American Political Science Review (2024) 118, 2, 619–634
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Bringing in the New Votes: Turnout of Women after Enfranchisement

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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 barriers to voting and were, therefore, more likely to vote and be mobilized under the most favorable 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.

INTRODUCTION

Women's suffrage was a major step toward women's incorporation into politics de jure. The suffragists often saw the vote as a means to better representation of women's interests, although they remained concerned of de facto barriers to voting that may hinder the realization of women's substantive representation after suffrage (McCammon and Banaszak 2018; Teele 2018; Wolbrecht and Corder 2020, chap. 3). In this article, 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, whereas Skorge (2021) presents causal evidence from Norway that PR increased women's relative turnout to men in municipal elections. However, the type of an electoral system does not comprehensively explain cross-country variation in women's turnout at the turn of the twentieth century, which suggests the 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 (Supplementary 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 article, I offer an explanation for the seemingly puzzling cross-national patterns in the gender turnout gap (Supplementary Figure A1). I 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 are incentivized in the general population at the local level within systems. Heterogeneity of electoral rules and contexts within countries returns dramatically different outcomes (Cox, Fiva, and Smith 2016; Kedar, Harsgor and Sheinerman 2016) and profoundly affects 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 general theory of how the strength of voting and mobilization incentives in the general population shapes 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 incentives to vote and to mobilize in the general population determine the size of the gender turnout gap *regardless* of the type of electoral system, but that this relationship is not linear. The gap narrows when such incentives are either very strong *or* very weak. 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 become sufficiently high, even voters with relatively high voting costs vote. Given that women are modeled to be disproportionately among high-cost voters, further strengthening of such incentives "brings" more women than men and narrows the gap. In turn, when these incentives are not sufficiently high and further

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Received: November 06, 2021; revised: April 16, 2022; accepted: April 28, 2023. First published online: June 06, 2023.

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

weaken, only low-cost voters vote and the gap also narrows.

In probing the theorized U-shaped relationship between the strength of incentives in the general population and the gender turnout gap, I take advantage of turnout data collected separately by sex in Norway after suffrage. I show that the gender turnout gap narrows as men's turnout approaches its minimum or maximum under *both* SMDs and PR. This highlights that women's propensity to vote at par with men cannot be thought of separately from the strength of incentives to vote and to mobilize in the general population *regardless* of the type of an electoral system. This explains that the gender turnout gap varies with men's turnout across countries rather than with the type of an electoral system (Supplementary Figure A1).

Building on these insights, I then formulate a second argument that local electoral competition *within* electoral systems proxies the strength of voting and mobilization incentives in the general population and, therefore, explains why gender gap in turnout varies *within* the same type of an electoral system. I formulate two hypotheses for salient elections where I expect sufficiently high incentives across most localities: (1) Gender turnout gap narrows with district electoral competition because it provides the most favorable circumstances to voting and mobilization of high-cost voters. This is especially in electoral systems with SMDs, where the incentives to vote and to mobilize typically vary across districts (Cox, Fiva, and Smith 2020). (2) Gender turnout gap narrows with within-district electoral competition measured as concentration because it provides the most favorable circumstances to voting and mobilization of high-cost voters. This is especially in countries with PR, where stronger linkages between social groups, parties, and strongholds (Cox 1999; Powell 1986) are more likely to foster secondary mobilization and, therefore, general incentives to vote and to mobilize.

The argument that competition narrows gender turnout gap is consistent with Corder and Wolbrecht (2016, 262), who propose that newly enfranchised women behaved as peripheral voters, relying on "extra" stimuli of competitive presidential state-level contests. In this article, I build on these theoretical insights and extend the focus to both *across* and *within* electoral districts in various system. The portability of Corder and Wolbrecht's thesis to PR has been recently questioned by Teele (2022), who hypothesizes that women's peripheral tendencies are a function of electoral systems and, therefore, lessen in PR. In this article, I differentiate between district and within-district levels of analysis and demonstrate that the competition-on-gap effects (i.e., peripheral tendencies) in PR entirely disappear at the district level, but remain meaningful within districts where they have the *opposite* effect. This suggests that women's peripheral tendencies reflect the strength of general incentives to vote and that these incentives vary with levels of analysis within systems, not (unconditionally) with electoral systems.

In testing the competition-on-gap effect, I use parliamentary election data from Norway after suffrage to employ two empirical strategies. First, I make cross-sectional comparisons. Consistent with the hypotheses, I show that women's turnout approached parity with men's in competitive SMDs and in uncompetitive within-district strongholds after the implementation of PR. I show that this result is robust to specifications that control for local socioeconomic 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. After I probe the theorized mechanisms using data on district-level election ads and within-district local party organizations, I demonstrate generalizability of these findings from Norway to three additional countries: New Zealand, Sweden, and Austria.

Second, I exploit the fact that Norway adopted PR shortly after suffrage. I employ two strategies analogous to Cox, Fiva, and Smith (2016) to assess *whether* and *when* pre-reform district competition determines the extent to which gender turnout gap changes with PR adoption. First, I find that the gap narrowed the most in the previously uncompetitive SMDs. As hypothesized, this demonstrates that strengthening of voting and mobilization incentives in salient elections narrows the gender gap. Second, I demonstrate that this effect of pre-reform competition is conditional on men's turnout being sufficiently high. As hypothesized, this demonstrates that the gender gap *narrows* when incentives strengthen from moderate to high, but *widens* when such incentives strengthen from low to moderate. Although PR may narrow the gender turnout gap by eliminating the widest gender gaps of the most uncompetitive pre-reform districts (Teele 2022), this is *conditional* on pre-reform incentives already being sufficiently high—precisely as theorized above.

This article has broad implications that extend beyond the role of electoral systems. If turnout is an important precursor to the representation of group interests, then this article suggests that 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.

