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A Literature Review**

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ABSTRACT

Female Political Representation and Substantive Effects on Policies: A Literature Review*

The share of women in political offices has increased considerably over the past few decades in almost every country in the world. Does this matter for policy outcomes? This is the first paper to provide a literature review on the substantive effects of female representation on policies. In developing countries, the increase in female political representation has caused a better provision of public goods, especially with regard to education and health. In developed countries, higher female representation has not affected public policies as measured by spending patterns. However, more recent evidence shows that female representation has induced changes in parliamentary deliberations and specific policy choices (e.g. more public child care) that may not be reflected in the observable composition of public spending. Finally, higher female representation has improved institutional quality by reducing corruption and rent-extraction by those in power.

JEL Classification: D78, H00, J16, J18

Keywords: female politicians, gender, political selection, policy preferences, policy choices

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1 Introduction

The powerful forces of globalization have given rise to an unprecedented interconnectedness of countries through trade, communication and travel. However, this rise in international co-operation has not only been important from an economic perspective. Globalization has also induced a convergence in the political and social domain. Potrafke and Ursprung (2012) show, for instance, how globalization has given rise to various institutional changes towards gender equality in developing countries. These have in turn led to remarkable increases in female political participation in these countries, paralleling similar trends that have already been taking place in developed countries.

Women's political representation has indeed come a long way since the turn of the century. As of January 2019, women hold 24.3% of parliamentary seats worldwide against 13.4% in 2000. The Nordic countries continue in the lead with a share of 42.8% in 2019 (up from 38.8% in 2000), while 27 states still have a share below 10% (including three parliaments with no women at all). In the meantime, the percentage of female heads of government has increased slightly from 4.7% to 5.2% over the past nineteen years.¹ Has this increase of women in politics affected policy choices? Is this the case only for specific policy areas? Does a larger share of women in political offices affect the quality of institutions? Can an increase of women in politics have broader effects on women's empowerment? Our paper addresses these questions and is the first to provide an extensive literature review on the substantive effects of female political representation on public policy.²

One of the most prominent theoretical contributions in the political economy literature suggests that personal characteristics of officeholders do not matter for policy choices: Downs' (1957) median voter theory predicts that politicians converge on policy to cater to the median voter in order to secure re-election. Left- and right-leaning, black and white, female and male

¹Source: 'Women in Politics: 2019' map published by the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) and the Inter-Parliamentary Union.

² For a more specialized literature review on women as policymakers in developing countries focusing on the two-way relationship between women empowerment and economic development, see Duflo (2012).

politicians, all converge to a unique policy platform independent of personal characteristics. In a world in which this theory holds, gender is irrelevant for policy.

Empirically, however, we do not observe policy convergence as suggested by the median-voter model. It turns out that politicians care not only about winning elections but also about policies. This is demonstrated, for instance, by significant policy divergences along partisan lines (Lee, Moretti, and Butler, 2004). Contributions by Osborne and Slivinski (1996) and Besley and Coate (1997) gave rise to an alternative view of the political process that yields predictions in line with such empirical observations and contradicting the median voter theory. This alternative view, known as the citizen-candidate model, conjugates politicians' preferences for different outcomes and their inability to commit to moderate policies. According to this model, policy diverges depending on who wins the election. In the US, for instance, policies indeed differ depending on whether Republicans or Democrats win the election (Besley and Case, 1995, 2003).

Such policy divergence is not exclusively ideological: the citizen-candidate model extends beyond partisanship into the realm of identity politics and points to the relevance of gender for policymaking (Besley, 2005). As long as differences in policy preferences exist between men and women, gender likely affects policy. Just as mandated representatives from scheduled castes and tribes in India support policies targeted towards their own group (Pande, 2003), female representatives may address specific issues that by nature or due to traditional gender roles mainly affect women (Chattopadhyay and Duflo, 2004). If having more women in political offices enables a better representation of the overall societal preferences, it is imperative to address gender imbalances in political representation.

