

# Bringing in the New Votes: Turnout of Women after Enfranchisement.

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## **Abstract**

Under what conditions did newly enfranchised women turn out to vote at levels approaching men? This question is important because if women's turnout lagged behind men's, politicians' incentives to advocate for women's interests could remain weak even after suffrage. I argue that women's turnout approached parity with men's in localities with strong incentives to vote and to mobilize among the general population. This is because women faced de facto barriers to voting and were therefore more likely to vote and be mobilized under the most favourable circumstances. I then propose that electoral competition determines the strength of voting and mobilization incentives and therefore the gender turnout gap. Using sex-separated turnout data in Norway, I demonstrate that the gap narrows in high-turnout competitive districts in systems with single-member districts and in high-turnout within-district strongholds in proportional systems. I probe generalizability of my findings in New Zealand, Austria and Sweden.

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Women's suffrage constitutes a major achievement in women's political emancipation and was a major step towards women's incorporation into politics de jure across the globe. And yet, women's de facto incorporation into politics continues to be an ongoing process even in countries that enfranchised women over a century ago. Aware of the importance and pitfalls of women's suffrage, the suffragists hoped suffrage would open women's door to politics and representation of women's interests. And yet, the suffragists were also weary of women's barriers to voting (Wolbrecht and Corder 2020, ch.3) that threatened to continue hindering women's participation in politics de facto, and the subsequent representation of their interests (McCammon and Banaszak 2018; Teele 2018a,b). In this paper, I investigate the conditions under which women's turnout reached parity with men's after suffrage, arguably an important condition for women's political incorporation and substantive representation.

Classic scholarship perceives proportional representation (PR) as conducive to turnout, mobilization and representation (e.g. Lijphart 1994; Powell 1986). Karp and Banducci (1999) show that turnout in New Zealand after PR increased especially among minority voters. Kittilson and Schwindt-Bayer (2010, 2012) provide cross-national evidence that PR increases political engagement of women, while Skorge (2021) presents causal evidence from Norway that PR in municipal elections increased women's relative turnout to men. However, the type of an electoral system itself does not comprehensively explain cross-country variation in women's turnout at the turn of the twentieth century, which suggests presence of a powerful moderating variable. The gender turnout gap was sometimes narrower in countries with single member districts (SMDs) than in countries with proportional systems (PR) and varied greatly within both types of electoral systems (Figure A1). Instead, women's turnout appears to vary with men's turnout, approaching parity with men in countries where men's turnout was very high.

In this paper, I seek to explain the seemingly puzzling cross-national patterns in the gender turnout gap (Figure A1) and argue that in order to understand how electoral systems shape the gender turnout gap at the national level, we need to unpack the conditions under which voting and mobilization in the general population is incentivized at the local level within systems. Het-

erogeneity of electoral rules and contexts *within* countries is known to give rise to dramatically different outcomes (Cox, Fiva and Smith 2016; Kedar, Harsgor and Sheinerman 2015) and even has profound effects for whose preferences get represented (Jusko 2017). Indeed, Skorge (2021) raises questions about the conditions under which PR narrows the gender turnout gap and suggests that both electoral competition and social networks matter. Building on this research, I advance a general theory of how the strength of voting and mobilization incentives in the general population shape the gender turnout gap, and therefore moderates the impact of *any* electoral system on the gender turnout gap.

Using the historical example of the first wave of women's suffrage at the turn of the twentieth century in the West, I present my argument in two steps. First, I argue that the gender turnout gap should narrow when incentives to vote and to mobilize in the general population are very strong *or* very weak regardless of the type of an electoral system. Departing from instrumental accounts, I model women's cost of voting to be greater than men's on average. When incentives to vote and to mobilize strengthen from moderate to high, even voters with relatively high voting costs will vote. Given that women are modeled to be disproportionately among high-cost voters, strengthening incentives from moderate to high will 'bring' more women than men voters. In turn, when these incentives weaken from moderate to low, only low-cost voters will vote. Given that men are modeled to be disproportionately among low-cost voters, this weakening of incentives from moderate to low will 'lose' more men than women voters and therefore also close the gender turnout gap.

In probing the theorized U-shaped relationship between the strength of voting and mobilizational incentives and the gender turnout gap, I take advantage of turnout data collected separately by sex in Norway after suffrage. I argue that men's turnout can serve as a proxy for the strength of voting and mobilizational incentives and show that the gender turnout gap narrows as men's turnout approaches its minimum or maximum under *both* SMDs and PR. This shows that women's propensity to vote at par with men cannot be thought of separately from the strength of general incentives to vote and to mobilize regardless of the type of an electoral system.

Building on these insights, I then argue that in order to understand how electoral systems shape the gender turnout gap at the national level, we need to unpack the conditions under which voting and mobilization is incentivized at the local level within electoral systems. I then formulate two hypotheses for salient elections, where incentives to vote and to mobilize are typically moderate to high. [1] Gender turnout gap should narrow with district electoral competition, because it provides the most favorable circumstances to voting and mobilization of high-cost voters. This should be especially in electoral systems with SMDs, where the incentives to vote and to mobilize typically vary across districts, so that a meaningful competition-on-gap effect can be detected (Cox, Fiva and Smith 2020). [2] Gender turnout gap should narrow with within-district electoral concentration, because it provides the most favorable circumstances to voting and mobilization of high-cost voters. This should be especially in countries with PR, where stronger linkages between social groups, parties and strongholds (Powell 1986; Cox 1999) are more likely to foster secondary mobilization and therefore general incentives to vote and to mobilize.

The argument that competition increases mobilization of women relative to men is consistent with the seminal study of American women's turnout after suffrage by Corder and Wolbrecht (2016, p.262). They find that women's turnout lagged the most behind men's in uncompetitive presidential state-level contests and argue that newly enfranchised women behaved as peripheral voters - relying on the 'extra' stimuli spurred by competition. This paper thus builds on Corder and Wolbrecht (2016) and extends the focus to both *across* and *within* electoral *districts* in various systems. In doing so, I argue that while district electoral competition provides the most conducive context to women's turnout relative to men, especially in SMDs, within-district electoral competition provides the least conducive context, especially in PR. On the one hand, these findings lend support to the applicability of Corder and Wolbrecht's theory to PR, as the competition-on-gap effect (i.e. peripheral voting tendencies) remain relevant even under PR. On the other hand, these findings uncover the somewhat surprising *reversal* of the competition-on-gap effect in PR.

In testing the competition-on-gap effect across electoral systems, I again use parliamentary election data from Norway after suffrage and show that women's turnout approached parity with

men's in competitive single-member districts and in uncompetitive within-district strongholds after the implementation of PR. This is consistent with a theorized relationship for salient elections, where general incentives to vote and to mobilize are mostly moderate to high. I then show that this result is robust to specifications that control for local socio-economic characteristics and to specifications with locality and election fixed effects, casting doubts on the possibility that the result is confounded by different 'types' of women and men across localities.

The robustness of these findings is further strengthened by an additional test analogous to Cox, Fiva and Smith (2016). I show that the gender turnout gap narrowed by the largest amount in the least competitive pre-reform SMDs after the PR reform. This supports the theoretical argument that the gender gap is determined by the strength of voting and mobilization incentives shaped by district competition and casts further doubts on the possibility that narrowing of the gap is confounded by socio-economic characteristics of localities. After establishing the robustness of the competition-on-gap effect, I probe the theorized mechanisms using data on district-level election ads and within-district local party organizations. I then demonstrate generalizability of the main finding to three additional countries: New Zealand, Sweden and Austria.

This paper has implications for women's substantive representation. If turnout is an important precursor to representation of group interests, then favorable electoral context may spur turnout and subsequent representation of women even in the virtual absence of women politicians or inclusive institutions (Catalano Weeks 2019; Celis and Childs 2020; O'Brien and Piscopo 2019).

