Do Electoral Quotas for Marginalized Ethnic Groups Improve Women's Representation? Evidence from India*

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Abstract

Do electoral quotas without gender-based provisions affect women's political representation? This study examines whether India's caste-based electoral quotas, designed to address caste exclusion, inadvertently influence women's political representation in village elections. I argue that caste quotas enhance women's representation through two complementary mechanisms: differing gender norms across caste groups and reduced political competition in seats where quotas are in place. By leveraging the quasi-random variation in caste quota assignment across village councils in Maharashtra, I found that these quotas increase women's candidacy by 40% and more than double their chances of winning office, despite the absence of gender provisions. Utilizing secondary survey data and innovative administrative data, I provide evidence that supports my theory. These findings highlight that electoral reforms without gender provisions can shape gendered patterns of political power and create alternative pathways for women's political representation.

Keywords: Electoral Quotas, Local Government, Gram Panchayat, Caste, Gender, India

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1 Introduction

Electoral quotas have become a key tool for addressing political underrepresentation around the world. More than 100 countries have implemented gender quotas, and many others have adopted quotas for ethnic minorities, castes, or indigenous groups (Htun, 2004; Krook and O'Brien, 2010). However, these systems generally focus on alleviating one type of marginalization at a time. Evidence shows that exclusion is often shaped by multiple, intersecting identities (Collins, 2000; Crenshaw, 2013; Hancock, 2007; McCall, 2005). The gap between quotas aiming to provide representation for a single identity and the reality of overlapping disadvantages can lead to unexpected consequences. Specifically, when electoral quotas limit political competition by designating representation for one aspect, such as ethnicity, they may inadvertently affect representation in other areas, such as gender. This can either create or restrict alternative pathways to political power for groups beyond those intended to benefit from the quotas.

Understanding these indirect pathways to women's representation has critical theoretical and policy implications. Theoretically, it expands our understanding of how women achieve political inclusion beyond direct gender interventions, revealing how electoral quotas without gender-based provisions can transform gendered patterns of political power. Women's political underrepresentation varies dramatically by ethnicity and class worldwide—from Black women's exclusion in US politics to indigenous women's marginalization in Latin American democracies (Bejarano, 2013; Darcy, Hadley and Kirksey, 1993; Fraga et al., 2008; Strolovitch, 2006). While existing work focuses on socioeconomic explanations or the need for intersectional quotas, it overlooks how quotas for marginalized ethnic groups might inadvertently also impact women's access to political office. Ethnic quotas often fundamentally alter local political dynamics—changing who runs, who wins, and how competition unfolds. Hence, these quotas may create unexpected openings for women by disrupting traditional power structures

and candidate pools, or they may reinforce male dominance if targeted ethnic communities mobilize primarily male candidates. From a policy perspective, as more countries adopt electoral quotas, understanding their spillover effects on women's representation becomes essential. Without evidence on cross-dimensional impacts, well-intentioned reforms targeting one form of exclusion may deepen other inequalities without being premeditated.

I examine how quotas for marginalized castes, meant to specifically alleviate exclusion, tend to influence women's political representation in elections held in Indian villages. India provides an ideal context for studying these unintended institutional effects on women's representation. First, it operates one of the world's most extensive electoral quota systems, with constitutional reservations for Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) implemented without gender considerations, alongside separate gender quotas at various governmental levels. Second, the quasi-random assignment of caste quotas provides causal leverage to identify these unintended effects on women's political participation and electoral success. These two institutional features enable me to isolate how caste quotas—designed exclusively for caste-based inclusion—affect women's political representation. Third, India's caste system generates sharp variation in gender norms across social groups, enabling me to test how quotas interact with existing social hierarchies to create differential opportunities for women.

I propose that caste quotas paradoxically enhance women's representation through two complementary mechanisms. First, India's caste hierarchy generates stratified gender norms: upper caste women face strict mobility restrictions designed to maintain caste purity and family honor, while marginalized caste women, whose labor requires free movement, essential to finance the household, face fewer social barriers (Cassan and Vandewalle, 2021; Chakravarti, 1993; Jayachandran, 2020). Second, by restricting candidacy to members of marginalized groups, caste quotas structurally reduce po-

litical competition (Auerbach and Ziegfeld, 2020) and exclusion of upper-caste male politicians, the traditional elites, lowering the barriers to entry for new political actors. When combined, these mechanisms, more favorable gender norms among marginalized castes and reduced electoral competition, create conditions that disproportionately benefit women of marginalized castes seeking political office.

To test this theory, I leverage quasi-random variation in the assignment of caste quota across village council seats in Maharashtra, India's second-largest state. Since my focus is on the impact of caste quotas on women's descriptive political representation, I restrict my sample to seats without gender quotas. My primary identification strategy exploits within-ward variation: in each electoral ward, some seats are reserved for marginalized castes while others remain open, yet all seats share the same electorate. This design allows me to causally identify the effect of caste quotas on women's representation while holding constant voter preferences and ward-level characteristics. I complement this with an analysis of sarpanch (village chief) positions, where quota assignment depends on block-level demographics and rotation rules, using block fixed effects and controls for village-level caste composition. My analysis draws on comprehensive administrative data covering all candidates and winners in village elections from 2018 to 2022, providing detailed information on candidate characteristics and electoral outcomes.

I find that caste quotas substantially improve women's descriptive representation across two key outcomes. First, regarding candidacy: caste-quota seats are 40% more likely to have at least one woman candidate compared to open seats. This effect is robust to alternative measures—the total number of women candidates and the proportion of candidates who are women both increase significantly in quota seats. Second, regarding electoral success: women are more than twice as likely to win in caste-quota seats compared to open seats. The results hold for both council member positions, identified through within-ward variation, and village chief positions, where I account

for the demographic factors determining caste quota assignment.

To investigate the underlying mechanisms, I draw on evidence from multiple sources. First, examining candidacy patterns in open seats reveals that women are significantly more likely to contest from marginalized caste groups than from upper castes. Second, household survey data confirm that marginalized caste women face fewer mobility restrictions: they are more likely to work outside the home, less likely to need permission to leave home, and also less likely to practice purdah. Finally, the increased likelihood of women winning in quota seats operates partly by a mechanical effect through through increased candidacy: More women candidates naturally increase the probability of women winners, but is amplified by reduced electoral competition, as caste-quota seats attract fewer total candidates than open seats.

These findings relate closely to research on the spillover effects of gender quotas (Cassan and Vandewalle, 2021; Karekurve-Ramachandra and Lee, 2020) and caste quotas in state and national assemblies (Jensenius, 2016) in the Indian context. However, there are two key distinctions. First, while social norms operate similarly under both types of quotas, political competition differs fundamentally: caste quota seats allow mixed-gender competition, whereas gender quota seats restrict competition to women only. Second, caste quotas function differently in village elections compared to higher offices. Since candidates in village elections do not run on party labels, party gatekeeping—a crucial barrier in state and national politics—becomes less salient, creating more direct opportunities for women to enter politics.

This study makes three central contributions. First, I contribute to the growing literature on institutional reform and women's representation (Barnes and Holman, 2020; Brulé, 2020; Hughes, 2011). While existing work documents how gender quotas can hurt women from marginalized groups (Huang, 2012; Karekurve-Ramachandra and Lee, 2020), I provide causal evidence that quotas designed for one disadvantaged group can improve representation for other marginalized groups, challenging theories

that assume individuals facing multiple disadvantages always experience worse outcomes than those facing single disadvantages. Second, I advance the understanding of women's political underrepresentation beyond individual-level explanations. Where existing work emphasizes differential costs, unfavorable electoral environments, voter discrimination, or self-efficacy gaps (Ashworth, Berry and Bueno de Mesquita, 2024; Fox and Lawless, 2011; Kanthak and Woon, 2015; Krook, 2010; Lawless, 2015; Norris and Lovenduski, 1995; Schwenk, 2022), I show how gender neutral electoral institutions interact with social structure to create political opportunities for women. Third, I contribute to the literature on caste quotas in India. Research shows that these quotas affect public goods provision, policy influence, political engagement, occupational choice, and social relations (Bhavnani, 2017; Chauchard, 2017; Chauchard and Jensenius, 2023; Chin and Prakash, 2011; Dunning and Nilekani, 2013; Gulzar, Haas and Pasquale, 2023; Jensenius, 2015; Kaletski and Prakash, 2016; Pande, 2003). While such studies have highlighted how changes in identity as a result of caste quotas have several downstream consequences, they have overlooked gendered spillover effects. Since the identity of politicians is critical to the argument, the impact on women's descriptive political representation could be a potential mechanism that helps explain the economic and political effects documented in existing studies.