Yet, rising female representation is likely to have long-run effects that go beyond immediate symbolic effects of representation or substantive effects on policies in the short run. By assuming legislative and executive positions all over the world, women have the opportunity to demonstrate their competence and political expertise. Female politicians may demystify gender biases, promote policies that ease formal and informal barriers to further female engagement and provide a role model for current and future generations of women.

The remainder of the paper is structured as follows. Section 2 analyzes the reasons behind the underrepresentation of women in politics (the competitive nature of elections, details of electoral institutions, and voters' and party leaders' biases against female candidates). Section 3 surveys the literature on how the rising share of female representation in different countries and at different levels of government has influenced policy outcomes. We distinguish between observational evidence, quasi-experimental evidence, and evidence on effects regarding institutional quality. Section 4 examines the literature on the impact of today's female political representation on women's future role in politics. Section 5 concludes.

2 Obstacles to women's political representation

2.1 Women's representation: politics vs. other fields

Women are discriminated against in many aspects of life. The World Economic Forum examines the global gender gap across four leading indices: educational attainment, health and survival, economic participation and opportunity, and political empowerment. The Global Gender Gap Index benchmarks 149 countries on their progress towards gender parity on a scale from 0 (disparity) to 1 (parity) for each of these four indices. The 2018 report states a worldwide average of 0.68 on this scale, leaving a global mean distance to parity of 32% (WEF, 2018). This number masks tremendous heterogeneity among the different indices. The educational attainment and the health and survival gaps are at 4.4% and 4.6%, whereas the economic participation and opportunity gap is at 41.9%. The most substantial gender disparity, however, is in political empowerment, where the gender gap is over 77%.

An alternative, more readily available measure to capture the gender gap is the share of women in different fields. Men continue to outnumber women in science, technology, engineering, and mathematics (STEM), increasingly with each step up the ladder of the scientific research system.³ Despite comprising 43% of global PhD graduates, women account for just

³ Lundberg and Stearns (2019) show that economics has, in particular, witnessed almost no progress over the past two decades as measured by the share of women holding full professor positions in top-50 US economics

28% of the world's researchers (Huyer, 2015). Women are also underrepresented in the corporate world. A recent study of 279 American companies shows that while women comprise 48% of the workforce at entry-level, at the next management level their presence decreases to 39% (Krivkovich, Nadeau, Robinson, Robinson, Starikova, and Yee, 2018). More women are left behind with each step up to the top, where women hold only 23% of the executive positions.

Yet, the most striking gender disparity based on the share of women is still in politics. Despite the recent increase in political representation, women remain sidelined, particularly in executive and leadership positions. As of January 2019, only nineteen women worldwide are head of state or head of government, and only 20.7% of ministers are female.⁴ Understanding the lack of female political representation may shed light on the genesis of gender imbalances in other fields. Moreover, addressing the gender gap in political representation may help to alleviate the gender gap in other areas of society through policymaking.

2.2 Reasons for low female representation in politics

Four main theories explain why women are underrepresented in political offices. First, women may be less inclined to run for office in a competitive setting.⁵ Scholarly work finds that women are less willing than men to enter competitive situations (Niederle and Vesterlund, 2007). A strand of the literature attributes this unwillingness to women being less capable than men in competitive environments, in particular when competing against the opposite sex (Gneezy, Niederle, and Rustichini, 2003). Indeed, Eisenkopf, Hessami, Fischbacher, and Ursprung (2015) find support for this view in the classroom. The authors exploit a natural ex-

departments. This stagnation is in stark contrast to other fields such as sociology, political science, chemistry, engineering and psychology.

⁴Source: see footnote 1.

