The Policy Representation of Women and Men in Comparative Perspective

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Abstract

Are the preferences of women and men unequally represented in public policies? This simple yet fundamental question has remained largely unexplored in the fast-growing literatures on women's representation and inequality in the opinion-policy link. Furthermore, the few studies on the topic comes to differing conclusions. This study analyzes gender biases in policy representation using an original data set covering 43 countries and four decades, with citizens' preferences regarding more than four thousand country-year-policies linked to information about actual policy change. Our analysis reveals clear and robust evidence that women's policy preferences are underrepresented compared to those of men. Distinguishing different forms of representation, we see large inequalities in influence but small inequalities in congruence, the latter owing to overlapping preferences. We also find substantial macro-level variation in representation, with exploratory analyses suggesting women's substantive underrepresentation is mitigated in contexts with high levels of female descriptive representation and labor market participation. In sum, our study shows that gender inequality extends to the important realm of policy representation, thereby perpetuating the social disadvantages faced by women. But the fact that political inequality varies systematically with political-economic factors also suggests some avenues that may be followed in the pursuit of more equal representation.

Introduction

One of the oldest and deepest fault lines in society is that between men and women. Despite variations across time and space, and progress in some areas, women continue to face structural disadvantages in economic, political and social life (e.g. World Health Organization, 2013; Inter-Parliamentary Union, 2021; Organization for Economic Cooperation and Development, 2021). These many and interwoven inequalities raise the question whether they extend to, and, indeed, have their roots in the policy process. More specifically, are the preferences of women and men unequally represented in public policies?

This question brings us to the intersection of two literatures in the field of representation. On one side is the vast literature on women's representation, where many studies analyze whether and particularly how women's interests are represented in politics (substantive representation) (Childs and Krook, 2006; Wängnerud, 2009). For instance, a well-established finding is that women's substantive representation is enhanced by the presence of female policymakers (descriptive representation) (Thomas, 1991; Weldon, 2002; Chattopadhyay and Duflo, 2004; Lawless, 2015). On the other side is a more recent but fast-growing literature on inequality in the opinion-policy link (Erikson, 2015; Peters, 2018). Most of these studies have been directed at differences between the poor and the affluent, showing that the preferences of the rich exert outsized influence on policy in many established democracies (Gilens, 2012; Bartels, 2016; Schakel, Burgoon and Hakhverdian, 2020; cf. Elkjær and Iversen, 2020). In this study, we combine the themes of the first literature with the research design of the second to analyze potential gender inequality in policy representation.

To the limited extent that this approach has been applied in previous studies, scholars have come to differing conclusions. Some authors find that political outcomes align more with the preferences of men than of women (Reher, 2018; Homola, 2019; Weber, 2020), while others conclude that women are not substantively underrepresented (Griffin, Newman and Wolbrecht, 2012; Bernauer, Giger and Rosset, 2015; Dingler, Kroeber and Fortin-Rittberger, 2019). We make several contributions to this nascent literature by covering many more countries, year and policy issues than previous studies, by measuring actual policy changes instead of more indirect measures such as party positions, and by analyzing both congruence (who got what they wanted?) and influence (who affected what they got?).

These contributions are possible due to a unique and original data set which combines existing survey data on preferences for policy proposals with hand-coded information about the implementation of the same proposals after five years. In total, our data covers 43 countries, four decades (1978 to 2017), with the preferences of almost two million respondents linked to 4758 country-year-policies. In addition, we supplement this cross-national data with country-specific datasets from the United States, Germany, the Netherlands and Sweden, collected for previous research (Gilens, 2012; Persson and Gilljam, 2017; Elsässer, Hense and Schäfer, 2020; Schakel, 2021).

Our analysis reveals clear and robust evidence that women's policy preferences are underrepresented compared to those of men. When it comes to congruence, this unequal representation is real but also very limited, owing to the close correlation of women and men's preferences. However, biases in influence are much more pronounced, such that men wield substantial influence over policy while women wield little to none. These results hold in both our country-comparative and country-specific datasets, pointing to structural inequalities that transcend specific political contexts. The implication is that much of the representation of women seems to be a 'coincidental' byproduct of their agreement with men (cf. Enns, 2015; Gilens, 2015).

In the second part of the analysis, we dig deeper into the contextual variation in unequal representation, which reveals substantial differences between countries. Exploratory analyses consider whether this variation can be explained by women's descriptive representation, socio-economic status, political participation and broad cultural conventions. We find preliminary evidence that the first two of these mitigate gender-based inequalities, with smaller representation gaps in contexts where women are more present in politics and have higher levels of labor market participation.

In sum, our study shows that gender inequality extends to the important realm of policy representation, thereby perpetuating the social disadvantages faced by women. From a normative perspective, this is surely a troubling result, particularly if we take the view that governments should afford unbiased influence over policy to both women and men. However, the fact that this inequality varies across contexts due to political-economic factors also suggests some avenues – even if only in a very preliminary way – that can be followed in the pursuit of more equal representation.

Theory

Gender inequality continues to be a universal phenomenon. Even in relative progressive societies, women face many disadvantages in economic, political and social life. To name but a few examples, labor market participation is lower for women than for men almost everywhere (United Nations Development Programme, 2020), and median earnings of women are also consistently lower (Organization for Economic Cooperation and Development, 2021). Many women experience significant burdens within the household, including the threat of domestic violence (World Health Organization, 2013). And as of 2021, there are only three countries in the world where a (slight) majority of politicians are female (Inter-Parliamentary Union, 2021). Regardless of many details and variations, then, the general existence of gender inequality is undeniable.

For our purposes, however, the relevant question is whether these inequalities have political roots. That is to say, can women's general disadvantages be attributed to the fact that their views are ignored by policymakers when compared to the preferences of men? As mentioned in the introduction, this question brings us to the intersection of two literatures within the study of representation.

The first, voluminous literature studies the substantive representation of women (for reviews, see Childs and Krook, 2006; Wängnerud, 2009; Lawless, 2015). Most analyses on the topic analyze the conditions under which women's interests are well represented, such as the numerical presence of female politicians (Thomas, 1991; Weldon, 2002; Chattopadhyay and Duflo, 2004). In several ways, this strand of the literature is based on a top-down understanding of representation. For one thing, researchers tend to identify citizens' interests by assumption, for example, arguing that an expansion of reproductive rights must be in women's interests (e.g. Franceschet and Piscopo, 2008). More often than not, it is also based on elite rather than citizen behavior, as in the case of the link between descriptive and substantive representation.

A second literature focuses on the effects of public opinion on policy (reviews include Shapiro, 2011; Canes-Wrone, 2015; Erikson, 2015). For our purposes, the most relevant part of this literature is about inequality in the opinion-policy link, where many studies show that policy is more responsive to the preferences of the rich than to the preferences of less affluent citizens (Gilens, 2012; Bartels, 2016; Persson and Gilljam, 2017; Schakel, Burgoon and Hakhverdian, 2020; cf. Branham, Soroka and Wlezien, 2017; Elkjær and Iversen, 2020). These studies reveal

a more bottom-up understanding of representation: they focus on citizens as actors and impose no restrictions on their interests in terms of policy areas or positions, instead simply measuring their self-identified preferences using surveys.

This characterization of the two literatures is, of course, very coarse, but it does help to situate our own approach and contribution. In this study, we combine the themes of the first literature with the research design of the second. Like the first literature, we focus on the substantive representation of women and men, while we follow the second literature by analyzing the opinion-policy link. Citizens are thus seen as better represented if policies that align with their stated preferences are implemented, regardless of their content.