## **Women's Turnout After the First Suffrage Wave in the West**

While the vast majority of studies of the gender turnout gap examines the post-war period, scholars have begun to re-examine two classic explanations using pre-war data: social networks and institutions.

In a classic study of women's post-war participation, Burns, Schlozman and Verba (2001, p.359-60) uncover how structural inequalities limit women's political participation. However, ac-

cess to education and resourceful employment was institutionally restricted for most women at the turn of the twentieth century, which may somewhat limit its explanatory power. The historical scholarship thus focuses on women's associations that provided relevant resources to politicians (Teele 2018a,b), as well as to women voters. Carpenter and Moore (2014) demonstrate that American women's engagement in anti-slavery petitions enabled the development of networks and skills that were essential for later women's activism. More directly, Carpenter et al (2018) demonstrate that states with higher petitioning activity for suffrage showed higher women's turnout after suffrage. In turn, Morgan-Collins (2021) finds that states with strong suffrage movements demonstrated greater women's ability to vote and coordinate at the polls after suffrage. Most recently, Morgan-Collins and Natusch (2021) argue that the opportunity to forge local networks was especially relevant for working-class women in Sweden who were less likely to participate in formal associations.

Another strand of classic scholarship identifies the importance of inclusive institutions. Most notably, Kittilson and Schwindt-Bayer (2010, 2012) analyze survey data from 34 countries and show that disproportionality is associated with a wider participation gap. They argue that this is because PR spurs mobilization and symbolizes inclusiveness. Recent scholarship into historical gender gaps confirms the importance of inclusive institutions, whilst raising questions whether institutions alone are sufficient. Kim (2019) shows that direct democracy mobilized women after suffrage in Sweden and attributes this effect to greater openness women's voices. However, Corder and Wolbrecht (2016) find that state-level contests spurred women's turnout after suffrage in the U.S, suggesting that the gender gap varied extensively within the same institutional context. Importantly, Skorge (2021) argues that the introduction of PR in municipal elections in Norway spurred greater party mobilization and therefore narrowed the early gender turnout gap, but also suggests that these effects were conditional on competition and strong women's associations.

In this paper, I tie together the recent advances in this scholarship and advance it by exploring how electoral competition, underpinned by the strength of social networks, shapes women's turnout relative to men within electoral systems.

# **Barriers to Voting Faced by Women at the Turn of the Twentieth Century in the West**

In this section, I highlight how cultural, structural and institutional barriers to voting impeded women's ability, motivation and opportunity to use their newly gained voting rights.

**Cultural Barriers** The exclusion of women from formal politics fostered gendered socialization of women that scholars know to hinder participation (Burns, Schlozman and Verba 2001, p.8; Iversen and Rosenbluth 2006). Prior to women's formal entry to the electorate, the ideology of 'separate spheres' effectively encouraged women's socialization as that of 'non-political beings' (Baker 1984 on U.S.; Blom 2012 on Scandinavia). American women who reached voting age before 1920 were mobilized less often by politicians decades later, presumably because parties determined they would struggle to get out the vote of women socialized into the idea that 'politics was for men' (Rosenstone and Hansen 1993, p.164). While it was frequently argued that married women would double the votes of their husbands (Duverger 1955 on West), not all married women voted (Tingsten 1937, ch.3 on West). Indeed, some first women non-voters cited husband's objections or fears of canceling the vote of their husbands as reasons for abstention (Merriam and Gosnell 1924, ch.5 on U.S.). Similarly, global survey data continue to show that women and men born early in the twentieth century are most likely to agree that men make better political leaders than women (Norris and Inglehart 2001).

**Structural Barriers** While women's employment in clerical and service sectors after World War II fostered women's political participation (Burns, Schlozman and Verba 2001, ch.8), women's ability to draw on resourceful employment at the turn of the twentieth century was limited. When the first women were enfranchised at the turn of the twentieth century, only about a third of women was typically employed in full time outside employment that provided independent income (Mitchell 1998). Without access to state-funded childcare and robust maternity policies, childbearing responsibilities hindered women's entry into the labour force (Goldin 1990 on U.S.). In addition, women's employment outside the home was depressed by marriage bars and wage dis-

crimination (Costa 2000 on OECD countries). The expectation that single working women leave employment upon marriage also disincentivized unionization, which further limited women's opportunities to draw on the mobilizational potential of their employment (Stanfors 2003 on Sweden).

**Institutional Barriers** While electoral laws after women's suffrage rarely referenced women explicitly, the existing institutional context often continued to disproportionately affect women. As suffragists sought to distribute information on how to register and ensure women's eligibility to vote (Morgan-Collins 2021 on U.S.; Grimshaw 1987, ch.10 on New Zealand), restrictive registration requirements discouraged turnout especially among women (Corder and Wolbrecht 2016 on U.S.). Up to 4 million women in the U.S. South were de facto disenfranchised by poll taxes (Podolefsky 1997), while single mothers in Sweden were more likely than men to lose their vote as recipients of poor relief (Sjogren 2013). Without access to childcare, long distances to the polling station also disproportionately disincentivized women's turnout (Andersen 1996, p.50-1 on U.S.; Rokkan and Valen 1962 on Norway).

In the section that follows, I theorize *how* barriers to voting that were disproportionately faced by women affected women's turnout.

## **Theoretical Framework: Explaining Gender Turnout Gap After Suffrage**

The cultural, structural and institutional barriers to voting placed hefty demands on women voters. In this section, I model those barriers as a higher cost of voting faced by women relative to 'similar' men.<sup>1</sup> The cost of voting, referred to as the 'C' term in rational choice models, entails the cost of

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<sup>1</sup>Some barriers would seem to be better captured by a 'D' term. If women face cultural barriers to voting, for example, their sense of duty to vote may be lower than men's. I therefore do not restrict the 'C' term to positive numbers, with some people having a 'negative' cost of voting. This may be conceptually understood as combining both 'C' and 'D' terms into a single 'C' term.

making a decision on how to vote and the cost of the act of voting (Blais 2000, ch.4). If social norms dictate that ‘politics is for men’, structural barriers limit women’s access to resources, and institutional context disproportionately affects women, women’s cost of voting should considerably increase relative to men.<sup>2</sup>

Whilst barriers to voting were especially high for women at the turn of the twentieth century, and were present in most countries well into the twentieth century, the magnitude of those barriers is likely to vary considerably in time and space. Modeling women’s cost of voting as greater than men’s therefore seems somewhat less applicable to countries that enfranchised women long after World War II, when positive developments in education, employment and public attitudes towards women’s presence in politics may have significantly reduced the difference between women’s and men’s cost of voting. This may also be the case in electoral dictatorships where turnout otherwise reflects support for the regime or in newly independent states where universal women’s and men’s suffrage was typically introduced at the same time.

In the theory section, I first theorize how the difference in the cost of voting between women and men shapes women’s turnout relative to men. Building on these insights, I then theorize how electoral competition within electoral systems affects women’s relative turnout.

