, with the smallest share in the middle.[8] In the study period, the share of women has increased most rapidly among police constables (low rank).

The Ministry of Home Affairs (GoI), in a notification dated September 4, 2009, announced that states should aim to ensure more comprehensive reporting and timely registration of first information reports (FIR). On the same date the Ministry issued an advisory asking states to

[8]The top-ranked police officers belong to the elite Indian Police Service (IPS), which consists of (from high to low): Director of Intelligence Bureau, Commissions of Police (or Director General of Police), Joint Commissioner of Police (or Inspector General of Police), Additional Commissioner of Police (or Deputy Inspector General of Police), Deputy Commissioner of Police (or Superintendent of Police), and Assistant Commissioner of Police (or Assistant Superintendent of Police). The bottom-ranked police officers consist of Inspectors, Sub-Inspectors and Assistants Sub-Inspectors, Head Constables and Constables, who are in charge of maintaining law and order and the day-to-day functioning of the police in terms of registering complaints, investigation, and charge-sheets (indictment).

improve law enforcement related to crimes against women, such as enforcing existing legislation, "play[ing] a more proactive role in detection and investigation," "ensuring that there is no under reporting," hiring more female police officers, offering gender training and sensitization courses, registering FIRs on time, publicizing help-line telephone numbers, and creating "Crime Against Women and Children" desks in police stations (India [2012], 85). With a view to reducing the incidence of crime, the Ministry of Home Affairs also recommended implementing changes to improve safety on roads, including increasing police patrolling, and installing telephone booths and lights (ibid. 85-86). To the extent that these directives coincided with creation of WPS and generate reduced incidence of GBV, our estimates of increased reporting are conservative. In 2009, the Union Home Ministry also set 33% as the benchmark target for women's representation in the police, but adoption has varied across states.[9] We investigate the extent to which increases in the share of women are triggered by creation of WPS—we find this is not the case in Table A.9—and also show specifications in which we adjust for the share of women in the police force.

Women Police Stations in India were first opened in Kerala in 1973. The use of specialized police to deal with crimes of a sensitive nature such as those committed against women have been recommended since the National Police Commission of 1977 (Natarajan, 2016). Tamil Nadu introduced WPS in 1992, creating an exceptional density of WPS, with WPS constituting 40 percent of all police stations. The other states had opened 97 stations by 2005 and in the time to 2013 there were an additional 281 stations. WPS are headed by a female inspector, employ only female officers, and are tasked to primarily handle cases related to violence committed against women. WPS officers receive specialized training and a WPS typically has a counselor. Once a crime occurs, a victim needs to decide whether to report the case to the police. If they do, a First Information Report (FIR) is filed. The attending officer, typically the Inspector, then decides whether or not to proceed with a formal investigation. Finally, after an investigation, officers may or may not make an arrest. A GBV victim can file the complaint at a mixed-gender

[9]Only ten states (Andhra Pradesh, Goa, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Nagaland, Odisha, Tamil Nadu, and Telangana) adopted the 33 percent target; five states (Assam, Chhattisgarh, Rajasthan, Sikkim, and Uttarakhand) adopted 30%; Bihar 38 percent; five states (Arunachal Pradesh, Karnataka, Meghalaya, Tripura, and Uttar Pradesh) set a target below 30%; and eight states (Haryana, Himachal Pradesh, Jammu and Kashmir, Kerala, Manipur, Mizoram, Punjab, and West Bengal) are yet to set a target.

or WPS- women are not required by law to file a complaint at a WPS.

3 Data

Women police stations. Information on the dates of opening of WPS by city location were primarily gathered from yearly reports of the Bureau of Police Research and Development. As this list is not exhaustive, we manually collected data for several states by visiting the state police headquarters The administrative crime data contain annual records of all crimes reported to the police as prescribed under the Indian Penal Code from the National Crime Records Bureau (NCRB), maintained by the Ministry of Home Affairs. City-level crime data are only available from 2005 and for 73 cities, so the main analysis sample is for 73 cities of which 63 were treated, and runs 2005-2013, . WPS roll out across cities in India is depicted in Figures A.2 and A.3). While it does not cover all cities in India, this is one of the more comprehensive city-level panel data sets collected and analyzed in India to date, see for instance, Greenstone and Hanna (2014), who highlight the difficulties of obtaining time series data for Indian cities. We also exploit the variation in the statewide adoption of the WPS policy through 1988-2013 across 19 states, of which 16 were treated. Since most states implemented WPS before 2005, we manually gathered the remaining dates of policy implementation by cross-checking with general information requests to states and with media information. The variation in opening of WPS across states in India is described in Table A.10.[10] The main analysis uses the city panel but auxiliary tests for which city-level data are unavailable rely upon the state panel.

Crime statistics. The NCRB publishes data on cognizable crimes prescribed under the Indian Penal Code, as reported to the police.[11] We use crime data published by the NCRB from 2005 to 2013 for the city-level analysis, and from 1988 to 2013 for the state-level analysis.[12]

[10] In Appendix, Table A.11 we also show the growth in stations.

[11] The Criminal Procedure Code of India divides all crimes into two categories: (i) cognizable crime, which are dealt with by the police and in which a police officer may arrest a person with or without a warrant, and (ii) non-cognizable, which are generally left to be pursued by the affected parties themselves in courts. Only cognizable crimes are reported in the NCRB publications, see Iyer et al. (2012) for an overview.

[12] The data is based on information gathered from two processes. First, once an incident occurs and is reported,

The NCRB provides data for 18 categories of crime which we use to construct the following three measures: *violence against women*, *non-gender based violence*, and *property crime*—see Appendix Table A.12 for the detailed definitions. We use violence against women (GBV) and its following sub-categories as our primary outcomes: *female kidnappings*, *domestic violence*, *dowry deaths*, *molestation*, *sexual harassment*, and *rape*. For placebo crimes, we use non-gender based violence and its following sub-categories: *male kidnappings*, *cheating*, *burglary*, *theft*, and *riots*. For property crime we use the following sub-categories: *theft*, *robbery*, and *burglary* as robustness. To disentangle reporting of a crime from actual crime, we examine crime outcomes that are *less* likely to suffer from reporting bias such as: *rates of female mortality* (the sum of unnatural deaths and female suicides), *murders due to love affairs*, and *suicides*.[13]

The reporting and publication of each crime category varies over time with rape being consistently reported over the years, female kidnappings being reported as a separate category since 1988, and the remaining categories added in 1995. Similar to Iyer et al. (2012), we use year fixed effects throughout our specifications to account for changes in reporting. Figure A.1 show the trends in the three major categories of crime since 1995. Over this period, reports of violence against women have risen and at a faster rate than the remaining two categories. To test for the effectiveness of WPS, we collect crime-specific arrests and charge-sheet (indictment) rates at the state level from the NCRB reports.

We supplement the main analysis using monthly complaints data at the police station level from the state of Rajasthan in India. These data were collected by Banerjee et al. (2021). They contain information on 73,207 police reports (FIR) collected from 152 police stations, across ten districts in Rajasthan in the years 2006 and 2007. They include the type of station the crime was reported to (general or women-only police station), the date of the incident, the number of

the police is required to register a First Information Report (FIR). Second, the NCRB asks data on crime reported from each of the State Crime Record Bureaus (SCRB). The SCRB asks for the data from the district administration at the end of every year to send it to the NCRB. The NCRB asks for data in the prescribed format and contains a questionnaire comprising some 300 pages. The District administration completes the questionnaire and sends it back to the SCRB and SCRB finally sends it to the NCRB.

[13] Iyer et al. (2012), Miller and Segal (2019), and Sekhri and Storeygard (2014), for instance, also use some of these categories of crime to separate actual increases in crime from higher reporting/recording of crime.

victims and the legal act in which the First Information Report (FIR) was filled. We use this information collapsed at the station-month level. The variables of interest are crimes against women (rape, domestic violence), thefts, murder, accidents, and a miscellaneous category of other crimes. These are count variables corresponding to filed FIRs.[14] We use information on crimes reported at 138 stations–102 rural and 36 urban stations–from 10 districts.[15] On average, a station records 17 FIRs per month, of which 1.4 are for GBV. On average, urban stations register more GBV FIRs–2, compared to 1 in rural areas. The number of FIRs filed at WPS is greater, a monthly average of 8.87 FIRs compared to 1.1 in non-WPS. We test whether this difference represents a shift of reporting of a given number of GBV cases from general police stations to WPS, or if there was an increase in cases following the establishment of WPS.

Intimate-partner violence and use of support services. We use the 2005-2006 and 2015-2016 rounds of the Demographic and Health Surveys (DHS) to test whether WPS opening changed survey-based reports of domestic violence. Since the DHS identify state but not city, we use state-year openings of WPS. We also use the DHS to construct an index of women's utilization of support services. The DHS asks a small sample of women who say they have been victims of domestic violence if they have reported the problem to family members (including the partner and/or former partner), police, neighbor, social organization, lawyer, religious leader, or a doctor. We use this to construct an index that ranges from zero (no use) to seven (use of all modes of support services), as well as a dummy variable equal to one if the respondent used at least one of the services.[16] There is limited knowledge of victim demand for support, but anecdotal evidence suggests that women often rely on informal support to disclose incidents and to accompany them when seeking formal support.

Female labor supply. To measure female employment, we use the most recent comparable

[14]For GBV, we use information on all crimes reported under the IPC categories categories of cruelty to wife, rape, molestation, 493 through 498 and 498A, and 509. We also code as GBV crimes reported under the Dowry and Woman Act. This results in a total of 6,124 GBV cases, which is approximately 9.3% of all crimes, a share comparable to that in the NCRB data.

[15]We drop 14 stations because their location spans rural and urban areas.

[16]In the sample we study—i.e., women who responded to the domestic violence modules in the DHS—39.7 percent of respondents answered the support modules.

rounds of the National Sample Survey (NSS) This is a repeated cross-sectional survey representative at the state-level. It contains information on individual employment status at the time of interview. We use the rounds 61, 62, 64, 66 and 68 which survey individuals over the periods 2004-2005, 2005-2006, 2007-2008, 2009-2010, and 2011-2012, respectively. To match NSS survey rounds with dates of opening of WPS, we use the first year of the survey. We restrict our sample to women aged 15 to 55.

Other data. We collected total population, gender, caste composition, and literacy at the city level from the 1991, 2001, and 2011 Census of India. We interpolated the data for the intercensal years. We collected data on police strength by gender and rank from the annual reports of the NCRB and BPRD. Data on state election years come from the Election Commission of India.

4 Identification Strategy

We use a difference-in-differences approach exploiting idiosyncratic variation in the timing of WPS openings across cities. The equation estimated using the city-level panel is

$$Crime_{ct} = \alpha + \delta WPS_{ct} + \beta X_{ct} + \gamma_c + \lambda_t + \phi_c t + \epsilon_{ct} \tag{1}$$

where $Crime_{ct}$ is the crime rate per 100,000 population in logarithms in city c of state s measured in year t. The variable WPS_{ct} is a dummy variable that takes the value one in the years following the opening of a WPS in given city c, and zero before. The vector of city-level controls X_{ct} include the population sex ratio (males divided by females), a proxy for gender inequalities that has been shown to be positively associated with gender-specific crimes (Amaral and Bhalotra, 2020), the literacy rate to take account of underlying propensities to commit crime, or reporting behavior (Erten and Keskin, 2018), the share of female police officers, and a dummy for whether the city has a Police Commissioner system to account for differences in police management across cities.[17]

[17]We Appendix, we provide a detailed explanation of the police commissionerate system in India.