It should be noted that such an approach is subject to a number of potential criticisms, particularly by taking the bottom-up perspective on representation. For one thing, there is considerable skepticism over the ability of average citizens to develop informed preferences. One implication of this is that the opinion-policy link will, at most, pick up the adaptation of opinions to policy cues instead of the reverse (Achen and Bartels, 2016, p. 313). Second, and more specific to our topic, scholars of women's representation often point out that citizens' interests may be 'uncrystallized' at any point in time (Mansbridge, 1999). It is precisely in the process of representation that people develop an understanding of their interests, so the argument goes (Saward, 2010). Both criticisms question the value of citizens' policy preferences and its impact on actual policy.

Needless to say, space limitations prevent us from doing justice to these views and their own critics. Much of this harkens back to the age-old debate over the ability of citizens to recognize their own interests, which will not be settled any time soon. Nevertheless, we mention a few considerations which, in our view, justify taking the bottom-up approach. First, we readily acknowledge both the limitations of public opinion and the limitations of measuring it using surveys (Berinsky, 2017). At the same time, many studies show that aggregated opinion is stable and coherent, and is an exogenous force which influences policy (Erikson, Mackuen and Stimson, 2002; Hakhverdian, 2010). Second, interests – and preferences – surely change over time, but survey questions also measure the *outcome* of a process of 'constructing' interests in the period before the survey (Converse, 1987). Furthermore, while preferences may be updated and refined over time, it is highly unlikely that they will flip completely in the short to medium run, particularly on the aggregate level (Page and Shapiro, 1992). Hence, we take the view that

citizens' preferences are a meaningful (though imperfect) indicator of their interests. And while the opinion-policy link is only a part of a much larger process of representation, it is a significant part which can be meaningfully studied on its own.[1]

Precisely because of the split between the top-down and bottom-up literatures, the representation of women and men's preferences has not been studied extensively in the past. Furthermore, to the limited extent that previous studies have addressed this question, they have found differing answers. Some authors conclude that political outcomes align more with the preferences of men than of women (Reher, 2018; Homola, 2019; Weber, 2020), while others find that women are not substantively underrepresented (Griffin, Newman and Wolbrecht, 2012; Bernauer, Giger and Rosset, 2015; Dingler, Kroeber and Fortin-Rittberger, 2019). Hence, further analysis covering more data is needed to square this debate. This is where we aim to make a contribution.

As briefly mentioned in the introduction, we make several improvements to these studies on policy representation by gender. First, our data covers many more countries, years and policy issues compared to previous analyses, allowing us to make broader inferences about the extent of unequal representation. Second, our extensive data set also gives us better leverage to explore the contextual factors that moderate gender inequality in representation (see below). Third, we analyze both congruence and influence (also explained below), whereas previous studies only focus on one or the other, even though both are important facets of representation, And fourth, most studies use party positions as their dependent variable, which is arguably a very imperfect proxy for actual policy outcomes. A particularly relevant consideration here comes from the study of the descriptive-substantive link, which has argued that women's interests are often obstructed in later stages of the policy process (Franceschet and Piscopo, 2008; Volden, Wiseman and Wittmer, 2018). To the extent that this applies, analyzing party positions will underestimate any inequality in substantive representation.

[1] We may add that the main alternative – identifying women's interests by assumption – also has major limitations. It is often unclear how "women's issues" or "women's interests" are established, and who has the authority to decide on them. In practice, different actors often have different understandings of women's issues (Celis *et al.*, 2014). More broadly, this approach simultaneously assumes too much by implying that all women have the same interests, and assumes too little by implying that women do not have any interests beyond a relatively narrow set of women's issues.

Coming to our hypotheses, can we expect that policy representation is generally weaker for women than it is for men? To answer this question, we first need to specify what we mean by policy representation. As Larry Bartels notes in a recent commentary, there is a lot of confusion in the literature on unequal representation about what to measure and how to measure it, with some people using the same terms to describe different concepts, and vice versa (Bartels, 2021). We follow Bartels in distinguishing between congruence and influence. Congruence reflects who gets what in purely descriptive terms, while influence indicates who exerts a causal influence on policy. Both concepts fall under the broader umbrella of substantive representation.[2]

Starting with influence, there are various factors which suggest that men wield more political influence than women, each of which is closely tied to the broader expressions of gender inequality mentioned above. First, studies consistently find that women have lower levels of political knowledge than men (Delli Carpini and Keeter, 1996, pp. 135–177; Fraile, 2014; cf. Stolle and Gidengil, 2010). It is likely that this makes it more difficult for women to press their political demands and influence policy (Adams and Ezrow, 2009). Second, and partly as a result of the knowledge gap, women generally participate less in political activities (Burns, Schlozman and Verba, 2001; Ondercin and Jones-White, 2011). This, too, is an important condition for steering policy in one's preferred direction (Verba and Nie, 1972; Griffin and Newman, 2005; Dingler, Kroeber and Fortin-Rittberger, 2019). Third, women tend to have lower incomes than men, as mentioned above, and previous research suggests that affluence yields influence. Fourth and finally, women are politically underrepresented almost everywhere in descriptive terms. Given the fact that politicians' personal backgrounds often affect whose points of view they know, understand, care about and eventually act on (Phillips, 1995; Wängnerud, 2009), it is likely that the scarcity of female politicians results in unequal influence. Though we could discuss other factors in addition to these four, and much more could be said about how they interact with each other, they suffice to illustrate that there are good reasons to expect that policymaking is biased against women's preferences.

At the same time, this expectation of political inequality is somewhat qualified when we turn to (unequal) congruence, since the latter requires differences in policy preferences. If, to take

[2] Whenever we use the term "representation", as in "unequal representation", this is a short-hand for substantive representation.

the extreme case, only men have any say in the policy process but they push for policies that are also supported by women, the latter get what they want by coincidence (Enns, 2015; cf. Gilens, 2015). In line with this hypothetical scenario, gender is generally not found to be among the most powerful predictors of policy preferences (Häusermann and Kriesi, 2015). Yet, gender does affect such preferences in meaningful ways. For instance, women generally favor more egalitarian and progressive policies than men (Häusermann and Kriesi, 2015). The former also express more support for reproductive rights and stringent environmental policies, while being less in favor of harsh crime measures (Shapiro and Mahajan, 1986). To sum up, gender differences in policy attitudes are limited but real and meaningful. By extension, the 'room' for unequal policy representation – beyond coincidental representation – is likely also limited but real.

Combining the preceding considerations, we expect women to be substantively underrepresented compared to men in terms of both congruence and influence. But we also expect that unequal representation is more pronounced for the latter when compared to the former. In other words, women likely have limited political power, though the consequences for the general direction of policy will remain modest.

A natural follow-up question is whether gender inequality in representation is constant across time and space or, more plausibly, which macro-level factors moderate the political voice of women. To be sure, this question could easily take up its own paper, but we address it here in an exploratory and somewhat provisional manner, partly in the hopes of stimulating further research.

In this second part of our analysis, we consider four sets of contextual factors, which largely overlap with the mechanisms discussed above. First and perhaps most obvious, we explore whether women's substantive representation is improved when women have high levels of descriptive representation. As noted at the start of this paper, a sizable body of research in the 'top-down' tradition has argued and shown that a larger proportion of women in decision-making positions leads to better representation of women's interests (Thomas, 1991; Chattopadhyay and Duflo, 2004; Lowande, Ritchie and Lauterbach, 2019). At the same time, earlier 'bottom-up' studies have not found that women's policy preferences receive more weight as the number of female parliamentarians increases (Reher, 2018; Dingler, Kroeber and

Fortin-Rittberger, 2019), though it is unclear whether these studies include enough observations to provide adequate statistical power for their tests.