⁵Note that there may also be other related features of political life that keep women from entering politics. Late meetings and intense networking and bonding to gain intra-party support in a male-dominated environment are part of a culture that has evolved over centuries and that was originally not designed to include women. These aspects may especially dissuade those women from entering politics who are highly-educated and who have small children or other family care obligations.

periment in Switzerland that randomly assigned female high school students to coeducational and single-sex classes. Female students' performance in mathematics, a competitive domain, improves in single-sex classrooms.⁶ However, Niederle and Vesterlund (2007) show that the gender gap in competitiveness persists conditional on performance; even in the absence of a gender gap in performance, men still choose competition at a much higher rate than women.⁷

Despite these findings, Gneezy, Leonard, and List's (2009) comparison of matrilineal and patriarchal communities forcefully demonstrates that it is possible to nurture women into being more competitive. Women's unwillingness to compete is in all likelihood (partly) due to societies' norms and traditional gender roles. Fox and Lawless (2004) show that equally qualified and experienced women end up running for office less often than their male counterparts simply because the men are explicitly encouraged to run while the women are not. Based on these results, measures that promote the inclusion of women in politics may be necessary to level the playing field as women's dislike for competition means there are fewer female candidates to start with. Even if they are as successful as men in within-party competitions or in elections, female politicians will remain underrepresented if this starts at the candidacy level.

A second reason for female underrepresentation in political offices is that voters may be biased against female candidates (Frechette, Maniquet, and Morelli, 2008). Evidence from both developed and developing countries strongly supports this view. For instance, Beaman, Duflo, Pande, and Topalova (2007) find (male and female) villagers in India less satisfied with female

⁶See Niederle and Vesterlund (2010) for a detailed discussion on the role of competition for the gender gap in math test scores.

⁷Existing evidence suggests that male overconfidence (Barber and Odean, 2001) as well as female risk aversion and preferences against competitive environments explain the gender gap in competitiveness. Overconfidence is a determinant of men's competitiveness not only in the lab (Croson and Gneezy, 2009) but also in real-world education and career choices (Buser, Niederle, and Oosterbeek, 2014). The finding that women are more averse to risk than men is also well-documented (Eckel and Grossman, 2008). Also note that Gillen, Snowberg, and Yariv (2019) show in a recent study how the gender gap in competitiveness by Niederle and Vesterlund (2007) cannot be replicated once a correction for measurement error is made and that the gender gap is well explained by risk attitudes and overconfidence.

leaders despite a level of public goods provision that at least matches and in some instances surpasses the provision by male leaders in terms of quantity as well as quality.⁸ Le Barbanchon and Sauvagnat (2019) show that voter bias (measured by unfavorable voter attitudes towards women and the local gender earnings gap) correlates negatively with the share of female candidates in parliamentary elections in France, while Baskaran and Hessami (2018) provide indirect evidence for anti-female voter bias in the context of local council elections in Germany.⁹

A third explanation is that party leaders are biased against women. Esteve-Volart and Bagues (2012) show that Spanish party leaders, who historically have been men, field fewer women than voters would prefer and to constituencies or ballot positions with few chances of success. Similarly, Casas-Arce and Saiz (2015) show that the Spanish parties most affected by a gender quota introduced in 2007 significantly improved their electoral performance, suggesting that parties were not maximizing their performance before the quota.¹⁰

Besides these supply- and demand-side explanations, as of late researchers have turned their attention to institutional barriers to female representation as a fourth explanation. Upon observing that the percentage of women elected in proportional and mixed systems is noticeably higher than in majoritarian (i.e. personalized winner-takes-all) systems, Profeta and Woodhouse (2018) investigated the Italian system that since 2005 relies on both majoritarian and proportional elections at the national and subnational level. The authors confirm that propor-

⁸Brollo and Troiano (2016) show that female mayors enjoy a 20 percentage point lower incumbency advantage than male mayors despite providing at least as good public services and attracting higher discretionary transfers for the municipality. These findings, however, appear to have less to do with bias and more to do with male politicians' strategic activities to gain re-election.

⁹The paper shows that in open-list elections female candidates achieve a rank improvement over their initial list rank when a female mayor has recently entered the mayor's office in a close race against a male candidate. The authors provide evidence that excludes a number of alternative explanations and thereby indirectly illustrate the existence of anti-female voter bias.

