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Political role models, child marriage, and women's autonomy over marriage in India

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Abstract: Drawing data from the India Human Development Survey 2011 and the year of the first election with reserved seats for women pradhans, I estimate the effect of the Panchayati Raj institutions on age and autonomy over marriage. Results indicate that women in local government decrease the likelihood of child marriage, and increase the age at first marriage and gauna. The effects seem to be driven by changes in gender and cultural norms, because there is a reduction in the prevalence of arranged marriages with minimum involvement of the bride. Overall results suggest a change in gender norms after 18 years of the implementation of reserved seats for women in local government.

Keywords: gender quotas, age at marriage, gender norms
JEL classification: J12, J16, O12

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1 Introduction

Despite India's rapid growth in recent years, gender norms are quite strong. These hinder women's ability to participate in the labour force and make decisions over marriage and fertility. In India, arranged marriages are still common practice, and young girls are matched as early as at a couple of years of age. Women are significantly under-represented in political institutions in India, accounting for only 10 per cent of the membership of national legislatures in 2009. Even at the state level, on average only 5.5 per cent of legislators were women by 2007 (Iyer et al. 2012). In terms of human development indicators, India was ranked 114th out of 182 countries on the United Nations Development Programme's Gender Development Index in 2007, and according to the 2011 census only 65 per cent of women in India were literate, compared with 82 per cent of men (Iyer et al. 2012). There is evidence that the gender quotas policy to increase women's political representation in local government has increased women's participation in politics as candidates for reserved and non-reserved seats (Bhavnani 2009; Pande and Ford 2011), positive election outcomes such that in 2009 twice as many women were elected in West Bengal (Beaman et al. 2009), and female citizens' participation in local meetings. However, a change in attitudes towards the role of women in society takes time. In this paper I examine whether the 73rd and 74th Amendments to the Indian Constitution implemented in 1993 have translated into increased autonomy over marriage.

Child marriage is still prevalent, particularly in West Africa and South Asia: one girl in three marries before 18, and one in seven marries before 15 (Svanemyr et al. 2012). In India, 44.5 per cent of women aged 20–24 married before 18, 22.6 per cent married before 16, and 2.6 per cent did so before 13 (Raj et al. 2009). Early marriage negatively affects the bride's autonomy over contraceptive use and fertility, decreases educational attainment, puts young girls and women at risk of abuse and HIV/AIDS, and leaves them vulnerable because of the lack of opportunities to develop social networks (Chari et al. 2017; Raj et al. 2009; Svanemyr et al. 2012). Children born to young mothers are more likely to be born prematurely and underweight, are more prone to illness, and even later in life are more likely to be malnourished (Chari et al. 2017). Further, children resulting from early marriage are less likely to be enrolled in school, and attain lower reading, mathematics, and writing scores (Chari et al. 2017). In this paper, I estimate the effect of having women in leadership roles at the local (district) level on child marriage.

While the constitutional amendment was enacted in 1993, there was considerable variation in the timing of the first election under the Amendments across states and districts. For instance, West Bengal made adjustments that went into effect during the 1993 election; on the other hand, Bihar's elections were delayed due to a lawsuit challenging reservations for Other Backward Castes, and elections in other states were delayed for budgetary reasons (Iyer et al. 2012). The research design exploits variations in exposure to women in local leadership positions over two margins: the timing of the first election with reserved seats for women pradhans (district-level political leaders), and the timing of marriage for different cohorts. Women who married before the first election reserving seats for women in local government serve as the control group, while women who married after the first election cycle with reserved seats for women pradhans constitute the treatment group. I draw data from the Human Development Profile of India for 1993, and the India Human Development Survey collected in 2011. The data on the year of the first election cycle with reserved seats for women pradhans was collected by Iyer et al. (2012) and is available for 10 major states for the period 1993–2007; there is considerable variation in the timing of the first election cycle across districts within a state.

The main objective of this paper is to examine the effect of the Panchayati Raj institutions—which reserve seats at the district level for women pradhans on a rotating basis—on child marriage and autonomy over marriage. There are several ways in which female representation at the local-government level can influence outcomes at the individual and household levels. There can be a direct effect of policies targeting women (and girls) proposed by women in power. It is also possible that political role models have a pervasive effect such that the stereotypes held by men about the role of women in society change, thus relaxing gender norms in relation to their partners and daughters. Alternatively, it is also possible that as women change their own gender norms and start to exercise more autonomy, conflict and backlash arise, exacerbating gender and cultural norms about the role of women in society and marriage (Gangadharan et al. 2016). For these reasons, the effect of political role models on women's autonomy over marriage is an empirical question.

In India, marriage traditions dictate that two ceremonies take place: the wedding and the gauna ceremony. These differ in timing and purpose. After the wedding, the bride and groom do not necessarily move in together, especially when one or both of them have married young. The wedding is a commitment, but until they are of age the bride may either remain with her family or move in to live with her husband's family. The gauna ceremony indicates the start of marital life and the consummation of the marriage. Results indicate that reserved seats for women in local governments reduce the likelihood of child marriage, increase the age at first marriage, and delay age at gauna. Because the Prohibition of Child Marriage Act was implemented in 2007, it is possible that the decrease in the prevalence of child marriage found in this paper is confounding a different policy. To examine this possibility, I restrict the sample to women who married prior to 2007 and find the results hold, thus implying that the results are being driven by the presence of women pradhans.

The literature examining the effects of the reserved seats policy at the individual level has consistently found the results to be driven by the role model effect, and not by changes in policy (Beaman et al. 2009, 2012; Kalsi 2017). In line with these results, I find a reduction in the prevalence of arranged marriages. My results indicate that autonomy over the choice of partner—measured as the likelihood of choosing one's husband, having a say over the choice of husband, or knowing one's husband at least one year prior to the day of marriage—increases among women who married after their district of residence experienced a woman pradhan. The results suggest that exposure to women in leadership positions at the local level is influencing changes in gender and cultural norms within the family such that brides are becoming more involved in marriage decisions.

The paper is organized as follows. First I describe the 73rd and 74th Amendments to the Indian Constitution, and then I discuss the empirical evidence on the effect of reserving seats in local governments for women on a variety of political and economic outcomes. The next section includes a description of the data and summary statistics. I then explain the empirical approach and discuss the results. The paper ends with concluding remarks and policy recommendations.

