Macroegalitarianism:
Gender Equality, Public Opinion,
and Dynamic Democracy
in Comparative Perspective

Byung-Deuk Woo and Frederick Solt

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Preface for KIRL Readers

Our manuscript has progressed since our last meeting. Chapter 3, on measuring public opinion on gender egalitarianism; Chapter 4, on descriptive representation; and Chapter 6, on the Korean case, are well along. The remaining chapters range from drafty to as yet nonexistent.

Nevertheless, we're excited for the manuscript's promise, and how it will continue to come together in time.

So, with apologies for its still incomplete state, we thank you for taking a look at this work.

1 Introduction [Very Drafty]

Shang (2022) on [economic] implications of gender equality

Across the world's rich democracies, do parties and governments respond to gender egalitarian public opinion by running more women candidates and adopting policies that advance gender equality?

> Caughey and Warshaw (2022) find that state governments respond to public opinion, but generally only very slowly.

> If democracy is the system in which government is equally responsive to the preferences of all citizens, per Dahl, then gender equality in representation is an essential part of democracy (see V-Dem; Archenti and Tula 2017; Palma 2021; (**Krook2022?**); Piscopo and Vázquez Correa (2024)). The evidence that democracy depends on democratic support that we currently have is weak at best (but see, maybe, Welzel (2013)).

Does greater gender equality 'create its own constituency' or does it prompt backlash?

The extent of public support for gender egalitarianism has been an important issue in many countries around the world since at least the past half-century. The improvement of public gender egalitarianism over the globe makes scholars examine the causes and consequences of the improvement. A wide range of studies pay their attention on the determinants of public gender egalitarianism. For instance, according to the crucial study done by Norris and Inglehart (2001) which is consistent with the work

from Reynolds (1999), the role of cultural rigidity, religion, and generational value is critical for the persistency and spread of gender egalitarianism. Some studies focus on the impacts of regime types such as democracy and autocracy as a focal determinant of gender equality Beer (2009), while other studies maintain that political elites play a key role in shaping public attitudes toward gender equality Bulut and Yildirim (2023).

How do societal attitudes toward gender roles influence women's political success and policy influence? Taking advantage of a comprehensive collection of survey data and recent advances in latent variable modeling of public opinion, this book provides new evidence of how and when public gender egalitarianism is translated into gender equality in countries around the world.

The influence of public support for gender equality on various social and political phenomena has received wide attention from scholars (Cannavale et al., 2022; Cavero-Rubio et al., 2019; Concha, 2023; Kanas & Steinmetz, 2021; Kaufman et al., 2023; McThomas & Tesler, 2016; Mustafa & Almazrouei, 2020). For instance, Winter (2008) showed that U.S. voters' support for Hilary Clinton depended on their attitudes toward the women's movement and gender equality. More recently, Bergqvist, Bjarnegård, and Zetterberg (2013) examines both successful and unsuccessful cases and emphasizes the close association between public gender egalitarianism and gender equality policy adoption.

Despite the above-mentioned previous literature on the importance of public support for gender equality, the lack of time-series cross-national data on public opinion prevents us from fully understand its influence (Rule Krauss 1974). Especially, the causal influence of public gender egalitarianism on policy outcomes is still under a veil due to the lack of such data. Previous studies on the impact of public support for gender egalitarianism have largely relied on cross-sectional data with little or no leverage on change over time (Glas & Alexander, 2020; McThomas & Tesler, 2016; Paxton & Kunovich, 2003; Steel & Kabashima, 2008). Given the non-negligible changes in the public support for gender equality over decades

(Bolzendahl & Myers, 2004; Eriksson-Zetterquist & Renemark, 2016; Thijs et al., 2019), this is an unfortunate shortcoming that undermines our confidence in our current state of understanding. This book seeks to remedy this problem through the new Public Gender Egalitarianism (PGE) dataset, which provides a comparable time-series cross-national index for 124 countries over the years from 1972 to 2022, as well as other novel data.