¹⁰This evidence can be interpreted as a case of taste-based discrimination, as put forward by Becker (1957), where decisionmakers are even willing to incur costs to avoid interacting with a certain minority group that they dislike.

tional rules favor the election of women. Also in Italy, a reform in 2013 led to the introduction of double preference voting conditional on gender coupled with gender quotas on candidate lists. Baltrunaite, Casarico, Profeta, and Savio (2019) investigate the impact of this policy. The authors find a significant 18 percentage point increase in the share of female councilors driven primarily by an increase in preference votes cast for women.

3 Consequences of women's political representation

3.1 Gender gap in preferences and priorities

The lack of women in politics is not only undesirable for symbolic reasons or on the grounds of equity considerations regarding career advancement in the political arena. It is especially unwanted if the preferences and choices of men and women in power markedly differ. Experimental and survey-based studies indeed suggest a gender gap in social preferences and priorities with women consistently favoring more redistribution than men.

Eckel and Grossman (1998) find in lab-based dictator games that recipients paired with women receive twice as much as those paired with men. Andreoni and Vesterlund (2001) conclude that women are more concerned with equalizing earnings, whereas men are more concerned with maximizing efficiency. Gender differences in social preferences and equity concerns are also documented through evidence from a field study in India which shows that matrilineal societies provide more public goods than patriarchal ones (Andersen, Bulte, Gneezy, and List, 2008). Western societies even appear to be evolving towards a widening gender gap in social preferences with women becoming increasingly left-wing both in the US (Edlund and Pande, 2002) and in Europe (Edlund, Haider, and Pande, 2005). Such gender gaps in social preferences likely lead to gender gaps in political preferences (Ranehill and Weber, 2017).¹¹

¹¹A related literature finds that female voters' enfranchisement has historically led to a larger government size and more redistribution. Lott and Kenny (1999) and Miller (2008) connect women's enfranchisement in the early twentieth century in the US with an expansion in government size especially through a rise in healthcare expenditures. Aidt and Dallal (2008) provide similar evidence for social spending in a sample of European countries.

In line with this, survey-based and observational studies reveal consistent gender gaps in policy preferences and priorities. In India, Chattopadhyay and Duflo (2004) identify gender gaps in policy preferences using data on policy-specific complaints raised by male and female residents in village councils. Alesina and La Ferrara (2005) show based on a US survey that women are generally more supportive of redistributive policies than men. Funk and Gathmann (2015) exploit data from surveys held shortly after federal referendums in Switzerland and show that there are significant gender gaps in preferences in specific areas: health, the environment, defense spending, and welfare policy. Finally, Slegten and Heyndels (2018) provide survey evidence for within-party differences in policy preferences for crime, culture and welfare; female parliamentarians in Belgium express more left-wing positions in these policy domains than male parliamentarians from the same party.

3.2 Women's impact on policy choices

3.2.1 Observational evidence

Observational studies typically consider disaggregated outcomes and look closely at the legislative process. In general, data links an increase in female representation with a higher propensity for women legislators to introduce and pass priority bills dealing with women's issues (Thomas, 1991; Schwindt-Bayer, 2006). Women's issues are those that directly and disproportionately affect women, such as abortion legislation (Berkman and O'Connor, 1993), or that due to traditional gender roles mostly affect women, e.g. family assistance and child support laws (Besley and Case, 2003).

Cross-country studies show that female representation is positively correlated with the promotion of various women-friendly policies regarding maternity and childcare leave (Kittilson, 2008). Weeks (2017) shows how an increase in the fraction of women legislators after the introduction of gender quotas in different European countries positively correlates with policies promoting maternal employment. Similar correlations exist at the local level. Bratton and Ray (2002) find a link between the share of women in Norwegian local councils and childcare

coverage. Likewise, Svaleryd (2009) connects the share of women in Swedish local councils to spending on childcare and education.