Social Networks

Access to education and resourceful employment was historically restricted for women at the turn of the twentieth century, somewhat limiting its explanatory power (Burns, Schlozman, and Verba 2001, 359–60). Consequently, scholars of historical gender gaps look to women's associations as providers of relevant resources

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

to both politicians (Teele 2018) and women. Carpenter and Moore (2014) demonstrate that American women's engagement in antislavery petitions enabled the development of networks and skills essential for later activism. More directly, Carpenter et al. (2018) demonstrate that states with higher suffrage petitioning had higher women's turnout after suffrage. Morgan-Collins (2021) finds that women in states with strong suffrage movements coordinated on suffragist-defined women's interests after suffrage. In turn, Morgan-Collins and Natusch (2022) argue that local networks were especially relevant for working-class women in Sweden who were less likely to participate in formal associations.

Institutions

Another strand of post-war classic scholarship identifies the importance of inclusive institutions for gender turnout gap (Kittilson and Schwindt-Bayer 2010; 2012). Scholars of historical gender gaps confirm the importance of inclusive institutions while raising questions whether institutions alone were sufficient. Kim (2019) shows that direct democracy mobilized women after suffrage in Sweden. However, Corder and Wolbrecht (2016) find that state-level contests spurred women's turnout after suffrage in the United States, suggesting that the gender gap varied extensively within the same institutional context. Importantly, although Skorge (2021) argues that the introduction of PR in municipal elections in Norway narrowed the early gender turnout gap, he also suggests that these effects were conditional on competition and strong women's associations.

In this article, I tie together recent developments in the literature and advance it by exploring how electoral competition, underpinned by the strength of social networks, shapes gender turnout gap within electoral systems.

BARRIERS TO VOTING FACED BY WOMEN AT THE TURN OF THE TWENTIETH CENTURY

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 in the West.

Cultural Barriers

Prior to women's formal entry to the electorate, the ideology of "separate spheres" classed women as "nonpolitical beings" (Blom 2012, on Scandinavia). American women who reached voting age before 1920 were mobilized less often decades later, presumably because parties determined that they would struggle to get out the vote of women not socialized into voting (Rosenstone and Hansen 1993, 164). While there were concerns that married women would double the votes of their husbands (Duverger 1955, on the West), some first women nonvoters cited husband's objections or fears of canceling the vote of their husbands (Merriam and Gosnell 1924, chap. 5, on the United States). Indeed, global survey data continue to show that women and men born early in the twentieth century are most likely to agree that man make better political leaders than women (Norris and Inglehart 2001).

Structural Barriers

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 (Mitchell 1998). Without access to state-funded childcare and robust maternity policies, childbearing responsibilities hindered women's entry into the labor force (Goldin 1990, on the United States). In addition, women's employment outside the home was depressed by marriage bars and wage discrimination (Costa 2000 on OECD countries). The expectation that single women leave employment upon marriage also disincentivized unionization, which further limited opportunities to draw on the mobilizational potential of employment (Stanfors 2003 on Sweden).

Institutional Barriers

While electoral laws after women's suffrage rarely referenced women explicitly, women continued to be disproportionately disincentivized. As suffragists sought to ensure women's eligibility to vote (Morgan-Collins 2021, on the United States; Grimshaw 1987, chap. 10, on New Zealand), restrictive registration requirements discouraged turnout especially among women (Corder and Wolbrecht 2016, on the United States). Up to four-million women in the U.S. South were de facto disenfranchised by poll taxes (Podolefsky 1997), whereas single mothers in Sweden were more likely than men to lose their vote as recipients of poor relief (Sjögren 2013). Without access to childcare, long distances to the polling station also disproportionately disincentivized women's turnout (Andersen 1996, 50–1, on the United States).

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

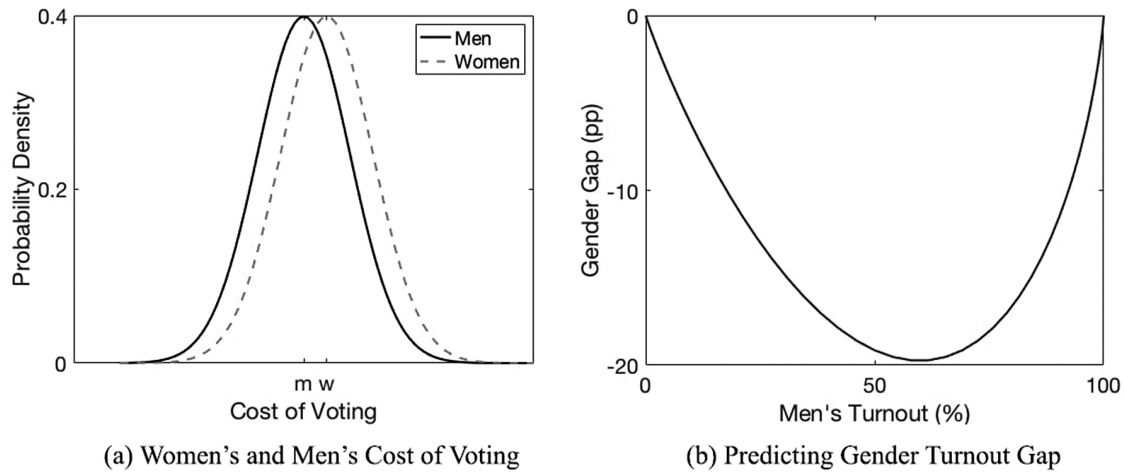
THEORETICAL FRAMEWORK: EXPLAINING GENDER TURNOUT GAP AFTER SUFFRAGE

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.[1] The cost of

[1] 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. However, if we do not restrict the "C" term to positive numbers, with some electors having a "negative" cost of voting, we can conceptually understand the "C" term as combining both the "C" and "D" terms.

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

FIGURE 1. When Do Newly Enfranchised Women Vote More Relative to Men?



Note: m(w) median cost of voting for men(women).

voting, referred to as the "C" term in rational choice models, entails the cost of making a decision on how to vote and the cost of the act of voting (Blais 2000, chap. 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 considerably increases relative to men.[2]

While barriers to voting were especially high for women at the turn of 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 at the time when development in education, employment, and inclusive attitudes would have likely reduced the difference between women's and men's cost of voting. This reduction may also occur in electoral dictatorships where turnout reflects support for the regime or in newly independent countries where women's and men's suffrage was introduced simultaneously.