## **When Do Women Vote More Relative to Men?**

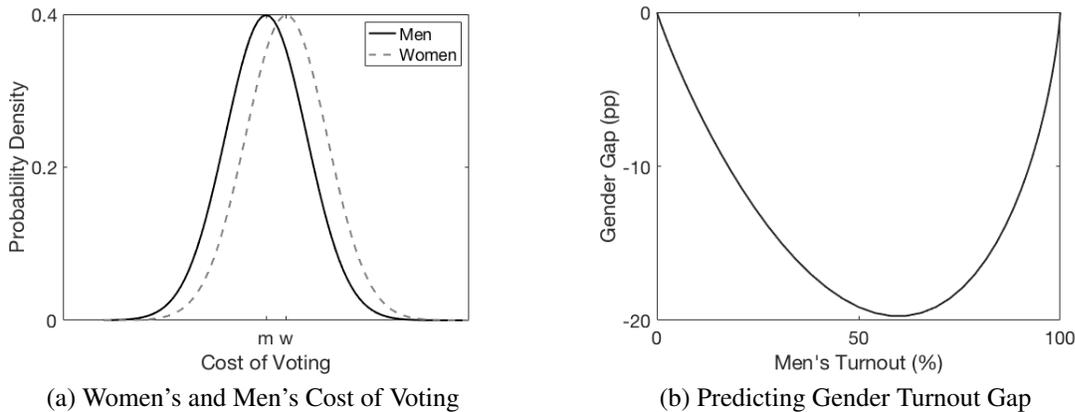
Let’s assume that the cost of voting follows a normal distribution of a similar shape for both women and men, but that half of the population that is women faces a slightly higher cost of voting on average (Figure 1a). That is, women’s cost curve is slightly shifted to the right and there are therefore fewer women than men among the electors with a low cost of voting, and more women

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<sup>2</sup>If women were more easily persuaded by their husbands or by parties (e.g. Duverger 1955), their cost of making a decision on how to vote may have been lower than men’s. However, all women nonetheless first had to overcome barriers to the act of voting, such as internalizing that politics was for them, and those barriers remained greater than that of ‘similar’ men.

than men among the electors with a high cost of voting. This seems plausible. First, factors such as political interests or access to information that determine voting costs are typically normally distributed in the population. Second, other socio-economic characteristics typically show stronger impact on turnout than sex (Corder and Wolbrecht 2006, p.46), which should push the cost curves fairly close together. If the cost curves were very far apart, we would expect very wide gender gaps in most localities and the widest gap at a very high level of men’s turnout (see Figure A2a,b), which is not consistent with the data (see Figure A14).<sup>3</sup>

Figure 1: When Do Newly Enfranchised Women Vote More Relative to Men?



(a) Women’s and Men’s Cost of Voting  
 Notes:  $m(w)$  median cost of voting for men(women)

If women face a higher cost of voting than men on average, we would expect women’s turnout to lag behind men’s. This is because the expected benefit of voting for women or mobilizing women will be less likely to outweigh the voting and mobilization costs for women than for men. However, the extent to which women vote and are mobilized relative to men should depend on the strength of incentives to vote and to mobilize in the general population - that is on the proportion of the electorate for whom the expected benefit of voting and mobilization exceeds the costs. The distinct feature of the traditional measure of women’s relative turnout to men, the difference

<sup>3</sup>It is nonetheless possible that the cost of voting varied to a greater extent for women than for men, which may also push the widest gender gap to a very high level of men’s turnout (see Figure A2c,d).

between women's and men's turnout known as the gender turnout gap, is that it narrows when incentives to vote and to mobilize in the general population are very strong or very weak.<sup>4</sup>

For example, imagine that the incentives to vote and to mobilize are moderate, such that the expected benefit of voting and mobilization exceeds the costs for about half of all electors. In Figure 1a, this would be when everyone with a cost of voting exactly in between  $m$  and  $w$  votes, resulting in about 20% turnout gap in this example. If voting and mobilization incentives strengthen from moderate to high, disproportionately more women than men decide to vote because there are more women than men among high-cost voters. On the other hand, if voting and mobilization incentives weaken from moderate to low, disproportionately more men than women are disincentivized to vote because there are more men than women among low-cost voters.

Perhaps the most straightforward way to proxy the strength of incentives to vote and to mobilize in the general population is men's turnout. As men's turnout increases, we should see women's turnout first to increase at a slower pace, and then at a higher pace than men's. That is, there should be a U-shaped relationship between the gender turnout gap and men's turnout. This is illustrated in Figure 1b, which uses density distribution in Figure 1a and plots the difference between the cumulative probability of voting distribution for men and women (gender gap) against the cumulative probability of voting distribution for men.

Using men's turnout to proxy the strength of voting and mobilization incentives seems useful in understanding patterns of women's relative turnout across localities, but it does not tell us how electoral systems shape women's relative turnout. In the next section, I discuss how electoral competition captures the strength of incentives to vote and to mobilize in both types of electoral systems and therefore predicts women's relative turnout to men.

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<sup>4</sup>The U-shaped relationship is specific to the gender gap measure. Women's share among voters, for example, increases with strengthening incentives to vote and to mobilize in the population. Robustness of key results to this alternative measure is demonstrated in Figure A8.

## **How Electoral Competition Shapes the Gender Turnout Gap.**

Electoral competition is arguably one of the strongest predictors of voting and mobilization incentives. In this section, I hypothesize how it also determines the gender turnout gap. I have argued that the relationship between the strength of voting and mobilizational incentives and the gender turnout gap is U-shaped, which should translate into a U-shaped relationship between competition and the gender gap. However, this is dependent on the extent to which competition can incentivize or disincentivize voting and mobilization, that is on which proportion of the electorate is mobilized or demobilized with competition. For example, the competition-on-gap effect should be uni-directional if competition spurs voting and mobilization incentives from moderate to very high. In salient elections where those incentives are likely to be moderate to high across most localities, I therefore hypothesize that there is a uni-directional relationship between competition measures and the gender turnout gap.

### **District Electoral Competition**

Classic research suggests that propensity to vote in the general population increases with district-level electoral competition (e.g. Powell 1986; Aldrich 1993; Cox 1999). I outline below how district competition shapes not only turnout in the general population, but also women's relative turnout to men.

**Parties.** If politicians are incentivized to mobilize in the most competitive districts, the gender turnout gap may narrow because of party behavior. While some electors vote no matter what, perhaps because they have a negative cost of voting, others need to be mobilized in order to vote. Among electors with a positive cost of voting, parties have an incentive to mobilize electors with lower cost of voting than higher cost of voting, because mobilization efforts expended on high-cost voters is likely to yield fewer votes. However, even high-cost voters, who are disproportionately women, may be mobilized in the most competitive district. This is because the closeness of elections increases the probability that mobilization effort determines the election outcome, and

therefore the expected benefit of mobilization is more likely to exceed the relatively higher costs of doing so. Whether women's turnout increases with electoral competition faster than men's then depends on which section of the electorate politicians have an incentive to mobilize as competition increases. In *salient* elections where substantial proportion of the electorate typically votes, politicians are likely to mobilize high-cost voters at the right tail of the cost distribution. In this case, there will be more women than men among the electorate that is to be mobilized, and electoral competition should spur turnout of more (new) women than men. Another way of thinking about this is that while politicians have an incentive to mobilize women less often than men, they may mobilize voters at the tail of the cost distribution, who are disproportionately women, when voters with lower cost of voting, who are disproportionately men, already made their decision to vote or have already been mobilized.

**Voters.** To the extent that voters pay attention to pivotal probabilities,<sup>5</sup> the gender turnout gap may also narrow in the most competitive districts because of voter behavior. Even though electors with high voting costs are less likely to vote, they may be incentivized to vote if electoral competition is high - that is when the expected benefit of voting is more likely to exceed their relatively high voting costs. While the 'p-term' in rational voting models will typically be very low - begging the question whether rational voting models can explain turnout - voter's rational calculations is more likely to remain important for the competition-on-turnout effect if one's decision to vote can bring several votes through 'turnout cascades' (Fowler 2005) or if we can think of voting costs to be very low (Blais 2000) or negative for most voters - perhaps because some voters pay socially or psychologically for not voting (Gerber, Green and Larimer 2008; Abrams, Iversen and Soskice 2011). These processes can also be strengthened if mobilization efforts in competitive districts increase information availability and therefore reduce the costs of voting there (Aldrich 1993). Whether women's turnout increases with electoral competition faster than men's with dis-

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<sup>5</sup>If we expect women to face barriers to information, it seems likely that women would be especially unlikely to pay attention to pivotal probabilities. If, on the other hand, women's barriers are mostly to the act of voting rather than to making a decision, then this may be less of an issue.

district competition then again depends on which section of the electorate is incentivized to vote with competition. In *salient* elections where majority of the electorate typically votes, increasingly more women than men should be incentivized to vote as district competition increases.