We include city fixed effects γ_c to account for unobserved determinants of gender-based violence across cities (Tur-Prats, 2019; Alesina et al., 2021) and year fixed effects λ_t to non-parametrically account for national trends in crime. We also show results with city linear trends $\phi_c t$ that account for unobserved city-level time-varying factors. We cluster standard errors at the city level and all regressions are weighted by population size. The main coefficient of interest is δ which captures the effect of WPS on crimes against women. The sample includes never-treated cities. We will show that the placebo effects estimated following De Chaisemartin and d'Haultfoeuille (2020) are not significantly different from zero (Goodman-Bacon, 2020; De Chaisemartin and d'Haultfoeuille, 2020).

In the state-level analysis, we use a similar specification defined as follows:

$$Crime_{st} = \alpha + \delta WPS_{st} + \beta X_{st} + \gamma_s + \lambda_t + \phi_s t + \epsilon_{st} \tag{2}$$

where WPS refers to enactment of state legislation on WPS and the other variables are defined as before but measured at the level of the state s. Standard errors are clustered at the state level. We exploit variation now over the longer period 1998–2013, during which there are 3 control states, 2 states that implemented the WPS policy before 1988, and 11 states that implemented the policy at different points in time over this period in our sample.[18] The controls in vector X_{st} are the population sex ratio, literacy rate, state income per capita, police per capita, election year dummies, the share of scheduled castes, and scheduled tribes. We also investigate robustness to controlling for the rollout of gender quotas in local government (Iyer et al., 2012), and the introduction of the National Rural Employment Guarantee Scheme (Amaral et al., 2015).

[18]The states included in the sample are Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Punjab, Madhya Pradesh, Rajasthan, Uttar Pradesh, Karnataka, Kerala, Tamil Nadu, and West Bengal. The newly created states of Telangana, Jharkhand, Chhattisgarh, and Uttaranchal are merged with their pre-2001 state boundary definitions. Since Jharkhand initiated the policy prior to the state of Bihar, we take 2006 to be the year in which the policy had an effect for the state of Bihar under the pre-2001 boundaries definition.

5 Results

5.1 Validity of the empirical strategy

Placement of WPS. The identifying assumption is that the timing of WPS rollout across locations is not correlated with other factors that might also affect the outcomes of interest. For instance, if WPS opened earlier in cities that had higher rates of GBV, the assumption is likely to be violated. In Table 1, we show that the opening of WPS across cities (Panel A) and the enactment of the WPS legislation across states (Panel B) in India is not correlated with potential determinants of GBV. The dependent variable is a time-varying indicator for WPS opening (Panel A) or legislation (Panel B). In the city analysis (Panel A), we include including lagged GBV that might capture a rising demand for WPS services, lagged non-gendered violent crime, the supply of female police officers, and the share of female legislators in state assemblies.[19] We also find no association with income proxied at the city-year level by growth in nightlights (Henderson et al., 2011), the population sex ratio, literacy, police capacity, or the type of policing (police commissioner system or not). In the state analysis in Panel B, we again find no association of WPS legislation with a similar set of variables at the state level. At the state level we additionally examine the timing of elections, in view of evidence that policy timing in India is sensitive to the electoral cycle (Baskaran et al., 2015). We also examine an indicator for performance in the National Rural Employment Program that increased female labor participation (Amaral et al., 2015) and an indicator for state-year enactment of the local-level political gender quota policy (Iyer et al., 2012). In no case is there a significant association with WPS. [20]

[19]The last is consistent with Iyer et al. (2012) and Blakeslee and Fishman (2018) finding no impact of female political representation in state assemblies on reports of crimes committed against women.

[20]Our discussions with the Central Ministry of Home Affairs, the Home Department in various states, with the state level Director General of Police, the city level Commissioners of Police and the district Superintendents as well as other policymakers involved with WPS placement all pointed to the timing of opening of WPS being idiosyncratic. The formal process in an Indian state is as follows. First, the district Superintendent submits a request to open a WPS to the Police Headquarters. Second, the central Director General of Police sends the request to the state Home Department. Third, the Home Department seeks approval from the Chief Minister of the state. Finally, after a lengthy process that involves sending the file back and forth between the Home Department and the Police Headquarters several times over 1 or 2 years, a WPS is sanctioned. It takes additional

Parallel trends assumption. The identifying assumption for estimates of equation 1 to be valid is that treated and control cities would follow parallel trends in the outcomes of interest if WPS had not been introduced. While there is no formal test to validate this assumption because of the lack of a counterfactual, Figure 1 presents event study estimates that display trends in the outcome before and after WPS implementation. We show results for GBV in Table 2, and for other crimes, namely economic crimes and non-gender based violence. The plotted coefficients are conditional upon the baseline controls and city and year fixed effects. They do not include city linear trends (Goodman-Bacon, 2020). There is no evidence of differential pre-trends between cities that later implemented WPS and those that did not. The post-WPS coefficients show an increase in reported GBV a year on, alongside no change in reports of the other sorts of crime. Next, we document that the percentage of negative weights of the naive average treatments effect for WPS. Given that the percentage of negative weights is 31.1 and 35.5 percent for the city and state-sample, respectively, we also test the parallel trends assumption using the two-way fixed-effects estimator of De Chaisemartin and d'Haultfoeuille (2020), which allows for heterogeneity in treatment effects over time or across units. We use three placebo years previous to WPS opening and find no evidence of differential trends in the years leading up to the policy—see Table A.3.

5.2 Impact of women police stations on gender-based violence

Baseline results. Estimates of equation 1 are in Table 2, with controls added successively as shown. The opening of WPS leads to an increase in reported GBV, irrespective of controls. The specification in column (5) shows an increase of 29.3 percent. That reporting increase is broadly consistent with recent survey data in Amaral et al. (2021a), which show that about 80 percent of female commuters in the city of Hyderabad in India feel safer when a female police

time from then to being functional since it requires renting or building a facility, moving female police officers from non-WPS, and providing other resources (e.g. vehicles) to WPS. However, many states who lagged behind in rolling out WPS, opened them in one stroke in all districts. Although the steps involved in the opening of WPS remain the same as described above, states that lagged behind were able to open WPS in all districts under a Chief Minister directive. The distribution of WPS by year and state is displayed in Table A.10.

officer is present in their commuting areas. When asked why they say that female police officers are better able to understand the situation (73.75%), they feel more comfortable approaching female officers (19.73%), they provide better advice (4.21%) and they are more likely to take action (2.3%). These results hold despite WPS being relatively scarce per-capita, and often under-resourced. This is an important result since under-reporting is a serious constraint on addressing GBV.

Sub-categories of gender-based violence. Table 3 reports results for *female kidnappings*, *domestic violence*, *dowry deaths*, *molestation*, *sexual harassment*, and *rape*. The overall result is driven by domestic violence, which records a 33.5 percent increase. There is suggestive evidence of an increase in reports of molestation, and dowry deaths, however, these results are imprecise.

Other crimes. Estimates of the impact of WPS on non-gendered violence are in Table 4. In principle this is a placebo outcome. In practice, if gendered violence reports are deflected from the general police station to a WPS after WPS appear then the general station may be better placed to handle non-gendered violence and this may lead to an increase in reporting. We find no impact of WPS on reported non-GBV crimes. This remains the case when we break this up into its sub-categories, namely, male kidnappings, robbery, theft, riots, cheating, and criminal breach of trust, see Table A.2.

6 Probing Mechanisms

The main challenge is our setting is to disentangle reporting from incidence—a common problem in the crime literature, exacerbated when studying gender-based crime. We address this problem in four steps. We examine femicide (female homicide), which is much less subject to under-reporting, and survey reports of domestic violence, which tend to approximate actual incidence (Agüero and Frisancho, 2017).[21] If WPS led to a change in incidence of GBV, we should see

[21] While recent evidence shows that for high literate women this measure may mask undereporting, this should not impact our estimate as long as this form of measurement error is uncorrelated with the time-varying rollout of WPS.

these measures move. We find no impact of WPS on either proxy for incidence (femicide or survey reported GBV), and our analysis of victim survey data indicate an increase in reporting.

It remains relevant to understand if the increase in reporting can be directly attributed to the WPS, rather than the opening of WPS leading to greater capacity or shorter distances to the nearest station. The latter would still be an important policy result, but it would be a different mechanism than the former, which is about WPS providing a safe space for reporting. To investigate this we use police station level data on cases brought to WPS versus general stations after the opening of WPS. We find a shift of GBV cases from general police stations towards WPS, and a net increase in reported GBV cases. We now elaborate both sets of results.

Femicide. An argument put forth in Iyer et al. (2012) and substantiated in our discussions with police officers in India is that it is difficult to veil deaths. We investigate impacts of WPS opening on *murders due to love affairs*, *accidental deaths*, and *dowry deaths*, data for which are available at the state (not city) level, see Table 5 (corresponding event study in Figure A.8). Columns (1) and (2) replicate the city-level results in Table 2 using state data, showing that enactment of WPS policy leads to an increase in reported GBV of 23.6 percent.[22] Figure A.7 confirms that the state data show no pre-trend. The results of interest are in Table 5, where columns 3 onwards show that WPS has no impact on any measure of female homicide.

Survey of reported domestic violence. We obtain survey-reported domestic violence from the 2005–2006 and 2015–2016 waves of the DHS and state-level exposure to WPS enactment. In this ten year span, five states adopted WPS, eleven states already had it and the remaining three states had not yet implemented the policy. We use this variation together with the fact that WPS were only implemented in urban areas to estimate a triple-difference specification:

$$Y_{ist} = \alpha + \delta_1(T_s \times P_t \times U_i) + \delta_2(T_s \times P_t) + \delta_3(T_s \times U_i) + \delta_4(P_t \times U_i) + \delta_5 T_s + \delta_6 P_t + \delta_7 U_i + \beta X_i + \gamma_s + \lambda_t + \epsilon_{ist} \quad (3)$$

[22] Appendix Table A.6 reports the impact of WPS on different forms of GBV, non-GBV and economic crimes. The state-level increase in GBV appears to be driven by increased reports of female kidnapping, which increased by 10% (column 4 of A.6. There is no impact of WPS on non-gendered crimes.

where Y_{ist} is the self-reported measure of domestic violence, broken down as (*emotional*, *physical*, or *sexual*) for respondent i in state s and year t. T_s is an indicator for states that implemented the WPS policy in the analysis period (treatment states), P_t is an indicator for the timing of the WPS policy roll out, and U_i is an indicator for the respondent residing in an urban area. X_i includes age, household size, religion dummies for Hindu, Muslim, or Christian, ethnicity dummies for Schedules Castes or Tribes, number of children under the care of the woman, and years of female education. γ_s denotes state fixed effects and λ_y survey-year fixed effects. The coefficient δ_1 provides the tripe-difference estimate, and δ_2 through δ_7 are estimates of the double interaction terms and linear terms, respectively. Standard errors are clustered at the state level. Table 6 reports the estimates from equation 3. In no specification do we find evidence of a change in survey reports of GBV following WPS enactment. This is robust to checks presented in Appendix Tables A.4 and A.5. First, we show that there is no impact on any of *emotional*, *physical*, or *sexual* violence, or an index of the sum of these different types of abuse. Second, we cluster standard errors at the state and urban area and, third, we exclude the state of Tamil Nadu since this is an outlier in terms of WPS availability. Our results are robust to these changes.

Victim survey of reporting behaviours. The DHS asks those women who report having suffered domestic violence whether they mentioned this to family members (including the partner and/or former partner), the police, neighbors, social organizations, lawyers, religious leaders or a doctor. As the sample is too small to break this down and isolate police reporting, we aggregate their responses to create an index of more general reporting behaviour, derived as the sum of responses with values 0 to 7. Estimates of equation 3 are in Table 8. We see an increase in women's willingness to report to formal services and informal networks after the opening of WPS, that is robust to graduated controls. This result is robust to the checks on survey-reported violence, namely clustering standard errors at the state and urban area level, and excluding the state of Tamil Nadu, see Table A.5. Taken together, the evidence suggests that the positive impact of WPS on GBV reflects an increase in reporting.