The book proceeds in the following order. In the next chapter, we review extant theories and hypotheses about how public opinion shapes public policy on gender equality. Then we present how public gender egalitarian attitudes—attitudes favoring gender equality in the public sphere of politics and the workplace—vary across countries and how these attitudes have changed over the past three decades. Next the work examines women's success in achieving political office in countries around the world, identifying the extent to which more gender egalitarian attitudes translate into greater women's descriptive representation in legislatures, cabinets, and chief executive's offices.

Chapter 5 turns to the adoption of gender egalitarian policies in cross-national perspective, highlighting the roles of public gender egalitarianism and descriptive representation and relying on time-series cross-national data on policies including the adoption of gender quotas and laws combating violence against women. In Chapters 6 and 7, we further examine the relationships between public opinion, descriptive representation, and policy outcomes in case studies of Mexico and South Korea, delving into the processes by which gender egalitarian attitudes are, and are not, converted into political outcomes that further gender equality. Our findings shed new light on the conditions in which policymakers take the public's views on egalitarian gender roles into account.

Collective attitudes toward the appropriate roles of women and men in society—whether labeled culture, norms, ideology, or public opinion—constitute one of the primary explanations for women's exclusion from the traditionally masculine public sphere of the workforce, political power,

and policy influence (see, e.g., Paxton, Hughes, and Barnes 2021, 113–14). Yet even a half century after Rule Krauss (1974, 1719) called for more and better data on these collective attitudes, what we have available to us remains inadequate for fully examining their causes and consequences. In the decades since, national and cross-national surveys have included a plethora of relevant questions, but sustained focus has been scant and the variety of these survey items renders the resulting data incomparable. As a consequence, cross-national research has been constrained to study countries at just one or a few time points (see, e.g., Paxton and Kunovich 2003; Alexander 2012; Glas and Alexander 2020) or to rely on proxies such as predominant religion or the percentage of women in office (see, e.g., Burns, Schlozman, and Verba 2001, 340–41; Claveria 2014; Barnes and O'Brien 2018).

2 Policy Representation and Public Responsiveness [Very Drafty]

The research question is one right at the heart of the politics of inequality: When do women win office? And what part do public attitudes toward gender roles play in the process? Not surprisingly, given the importance of the question, we have a range of theories on this.

The first contends that this is an elite-led process. In this account, activists of the women's movement do the truly heroic work of convincing the patriarchal, male old guard of political parties to put women on the ballot.

On the one hand, this involves demanding–and getting–commitments that the party will have women make up a specific share of its slate of candidates, that is, that the party will adopt a gender quota.

On the other hand, whether or not a party makes a formal commitment in the form of a quota, activists push for parties to run more female candidates–and the push to overcome the biases of the existing male party leadership has proven easier when and where the electoral system consists of, or includes, a party-list component rather than only highly personalized races within small districts. In the purest forms of the elite-led political theory, that's it: The activists' hard work within political parties to get more women on the ballot is the whole story. In this telling, the public, the voters, are basically ambivalent with regard to electing men or women–and there *are* various experimental studies that provide evidence that this is true in some contexts–so it is the *supply* of female candidates

that determines how many women win elected office. Now, there's a *ton* of evidence–qualitative and quantitative–for the hypotheses implied by the elite-led account, decades' worth of work on this topic, really, that show that quotas and party lists yield more women's descriptive representation. It is, by now, super-well established stuff.

Yet there is a second theory that contends that public attitudes cannot be dismissed as readily as they are in the purest elite-led accounts. This public-opinion story is straightforward: when the electorate holds a more gender-egalitarian view of women's roles in the public sphere, parties run more women, and more women win election. Where traditional attitudes relegating women to the private sphere of home and children are more dominant, conversely, parties put forward fewer female candidates, and fewer women gain office. Beer (2009, 214) says this story is so straightforward that it is tautological—that gender egalitarian public opinion "seems to be a very good measure of gender equality."