2 Panchayati Raj institutions: background information

In April and June 1993 respectively, the 73rd and 74th Amendments to the Indian Constitution were enacted. The 73rd Amendment decentralized government in rural India, while the 74th Amendment did so in urban India. The Amendments required each state to set up a three-tier system of local government, comprising village-, block- (subdistrict), and district-level governance bodies, collectively known as the Panchayati Raj institutions. Thus the Amendments provided the

foundation for political and administrative decentralization in favour of local governments. Traditionally, panchayats operated at the village level and consisted of a small number of individuals chosen by a village to oversee various local affairs. Panchayats were not necessarily elected bodies, nor were they standardized in their structure, organization, or responsibilities (Kalsi 2017). The Amendments stipulated that all members of the panchayats were to be directly elected by popular vote every five years, and State Election Commissions were established to conduct such elections. 'Responsibilities of the panchayat include administration of state transfer programmes, planning and implementation of schemes for economic development, establishment and administration of educational and medical facilities, oversight of local infrastructure (water, sewage, roads, etc.), and monitoring of civil servants' (Ghani et al. 2014).

The Amendments contain provisions to strengthen the representation of political minorities, such that seats at the village, intermediate, and district levels are required to be filled by women or Scheduled Castes and Tribes. The 73rd Amendment added provisions such that one third of all seats on panchayat councils, as well as one third of pradhan positions, would be reserved for women or Scheduled Castes and Tribes. The reservation is done by rotation: in each election cycle one third of the districts reserve seats for women, and another set of districts has this reservation in the next election cycle. Depending on the rotation, one third of the seats are reserved for women, or a number of seats are reserved for Scheduled Castes and Tribes proportional to their share of the population in the village. In order to ensure that the rotation is random, all the gram panchayats (GPs) are listed in order of serial number, and every third GP starting with the first on the list reserves its pradhan position for a woman. For the next election, every third GP starting with the second on the list is reserved, etc. (Chattopadhyay and Duflo 2004a). Similar provisions were made for urban local bodies as well, with the exception of Delhi, which passed no Panchayati Raj legislation, and the states of Nagaland, Mizoram, and Meghalaya, which were not required to comply with the new constitutional provision (Iyer et al. 2012). The system functions such that individuals who are not eligible for reserved seats may only compete for the seats left free. Members of groups eligible for reserved seats, however, may contest both reserved and unreserved seats in government.

The Amendments required states to adjust or amend local elections to comply with the provisions of the Amendments, and all states complied within one year of the passing of the Amendments. Compliant elections were eventually held by most states/union territories, and there was considerable variation across states in the timing of the first election held under the provisions of the Amendments. The timing of the effective compliance varied exogenously primarily due to state authorities waiting for the term of existing elected local governing bodies to expire before conducting elections under the quotas (Ghani et al. 2014). For instance, Karnataka had already implemented the reservation for women before the Amendments, and West Bengal made adjustments that came into effect during the 1993 election. On the other hand, Bihar's elections were delayed due to a lawsuit challenging reservations for Other Backward Castes, and elections in other states were delayed for budgetary reasons (Iyer et al. 2012). A key feature of the reservation policy in the Panchayat is that the Pradhan seats to be reserved were randomly allocated (Duflo 2005). At each appropriate level of government, the reservations subsequently rotate around the included bodies to maintain the one-third level (Ghani et al. 2014; Iyer et al. 2012).

3 Evidence on the effect of political reservations in India

A number of studies have examined aspects of the Panchayati Raj and its effect on economic and social outcomes. The findings suggest that gender quotas have had an effect on several spheres. First, quotas increase female leadership in politics, and through leadership influence policy outcomes. Political quotas directly increase the numbers of women in leadership positions, but they can also have indirect effects on women's participation in politics through running for election, voting, or voicing political preferences (Bhalotra et al. 2017; Pande and Ford 2011). Empirical evidence indicates that very few women are elected without reservations. In the GPs in districts not reserved for women in West Bengal and Rajasthan, 6.5 per cent and 1.7 per cent of pradhans respectively are women (Duflo 2005). Bhavnani (2009) presents evidence that in Mumbai, women are 10 times more likely to run for seats in reserved constituencies where they do not have to compete against men. He also finds that the number of female candidates increases by 7.4 per cent in open districts in the election cycle following the cycle where the seat was reserved for a woman. Beaman et al. (2009) present evidence suggesting that gender norms take time to adjust. They find that in West Bengal the number of female candidates increased from 4.8 per cent in never-reserved panchayats to 10.1 per cent in twice-reserved panchayats. Regarding political participation, Beaman et al. (2011) show that the likelihood of a woman speaking in a village meeting increases by 25 per cent when the pradhan seat is reserved for a woman. Duflo and Topalova (2004) combine individual-level data on satisfaction with public services with independent assessments of the quality of public facilities to measure the quantity and quality of public goods, as well as satisfaction with male and female leaders. They find that villages reserved for women leaders have more public goods, the quality is no different from villages without reservations, and there is less corruption. However, residents of villages with reserved seats for women are less satisfied with the public goods provided.

Gender quotas can result in policies that better represent women's interests. Pradhans have significant policymaking power, as they have the final say in the allocation of public funds, which allows direct attribution of policy results to the presence of a female leader (Pande and Ford 2011). Pande (2003) finds that political reservations increase transfers to groups that benefit from the mandate. Chattopadhyay and Duflo (2004a) show that in West Bengal and Rajasthan, men and women differ in their policy preferences. For instance, 31 per cent and 54 per cent of requests for investment in drinking water in West Bengal and Rajasthan respectively were made by women, relative to 17 per cent and 43 per cent by men. They find that the reservation policy increases investment in the public goods preferred by women in areas where the leadership position is reserved for a female (Chattopadhyay and Duflo 2004a). While some have suggested the effects may be region-specific (Ban and Rao 2008; Bardhan et al. 2010), Beaman et al. (2011) convincingly show this is not the case. Using data on 11 states, they find that on average gender quotas increase the attention given to issues that are important to women, in addition to a visible increase in investments in water infrastructure and education. They further find that local female leaders in reserved seats accept fewer bribes than their male counterparts. Finally, Iyer et al. (2012) find that gender quotas in India have increased the reporting of crimes against women and the number of arrests for these crimes.

Quotas can change gender norms more broadly, both through role models for women and through men's exposure to women leaders. However, there are few studies examining the effect of the quotas at the individual level. Beaman et al. (2009, 2012) find evidence to support role model effects. Surveying adolescent girls aged 11–15 years in West Bengal, they show that the gender gap in career aspirations closes significantly in both parents and adolescent girls, and they find no educational attainment gap after two election cycles of women pradhans. There is also evidence that the length of exposure to women politicians increases female labour force participation,

employment opportunities given to women under the National Rural Employment Guarantee Act, and women-owned establishments in the informal sector (Ghani et al. 2013, 2014). Kalsi (2017) provides evidence of a reduction in sex selection in rural India as a result of the 73rd Amendment, and argues that the mechanism is the increased status of women rather than differential investments made by women politicians. In this paper, I add to this literature by providing evidence that women pradhans increase age at marriage and gauna and thus reduce the likelihood of child marriage. The results suggest that the changes are driven by changes in gender and cultural norms regarding arranged marriages.