2 Conceptual Framework

Why would electoral quotas designed for marginalized ethnic groups improve women's descriptive political representation? While ethnic quotas contain no gender provisions and were never intended to address women's exclusion, I argue that they transform women's access to political office through two complementary mechanisms: variation in gender norms across ethnic groups and altered competitive dynamics in quota-restricted seats.

2.1 Ethnic Quotas and Women's Representation

Standard theories of intersectionality predict that women from marginalized castes facing both gender and caste discrimination experience compounded disadvantages (Collins, 2000; Crenshaw, 2013; Hancock, 2007; McCall, 2005; Weber, 2001). However, empirical evidence reveals considerable variation in how electoral institutions affect intersectional representation, depending critically on several institutional features (Hughes, 2011). Darcy, Hadley and Kirksey (1993) demonstrate that in the United States, Black political underrepresentation stems primarily from Black women's exclusion rather than systematic barriers facing Black men, who have achieved population parity in elected office. Crucially, they find that multi-member districts facilitate Black women's representation far more effectively than single-member systems, suggesting that institutional design choices can either mitigate or exacerbate intersectional barriers.

This variation in institutional effects becomes particularly evident when comparing different quota designs. Huang (2012) examines a context with both gender quotas and indigenous group quotas, finding that indigenous women's representation actually worsened over time even as other women's representation improved. They attribute this outcome to political blind spots: neither indigenous advocacy groups nor women's organizations prioritized indigenous women's representation, leading each to focus on single-identity candidates. While Hughes (2011) argues that the effects of quotas on minorities may vary by quota system, women might benefit from tandem quota systems, where there are minority and gender quotas, as this helps unseat fewer elite men. On the other hand, with mixed quotas—party gender quotas and constitutionally mandated minority quotas—minority women may not benefit as their strategic advantage is lost when quotas operate at different levels. Additionally, other research suggests that intersectional positioning may sometimes confer electoral advantages. Women from marginalized groups may benefit from more favorable voter perceptions (Celis et al., 2014; Mügge, 2016), demographic advantages in communities affected by male incar-

ceration (Philpot and Walton Jr, 2007; Scola, 2013), or enhanced coalition-building opportunities across advocacy networks (Bejarano, 2013; Fraga et al., 2008).

While the existing explanations focus on political blind spots, strategic considerations, voter perceptions, and demographic differences, there is limited understanding of how electoral quotas interact with social norms and political competition, two important phenomena that impact the cost-benefit of running for office and likelihood of winning an election. I develop this insight further by theorizing why, in the Indian context, caste quotas can generate spillovers for women's descriptive political representation.

2.2 Differential Gender Norms and Political Agency

Social hierarchies often generate fundamentally different gender norms across ethnic and class groups, creating differential constraints on women's public participation (Alesina, Giuliano and Nunn, 2013; Becker, 2021). In stratified societies, dominant groups frequently use women's seclusion as a marker of social status—restricting women's mobility to signal family honor, preserve group purity, and maintain patriarchal control (Bidner and Eswaran, 2015; Chakravarti, 1993; Peristiany, 1966; Schneider, 1971; Towns, 2009). Meanwhile, marginalized groups face fewer restrictions, not due to greater gender equality, but because economic necessity requires participation in labor and status-based seclusion holds less relevance for groups already excluded from dominant social hierarchies (Jayachandran, 2020).

This variation in gender norms across social strata appears in diverse contexts. In the United States, Scola (2013) finds that African American women face fewer cultural barriers to political ambition than white women, who are discouraged by stronger norms about "appropriate" feminine behavior. In Latin America, Indigenous women's traditional roles in community organizing provide political skills that *mestiza* women from more "modern" households may lack (Rousseau, 2011). These patterns suggest that women from marginalized ethnic groups may possess practical advantages for po-

litical participation—greater freedom of movement, experience navigating public space, and established social networks outside the home.

India's caste system exemplifies these dynamics starkly. Nationally representative data from rural India reveals that 64% of upper-caste women practice purdah compared to only 29% of SC/ST women (Agte and Bernhardt, 2023). Upper-caste women are significantly less likely to work outside the home, join self-help groups, or attend village meetings, despite showing similar decision-making power within households (Cassan and Vandewalle, 2021). Most critically for political participation, upper-caste women are 40% less likely to attend gram sabha (village assembly) meetings and 50% less likely to speak when they do attend (Parthasarathy, Rao and Palaniswamy, 2019).

These differential constraints translate directly into political capability. Running for office requires extensive public engagement: campaigning door-to-door, attending late-evening meetings, traveling to government offices, and interacting with diverse constituents. Munshi and Singh (2024) argue that female labor force withdrawal has become a status signal in rural India, a luxury only upper-caste households can afford. Meanwhile, marginalized-caste women's continued economic participation provides them with public visibility, diverse social networks, and experience navigating mixed-gender spaces—all crucial assets for political candidacy. Women who can move freely in public spaces without violating social norms possess a fundamental advantage in meeting the demands of electoral competition.

2.3 Ethnic Quotas Regulate Political Competition

By regulating who is eligible to contest elections, ethnic quotas transform electoral competition rather than merely guaranteeing representation. When eligibility is limited to marginalized ethnic groups—often comprising historically disenfranchised groups—the candidate pool shrinks dramatically. This reduction operates through multiple channels: marginalized communities typically have fewer households with accumulated political resources, limited access to elite networks, and less inherited political experience

due to historical exclusion (Auerbach and Ziegfeld, 2020).

The narrowed candidate pool can lower barriers to entry, making elections more accessible to politically inexperienced candidates with modest resources. When numerous candidates compete for a seat, marginal differences in resources or experience often determine outcomes. With fewer competitors, a motivated candidate with limited resources has reasonable prospects. Since women typically have less access to economic resources and political networks than men, they benefit disproportionately from these lowered barriers.

India's caste quota system nurtures these patterns. Marginalized communities have fewer households with surplus economic capital to invest in campaigns, and historical exclusion means fewer families have political experience or name recognition (Auerbach and Ziegfeld, 2020). Moreover, reserved seat caste quotas disallow traditional male elites—upper-caste men—from contesting. This creates a critical distinction between caste quotas and gender quotas in their structuring of political. While Karekurve-Ramachandra and Lee (2020) and Cassan and Vandewalle (2021) document similar social norm mechanisms operating under gender quotas, the competitive dynamics differ fundamentally. Under gender quotas, women compete only against other women for reserved seats. In contrast, under caste quotas, women must compete against both men and women from the eligible caste group, creating mixed-gender competition that involves complex social dynamics surrounding candidate selection. This mixed-gender competition has differential effects across caste groups. Women from upper-caste groups, constrained by restrictive mobility norms, may be disadvantaged in this mixed-gender environment, particularly when competing against male candidates who have greater freedom of movement and established political networks. Conversely, women from marginalized castes, who face fewer mobility restrictions, are better positioned to navigate these social dynamics effectively, as their greater public engagement capabilities become competitive advantages in the broader pool of candidates.

Altogether, reduced political competition and the exclusion of traditional male elites may alter perceptions of women's electoral viability in direct competition with men, hence increasing their candidacy and subsequently their likelihood of winning.

2.4 The Joint Operation of Mechanisms

The two mechanisms—differential gender norms and reduced competition—work together rather than separately. Favorable gender norms help create opportunities for women's political participation by influencing the number of women who are able and willing to run for elections. Meanwhile, reduced competition increases the likelihood of electoral success by improving the chances that any female candidate will win. The interaction between the supply of women candidates and the opportunity for electoral success leads to the observed outcomes.

This interaction produces clear predictions across different conditions:

Table 2.1: Theoretical Predictions for Women's Political Representation

	High Competition	**Low Competition**
Restrictive Gender Norms	Low women's representation	Ambiguous
Permissive Gender Norms	Ambiguous	High women's representation

In open seats with high competition and where upper-caste candidates predominate, restrictive gender norms limit women's candidacy while intense competition disadvantages those women who contest. In caste quota seats, permissive gender norms among marginalized castes increase women's candidacy while reduced competition improves their chances of winning. The highest levels of women's representation should emerge where both conditions align: among marginalized-caste women in quota-restricted seats.