Here we should talk about why it *isn't* tautological: belief vs behavior; institutions, including parties, that prevent preferences from being translated into outcomes* Powell (2004); maybe additional reasons?

However, public opinion or preference is not always translated into policy outcomes. As Monroe (1998) mentioned in terms of policy consistency, policy changes or outcomes are not identical to a prior public preference. Policy consistency refers to the levels of match between public preferences for change and policy change. In addition to the policy consistency, there are many reasons why public opinion or preference is not matched to policy outcomes. For instance, policy consistency can be determined by policy responsiveness. Previous studies have argued that policy responsiveness is a core democratic value for citizens and democratic countries rather than non-democratic countries tend to have higher policy responsiveness (Bowler 2017; Miller 2015). Furthermore, a non-neglectable number of studies have demonstrated that there are variations concerning policy responsiveness in non-democratic countries according to their electoral systems or other socio-economic situations (Dassonneville et al. 2021; Erikson

2015; Lueders 2022; Schakel 2021). Those studies are on the line with the argument that public opinion or preference is not always identical to policy outcomes. Also, there are many ways to explain the incongruency between policy and public opinion under democratic countries. For instance, it is plausible that political parties might focus on public opinion on salient issues rather than treat public preferences across all issues (Alvarez and Morrier 2024; Costello et al. 2021). At the same time, the government and parliament them selves pay more attention to the global issues which received more public attention (Klüver and Spoon 2016).

2.0.1 Public Opinion vs Ideology vs Culture

Now, btw, I should mention that people in *this* literature, which stretches back to at least Wilma Rule Krauss's -Rule Krauss (1974) *APSR* article, people in this literature sometimes talk about these attitudes as ideology (Rule Krauss 1974, find more) or culture (Inglehart, Norris, and Welzel 2003, find more); I'm with those who prefer to call broadly held attitudes and preferences "public opinion," but it's all the same concept.

2.0.2 Dimensions of Political Equality

Beer (2009, 217): "there is some scholarly consensus that gender equality should be assessed in terms of three domains: capabilities, opportunities, and empowerment/agency"

Bericat (2012): "education, work and power"

2.1 The Scope of the Theory

But first we need to define the universe for the study. As always, there are competing concerns.

On the one hand, we want to look as broadly as possible: we want to minimize sampling bias that could influence our results and conclusions. The desire to get beyond "just the U.S." or "just western Europe" was of course a big reason to generate the PGE data in the first place, to enable "cross-national, cross-regional" work. But, on the other hand, we always need to avoid including cases to which the theory just doesn't apply. The theories outlined above, at least those beyond the elite-led theory, the ones that have to do with public opinion, presuppose a certain minimum level of democracy–at least the minimal Przeworkski, Alvarez, Cheibub, and Limongi definition of democracy, "contested elections with broad suffrage for the most important offices"–and so countries that don't clear that very low bar should be excluded. And politics works in many developing democracies in ways that suggest that the processes these theories describe may unfold very differently there–widespread clientelism, for example, is thought to work to exclude women from politics at every level (see, e.g, Arriola and Johnson 2014; Franceschet and Piscopo 2014; Benstead 2015; Paxton, Hughes, and Barnes 2021, 156–57). So in light of these considerations, we are looking at advanced democracies. It's important, though, to be sure to not interpret "advanced democracies" as simply "western Europe and the British offshoots." And, further, one doesn't want to open the door to the garden of forking paths that comes with hand-picking the countries. So we settled on the 38 countries of the current OECD. Yes, it's the usual suspects of most of Europe plus the United States and Canada-Australia-New Zealand, but also Japan and Korea in east Asia, Turkey and Israel in west Asia, and Mexico, Costa Rica, Colombia, and Chile in Latin America. Or, you know, about one China's worth of people; it's easy to see that there's still a lot of white countries to better understand also. But the theories outlined in this chapter apply to these darker shaded countries, so they will be the subject of this book.
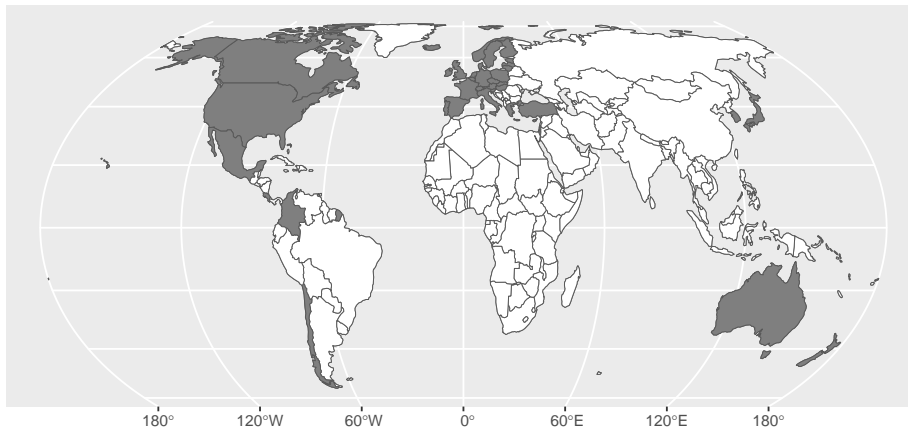
Figure 2.1: The Cases Examined in This Book: The OECD