In this section, I first theorize how the difference in the cost of voting between women and men shapes the gender turnout gap. Building on these insights, I then theorize how electoral competition within electoral systems affects the gap.

When Do Women Vote More Relative to Men?

Let us 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 than men among the electors with a high cost of voting. This seems plausible. Factors such as political interests or access to information that determine voting costs are typically normally distributed in the population. Importantly, socioeconomic characteristics typically show stronger impact on turnout than sex (Corder and Wolbrecht 2006, 46), which should push the cost curves fairly close together.

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 their higher voting and mobilization costs. 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 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 and very weak, with the widest gender gap in between the two extremes.

Using the example in Figure 1a, imagine that everyone with a cost of voting equal to or less than x votes, with x being located exactly in between m and w. Note that this "tipping" voting cost x has exactly the same probability among women and men. Electors with the cost of voting greater than x are more likely to be women and electors with the cost of voting less than x are more likely to be men. That is, the location of the tipping cost of voting x predicts when strengthening

[2] 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.

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

general incentives narrows and when it widens the gender turnout gap.

In Figure 1a, the tipping voting cost x is moderate: if all electors with the cost of voting x are incentivized to vote or be mobilized, we would expect slightly more than half of men to vote and exactly 50% of both female and male electors among voters.[3] This is illustrated in Figure 1b, which uses the density distribution in Figure 1a and plots the difference between the cumulative probabilities of voting distribution for women and men (gender gap) against the cumulative probability of voting distribution for men. As men's turnout increases, women's turnout first increases at a slower pace than men's, widening the gender turnout gap. When incentives become sufficiently strong (i.e., electors with at least the tipping voting cost x vote or are mobilized), increasing men's turnout narrows the gender turnout gap.

In the next section, I build on these insights to develop a theory of how electoral competition captures the strength of incentives to vote and to mobilize in both types of electoral systems and, therefore, predicts the gender turnout gap.

How Does Electoral Competition Shape the Gender Turnout Gap?

Electoral competition is arguably one of the key predictors of voting and mobilization incentives. In this section, I hypothesize that competition also determines the gender turnout gap. I have argued above that the relationship between the strength of incentives and the gender turnout gap is U-shaped. This insight should, therefore, translate into a U-shaped relationship between the competition and the gender gap. However, the full range of this hypothesized U-shaped relationship may not be observed in all contexts. In salient elections that typically incentivize turnout and mobilization of high-cost electors across most localities, the empirically observed relationship should be unidirectional.

District Electoral Competition

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

Parties

If politicians are incentivized to mobilize in the most competitive districts, the gender turnout gap may reflect 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 are likely to yield fewer votes. However, even high-cost voters may be mobilized in the most competitive districts. 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, therefore, depends on which section of the electorate politicians has an incentive to mobilize as competition increases. In elections where sufficiently high proportion of the electorate typically votes, politicians are likely to mobilize high-cost voters at the right tail of the cost distribution. If there are more women than men among the electorate that is to be mobilized, increasing electoral competition spurs turnout of more (new) women than men. To put it another way, while politicians have an incentive to mobilize high-cost voters 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,[4] the gender turnout gap may also reflect 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 models is typically very low—begging the question whether rational models can explain turnout—voter's rational calculations are 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), if we can think of voting costs to also be very low (Blais 2000) or negative for most voters—perhaps because some voters pay socially or psychologically for not voting (Abrams, Iversen, and Soskice 2011; Gerber, Green, and Larimer 2008). These processes can also be strengthened if mobilization efforts in competitive districts increase

[3] The location of the "tipping" cost x depends on the assumptions we make about the cost distributions. For example, if we assume that the cost curves are further apart, or that women's cost of voting has a greater variance, x is considerably larger (see Supplementary Figure A2) and the gender turnout gap is, therefore, predicted to narrow when incentives to vote and to mobilize are very strong. However, this does not appear to be consistent with my data (see Figure 2) that suggest a moderate "tipping" cost of voting—as consistent with the plausible assumptions made Figure 1.

[4] 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 a concern.

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information availability and, therefore, reduce the costs of voting there (Aldrich 1993). Whether women's turnout increases with electoral competition faster than men's, therefore, again depends on which section of the electorate is incentivized to vote. In elections where turnout is sufficiently high, 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, gender turnout gap should narrow 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 in PR (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 and to mobilize are sufficiently strong (i.e., spur turnout of electors with at least the tipping cost of voting), women's turnout approaches men's as electoral competition increases. This should be especially in systems with SMDs.*[5]

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 2006, chap. 2; Huckfeldt and Sprague 1995, chap. 12; Putnam 1966). I outline below how within-district competition, measured as electoral concentration, shapes not only the turnout in the general population, but also the gender turnout gap.

Parties

If parties are incentivized to mobilize in electoral strongholds, the gender turnout gap may narrow with electoral concentration because of party behavior. This is because pivotal probabilities reflect not only 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 at least two reasons to believe that efforts will translate more easily into votes in strongholds.[6] First, anyone targeted by parties in strongholds is more likely to vote for that party. Second, anyone targeted by parties in strongholds is more likely to bring additional votes from spillover mobilization of "like-minded" individuals within their network of family, friends, coworkers, neighbors, and comembers 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 subcontract mobilization to organized networks (Cox 1999; Rosenstone and Hansen 1993, 31; see also Harvey 1998, chap. 4, on women).[7] This concentration of mobilization efforts into strongholds 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 has an incentive to mobilize. In elections where turnout is typically sufficiently high, if we expect more women than men among the electorate that is to be mobilized, 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 (Abrams, Iversen, and Soskice 2011; Gerber, Green, and Larimer 2008) or eases information flows between voters, voting may become easier in strongholds (Powell 1986).[8] To the extent that

[5] If voting incentives were not sufficiently strong across most localities, an opposite relationship would be expected.

[6] This may not be the case if the number of voters across localities varies greatly, but see robustness to using a raw vote margin in Supplementary Table A6.