2.5 Alternative Explanations and Scope Conditions

Before turning to the empirical analysis, it is important to consider alternative mechanisms that could explain increased women's representation in caste quota seats. First, voter preferences might specifically favor women from marginalized castes, viewing

them as more authentic representatives or responding to intersectional identity appeals. Second, marginalized-caste women might bring distinctive political skills honed through histories of collective resistance and community organizing. Third, demonstration effects from gender quotas might spillover disproportionately to marginalized-caste women who see more relatable role models. My empirical analysis addresses this directly by examining candidacy patterns in open seats and controlling for spillover due to gender quotas.

My theory also generates clear predictions about when and where these effects should be strongest. The mechanisms I propose—differential gender norms and reduced competition—should operate most powerfully where three conditions hold: (1) social hierarchies create meaningful variation in gender norms across groups, (2) political competition is primarily local than party-dominated, and (3) quotas substantially restrict the eligible candidate pool. Conversely, I expect the effects to attenuate in contexts where these conditions weaken: in urban areas where ethnicity-based norms are potentially less salient, at higher levels of government where party organizations gatekeep candidate selection, or in regions where marginalized castes have already consolidated political power. These scope conditions help explain variation in the strength of ethnic quotas' unintended effects on women's representation across different institutional and social contexts.

3 Context

The village elections held in Maharashtra see the extensive implementation of quotas alongside the existence of persistent social hierarchies based on caste. The study is situated in this context since it is suitable to examine how quotas meant for a single identity category affects intersectional representation.

With a population of around 112 million, Maharashtra has more than 25,000 gram panchayats (GPs). Elections are held every five years, with the timing varying according to a predetermined schedule. This variation is due to factors such as boundary changes,

the establishment of new villages, the death or resignation of council members, and motions of no confidence. Each GP consists of 7 to 17 members and a sarpanch (village chief), with the number of seats depending on the population of the GP. Sarpanches were usually elected indirectly from among council members; however, between July 2017 and March 2020, and from August 2022 onward, they were directly elected by voters. GP office holders have several responsibilities, including organizing regular public meetings, maintaining vital records such as birth registrations, ensuring the effective implementation of government schemes and proper utilization of funds, supervising and controlling the work of GP staff and officers, and exercising additional powers and duties as directed by the state government.

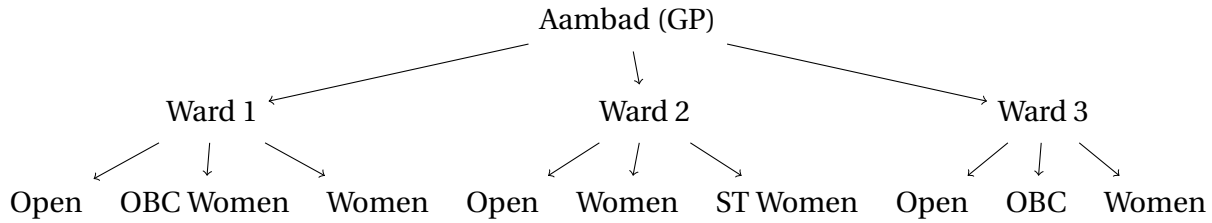
In 1992, the 73rd Constitutional Amendment to the Indian Constitution mandated state governments to establish, hold regular elections for, and empower gram panchayats. Along with mandating decentralization, the 73rd Amendment also directed states to introduce quotas to enhance the descriptive representation of historically underrepresented groups, such as women and marginalized castes, including Scheduled Castes (SC) and Scheduled Tribes (ST). Since then, a certain proportion of sarpanch seats are reserved at the block level and a specific proportion of member seats within each gram panchayat are reserved for disadvantaged groups. Later, most states, including Maharashtra, adopted quotas of 27% for Other Backward Classes (OBCs).

In this paper, I primarily focus on village council member seats, because many sarpanches were indirectly elected from among council members in several GPs during the period of study. As discussed earlier, all council member seats are contained in wards, which are sub-units of a GP. Within each ward, a seat elects one member. A ward typically consists of two or three seats. The number of seats in a ward depends on its relative population and is determined by bureaucrats at the block level. Generally, the number of seats per ward is consistent, but geographical factors may cause some wards to be larger than others. Each GP has a minimum of three wards and a maximum of six

wards. In other words, there are a minimum of three and a maximum of six constituencies in a GP.

At the GP level, the number of seats reserved for SCs and STs based on their population share within the GP. Each ward is allocated a certain number of seats for SCs and STs according to their population share within the ward. In fully scheduled areas, at least 50% of the seats in a GP must have ST quotas, with the possibility of extending this based on their population percentage in the GP. [1] After reserving seats for SCs and STs, 27% of the remaining seats are reserved for OBCs. Once caste quotas are assigned, 50% of the seats within each category (SC, ST, OBC, No Quota) are reserved for women by lottery. Most wards have at least one seat without quotas (open seat), but if the SC/ST population is sufficiently large, it is possible for a ward to have no open seats. Figure 3.1 shows the number of wards, the distribution of seats within each ward, and the quota status of each seat in Aambad GP. There are nine council member seats in this GP, with three seats allocated per ward. Overall, there are three open seats and three seats reserved for women, two seats reserved for OBCs (including one seat reserved for OBC women), and one seat reserved for ST women. No seats were reserved for SCs due to their small population share.[2]

Figure 3.1: Council Seats in Aambad GP



Shifting focus to sarpanch seats, I analyze only those sarpanch seats in GPs where the sarpanch was directly elected. The quota assignment for sarpanch seats is tempo-

[1] Fully scheduled regions are identified by a high share of Scheduled Tribes (ST), a historically disadvantaged minority group, in the population.

[2] Figure B1 shows the number of wards, the distribution of seats within each ward, and the quota status of each seat in Aambegaon GP. Unlike Ambad, this GP has seats reserved for both SC and SC women.

rary and rotates every term. The rules require reserving a certain proportion of seats for women and marginalized caste groups (i.e., SC, ST, OBC, and women from SC, ST, and OBC within a block). The process begins with the reservation of seats for SC, ST, and OBC groups. The assignment rules for caste quotas are complex and vary among SCs, STs, and OBCs. For SCs, GPs that had SC quotas in the last two terms are excluded from consideration. The remaining GPs are then listed in descending order of their SC population proportions, and the top GPs on this list are assigned SC quotas based on the required number of seats. For STs, the assignment depends on whether a block is considered a scheduled area. In non-scheduled and partially scheduled areas, the ST quota assignment follows a procedure similar to that for SCs. However, in fully scheduled areas, a sarpanch seat is always reserved for STs. After assigning SC/ST quotas, a list is prepared excluding GPs that had OBC quotas in the last three terms. From the remaining GPs, 27% of the seats are randomly assigned OBC quotas. Once SC, ST, and OBC quotas are assigned, the remaining seats are designated as Open. Then, within each category (SC, ST, OBC, and Open), 50% of the seats are reserved for women. This means that, apart from open seats that are not reserved for women, all other seats are subject to either a caste quota, a gender quota, or both.

4 Data and Empirical Strategy

The primary objective of this study is to examine the impact of caste quotas for marginalized groups on the descriptive political representation of women. To conduct this analysis systematically, I utilize quasi-random spatial variation in the assignment of quotas, relying on a unique administrative micro-dataset related to Gram Panchayat (GP) elections in Maharashtra. This data, collected and compiled by the Maharashtra State Election Commission—the statutory body responsible for conducting local elections in the state—includes seat-specific election statistics, as well as characteristics of candidates and winners, for council seats across 22,499 GPs from 2018 to 2022.

A key advantage of this dataset is that it documents the caste category of candi-

dates. This information is particularly valuable for identifying candidates' caste in seats without caste quotas, as those seats are open for individuals from any caste to contest. Such caste information is typically unavailable in other electoral datasets in India, making it an essential resource for analyzing differences in candidacy and winner characteristics among various groups in open seats. Accurately imputing caste from candidates' names is often not feasible; therefore, this dataset provides critical insights.

However, one limitation of this dataset is that it records only the seats where elections were held—specifically, those where at least two candidates contested. Consequently, council seats with a single candidate, where that candidate was declared elected unopposed, as well as seats with no candidates, are not included in the electoral results documented by the state election commission.