4 Data description and summary statistics

4.1 Data

I draw data from the India Human Development Survey (IHDS) collected by the National Council of Applied Economic Research (NCAER) in New Delhi and researchers at the University of Maryland. The IHDS is a nationally representative household survey conducted in 2004–05 (IHDS-I) (Desai et al. 2005) and 2009–11 (IHDS-II) (Desai et al. 2011–12). IHDS-I consists of 41,554 households in 1,503 rural villages and 971 urban neighbourhoods across India. IHDS-II surveyed 42,152 households in 1,420 villages and 1,042 urban neighbourhoods. Women aged 15–49 years were eligible to be interviewed, although in practice women outside this age range were also interviewed. For IHDS-II, enumerators interviewed the same eligible woman from IHDS-I if she was still part of the household, or another eligible woman if not, and a second eligible female if available. Given that the interest of this paper is in age at first marriage and that IHDS-II surveyed more women, I focus the analysis only on the latest wave. Women were interviewed privately and were asked questions about control over money, decision-making, and autonomy over fertility, social interactions, and children. In 1993 the NCAER conducted the Human Development Profile of India (HDPI) (National Council on Applied Economic Research 1994), which is a household survey that can be linked to IHDS-I and IHDS-II. I use this data to show that there were no differences in age at first marriage or age at gauna prior to the implementation of the 73rd and 74th Amendments.

The data on the year of first election with reserved seats for women pradhans at the district level comes from Iyer et al. (2012). They collected data on the year of the first election with political representation for a given minority group for the 17 major states of India, which account for 97 per cent of the total population (see Table 1). The states are Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal.[1] They also collected data on the reservation status of the district pradhans in 10 of the 17 major states: Andhra Pradesh, Bihar, Gujarat, Haryana, Kerala, Maharashtra, Orissa, Punjab, Rajasthan, and West

[1] Three new states—Chhattisgarh, Jharkhand, and Uttarakhand—were carved out in 2001 from Madhya Pradesh, Bihar, and Uttar Pradesh respectively. These split states carried over the Panchayati Raj legislation from their parent states, but the timing of the elections differed. For instance, Bihar conducted local elections in 2001 and 2006, but Jharkhand did not conduct a single Panchayati Raj election until 2007.

Bengal[2] (Iyer et al. 2012). Because reservations for women pradhans are randomly allocated across districts, in this paper I focus the analysis on these 10 states only.

About 39,000 women were interviewed in IHDS-II. Of those women, 18,125 were eligible (recall that they also surveyed women who were not eligible) and lived in states for which I have information about the year of first election with reservations for women pradhans. This is the main sample used in this paper.

Table 1: States by year of first election under political reservations for minorities

Year	State
1987	Karnataka
1991	Kerala
1992	Maharashtra, Orissa
1993	West Bengal
1994	Madhya Pradesh, Punjab
1995	Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Rajasthan
1996	Tamil Nadu
2001	Bihar, Jammu and Kashmir
2002	Assam
2006	Uttar Pradesh

Source: author's compilation based on data from Iyer et al. (2012).

4.2 Summary statistics of outcome variables and controls

As mentioned earlier, women were eligible to be interviewed if they were married and aged 15–49 years, although in practice the survey includes a small fraction of women over 50. I restrict the sample to eligible women only. Table 2 presents summary statistics on the dependent variables of interest by treatment. Women married before the first election under reserved seats for women pradhans constitute the control group, and those who were not married at the time are the treatment group. The legal minimum age of marriage in India is 18. Yet the average age at first marriage in my sample is 17.8, with 46 per cent reporting that they married before they turned 18. There is less than a year's difference in average age at first marriage and age at gauna, which is not surprising given the law. Even though girls and women in India may marry early in their lives, it is not until after the gauna ceremony that they start cohabiting with their husbands. The time between marriage and gauna can be spent with their own family or with the husband's family, depending on the age of the bride. Younger brides tend to stay with their parents, while brides that can work on farms or help with household chores tend to move in with their in-laws. It is not public knowledge that a girl/woman is married until she starts cohabiting with her husband.

There are statistically significant differences between women who married before the first election with reserved seats for women and those who married afterwards. Women who married after being exposed to women pradhans on average married 2.4 years later and delayed the gauna ceremony by 1.9 years. Further, the prevalence of child marriage is 29 percentage points lower among women who married after the first election with women in local leadership positions.

[2] This data was obtained by Iyer et al. (2012) by contacting the State Election Commissions, the Ministry of Rural Development, and the Ministries of Panchayati Raj of individual states.

Table 2: Summary statistics, dependent variables

Variable	Total	Control	Treatment	T-test diff.
Child bride	0.46	0.618	0.328	0.293***
(=1 if married age < 18)	[0.498]	[0.486]	[0.470]	[0.007]
Age at first marriage	17.87	16.58	18.95	-2.388***
	[3.458]	[3.217]	[3.277]	[0.048]
Age at gauna	18.19	17.15	19.07	-1.946***
	[3.064]	[2.583]	[3.161]	[0.043]
Chose husband	0.265	0.226	0.299	-0.075***
(=1 if chose husband)	[0.442]	[0.418]	[0.458]	[0.007]
Say over husband	0.579	0.484	0.66	-0.176***
(=1 if chose or had say)	[0.494]	[0.500]	[0.474]	[0.007]
Knew husband before marriage	0.152	0.127	0.172	-0.047***
(=1 if knew husband 1+ years)	[0.359]	[0.333]	[0.378]	[0.005]

*** p-value<0.01, ** p-value<0.05, * p-value<0.1 in t-tests of differences in averages across treatments.

Source: author's compilation based on data from IHDS-II.

Arranged marriages are still prevalent in India. Women were asked two questions in this regard: 'Who chose your husband?' and 'Did you have a say in choosing your husband?' The indicator of say over husband is a combination of both of these questions. Only half of the women who had a say in choosing their husbands responded 'Myself' to the first question. Only 26 per cent of women chose their husbands, and only 56 per cent had a say on whom they married. Further, only 15 per cent of women in the sample had met their husbands at least one year prior to their marriage, suggesting that the prevalence of arranged marriages is still widely accepted. Women who married before the first election with reserved seats for women pradhans were 7.5 percentage points less likely to have chosen their husbands, 17 percentage points less likely to have had a say over who they married, and 4.7 percentage points less likely to have known their husbands at least a year prior to their marriage.