However, women could be focusing on these issues not by choice but because male-dominated legislatures give them no alternative (Heath, Schwindt-Bayer, and Taylor-Robinson, 2005; Schwindt-Bayer, 2006). Indeed, given a chance, women could potentially influence other policy areas from aid to national security. Studies show that a higher fraction of female representatives correlates with more development aid (Hicks, Hicks, and Maldonado, 2016) and public expenditures on health (Clayton and Zetterberg, 2018) across countries. Conflict behaviour and defence spending, in contrast, appear to decrease with a rise in the proportion of female representatives (Koch and Fulton, 2011). Furthermore, in the US, female representation is a significant predictor of state workers' compensation policy (Besley and Case, 2000) and funding for social welfare (Holman, 2014).

Overall, the early literature based on a selection-on-observables approach suggests that female political representation indeed matters for many policy choices. The above studies, however, may not cleanly identify the causal link between female politicians and policymaking. The lack of randomization in the assignment of women to political positions poses a complex empirical challenge. The election of female politicians could be endogenous to unobserved country or municipality characteristics. In the absence of exogenous variation in the share of female representatives, policy decisions can be wrongly attributed to the gender of the policymaker rather than to the specificities of the constituencies that elect women. To overcome this problem, researchers have moved towards quasi-experimental regression methods and settings with (quasi-)random variation in female representation.

3.2.2 (Quasi-)Experimental evidence from developing countries

A setting that attracts much attention is the Indian mandate reservation system. Since 1993, a gender quota reserves one-third of the seats in all village councils as well as the leadership position in randomly selected village councils for women. Due to the randomness of the as-

signment mechanism, researchers can attribute differences in policy outcomes to the presence of a female village head.

Villages assigned a female leader are found to provide more public goods (Beaman, Duflo, Pande, and Topalova, 2007) that better reflect women's preferences (Chattopadhyay and Duflo, 2004), and whose quality is at least as high as in unreserved villages (Beaman, Duflo, Pande, and Topalova, 2007). As a consequence, children do better along health dimensions, girls spend less time on household chores, and the gender gap in school attendance and educational attainment decreases more strongly in villages with a female leader than in those with a male leader (Beaman, Duflo, Pande, and Topalova, 2007, 2012).

In addition to Indian local politics, Indian state politics also receive serious consideration. Given the absence of a reservation system at the state level, studies usually exploit variation from mixed-gender close elections for causal identification. Clots-Figueras (2011) uses the share of female politicians that win mixed-gender close elections to instrument for the share of female politicians in state assemblies. Results suggest that both the gender of legislators as well as their social position determine state expenditures. Specifically, even though female legislators invest more in health and education than their male counterparts, there is a difference between female legislators from lower socio-economic backgrounds as compared to those from higher castes. The former invest more in health and early education and favor women-friendly laws and redistributive policies such as land reforms, while the latter prioritise higher tiers of education, reduce social expenditure and oppose land reforms.

Following the same approach, Clots-Figueras (2012) reveals that constituencies that elect females benefit from higher investments into education, while Bhalotra and Clots-Figueras (2014) show that female politicians are more likely than male politicians to invest in public health infrastructure (provision of antenatal and childhood health services) that leads to a significant reduction in infant mortality. In contrast to the results in Clots-Figueras (2011), these findings do not hinge on the social status of female politicians.

All in all, these studies causally link female representation in India to higher investments in education and health. To assess the impact of these policies on the economy, a recent study

by Baskaran, Bhalotra, Min, and Uppal (2018) investigates the effect of female representation on economic growth. The authors also use data on mixed-gender close elections to state legislatures in India but in contrast to previous studies rely on a regression discontinuity design (RDD). The results suggest that constituencies barely electing women perform better in terms of GDP growth than those barely electing men.

3.2.3 (Quasi-)Experimental evidence from developed countries

The experiences of one country – namely, India – with female representation may extend neither to other developing countries nor to the established democracies of the West. This turns out to be true, as in contrast to the previous findings, researchers investigating the impact of an increase in the fraction of female politicians in developed countries find no impact on policy choices, especially in terms of the composition of public spending.¹²

Bagues and Campa (2017) exploit population thresholds with RDD estimations to assess the impact of the introduction of a gender quota on candidate lists in Spain and find no impact of increased female representation on the composition or size of public expenditures. Ferreira and Gyourko (2014) exploit mixed-gender close mayoral elections in the US within an RDD and find that gender does not matter for policy decisions on the size and composition of municipal spending. Geys and Sorensen (2019) exploit gender quotas on candidate lists for the local executive board in Norway using heterogeneity in the shock in female representation for the different municipalities and also find that this does not affect local spending patterns. Baltrunaite, Casarico, Profeta, and Savio (2019) find that an 18 percentage point increase in the share of female local councilors due to a reform of the electoral system in Italy did not affect the structure of public expenditure.