Reporting to WPS vs. general police stations. While administrative crime data show an increase in GBV which we have argued reflects an increase in reporting, to square the circle we turn to station data to investigate whether all of the increase in reporting occurred at WPS. For this we use monthly crime reports by police station in Rajasthan, data collected by Banerjee et al. (2021). In Rajasthan, four districts had WPS at the time of the survey, while the remaining six did not. WPS were only opened in urban areas. We estimate a cross-sectional difference-in-differences specification, interacting treated district with urban station:

$$Y_{sdt} = \alpha + \delta_1 T_d \times U_s + \delta_2 U_s + \gamma_d + \lambda_t + \epsilon_{sdt} \tag{4}$$

where Y_{sdt} is the total number of crimes reported to general police stations s in district d during month t. T_d is an indicator for districts that implemented WPS policy and U_s is an indicator variable for urban police stations. γ_d are district fixed effects and λ_t month-year fixed effects. Standard errors are clustered at the station level and all regressions are weighted by the population measured in Census 2011. The coefficient of interest is δ_1. See Table 7, which shows a significant decrease in GBV cases reported to general stations in the urban areas of districts treated by the opening of a WPS. δ_1 is statistically significant for total GBV, rape, and domestic violence. δ_2 is not significant, confirming no difference across rural stations in districts with and without WPS. There is no change in reporting to general stations of non-GBV crimes, economic or violent. The decrease in GBV is of one report. As shown in Section 3, the average WPS receives on average of 8.8 reports per month. This suggests that to a small degree WPS substituted general stations but there was clearly a net increase in reporting.

Police strength, share of women in police, and police management. It seems plausible that the opening of WPS is associated with increases in police capacity (additional stations, additional officers) and that it is this rather than the provision of a safe space for reporting that drives the observed increase in GBV reports. To investigate this, we regress each of total police officers per capita, the share of female officers in total and by rank, and whether a city has a police commissioner system on an indicator for WPS, see Table A.9. We find no evidence of

WPS being associated with any of these outcomes.

Arrests and indictment. We next examine impacts of WPS opening on arrest rates and chargesheeting (indictment) for GBV crimes.[23] We estimate equation 2 at the state level, results are in Table 9. We find an increase in arrest rates for female kidnappings, but no impact on chargesheets. This is consistent with female officers at WPS being trained to initially address disputes through counseling, in view of arrest being difficult for the family, or generating backlash from the perpetrator or his family (Authority, 2014).

Women's labor force participation. An important constraint for women and society in India is the persistently low rate of female employment. Indeed, in urban areas, it is decreasing. Recent evidence shows that the fear of rape and sexual harassment in outdoor spaces contributes to this (Siddique, 2020; Borker, 2020). If women are more willing to report GBV following the opening of WPS, and they expect greater protection and deterrence, their labour supply may increase. To investigate this, we use India's National Sample Survey data for women age 15-55. We estimate equation 2, leveraging variation in exposure to WPS legislation over time, state, and urban area, conditional upon individual age, religion, caste, and educational attainment, see Table 10. We find that women in urban areas of states that adopt WPS are 6.5 percent more likely to participate (column 4). The double difference coefficient confirms that female employment for women in rural areas is not a function of WPS, consistent with WPS opening only in urban areas. The corresponding event-study in Figure 2 shows that we cannot reject the parallel trends assumption. It also shows that the impacts are persistent over time, consistent with WPS opening being a lasting event. Having observed an increase in female employment, we may expect an increase in women's economic empowerment within the household. To investigate this we estimated 3 on the two waves of DHS data, which contain a self-reported indicator of women's financial decision-making power. The results in Table A.8 show that while the coefficient is positive and stable to controls, it is not statistically significant at conventional levels.

[23] After a FIR is filed at a police station, the police starts the investigation. A chargesheet is filed after the police completes the investigation and witness statements and affidavits have been obtained. The chargesheet names the persons against whom the charge is submitted. An intermediate outcome is arrest.

Robustness tests. As reported in Table 11, we first re-estimate equation 1 clustering the standard errors at the state rather than city-level since WPS adoption was a state level decision, albeit implemented differentially across cities within states. Our results do not change—see column (1). Next, in the event study we include in the sample only cities that were eventually treated, allowing that ever-treated cities constitute a more homogeneous sample—see column (2). Again, the results hold. Third, we show the results also hold if we exclude from the analysis sample the state of Tamil Nadu, which implemented WPS policy in 1992 and has the largest number of WPS of any Indian state, a total of 196 which is 41% of all WPS in the country—see column (3). We also show that the increase in female labor supply following WPS opening is robust to excluding Tamil Nadu—see Table A.7. The main result is also robust to replacing the log of the dependent variable with the level—see column (4). We perform a falsification test, evaluating random city-year treatment assignment. We use 1,000 repetitions in the simulation and keep the distribution of the treatment assignment equal to the true distribution. The results reported in column (5) show that the fake treatment has no significant impact on reported GBV cases. To investigate the possibility that a particular state drives the average results, we also re-estimate model 2 dropping one state at a time. The results in Figure A.6 show that the magnitude of the coefficients is similar to that obtained with the full sample.

7 Conclusion

Violence against women is a major obstacle to achieving the United Nations Sustainable Development Goals for 2030. It is estimated that nearly one billion women across the globe experience intimate partner violence or non-partner sexual violence in their lifetime. The implications range from negative impacts on women's physical, mental, sexual, and reproductive health to significant economic costs in terms of expenditures on service provision, lost income for women and their families, or decreased productivity. As a result, finding effective tools to address GBV represents a crucial challenge for policymakers.

In this paper, we study the impact of a policy that led to opening of Women Police Stations (WPS) across India which had the primary objective of increasing reporting of GBV cases.[24] We find that the implementation of WPS led to a 29 percent increase in the reporting of GBV cases to the police, driven by an increase in reporting of domestic violence cases. Our results suggest that this is an increase in reporting rather than in incidence. We also find some evidence of an increase in arrest rates and women's labour supply following the implementation of WPS. Overall, our results contribute to a relatively small literature indicating that increasing the share of women in the police force—and, in particular, providing safe spaces led by women for women—can increase women's willingness to approach the criminal justice system.

[24]It has been estimated fewer than 1.5 percent of victims of sexual violence report their assaults to the police in India (McDougal et al., 2018).

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Table 1: Testing for Endogenous Placement of Women Police Stations

	Panel A: Opening of WPS in Cities							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sex ratio	0.000	-0.014	-0.013	-0.052	-0.021	-0.053	-0.043	-0.042
	(0.052)	(0.040)	(0.040)	(0.034)	(0.048)	(0.035)	(0.032)	(0.028)
Literacy rate	-0.001	-0.000	-0.000	-0.021	-0.000	-0.024	-0.029	-0.025
	(0.001)	(0.001)	(0.001)	(0.035)	(0.001)	(0.036)	(0.035)	(0.035)
Police commissioner	0.126	0.140	0.138	0.197	0.139	0.200	0.201	0.201
	(0.159)	(0.160)	(0.160)	(0.195)	(0.160)	(0.195)	(0.197)	(0.196)
Total GBV rate$_{t-1}$		0.017	0.018	0.021	0.018	0.020		
		(0.011)	(0.011)	(0.013)	(0.011)	(0.012)		
Female Constables (%)			0.009			-0.015	-0.020	-0.018
			(0.007)			(0.015)	(0.016)	(0.017)
Growth in nightlights				-0.014		-0.009	-0.007	-0.007
				(0.076)		(0.079)	(0.082)	(0.078)
Women MLAs					0.391	-0.120	-0.183	-0.174
					(0.765)	(0.454)	(0.443)	(0.449)
Total Non-GBV rate$_{t-1}$							0.008	
							(0.007)	
Total Economic rate$_{t-1}$								0.010
								(0.008)
N	592	522	516	397	514	392	391	392
	Panel B: Enactment of the WPS Policy in States							
Sex ratio	-0.015	-0.017	-0.019	-0.017	-0.018	-0.014	-0.178	-0.178
	(0.039)	(0.037)	(0.037)	(0.036)	(0.036)	(0.036)	(0.161)	(0.160)
Literacy rate	0.015	0.014	0.016	0.014	0.015	0.018	0.091	0.091
	(0.018)	(0.020)	(0.021)	(0.020)	(0.019)	(0.020)	(0.076)	(0.072)
Urban population	0.004	0.003	0.001	0.004	0.005	0.003	0.016	0.016
	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)	(0.027)	(0.026)
SC population	0.083	0.076	0.077	0.079	0.088	0.064	0.156	0.156
	(0.053)	(0.058)	(0.055)	(0.058)	(0.069)	(0.055)	(0.193)	(0.208)
ST population	-0.003	-0.003	-0.003	-0.003	-0.003	-0.004	-0.002	-0.002
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.001)	(0.001)
Growth in GDP per capita	-0.041	-0.041	-0.035	-0.027	-0.025	-0.053	0.028	0.021
	(0.240)	(0.236)	(0.244)	(0.218)	(0.213)	(0.228)	(1.415)	(1.760)
Election year	-0.042	-0.043	-0.044	-0.044	-0.045	-0.045	-0.033	-0.033
	(0.043)	(0.043)	(0.043)	(0.043)	(0.044)	(0.043)	(0.089)	(0.090)
Police per capita		0.086	0.059	0.092	0.088	0.059		-0.004
		(0.170)	(0.145)	(0.167)	(0.174)	(0.165)		(0.349)
Total GBV$_{t-1}$			0.076				-0.023	-0.024
			(0.095)				(0.127)	(0.131)
Total Non-GBV rate$_{t-1}$				-0.017				
				(0.073)				
Total Economic rate$_{t-1}$					-0.075			
					(0.155)			
Female local quotas policy						-0.155	-0.206	-0.206
						(0.104)	(0.197)	(0.175)
NREGA Star States							-0.098	-0.098
							(0.075)	(0.084)
Female Constables (%)							-0.220	-0.220
							(0.185)	(0.179)
N	400	400	400	400	400	400	143	143