The average woman rank is 1.5, which indicates that the two most senior women in the household were interviewed (see Table 3). In India, extended households are common where the wife of the household head is only one of the women living in the household. It is not unusual for her mother, daughter-in-law, and unmarried daughters to live in the same house. The bargaining power of women within an extended household varies, and woman rank is a way to capture these differences. Women in the sample on average are 34 years old, have 5.6 years of education, and live in households of 5.6 members. There is a two-year average difference in education between husbands and wives. Most of the population in India are Hindu, and this is reflected in the sample, where only 11 per cent of women are Muslim. Twenty-three per cent and six per cent belong to Scheduled Castes and Tribes respectively, and 39 per cent belong to Other Backward Castes. About one third of the sample resides in urban communities. Average household income is 143,000 INR per year with considerable dispersion.

Table 3: Summary statistics, control variables

Variable	Total	Control	Treatment	T-test diff.	Variable	Total	Control	Treatment	T-test diff.
Woman rank	1.51	1.263	1.716	-0.457***	Muslim	0.109	0.106	0.111-	0.009*
	[0.666]	[0.482]	[0.725]	[0.009]		[0.311]	[0.307]	[0.315]	[0.005]
Age	33.95	40.85	28.16	12.802***	Scheduled Caste	0.232	0.232	0.233	0.003
	[8.333]	[5.196]	[5.612]	[0.081]		[0.422]	[0.422]	[0.423]	[0.006]
Schooling	5.577	3.808	7.063	-3.307***	Scheduled Tribe	0.0598	0.0538	0.0648	-0.010***
(years)	[4.913]	[4.445]	[4.794]	[0.069]		[0.237]	[0.226]	[0.246]	[0.004]
Spouse schooling	7.247	6.133	8.182	-2.051***	Other Backward	0.387	0.406	0.372	0.028***
(years)	[4.798]	[4.861]	[4.540]	[0.072]	Castes	[0.487]	[0.491]	[0.483]	[0.007]
Household income	143.5554	139.4823	146.974	-10.001***	Urban residence	0.34	0.334	0.345	-0.007
('000 INR)	[248.055]	[287.135]	[209.663]	[3.651]		[0.474]	[0.472]	[0.475]	[0.007]
Assets	16.37	16.02	16.66	-0.681***	Household size	5.574	5.294	5.808	-0.601***
	[6.423]	[6.477]	[6.362]	[0.095]		[2.392]	[2.240]	[2.489]	[0.035]

*** p-value<0.01, ** p-value<0.05, * p-value<0.1 in t-tests of differences in averages across treatments.

Source: author's compilation based on data from IHDS-II.

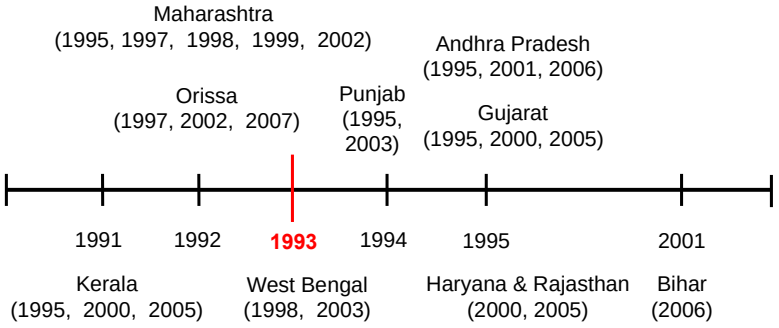
5 Empirical strategy

The goal of this paper is to estimate the effect of women leaders in local government on age at marriage. The outcome variables of interest are the likelihood of marrying before 18 years of age, age at first marriage, and age at gauna. In India, it is illegal to marry before the age of 18. There are two marriage-related ceremonies: the wedding, and the gauna ceremony. The difference is that women do not move in with their husbands and consummate the marriage until after the gauna ceremony takes place. Thus a girl can be married for years without living with her husband or her husband's family. Delaying marriage is important because it decreases fertility, increases knowledge of contraceptives and HIV, and increases the likelihood that the girl will stay in school (Chari et al. 2017; Raj et al. 2009; Svanemyr et al. 2012). Young brides are also at a higher risk of intimate partner violence, and have weaker networks and support structures, which further increases the risk of abuse (Svanemyr et al. 2012).

While the 73rd and 74th Amendments to the Constitution were approved in 1993, some states had elections with reserved seats immediately, and some did not have an election under the quotas until years later. This creates exogenous variation in the length of exposure to women in government across states. Further, within a state, districts with reserved seats for a woman pradhan are randomly chosen each election cycle. For identification, I exploit variation in the years since the first woman pradhan at district level. I restrict the analysis to only 10 states for which Iyer et al. (2012) had data on the first year of elections with a reserved seat for a woman pradhan. I control for differences in the timing of the first election under the quotas at the state level using state fixed effects, thus identifying the effect of exposure to women pradhans by exploiting the variation in timing of marriage across districts within a state.

There are some limitations to the empirical strategy using variation at the district level. Iyer et al. (2012) collected data on the districts for which it was available. However, this is a subset of all districts located only in 10 states in India. The use of household survey data further restricts the sample of districts, as there is not a perfect overlap between districts chosen for the survey and those for which Iyer et al. had data on the year of reserved seats for women pradhans. Figure 1 shows the timing of the first election with a reserved seat for a woman pradhan for the states with available data for districts that overlap with those chosen by IHDS-II.

Figure 1: Year of first election under the 73rd Amendment and first year of woman pradhan reserved seats



Source: author's compilation.

Given the indicators of interest, a natural control group consists of women who were already married at the time of the first election with seats reserved for women pradhans in the district. The

identifying assumption is that, conditional on age, there are no generational changes in autonomy over marriage that differentially affect women within a state in districts that had a woman pradhan and those that did not. The reserved seats for women pradhans are randomly rotated across districts within a state, and thus the treatment is plausibly exogenous to the timing of marriage. I use the 1993 wave of the survey to provide further evidence that this is indeed the case for age at marriage.[3]

The difference-in-difference regression is as follows:

$$y^k_{i,d,s} = \beta_{1,k} I(WPradhan > 12)_d + \beta_{2,k} I(5 \leq WPradhan \leq 12)_d$$
$$+\theta^k_0 NotMarried_i \times I(5 \leq WPradhan \leq 12)_d \qquad [1]$$
$$+\theta^k_1 NotMarried_i \times I(WPradhan > 12)_d + \pi_k X_{i,d,s} + \sum_{s=1}^{17} \delta^k_s + \varepsilon^k_{i,d,s}$$