**Electoral Systems.** To the extent that district competition spurs substantial turnout even among high-cost voters at the tail of the cost distribution, turnout of women relative to men should increase with district competition in any electoral system. However, I expect the effects of district competition on the gender turnout gap to be most relevant in systems with SMDs. As district magnitude increases in PR, parties face more opportunities to affect the election outcome, and voters to cast a decisive vote in all districts. This increases electoral competition across all districts and the competition-on-turnout effect is unlikely to be statistically or substantively meaningful (Cox, Fiva and Smith 2020). It follows that if there is no competition-on-turnout effect, then there should also be no competition-on-gap effect.

Hypothesis 1: *To the extent that general incentives to vote are moderate to high (such as in salient elections where at least half of electors typically votes), women's turnout approaches men's as district electoral competition increases. This should be especially in systems with single member districts.*<sup>6</sup>

### **Within-District Electoral Competition**

Classic research suggests that propensity to vote in the general population also varies with electoral competition within electoral districts (e.g. Campbell 2010, ch.2; Huckfeldt and Sprague 1995, ch.12; Putnam 1966). I outline below how within-district competition, measured as electoral concentration, shapes not only turnout in the general population, but also women's relative turnout to men.

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<sup>6</sup>If voting incentives were not sufficiently high, opposite relationship would be expected - although this is less likely in salient elections, where turnout is likely to be above 50% in most districts.

**Parties.** If parties are incentivized to mobilize in their electoral strongholds, the gender turnout gap may narrow with electoral concentration because of party behavior. This is because pivotal probabilities not only reflect how votes are translated into seats (as indicated by district electoral competition), but also how efforts translate into votes (Cox, Rosenbluth and Thies 1998). That is, while the probability of translating votes into seats is the same everywhere within a given district, the probability of translating efforts into votes, and therefore a chance to affect the outcome ('p-term'), is likely to be higher in within-district strongholds. There are two reasons to believe that efforts will translate more easily into votes in strongholds.<sup>7</sup> One, anyone targeted by parties in strongholds is more likely to vote for that party. Two, anyone targeted by parties in strongholds is more likely to bring additional votes from spill-over mobilization of 'like-minded' individuals within their network of family, friends, co-workers, neighbors and co-members of local organizations. In other words, while secondary mobilization is important across all localities, it is more likely to solicit votes in party strongholds where networks are more likely to contain members of the same party (Putnam 1966). In strongholds, parties may be able to target only the most influential electors within each network or sub-contract mobilization to organized networks (Cox 1999; Rosenstone and Hansen 1993, p.31, also see Harvey 1998, ch.4 on women).<sup>8</sup> This concentration of mobilization efforts into strongholds then shapes the size of the gender turnout gap. As the probability that mobilization efforts determine the election outcome increases with electoral concentration, the expected benefit of mobilization is more likely to exceed the costs of mobilizing high-cost electors at the right tail of the cost distribution. Whether women's turnout increases with electoral concentration faster than men's depends on which section of the electorate politicians

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<sup>7</sup>This may not be the case if the number of voters across localities vary greatly, but see robustness to using a raw vote margin in Table A4.

<sup>8</sup>The secondary mobilization of women may entail either mixed-gender networks, such as churches, or gender-specific networks. For example, women's socialist clubs were seen as crucial vehicle for women's mobilization by the party, especially in electoral strongholds (Västberg 1939, p.142 on Sweden).

have an incentive to mobilize. In *salient* elections where more than half of the electorate typically votes, there will be more women than men among the electorate that is to be mobilized and electoral concentration will therefore narrow the gender turnout gap.

**Voters.** To the extent that voting becomes easier in electoral strongholds, the gender turnout gap may also narrow in within-district strongholds because of voter behavior. This may be because ‘turnout cascades’ (Fowler 2005) increase voters’ pivotal probabilities especially in strongholds, where one’s most immediate network is more likely to share partisan affiliations. These processes may also be strengthened if the cost of voting is reduced for majority electors in electoral strongholds. If political ‘like-mindedness’ of electors increases social pressure to vote (Gerber, Green and Larimer 2008; Abrams, Iversen and Soskice 2011) or eases information flows between voters, voting may become easier in strongholds (Powell 1986).<sup>9</sup> These processes increase voting propensity in electoral strongholds and therefore shapes women’s relative turnout to men. In *salient* elections where propensity to vote is sufficiently high across all localities, there will be more women than men among the electorate that is incentivized to vote and electoral concentration will narrow the gender gap in turnout.

**Electoral Systems.** To the extent that within-district competition incentivizes substantial turnout among high-cost voters at the right tail of the cost distribution, turnout of women relative to men should increase in strongholds in all electoral systems. However, I expect the effects of within-district competition on women’s turnout relative to men’s to be more consistently relevant in PR. If we expect the concentration-on-turnout effect to be limited to the most competitive districts, the overall effect of HHI in SMDs vs PR is likely to weaken. But perhaps more importantly, parties and voters are more likely to take advantage of secondary mobilization in PR than in SMDs. In PR, more parties typically emerge and those parties typically occupy distinct ideological positions (Fiva and Hix 2021 on Norway). This enhances secondary mobilization in strongholds for two

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<sup>9</sup>While minority electors are likely to face cross-cutting networks and therefore abstain in strongholds (Huckfeldt and Sprague 1995), their abstention is likely to be offset by higher turnout among majority electors, fostering turnout overall.

main reasons.

First, greater number of parties typically enable a tighter link between social groups and political parties (Cox 1999; Powell 1986). With greater social homogeneity among party supporters, characteristics such as occupation, religion or ethnicity better predict vote choice, and parties can develop stronger ties with organized groups, such as trade unions. Second, greater number of parties typically enable a tighter overlap between social groups and electoral strongholds. If electoral strongholds consist of several social groups that have strategically coordinated on viable candidates, such multi-group strongholds may fail to facilitate secondary mobilization. The sharper the group-party links and the group-stronghold overlap, the easier it is for parties to identify potential supporters and to exploit secondary mobilization through social (informal and formal) networks in strongholds. Similarly, the easier it is for voters to vote, as cues from one's immediate social network are less likely to contradict (Powell 1986).

*Hypothesis 2: To the extent that general incentives to vote are moderate to high (such as in salient elections where at least half of electors typically votes), women's turnout approaches men's as district electoral concentration increases. This should be especially in proportional systems.*<sup>10</sup>

## Case Selection

In order to probe the theoretical framework, I focus on the case of Norway that elected its representatives in single member districts with a plurality run-off at the time of women's suffrage, and adopted PR shortly after suffrage in 1919. In order to probe the generalizability to other cases that enfranchised women in the first suffrage wave in the West, I take advantage of the relative availability of sex-separated data at the turn of the twentieth century (Table A7) and collect these in three additional countries: New Zealand, Austria and Sweden (Table A8). The sample therefore consists of two countries with SMDs (Norway before 1921, New Zealand) and three with PR

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<sup>10</sup>As above, if voting incentives were not sufficiently high, opposite relationship would be expected - although this is less likely in salient elections.