¹²One recent and notable exception is the study by Casarico, Lattanzio, and Profeta (2019) which finds in an RDD setting that female mayors in Italy spend more (especially on administration, road safety and social services) and collect more revenues than male mayors. Additionally, the study finds that female mayors are more effective in cutting expenditures when being forced to implement fiscal adjustments.

However, two recent studies suggest that the effect of female politicians may be underestimated or overlooked if one focuses only on the size or composition of public spending as the primary outcome variables. Baskaran and Hessami (2019), provide evidence for a significant effect of female political representation on policy choices. The authors exploit an open-list electoral system in Bavaria and run RDD regressions centered around mixed-gender races for the last council seat that accrues to a party. A female victory in a mixed-gender race is found to accelerate the expansion of public child care provision by 40-50%. Using detailed information from council meetings, the authors also show that an additional woman in the council leads to more frequent discussions on child care and induces all female councilors to speak up more often. This points to the importance of looking at detailed policy areas and zooming in into the political process and the behavior of female politicians.

Lippmann (2019), in turn, leverages quasi-random variation in the entry of women into the French Upper and Lower House via affirmative action and mixed-gender close elections to analyze amendments put forward by legislators. Lippmann (2019) finds female legislators much more likely to author amendments on women's issues or child and health issues than male legislators. This finding reiterates the importance of looking more closely at the actions of individual officeholders in investigating their (potential) impact on policy.

3.3 Women's contribution to the quality of institutions

Researchers hypothesize that gender differences in policy choices and policy outcomes may stem from a gender gap in rent-extracting behavior. Survey-based analyses of corruption and bribe-taking lend some support to this idea: Dollar, Fisman, and Gatti (2001) and Swamy, Knack, Lee, and Azfar (2001) find a negative relationship between female representation and different measures of corruption relying on survey data from large samples of developed and developing countries. Women are less likely to accept bribes as well as to condone corruption.

However, given the formal and informal barriers to female representation, the glass ceilings and unequal opportunities, settings in which the share of women in political offices is higher may be less corrupt for the same reason that they are so welcoming towards women.

This is for instance illustrated in a recent cross-country study by Debski, Jetter, Moesle, and Stadelmann (2018) that shows how correlations between female representation and corruption may be driven by a spurious correlation via cultural differences. So far, causal evidence on the impact of gender on political corruption exists only for a few developing countries.

Beaman, Duflo, Pande, and Topalova (2007) show that residents in villages with female-reserved councils in India are less likely to pay bribes to be eligible for public program benefits or a water connection. Furthermore, Baskaran, Bhalotra, Min, and Uppal (2018) find female state legislators significantly less likely than male state legislators to have criminal charges pending against them and to accumulate assets while in office. Female representatives also appear less vulnerable to political opportunism in the form of increased effort in the face of stronger electoral incentives. In Brazil, Brollo and Troiano (2016) run RDD estimations using data on mayoral elections and find a negative impact of female representation on corruption, objectively measured by random audits of local administrations. Consistent with this result, not only do female mayors hire less temporary public employees in the election year, but they also receive fewer campaign contributions. These insights suggest that female mayors engage less in patronage and are less susceptible to private electoral or financial interests.