Where $y^k_{i,d,s}$ is the outcome indicator of woman i, in district d, in state s; $I(WPradhan > 12)_d$ is an indicator variable equal to 1 if the first reserved seat for a woman pradhan occurred over 12 years prior to the survey; $I(5 \leq WPradhan \leq 12)_d$ is an indicator variable equal to 1 if the first reserved seat for a woman pradhan occurred within the 12 years immediately prior to the survey; $NotMarried_i$ is equal to 1 if woman i was not married at the time of the first reserved seat under the quotas; and $X_{i,k,t}$ is a matrix of individual and household control variables including the woman's rank in the household, age, years of schooling for both spouses, household income, caste, religion, and number of household members. By construction there are no women who married after the year of the first reserved seat for a woman pradhan in districts that have not yet had one. Therefore the difference-in-difference estimates of the effect of women's reservations in local government are given by θ^k_0 and θ^k_1. These parameters capture the average treatment effect of having a woman pradhan on the outcome indicators of women who were not married at the time of the first reserved seat for a woman pradhan relative to women who are married in districts that have not yet had women pradhans in the same state of residence. The parameters $\beta_{1,k}$ and $\beta_{2,k}$ indicate differences in the outcome indicators across women who were married at the time of the first reservation for a woman pradhan in districts that have had women pradhans relative to those who have not.

I use the 1993 wave of the HDPI to show there were no differences in age at first marriage or age at gauna in 1993, prior to the implementation of the policy of reserved seats for women pradhans. Because of changes in districts over time, I am only able to match districts in the HDPI and the Iyer et al. (2012) data for eight states: Andhra Pradesh, Gujarat, Kerala, Maharashtra, Orissa, Punjab, and West Bengal. I estimate a simple linear regression of age at first marriage (age at gauna) on indicator variables of the years of first elections with reserved seats for women pradhans, controlling for state fixed effects. Table 4 contains the results. It is clear that, conditional on state differences in the timing of the first election under the quotas, age at first marriage and age at gauna were no different in 1993 in districts that had had a woman pradhan relative to districts that had not yet had one.

[3] The 1993 wave of the survey does not have all the indicators considered in this paper, so evidence is presented only for the information available.

Table 4: Tests for differences in marriage indicators by year of first woman pradhan

Dependent variable	Age at marriage	Age at gauna
Year first pradhan 1995	0.060 [0.782]	0.336 [0.688]
Year first pradhan 1997	0.782 [0.741]	0.818 [0.642]
Year first pradhan 1998	0.016 [0.360]	0.240 [0.320]
Year first pradhan 2000	0.213 [0.577]	0.749* [0.426]
Year first pradhan 2001	-0.314 [1.691]	-0.339 [1.438]
Year first pradhan 2002	0.573 [1.075]	0.691 [0.936]
Year first pradhan 2003	0.236 [0.528]	0.289 [0.472]
Year first pradhan 2005	0.266 [0.558]	0.457 [0.550]
Year first pradhan 2006	-0.569 [1.070]	-1.054 [0.954]
Year first pradhan 2007	2.212* [1.102]	2.075** [0.921]
Observations	13832	13832
R-squared	0.056	0.054

Standard errors clustered at the district level in brackets. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Source: author's calculations.

6 Empirical results

The results on the effect of political reservations for women are presented in Tables 5, 6, and 7. The left panel contains results on the effect of length of exposure to women pradhans in a district controlling only for state fixed effects, and the right panel includes individual- and household-level controls. The first notable result is that, on average, women who married before the first woman pradhan in districts that had experienced women in government were significantly more likely to be child brides relative to women in districts that had yet to have a woman pradhan. Women married and had their gauna ceremony 0.7–1 years younger and 0.6–1 years earlier respectively. The differences are robust to the inclusion of individual and household control variables, although the magnitudes are somewhat smaller.

Women who married after the first woman pradhan are on average less likely to be child brides: they married and held their gauna ceremony later relative to women in districts who have not yet experienced women pradhans. The results, however, vary by length of exposure. Women in districts that implemented the reserved seats over 12 years prior to the survey are 24 percentage points less likely to be child brides, married 1.78 years later, and delayed their gauna ceremony for 1.5 years. Women in districts that had women pradhans within the last 12 years are three quarters less likely to be child brides, and delay their marriage and gauna ceremony for only half and one third respectively of the time of the districts that had women pradhans earlier.

These results are robust to controlling for women's rank within the household, household size, age, schooling of each spouse, household income, caste, and religion. The magnitudes of the effects are somewhat smaller for women who married after the first woman pradhan in districts randomly chosen to have reserved seats in the last 12 years, although still statistically significant. At the bottom of Table 5, I present results from tests of equality of the coefficients of the different timing of reserved seats. The tests indicate the effects are larger for women who married after the reserved seats in districts that had women pradhans earlier.

Table 5: Effect of woman pradhan on child marriage, district

Dependent variable	Child bride	Age at first marriage	Age at gauna	Child bride	Age at first marriage	Age at gauna
	(1)	(2)	(3)	(4)	(5)	(6)
I (5<=woman pradhan <=12)	0.086***	-0.749***	-0.622***	0.049**	-0.523***	-0.423***
	[0.030]	[0.224]	[0.195]	[0.023]	[0.170]	[0.140]
I (woman pradhan >12)	0.135***	-1.190***	-1.091***	0.088***	-0.967***	-0.899***
	[0.039]	[0.267]	[0.259]	[0.027]	[0.166]	[0.160]
Not married at first woman pradhan X I (5<=woman pradhan <=12)	-0.060**	0.750***	0.460**	-0.030	0.548***	0.278*
	[0.029]	[0.204]	[0.177]	[0.027]	[0.185]	[0.155]
Not married at first woman pradhan X I (woman pradhan >12)	-0.246***	1.776***	1.573***	-0.194***	1.673***	1.518***
	[0.021]	[0.120]	[0.098]	[0.021]	[0.153]	[0.130]
Woman rank	-	-	-	-0.074***	0.481***	0.509***
			[0.008]	[0.053]	[0.050]	
Age	-	-	-	-0.004***	0.056***	0.059***
			[0.001]	[0.008]	[0.007]	
Years of schooling	-	-	-	-0.030***	0.236***	0.218***
			[0.001]	[0.011]	[0.009]	
Spouse's years of schooling	-	-	-	-0.003***	0.028***	0.034***
			[0.001]	[0.009]	[0.007]	
Household income	-	-	-	0.000**	0.000	0.000*
			[0.000]	[0.000]	[0.000]	
Number of household members	-	-	-	0.013***	-0.090***	-0.091***
			[0.002]	[0.013]	[0.012]	
F-test not married = not married X woman pradhan last 10	16.32***	12.27***	20.32***	13.84***	14.29***	26.59***
State fixed effects	Y	Y	Y	Y	Y	Y
Controls	N	N	N	Y	Y	Y
Observations	18128	18124	18125	17160	17156	17158
R-squared	0.141	0.199	0.162	0.257	0.366	0.338

Standard errors clustered at the district level in brackets. Additional controls include caste, religion, and an assets index that varies from 0 to 33. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.
Source: author's calculations.