A second set of factors is socio-economic, based on known class inequalities in representation. Here, a straightforward expectation is that women will be better represented in contexts where they are higher up the socio-economic ladder in terms of income, education and status. Third, we consider political behavior. Assuming that "politicians and officials are under no compulsion to pay much heed to classes and groups of citizens that do not vote" (Key, 1949, p. 527), political inequality may be mitigated by widespread and equal levels of political participation. Fourth and finally, cultural conventions plausibly moderate women's substantive representation. That is to say, when the importance of women's perspectives in the policy process is less inhibited by either public opinion or law, we expect these perspectives to receive more weight.

Data and empirical strategy

Data

To measure the policy representation of men and women, we combine pre-existing survey data from 43 countries with hand-coded information about the implementation of policy proposals from the surveys. The survey questions were taken from multi-country survey instruments from the Eurobarometer, the International Social Survey Program, the European Social Survey, the European Values Study, the Comparative Study of Electoral Systems and the World Values Survey. In total, we use 152 unique questions from these surveys, which cover a wide range of issues such as redistribution, public spending, abortion and immigration. Each of these questions is asked in multiple countries, and many are asked at multiple points in time. Hence, our aggregate-level dataset consists of 4,758 observations, which are survey questions nested in countries and years. The data set contains information about 43 countries, 40 years and close to 2 million respondents, who on average have answered 5.6 questions. 53 percent of the respondents are women. The distribution of countries, years and sources in our data is presented in Figures A1-A2 and Table A1 of the supplementary appendix, while Table A2 provides more information about the policy areas covered by our survey questions.

A potential limitation of this vast data set is that it sacrifices some depth to achieve breadth. That is, it is limited to policy issues from cross-national surveys, which may not fully reflect the issues considered salient by citizens in a given country-year. To ensure that this does not

bias our results in any way, we also analyze supplementary data sets of public opinion and policy change from the United States, Germany, the Netherlands and Sweden.[3] These data sets are directly comparable to the cross-national data in terms of independent and dependent variables, but they are based on country-specific survey questions, which were often asked in response to public or political debates. Hence, these four data sets achieve much more depth. Furthermore, while the four countries were purely chosen due to data availability, they happen to cover a range of outcomes in terms of gender equality.[4] Given the wide reach of the cross-national data set, we treat this as our main source of evidence, but the generalizability of our findings will be strengthened if the same pattern emerges in the national data sets.

Variables

Our main independent variables are the share of men and women, respectively, who support *policy change* on the issue in question. Many questions ask respondents about the status quo; in these cases, we treat disagreement with existing policy as support for policy change. For example, 66% of men and 61% of women supported EU membership in France, 2003. In this case, our independent variables equal 0.34 and 0.39, respectively. For each of the 4,758 country-year-issues in the cross-national data set, we code whether the policy asked about in the survey question was changed after five years.[5] The dependent variable is hence dichotomous, indicating whether a given policy changed or not. In this example, it equals zero, given that France did not leave the EU in subsequent years.

Overall, support for proposals among men and women is highly correlated in the cross-national data, at $r = 0.97$ overall (within each country, the correlation is equally high). These correlations are slightly lower in the separate country data sets, at 0.93 (United States), 0.91 (Germany), 0.93 (Netherlands) and 0.84 (Sweden). We suspect that these lower correlations result from more salient policies being addressed in the latter data sets, which may cause larger disagreements between groups of citizens. But regardless of the data source, preferences between women and men are strongly correlated.

[3] These data were collected by Gilens (2012), Elsässer, Hence and Schäfer (2020), Schakel (2021) and Persson and Gilljam (2017). More details about the data sets can be found in their studies.

[4] This is based on the 2019 gender inequality index of the United Nations (2020). Of the 43 countries in our sample, Sweden is the 3rd most equal, the Netherlands is 4th, Germany is 19th and the United States is 37th.

[5] In the country-specific data sets, policy change is measured four years after the survey instead of five. However, given the stability of policy from one year to the next, particularly several years after the survey, this is a negligible difference.

While these correlations are quite striking, they should not come as much of a surprise, for several reasons. First, this pattern of high agreement between men and women has been found in other studies (Schakel and Van der Pas, 2021). Second, we noted earlier that gender does not stratify preferences as broadly and as strongly as, for instance, social class does. In line with this, previous studies have found somewhat more modest correlations between the preferences of different income groups within and across countries (Persson and Gilljam, 2017; Elsässer, Hense and Schäfer, 2020; Schakel, 2021). Third, it is important to point out that, while much of this correlation undoubtedly reflects a 'real' overlap in preferences, it is inflated by correlated measurement error that results from the fact that the preferences of men and women are based on the same survey questions. For example, some questions may be worded or ordered in a way that elicits high support from all respondents in that survey, while others mostly elicit disapproval, regardless of the topic. As a result, like most other studies of unequal representation, our data somewhat underestimates preference gaps.

In the second part of the analysis, we introduce several potential moderators of gender inequality in representation, all measured at the time of the survey. First, descriptive representation is measured as the share of female parliamentarians (Inter-Parliamentary Union, 2021) and female ministers (Teorell *et al.*, 2021), respectively, in each country-year. Second, socio-economic indicators included in the analysis are the share of women who participate in the labor market and who have a college degree (Teorell *et al.*, 2021). Third, political participation is measured as voter turnout (Teorell *et al.*, 2021), based on the fact that turnout becomes more equal between groups – less skewed – as it becomes more widespread (Guntermann, Dassonneville and Miller, 2020), and as women's civil society participation, using expert surveys from the Varieties of Democracy (V-Dem) project (Coppedge *et al.*, 2021). Fourth and finally, cultural conventions are measured using survey data from the World Values Survey (WVS) and European Values Survey (EVS) or, more specifically, as an index of citizens' views regarding the justifiability of abortion, divorce and homosexuality.[6] We also consider women's civil liberties (including their right to free movement and property) here, again based on V-Dem data.

[6] These items have a scale reliability of $\alpha = 0.80$. The WVS and EVS also ask respondents whether they think "men make better political leaders than women do," which is perhaps a more direct indicator of public views towards women's involvement in politics. However, this question is available is less than half of our country-years. It is correlated with our 'justifiability index' at 0.78 on the country-year level.

Measures

As announced above, we operationalize substantive representation as congruence and influence. We measure both of these in several ways, given the challenges of capturing both and the absence of an ideal measurement. Starting with congruence, the most straightforward strategy is to assess whether the majority preference in a subgroup aligns with policy. Returning to the example of French EU membership, this dichotomous congruence measure would equal one for both women and men, since a majority of both groups (61% and 66%, respectively) got what they wanted. But a limitation of this measure is that it ignores everything above or below the 50% threshold (for instance, it does not distinguish between 51% and 100% support), and may exaggerate small differences around this threshold which are likely affected by sampling and measurement error. Hence, and following Bartels (2021) once more, a second measure is a continuous one, which assesses the share of women and men who got what they wanted for each policy. This measure equals 0.61 for women and 0.66 for men in the example.

When it comes to influence, the first and most straightforward strategy is to regress policy change on the preferences of men and women in the same model. However, this specification is not only plagued by multicollinearity but also by correlated measurement error (see above), which will cause imprecision and bias, respectively. To somewhat circumvent these issues, we also consider a second option, where we interact the preferences of women with the absolute preference gap to men, and vice versa. Here, we expect that the influence of women declines as their views diverge from those of men, indicated by a negative interaction term, while the influence of men should not be affected by their disagreement with women. Third, policy change is regressed on the (non-absolute) difference in preferences between men and women, possibly controlling for average support among the two. If influence is unequal, more support among men compared to women should increase the likelihood of policy change.