[7] The secondary mobilization of women may entail mixed-gender networks, such as churches, or gender-specific networks. For example, women's socialist clubs were seen as crucial for women's mobilization, especially in electoral strongholds (Västberg 1939, 142, on Sweden).

[8] While minority electors are likely to face cross-cutting networks and, therefore, abstain in strongholds (Huckfeldt and Sprague 1995),

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

electoral strongholds, indeed, increase overall voting propensity, they will also shape women's relative turnout to men. In elections where propensity to vote is sufficiently high across all localities, if we expect more women than men among the electorate that is incentivized to vote, electoral concentration will narrow the gender gap in turnout.

Electoral Systems

To the extent that within-district competition incentivizes sufficiently high 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 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 electoral concentration in SMDs is likely to be weak. But 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). This enhances secondary mobilization in strongholds in PR for two main reasons.

First, a greater number of parties typically enable a tighter link between social groups and political parties (Cox 1999; Powell 1986). With stronger 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, a 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 multigroup 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 and to mobilize are sufficiently strong (i.e., spur turnout of electors with at least the tipping cost of voting), women's turnout approaches men's as electoral concentration increases. This should be especially in proportional systems.*[9]

minority abstention is likely to be offset by higher turnout among majority electors, fostering turnout overall.

[9] If voting incentives were not sufficiently strong across most localities, an opposite relationship would be expected.

CASE SELECTION

I focus on the case of Norway that elected representatives in SMDs with a plurality runoff at the time of suffrage, and adopted PR shortly after suffrage. 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 (Supplementary Table A15) and collect these in three additional countries: New Zealand, Austria, and Sweden (Supplementary Table A16). The sample, therefore, consists of two countries with SMDs (Norway before 1921 and New Zealand) and three with PR (Austria, Sweden, and Norway after 1921). Besides different electoral system, the four sampled countries encompass three distinct "regions" (Supplementary Table A15), which are associated with different historical, cultural, and institutional features, and thus provide a 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 in the sample, but allows me to exploit variation in the type of electoral system (Norway's SMDs vs. Sweden's PR) in the same region with several historical, demographic, and economic commonalities.[10]

THE CASE OF NORWAY

Data and Variables

The main dataset consists of within-country, sex-separated election data in Norway between 1909 and 1927. This includes three key election years: (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 nontax-paying women (1915), and (iii) the first election after Norway switched from an SMD system with a two-round plurality runoff to PR (1921). Election data before the adoption of PR always refer to a decisive round that elected a representative, 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).[11] Summary statistics and the description of key variables are reported in

[10] For example, both countries followed a similar pathway to male suffrage expansion and shared demographic and economic similarities at the time of suffrage, including the percentage of industrial workers and urban population (Mitchell 1998).

[11] 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" party, 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). The first round can therefore be understood as a "testing ground" in districts without a clear frontrunner. This means that voters and parties could employ strategies which would be more risky otherwise - parties could run two candidates from the same party and voters could vote sincerely.

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Supplementary Table A1. In the reminder 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).[12] 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. Supplementary Figure A3 plots women's and men's turnout from 1909 to 1927 and shows that women's turnout lagged behind men's in every election at least until 1927. Adding nontax-paying women widened the difference between women's and men's turnout, whereas adopting PR increased the turnout of both women and men and narrowed the gender gap.

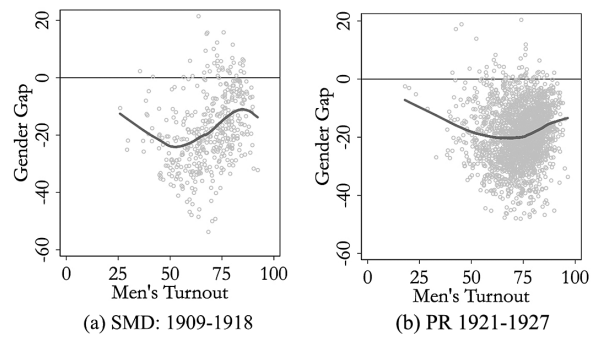
Competition

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.[13] 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 (HHI) of party concentration.[14] 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 suffrage are not available.[15]

GENDER TURNOUT GAP ACROSS LOCALITIES

In this section, I assess the first argument that the relationship between the strength of incentives to vote and to mobilize in the general population and the gender turnout gap is U-shaped. Although I do not observe the cost curves, I can empirically assess whether the gender gap is widest when incentives to vote and to mobilize are moderate as predicted in Figure 1. That is, I explore whether the patterns in gender turnout gap across localities are consistent with the theorized prediction in Figure 1b. Using all election years between 1909 and 1927 in Norway, I plot gender gap against men's turnout separately for all election years in SMDs and PR (Figure 2). As theorized, I find a nonlinear 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. Importantly, the widest gender gap is observed at somewhat moderate levels of men's turnout as theorized in Figure 1.

FIGURE 2. Gender Gap Plotted against Men's Turnout 1909–27 in Norway



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

THE EFFECT OF ELECTORAL COMPETITION ON GENDER TURNOUT GAP

In this section, I asses the second argument by identifying correlates of turnout measures in each election year in Norway. The qualifying condition for H1 and H2 is that incentives to vote and to mobilize must be sufficiently strong, that is, to incentivize electors with greater than the tipping cost of voting. In Figure 1, the tipping cost of voting is predicted to be moderate, i.e., the tipping cost of voting stipulates that a slight majority of men vote and about half of all electors vote. This prediction seems consistent with my data (see Figure 2). Given that the majority of electors vote *even* in the most uncompetitive districts and competitive within-district localities in Norway,[16] the qualifying condition seems to hold and the competition-on-gap effect can be modeled linearly in my data.

[12] Another way to measure women's relative turnout is women's share among all voters. I demonstrate that the results presented below are robust to women's share of voters, as would be expected in the context of high-turnout salient elections (see the relevant robustness tables in the Supplementary Material).

[13] In calculating the district-level margin in PR (Supplementary Table A10), I follow Cox, Fiva, and Smith (2020) and calculate the minimum vote share that would gain an additional seat for a single party.

[14] 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 Supplementary Tables A4–A6).