Table 6: Effect of woman pradhan on child marriage, pre-2007

Dependent variable	Child bride	Age at first marriage	Age at gauna	Child bride	Age at first marriage	Age at gauna
	(1)	(2)	(3)	(4)	(5)	(6)
I (5<=woman pradhan <=12)	0.023	-0.376	-0.237	0.008	-0.249	-0.131
	[0.034]	[0.266]	[0.217]	[0.025]	[0.190]	[0.147]
I (woman pradhan >12)	0.108***	-0.983***	-0.867***	0.094***	-0.952***	-0.855***
	[0.041]	[0.286]	[0.280]	[0.025]	[0.160]	[0.160]
Not married at first woman pradhan	-0.024	0.810***	0.605**	0.012	0.469*	0.255
X I (5<=woman pradhan <=12)	[0.037]	[0.279]	[0.269]	[0.033]	[0.245]	[0.223]
Not married at first woman pradhan	-0.159***	1.179***	1.058***	-0.189***	1.598***	1.489***
X I (woman pradhan >12)	[0.022]	[0.138]	[0.119]	[0.023]	[0.170]	[0.147]
Woman rank	-	-	-	-0.051***	0.312***	0.338***
				[0.010]	[0.062]	[0.062]
Age	-	-	-	-0.009***	0.086***	0.086***
				[0.001]	[0.010]	[0.009]
Years of schooling	-	-	-	-0.029***	0.232***	0.211***
				[0.002]	[0.012]	[0.011]
Spouse's years of schooling	-	-	-	-0.004***	0.034***	0.042***
				[0.002]	[0.011]	[0.009]
Household income	-	-	-	0.000*	0.000	0.000
				[0.000]	[0.000]	[0.000]
Number of household members	-	-	-	0.010***	-0.056***	-0.058***
				[0.002]	[0.016]	[0.015]
F-test not married = not married X woman pradhan last 10	6.55**	0.99	1.77	16.72***	9.60***	15.74***
State fixed effects	Y	Y	Y	Y	Y	Y
Controls	N	N	N	Y	Y	Y
Observations	11044	11044	11044	10483	10483	10483
R-squared	0.126	0.183	0.144	0.240	0.363	0.330

Standard errors clustered at the district level in brackets. Additional controls include caste, religion, and an assets index that varies from 0 to 33. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Source: author's calculations.

Table 7: Effect of woman pradhan on child marriage, robustness

	Panel (a): only rural						Panel (b): born in state of residence					
Dependent variable	Child bride (1)	Age at first marriage (2)	Age at gauna (3)	Child bride (4)	Age at first marriage (5)	Age at gauna (6)	Child bride (1)	Age at first marriage (2)	Age at gauna (3)	Child bride (4)	Age at first marriage (5)	Age at gauna (6)
I (5<=woman pradhan <=12)	0.081**	-0.684***	-0.470**	0.058*	-0.570***	-0.376**	0.065*	-0.613**	-0.534**	0.041	-0.453**	-0.386**
	[0.032]	[0.229]	[0.186]	[0.029]	[0.214]	[0.164]	[0.030]	[0.220]	[0.180]	[0.029]	[0.199]	[0.138]
I (woman pradhan >12)	0.116***	-0.925***	-0.845***	0.087***	-0.848***	-0.793***	0.123***	-1.207***	-1.046***	0.094***	-1.068***	-0.912***
	[0.033]	[0.223]	[0.218]	[0.030]	[0.206]	[0.194]	[0.027]	[0.219]	[0.176]	[0.027]	[0.239]	[0.213]
Not married at first woman pradhan	-0.052	0.599**	0.225	-0.032	0.485**	0.121	-0.041	0.946**	0.748*	-0.019	0.817*	0.625
X I (5<=woman pradhan <=12)	[0.034]	[0.243]	[0.207]	[0.033]	[0.236]	[0.185]	[0.035]	[0.409]	[0.377]	[0.039]	[0.402]	[0.355]
Not married at first woman pradhan	-0.266***	1.840***	1.593***	-0.215***	1.701***	1.519***	-0.216***	1.585***	1.382***	-0.200***	1.685***	1.486***
X I (woman pradhan >12)	[0.024]	[0.151]	[0.117]	[0.026]	[0.186]	[0.142]	[0.039]	[0.246]	[0.166]	[0.032]	[0.321]	[0.268]
Woman rank	-	-	-	-0.072***	0.364***	0.404***	-	-	-	-0.055***	0.369**	0.372**
				[0.010]	[0.065]	[0.063]				[0.017]	[0.139]	[0.137]
Age	-	-	-	-0.005***	0.046***	0.050***	-	-	-	-0.006***	0.071***	0.069***
				[0.001]	[0.008]	[0.007]				[0.001]	[0.018]	[0.017]
Years of schooling	-	-	-	-0.028***	0.196***	0.184***	-	-	-	-0.029***	0.233***	0.214***
				[0.002]	[0.011]	[0.011]				[0.001]	[0.017]	[0.016]
Spouse's years of schooling	-	-	-	-0.003**	0.024**	0.022***	-	-	-	-0.004**	0.040***	0.040***
				[0.001]	[0.010]	[0.007]				[0.001]	[0.007]	[0.007]
Household income	-	-	-	0.000*	-0.000	0.000	-	-	-	0.000*	-0.000	0.000
				[0.000]	[0.000]	[0.000]				[0.000]	[0.000]	[0.000]
Number of household members	-	-	-	0.011***	-0.062***	-0.066***	-	-	-	0.005	-0.069*	-0.068**
				[0.002]	[0.015]	[0.014]				[0.004]	[0.033]	[0.029]

F-test not married = not married X woman pradhan last 10	15.82***	12.02***	21.90***	11.56***	10.10***	24.78***	7.95***	1.19	1.84	8.55**	2.48	5.40**
State fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Controls	N	N	N	Y	Y	Y	N	N	N	Y	Y	Y
Observations	11944	11941	11942	11326	11323	11324	6261	6259	6260	5708	5706	5707
R-squared	0.166	0.248	0.201	0.236	0.336	0.301	0.139	0.199	0.171	0.248	0.364	0.343

Standard errors clustered at the district level in brackets. Additional controls include caste, religion, and an assets index that varies from 0 to 33. *** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Source: author's calculations.