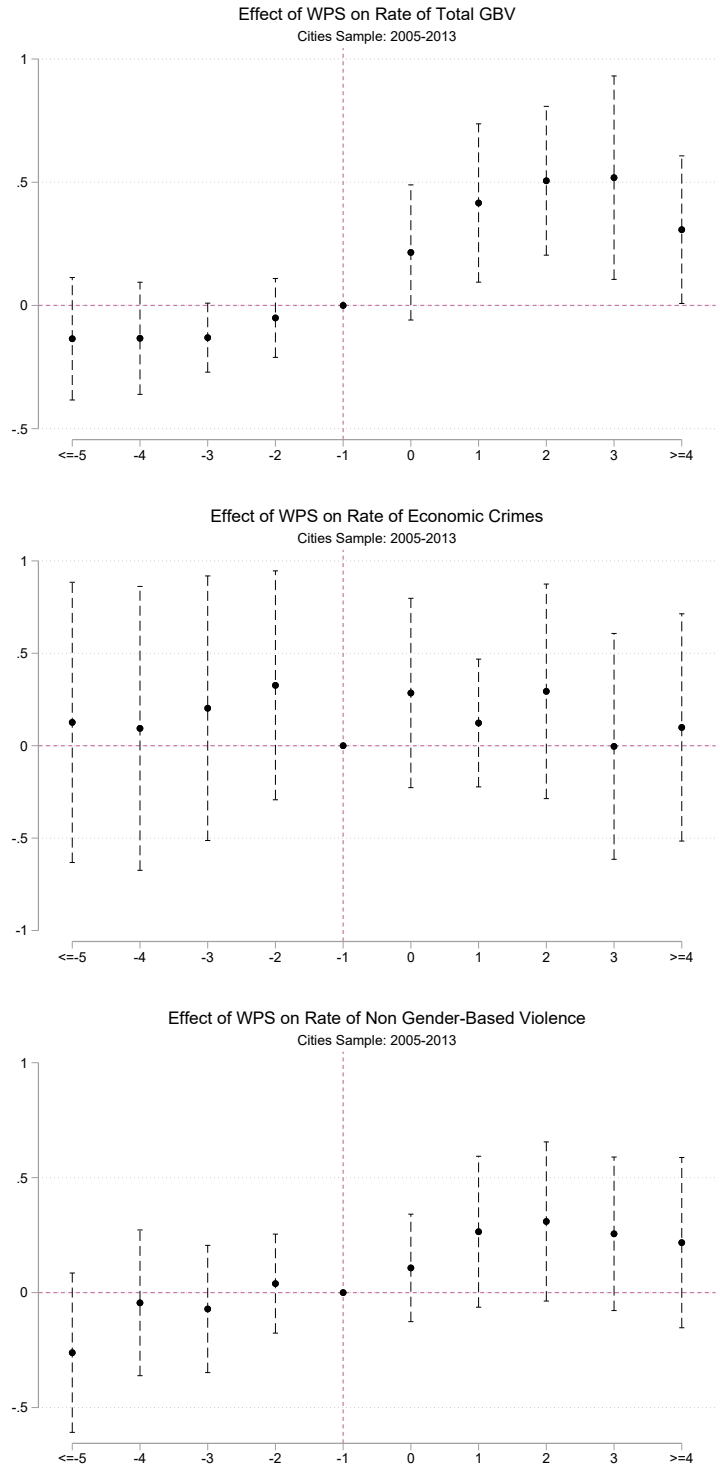
Notes: Panel A analyses determinants of the opening of the women police stations in cities. Panel B investigates determinants of the legislative enactment of the women police stations policy at the state level. The dependent variable is an indicator for the city (or state) times the year. All regressions include city/state FE and year dummies. Controls are described in the main text. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is in Panel A is 2005-2013 and in Panel B is 1988-2013. Standard-errors are clustered at the city (Panel A) and state (Panel B)-level. *** 1%, ** 5%, * 10%.

Table 2: Impacts of WPS on Reported Violence against Women

	Rate of GBV				
	(1)	(2)	(3)	(4)	(5)
WPS	0.535***	0.542***	0.564***	0.307***	0.257***
	(0.126)	(0.116)	(0.123)	(0.069)	(0.093)
N	577	577	577	577	577
No. Cities	73	73	73	73	73
Adj. R-sq.	0.301	0.318	0.295	0.344	0.454
City FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	Yes	Yes	Yes	Yes
Female Officers	No	No	Yes	Yes	Yes
Female MLAs	No	No	Yes	Yes	Yes
State Linear Trends	No	No	No	Yes	No
City Linear Trends	No	No	No	No	Yes

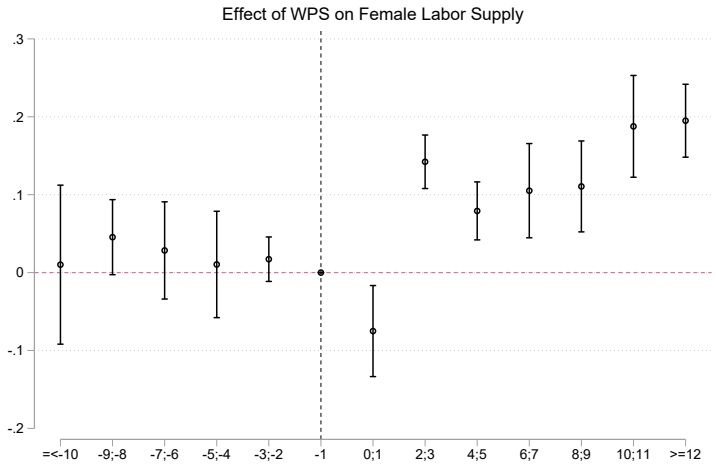
Notes: The dependent variable is the log of the GBV crime rate in the city (per 100,000 population). The main independent variable is a dummy that takes value 1 if a city-year has a women police station. Baseline controls include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place (columns 1-5). In column (3) we also include the state level share of female constables and the percentage of female members elected to the state legislative assemblies. All regressions include city and year FE. In column 4 we include state-specific linear trends and in columns 5 we include city-specific linear trends. All regressions are weighted by population size. The rate of total gender-based violence crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per city-level population. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, and Election Commission of India. The period of analysis is 2005-2013. Standard-errors are clustered at the city-level. *** 1%, ** 5%, * 10%.

Figure 1: Event Studies for Gendered and Other Crimes



Notes: The figures show coefficients and 95% confidence-level intervals using the city-level timing of opening of WPS. Results are for total rate of crimes committed against women (top), total rate of economic crime (middle) and non-gendered violence (bottom). The specifications include city and year FE, and controls for the ratio of females to males, literacy rate, and a dummy for a police commissioner system at the city level. The omitted category is year -1 (one year before the policy). Standard errors are clustered at the city-level. All regressions are weighted by population size. The rate of total gender-based violence crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per city-level population. The rate of economic crime is the yearly sum of incidents registered under the categories of criminal breach of trust, burglary, robbery, theft and cheating per city-level population. The rate of non-gender based violence is the yearly sum of incidents registered under the categories of riots, murder, dacoity, male kidnappings, arson and hurt. Data sources: National Crime Records Bureau, Census of India and Bureau of Police Research and Development.

Figure 2: Event Study for Female Employment



Notes: Estimates of the specification in column (4) of Table 10. The dependent variable is a dummy that takes the value one if a women is employed, and 0 otherwise. The controls included are age, religion, caste and educational attainment indicators for the individual. All regressions include state fixed-effects, survey round dummies, year fixed effects and state-urban interactions. Estimations computed using data from NSS surveys. Standard-errors are clustered at the state-level. The period of analysis is 2004-2011.

Table 3: Impacts of WPS on Reported Violence against Women:Sub-categories

	Domestic violence		Kidnappings		Molestation		Sexual harassment		Rape		Dowry Deaths	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
WPS	0.554***	0.289***	0.325	-0.000	0.545***	0.493	0.898	-0.039	0.125	0.078	0.579***	0.283**
	(0.111)	(0.061)	(0.199)	(0.202)	(0.112)	(0.311)	(0.632)	(0.335)	(0.115)	(0.140)	(0.152)	(0.139)
N	574	574	575	575	572	572	444	444	569	569	523	523
# Cities	73	73	73	73	73	73	68	68	73	73	71	71
Adj. R-sq.	0.210	0.324	0.184	0.318	0.184	0.211	0.038	0.446	0.256	0.312	0.121	0.350
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female Officers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female MLAs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City Linear Trends	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The dependent variables are the log of the crime rates in each category per 100,000 population. The main independent variable is a dummy that takes values 1 if a city-year has a woman station. Baseline controls include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place (columns 1-5). In column (3) we also include the state level share of female constables and the percentage of female members elected to the state legislative assemblies. All regressions include city and year FE. In column 4 we also include state-specific linear trends and in columns 5 we alternatively present results with city-specific linear trends. All regressions are weighted by population size. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, and Election Commission of India. The period of analysis is 2005-2013. Standard-errors are clustered at the city-level. *** 1%, ** 5%, * 10%.

Table 4: Impact of WPS on Non-Gender Based Violence and Acquisitive Crime

	Panel A: Non-Gender Based Violence				
	(1)	(2)	(3)	(4)	(5)
WPS	0.230	0.227	0.308*	0.051	0.109
	(0.179)	(0.168)	(0.165)	(0.071)	(0.078)
N	608	592	577	577	577
# Cities	76	74	73	73	73
Adj. R-sq.	0.039	0.047	0.037	0.118	0.319
	Panel B: Economic Crime				
WPS	0.085	0.050	0.070	-0.115	-0.118
	(0.210)	(0.252)	(0.243)	(0.127)	(0.134)
N	604	588	573	573	573
# Cities	76	74	73	73	73
Adj. R-sq.	0.020	0.054	0.063	0.185	0.300
City FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	No	Yes	Yes	Yes	Yes
Female Officers	No	No	Yes	Yes	Yes
Female MLAs	No	No	Yes	Yes	Yes
State Linear Trends	No	No	No	Yes	No
City Linear Trends	No	No	No	No	Yes

Notes: The dependent variables are the log of rates of non-gender based violence (Panel A) and economic crime (Panel B) per capita in the city (per 100,000 population). The main independent variable is a dummy that takes values 1 if a city-year has a women police station. Baseline controls include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place (columns 1-5). In column (3) we also include the state level share of female constables and the percentage of female members elected to the state legislative assemblies. All regressions include city and year FE. In column 4 we also include state-specific linear trends and in columns 5 we present results with city-specific linear trends. All regressions are weighted by population size. The rate of total non-gender-based violence crimes is the yearly sum of incidents registered under riots and male kidnappings and, economic crime includes offenses reported as criminal breach of trust, burglary, robbery, theft and cheating. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, and Election Commission of India. The period of analysis is 2005-2013. Standard-errors are clustered at the city-level. *** 1%, ** 5%, * 10%.

Table 5: Impact of WPS on Female Mortality

	Total GBV		Accidental Deaths		Dowry deaths		Murder due to love affairs	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WPS	0.159*	0.212**	0.008	0.008	0.049	-0.008	-0.000	-0.001
	(0.079)	(0.078)	(0.011)	(0.011)	(0.049)	(0.060)	(0.000)	(0.001)
N	400	400	400	400	400	400	384	384
No. of states	16	16	16	16	16	16	16	16
Adj. R-sq.	0.912	0.950	0.578	0.578	0.699	0.735	0.291	0.592
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes	No	No
73rd Amendment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
NREGA*Star States	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
State Linear Trends	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The dependent variables are the state-level log of crime rates of gender based violence (Total GBV), state-level female mortality due to accidental deaths (Accidental Deaths), state-level dowry deaths and state-level murder due to love affairs. The time period for the analysis is 1988-2013. The main independent variable is a dummy that takes values 1 if a state-year enacted the women police stations policy. Baseline controls include ratio of males to females, literacy rate, rate of urban population, rate of scheduled castes and scheduled tribes population and the growth of state-level GDP per capita. Additional controls include state-election year dummies and police per capita. We also include as additional controls a dummy as to whether the state enacted the policy for gender political quotas (73rd Amendment) and a dummy for post 2006 in states that have implemented well the national rural employment program. All regressions include state and year FE. In columns 2 we also include state-specific linear trends. All regressions are weighted by population size. The rate of total gender-based violence (total GBV) crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per state-level population. The rate of accidental deaths is the yearly sum of incidents registered under the categories of accidental deaths due to unnatural events and suicides. The rate of dowry deaths and murders due to love affairs is the is the yearly sum of incidents registered under these categories per state-level population. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is 1988-2013. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table 6: Impact of WPS on Survey Reports of Intimate-Partner Violence

	Intimate-Partner Violence			
	(1)	(2)	(3)	(4)
Treatment× Post × Urban	-0.041	-0.043	-0.042	0.042
	(0.121)	(0.113)	(0.103)	(0.143)
Treatment× Post	-0.029	-0.061	-0.085	-0.131
	(0.237)	(0.229)	(0.200)	(0.211)
N	88,829	88,829	88,825	88,825
State FE	Yes	Yes	Yes	Yes
Survey-Year FE	Yes	Yes	Yes	Yes
Baseline Controls	No	Yes	Yes	Yes
Additional Controls	No	No	Yes	Yes
State*Urban FE	No	No	No	Yes

Notes: The dependent variable is a dummy that takes values one if a women reports being subject to emotional, sexual or physical intimate-partner violence. The main independent variable is a dummy that takes values one for women residing in urban areas in a state (Urban) that enacted the women police stations policy (Treatment) after the policy has been enacted (Post). Baseline controls include age, household size, religion dummies for Hindu, Muslim or Christian, ethnicity dummies for Schedules Castes or Tribes. Additional controls include the total number of children under the care of the woman and the years of education of the woman. The remaining interactions and dummies from the triple differences estimation as defined in 3 are also included or sub-summed with fixed-effects. All regressions include state FE and survey year dummies. In column 4 we also include a state*urban dummy. Data Source: Demographic Health Surveys. The period of analysis is 2005-2006 and 2015-2016. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table 7: Impact of WPS on Reports to General Police Stations