[15] 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) (see Supplementary Tables A8 and A9).

[16] The majority of electors vote in all deciles of HHI in PR, and in nine deciles of margin in elections with SMDs.

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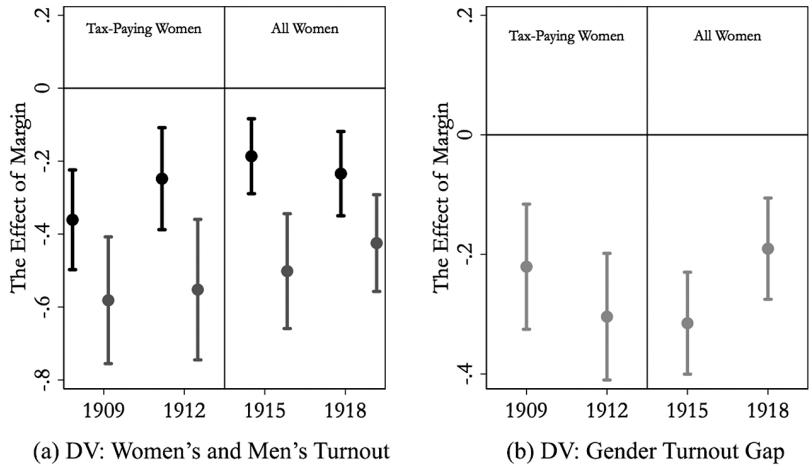
FIGURE 3. The Cross-Sectional Effect of District Margin on Turnout in Norway 1909–18



Note: 95% CIs; DV is men's turnout (black), women's turnout (dark gray), and gender turnout gap (light gray); robust standard errors. Full results are in Supplementary Table A2.

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 1909–18 period in Norway, which implemented SMDs. 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 year, respectively.

In the Supplementary Material, I demonstrate that using a lagged measure of electoral competition in Norway returns smaller but statistically significant estimates (Supplementary Table A8). This provides reassurance against the possibility that women's turnout relative to men affects 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 Conservative contender. However, this is not the case even in 1909, where only tax-paying women were enfranchised (Supplementary Figure A4).[17]

Finally, I use data from the first three elections after the adoption of PR (1921–27) and demonstrate that district competition does not affect women's and men's turnout, and therefore neither the gender gap, in PR (Supplementary Table A10). 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.

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 1921–27 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.[18] Figure 4a shows that all but one point estimate on women's and men's turnout are positive, suggesting that electoral concentration mobilized 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-districts localities in all election years, although the estimates are not significant at conventional levels in the first election after the reform,[19] which may reflect delayed response of parties and voters to the electoral reform. An increase of about 10 points (roughly corresponding to one standard deviation) in the municipality-level HHI narrows the gender gap by about 1.5%, 1.9%, and 1.7% in each year, respectively.

[17] 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.

[18] There were relatively few (29) districts in Norway. I, therefore, report p-values using wild bootstrap as recommended by Cameron, Gelbach, and Miller (2008) (Rademacher weights, null imposed and 999 replications calculated with BOOTTEST command in Stata).

[19] Wild bootstrap returns comparable p-values ($p = 0.3$, $p = 0.008$, and $p = 0.035$, respectively).

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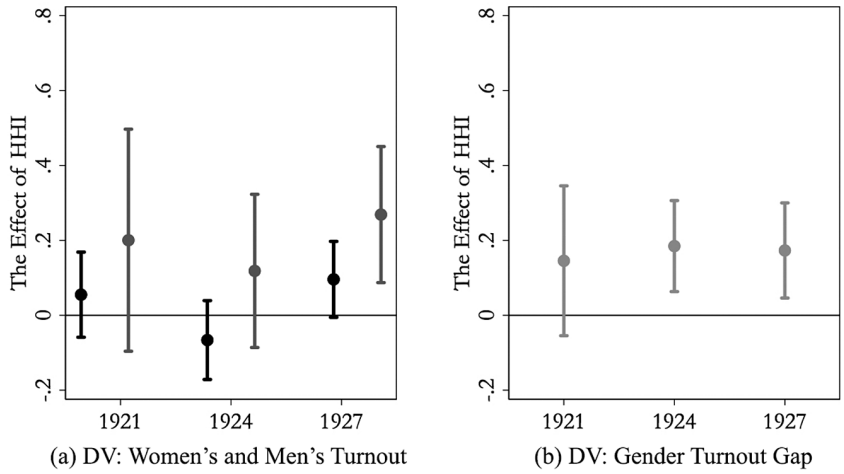
FIGURE 4. The Cross-Sectional Effect of Within-District Concentration on Turnout Measures in Norway 1921–27



Note: 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. Full results are in Supplementary Table A3.

Using the key election year of 1921, I run several robustness analyses in the Supplementary Material. First, I demonstrate that the main result is robust to using raw vote margin (Supplementary Table A6). If stronghold municipalities were also smaller, parties and voters would be incentivized to seek votes in the most competitive localities that have more party supporters. Second, I use data from Sweden 1921, where pre-suffrage election data are available (Supplementary Table A9), 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 affects 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 (Supplementary Figure A4).

Finally, I use data from the key election years before PR adoption (1909 and 1915) and demonstrate that there is no meaningful relationship between within-district concentration and turnout measures in SMDs (Supplementary Table A9). This is consistent with the expectation that within-district electoral concentration is not a clear-cut predictor of turnout in SMDs, and therefore neither the gender turnout gap.