For the analysis of influence, the familiar threat of omitted variable bias looms large. To address it, we include fixed effects for both countries and years in the regression models. Following recommendations from the econometric literature, we estimate our dependent variable using linear probability models with heteroscedastic-consistent standard errors (Angrist and Pischke, 2008; Gomila, 2020).

The means and standard deviations of our dependent and independent variables are provided in Table 1, grouped by data set.

Table 1. Summary statistics by data set

	Cross-national	United States	Germany	Netherlands	Sweden
Policy change	0.22 (0.41)	0.33 (0.47)	0.60 (0.49)	0.27 (0.45)	0.15 (0.36)
Support among women	0.51 (0.23)	0.57 (0.21)	0.52 (0.22)	0.47 (0.22)	0.54 (0.23)
Support among men	0.51 (0.23)	0.58 (0.18)	0.54 (0.19)	0.48 (0.20)	0.50 (0.21)
Preference gap (absolute)	0.03 (0.03)	0.06 (0.05)	0.07 (0.06)	0.06 (0.05)	0.10 (0.08)
Preference gap (non-absolute)	-0.01 (0.04)	0.01 (0.08)	0.01 (0.09)	0.01 (0.08)	-0.04 (0.12)
N	4758	1764	753	291	800

Note: top five rows display means, with standard deviations in parentheses.

Results

We present our results as follows. First, we discuss our findings regarding congruence and influence in our main, cross-national data set. Afterwards, we apply the same analyses to the four national data sets, which we treat as our most important robustness test. Next, we turn to potential moderators of gender inequality in representation. For this, we only use the cross-national data, because the major strength of this data set lies precisely in its reach and comparability across countries.

Congruence

Starting, then, with cross-national patterns, Table 2 shows the levels of policy congruence for women and men. The dichotomous and continuous measures can both be interpreted by percentages, though they indicate a different quantity. Dichotomous congruence indicates what percentage of the time a majority of a group got the policy they wanted, while continuous congruence indicates which percentage of each group got their favored outcome, on average.

With this in mind, the message of Table 2 is twofold. First, there *are* inequalities in congruence between women and men in both dichotomous and continuous terms. For example, policy aligns with the preferences among a majority of men 62.7% of the time, while this only happens 61.3% of the time among women. As the right-most column indicates, this difference easily

clears the bar of statistical significance; the same applies to continuous congruence.[7] However, the second message is that these congruence gaps are substantively very small, with differences around or below one percentage point. One way to illustrate this is that dichotomous congruence would be equal if 33 out of our 4,758 country-year-issues had gone the other way. Continuous congruence could be equalized with 136 country-year-issues moving from policy change to non-change or vice versa, which is slightly more substantial but still a small sliver of the data. Hence, women and men are unequally represented in terms of congruence, but only marginally so.

This finding was foreshadowed by the high correlation of women and men's preferences: when both groups more or less want the same, there is no way for one group to get much more than the other. This, too, should be qualified by noting that similarities in preferences – and hence, similarities in congruence – are somewhat exaggerated by common measurement error. However, even if we could correct for this, it is likely that levels of congruence would still be very similar for women and men. In contrast, small preference gaps do not restrict differences in influence, and it is this we turn to next.

Table 2. Policy congruence of women and men in 43 countries

	Women	Men	Difference
Dichotomous congruence	61.3	62.7	-1.4**
	[60.0 – 62.7]	[61.3 – 64.1]	[0.8 – 2.0]
Continuous congruence	56.3	56.9	-0.6**
	[55.7 – 56.9]	[56.3 – 57.5]	[0.5 – 0.7]

Note: $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01. 95% confidence intervals in brackets.

Influence

Tables 3 and 4 show the results of our regression analyses. In model 1 of Table 3, we regress policy change on the preferences of women and men. Since all variables range from zero to one, the coefficients can be interpreted as the change in the probability of policy change when one group moves from total opposition to total support for change, holding the other group's preferences constant. For men, we see a large positive effect, suggesting they exert substantial influence on policy. On the other hand, the effect of women's preferences is negative,

[7] As Table 1 shows, policy change only happens 22% of the time in the cross-national data, but this status quo bias does not account for the congruence gap, since women and men are equally likely to support change.

implausibly suggesting that policy change becomes less likely as they become more supportive of it. However, both coefficients are almost certainly inflated (in an absolute sense) by common measurement error, rearing its head once again (Achen, 1985). The more plausible and basic message of model 1 is that men appear to be much more influential than women.

This is supported by the other specifications. In models 2 and 3 of Table 3, we interact one group's preference with the absolute preference gap to the other group. The key coefficient here is the interaction term, which is negative for women (model 2), but small and not statistically distinguishable from zero for men (model 3). This means that women's views start to matter less once they start to differ from men's views, while the same does not apply vice versa.

Table 3. Linear probability models of five-year policy change by citizen support

	(M1)	(M2)	(M3)
Support among women	-0.475***	0.665***	-
	(0.139)	(0.037)	
Support among men	1.108***	-	-0.645***
	(0.141)		(0.038)
Preference gap	-	0.280	-0.446
(absolute)		(0.523)	(0.481)
Support × absolute	-	-2.636*	-0.720
preference gap		(1.100)	(1.141)
Constant	-0.214+	-0.199+	-0.200
	(0.118)	(0.120)	(0.119)
Adjusted R^2	0.200	0.195	0.200
N	4758	4758	4758

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. All models include country- and year-fixed-effects, with robust standard errors.*

Table 4 predicts policy change by the (non-absolute) preference gap between women and men (model 4), while also including the average support for policy change among both (model 5). The conclusion is one that is becoming familiar by now, as the positive coefficient in both models reveals that policy change becomes more likely when men support it more than women. To help interpret these effects, Figure 1 visualizes the predicted probability of policy change based on the preference gap in model 5, with other variables held at their means.

Table 4. Linear probability models of five-year policy change by preference gaps

	(M4)	(M5)
Preference gap	0.522***	0.583***
(non-absolute)	(0.147)	(0.147)
Average support	-	0.227***
		(0.031)
Constant	0.172	0.044
	(0.114)	(0.117)
Adjusted R^2	0.087	0.097
N	4758	4758

Note: $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01. All models include country- and year-fixed-effects, with robust standard errors.

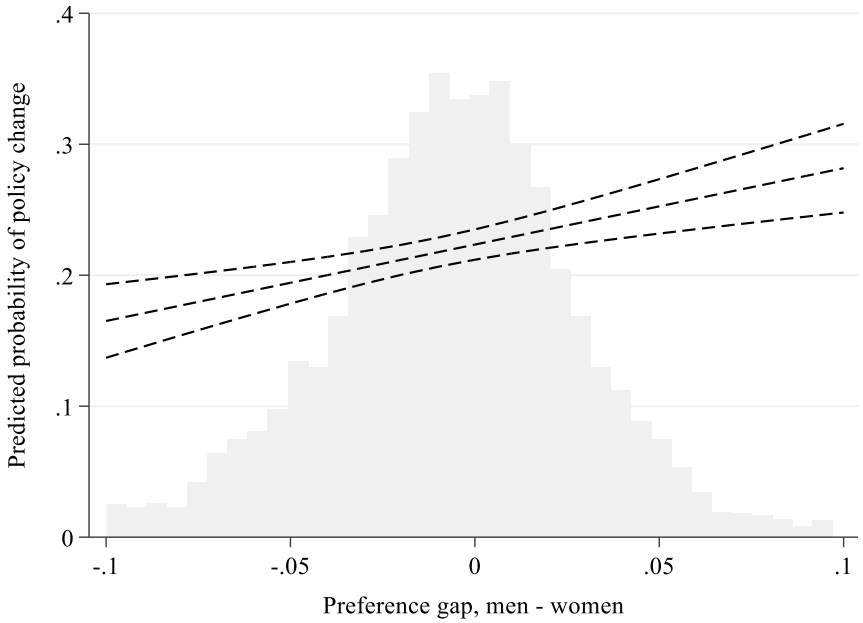

Figure 1. Predicted probability of policy change by men-minus-women's preferences (with 95% confidence interval)

Model 5 also allows for an intriguing quantification of the two groups' influence. Since the preference gap (β_1) indicates whether more support among men than women matters for policy, over and above average support (β_2), the estimated influence of men and women is ($\beta_2 + \beta_1/2$) and ($\beta_2 - \beta_1/2$), respectively.[8] This produces a figure of 0.52 for men and -0.06 for women. The former number is close to the 'bivariate' coefficient of men's preferences in a model where women's preferences are left out (0.63), while the 'bivariate' coefficient of women's

[8] We thank Larry Bartels for this suggestion.

preferences (0.60) has totally disappeared.[9] This reinforces the conclusion that men are much more influential than women. In fact, purged of (some) correlated measurement error, the influence of women is just about zero.