(Austria, Sweden, Norway after 1921). Besides different electoral system, the four sampled countries encompass three distinct ‘regions’ (Table A7), which are associated with different historical, cultural and institutional features, and thus provide strong basis for generalization across countries that enfranchised women at the turn of the twentieth century in the West. The selection of Sweden along with Norway overrepresents the Scandinavian region, but allows me to exploit variation in the type of electoral system (Norway’s SMDs vs Sweden’s PR) in cases that have several historical, demographic and economic commonalities.<sup>11</sup>

## **The Case of Norway**

### **Data and Variables**

The main data set consists of within-country, sex-separated election data in Norway between 1909 and 1927. This time span captures (i) the first election after the first suffrage reform that enfranchised tax-paying women (1909), (ii) the first election after the second reform that enfranchised non-tax-paying women (1915) and (iii) the first election after Norway switched from a single member district system with a two-round plurality run-off to PR (1921). Election data before the adoption of PR always refer to a decisive round that elected an MP, that is the first round if a winner was determined in the first round, and the second round if a winner was determined in the second round (see also Cox, Fiva and Smith 2016).<sup>12</sup> Summary statistics and description of key variables

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<sup>11</sup>For example, both countries followed a similar pathway to male suffrage expansion and shared demographic and economic similarities at the time of women’s suffrage, such as the percentage of industrial workers and urban population (Mitchell et al 1998).

<sup>12</sup>The runoff was open to any number and type of candidates. While some candidates chose not to run to allow voters to coordinate on an ‘allied’ candidate, it was also common that some parties entered a new candidate in the second round, or withdrew a second candidate for their party (Fiva and Smith 2017). One way to perceive the first round is therefore as a ‘testing ground’ in districts

in Table A1. In the remainder of this section, I discuss the measurement of key variables.

**Turnout.** The dependent variable of primary interest is calculated as the percentage point difference between women's and men's turnout (gender turnout gap).<sup>13</sup> I also run all models separately for women's and men's turnout, which helps to confirm that any 'narrowing' of the gender gap is indeed driven by women, rather than by a decrease in men's turnout. Figure A3 plots women's and men's turnout from 1909 until 1927 and shows that women's turnout lagged behind men's in every election at least until 1927. Adding non-tax-paying women in 1915 widened the difference between women's and men's turnout, while adopting PR in 1919 increased turnout of both women and men and narrowed the difference between them.

**Competition.** The key independent variable is proxied with two indicators. At a district level, I calculate a winner-runner up district margin as a percentage point difference between the top two candidates.<sup>14</sup> As above, the district margin in 1909 and 1915 is calculated in the decisive round. At the within-district level, I calculate a Herfindahl-Hirschman index of party concentration (henceforth HHI).<sup>15</sup> The key independent variables are calculated at time  $t$ . This allows me to implement consistent coding in all cases, that is even when data for the last election before women's

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without a clear frontrunner, where voters and parties could employ strategies which would have been more risky in districts with a clear frontrunner, such as running two candidates from a single party or voting for a small party.

<sup>13</sup>Another way to measure women's relative turnout is women's share among all voters. I demonstrate that all key results are robust to using women's share of voters (Figure A8).

<sup>14</sup>In calculating the district level margin in PR (Table A5), I follow Cox, Fiva and Smith (2020) and calculate the minimum vote-share that would gain an additional seat for a single party.

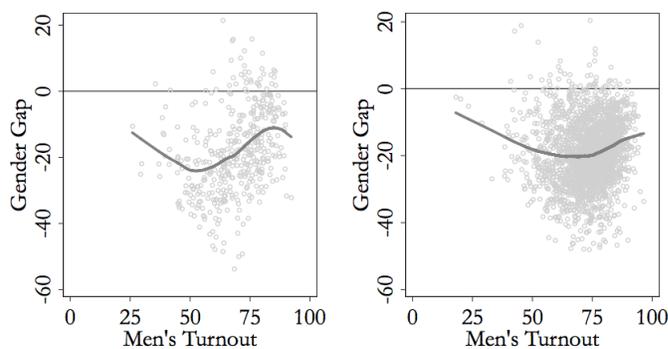
<sup>15</sup>Measuring competition in proportions may be of concern if partisan mobilization is dominated by personal contacts (Cox, Fiva and Smith 2020). Somewhat reassuring is that the main result is robust to accounting for cities and other characteristics that correlate with the size of localities (see Tables A2-4).

suffrage is not available.<sup>16</sup>

## Gender Turnout Gap Across Localities

In this section, I assess the first theoretical argument and explore whether the patterns in gender turnout gap across localities are consistent with the theorized prediction in 1b. Using all election years between 1909 and 1927 in Norway, I probe this insight by plotting gender gap against men's turnout separately for all election years in SMDs and PR (Figure 2). As theorized, there is a non-linear relationship between the gender gap and men's turnout in both electoral systems. As men's turnout increases, women's turnout first increases at a slower pace than men's, and then increases at a faster pace, reaching parity with men's when few or most men vote. To the extent that men's turnout proxies general incentives to vote and to mobilize, these patterns are consistent with the theorized narrowing of gender turnout gap when such incentives are very weak or very strong.

Figure 2: Gender Gap Plotted Against Men's Turnout 1909-1927 in Norway



(a) SMD: 1909-1918

(b) Norway 1921-1927

Notes: plotting gender turnout gap against men's turnout; Lowess fit in gray; unit of analysis is district in SMDs 1909-1918 and within-district municipality in PR.

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<sup>16</sup>This opens the possibility that turnout determines competition. Importantly, uncertainty about the competitiveness of upcoming elections seems likely with the influx of new voters. Somewhat reassuring is that the main result is robust to using a pre-suffrage indicator of competition in election years where suitable data are available - in Norway 1909 (SMD) and Sweden 1921 (PR) (Figure A4).

## The Effect of Electoral Competition on Gender Turnout Gap

In this section, I assess the second theoretical argument by identifying correlates of turnout measures in each election year in Norway. As hypothesized in salient elections, turnout in Norway is mostly above 50% even in the most uncompetitive districts and competitive within-district localities, suggesting that the relationship between competition and gap should be uni-directional and can be modeled as linear.<sup>17</sup>

**District Competition.** I first present the estimates of district margin on women's and men's turnout (Figure 3a) and the gender turnout gap (Figure 3b), using the 1909-1918 period in Norway which implemented SMDs. I report full results for key election years in Tables A2&3 and scatter plots in Figure A14. As hypothesized, Figure 3a shows that district competition increases both women's and men's turnout, but that the point estimates are larger in all election years for women's turnout. Consequently, the gender turnout gap 'narrows' in competitive districts in all election years. These estimates are significant at 1% in all election years. An increase of 10 percentage points (roughly corresponding to half of standard deviation) in margin is associated with 'narrowing' of the gender turnout gap by 2.2%, 3%, 3.2% and 1.9% in each electoral year respectively.

In the appendix, I demonstrate that using a lagged measure of electoral competition in Norway returns smaller but statistically significant estimates (Figure A4). This provides reassurance against the possibility that women's turnout relative to men may directly shape electoral competition. Next, I demonstrate that the above results are unlikely to be driven by gender gaps in vote choice. If gender turnout gap narrowed in competitive districts because of women's preferences for Conservatives, for example, we should see these patterns only in districts with a Conserva-

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<sup>17</sup>In Norway, vast majority of localities had turnout above 50% (73.4% in elections under SMD; 86.6% under PR). Importantly, the average turnout rarely or never dropped below 50% with competition (it drops below 50% only in the 10th decile of Margin distribution; and in none of the HHI deciles in PR).

tive contender. However, this is not the case even in 1909, where only tax-paying women were enfranchised (Figure A5).<sup>18</sup>

Finally, I use data from the first three elections after adoption of PR (1921-1927) and demonstrate that district competition does not affect women’s and men’s turnout, and therefore neither the gender gap, in PR. As expected, the effect of district margin on any turnout measure is not statistically meaningful, with estimates close to zero and far from statistical significance, in models with a full set of controls (Table A5).

Figure 3: The Cross-Sectional Effect of District Margin on Turnout in Norway 1909-1918



(a) DV: Women’s and Men’s Turnout    (b) DV: Gender Turnout Gap

Notes: 95% CIs; DV is men’s turnout (black), women’s turnout (dark gray), and gender turnout gap (light gray); robust standard errors.