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. 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 concern 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, and charities), and a percentage of women who were married. I also add a male-to-female ratio of eligible voting population (Supplementary Tables A4–A6). The gender gap in turnout tends to narrow in urban, industrial, and intellectual localities, plausibly because 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 the 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 under 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

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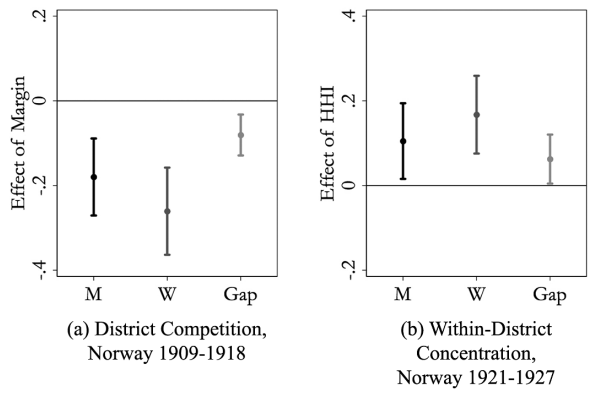
FIGURE 5. Fixed Effect Models, Norway 1909–27

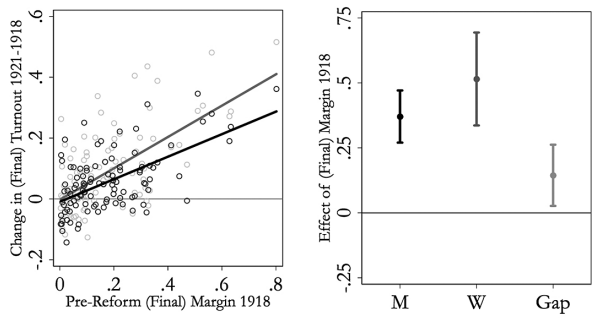


(a) District Competition, Norway 1909-1918

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

Note: 95% CIs; DV is men's turnout (black), women's turnout (dark gray), and gender turnout gap (light gray). Panel (a): unit of analysis is electoral district; robust standard errors; all models include election and district fixed effects. Panel (b): unit of analysis is a within-district municipality; standard errors clustered at the district level; all models include election and municipality fixed effects. Full results are in Supplementary Table A7.

FIGURE 6. The Effect of Margin on Change in Turnout 1921–18 by Sex



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

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

Note: Panel (a) plots the percentage point change in pre-reform district women's (gray) and men's (black) turnout before and after PR against pre-reform district margin; linear fit; Panel (b) regresses the change in women's (gray) and men's (black) turnout and gender gap (light gray) before and after PR on pre-reform district margin; OLS estimates; 95% CIs; standard errors clustered on post-reform PR districts. Full results are in Supplementary Table A12.

to one standard deviation) in the municipality-level HHI narrows the gender gap by about 0.6% ($p = 0.036$) in 1921.[20] 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 5.4 percentage points between the most and the least concentrated within-district municipalities. This is comparable or more substantial reduction of the gender turnout gap than reported by scholars for other contextual factors, including electoral laws and presidential elections (Corder and Wolbrecht 2016, 44; Stauffer and Fraga 2021, 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 SMDs.[21] Overall, the results presented in Figure 5 provide further doubts that the "type" of women and men across localities fully accounts for the effects identified in the cross-sectional models.

THE EFFECT OF ELECTORAL COMPETITION ON CHANGE IN THE GENDER TURNOUT GAP

In this section, I provide additional evidence using turnout data before and after PR reform introduced shortly after suffrage. Adopting strategy analogous to Cox, Fiva, and Smith (2016), I assess the implications of the theoretical framework with two tests: (i) whether pre-reform margin affects change in the gender turnout gap after PR and (ii) whether such effects are conditional on measures of men's turnout.

First, I regress a change in turnout measures (1918–21) on pre-suffrage margin (1918) in a pre-reform SMD.[22] I estimate that a modestly sized effect, an 18% increase (roughly corresponding to one standard deviation) in pre-reform margin, narrows the gender turnout gap by 2.6% ($p = 0.018$) (Figure 6).[23] That is, the gender turnout gap narrows the most as theorized for salient elections—in localities where the incentives to mobilize and to vote *strengthen* the most with PR reform. By comparing turnout in the *same* district

[20] Wild bootstrap returns $p = 0.06$.

[21] Comparing magnitude of effects is notoriously difficult and contested. One way to ease comparability is to report 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, 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 competition in PR on gender gap remains statistically and substantively meaningful.

[22] I follow Cox, Fiva, and Smith (2016) in all coding decisions except: (i) turnout variables use casted votes because approved votes are not available by sex; (ii) turnout and margin variables refer to decisive round (see above); and (iii) pre-reform margin refers to the last election, not average margin of four pre-reform elections, which increases N from 92 to 104. Using the original Cox, Fiva, and Smith (2020) coding returns comparable but less precise estimates ($p < 0.1$), but these estimates are not significant at the conventional level in models with full controls and/or when wild bootstrap is used (Models 4–7 in Supplementary Table A13).

[23] Wild bootstrap returns similar p-values ($p = 0.02$). Adding controls returns comparable estimates and significance (Models 13–15 in Supplementary Table A13), although wild bootstrap returns larger p-values in models with full controls ($p < 0.1$).

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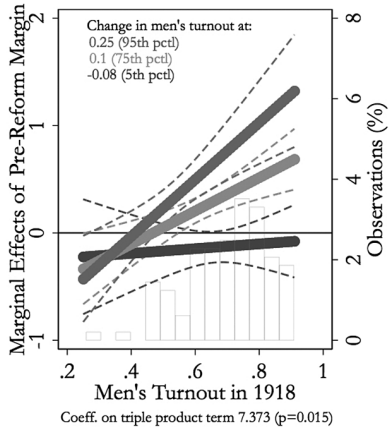
FIGURE 7. Marginal Effects of Pre-Reform Margin Conditional on Men's Turnout and Change in Men's Turnout



Note: Slopes refer to 0.25 (95th pctl), 0.1 (75th pctl), and–0.08 (5th pctl) of the change in men's turnout before and after the reform; OLS estimates; standard errors clustered on post-reform PR districts. Full results are in Model 1 in Supplementary Table A14.

before and after the reform, the result also casts further doubts on the concern that the competition-on-gap effect is confounded by characteristics of localities.

Second, I regress gender gap on a full three-way interaction of pre-reform margin, pre-reform men's turnout and change in men's turnout with PR. I estimate that the three-way interaction product term is sizable and significant at 5% (Figure 7).[24,25] Looking closely at Figure 7, the marginal effect of pre-reform margin on the change in the gender gap is statistically distinguishable from zero (and considerably larger) when pre-reform men's turnout is above 50%–55% and further increases with the reform. In turn, the marginal effect of pre-reform margin reverses signs (i) when pre-reform turnout is very low and (ii) when men's pre-reform turnout is high but decreases with the reform.