	Total GBV	Rape	DV	Theft	Accidents	Murder	Other IPC
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment × Urban Station	-1.196***	-0.278***	-0.688***	0.830	0.239	0.063	-0.166
	(0.238)	(0.105)	(0.202)	(0.568)	(0.602)	(0.068)	(0.155)
Urban Station	0.279	-0.040	0.156	0.658	-0.362	-0.017	0.055
	(0.175)	(0.076)	(0.173)	(0.439)	(0.371)	(0.051)	(0.129)
N	3,148	3,148	3,148	3,148	3,148	3,148	3,148
R-sq.	0.340	0.221	0.196	0.716	0.610	0.148	0.285
Month-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the count of offenses reported under the categories of violence against women - total GBV -, rape and domestic violence, theft, accidents, murder and other miscellaneous categories. The independent variable is a dummy that takes the value one if the general police station is located in an urban area (Urban Station) in a district that has implemented the women police stations policy (Treatment). Total GBV refers to the sum of offenses reported under the criminal offenses of cruelty towards wife (domestic violence), rape, molestation, the Dowry and Woman Act, and cases coded as 493, 494, 495, 496, 497, 498, 509 all defined as crimes committed against women under the legislation. All regressions control for month-year dummies and district fixed effects. Controls include the station-month-level sums of victim and victimless offenses. The treatment district dummy is subsumed within district fixed-effects. All regressions are weighted for district population. Data Source: Rajasthan Police Stations Survey from Banerjee et al. (2021). The period of analysis is January 2006 to December 2007. Standard-errors are clustered at the station-level. *** 1%, ** 5%, * 10%.

Table 8: Impact of WPS on Willingness to Search for Support Among Domestic Violence Victims

	Search for Support			
	(1)	(2)	(3)	(4)
Treatment× Post × Urban	0.074***	0.069***	0.069***	0.112***
	(0.022)	(0.020)	(0.020)	(0.023)
Treatment× Post	-0.008	-0.001	-0.002	-0.008
	(0.043)	(0.041)	(0.041)	(0.044)
N	35,254	35,254	35,254	35,254
State FE	Yes	Yes	Yes	Yes
Survey-Year FE	Yes	Yes	Yes	Yes
Baseline Controls	No	Yes	Yes	Yes
Female Education	No	No	Yes	Yes
No. Children	No	No	Yes	Yes
State*Urban FE	No	No	No	Yes

Notes: The sample is restricted to women who report having suffered domestic violence. The dependent variable is the count of services sought by women to address intimate-partner violence. The index takes values zero if no services were sought and seven if the woman reports to having sought all different forms of support services. The main independent variable is a dummy that takes values one for women residing in urban areas (Urban) in a state that enacted the women police stations policy (Treatment) after the policy has been enacted (Post). Baseline controls include age, household size, religion dummies for Hindu, Muslim or Christian, ethnicity dummies for Schedules Castes or Tribes. Additional controls include the total number of children under the care of the woman and the years of education of the woman. The remaining interactions and dummies from the triple differences estimation as defined in 3 are also included or sub-summed with fixed-effects. All regressions include state FE and survey year dummies. In column 4 we also include a state*urban dummy. Data Source: Demographic Health Surveys. The period of analysis is 2005-2006 and 2015-2016. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table 9: Impact of WPS on Deterrence Measures

	Arrest Rate			Chargesheet Rate
	GBV	Female Kidnappings	Rape	
	(1)	(2)	(3)	(4)
WPS	-0.078	0.145**	-0.051	-0.019
	(0.139)	(0.062)	(0.077)	(0.038)
N	374	359	375	329
Adj. R-sq.	0.930	0.879	0.904	0.468
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Additional Controls	Yes	Yes	Yes	Yes
State Linear Trends	Yes	Yes	Yes	Yes
Gender Political Quotas	Yes	Yes	Yes	Yes
Share of Female Officers	Yes	Yes	Yes	Yes

Notes: The dependent variables are state-level arrest rates (i.e. the ratio of arrests made to reported crimes) by crime category - columns 1 to 3 - and state-level chargesheet rate (i.e. ratio between chargesheet crimes to reported crimes) - column 4. The main independent variable is a dummy that takes the value one for the years after the roll-out of the women police station policy in a state. Baseline controls include ratio of males to females, literacy rate, rate of urban population, rate of scheduled castes and scheduled tribes population and the growth of state-level GDP per capita. Additional controls include state-election year dummies and police per capita. We also include as additional controls a dummy as to whether the state enacted the policy for gender political quotas (73rd Amendment) and a dummy for post 2006 in states that have implemented well the national rural employment program. All regressions include state and year FE, and state-linear trends. All regressions are weighted by population size. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA).The period of analysis is 1988-2013. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table 10: Impact of WPS on Female Employment

	Female Employment			
	(1)	(2)	(3)	(4)
Treatment × Post ×Urban	0.250***	0.218***	0.403***	0.050***
	(0.061)	(0.058)	(0.008)	(0.013)
Treatment × Post	0.034	0.024	-0.050*	-0.029
	(0.038)	(0.036)	(0.027)	(0.030)
N	585,820	570,048	570,048	570,048
Adj. R-squared	0.109	0.186	0.193	0.194
Mean (SD)	0.34 (0.47)			
State FE	Yes	Yes	Yes	Yes
Round FE	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes
State FE*Urban	No	No	Yes	Yes
Round FE*Urban	No	No	No	Yes

Notes: The dependent variable is a dummy that takes the value one if a women is employed, and takes the value 0 otherwise. The main independent variable is a dummy that takes values one for women residing in urban areas - dummy variable Urban- in a state that enacted the women police stations policy - dummy variable Treatment - after the policy has been enacted - dummy variable Post. Baseline controls include age dummies, religion dummies, caste dummies, and a dummies for the educational attainment level of the individual-level. All regressions include state and survey round FE. In column 3 we also include a state-urban interaction, and in column 4 we also include survey round and urban resident interactions. All remaining interactions of the triple difference model as defined in 3 are included or are sub-summed in the fixed-effects but not shown. Data source: National Sample Survey. The period of analysis is 2004-2011. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

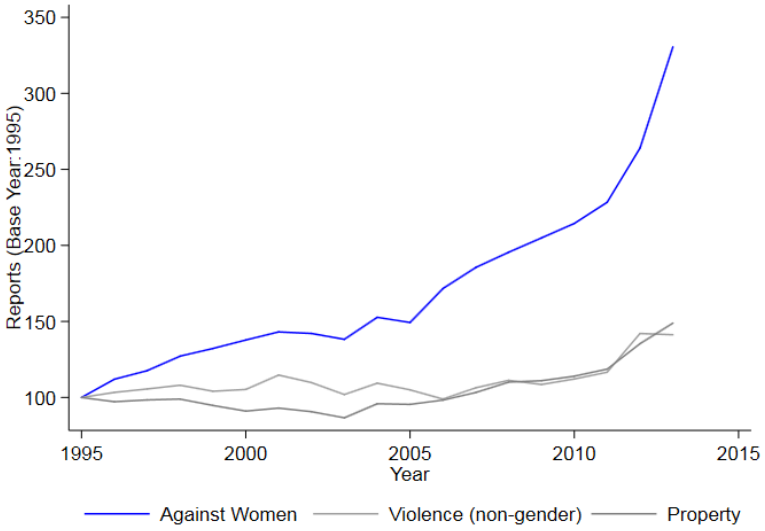
Table 11: Robustness Exercises - Impact of WPS on Violence against Women

	State-level Clustering	Event Study Sample	Excluding Tamil Nadu	Functional Form	Randomization Inference
	(1)	(2)	(3)	(4)	(5)
Violence against women - total	0.257**	0.239***	0.257**	25.804***	-0.002
	(0.089)	(0.081)	(0.089)	(7.680)	(0.128)
Domestic violence	0.289***	0.285***	0.295***	12.175***	0.006
	(0.057)	(0.093)	(0.054)	(3.464)	(0.129)
Kidnappings and abduction	-0.000	0.232	-0.088	2.741	0.007
	(0.199)	(0.248)	(0.217)	(2.155)	(0.122)
Molestation	0.493	0.573	0.433	4.342***	0.005
	(0.318)	(0.408)	(0.312)	(1.488)	(0.165)
Sexual harassment	-0.039	0.892	0.878	2.563	-0.008
	(0.349)	(0.717)	(0.624)	(1.687)	(0.167)
Rape	0.078	0.573	0.433	0.926*	-0.001
	(0.114)	(0.408)	(0.312)	(0.503)	(0.102)
Dowry Deaths	0.283**	0.481***	0.265*	0.516	-0,001
	(0.122)	(0.141)	(0.145)	(0.468)	(0.094)
City FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes
Police Commissioner	Yes	Yes	Yes	Yes	Yes
Share of Female Officers	Yes	Yes	Yes	Yes	Yes
Female MLAs	Yes	Yes	Yes	Yes	Yes
City Linear Trends	Yes	Yes	Yes	Yes	Yes

Notes: Each coefficient reports the estimated coefficient from equation 1. In this table, we only report the coefficient of the main dependent variables - crimes rates of total violence against women, and the single crime categories. Column (1) estimates equation 1 but with standard- errors at the state-level while columns 2-5 use standard errors clustered at the city-level. Column (2) estimates equation 1 using the sample of Figure 1. Column (3) estimates equation 1 but excluding cities from the state of Tamil Nadu. Column (4) estimates equation 1 but where the main dependent variables are not in logarithms. Column (5) estimates equation 1 but with the main independent variable being a random allocation of the treatment assignment variable - i.e. cities with a dummy that takes values 1 if a city-year has a women police station. The random assignment is done taking into account the distribution of the treatment assignment variable within the sample and standard-errors computed using 1,000 replications. Baseline controls for all estimations include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place, the state level share of female constables and the percentage of female members of the state legislative assembly elected through a competitive election. All regressions include city fixed-effects, year dummies and city-linear trends. All regressions are weighted by population size. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development and Election Commission of India. The period of analysis is 2005-2013. *** 1%, ** 5%, * 10%.