**Within-District Competition.** I present the estimates of within-district concentration on women’s and men’s turnout (Figure 4a) and the gender turnout gap (Figure 4b), using the 1921-1927 period in Norway which implemented PR. To directly estimate within-district effects, I include district fixed effects in all models and then cluster standard errors at the district level.<sup>19</sup> I report full results from 1921 in Table A4 and scatter plots in Figure A14. Figure 4a shows that all but one point estimate on women’s and men’s turnout are positive, suggesting that electoral concentration mobi-

<sup>18</sup>Weak or no relationship is observed in Conservative-Socialist districts, but the lack of uncompetitive districts does not allow us to make robust conclusions there.

<sup>19</sup>There are 29 districts in Norway. To address the possibility of downward bias of standard errors, I also report wild bootstrap standard errors.

lized both women and men. However, the point estimates are larger for women than for men in all three election years. Importantly, the gender turnout gap ‘narrows’ in concentrated within-district localities in all election years, although the estimates are not significant at conventional levels in the first election after the reform,<sup>20</sup> which may reflect slower response of parties and voters to the electoral reform. An increase by about 10 points (roughly corresponding to one standard deviation) in municipality-level HHI narrows the gender gap by about 1.5%, 1.9% and 1.7% in each electoral year respectively.

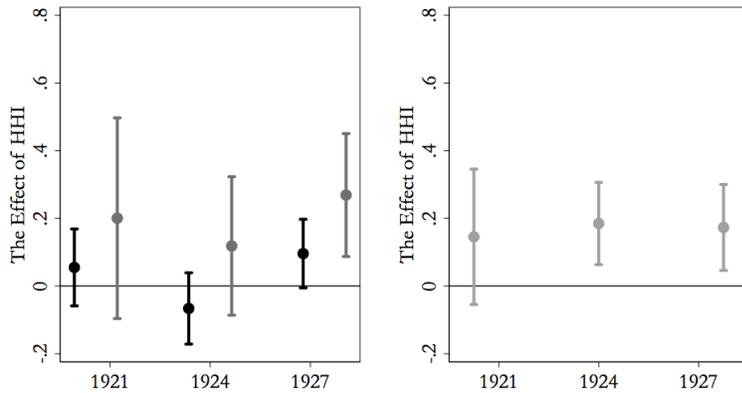
Using the key election year of 1921, I run several robustness analyses in the appendix. First, I demonstrate that the main result is robust to using an alternative measure of within-district concentration - raw vote margin (Table A4). If stronghold municipalities were also smaller, parties and voters may be incentivized to seek votes in the most competitive localities that still hold more party supporters. Second, I use data from Sweden 1921, where pre-suffrage election data are available (Figure A4), to test the robustness of the key result to pre-suffrage (lagged) measures of electoral concentration. The results are robust to lagged specifications and therefore provide some reassurance against the possibility that women’s turnout relative to men shapes electoral concentration. Third, I demonstrate that the key results are unlikely to be driven by gender gaps in vote choice. If gender turnout gap narrowed in party strongholds because of women’s preference for Conservatives, for example, we should see these effects only in municipalities with a Conservative lead, which is not the case (Figure A6).

Finally, I use data from the key election years under women’s suffrage (1909 and 1915) and demonstrate that there is no meaningful relationship between within-district concentration and turnout measures in SMDs (Figure A7). This is consistent with the expectation that within-district electoral concentration is less likely to be a clear-cut predictor of turnout, and therefore gender turnout gap, in SMDs.

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<sup>20</sup>Wild bootstrap std. errors return  $p=0.275$ ,  $p=0.008$  and  $p=0.026$  respectively.

Figure 4: The Cross-Sectional Effect of Within-District Concentration on Turnout Measures in Norway 1921-1927



(a) DV: Women's and Men's Turnout

(b) DV: Gender Turnout Gap

Notes: 95% CIs; DV is men's turnout (black), women's turnout (dark gray), and gender turnout gap (light gray); district fixed effects; clustered standard errors on district.

## Robustness to Observed and Unobserved Confounders

The most severe concern is that women's and men's cost curves were different in the competitive districts or within-district strongholds, especially if competition was correlated with characteristics of localities that also affect turnout. For example, if competitive districts or within district strongholds were more likely to be industrial, the results above may reflect differences in the 'type' of the electorate in those localities. I address this possibility in two ways.

First, using data from key election years, I control for several characteristics of localities - a binary indicator of urban localities, localities contested by a Socialist candidate or with a Socialist lead, percentage of adults (or women when available) working in industry and in intellectual jobs (e.g. administration, teaching, arts, charities), and a percentage of women who were married. I also add male to female ratio of eligible voting population. I report full results in Tables A2-4. The gender gap in turnout tends to narrow in urban, industrial and intellectual localities, plausibly because women's (or women's and men's) resources are more easily available in those localities. After the first suffrage reform, the gap also narrows in localities with fewer women who qualified

to vote compared to men, plausibly because resources of the few voting women were especially high in those localities. However, the effect of competition on all turnout measures remains robust to the inclusion of controls, returning estimates of similar size and significance levels.

Second, I estimate a fixed effect model with locality and election fixed effects, which allows me to control for time-constant unobserved confounders. I present the results for election years with SMDs in Figure 5a and for election years under PR in Figure 5b. In PR elections, I cluster standard errors at the district level, and also report Wild bootstrap. An increase of 10 percentage points (roughly corresponding to half of standard deviation) in district margin is associated with a narrowing of gender turnout gap by 0.8% ( $p=0.001$ ). An increase by about 10 points (roughly corresponding to one standard deviation) in municipality-level HHI narrows the gender gap by about 0.6% ( $p=0.036$ ) in 1921.<sup>21</sup> Inclusion of locality and election fixed effects therefore substantially reduces the estimated effects of electoral competition on gender turnout gap in contrast to the cross-section models. However, the effect size remains substantively meaningful. The predicted gender gap shrinks by about 7.8 percentage points between the most and the least competitive districts, and by about 5.3 percentage points between the most and the least concentrated within-district municipality. This is comparable or more substantial reduction of the gender turnout gap than reported by scholars for other contextual factors, namely that of restrictive electoral laws and presidential elections (Corder and Wolbrecht 2016, p.44; Stauffer and Fraga 2021, p.4). This also suggests that, once locality and election fixed effects are included, the estimated size of the competition-on-gap effects in PR becomes more similar to that in SMD.<sup>22</sup> Overall, the results presented in Figure 5a,b

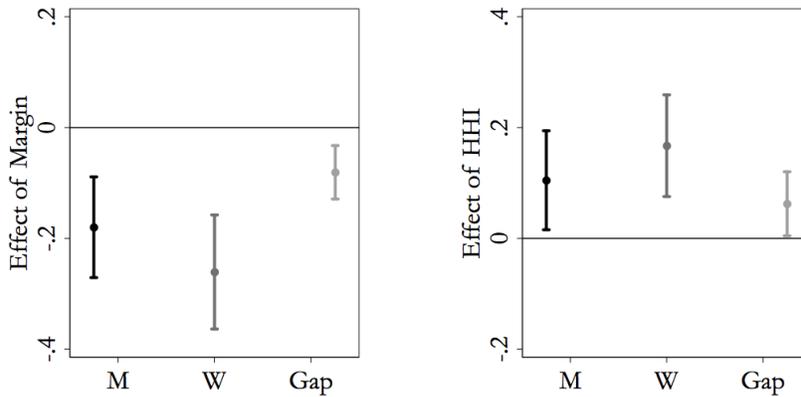
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<sup>21</sup>Wild bootstrap std. errors return  $p=0.015$ .