This result suggests that the gender gap narrows the most in the least competitive pre-reform districts (as shown in Figure 6) *conditional* on general incentives *increasing* with the reform from about moderate to high, as predicted. Although the relative lack of observations prevents us to make robust conclusions here, the results are also consistent with the prediction that competition *widens* the gap when competition strengthens incentives from low to moderate or indicates weakening of incentives from high to moderate—as predicted.

The two analyses above contribute to Skorge (2021)[26] and Teele (2022),[27] who seek to understand the *overall* effects of a PR reform on women's relative turnout to men in Norway. Both studies attribute the effect of PR to greater district-level competitiveness, but leave open the question of why gender turnout gap typically covaries with men's more so than with electoral systems. This article offers an explanation for these patterns by arguing that the strength of general incentives to vote within systems (not electoral systems per se) determines the size of the gender turnout gap and that this relationship is nonlinear. This section provides further support for this argument: while strengthening general incentives from moderate to high narrows the gender turnout gap (as shown in Figure 6, but also see Teele 2022), strengthening such incentives from low to moderate looks to widen the gap (as shown in Figure 7). This suggests that the observed effects of PR reform in Norway on gender turnout gap (Teele 2022, but also see Skorge 2021) may reflect sufficiently high incentives to vote across most localities before the reform rather than, unconditionally, the electoral reform.

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 major party, in the last week before election in 1906 (pre-suffrage), 1909 (post-suffrage first reform), and 1915 (post-suffrage second reform).[28] The dataset consists of 222 ads, 54 of which specifically or also called on women. The number of ads increased following women's suffrage, from 42 Conservative and Liberal

[24] Wild bootstrap returns comparable p-values ($p = 0.019$).

[25] This result is robust to adding controls and to using original coding decisions in Cox, Fiva, and Smith (2016) (Supplementary Figure A5 and Models 2 and 3 in Supplementary Table A14). In those models, wild bootstrap returns comparable p-values ($p < 0.05$).

[26] Skorge (2021) analyses municipal elections where data for district competition are not available and, therefore, cannot directly test the effect of pre-reform competitiveness on turnout.

[27] Developed concurrently with this article, Teele (2022) also applies Cox, Fiva, and Smith's (2016) approach to explaining the gender turnout gap in Norway, but bases main conclusions on descriptive evaluations—by comparing means and by plotting change in competitiveness against gender gap. The latter departs from Cox, Fiva, and Smith's (2016) approach, who regress turnout on pre-reform competitiveness, while the measure of change in competitiveness suggests a decrease in competitiveness in about half of districts (hence contradicting the conventional wisdom that competitiveness increases under PR; see Cox, Fiva, and Smith 2020). Figure 6 is, therefore, the first analysis analogous to Cox, Fiva, and Smith (2016) that regresses gender turnout gap on pre-reform margin. Importantly, Figure 7 uncovers the conditionality of these effects on measures of men's turnout and, therefore, provides an explanation of why Figure 6 (see also Teele 2022) estimates are relatively modest in size.

[28] Further information on data collection and example of ads is in Supplementary Figures A6 and A7.

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ads in 1906 to 63 ads in 1909 and 82 ads in 1915,[29] 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 post-suffrage election. In assessing whether mobilization and voting were incentivized in competitive districts, I then exploit the fact that some ads in the national newspapers encouraged turnout in specific districts.[30] 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 (Supplementary Figure A7). This is consistent with the argument that voting[31] and mobilization were incentivized in the most competitive districts and were, 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 party 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.[32] 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 municipalities (Supplementary Figure A8a). Second, I collect data on the location of local women's socialist committees.[33] The first local committee appeared in 1901, rising to 98 by 1915.[34] As expected, mean Socialist support in municipalities with at lest one municipality-specific local committee was about twice as high than in all other districts (Supplementary Figure A8b). Altogether, the results suggests that voting[35] and mobilization were incentivized in within-district strongholds and were, 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 the HHI of five occupational categories of men that broadly correspond with social class at the turn of the twentieth century.[36] The five broad occupational categories correspond to social networks and groups—e.g., trade versus teachers unions and agricultural versus industrial workers. In assessing whether electoral strongholds are more socially homogeneous in PR, I plot the HHI of electoral concentration against the HHI of occupational concentration in 1918 (the last election with SMDs) and 1921 (the first election under PR) within districts (Supplementary Figure A9d,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 (Supplementary Figure A9a,b), as former electoral strongholds under SMD fragmented after PR (Supplementary Figure A9c).

GENERALIZABILITY BEYOND NORWAY

In this section, I probe generalizability to three additional countries, where I collect data from the first parliamentary election after suffrage, or the first election available.[37] Using this larger dataset, I first show that the gender turnout gap varies with men's turnout as expected in all cases where women's turnout is observed across a sufficiently wide range of values (Supplementary Figure A10). In New Zealand and Austria, where both women's and men's turnout was almost always very high, lack of observations with low men's turnout prevents us from making robust conclusions there.

Second, I show that electoral competition measures are correlated with the gender turnout gap as expected (Figure 8; scatter plots in Supplementary Figure A11). 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 that left even the most uncompetitive districts in parliamentary elections

[29] Socialist ads are not included in this comparison, as the Socialist newspaper is only digitized in the 1909 election year.

[30] In 1909 (1915), about 40% (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).

[31] While ads primarily proxy party mobilization, they can also indicate to voters the anticipated closeness of the election.

[32] Comparable data are not available for the Socialist and Liberal parties. Further information on data collection is in Supplementary Figure A8.

[33] The Liberal and Conservative parties encouraged women's local committees, but did so mostly after women's suffrage.

[34] Further details are in Supplementary Figure A8.

[35] While the presence of local organizations primarily proxies party mobilization, it can also indicate partisan leaning of the locality to voters.