Because my main outcome is the gender of the politician, I restrict my sample to seats without gender quotas and compare those reserved for marginalized caste groups (the treated group) with those without any quotas (open seats). This restriction removes all gender quota seats and gender-specific caste quota seats, i.e., seats with quotas for women, OBC women, SC women, and ST women. Figure 4.1 illustrates how this restriction affects the sample, using the example of Aambad GP. Seats in gray indicate those excluded from the sample due to the restriction, while seats in black are the ones included in the sample.

Figure 4.1: Council Seats in Aambad GP (Sample)

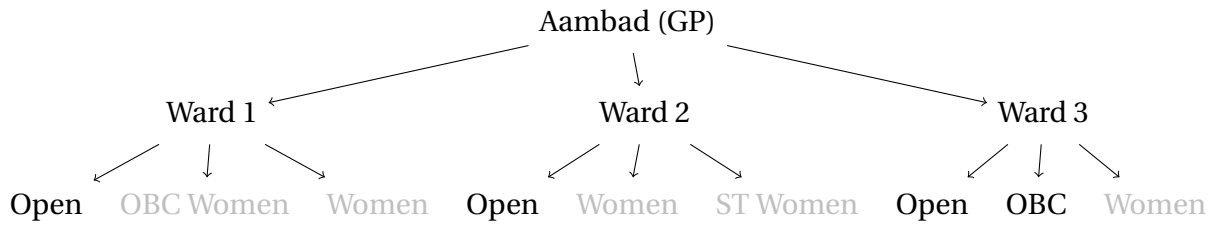
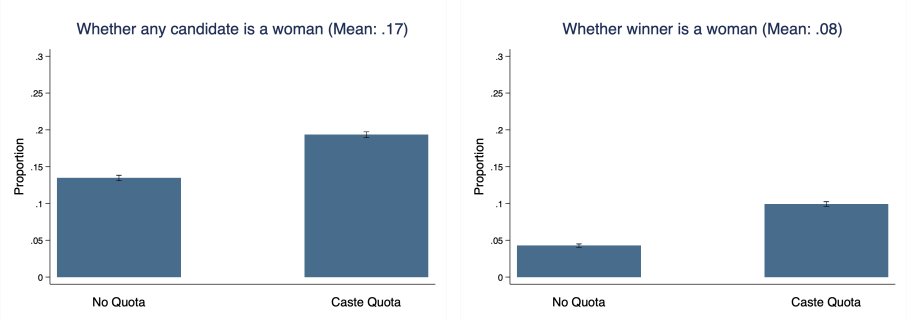


Figure 4.2 presents the distribution of outcomes by the quota status of the seats. Overall, approximately 17% of the seats have at least one woman candidate, and 8%

have a woman winner. The data also show a statistically significant difference in the proportion of women candidates and winners by quota status, with a significantly higher representation of women in seats with caste quotas. Therefore, these descriptive results provide suggestive evidence supporting the hypothesis that caste quotas improve women's representation.

Figure 4.2: Distribution of Main Outcomes



Notes: This figure shows the distribution of the main measures of women's candidacy and representation in seats with no quotas compared to those with caste quotas.

For the main analysis, I focus on council member seats and use the following empirical specification:

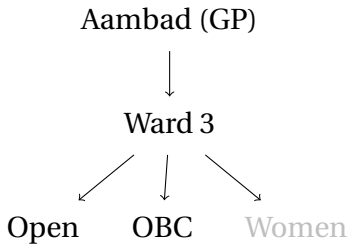
$$Y_{swg} = \alpha + \beta \text{Caste Quota}_{swg} + \gamma_w + \epsilon_{swg} \tag{1}$$

where Y_{swg} is an outcome of interest in a seat s, ward (sub-GP level unit) w, and GP g. The main outcomes include: 1) whether there is any woman candidate, 2) the number of women candidates, and 3) whether the winner is a woman. Caste Quota$_{swg}$ takes a value of 1 if the seat has a quota for SC, ST, or OBC, and 0 otherwise (i.e., seats without quotas or open seats). This specification controls for time-invariant, ward-specific characteristics using ward fixed effects γ_w.[3] The inclusion of ward fixed effects restricts the sample to wards with variation in quota assignment. Specifically, it limits the sample to wards with at least one seat with caste quotas and one open seat without quotas. In a ward, all

[3]Because the analysis is done on cross-sectional data, the specification cannot control ward-year fixed effects.

seats share the same electorate (constituency). Hence, this identification strategy ensures that we compare seats with different quota status but the same electorate, thereby satisfying the assumption that baseline constituency characteristics are balanced by design. Alternatively, I use a specification with GP fixed effects instead of ward fixed effects to study the effects for the sample with all council member seats.[4]Table **??** highlights the differences in the samples for the specifications with ward fixed effects and GP fixed effects using the example of Aambad GP. The black and dark gray seats are part of the sample with GP fixed effects, while only the black seats are included in the sample with ward fixed effects, because variation in treatment assignment within a ward occurs only in Ward No. 3. Figure 4.3 compares key census characteristics between analysis sample GPs and the entire state sample. Additionally, Table A2 compares election statistics across samples.

Figure 4.3: Council Seats in Aambad GP (Ward Fixed Effects Sample)



To examine heterogeneity in the effects of caste quotas by marginalized group type (OBC, SC, and ST), I use the following specification:

$$Y_{swg} = \alpha + \beta_1 \text{SC Quota}_{swg} + \beta_2 \text{ST Quota}_{swg} + \beta_3 \text{OBC Quota}_{swg} + \gamma_w + \epsilon_{swg} \quad (2)$$

where SC Quota_{swg} takes a value of 1 if the seat has a quota for SC and 0 otherwise (i.e., seats without SC quota). I define the variables ST Quota_{swg} and OBC Quota_{swg} in the

[4]Note that this analysis uses cross-sectional data, leveraging spatial variation. While there are differences in the timing of GP elections across the state, this timing doesn't vary within ward, so the ward fixed effects account for these differences, as all seats within a GP or ward have elections at the same time.

same manner. The coefficient for the SC quota is the effect of the SC quota compared to seats without quotas, as the specification controls for seats with OBC and ST quotas. The same logic applies to the coefficients for the ST and OBC quotas. The identification assumption for this specification is the same as that of the above specification.

Lastly, I examine the effect of caste quotas for sarpanch seats in GPs where the sarpanch is directly elected. To do this, I use the following specification:

$$Y_{pbt} = \alpha + \beta \text{Caste Quota}_{pbt} + X'\theta_{pbt} + \gamma_b + \delta_t + \epsilon_{vbt} \tag{3}$$

where Y_{pbt} is an outcome of interest for a sarpanch seat in a GP p, block b, and election year t. Since the assignment rule for SC/ST quotas is based on the population shares of the GP in the block, I control for time-invariant block-specific characteristics as well as the shares of SC and ST populations in a GP according to the 2011 census. Additionally, I control for election year-specific characteristics.[5] The 27% OBC quotas are randomly assigned to the seats remaining after the assignment of SC/ST quotas and those reserved in the recent past. Furthermore, I exclude sarpanch seats in fully scheduled areas because there is no variation in treatment assignment within a block; this is because all seats are reserved for STs. The identifying assumption is that the assignment of quotas is quasi-random in the restricted sample, controlling for block-level characteristics, election year-specific factors, and the share of SC and ST populations in the GP.

5 Results

I begin by examining the effect of caste quotas on women's representation in council member seats, both on the ballot and in political office. Table 5.1 presents the results for two measures of representation: whether any candidate is a woman (Panel A) and whether the winner is a woman (Panel B). In the baseline specification, I use GP fixed

[5]Note that this analysis uses cross-sectional data, leveraging spatial variation. Since GP elections within a block occur over multiple years, election year fixed effects are meaningful alongside block fixed effects, as they are not collinear.

effects to account for time-invariant GP-level characteristics in Column (1). In Column (2), I include ward-specific fixed effects (instead of GP fixed effects) and present results for a restricted sample with variation in treatment assignment within a ward. Recall that the constituency is the same for all seats in a ward, and hence this is the preferred specification, as baseline characteristics are balanced by design.