3 Macroegalitarianism Around the World

As outlined in the previous chapter, public opinion toward gender roles constitutes one of the primary explanations for women's exclusion from the traditionally masculine public sphere of the workforce, political power, and policy influence (see, e.g., Paxton, Hughes, and Barnes 2021, 113–14). Despite its theoretical importance, the extent to which gender egalitarian public opinion matters for these outcomes has drawn little sustained attention. The reason for this disconnect between explanation and evidence is that, despite a half century of calls for more and better data on these collective attitudes (see Rule Krauss 1974, 1719), what we have available to us remains inadequate for fully examining their causes and consequences. Although national and cross-national surveys have included a plethora of relevant questions, but their concentration has been sporadic and the variety of these survey items renders the resulting data incomparable. As a consequence, cross-national research has been constrained to study countries at just one or a few time points (see, e.g., Paxton and Kunovich 2003; Alexander 2012; Glas and Alexander 2020) or to rely on proxies such as predominant religion or the percentage of women in office (see, e.g., Burns, Schlozman, and Verba 2001, 340–41; Claveria 2014; Barnes and O'Brien 2018). Cross-national and longitudinal investigation of, for example, the argument that such "attitudes influence both the supply of, and demand for, female candidates" has remained persistently a topic for future research (Paxton, Hughes, and Painter 2010, 47).

This chapter presents the latest version of the Public Gender Egalitari-

anism (PGE) dataset, which is based on the host of national and cross-national survey data available and recent advances in latent variable modeling of public opinion that allow us to make use of this sparse and incomparable data. It provides comparable estimates of the public's attitudes on gender equality in the public sphere of politics and paid work across countries and over time. We show that these PGE scores are strongly correlated with responses to single survey items as well as with measures of women's participation in the workforce and in the boardroom. The PGE data are an invaluable source for studying the consequences of collective attitudes toward gender equality in the public sphere over time in countries around the world, and they serve as the basis for many of the analyses we present in later chapters.

3.1 Source Data on Public Gender Egalitarianism

National and cross-national surveys have often included questions tapping attitudes toward equality for women and men over the past half-century, but the resulting data are both sparse, that is, unavailable for many countries and years, and incomparable, generated by many different survey items. Moreover, not all of those questions may in fact be relevant to our inquiry, which focuses on views toward gender equality in the traditionally masculine public sphere of paid work and politics. The questions we did select are nearly always explicit in comparing men and women, but a few, such as the Eurobarometer item asking responses to the statement "Women do not have the necessary qualities and skills to fill positions of responsibility in politics," leave men's traditional role implicit. Similarly, they nearly always explicitly invoke either paid work or politics, though they may also be broader, such as the Pew Research Center's item that asks, "On a different subject, do you think women should have equal rights with men, or shouldn't they?"