6.1 Robustness

On 10 January 2007 the Prohibition of Child Marriage Act was enacted by parliament. This is a national law that applies to all citizens of India, except to those in Jammu and Kashmir. The Act criminalizes men who marry child brides, and establishes the conditions for child marriages to be void at the petition of the child bride. The Act states that any child marriage is to become void retrospectively as well. It is possible that some of the women in the sample were child brides who took advantage of the Prohibition of Child Marriage Act to void their first marriage. Of the sample of women used in this paper, only 196 (out of over 18,000) have married more than once; of those, 157 have divorced or separated. It is also possible that when asked about their first marriage women do not report a voided marriage, which in turn will generate an upward bias in their reported age at first marriage. Further, if the increase in age at first marriage is driven by marriages that occurred after the Act, it is not possible to identify whether the changes are due to the Act or to exposure to women leaders. While there is no way to know for sure, it is somewhat reassuring to see that 45 per cent of the sample reports ages at first marriage below 18. Nonetheless, it is less likely that the Prohibition of Child Marriage Act affected marriages prior to 2007. In Table 6, I present the results of equation [1] for women who married for the first time prior to 2007. The effect of women pradhans is robust, particularly when control variables are included. Therefore the reduction in the incidence of child marriage is not driven by the Prohibition of Child Marriage Act.

While the 73rd and 74th Amendments to the Indian Constitution had a national jurisdiction, the introduction of local governments was most relevant in rural areas. Further, women living in metropolitan and other urban areas are exposed to a wider range of factors that can contribute to changes in gender and cultural norms regarding marriage and more broadly regarding education, women's empowerment, etc. In Table 7 I present the results of equation [1] for a sample of women living in rural areas in Panel (a), and in Panel (b) for a different sample of women currently living in the state where they were born. The results on the effects of women pradhans presented in Panel (a) are almost indistinguishable in both magnitude and tests of equality of effects by length of exposure from those in Table 4.

It is not usual for women in India, particularly in rural areas, to move across states unless it is to join the family of a new husband. Nonetheless, given that the 73rd Amendment took place so many years before this wave of the survey was collected, it is relevant to examine whether the results are driven by selection. Unfortunately, I only know the place of origin of 6,260 women in states for which I observe the start of treatment. From this subsample, I know that less than 2.5 per cent grew up in another state or country. Among the women for whom I do not observe the place of origin and who I know did not grow up in their husband's village or town (11,877), 4,660 married their current husbands before 1993. The 73rd and 74th Amendments passed in 1993, so these women were already married when the policy came into effect in their home town, and thus have only experienced the policy in their husband's village. However, there are 7,217 women who married after 1993 and who could have been exposed to the policy prior to marriage if their home district had reserved seats for women pradhans before they moved to the place where they currently reside. These women's ages range from 15 to 49, with an average age of 31 and a uniform distribution across age cohorts; thus it is not the case that the majority are younger and might have been more susceptible to change their gender views as a result of longer exposure to the policy. Further, if this were the case, then by assigning them to treatment as if they had lived in their husband's town their entire lives I would be underestimating their exposure to the treatment, which would bias my estimates downwards towards zero effect.

In Panel (b) of Table 7, I present results of equation [1] for the sample of women who grew up in their current location. The effect of women pradhans is very similar, qualitatively and in magnitude, to the results in Table 5; however, the tests of equality of effects by length of exposure contrast with the previous results. When the sample is restricted to women who have remained in the state where they were born, the effects of having a woman pradhan on age at first marriage do not differ across districts that had their first woman pradhan within the last 12 years relative to those who did so more than 12 years previously. The effect of women pradhans on the likelihood of child marriage and age at gauna are robust, and selection based on preferences for gender norms is not the driver of the results.

6.2 Mechanisms

In India it is common practice for marriages to be arranged, and frequently the bride has no say over the choice of husband. In the sample, 25 per cent of women chose their husbands themselves, 57 per cent of women had a say in choosing their husbands, and 15 per cent had known their husbands for more than one year prior to marriage. It is possible that exposure to women in power resulted in policies to prevent early marriage and provided incentives for adolescent girls to stay in school or engage in choices that would affect the rest of their lives. An alternative potential mechanism for the observed effects on age of marriage might be a change in cultural norms regarding arranged marriages. In Tables 8 and 9, I examine the effect of the women pradhans on autonomy over the choice of a husband.

The results indicate that women who married after the first woman pradhan in districts that implemented reserved seats earlier are significantly more likely to have chosen their husbands, to have had a say in the choice of husband, and to have known their husbands for over a year prior to the date of the wedding relative to married women in districts that have yet to experience female pradhans.

Moreover, there are no differences by length of exposure in the effect of having a woman pradhan on their likelihood of choosing their husbands or knowing their husbands for over one year before marriage. Women in districts that have had women pradhans are about five per cent more likely to have chosen their husbands and about 2.3 per cent more likely to have known their husbands prior to marriage. While the results are robust to controlling for education, income, religion, and caste, these results are not robust to the inclusion of women's age at the time of the survey. It is possible that there is not enough variation in the treatment by age, or alternatively it could mean there is a generational change in autonomy over choice of husband that is unrelated to exposure to women pradhans.

Table 8: Effect of woman pradhan on autonomy over marriage, district

Dependent variable	Chose husband (1)	Say over husband (2)	Knew husband before marriage (3)	Chose husband (4)	Say over husband (5)	Knew husband before marriage (6)
I (5<=woman pradhan <=12)	0.009	-0.062**	0.012	0.026	-0.024	0.024
	[0.032]	[0.031]	[0.018]	[0.031]	[0.029]	[0.018]
I (woman pradhan >12)	-0.030	-0.117***	0.001	-0.005	-0.054	0.020
	[0.042]	[0.043]	[0.023]	[0.041]	[0.039]	[0.024]
Not married at first woman pradhan X I (5<=woman pradhan <=12)	0.038	0.035	0.024	0.031	0.024	0.017
	[0.026]	[0.023]	[0.019]	[0.026]	[0.023]	[0.019]
Not married at first woman pradhan X I (woman pradhan >12)	0.055***	0.137***	0.023**	0.012	0.021	-0.011
	[0.014]	[0.016]	[0.011]	[0.018]	[0.020]	[0.012]
Woman rank	-	-	-	0.010	0.018**	0.012*
				[0.009]	[0.008]	[0.007]
Age	-	-	- -	0.002***	-0.005***	-0.002***
				[0.001]	[0.001]	[0.001]
Years of schooling	-	-	-	0.005***	0.016***	0.003**
				[0.001]	[0.001]	[0.001]
Spouse's years of schooling	-	-	-	0.001	0.001	-0.000
				[0.001]	[0.001]	[0.001]
Household income	-	-	-	-0.000	0.000	0.000*
				[0.000]	[0.000]	[0.000]
Number of household members	-	-	-	-0.003	-0.006***	-0.005***
				[0.002]	[0.002]	[0.002]
F-test not married = not married X woman pradhan last 10	0.22	7.96***	0.00	0.25	0.00	1.06
State fixed effects	Y	Y	Y	Y	Y	Y
Controls	N	N	N	Y	Y	Y
Observations	18117	18128	18109	17150	17160	17143
R-squared	0.092	0.253	0.078	0.106	0.310	0.088

Standard errors clustered at the district level in brackets. Additional controls include caste, religion, urban indicator, and an assets index that varies from 0 to 33.
*** p-value<0.01, ** p-value<0.05, * p-value<0.1.
Source: author's calculations.