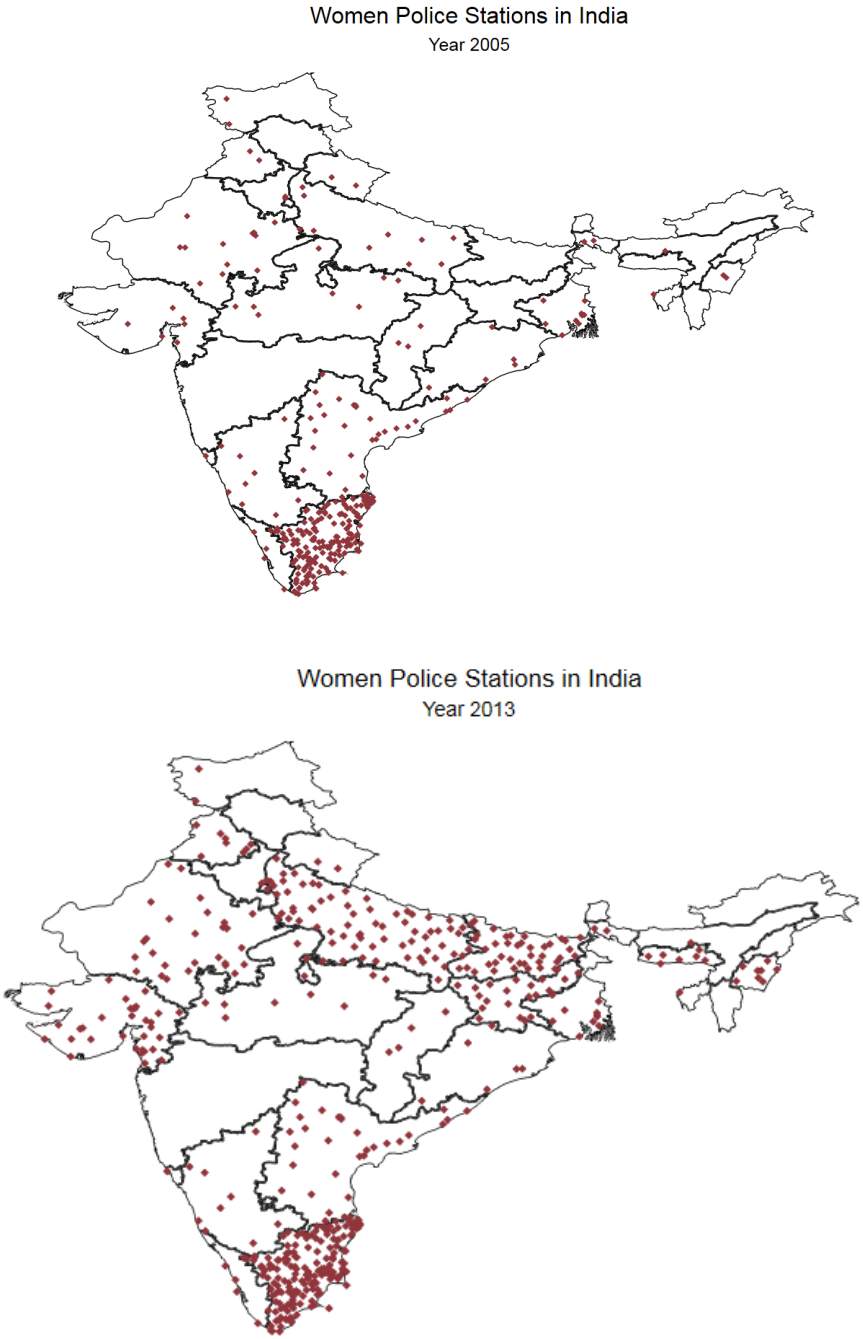
Appendix – Additional Figures and Tables

Figure A.1: Trends in Rates of Crime by Type



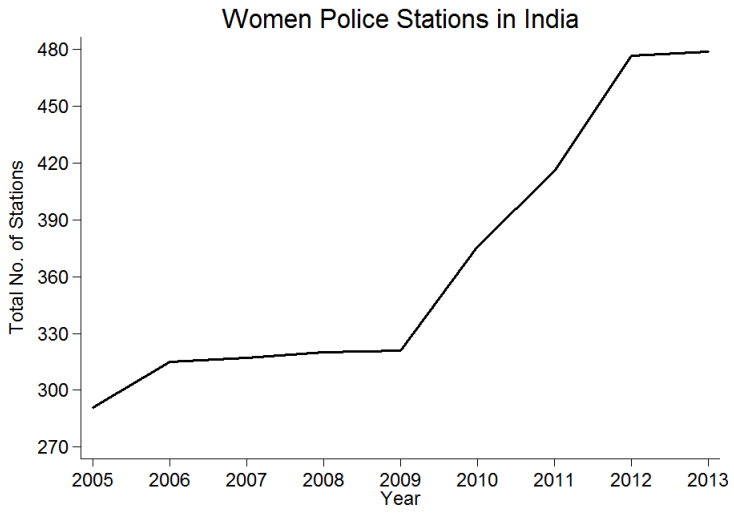
Notes: Growth rate in reports violence against women (GBV); non-gender based violence (Non-GBV) and property crimes. Crime definitions are presented in Table A.12. The year 1995 is used at base year. Data Source: National Crime Records Bureau.

Figure A.2: Distribution of Women Police Stations Across India



Notes: Each dot denotes a city with at least one woman police station. The top map shows the total number of stations opened in 2005 and the bottom map shows those opened by 2013. Using data from the Bureau of Police Research and Development, Ministry of Home Affairs, Government of India.

Figure A.3: Trend in Women Police Stations

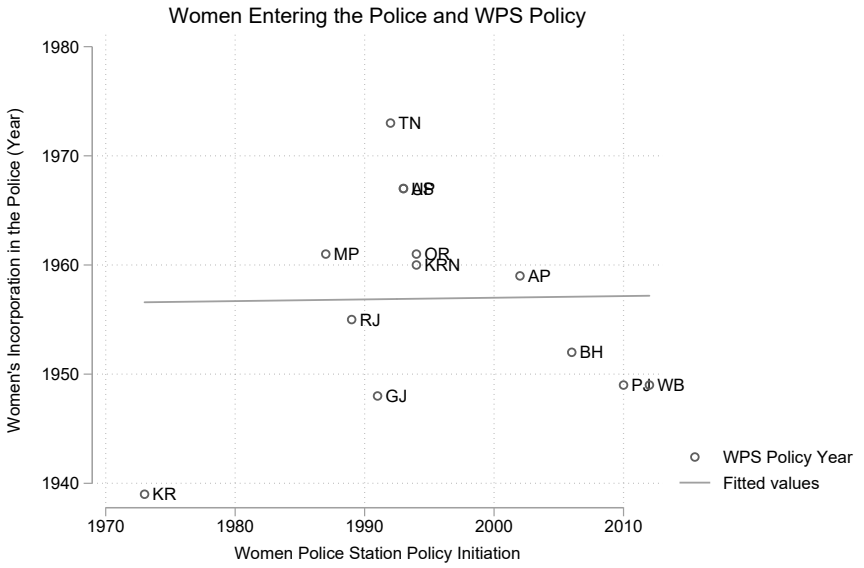


Notes: The figure shows the trend in the opening of women police stations in India 2005 – 2013. Data from the Bureau of Police Research and Development, Ministry of Home Affairs, Government of India.

Figure A.4: Trends in Police Strength and Female Strength by Rank

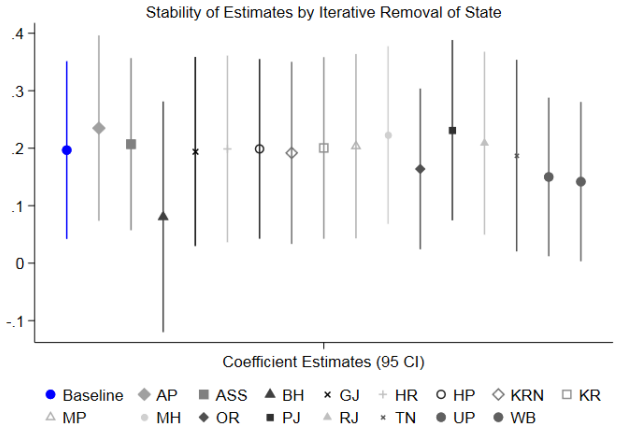
Notes: The top figure shows the trend in the ratio of actual female police strength to total by state-year (left) and total police strength per 100,000 population (right axis). The bottom-figure presents the share of women in top ranks of the police: Director of Intelligence Bureau, Commissions of Police (or Director General of Police), Joint Commissioner of Police (or Inspector General of Police), Additional Commissioner of Police (or Deputy Inspector General of Police), Deputy Commissioner of Police (or Superintendent of Police), and Assistant Commissioner of Police (or Assistant Superintendent of Police); and bottom two ranks of the police: Head Constables, and Constables. Data of policing by gender and rank is only available from 2005. Data Source: Bureau of Police Research and Development and National Crime Records Bureau.

Figure A.5: Correlation between the *Year of WPS* and the *Year in which Women first entered the Police*



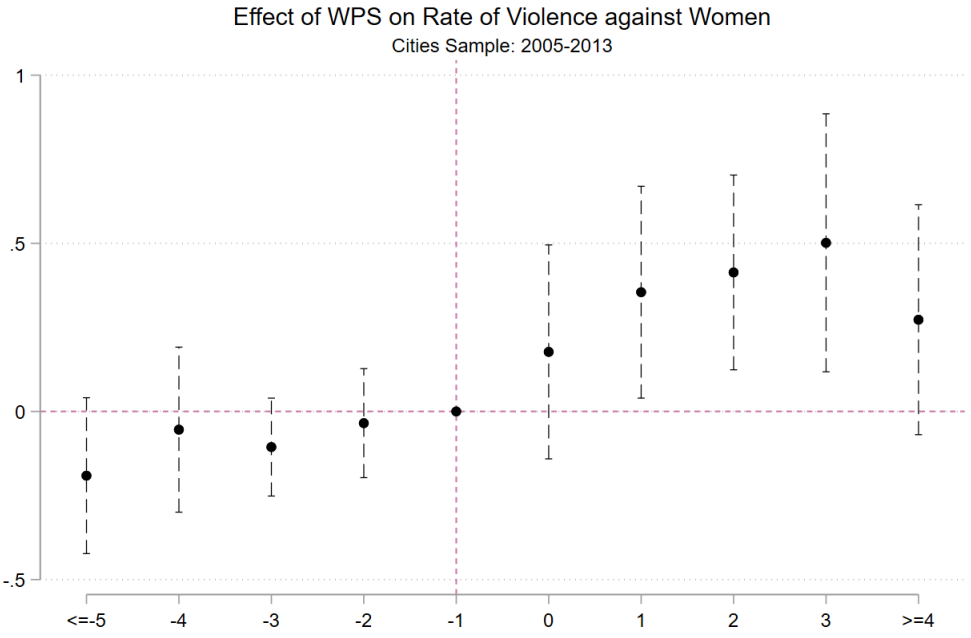
Notes: This Figure shows the twoway correlation between the year in which women first entered the police - on the vertical axis- and, the year in which the WPS policy was introduced in a state - on the horizontal index. The states of Maharashtra, Himachal Pradesh and Haryana did not implement WPS between the period of 1988-2013, and are not included in this correlation. Data Source: (Natarajan, 2016).

Figure A.6: Coefficient Estimates with Iterative Removal of States



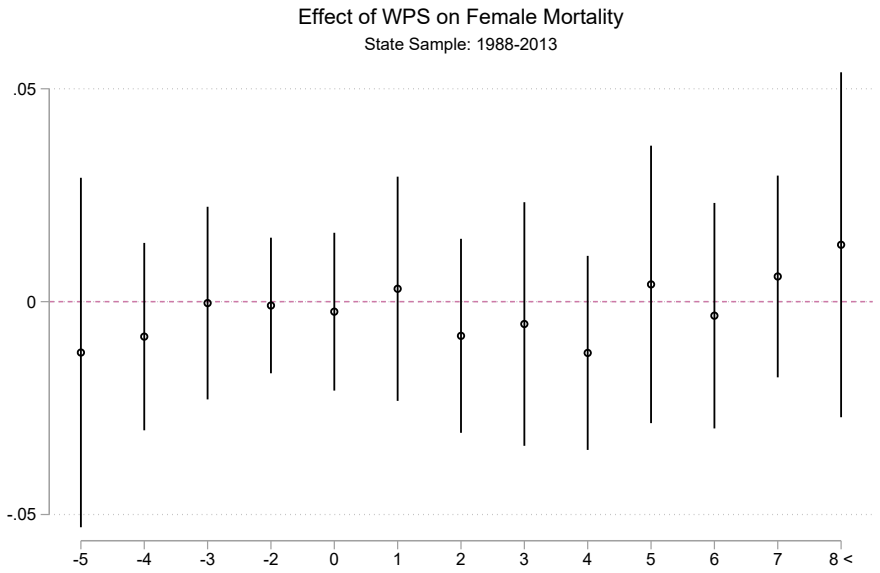
Notes: This Figure shows the coefficient (and confidence intervals) of the estimates of the effects of the roll-out of the WPS in states from the equation 2. The baseline estimate corresponds to the estimate in Table 5 - column 2. Each dot and confidence interval corresponds to a separate regression of the effect of the roll-out of WPS along with control variables, state and year FEs but with the state named in the legend removed from the estimation sample. Control variables include sex ratio, literacy rate, share of SC and ST population, income per capita, share of female officers, a dummy for the post 73^{rd} Amendment and a dummy for the post NREGA roll-out in Star States. The labels indicate that the estimate contains all 16 states except the state labelled; e.g. estimate AP contains uses the sample of all 15 states except Andhra Pradesh. The labels refer to: AP (Andra Pradesh); ASS (Assam); BH (Bihar); GJ (Gujarat); HR (Haryana); HP (Himachal Pradesh); KRN (Karnataka); KR (Kerala); MP (Madhya Pradesh); MH (Maharashtra); OR (Orissa); PJ (Punjab); RJ (Rajasthan); TN (Tamil Nadu); UP (Uttar Pradesh) and WB (West Bengal).