National data

How do congruence and influence look in our four national data sets? Table 5 shows the gaps in dichotomous and continuous congruence in the four countries (in the interest of brevity, the underlying numbers for men and women are relegated to Appendix Tables A3 and A4). In our view, the take-aways of the table are the following. First and foremost, congruence is again higher for men than for women, as indicated by the positive point estimates, though the gap is indistinguishable from zero in some cases (dichotomous congruence in the United States, continuous congruence in the Netherlands). Second, congruence gaps tend to be somewhat bigger in the national data sets than in the cross-national data. This makes sense considering the fact that larger preference gaps create more 'room' for unequal congruence. A third potential take-away is that congruence is most unequal in Sweden and most equal in United States, which runs counter to what we would expect based on their respective levels of overall gender equality. However, we do not want to push the second and third points very strongly, given the difficulty of comparing data sets that are based on different sets of policy issues. We return to between-country differences below.

Table 5. Congruence gap between men and women in the United States, Germany, the Netherlands and Sweden

	Dichotomous	Continuous
United States	0.2	0.5**
	[-1.8 – 1.3]	[0.2 – 0.9]
Germany	4.5**	1.1**
	[1.7 – 7.3]	[0.5 – 1.8]
Netherlands	3.8+	0.1
	[-0.3 – 7.9]	[-0.8 – 1.0]
Sweden	8.0**	3.9**
	[5.1 – 10.9]	[3.0 – 4.7]

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. Numbers indicate congruence of men-minus-women; 95% confidence intervals in brackets.*

[9] These coefficients are taken from similar models to model 1 in Table 3, but only including one group's preferences at a time. "Bivariate" is in quotes because the models still include country- and year-fixed-effects.

In terms of influence, the national data sets also reveal a very similar picture to the cross-national data. Table 6 shows that, when entered together, men's preferences have a large, positive effect on policy change in all countries, while women's preferences have a negative effect. The alternative specifications – interacting preferences with the absolute preference gap and using the non-absolute gap as the independent variable – also point to highly unequal influence in all four countries (to preserve space, the full results are presented in Appendix Tables A5-A7). There are some exceptions to the overall pattern; notably, the preferences of men in the United States and Sweden matter less as they disagree with women (Table A6), but the effect is still smaller than the reverse (Table A5).[10] In general, though, we again find that men wield substantial influence on policy while women wield little to none (see Table A7).

To sum up, the four national data sets paint a strikingly similar picture to the cross-national data: in line with our expectations, we find small inequalities in congruence but large inequalities in influence.

Table 6. Linear probability models of four-year policy change in the United States, Germany, the Netherlands and Sweden

	(M6) United States	(M7) Germany	(M8) Netherlands	(M9) Sweden
Support among women	-0.702***	-0.575***	-0.302	-0.368***
	(0.133)	(0.197)	(0.336)	(0.081)
Support among men	1.112***	0.846***	0.779*	0.542***
	(0.151)	(0.222)	(0.367)	(0.105)
Constant	0.092***	0.445***	0.042	0.080***
	(0.035)	(0.053)	(0.060)	(0.029)
Adjusted R^2	0.034	0.021	0.050	0.028
N	1764	753	291	800

Note: $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01. All models include robust standard errors.

Contextual variation

After having established that women and men are unequally represented, we turn to the questions of how and why this gender gap in representation varies across time and space. The country-specific data already provided suggestive evidence for variation across countries, but

[10] We also find some non-significant effects in the Netherlands, but this is due to the small number of observations there; the point estimates are well in the range of the other countries.

it is tricky to compare these data sets directly. Hence, we return to the comparative data for a more systematic analysis.

A useful indication of contextual variation is provided in Figure 2, where we interact the preferences of men-minus-women with each country (it is otherwise identical to model 5 in Table 4). To help interpret this figure, we remind the reader that both the independent and dependent variables range from zero to one. Hence, a coefficient of one means that, for instance, the probability of policy change increases by ten percentage points as men become ten percentage points more supportive of it relative to women.

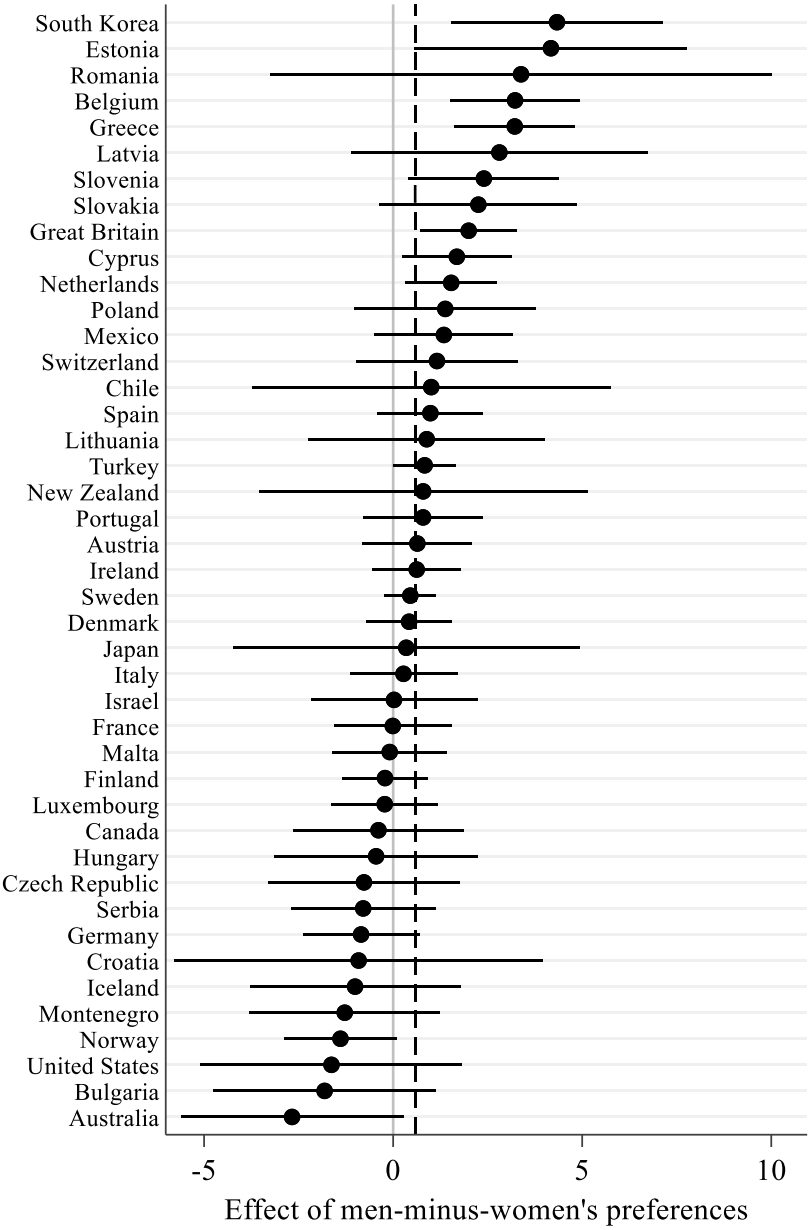

Figure 2. Country variation in gender inequality in policy influence (with 95% confidence intervals; dashed line indicates overall mean)