We carefully distinguished these questions from three other categories of questions on gender equality. First, we did not include the small set of

questions focusing on gender equality in the traditionally feminine private sphere of housework and childcare, such as "Men should take as much responsibility as women for the home and children," asked (with differing response categories) in the European Values Survey and the European Social Survey. Second, we also excluded questions asking respondents how women should balance opportunities in the public sphere with their traditional duties in the private sphere, such as whether mothers in the workforce can have similarly warm relationships with their children as mothers who are not, asked in the World Values Survey and many others. Given that attitudes that women should prioritize housework and childcare over paid employment and politics—or convictions that there will be negative consequences if they do not—can be expected to lead to less gender egalitarian opinions with regard to these latter, public-sphere activities, this is clearly a very closely related set of items to those we sought, and there are many of them. (It is telling, though not surprising, that the complementary set of questions, on how *men* should balance responsibilities in the private sphere with their traditional roles in the public sphere, is only rarely included in surveys; one laudable example of this mostly unasked sort of question, apparently first included in Australia's 1989 National Social Science Survey and slowly becoming more common, is the item querying respondents the extent to which they agree with the statement, "Family life often suffers when men concentrate too much on their work.") The third and final category of excluded survey items includes respondents' views on various forms of women's domination by men, from whether wives should always adopt their husbands' surnames through the recognition that various forms of sexual harassment are not "flattering" to the justifiability of intimate partner violence committed by husbands. In each case, as the included questions are not *directly* relevant to gender egalitarianism in the public sphere, we concluded that to ensure that the PGE scores tap only a single dimension of attitudes, we would exclude these others.

In all, we identified 54 survey items on gender equality in the public sphere that were asked in no fewer than five country-years in countries surveyed at

least twice; these items were drawn from 148 different survey datasets. The two most common items include one on politics and one on the workplace. The first, included in the World Values Survey, the AmericasBarometer, and others, asked respondents' reactions to the statement, "On the whole, men make better political leaders than women do." The second, included in the European Values Survey and others, asked the extent of their agreement with the claim, "When jobs are scarce, men should have more right to a job than women." The complete list of public gender egalitarianism survey items is included in Appendix A.

Together, the survey items in the source data were asked in 127 different countries in at least two time points over 50 years, from 1972 to 2022, yielding a total of 2,919 country-year-item observations. Observations for every year in each country surveyed would number 6,350, and a complete set of country-year-items would encompass 342,900 observations. Compared to this complete set of country-year-items, the available data can be seen to be very, very sparse. From a more optimistic standpoint, we note there there are 1,342 country-years in which we have at least *some* information about the public gender egalitarianism of the population, that is, some 47% of the 2,866 country-years spanned by the data we collected. But there can be no denying Claveria's (2014) observation that the many different survey items employed renders these data incomparable and difficult to use together.
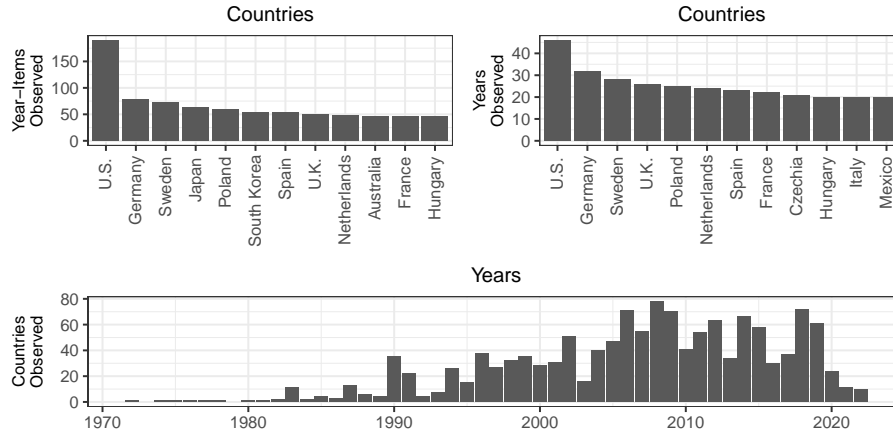
Figure 3.1: Countries and Years with the Most Observations in the PGE Source Data