Figure A.7: Event Study for Impact of WPS on Violence against Women: State Data



Notes: This Figure shows the event-study estimations of equation 2 where the main independent variables are dummies of the years relative to the policy change in each state-year. The dependent variable is the log of crimes against women per 100,000 population within a state-year. The specification also includes as control variables the sex ratio, literacy rate, urban population, share of SC, share of ST, income per capita, share of female officers, a dummy for the post 73^{rd} Amendment and a dummy for the post NREGA roll-out in Star States. We also include state and year FEs and a state linear trends. Standard errors are clustered at the state-level and the plotted confidence intervals are the 95 percent confidence level. The rate of total gender-based violence (total GBV) crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per state-level population. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is 1988-2013.

Figure A.8: Impact of WPS on Female Mortality



Notes: This Figure shows the event-study estimations of equation 2 where the main independent variables are dummies of the years relative to the policy change in each state-year. The dependent variable is the log of female deaths per 100,000 population within a state-year. The specification also includes as control variables the sex ratio, literacy rate, urban population, share of SC, share of ST, income per capita, share of female officers, a dummy for the post 73^{rd} Amendment and a dummy for the post NREGA roll-out in Star States. We also include state and year FEs and a state linear trends. Standard errors are clustered at the state-level and the plotted confidence intervals are the 95 percent confidence level. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is 1988-2013.

Table A.1: Impacts of Women Police Stations on Crimes: Showing Covariate Coefficients

	Total VAW	Domestic Violence	Kidnappings	Molestation	Sexual Harassment	Rape	Non-VAW	Economic
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WPS	0.257***	0.289***	-0.000	0.493	-0.039	0.078	0.109	-0.118
	(0.093)	(0.061)	(0.202)	(0.311)	(0.335)	(0.140)	(0.078)	(0.134)
Sex Ratio	0.920**	0.738	0.303	0.599	2.043**	0.525*	0.206	-0.087
	(0.358)	(0.498)	(1.374)	(0.368)	(0.996)	(0.274)	(0.231)	(0.314)
Literacy Rate	0.271	0.284	0.447	0.275	1.186	0.269	0.217	0.230
	(0.189)	(0.198)	(0.389)	(0.197)	(0.997)	(0.186)	(0.137)	(0.186)
Police commissioner	0.024	0.141*	-0.342	-0.128	0.174	0.135	0.137	0.081
	(0.079)	(0.078)	(0.251)	(0.249)	(0.297)	(0.160)	(0.101)	(0.197)
Female Officers	-0.065	-0.064	0.129	-0.018	-0.237**	-0.155	-0.054	0.016
	(0.057)	(0.055)	(0.199)	(0.113)	(0.114)	(0.134)	(0.059)	(0.068)
Female MLAs	-5.167	-3.089	-7.378	-7.986	-18.806	-0.281	-1.402	-0.197
	(3.869)	(3.921)	(6.149)	(6.589)	(13.781)	(6.166)	(3.614)	(4.751)
N	577	574	575	572	444	569	577	573
No. of Cities	73	73	73	73	68	73	73	73
Adj. R-sq.	0.454	0.324	0.318	0.211	0.446	0.312	0.319	0.300
City FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female Officers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female MLAs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the log of total crime rates per capita in the city (per 100,000 population). Column 1 shows the estimation for total violence against women (GBV), columns 2-6 the sub-categories of GBV, column 7 for the total rate of other forms of non violence against women crimes (Non-GBV) and, column 8 for economic crime. The main independent variable is a dummy that takes values 1 if a city-year has a woman station. Baseline controls include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place, the state level share of female constables and the percentage of female members of the state legislative assembly elected through a competitive election. All regressions include city fixed-effects, year dummies and city-specific linear trends. All regressions are weighted by population size. The rate of total gender-based violence crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per city-level population. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, and Election Commission of India. The period of analysis is 2005-2013. Standard-errors are clustered at the city-level. *** 1%, ** 5%, * 10%.

Table A.2: Additional Categories of Non-Gender Based Violence and Acquisitive Crime

	Male Kidnappings	Robbery	Theft	Riots	Cheating	Criminal Breach of Trust
	(1)	(2)	(3)	(4)	(5)	(6)
WPS	0.177	0.153	0.210	0.175	0.084	-0.022
	(0.321)	(0.232)	(0.174)	(0.114)	(0.119)	(0.114)
N	535	576	577	526	576	562
# Cities	73	73	73	70	73	73
Adj. R-sq.	0.183	0.413	0.400	0.338	0.295	0.201
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes
Female Officers	Yes	Yes	Yes	Yes	Yes	Yes
Female MLAs	Yes	Yes	Yes	Yes	Yes	Yes
City Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the log of total crime rates per capita in the city per category. The main independent variable is a dummy that takes values 1 if a city-year has a women police station. Baseline controls include city ratio of males to females, literacy rate, and a dummy if in a given city-year there is a police commissioner system in place. We also include the state level share of female constables and the percentage of female members of the state legislative assembly elected through a competitive election. All regressions include city fixed-effects, and year dummies and city-specific linear trends. All regressions are weighted by population size. Standard-errors are clustered at the city-level. *** 1%, ** 5%, * 10%.

Table A.3: De Chaisemartin and d'Haultfoeuille (2020) Parallel Trends Test

Sample:	City		State	
	Total GBV	Domestic Violence	Total GBV	Domestic Violence
	(1)	(2)	(3)	(4)
Placebo Effect	0.118	0.157	0.003	0.010
	(0.209)	(0.300)	(0.053)	(0.038)

Notes: The dependent variable is the log of total crime rates per capita, in columns 1 and 2, and at the state-level in the columns 3 and 4. The coefficients are replications of the model 2 and 5 following De Chaisemartin and d'Haultfoeuille (2020) with three years prior to the policy as placebo effects and 100 bootstrap replications. Standard-errors are clustered at the city level in columns (1) and (2), and at the state level in columns (3) and (4). *** 1%, ** 5%, * 10%.

Table A.4: Impact of WPS on Survey Measures of Intimate-Partner Violence - Robustness to Different Functional Forms

	IPV (dummy variable)				Emotional Violence	Emotional Violence Index	Physical Violence	Physical Violence Index	Sexual Violence	Sexual Violence Index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treatment× Post× Urban	-0.023	-0.023	-0.023	-0.012	0.001	0.011	-0.016	-0.010	0.016	0.040
	(0.037)	(0.034)	(0.030)	(0.046)	(0.027)	(0.047)	(0.037)	(0.070)	(0.021)	(0.032)
Treatment× Post	0.001	-0.009	-0.016	-0.026	0.009	0.008	-0.004	-0.003	-0.074**	-0.136**
	(0.077)	(0.075)	(0.066)	(0.069)	(0.032)	(0.051)	(0.051)	(0.112)	(0.034)	(0.063)
N	88,817	88,817	88,813	88,813	88,821	88,822	88,811	88,823	88,820	88,821
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Female Education	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Children	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State*Urban FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable in columns 1 and 4, is a dummy that takes values one if a women reports to being subject to any form of intimate-partner violence or zero otherwise. In columns 5,7 and 9, the dependent variables are a dummy if the woman has ever been subject to emotional violence (column 5), physical (column 7) or sexual violence (column 9). In columns, 6, 8 and 10, the dependent variables are an index for the sum the total items of victimization in the forms of emotional violence (column 6), physical (column 8) or sexual violence (column 10). The main independent variable is a dummy that takes values one for women residing in urban areas - dummy variable Urban- in a state that enacted the women police stations policy - dummy variable Treatment - after the policy has been enacted - dummy variable Post. Baseline controls include age, household size, religion dummies for Hindu, Muslim or Christian, ethnicity dummies for Schedules Castes or Tribes. Additional controls include the total number of children under the care of the woman and the years of education of the woman. The remaining interactions and dummies from the triple differences estimation as defined in 3 are also included or sub-summed with fixed-effects. All regressions include state FE and survey year dummies. In column 4 we also include a state*urban dummy. Data Source: Demographic Health Surveys. The period of analysis is 2005-2006 and 2015-2016. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table A.5: Impact of WPS on Support Seeking and Intimate-Partner Violence

	Search for support	IPV	Search for Support	IPV
	(1)	(2)	(3)	(4)
Treatment× Post× Urban	0.069***	-0.042	0.112***	0.035
	(0.019)	(0.125)	(0.023)	(0.142)
Treatment× Post	-0.002	-0.085	-0.026	-0.146
	(0.036)	(0.174)	(0.044)	(0.216)
N	35,254	88,825	29,857	77,535
Controls	Yes	Yes	Yes	Yes
Female Education	Yes	Yes	Yes	Yes
No. Children	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Survey-Year FE	Yes	Yes	Yes	Yes
State*Urban FE	No	No	Yes	Yes
Clustering	State and Urban		State	
Sample	All states		Excluding Tamil Nadu	

Notes: The dependent variable in columns 1 and 3, is a dummy that takes values one if a women victim of intimate-partner violence discussed the problem with someone else or zero otherwise. The dependent variable in columns 2 and 4, is a dummy that takes values one if a women reports to being subject to intimate-partner violence or zero otherwise. In columns 1 and 2, the standard-errors are clustered at by state and urban area of residence. In columns 3 and 4 we present estimations without the observations from the state of Tamil Nadu. The main independent variable is a dummy that takes values one for women residing in urban areas - dummy variable Urban- in a state that enacted the women police stations policy - dummy variable Treatment - after the policy has been enacted - dummy variable Post. Baseline controls include age, household size, religion dummies for Hindu, Muslim or Christian, ethnicity dummies for Schedules Castes or Tribes. Additional controls include the total number of children under the care of the woman and the years of education of the woman. The remaining interactions and dummies from the triple differences estimation as defined in 3 are also included or sub-summed with fixed-effects. All regressions include state FE and survey year dummies. In column 4 we also include a state*urban dummy. Data Source: Demographic Health Surveys. The period of analysis is 2005-2006 and 2015-2016. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table A.6: Robustness Checks using State Sample