<sup>22</sup>Comparing magnitude of effects is notoriously difficult and contested. One way to ease comparability is to report in standard deviation increase. Given that the standard deviation of HHI is smaller than that of margin, standardization would indicate that the impact of margin in SMD is much bigger than the impact of HHI in PR. However, this may be misleading (see King 1986, p.671-2), concealing the fact that the gender turnout gap shrinks by a comparable amount in both systems. Even with standardization, however, the effect of electoral concentration in PR on gender

provide further doubts that the ‘type’ of women and men across localities fully account for the effects identified in cross-sectional models.

Figure 5: Fixed Effect Models in Norway 1909-1927



(a) District Competition, Norway 1909-1918

(b) Within-District Concentration, Norway 1921-1927

Notes: 95% CIs; DV is men's turnout (black), women's turnout (dark gray) and gender turnout gap (light gray); Sub-figure a: unit of analysis is electoral district, robust standard errors, all models include election and district fixed effects; Sub-figure b: unit of analysis is a within-district municipality, standard errors clustered at district level, all models include election and municipality fixed effects.

## The Effect of Electoral Competition on the Change in Gender Turnout Gap

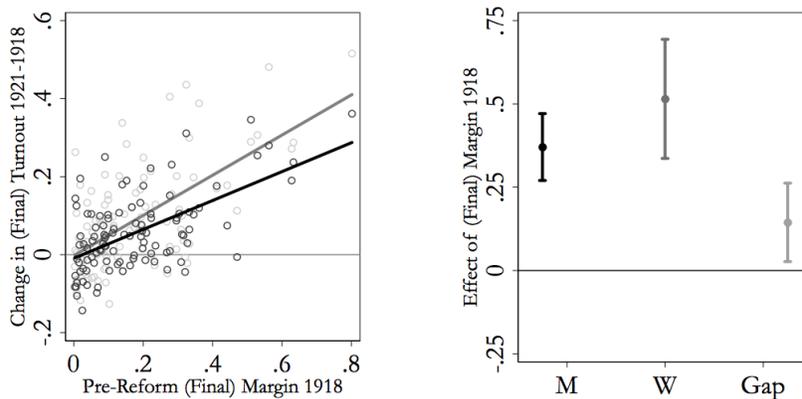
I provide additional evidence by adopting empirical strategy analogous to Cox, Fiva and Smith (2016) to assess whether pre-reform margin affects change in turnout before and after PR. In contrast to Cox, Fiva and Smith (2016), I examine women's and men's turnout separately. I therefore regress change in turnout measures in a pre-reform SMD before and after the reform (1918-1921) on pre-suffrage margin in 1918.<sup>23</sup> As I show in Figure 6, an 18% increase (roughly

gap remains statistically and substantively meaningful.

<sup>23</sup>I follow Cox, Fiva and Smith (2016) in all coding decisions except the following: (i) I construct all turnout variables using votes that were casted, because votes that were approved are not available by sex; (ii) As outlined above, I use both turnout and margin variables from decisive round; (iii) I use pre-reform margin in the last election, rather than average margin in the last four

corresponding to one standard deviation) in pre-reform margin narrows the gender turnout gap by 2.6% ( $p=0.018$ ).<sup>24</sup> Adding any set of controls returns estimates of comparable size that are significant at least at 5% level, although Wild bootstrap returns less precise errors in those specifications. Using first round margin returns more precise standard errors, whilst using average margin returns less precise errors (Table A6).

Figure 6: The Effect of Competition on Change in Turnout 1921-1918 by Sex



(a) Plotting Pre-reform Margin on Change in Turnout

(b) Regressing Pre-reform Margin on Change in Turnout

Notes: Sub-figure a plots change in pre-reform district women's (gray) and men's (black) turnout before and after PR against pre-reform district competition; linear fit; sub-figure b regresses change in pre-reform district women's (gray) and men's (black) turnout and gender gap (light gray) before and after PR on pre-reform district competition; OLS estimates; 95% CIs; standard errors clustered on post-reform PR districts.

The results in Figure 6 show that the gender turnout gap narrows the most in the least competitive pre-reform SMDs, that is it narrows precisely in the localities where the incentives to mobilize and to vote strengthen the most. This casts further doubts on the possibility that the impact of electoral competition on gender turnout gap is driven by different 'types' of women and men across localities and provides additional support for the theoretical framework. That is, while PR spurs the incentives to mobilize women especially in the previously uncompetitive single-member districts, elections under SMD. This increases sample size from 92 to 104. I also replicate the analysis with all coding decisions as in Cox, Fiva and Smith (2016), see Table A6.

<sup>24</sup>Wild bootstrap returns similar errors ( $p=0.025$ ).

Figure 6 demonstrates that strengthening mobilization incentives in the general population brought more women than men to the polls. This result therefore complements Skorge (2021) and Teele (2022), who study the effect of PR on women’s relative turnout in Norway and propose that the effect is moderated by electoral competition,<sup>25</sup> but leave open the question of why women’s turnout typically co-varies with men’s (as also shown in Figure 6). In addressing this question, this paper thus also complements Cox, Fiva and Smith (2016), suggesting that the theorized ‘contraction’ effects are especially relevant for the most undermobilized groups.

## Mechanisms

**Was turnout incentivized in competitive districts?** If district competition incentivized voting and mobilization, then we should see more newspaper ads encouraging turnout in the competitive districts. To this end, I collect data on election ads published in three national newspapers, each supporting one of the three major parties, in the last week before election in 1906 (pre-suffrage), 1909 (post-suffrage first reform) and 1915 (post-suffrage second reform).<sup>26</sup> The data set consists of 222 ads, 54 of which specifically called on women. The number of ads increased following women’s suffrage, from 42 Conservative and Liberal ads in 1906 to 63 ads in 1909 and 82 ads in 1915,<sup>27</sup> suggesting increased mobilization efforts to ‘bring in’ women’s votes. The number of women-specific Conservative and Liberal ads rose from 1 in 1906 to 24 in 1909, but dropped to 12 in 1915, suggesting that direct mobilization of women was especially relevant in the first elec-

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<sup>25</sup>Skorge’s (2021) analyses municipal elections where data for district competition are not available. Teele’s (2022) main analysis regresses turnout measures on the change in competitiveness before and after the reform, which departs from Cox, Fiva and Smith (2016, 2020 on increase in competitiveness across most districts after PR).

<sup>26</sup>Further information on data collection, incl. example of ads, in Figure A9.

<sup>27</sup>Socialist ads are not included in this comparison, as the Socialist newspaper is only digitized for the 1909 election year.

tion after suffrage. In assessing whether mobilization and voting was incentivized in competitive districts, I then exploit the fact that some ads in the national newspapers encouraged turnout in specific districts.<sup>28</sup> As expected, mean electoral margin in districts with at least one district-specific ad was at least a quarter lower than in all other districts in both 1909 and 1915, and this was true also for women-specific ads (Figure A10). This is consistent with the argument that voting<sup>29</sup> and mobilization was incentivized in the most competitive districts and was therefore responsible for the narrowing of the gender gap there.

**Was turnout incentivized in within-district strongholds?** If within-district strongholds incentivize voting and mobilization, then we should see more local party organization and activity in strongholds. To this end, I collect municipality-level data on the presence and activity of local party organizations. First, I take advantage of the fact that the minutes from annual meetings of the Conservative party between 1910 and 1919 list the geographical origin of the attendees that represented local party committees.<sup>30</sup> While local party committees were present in most counties by 1915, not all municipalities within counties had a local organization. A municipality represented by an attendee at the national congress thus indicates that local committee was present and active. In 1913, a total of 48 representatives attended the meeting, 45 of which could be geocoded. As expected, mean Conservative support in municipalities with at least one municipality-specific representative was about twice as high than in all other districts (Figure A11a). Second, I collect data on the location of local women's socialist committees.<sup>31</sup> The first local committees appeared in

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<sup>28</sup>In 1909 (1915), about 50% (60%) of ads endorsed a specific candidate or district, although most district-specific ads were concentrated into relatively few districts (10 in 1909 and 9 in 1915).