Consider the most frequently asked item in these data, which asks respondents whether they strongly agree, agree, disagree, or strongly disagree with the statement "On the whole, men make better political leaders than women do." Employed by the Americas Barometer, the Arab Barometer, the Eurobarometer, the Latinobarómetro, the Pew Research Center, and the World Values Survey, this question was asked in a total of 492 different country-years. That this constitutes only 17% of the country-years spanned by our data—and remember, this is the *most common* survey item—again underscores just how sparse the available public opinion data is on this topic.

The upper left panel of Figure 3.1 shows the dozen countries with the highest count of country-year-item observations. The United States, with 190 observations, is far and away the best represented country in the source data, followed by Germany, Sweden, Japan, and Poland. At the other end of the spectrum, two countries—Nepal and Suriname—have only the minimum two observations required to be included in the source dataset at

all. The upper right panel shows the twelve countries with the most years observed; this group is similar, but with Czechia, Italy, and Mexico joining the list and Japan, South Korea, and Australia dropping off. The bottom panel counts the countries observed in each year and reveals just how few relevant survey items were asked before 1990. Country coverage reached its peak in 2008, when respondents in 78 countries were asked items about gender egalitarianism in the public sphere. In the next section, we describe how we are able to make use of all of this sparse and incomparable survey data to generate complete, comparable time-series PGE scores using a latent variable model.

3.2 A Model of Public Gender Egalitarianism

There has been a recent blossoming of scholarship developing latent variable models of public opinion based on cross-national survey data (see Claassen 2019; Caughey, O'Grady, and Warshaw 2019; McGann, Dellepiane-Avellaneda, and Bartle 2019; Kolczynska et al. 2020). To estimate public gender egalitarianism across countries and over time, we draw on the latest of these methods that is appropriate for data that is not only incomparable but also sparse, the Dynamic Comparative Public Opinion (DCPO) model presented in Solt (2020b). The DCPO model is a population-level two-parameter ordinal logistic item response theory (IRT) model with country-specific item-bias terms. For a detailed description of the DCPO model, see Solt (2020b, 3–8); here, we focus on how it deals with the principal issues raised by our source data, incomparability and sparsity.

The DCPO model accounts for the incomparability of different survey questions with two parameters. First, it incorporates the *difficulty* of each question's responses, that is, how much public gender egalitarianism is indicated by a given response. That each response evinces more or less of our latent trait is most easily seen with regard to the ordinal responses to the same question: strongly agreeing with the statement "both the husband

and wife should contribute to household income," exhibits more public gender egalitarianism than responding "agree," which in turn is more egalitarian than responding "disagree," which is a more egalitarian response than "strongly disagree." But this is also true across questions. For example, strongly disagreeing that "on the whole, men make better business executives than women do" likely expresses even more egalitarianism than strongly agreeing merely that both spouses should have paying jobs. Second, the DCPO model accounts for each question's *dispersion*, its noisiness with regard to our latent trait. The lower a question's dispersion, the better that changes in responses to the question map onto changes in public gender egalitarianism. Together, the model's difficulty and dispersion estimates work to generate comparable estimates of the latent variable of public gender egalitarianism from the available but incomparable source data.

To address the sparsity of the source data—the fact that there are gaps in the time series of each country, and even many observed country-years have only one or few observed items—DCPO uses local-level dynamic linear models, i.e., random-walk priors, for each country. That is, within each country, each year's value of public gender egalitarianism is modeled as the previous year's estimate plus a random shock. These dynamic models smooth the estimates of public gender egalitarianism over time and allow estimation even in years for which little or no survey data is available, albeit at the expense of greater measurement uncertainty.