In Panel A, I find that the likelihood of a woman contestant is approximately 5 percentage points higher in seats with caste quotas compared to seats without quotas in Column (1). In Column (2), the results indicate that caste quotas increase the likelihood of a woman contestant by 7 percentage points. All estimates are significant at the 1% level. Furthermore, the results in Panel B, for the likelihood of a woman winner, follow a similar pattern. The likelihood of a woman winning is approximately 6 percentage points higher in seats with caste quotas compared to open seats in Columns (1) and (2), respectively. All estimates are significant at the 1% level.[6]

Additionally, I examine whether the effects of caste quotas are robust to other common measures of women's candidacy in Table A4. The results for the proportion of women candidates (Panel A) and women winners (Panel B) are consistent across these measures.

To assess heterogeneity between types of caste quotas, Table A5 compares the effects of OBC, SC, and ST quotas on the representation of women. The results indicate that SC, ST, and OBC quotas increase the likelihood of any woman entering a contest, as well as the probability of a woman winning. In other words, the effects of caste quotas are not limited to or driven solely by a particular marginalized caste group.

Lastly, I examine the effect of caste quotas for sarpanch seats in GPs where the

[6]Note that the sample is smaller for analysis on likelihood of women winners. This is because I am unable to identify the winners for some seats in the candidate sample for the following reasons: (1) when two candidates received the same vote count, the winner was decided through a lottery and the dataset does not provide information on lottery outcomes; (2) in some cases, the vote information was missing or incorrect, as all candidates are shown to have polled the same number of votes (having the same rank), making the winner unclear. In Table A3, panel A presents the results on candidacy of members for the same sample as likelihood of winners, and the results look similar.

Table 5.1: Effect of Caste Quotas on Women's Representation

	(1)	(2)
Panel A: Outcome–Dummy for whether any woman candidate		
Caste Quota	0.054***	0.076***
	(0.0030)	(0.0060)
Control Mean	.132	.129
No. of Observations	65822	20970
Panel B: Outcome– Dummy for whether winner is woman		
Caste Quota	0.064***	0.064***
	(0.0025)	(0.0047)
Control Mean	.041	.051
No. of Observations	58454	19699
GP FE	Yes	-
GP Ward FE	No	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

sarpanch is directly elected (Table 5.2). In the baseline specification for sarpanch seats, I control for block fixed effects and election year fixed effects in Column (1). In Column (2), I additionally control for the shares of SC and ST populations in the GP. Consistent with the results for council member seats, I find that the likelihood of a woman contestant is approximately 13 percentage points higher in seats with caste quotas compared to seats without quotas (see Columns (1) and (2) in Panel A). These results are robust for alternative candidacy measures (see Table A6). Similarly, in Panel B, the probability of a woman winning is approximately 8 percentage points higher in seats with caste quotas compared to open seats, as shown in Columns (1) and (2).[7]

Table 5.2: Effect of Caste Quotas on Women's Representation for Sarpanch Seats

	(1)	(2)
Panel A: Outcome–Dummy for whether any woman candidate		
Caste Quota	0.13***	0.13***
	(0.014)	(0.015)
Control Mean	.17	.172
No. of Observations	4336	3947
Panel B: Outcome– Dummy for whether winner is woman		
Caste Quota	0.075***	0.076***
	(0.011)	(0.012)
Control Mean	.057	.057
No. of Observations	4279	3903
Block FE	Yes	Yes
Share SC pop.	No	Yes
Share ST pop.	No	Yes
Election Year FE	Yes	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a sarpanch seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Overall, the results provide strong evidence that caste quotas increase women's

[7] In Table A3, panel B presents the results on sarpanch candidacy for the same sample as the likelihood of winners, and the results look similar.

representation. The effect sizes range from 5 to 13 percentage points for the likelihood of any woman candidate and from 6 to 8 percentage points for the likelihood of a woman winner. These effects are substantial, given that the control mean is less than 0.14 for the likelihood of a woman candidate and less than 0.6 for the likelihood of a woman winning. This implies at least a 40% increase relative to the control mean in women's candidacy and more than a 100% increase in women's representation in office. In comparison, Cassan and Vandewalle (2021) and Karekurve-Ramachandra and Lee (2020) find effects ranging from 50% to 70% for the impact of gender quotas on the representation of marginalized groups. Furthermore, similar results for sarpanch and council member seats suggest that the impact of caste quotas does not depend on political stakes, electorate size, or demographic heterogeneity. In particular, the sarpanch is elected by a larger and more heterogeneous electorate and holds greater powers, while council members are elected from much smaller and more homogeneous electorates.

6 Discussion

In this section, I examine the mechanisms underlying the main results and conclude by discussing how the ward structure may influence these findings.

6.1 Mechanisms

Recall that the theory suggests that the impact on women's candidacy and their chances of winning occurs through two main channels: (1) differences in social norms between groups and (2) variations in political dynamics in open seats compared to seats with caste quotas. Below, I will examine the evidence for these factors as well as the alternative explanations mentioned before.

6.1.1 Explanations for Candidacy Results

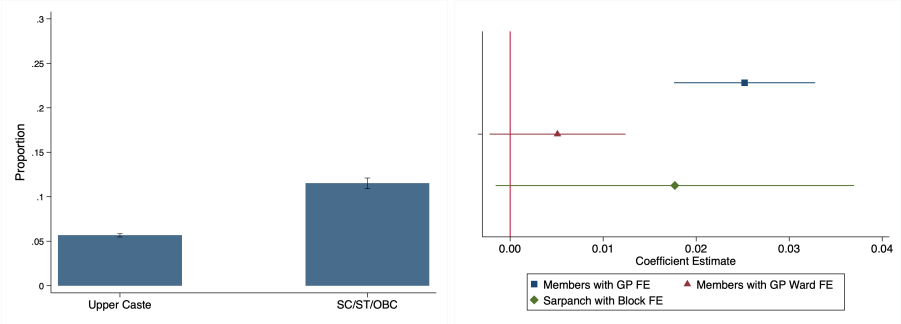
I first examine the mechanisms behind the 40% increase in women's candidacy in caste quota seats.

According to theoretical expectations, women of marginalized castes face lower

barriers to entry due to fewer mobility restrictions. If this mechanism drives the results, we should observe that even in open seats—where quotas do not play a role—marginalized-caste candidates are more likely to be women than upper-caste candidates. This would confirm that when seats are restricted to marginalized castes (who have more women willing to run), women's overall candidacy mechanically increases.

Figure 6.1 examines this relationship in open seats, which are typically dominated by upper-caste men. The left panel shows raw gender distributions by caste, revealing a larger gender gap among upper-caste candidates. The right panel presents regression results confirming that among candidates in open seats, those of marginalized castes are significantly more likely to be women (detailed results in Table A7). This pattern supports the hypothesis that marginalized-caste women face fewer barriers to political entry.

Figure 6.1: Caste, Gender and Candidacy in Open Seats



Notes: The left panel shows the raw distribution of women candidates by caste group (upper caste vs. SC/ST/OBC). The right panel presents regression estimates from candidate-level analysis, where symbols indicate point estimates and solid lines show 95% confidence intervals. The dependent variable is an indicator for female candidates, and the main independent variable indicates marginalized caste status. The regression includes ward and GP specific characteristics.

To verify that differential mobility restrictions drive this pattern, I examine survey evidence on gender norms. To do so, I use questions on gender norms from the women-only module of IHDS and regress the variables described above on an indicator that takes value 1 when the woman is from a marginalized caste and 0 if upper caste.[8]

Following Cassan and Vandewalle (2021), I analyze Maharashtra-specific data

[8] I use the following specification:

$$Outcome_i = \alpha_0 + \alpha_1 \text{Women from marginalized Caste}_i + \alpha_2 X_i + \epsilon_i \quad (4)$$

from the 2011-12 Indian Human Development Survey on women's mobility restrictions, public participation, and work patterns. Table 6.1 reveals striking differences between the caste groups. Marginalized-caste women are significantly more likely to travel alone for daily activities, less likely to need permission for mobility, and more present in public spaces including gram panchayat meetings. Crucially, they are less likely to practice purdah and more likely to have worked for wages. The lower prevalence of inter-caste marriage among marginalized castes further supports the role of purity norms, as preventing such marriages is a primary function of mobility restrictions.

An alternative explanation deserves consideration: upper-caste women might have better labor market opportunities that draw them away from politics. However, this seems unlikely for two reasons. First, female participation in the labor force in rural India is declining primarily among upper castes, as non-work has become a status signal (Munshi and Singh, 2024). Second, Table 6.1 Panel E shows that marginalized-caste women are more willing and allowed to work, suggesting that economic opportunities are not constraining their political participation.