Figure 2 shows considerable variation across countries. The point estimate of men-minus-women's preferences is positive in 27 countries, suggesting that women are underrepresented there, but it is negative in the other 16 (though not statistically significant). This makes it clear that, although the unequal representation documented above is widespread and robust, it is far from a uniform phenomenon. Of course, the next question is whether we can find any contextual factors which can explain this variation.[11]

To further explore macro-level variation in unequal representation, we again use model 5 in Table 4 as a starting point. But instead of interacting the preference gap parameter with each country, we now interact it with a number of contextual variables. The key coefficient is the interaction term, which is presented in Figure 3 for each of our eight moderators. To be clear, each interaction is included in a separate model; the full results are provided in Appendix Table A8. To make the results easier to interpret, all moderating variables were standardized, such that the numbers presented in Figure 3 show how the effect of the preference gap changes with a one-standard-deviation increase in the variables listed on the y-axis.

The first thing revealed by Figure 3 is that all interactions are negative, which is in line with our (loose) expectations. Given that a positive effect of men-minus-women's preferences points to women's underrepresentation, a negative interaction suggests that this gender bias is reduced as each of the variables listed in the Figure increases. However, a second message is that some interactions are much more pronounced than others. More specifically, we find the clearest evidence for the importance of descriptive representation, as increases in the number of female minsters and parliamentarians are both associated with more equal substantive representation. In addition, women's labor market participation is also associated with lower levels of political inequality, pointing to the relevance of socio-economic factors. In contrast, cultural conventions (measured as either culturally progressive values or women's civil liberties) and political participation (voter turnout and women's civil society participation) do not significantly moderate unequal influence. In sum, the unequal representation of women and men varies in meaningful ways across time and space, partly as a product of descriptive representation and socio-economic disparities.

[11] Given the muted inequalities regarding congruence, we only focus on influence in this section, but there is also some between-country variation in the former, with higher congruence for men in 34 countries and higher congruence for women in the other 9 (using the continuous measure). Interestingly, country-level congruence and influence are only correlated at 0.58, further illustrating that they measure different things.

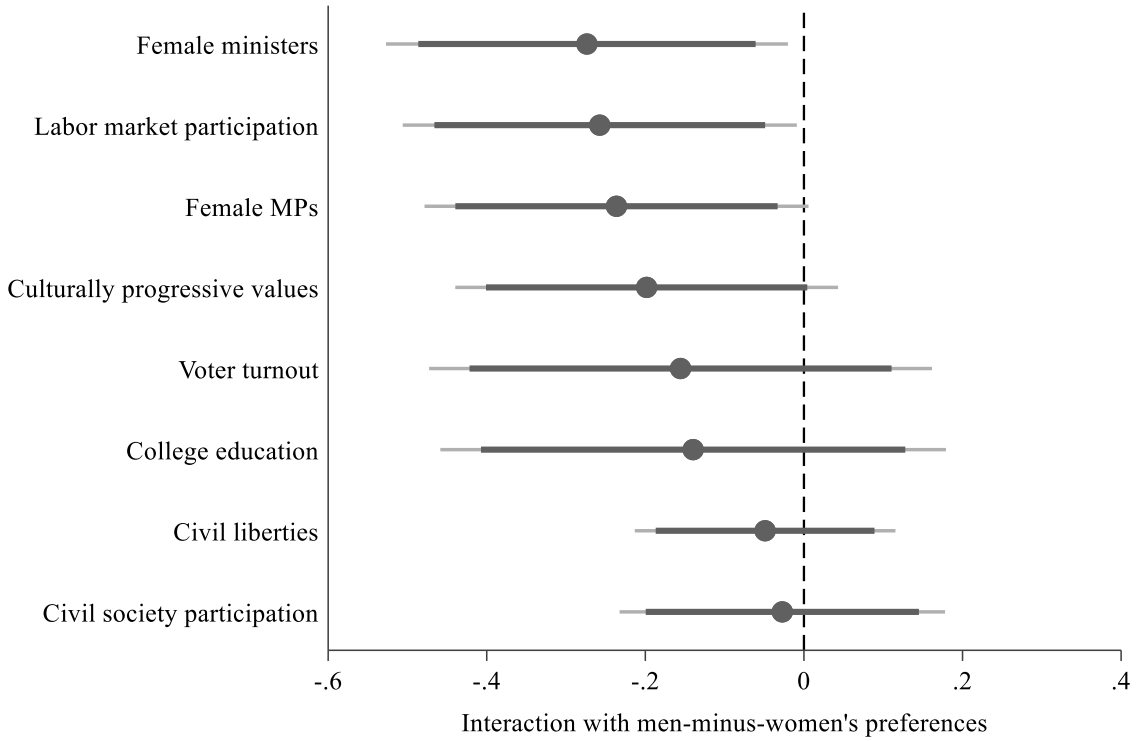

Figure 3. Contextual moderators of gender inequality in representation (black lines indicate 90% confidence intervals; grey lines indicate 95% confidence intervals)

Conclusion

Throughout history, and in most countries today, men have dominated political life. A great many studies have analyzed representation on the basis of gender, but few have gauged and compared the extent to which men and women's policy preferences are realized. In this study, we have applied the methods of a responsiveness literature that has been focused on income differences to gender inequality, with the help of a comprehensive data set covering many countries, years and policy areas.

This inquiry has revealed three main findings. First, there is widespread and systematic gender inequality in policy representation, such that women are substantively underrepresented compared to men. Second, this inequality is quite modest in terms of congruence but much larger when it comes to influence. Third, unequal representation varies substantially on the macro-level, and exploratory analyses suggest that women's underrepresentation is mitigated in contexts with higher levels of descriptive representation and labor market participation.

What should we make of these results? Above all else, it seems quite uncontroversial to argue that the inequality we have documented is normatively troubling and hence exposes a flaw in

modern democracies and beyond (Ingham, 2021). From this point of view, however, the contextual variation in unequal representation is good news, since it shows that this is not an inescapable phenomenon. Societies may indeed be able to achieve a more balanced policy process with factors under their control, including descriptive representation.

Then again, the contrast between congruence and influence allow for different evaluations of the evidence, mirroring discussions about economic inequality in representation (Enns, 2015; Gilens, 2015). On the one hand, one may argue that our findings are only marginally concerning, given that men and women get the policies they want at roughly equal rates. On the other hand, one could argue that unbiased influence is an important normative good in its own right, regardless of the policy implications. We leave it to the reader to decide their preferred view.

A more empirical implication of our study concerns the dependent variable in studies of (women's) substantive representation. We noted earlier that previous studies found mixed evidence for the notion that women's preferences are underrepresented, but it is noteworthy that most of these studies use party positions (Bernauer, Giger and Rosset, 2015; Dingler, Kroeber and Fortin-Rittberger, 2019; Weber, 2020) or roll-call votes (Griffin, Newman and Wolbrecht, 2012) as their dependent variables. The one study to explicitly analyze policy concludes, like us, that women's views are disadvantaged compared to men's (Reher, 2018). Combined with our findings, then, this strongly suggests that gender inequality is exacerbated in the latter stages of the policy process. This also holds a methodological lesson for students of representation by pointing to the perils of using proxies for policy.