One important aspect to keep in mind here, however, is that women who enter politics may be special in terms of their qualification and ambition compared to the overall population of women. This is suggested by studies which find that female politicians improve the overall quality in the pool of politicians (Baltrunaite, Bello, Casarico, and Profeta, 2014; Besley, Folke, Persson, and Rickne, 2017). Moreover, several empirical studies have investigated whether male and female politicians in charge of political institutions differ in terms of quality with the evidence suggesting that female politicians are at least as qualified as male politicians (Bagues and Campa, 2017), and that women elected via quotas are no less qualified than their competitively elected female counterparts (Weeks and Baldez, 2015).¹³ Therefore, it is not clear whether the estimates for the effect of female politicians on policy outcomes and the quality

¹³This relates to findings from the labor economics literature that affirmative action to reduce discrimination does not necessarily compromise performance or efficiency (Holzer and Neumark, 2000).

of institutions could be confirmed in a setting where female politicians are not as positively selected as they currently appear to be.

4 Women's empowerment through politics

An important area of research concerning female representation deals with its impact on the future of women in politics. Exposure to female representation can have a powerful effect on how voters perceive women and how women see themselves and their role in society.

First, female politicians have the opportunity to debunk entrenched biases and prove their worth. Beaman, Duflo, Pande, and Topalova (2012) study parental aspirations in India within the context of the mandate reservation system where parents generally have higher hopes for boys. After two election cycles with a female leader, though, the gender gap in parental aspirations decreases significantly. Similarly, Beaman, Chattopadhyay, Duflo, Pande, and Topalova (2009) and Bhavnani (2009) find that exposure improves voters' perceptions of female leaders. In Indian villages previously assigned a female leader, women are more likely to win elected positions for the village council.

When it comes to spillover effects and the future success of female politicians in developed countries, however, the evidence is mixed. On the one hand, Baskaran and Hessami (2018) show that female candidates are voted up from their initial list ranks in the German context of open-list local council elections in municipalities in which a female mayor was closely elected. This effect is shown to spread to neighboring municipalities, raising the overall share of female councilors. O'Brien and Rickne (2016) find that gender quotas on candidate lists in Swedish municipalities increase the pool of female politicians perceived as qualified for leadership positions. And, De Paola, Scopa, and Lombardo (2010) show that Italian municipalities affected by temporary gender quotas in the past elect a higher share of female mayors even after the abolition of the quota.

On the other hand, in contrast to the findings from the three previous studies, Geys and Sorensen (2019) see no spillovers of a candidate list quota for the local executive board in Nor-

way on women's political representation in different local-level positions. Similarly, Bagues and Campa (2017) find that after three rounds of local elections under a quota on candidate lists in Spain, women still do not reach influential offices such as party leader or mayor. Also, Ferreira and Gyourko (2014) see no spillovers from electing a female mayor in US cities on the political success of other female mayor or Congress candidates in the long run.

Second, inspired by current-day role models new generations of women may strive for the political arena. Indeed, Wolbrecht and Campbell (2007) find that, in countries with a higher share of female parliamentarians, adolescents girls and adult women are more likely to talk about and participate in politics. Moreover, besides changing parental aspirations, exposure to female leaders in India also induces adolescent girls to become more ambitious (Beaman, Duflo, Pande, and Topalova, 2012).

Yet, the likelihood of an increase in the number of women standing for election is uncertain. In villages previously assigned a female leader, women are more likely to run for elected positions for the village council (Beaman, Chattopadhyay, Duflo, Pande, and Topalova, 2009). At the level of state politics, however, the electoral success of female legislators does not lead to an increase in the candidacy of women (Bhalotra, Clots-Figueras, and Iyer, 2018).

Third, through policymaking female politicians can ease the existing barriers to the participation of women in society in different areas and at different levels (Schwindt-Bayer and Mishler, 2005). Beaman, Duflo, Pande, and Topalova (2007) find that in general assemblies headed by a female leader women are more involved and more likely to voice their opinions and concerns and to promote decisions that benefit women. For instance, Ghani, Mani, and O'Connell (2013) show that female representation has increased the assignment of working hours to women under a new national public works program in India.

5 Conclusion

Deepening international cooperation through the forces of globalization has given rise to various economic, political, and social developments that have spread throughout all countries.