Lastly, could political parties be driving these patterns by strategically nominating women in caste quota seats? While Jensenius (2016) documents this strategy in state elections, village elections differ crucially: candidates run without party tickets, and existing gender quotas mean parties need not use caste quotas to increase women's representation. Therefore, party strategies are unlikely to explain patterns in village elections.

6.1.2 Explanations for results on winning likelihood

Women are twice as likely to win caste quota seats compared to open seats. I examine three potential explanations: differential voter discrimination, increased candidacy, and reduced competition.

If voters discriminate less against marginalized-caste women than upper-caste

where $Outcome_i$ is the outcome of woman *i*, Women from marginalized caste$_i$ is a dummy variable, and X_i controls for age, marital status and education of the respondent.

Table 6.1: Inter-group differences in Gender Norms

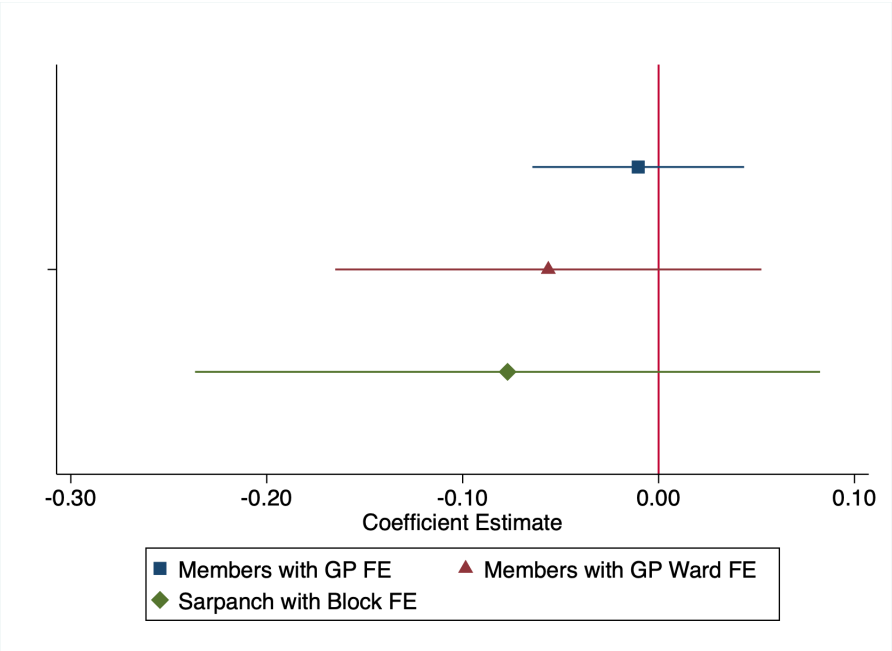
	Panel A: Doing outside home activities alone		
	(1) Visit grocery store	(2) Visit health center	(3) Visit friend
Women from marginalized caste	0.073***	0.097***	0.071***
	(0.015)	(0.015)	(0.015)
Control Mean	.758	.707	.738
No. of Observations	3362	3595	3468
	Panel B: Permission for outside home activities		
	(1) Visit health centre	(2) Visit friend	(3) Bus trip
Women from marginalized caste	-0.054***	-0.058***	-0.019
	(0.014)	(0.015)	(0.016)
Control Mean	.784	.736	.864
No. of Observations	3813	3766	2108
	Panel C: Presence in Public		
	(1) Member Political Party	(2) Member SHG	(3) Attend GP Meeting
Women from marginalized caste	0.00096	0.048***	0.045***
	(0.0047)	(0.011)	(0.011)
Control Mean	.01	.049	
No. of Observations	2142	2143	2139
	Panel C: Other norms		
	(1) Practice purdah	(2) Discuss Politics	(3) Inter-caste marriage
Women from marginalized caste	0.0095	0.16***	0.12***
	(0.017)	(0.025)	(0.021)
Control Mean	.555	.885	.232
No. of Observations	3813	3666	1967
	Panel E: Work		
	(1) Willing	(2) Allowed	(3) Have worked
Women from marginalized caste	0.12***	0.12***	0.25***
	(0.027)	(0.028)	(0.021)
Control Mean	.446	.418	.312
No. of Observations	1289	1275	2136

Notes: This table uses data on from 2011-12 Indian Human Development Survey. Each observation is a respondent from the women module. Women from marginalized caste takes value 1 if the women belong to SC, ST or OBC group and 0 if belong to a upper caste group. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

women, this could explain their electoral success. To test this, I examine the win rates conditional on candidacy in open seats (Figure 6.2). Contrary to this hypothesis, marginalized-caste women actually have a lower probability of winning than upper-caste women when both compete in open seats (Table A8). This rules out favorable voter bias as an

explanation.

Figure 6.2: Caste, Gender and Winning in Open Seats



Notes: This figure shows coefficient estimates from female candidate-level regressions. The outcome variable is whether the winner is female or not, and the main independent variable is an indicator if the candidate is from a marginalized caste. The analysis uses the same set of controls as the main specification. The symbols indicate point estimates and solid lines show 95% confidence intervals.

Table 6.2 examines the political competition mechanism: caste quota seats attract significantly fewer total candidates than open seats, indicating reduced political competition. This likely reflects the smaller pool of eligible households with political aspirations among marginalized castes. Despite this lower overall competition, women's candidacy rates are higher in these seats.

Hence, consistent with the theory, there is suggestive evidence that women's electoral success in caste quota seats operates through two complementary channels. First, increase in women's candidacy mechanically improves their chances—when more women run, the probability of a woman winning necessarily increases. Second, reduced competition amplifies this effect: with fewer total candidates, each woman candidate faces better odds than in crowded open-seat contests. Together, these mechanisms explain why caste quotas double women's likelihood of holding office.

Table 6.2: Effect of Caste Quotas on Political Competition

	(1)	(2)
Panel A: Ward members		
Caste Quota	-0.16***	-0.18***
	(0.0066)	(0.011)
Control Mean	2.273	2.333
No. of Observations	64707	20970
GP FE	Yes	-
GP Ward FE	No	Yes
Panel B: Sarpanch		
Caste Quota	-0.22***	-0.25***
	(0.048)	(0.048)
Control Mean	3.209	3.205
No. of Observations	4336	3947
Block FE	Yes	Yes
Share SC pop.	No	Yes
Share ST pop.	No	Yes
Election Year FE	Yes	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

6.2 Spillovers of ward structure

Although the analysis focuses on non-gender quota seats, women's candidacy choices are shaped by the configuration of the ward as a whole. Most wards include at least one reserved seat for women, which I exclude from the main sample. However, these excluded seats can affect women's strategic decisions in neighboring contests, creating important spillover dynamics.

To account for within ward candidate selection dynamics, I examine how my main results vary based on the type of excluded gender quota seat. For instance, Table 6.3 shows the seats in Aambad and Deothan GPs for the sample of wards with varying quota seats. Similar to Ward No. 3 in Aambad GP, Ward No. 6 in Deothan GP is included in the sample with ward fixed effects because there is variation in treatment assignment within the ward. However, the types of excluded gender quota seat differ: one seat is reserved for women in Aambad, while one seat is reserved for OBC women in Deothan.

Table 6.3: Seats in Aambad GP and Deothan GP

Ward name	Seat type
Ward no. 3 in Aambad GP	Open, OBC, Women
Ward no. 6 in Deothan GP	Open, ST, OBC Women

Notes: Quota status of each seat for two GPs in Akole, Ahmadnagar.

In seats with caste and gender quotas, only women from SC, ST, or OBC groups can run for office, while any woman can run in seats with only gender quotas. If mostly upper-caste women contest for women's quotas and, therefore, contest for fewer open seats in Aambad, then the effect of the caste quota may be overestimated. However, if seats with both women's and caste quotas are excluded, the effect of the caste quota may be underestimated. To study the heterogeneity by the type of gender quota seats, I

use the following empirical specification:

$$\begin{aligned} Y_{swg} = \alpha + \beta_1 \text{Caste Quota}_{swg} + \beta_2(\text{Caste Quota}_{swg} \times \text{Women Excluded}_{wg}) \\ +\beta_3(\text{Caste Quota}_{swg} \times \text{Caste Women Excluded}_{wg}) + \gamma_w + \epsilon_{swg} \end{aligned} \tag{5}$$

where Caste Quota$_{swg}$ $\times$ Women Excluded$_{wg}$ takes a value of 1 if the seat has a quota for SC, ST, or OBC and there is a women's quota seat in the excluded sample and 0 otherwise. Meanwhile, Caste Quota$_{swg}$ $\times$ Caste Women Excluded$_{wg}$ takes a value of 1 if the seat has a quota for SC, ST, or OBC and there is an OBC/ST/SC women's quota seat in the excluded sample.