Needless to say, this study comes with its share of caveats and limitations, which show us avenues for future study. We mention three suggestions here, relating to between-issue variation, salience and mechanisms, which were all pushed to the background due to our choice to prioritize breadth in the analysis.

First, much of the variation in both preferences and policy is between policy issues in the same country-years. There is hence a lot of potential for unequal representation to vary between issues, which future research can explore using data sets like those analyzed in this paper. Second, and related to the first point, our study is similar to many analyses of the opinion-policy link in that it treats all policies the same and does not incorporate the possibility that

some are more salient to (groups of) citizens than others. At the same time, it matters a great deal, both empirically and normatively, if citizens are underrepresented on issues that affect them the most, even if all other issues display other patterns of representation. Third, this literature should pay further attention to the causal mechanisms which produce a gender bias in representation. Our analysis of potential moderators takes a first step in this direction, but we acknowledge that these causal inferences are somewhat weak, in part because many contextual factors are strongly correlated and therefore hard to separate. Perhaps focusing on particular contexts and instances of institutional reform will afford further leverage to explain biased representation and, by extension, point to the path towards equality.

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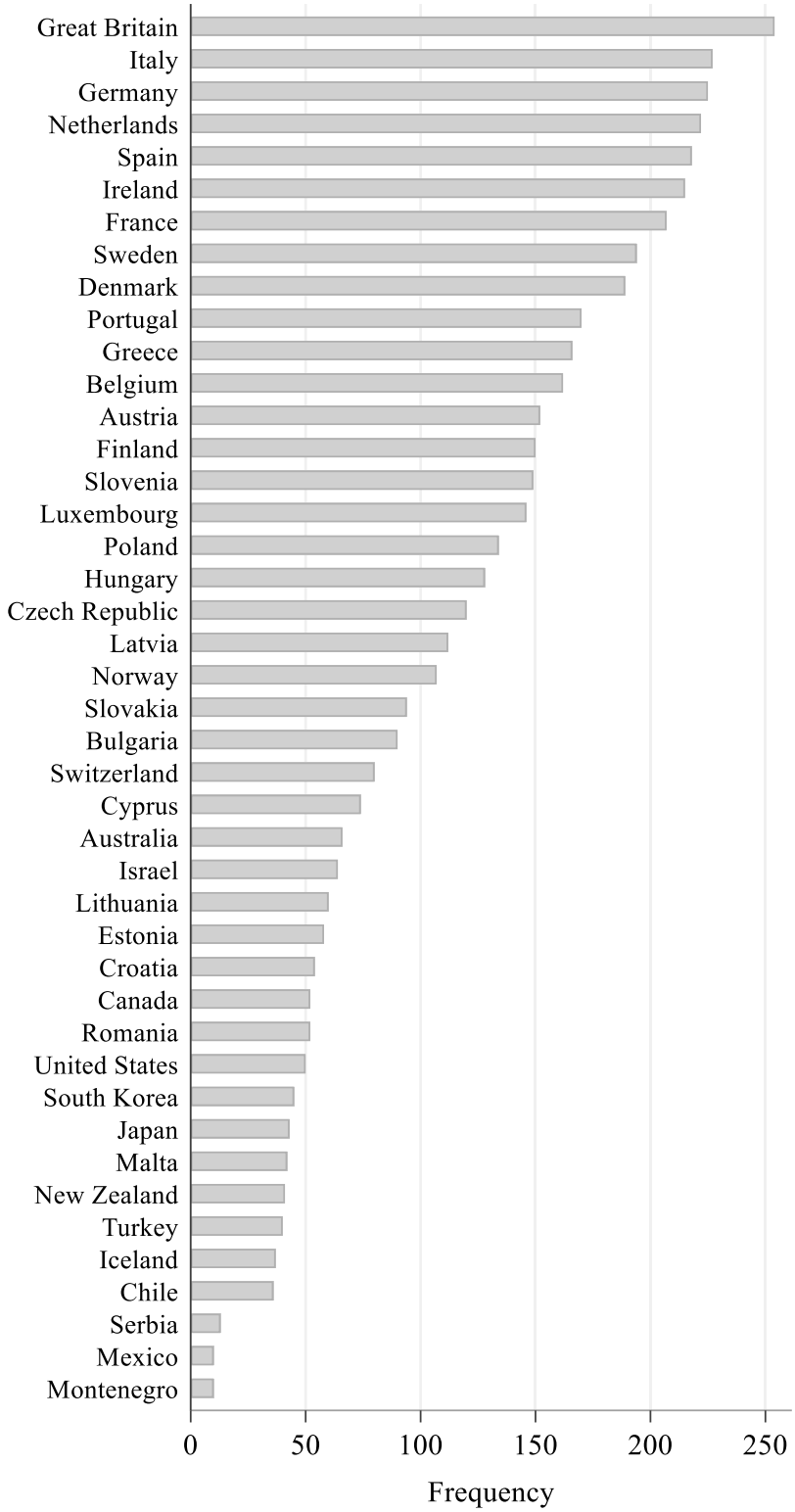

Figure A1. Number of observations by country

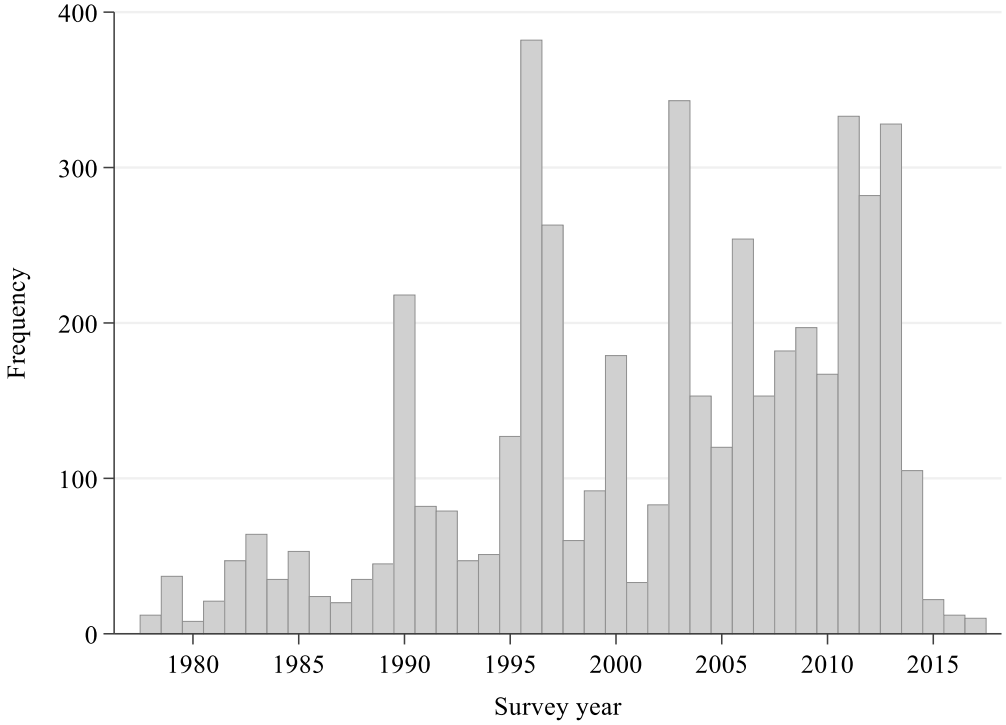

Figure A2. Number of observations by survey year

Table A1. Number of observations by survey source

Survey series	N (absolute)	N (relative)	Time period
Eurobarometer	2365	49.7	1978-2017
International Social Survey Program	1516	31.9	1985-2014
European Social Survey	414	8.7	2002-2017
European Values Study	276	5.8	1981-2010
Comparative Study of Electoral Systems	102	2.1	2011-2015
World Values Survey	85	1.8	1989-2013