[36] These categories are agricultural workers, industrial workers, service workers, upper-middle class professionals or owners (non-workers), and dependents (students and retirees). Further information is in Supplementary Figure A9.

[37] In New Zealand and Austria, I analyze the fifth and third elections after the suffrage (see Supplementary Table A17).

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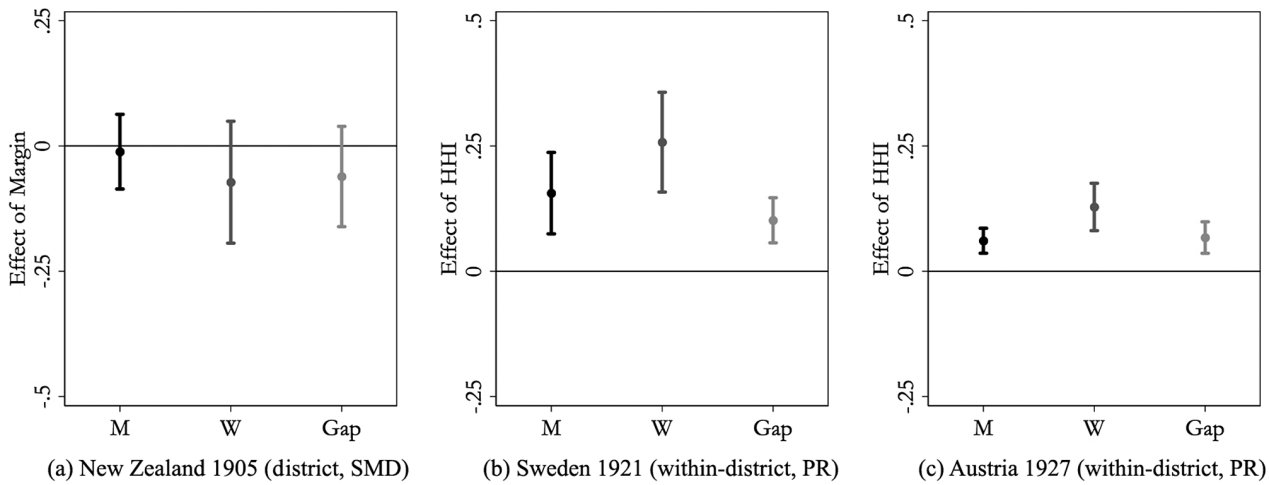
FIGURE 8. Correlates of Women's and Men's Turnout in Three Additional Countries



Note: 95% CIs; DV is men's turnout (black), women's turnout (dark gray), and gender gap (light gray); robust standard errors in SMDs; district fixed effects and clustered standard errors on district in PR; wild bootstrap returns similar *p*-values ($p < 0.01$). Full results are in Supplementary Table A18.

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.

DISCUSSION

Carefully mapping turnout of newly enfranchised women, this article makes contribution to our understanding of how women became incorporated into the electoral process. In doing so, the article has important implications for several broad research agendas. Most imminently, it offers clues on how women's turnout can be fostered in countries with significant gender gaps (see Dassonneville and Kostelka 2021; Desposato and Norrander 2009; Robinson and Gottlieb 2021). Regardless of the inclusivity of institutions or proportion of women politicians, fierce political competition and robust local concentration of stable parties within institutions may help to close global gaps.

More broadly, this article has implications for the study of how inclusive institutions affect the gender turnout gap (beyond PR; see Kim 2019, on direct democracy; Córdova and Rangel 2017, on compulsory voting). While inclusive institutions have been shown to narrow the gender turnout gap, this article suggests that such effects may be down to the inclusivity of the institution itself that provides more favorable contexts to everyone, rather than to its direct effects on women's turnout. For example, the effect of compulsory voting 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 disproportionately brings in the most undermobilized groups.

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

Finally, this article offers cues into the pathways to women's substantive 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 article remains agnostic about the technologies parties employed to mobilize women. While greater electoral engagement of women should improve the representation of their interests, the empirical assessment of the technologies that parties used to mobilize women, and the relationship between competition, mobilization, and representation, is left for future research. If organized women's groups, not parties, defined women's agenda (Morgan-Collins 2021), then strong suffrage movements may have been needed for politicians to advocate for women's interests if and when they had the incentives to mobilize them.

SUPPLEMENTARY MATERIAL

The supplementary material for this article can be found at https://doi.org/10.1017/S0003055423000473.

https://doi.org/10.1017/S0003055423000473 Published online by Cambridge University Press

DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available in the American Political Science Review Dataverse at https://doi.org/10.7910/DVN/5CNOTD.

ACKNOWLEDGEMENTS

I would like to thank various people for their advice and feedback including Lisa Baldez, Sarah Childs, Rosie Campbell, Ana Catalano Weeks, Soledad Prillaman, Rachel Bernhard, Amanda Clayton, Frances Rosenbluth, Catherine de Vries, Peter Hall, Dan Smith, Gary Cox, Jon Fiva, Andy Eggers, David Rueda, Sara Hobolt, Florian Foss, Matthias Dilling, Markus Kreuzer, Chitralekha Basu, Valeria Rueda, Lucas Leeman, Pia Raffler, Jan Pierskalla, Florian Hollenbach, Milan Svolik, Francesc Amat, Carles Boix, Peter Allen, Oyvind Skorge, Ali Cirone, Pavi Suryanarayan, Nick Vivyan, Patrick Kuhn, Sarah Liu, Selina Hofstetter, Sebastian Popa, and seminar participants at the University of Bath, Birkbeck College, Nuffield College, Norwegian Business School, University of Nottingham, Royal Holloway UoL, IPERG UoB, Harvard University, London School of Economics, and NERD, HPE, HPEW, and EGEN workshops. Hanna Folsz, Maleeha Kissat, and Eli Baltzersen provided excellent research assistance.

FUNDING STATEMENT

This work was supported by the Economic and Social Research Council, grant number ES/T01394X/1, "From Suffrage to Representation."

CONFLICT OF INTEREST

The author declares no ethical issues or conflicts of interest in this research.

ETHICAL STANDARDS

The author affirms this research did not involve human subjects.

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