Table 6.4 presents these results, comparing effects in the wards that exclude general women's quota seats versus those that exclude seats with both caste and gender quotas. This analysis helps distinguish between seat-specific effects of caste quotas and broader ward-level strategic considerations that might influence women's descriptive representation patterns.

The analysis reveals two key patterns. First, caste quotas primarily increase women's candidacy in wards where general women's quota seats (seats reserved for women without caste restrictions) are excluded. However, both women of marginalized castes and upper-caste women contest these gender quota seats in similar proportions, suggesting that gender quota seats are not dominated by women of any particular caste (see Figure B3). In other words, spillover effects or selection into gender quota seats by women of a particular caste are not driving the main results. Second, the impact of caste quotas on women winning elections is lower in wards where the excluded gender quota seats are doubly reserved (those with both caste and gender quotas). This suggests that women from marginalized caste groups prefer to contest in seats that combine both caste and gender quotas rather than compete against men from their own caste groups in seats with only caste quotas. Despite women's descriptive representation being higher in caste quota seats compared to open seats, this pattern makes sense as women may per-

ceive that contesting against men reduces their chances of winning even if they are all men from their own caste group. Hence, whenever a marginalized caste has the option of contesting a seat with both gender and caste quotas, they prefer it, as in such seats they do not have to face competition from men and only face women from their own caste group.

Table 6.4: Heterogenous Effect of Caste Quotas by Excluded Seat Type

	(1)	(2)
Panel A: Outcome– Dummy for whether any woman candidate		
Caste Quota	0.038***	0.033
	(0.0080)	(0.024)
Caste Quota x Women Excluded	0.057***	0.066***
	(0.0077)	(0.025)
Caste Quota x Caste Women Excluded	-0.021***	-0.016
	(0.0071)	(0.027)
Control Mean	.129	.129
No. of Observations	64705	20967
Panel B: Outcome– Dummy for whether winner is woman		
Caste Quota	0.052***	0.060***
	(0.0057)	(0.016)
Caste Quota x Women Excluded	0.033***	0.021
	(0.0056)	(0.017)
Caste Quota x Caste Women Excluded	-0.025***	-0.044**
	(0.0052)	(0.019)
Control Mean	.041	.051
No. of Observations	58454	19699
GP FE	Yes	-
GP Ward FE	No	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. Caste Quota x takes the value 1 if the seat is has caste quota and 0 otherwise Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

7 Conclusion

This paper examines how caste quotas impact women's descriptive political representation. Using novel administrative data on village elections in rural Maharashtra, I find

that caste quotas significantly increase women's representation—a 40% increase in women's candidacy and more than doubling their likelihood of winning office. Consistent with my theory, evidence suggests that this effect is driven by fewer mobility restrictions on marginalized caste women and reduced political competition in caste quota seats.

These findings extend to contexts with similar institutional arrangements and stratified social hierarchies, particularly other Indian states where caste-based gender norms operate similarly. However, important limitations bound these conclusions. First, the mechanisms identified depend on India's specific intersection of caste and gender, where upper-caste women face greater restrictions than marginalized-caste women. In contexts with different intersectional dynamics—such as Bolivia or South Africa, where indigenous or Black women face compounded disadvantages—quotas may produce opposite effects. Second, these dynamics may differ substantially in contexts where party gatekeeping dominates candidate selection, potentially nullifying the community-based mechanisms observed in village politics (Jensenius, 2016).

This study also faces data limitations that future research should address. While I demonstrate that caste quotas increase women's representation, I cannot definitively establish whether these women exercise independent political agency or serve as proxies for male family members—a critical distinction for policy effectiveness. The administrative data, while resourceful in comprehensive details on election outcomes, lacks information on post-election legislative behavior, policy choices, and constituency service. Future work may examine whether women elected in caste-quota seats pursue different policies than those in gender-quota seats, and whether they show greater independence in decision-making.

Several other social and structural aspects of electoral legislation merit further investigation. First, examining the general equilibrium effects of simultaneous caste and gender quotas would show how multiple quota systems interact. Second, tracking women's political careers from local to state politics would reveal whether caste

quotas create better advancement trajectories than gender quotas. Third, comparative analysis across Indian states with varying gender norms and caste hierarchies could identify scope conditions for positive spillover effects. Finally, experimental or quasi-experimental evidence on voter preferences for women candidates across caste groups would help systematically examine demand-side mechanisms.

These findings challenge conventional views that single-dimensional affirmative action inevitably creates new inequalities, as argued in recent cases like Students for Fair Admissions v. Harvard (2023). Instead, quota effects depend critically on how institutional rules interact with social hierarchies. This insight is particularly relevant given India's recent constitutional amendment reserving one-third of legislative seats for women—understanding how this interacts with existing caste quotas becomes crucial for anticipating outcomes. More broadly, success in affirmative action is not just a consequence of formal rules, as previously assumed, but also a result of interaction with social conditions. Future policy design should anticipate these interactions to capitalize on the unintended but potentially beneficial spillover effects of electoral quotas.

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Supplementary Information for "Do Electoral Quotas for Marginalized Ethnic Groups Improve Women's Representation? Evidence from India"

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A Additional Tables

Table A1: Comparing between Sample and Non-Sample GPs

	Full State	**Sample with GP FE**	**Sample with GP Ward FE**
Total Population	2155.144	2241.483	2696.55
	(1882.163)	(1949.908)	(2176.239)
Total Area(Km)	4054.506	4073.546	1033.997
	(150480.6)	(157669.6)	(10433.27)
Total Population	2155.144	2241.483	2696.55
	(1882.163)	(1949.908)	(2176.239)
Share SC	.124	.126	.136
	(.105)	(.104)	(.102)
Share ST	.154	.15	.142
	(.258)	(.249)	(.215)
N	19423	15735	3582

Table A2: Comparing Election Statistics between Sample and Non-Sample GPs

	Full State	**Sample with GP FE**	**Sample with GP Ward FE**
No. of candidates	2.317	2.246	2.253
	(1.043)	(.932)	(.859)
Whether any candidate is a woman	.168	.158	.175
	(.374)	(.365)	(.38)
No. of female candidates	.205	.186	.212
	(.509)	(.465)	(.503)
Prop. female candidates	.101	.096	.104
	(.253)	(.248)	(.251)
Female winner	.076	.071	.091
	(.265)	(.258)	(.288)
OBC Quota	.224	.226	.331
	(.417)	(.418)	(.471)
Open (No quota)	.473	.473	.366
	(.499)	(.499)	(.482)
SC Quota	.148	.151	.188
	(.355)	(.358)	(.391)
ST Quota	.156	.15	.115
	(.363)	(.357)	(.319)
N	71110	64705	20967

Table A3: Effect of Caste Quotas on Likelihood of a Woman Candidate

	(1)	(2)
Panel A: Members sample		
Caste Quota	0.083***	0.083***
	(0.0033)	(0.0061)
Control Mean	.096	.111
No. of Observations	57942	19165
Panel B: Sarpanch sample		
Caste Quota	0.13***	0.13***
	(0.014)	(0.015)
Control Mean	.171	.173
No. of Observations	4284	3904
GP FE	Yes	-
GP Ward FE	No	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A4: Effect of Caste Quotas on Women Candidacy

	(1)	(2)
Panel A: Outcome– Prop. women candidates		
Caste Quota	0.049***	0.051***
	(0.0021)	(0.0038)
Control Mean	.08	.074
No. of Observations	64707	20970
Panel B: Outcome– No. of women candidates		
Caste Quota	0.10***	0.11***
	(0.0041)	(0.0077)
Control Mean	.143	.147
No. of Observations	64705	20967
GP FE	Yes	-
GP Ward FE	No	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A5: Effect of Caste Quotas on Women's Representation by Caste Group