Table 9: Effect of woman pradhan on autonomy over marriage, district

Dependent variable	Chose husband (1)	Say over husband (2)	Knew husband before marriage (3)	Chose husband (4)	Say over husband (5)	Knew husband before marriage (6)
I (5<=woman pradhan <=12)	0.043	-0.020	0.018	0.049	-0.007	0.024
	[0.036]	[0.035]	[0.019]	[0.036]	[0.031]	[0.019]
I (woman pradhan >12)	-0.028	-0.126***	0.018	-0.015	-0.087**	0.030
	[0.045]	[0.044]	[0.025]	[0.045]	[0.036]	[0.026]
Not married at first woman pradhan X I (5<=woman pradhan <=12)	0.047	-0.030	0.048*	0.041	-0.029	0.049*
	[0.043]	[0.036]	[0.025]	[0.042]	[0.034]	[0.026]
Not married at first woman pradhan X I (woman pradhan >12)	0.047**	0.129***	-0.008	0.032	0.063***	-0.028**
	[0.019]	[0.016]	[0.011]	[0.021]	[0.019]	[0.013]
Woman rank	-	-	-	0.018*	0.014	0.004
				[0.011]	[0.010]	[0.007]
Age	-	-	-	-0.001	-0.003***	-0.001**
				[0.001]	[0.001]	[0.001]
Years of schooling	-	-	-	0.004**	0.015***	0.002
				[0.002]	[0.002]	[0.001]
Spouse's years of schooling	-	-	-	-0.000	0.001	0.001
				[0.002]	[0.002]	[0.001]
Household income	-	-	-	-0.000	0.000	0.000
				[0.000]	[0.000]	[0.000]
Number of household members	-	-	-	-0.005*	-0.006**	-0.002
				[0.003]	[0.003]	[0.002]
F-test not married = not married X woman pradhan last 10	0.01	12.31***	2.82*	0.00	4.20**	4.80**
State fixed effects	Y	Y	Y	Y	Y	Y
Controls	N	N	N	Y	Y	Y
Observations	11038	11044	11034	10478	10483	10474
R-squared	0.096	0.260	0.089	0.106	0.307	0.097

Standard errors clustered at the district level in brackets. Additional controls include caste, religion, urban indicator, and an assets index that varies from 0 to 33.
*** p-value<0.01, ** p-value<0.05, * p-value<0.1.

Source: author's calculations.

In Table 9, I re-estimate the effect of women pradhans on autonomy over choice of husband for women who married prior to the Prohibition of Child Marriage Act of 2007. Unlike the results for the entire sample of eligible women, these show a robust increase of six percentage points in the likelihood of having a say over who to marry, regardless of whether the first reservation of seats for a woman pradhan occurred within the last 12 years or more than 12 years prior. Notably, in this subsample the likelihood of having known their husband for at least a year prior to marriage decreased in the districts that had had a woman pradhan earlier, and significantly increased in districts that had had their first woman pradhan within the last 12 years. The coefficient on this interaction is negative in Table 8 and in the results presented in Appendix A,[4] even though it is not statistically significant. This suggests that early exposure to women in leadership positions at the local level may have increased the number of arranged marriages, and that more recently the trend has subsided.

The results are consistent with the findings of Beaman et al. (2009, 2012) in West Bengal. They found that prior to experiencing a woman pradhan, parents generally had higher aspirations for boys than for girls. After two election cycles, parental aspirations for boys were unchanged but for girls they improved, particularly aspirations related to the labour market and occupations. The changes in aspirations were observed at a variety of levels. Fathers' perceptions of women's leadership abilities improved more than women's after exposure to a woman pradhan. Women's educational aspirations for their daughters increased more than men's. Adolescent girls' aspirations increased after exposure to women pradhans: they were less likely to want to be housewives, they were less likely to want to marry before 18 years of age, and they wanted a skilled job. Beaman et al. (2012) argued that because there were no effects of women pradhans on young women's careers, education, or labour market outcomes, and there were no changes in educational infrastructure, the observed changes in aspirations were driven by a role model effect rather than by policy.

7 Conclusions

Drawing data from IHDS-II collected in 2011, I have estimated the effect of the Panchayati Raj institutions on marriage. In particular, I have examined changes in response to reserved seats for women pradhans on autonomy over and within marriage. While the 73rd and 74th Amendments to the Indian Constitution were approved in 1993, their effective implementation across states varied considerably. States hold elections in different years, and they waited until the next election following the approval of the Amendments to reserve seats for women and minorities. Further, the Amendments stipulate that reserved seats for women pradhans must be rotated randomly each election cycle across districts such that in any given cycle one third of districts in each state reserve seats. For identification, I exploited plausible exogenous variation in the timing of the first election with reserved seats for women pradhans across districts to identify the effect of women in leadership positions at the local level on age at first marriage, likelihood of child marriage, and age at gauna. To examine the effect of women in government on autonomy over marriage, a natural control group consisted of women who had married before the first election with reserved seats.

Results indicate that reserved seats for women in local governments have reduced the likelihood of child marriage, increased the age at first marriage, and delayed age at gauna. The results are robust to restricting the sample to women in rural areas and women who grew up in their current location of residence. Further, by restricting the sample to women who married prior to 2007, I

[4] Results can be requested directly from the author.

was able to attribute the changes in child marriage to having women pradhans and not to the Prohibition of Child Marriage Act. The literature examining the effects of the reserved seats policy at the individual level has consistently found that the results seem to be driven by the role model effect, rather than by policy changes (Beaman et al. 2009, 2012; Kalsi 2017). In line with these results, I have found a reduction in the prevalence of arranged marriages where the bride's involvement is minimal as a result of the reserved seats for women pradhans. Autonomy over the choice of partner measured as the likelihood of choosing one's husband, having a say over the choice of partner, and knowing one's husband for at least one year prior to the marriage increases among women who married after their district of residence experienced a woman pradhan. The results suggest that exposure to women in leadership positions at the local level is influencing changes in gender and cultural norms in favour of improved female autonomy.

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