<sup>29</sup>While ads primarily proxy party mobilization, they can also indicate to voters the anticipated closeness of the election.

<sup>30</sup>Comparable data are not available for the Socialist and Liberal parties. Further information on data collection in Figure A11.

<sup>31</sup>The Liberal and Conservative parties also encouraged women's local committees, but did so mostly after women's suffrage. Further information in Figure A11.

1901, and there were about 98 such committees by 1915. As expected, mean Socialist support in municipalities with at least one municipality-specific local committee was about twice as high than in all other districts (Figure A11b). Altogether, the results suggests that voting<sup>32</sup> and mobilization was incentivized in within-district strongholds and was therefore responsible for the narrowing of the gender gap in turnout there.

**Were electoral strongholds more socially homogeneous in PR?** Using 1920 census, I construct HHI of five occupational categories of men that broadly correspond with social class at the turn of the twentieth century.<sup>33</sup> The five broad occupational categories corresponds to social networks, e.g. trade vs. teachers unions, as well as parties, e.g. agricultural vs. industrial workers. In assessing whether electoral strongholds are more socially homogeneous in PR, I plot HHI of electoral concentration against HHI of occupational concentration in 1918 (last election with SMDs) and 1921 (first election under PR) within districts (Figure A12d,e). Consistent with the theoretical framework, electoral strongholds tend to be more socially homogeneous in both 1918 and 1921. However, the electoral HHI has a lower mean and lower standard deviation in elections under PR (Figure A12a,b), as former electoral strongholds under SMD fragmented after PR (Figure A12c).

## Generalizability Beyond Norway

In this section, I probe generalizability to other countries. For three other sampled countries, I collect data from the first parliamentary election after women's suffrage, or for the first election

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<sup>32</sup>While presence of local organizations primarily proxies party mobilization, it can also indicate partisan leaning of the locality to voters.

<sup>33</sup>These categories are agricultural, industrial and service worker, upper-middle class professional or owner (non-worker) and dependent (student, retiree). Further information in Figure A12.

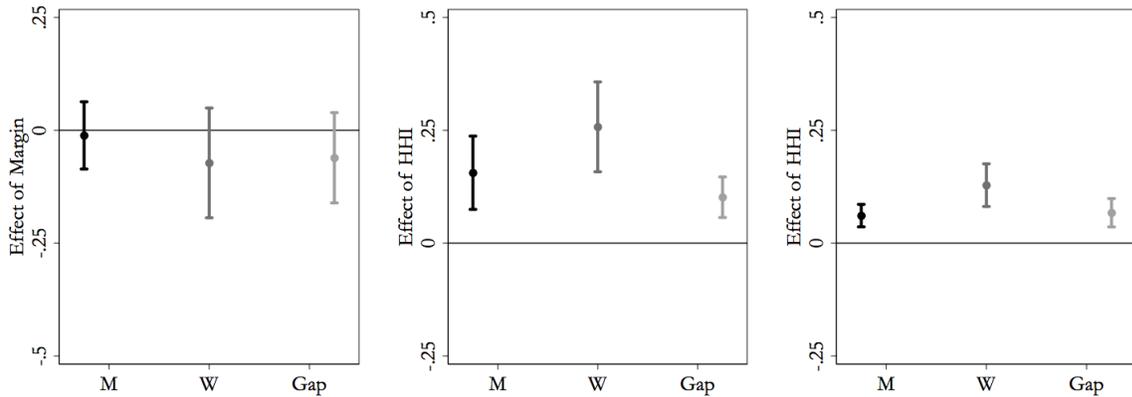
for which this data is available.<sup>34</sup> Using this larger data set, I show that gender turnout gap varies with men's turnout as expected in all election years where women's turnout is observed across a sufficiently wide range of values (Figure A13). In New Zealand and Austria, where both women's and men's turnout was almost always above 50%, lack of observations with low men's turnout prevents us from making robust conclusions there.

I then show that electoral competition measures are correlated with women's turnout relative to men's as expected (Figure 7; scatter plots in Figure A14). I again model the relationship as linear, as average turnout never dropped below 50% at any decile of competition in any of the three additional cases. Using district electoral data from New Zealand, I show that the gender turnout gap appears to narrow with district competition. However, the effects are small and imprecisely estimated, likely reflecting the relatively high turnout across all districts spurred by concurrent district-level prohibition referenda, which left even the most uncompetitive districts in parliamentary elections highly contested on prohibition. Using within-district electoral data in Austria and Sweden, I show that the gender turnout gap narrows in the most electorally concentrated localities. These effects are of comparable magnitude and statistically significant at conventional levels.

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<sup>34</sup>In New Zealand, I analyze fifth election after suffrage. In Austria, I analyze third election after suffrage (see Table A8 for details).

Figure 7: Correlates of Women’s and Men’s Turnout in Three Additional Countries



(a) New Zealand 1905 (District, SMD), (b) Sweden 1921 (within-district, PR), (c) Austria 1927 (within-district, PR)

Notes: 95% CIs; DV is men’s turnout (black), women’s turnout (dark gray), gender gap (light gray); robust standard errors in SMDs; district fixed effects and clustered standard errors on electoral district in parliamentary elections under PR (Austria and Sweden); wild bootstrap returns similarly sized errors (<0.05).

## Discussion

Carefully mapping turnout patterns of newly enfranchised women, this paper makes contribution to our understanding of how newly enfranchised women became incorporated into the electoral process. In doing so, the paper has important implications for several broad research agendas. Most imminently, it offers clues on how women’s turnout can be fostered in countries where significant gender gaps in turnout remain (see Desposato and Norrander 2009 on gender gaps in Latin America; Robinson and Gottlieb 2021 on Africa; Prillaman 2021 and Cheema et al 2022 on Asia; Dassonneville and Kostelka 2021 on secondary elections in the West). Regardless of inclusive institutions, fierce political competition and electoral concentration of stable parties within those institutions may help to close global gaps.

More broadly, this paper has implications for the study of how inclusive institutions affect gender turnout gap (beyond PR, see Kim 2017 on direct democracy; Córdova and Rangel 2017 on compulsory voting). While inclusive institutions not specifically implemented to increase women’s

participation have been shown to narrow the gender turnout gap, this paper suggests that any such effects may be down to the inclusivity of the institution itself that provides more favorable contexts, rather than to a direct effect on women's turnout. For example, the effect of compulsory voting on gender gap may not reflect women's opportunity to cast an informed vote (Córdova and Rangel 2017), but an opportunity to do so in the population, which brings in more members of a previously undermobilized group.

The paper also has implications for the electoral incorporation of other marginalized groups. Ethnic and racial minorities and low income groups also face higher costs of voting decades after their enfranchisement. These groups typically face structural barriers to resources, institutional barriers to voting through electoral and other discrimination, as well as barriers to political socialization (e.g. Schlozman, Verba and Brady 2012; Gimpel, Lay and Schuknecht 2003). To the extent that marginalized groups face barriers to voting, this paper suggests that their turnout should also increase with local competition.

Finally, this paper offers cues into women's representation after suffrage. Parties that competed in the most competitive races, or regionally established parties with the most strongholds, should be in the best position to successfully mobilize women. However, the paper remains agnostic about the technologies parties employed to mobilize women, especially the extent to which parties utilized group-based appeals. While greater electoral engagement of women should improve representation of group interests in legislatures, empirical assessment of the technologies that parties used to mobilize women, and the relationship between competition, mobilization and group representation is left for future research. If organized women's groups, not parties, defined women's group agenda and disseminated this agenda to both women and politicians (Morgan-Collins, 2021; Teele 2018a,b), then strong suffrage movements may have been needed for politicians to advocate for women's group interests when and if they had the incentives to mobilize them.

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