	(1)	(2)
Panel A: Outcome– Dummy for whether any woman candidate		
SC Quota	0.076***	0.078***
	(0.0048)	(0.0090)
ST Quota	0.080***	0.073***
	(0.0063)	(0.011)
OBC Quota	0.067***	0.076***
	(0.0038)	(0.0066)
Control Mean	.129	.129
No. of Observations	64707	20970
Panel B: Outcome– Dummy for whether winner is woman		
SC Quota	0.058***	0.057***
	(0.0038)	(0.0072)
ST Quota	0.066***	0.066***
	(0.0049)	(0.0087)
OBC Quota	0.068***	0.066***
	(0.0031)	(0.0053)
Control Mean	.041	.051
No. of Observations	58454	19699
GP FE	Yes	-
GP Ward FE	No	Yes

Notes: Table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. OBC Quota take value 1 if the seat has OBC quota and 0 otherwise. Similarly, I code SC and ST Quota. Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A6: Effect of Caste Quotas on Women Candidacy (Sarpanch)

	(1)	(2)
Panel A: Outcome– Prop. women candidates		
Caste Quota	0.078***	0.082***
	(0.0069)	(0.0076)
Control Mean	.061	.063
No. of Observations	4336	3947
Panel B: Outcome– No. of women candidates		
Caste Quota	0.22***	0.23***
	(0.021)	(0.023)
Control Mean	.202	.203
No. of Observations	4336	3947
Block FE	Yes	Yes
Share SC pop.	No	Yes
Share ST pop.	No	Yes
Election Year FE	Yes	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without any gender quotas. Each observation is a council member seat. Caste Quota takes the value 1 if the seat has caste quota and 0 otherwise. Column (1) provides results for all GP member seats, while Column (2) presents results for member seats with variation in treatment assignment within a ward. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A7: Relationship Caste and Women's Candidacy in Open Seats

	(1) Ward	(2) Ward	(3) Sarpanch
Marginalized Caste	0.025***	0.0051	0.018*
	(0.0039)	(0.0037)	(0.0098)
Control Mean	.055	.05	.06
No. of Observations	77229	73478	6836
GP FE	Yes	-	-
GP Ward FE	No	Yes	-
Block FE	-	-	Yes
Election Year FE	-	-	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to open seats. Each observation is a candidate. Marginalized Caste takes the value 1 if the candidate is from SC/ST/OBC caste and 0 otherwise. The outcome variable is 1 if the candidate is a woman and 0 otherwise. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A8: Relationship Caste and Women's Winnability in Open Seats

	(1) Ward	(2) Ward	(3) Sarpanch
Women from marginalized Caste	-0.010	-0.056	-0.077
	(0.028)	(0.055)	(0.081)
Control Mean	.51	.443	.33
No. of Observations	2042	1036	356
GP FE	Yes	-	-
GP Ward FE	No	Yes	-
Block FE	-	-	Yes
Election Year FE	-	-	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to open seats. Each observation is a female candidate. Women from marginalized Caste takes the value 1 if the female candidate is from SC/ST/OBC caste and 0 otherwise. The outcome variable is 1 if the candidate is a winner and 0 otherwise. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

Table A9: Women Candidacy, Caste Quotas and Women Winners

	(1) Ward	(2) Ward	(3) Ward	(4) Ward	(5) Sarpanch	(6) Sarpanch
Caste Quota	0.025***	0.0012	0.027***	0.0060***	0.025***	0.0032
	(0.0012)	(0.00079)	(0.0023)	(0.0015)	(0.0031)	(0.0024)
Control Mean	.035	.035	.024	.024	.018	.018
No. of Observations	164477	164477	157420	157420	15885	15885
Female Cand.	No	Yes	No	Yes	No	Yes
GP FE	Yes	Yes	-	-	-	-
GP Ward FE	No	No	Yes	Yes	-	-
Block FE	-	-	-	-	Yes	Yes
Election Year FE	-	-	-	-	Yes	Yes

Notes: This table uses data from village panchayat elections in Maharashtra between 2018 and 2022. The sample is restricted to seats without gender quotas. Each observation is a candidate. Caste Quota takes the value 1 if the seat is reserved for SC/ST/OBC and 0 otherwise. The outcome variable is 1 if the winner is female and 0 otherwise. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Standard errors are clustered at the GP level.

B Additional Figures

Figure B1: Seats in Aambegaon GP

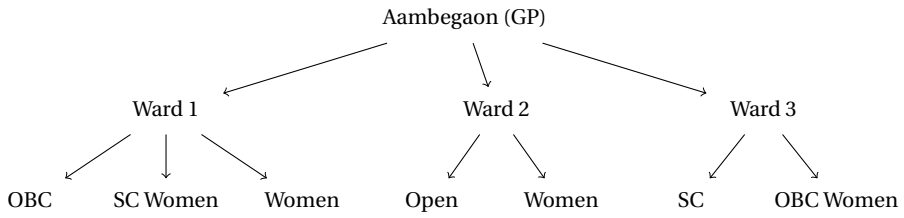
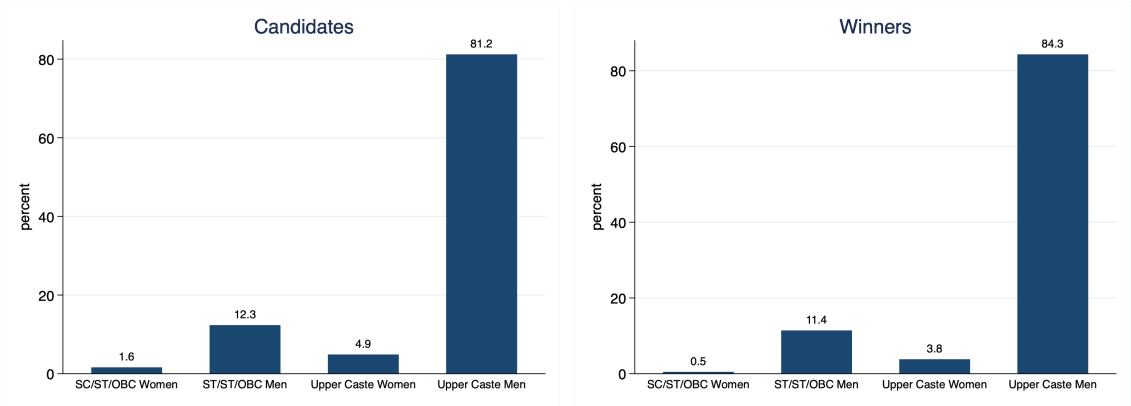
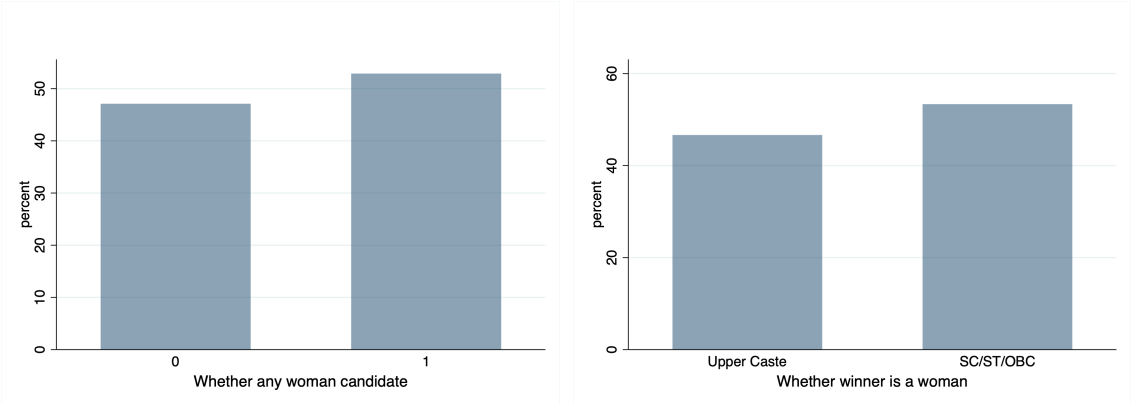


Figure B2: Gender and Caste in Open Seats



Notes: This figure shows the distribution of gender and caste in open seats.

Figure B3: Caste of Women Candidates in Seats with Gender Quota



Notes: This figure shows the percent of upper caste and SC/ST/OBC women candidates in seats with quotas for women but no reservations on caste.