	Effects of the WPS Policy at the state-level			
	(1)	(2)	(3)	(4)
Total GBV	0.162*	0.179**	0.159*	0.212**
	(0.084)	(0.076)	(0.079)	(0.078)
Female Kidnapping	0.131**	0.156***	0.171***	0.105*
	(0.051)	(0.046)	(0.043)	(0.051)
Rape	-0.069	-0.072	-0.064	-0.060*
	(0.048)	(0.046)	(0.049)	(0.029)
Dowry Deaths	0.025	0.036	0.049	-0.008
	(0.046)	(0.049)	(0.049)	(0.060)
Male Kidnapping	-0.035	-0.046	-0.043	0.002
	(0.063)	(0.056)	(0.061)	(0.058)
Property	0.039	0.049	0.048	0.093
	(0.071)	(0.072)	(0.076)	(0.089)
Violent	0.073	0.101	0.138	0.166*
	(0.131)	(0.143)	(0.138)	(0.093)
Economic	0.165	0.161	0.180	0.118
	(0.148)	(0.146)	(0.162)	(0.177)
Robbery	-0.095	-0.116	-0.089	-0.037
	(0.087)	(0.073)	(0.082)	(0.030)
Burglary	-0.005	0.002	-0.009	0.058
	(0.055)	(0.056)	(0.053)	(0.045)
Thefts	0.050	0.060	0.062	0.109
	(0.062)	(0.063)	(0.066)	(0.072)
Cheating	0.045	0.059	0.058	0.042
	(0.075)	(0.076)	(0.078)	(0.125)
Riots	0.065	0.094	0.125	0.143*
	(0.120)	(0.133)	(0.125)	(0.078)
N	400	400	400	400
State FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Additional Controls	Yes	Yes	Yes	Yes
73rd Amendment	No	Yes	Yes	Yes
NREGA*Star States	No	No	Yes	Yes
State Linear Trends	No	No	No	Yes

Notes: Coefficient estimates of the effects of the roll-out of the WPS in states on the all crime outcomes as in equation 2. Each coefficient and standard-error corresponds to the estimate of a regression where the main dependent variable is a crime rate (as described on the left column). Each coefficient and standard-error is the effect of the roll-out of WPS at the state-level. All regressions are weighted by population size. The rate of total gender-based violence (total GBV) crimes is the yearly sum of incidents registered under the categories of rape, kidnapping and abduction of females, molestation, sexual harassment and cruelty by husband and relatives per state-level population. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is 1988-2013. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table A.7: Robustness Checks - Impacts of WPS on Female Employment

	Baseline	Removing 1% of the Sample	Excluding Tamil Nadu
	(1)	(2)	(3)
Treatment $\times Post \times Urban$	0.050***	0.049***	0.050***
	(0.013)	(0.013)	(0.013)
Treatment $\times Post$	-0.029	-0.030	-0.029
	(0.030)	(0.030)	(0.030)
N	570,048	564.347	530,561
Adj. R-sq.	0.194	0.195	0.194
State FE	Yes	Yes	Yes
Round FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
State FE*Urban	Yes	Yes	Yes
Round FE*Urban	Yes	Yes	Yes

Notes: The dependent variable is a dummy that takes the value one if a women is employed, and takes the value 0 otherwise. The main independent variable is a dummy that takes values one for women residing in urban areas - dummy variable Urban- in a state that enacted the women police stations policy - dummy variable Treatment - after the policy has been enacted - dummy variable Post. In column 1, we present the results from the main estimation as shown in Table 10, we column 2 we show results were we remove 1 percent of the sample of the main outcome, and in column 3 we present results without women from the state of Tamil Nadu. Baseline controls include age dummies, religion dummies, caste dummies, and a dummies for the educational attainment level of the individual-level. All regressions include state and survey round FE, state-urban interaction, and survey round and urban resident interactions. All remaining interactions of the triple difference model as defined in 3 are included or are sub-summed in the fixed-effects but not shown. Data source: National Sample Survey. The period of analysis is 2004-2011. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table A.8: Impact of WPS on Female Economic Empowerment

	Joint Financial Decisions					
					Double Clustering	Excluding Tamil Nadu
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment $\times Post \times Urban$	0.020	0.025*	0.025**	0.021	0.025	0.021
	(0.016)	(0.012)	(0.012)	(0.017)	(0.040)	(0.017)
Treatment $\times Post$	0.029	0.024	0.028	0.030	0.028	0.019
	(0.071)	(0.069)	(0.068)	(0.070)	(0.056)	(0.073)
N	107,133	107,133	107,128	107,128	107,128	93,417
Adj. R-sq.	0.020	0.029	0.033	0.035	0.033	0.037
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes	Yes
Female Education	No	No	Yes	Yes	Yes	Yes
No. Children	No	No	Yes	Yes	Yes	Yes
State*Urban FE	No	No	No	Yes	Yes	Yes
Double Clustering	No	No	No	No	Yes	No
Excluding Tamil Nadu	No	No	No	No	No	Yes

Notes: The dependent variable is a dummy that takes the value one if a woman makes financial decisions by herself or jointly with the spouse within the household. The main independent variable is a dummy that takes values one for women residing in urban areas - dummy variable Urban - in a state that enacted the women police stations policy - dummy variable Treatment - after the policy has been enacted - dummy variable Post. Baseline controls include age, household size, religion dummies for Hindu, Muslim or Christian, ethnicity dummies for Schedules Castes or Tribes. Additional controls include the total number of children under the care of the woman and the years of education of the woman. The remaining interactions and dummies from the triple differences estimation as defined in 3 are also included or sub-summed with fixed-effects. All regressions include state FE and survey year dummies. In columns 4-6 we also include a state*urban dummy. Data Source: Demographic Health Surveys. The period of analysis is 2005-2006 and 2015-2016. Standard-errors are clustered at the state-level in columns 1 through 4, and are clustered at the state and urban level in column 5. In column 6 we present estimates of the estimation in column 4 but by also excluding the observations from the state of Tamil Nadu. *** 1%, ** 5%, * 10%.

Table A.9: Impact of WPS on Police Capacity

		Share of Female Officers										
	Police per capita	Total		High Ranks		Inspectors		Head Constables		Constables		Police Commissioner
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
WPS	-0.050	-0.163	-0.345	0.001	-0.003	0.008	0.007	0.016	0.017	-0.007	-0.003	0.022
	(0.127)	(0.538)	(0.402)	(0.031)	(0.032)	(0.008)	(0.008)	(0.010)	(0.011)	(0.032)	(0.034)	(0.123)
N	400	400	400	141	141	143	143	137	137	143	143	577
Adj. R-sq.	0.550	0.722	0.807	0.016	0.011	0.565	0.562	0.579	0.579	0.220	0.217	0.583
Area FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Election Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Police per capita	-	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	-
73rd Amendment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
NREGA*Star States	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
Area Linear Trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample	State	State	State	State	State	State	State	State	State	State	State	City

Notes: In columns 1-11 we estimate equation 2 using as main dependent variables police measures. The outcomes are: (i) police force per capita- column 1; (ii) the share of female police officers of any rank- column 2; and (iii) the share of female officers by rank in columns 3 through 11. The main independent variable is a dummy that takes values 1 if a state-year enacted the women police stations policy. In column 12, we estimate equation 1 but using as the dependent variable a dummy as to whether a city has a police commissioner system. All regressions include area fixed effects - state in columns 1-11 and city in column 12- and year dummies. We also include area linear trends - state in columns 1-11 and city in column 12. Standard-errors are clustered at the respective area level. Baseline controls for estimations in columns 1-11 include ratio of males to females, literacy rate, rate of urban population, rate of scheduled castes and scheduled tribes population and the growth of state-level GDP per capita, and state-election year dummies, police per capita, a dummy as to whether the state enacted the policy for gender political quotas (73rd Amendment) and a dummy for post 2006 in states that have implemented well the national rural employment program. In column 12 the control variables include city ratio of males to females, literacy rate, state level share of female constables and the percentage of female members elected to the state legislative assemblies. All regressions are weighted by population size at the city of state-level depending on the area of relevance. Data sources: National Crime Records Bureau, Census of India, Bureau of Police Research and Development, Election Commission of India, Reserve Bank of India, National Rural Employment Program, and National Oceanic and Atmospheric Administration (NOAA). The period of analysis is 1988-2013 in columns 1-11 and 2005-2013 in column 12. Standard-errors are clustered at the state-level. *** 1%, ** 5%, * 10%.

Table A.10: Women in the Police, Timing of Women Police Station, and Share of Women by State

	Women Entered the Police	WPS Implemented	Share of Women
	(1)	(2)	(3)
Tamil Nadu	1973	1992	5.871
Maharashtra	1939	0	4.244
Himachal Pradesh	1966	2014	3.150
Karnataka	1960	1994	3.020
Kerala	1939	1973	3.015
Orissa	1961	1994	2.982
Rajasthan	1955	1989	2.326
Gujarat	1948	1991	2.168
Madhya Pradesh	1961	1987	2.111
Haryana	1966	2015	2.016
Punjab	1949	2010	1.981
Uttar Pradesh	1967	1993	1.620
Andhra Pradesh	1959	2002	1.520
West Bengal	1949	2012	1.469
Bihar	1952	2006	1.227
Assam	1967	1993	0.491

Notes: This table shows the state-level variation in the (i) year in which women were first permitted to be recruited in law and order - column 1; (ii) the year in which WPS were implemented - column 2; and (iii) the average share of women in the police over the period of analysis (1988-2013) - column 3. The geographic boundaries of states are with respect to pre 2001 boundaries. Table sorted by average share of female officers in states (column 3). This information was collected from various publications of the Bureau of Police Research and Development and the yearly Police Commission reports of the Ministry of Home Affairs, Government of India, and (Natarajan, 2016)

Table A.11: Distribution of WPS by Year-State

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Andhra Pradesh	25	25	25	25	25	29	31	32	32
Assam	1	1	1	1	1	1	1	1	1
Bihar	0	0	0	0	0	0	0	40	40
Chhattisgarh	3	3	3	3	3	4	4	4	4
Gujarat	7	7	7	7	8	19	31	31	32
Haryana	1	1	1	1	1	2	2	2	2
Himachal Pradesh	0	0	0	0	0	0	0	0	0
Jammu and Kashmir	3	3	3	3	3	2	2	2	2
Jharkhand	0	22	22	22	22	22	22	22	22
Karnataka	10	10	10	10	10	10	10	10	10
Kerala	3	3	3	3	3	3	3	4	4
Madhya Pradesh	9	9	9	9	9	9	9	9	9
Maharashtra	0	0	0	0	0	0	0	0	0
Orissa	6	6	6	6	6	6	6	6	6
Punjab	0	0	0	0	0	5	5	6	7
Rajasthan	12	11	11	14	14	24	24	29	29
Tamil Nadu	194	196	196	196	196	196	196	196	196
Uttar Pradesh	11	12	12	12	12	42	68	71	71
Uttaranchal	2	2	2	2	2	2	2	2	2
West Bengal	0	0	0	0	0	0	0	10	10
Total	291	315	317	320	321	376	416	477	479

Notes: This table presents the total number of WPS functioning by state and year. The information was collected from yearly publications of the Bureau of Police Research and Development, Ministry of Home Affairs, Government of India.

A.1 Definitions

Police Commissionerate System in India: Under the 7^{th} Schedule of the Constitution, 'Police' is under the State list, meaning individual states typically legislate and exercise control over this subject. In the arrangement in force at the district level, a 'dual system' of control exists, in which the Superintendent of Police (SP) has to work with the District Magistrate (DM) to supervise police administration. At the metropolitan level, many states have replaced the dual system with the commissionerate system, which is thought to allow faster decision-making to solve complex urban-centric issues. In the commissionerate system, the Commissioner of Police (CP) is the head of a unified police command structure, is responsible for the force in the city, and is accountable to the state government. The office also has magisterial powers, including those related to regulation, control, and licensing. The CP is drawn from the Deputy Inspector General rank or above, and is assisted by Special/Joint/Additional/Deputy Commissioners.

Table A.12: Variable Definitions

Measure	Description
Crimes Against Women	Includes the incidents registered under rape, kidnapping and abduction of females, molestation, sexual harassment, cruelty by husband and relatives
Female Mortality	Female deaths due to dowry, accidental deaths due to unnatural events and suicides
Non-Gender Based Violence	Includes the incidents registered under riots, murder, dacoity, male kidnappings, arson and hurt
Property	Includes the incidents registered under under the categories of burglary, robbery, theft
Economic	Includes the incidents registered under under the categories of criminal breach of trust, cheating and counterfeiting

Notes: This table presents the description of the main outcome variables of interest used in the analysis. The categorization of each main outcomes follows the categorization described in the Indian Penal Code.