Table A2. Observations and questions by policy area

Policy area	N	Questions	Example question/statement
Immigration and integration	900	33	Foreigners should not be allowed to buy land in this country.
Financial and business regulation	754	7	Do you favor or oppose the introduction of a tax on financial transactions?
European integration	728	9	Do you favor or oppose the country's membership of the EU?
Civil liberties	473	17	Should people prejudiced against any racial group be allowed to hold public meetings?
Labor and unemployment	275	8	Unemployed people should have to take any job available or lose their benefits.
Health care	264	14	Governments should provide paid leave for those who temporarily care for sick relatives.
Size of government	227	10	Public ownership of industry should be expanded.
Environment and energy	223	23	Nuclear energy should be developed to meet future energy needs.
Abortion	183	6	Do you approve or disapprove of abortion when the mother's health is at risk?
Pensions	170	5	Should there be more or less public spending on old-age pensions?
Crime	132	4	The police should have the power to keep suspected terrorists in prison.
Foreign policy	129	4	The country should limit the import of foreign products to protect its economy.
Defense	74	2	Should there be more or less public spending on defense?
Welfare	70	5	The government should spend less on benefits for the poor.
Education	63	1	Should there be more or less public spending on education?
Other	93	4	Do you think that the wearing of seat belts in cars should be required by law?

Note: "N" = country-year-issues; "Questions" = unique questions in policy area. Some example questions/statements are slightly truncated to preserve space.

Table A3. Dichotomous congruence of men and women in the United States, Germany, the Netherlands and Sweden

	Men	Women	Difference
United States	49.4	49.2	0.2
	[47.1 – 51.8]	[46.9 – 51.5]	[-1.8 – 1.3]
Germany	54.4	49.9	4.5**
	[50.9 – 58.0]	[46.4 – 53.5]	[1.7 – 7.3]
Netherlands	60.1	56.4	3.8+
	[54.5 – 65.8]	[50.6 – 62.1]	[-0.3 – 7.9]
Sweden	52.3	44.3	8.0**
	[48.8 – 55.7]	[40.8 – 47.7]	[5.1 – 10.9]

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. "Difference" column indicates gap between men and women; 95% confidence intervals in brackets.*

Table A4. Continuous congruence of men and women in the United States, Germany, the Netherlands and Sweden

	Men	Women	Difference
United States	49.9	49.4	0.5**
	[49.0 – 50.9]	[48.3 – 50.4]	[0.2 – 0.9]
Germany	52.7	51.6	1.1**
	[51.3 – 54.1]	[50.0 – 53.1]	[0.5 – 1.8]
Netherlands	55.0	54.9	0.1
	[52.7 – 57.3]	[52.4 – 57.4]	[-0.8 – 1.0]
Sweden	51.8	47.9	3.9**
	[50.4 – 53.2]	[46.3 – 49.6]	[3.0 – 4.7]

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. "Difference" column indicates gap between men and women; 95% confidence intervals in brackets.*

Table A5. Linear probability models of four-year policy change as women's preferences diverge from men's, in the United States, Germany, the Netherlands and Sweden

	(A1) United States	(A2) Germany	(A3) Netherlands	(A4) Sweden
Support among women	0.514**	0.335**	0.556**	0.298**
	(0.084)	(0.127)	(0.181)	(0.073)
Preference gap	2.452	2.298**	2.107	0.962*
to men (absolute)	(0.581)	(0.848)	(1.208)	(0.489)
Support × absolute	-4.938**	-3.056+	-3.244	-2.725**
preference gap	(0.970)	(1.568)	(2.588)	(0.713)
Constant	0.052	0.370**	-0.028	0.051
	(0.052)	(0.075)	(0.083)	(0.042)
Adjusted R^2	0.022	0.015	0.045	0.044
N	1764	753	291	800

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. All models include robust standard errors.*

Table A6. Linear probability models of four-year policy change as men's preferences diverge from women's, in the United States, Germany, the Netherlands and Sweden

	(A5) United States	(A6) Germany	(A7) Netherlands	(A8) Sweden
Support among men	0.487**	0.284*	0.455*	0.290**
	(0.094)	(0.138)	(0.195)	(0.080)
Preference gap to	1.254+	0.855	0.456	0.332
women (absolute)	(0.756)	(1.107)	(1.646)	(0.304)
Support × absolute	-2.518+	-0.210	0.170	-2.127**
preference gap	(1.373)	(1.920)	(3.317)	(0.747)
Constant	0.060	0.394**	0.020	0.076*
	(0.056)	(0.083)	(0.092)	(0.037)
Adjusted R^2	0.022	0.018	0.051	0.038
N	1764	753	291	800

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. All models include robust standard errors.*

Table A7. Linear probability models of five-year policy change by preference gaps in the United States, Germany, the Netherlands and Sweden

	(A9) United States	(A10) Germany	(A11) Netherlands	(A12) Sweden
Preference gap	0.907**	0.711**	0.541	0.455**
(non-absolute)	(0.139)	(0.205)	(0.346)	(0.089)
Average support	0.410**	0.270**	0.477**	0.174**
	(0.059)	(0.091)	(0.125)	(0.057)
Constant	0.092**	0.045**	0.042	0.080**
	(0.035)	(0.053)	(0.060)	(0.029)
Adjusted R^2	0.034	0.021	0.050	0.028
N	1764	753	291	800

Note: $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01. All models include robust standard errors.

Table A8. Linear probability models of five-year policy change by preference gaps and contextual variables

	(A13) Fem. ministers	(A14) Labor part.	(A15) Female MPs	(A16) Values
Preference gap	0.615**	0.603**	0.632**	0.599**
(non-absolute)	(0.151)	(0.148)	(0.152)	(0.159)
Average support	0.234**	0.237**	0.231**	0.230**
	(0.032)	(0.032)	(0.031)	(0.032)
Contextual variable	-0.007	0.037*	0.002	0.035
	(0.012)	(0.017)	(0.019)	(0.024)
Preference gap ×	-0.274*	-0.257*	-0.236+	-0.198
contextual variable	(0.129)	(0.127)	(0.124)	(0.123)
Constant	0.035	0.079	0.044	0.056
	(0.117)	(0.120)	(0.118)	(0.092)
Adjusted R^2	0.10	0.10	0.10	0.10
N	4670	4673	4736	4279

	(A17) Voter turnout	(A18) College educ.	(A19) Civil liberties	(A20) Civil soc. part.
Preference gap	0.595**	0.528**	0.586**	0.580**
(non-absolute)	(0.157)	(0.157)	(0.147)	(0.148)
Average support	0.241**	0.186**	0.227**	0.227**
	(0.032)	(0.033)	(0.031)	(0.031)
Contextual variable	-0.026	0.026	0.012	-0.009
	(0.021)	(0.028)	(0.018)	(0.018)
Preference gap ×	-0.156	-0.140	-0.049	-0.027
contextual variable	(0.162)	(0.163)	(0.084)	(0.105)
Constant	0.065	0.127	0.041	0.035
	(0.120)	(0.141)	(0.117)	(0.118)
Adjusted R^2	0.10	0.09	0.10	0.10
N	4643	3551	4749	4749

*Note: + p < 0.10, * p < 0.05, ** p < 0.01. All models include country- and year-fixed-effects, with robust standard errors. "Fem. ministers" = female ministers; "labor part." = labor market participation; "values" = culturally progressive values; "college educ." = college education; "civil soc. part." = civil society participation.*