One prominent development is the remarkable increase in female political representation over the last three decades, both in developing and developed countries. Today more women are in politics than ever before, and the year 2018 was even hailed as “The Year of the Woman”. In the US, a record number of women sit in Congress and are running for president in 2020. Unprecedented female representation in the European Parliament and the election of the first female European commission president accompany this trend.

Nevertheless, the extent to which women participate in politics differs widely across regions of the world. So does the extent to which they (can) influence policymaking. This review surveyed the literature on the impact of female representation on policy decisions and outcomes across different countries and tiers of government. Observational studies can identify policy areas of prominent concern to women. However, studies addressing the identification problems inherent to the election of female politicians may be more likely to allow for a causal interpretation of the impact of women on policymaking. Despite the growing number of studies on gender differences in policymaking relying on (quasi-)random variation in the number of female representatives, the coverage is not global. Evidence is limited to the US, a handful of European countries, and India. An obvious avenue for future research is to collect evidence from other areas of the world. The findings collected so far, however, do follow specific patterns.

Studies show that Indian female politicians in leadership positions at the village level and legislative positions at the state level share similar concerns and affect policy accordingly. Specifically, female representation leads to higher investments in public goods, particularly in the areas of health and education (Chattopadhyay and Duflo, 2004; Beaman, Duflo, Pande, and Topalova, 2007; Clots-Figueras, 2011, 2012). Moreover, these investments contribute to meaningful goals such as the closure of the gender gap in educational attainment (Beaman, Duflo, Pande, and Topalova, 2012), reduction of child mortality (Bhalotra and Clots-Figueras, 2014), and higher economic performance (Baskaran, Bhalotra, Min, and Uppal, 2018).

In contrast, female politicians elected as mayors in the US (Ferreira and Gyourko, 2014), municipal councilors in Spain (Bagues and Campa, 2017) and Italy (Baltrunaite, Casarico,

Profeta, and Savio, 2019), and to the local executive board in Norway (Geys and Sorensen, 2019) do not significantly affect the size or composition of public expenditures.

However, the two studies by Baskaran and Hessami (2019) and Lippmann (2019) demonstrate that the effect of female politicians on policymaking may be overlooked if one focuses on aggregate spending variables as relevant outcomes. Developed countries typically already allocate large shares of their budget and, in absolute numbers, large amounts of public resources to the policy areas that women affect in developed countries, i.e. education, health, and social transfers.

Baskaran and Hessami (2019) and Lippmann (2019) show that women legislators affect the topics discussed in council or parliamentary deliberations and policy decisions such as the number of child care spots in a municipality. Baskaran and Hessami (2019) also show that providing more child care spots does not affect spending patterns in municipalities. The reason is that any spending category is affected by many policy choices. Thus, aggregate effects may cancel each other out. Therefore, future studies on developed countries must focus on outcome variables that go beyond the size and composition of public spending to not overlook the effects that female representation may have on policy.

Moreover, one should be aware that as the number of women in politics increases further, and women have more opportunities to advance their priorities, the effects of female representation on policy outcomes might become more visible. For instance, women may not have reached the “critical mass” or had enough time to influence policy decisions.¹⁴ Indeed, some studies have put forward the idea that a minimum percentage of female politicians are needed to impact policy (Beckwith, 2007). However, even if that is not the case, research shows that female representation is nevertheless desirable.

Finally, for methodological reasons and data limitations, much of the (quasi-)experimental evidence comes from studies on the local government level or state legislatures. Observational

¹⁴Alternatively, as pointed out at the end of Section 3.3, it may also be the case that as more women enter politics, the effects of female representation on policy outcomes may become smaller as female politicians may represent a less “special” selection among women.

studies, however, link an increase in female representation to changes in policy outcomes of national and international scale such as development aid, defense spending, and conflict behavior (Hicks, Hicks, and Maldonado, 2016; Koch and Fulton, 2011). Hence, one should expect an increase in female representation to affect the relations between countries at the same time as it affects national affairs. As female political representation continues to expand and gains more traction, future studies should investigate how female politicians at the national and international levels compare to their male counterparts in tackling today's major global issues, such as international trade and cooperation or the fight against climate change.

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