We estimated the model on our source data using the `DCPO` and `cmdstanr` packages for R (Solt 2020a; Gabry and Češnovar 2022), running four chains for 1,000 iterations each and discarding the first half as warmup, which left us with 2,000 samples. All $\hat{R}$ diagnostics were below 1.02, indicating that the model converged.

The dispersion parameters of the survey items indicate that all of them load well on the latent variable (see Appendix A). The result is estimates, in all 2,847 country-years spanned by the source data, of mean public gender egalitarianism, what we call PGE scores.

3.3 Validation of the PGE Dataset

Before we can use the PGE scores to evaluate whether and to what extent that public gender egalitarianism contributes to women's descriptive representation and to gender egalitarian policy outcomes—and even before we put too much effort into examining how it varies around the world—we must assess the validity of these PGE scores. That is, we must make certain that the PGE scores, as a measure, reflect the concept of the public's gender egalitarianism with regard to the public sphere of politics and the workforce.

Above, we discussed how we distinguished this concept from broader conceptions of gender egalitarianism. Here, we first confirm that our refined concept of public gender egalitarianism is not itself multidimensional— that attitudes toward gender equality in politics do in fact hang together with attitudes toward gender equality in the workplace—a crucial first step in the validation of latent variable measures like the PGE dataset (see, e.g., Hu et al. 2023). We used the survey items listed in Appendix A to estimate two separate indices of gender egalitarianism in politics and in the workplace. As shown in Figure 3.2, these two indices both correlate very highly with the PGE scores and with each other, reinforcing the conclusion that public gender egalitarianism exists as a single dimension across countries and years.

Figure 3.2: Pairwise Correlations Among PGE Index and Separate Political and Workplace Egalitarianism Indices
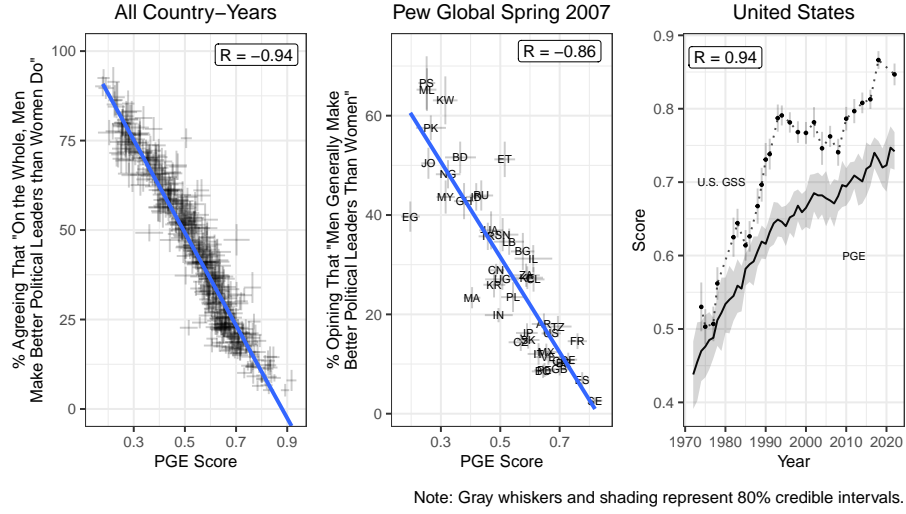
Figure 3.3: Convergent Validation: Correlations Between PGE Scores and
Individual PGE Source Data Survey Items

Like Caughey, O'Grady, and Warshaw (2019, 684–85), we provide evidence of the measure's validity with convergent validation and construct validation. Convergent validation refers to showing that a measure is empirically associated with alternative indicators of the same concept (Adcock and Collier 2001, 540). Here, we compare PGE scores to responses to individual source-data survey items that were used to generate our estimates, that is, we provide an 'internal' validation test (see, e.g., Caughey, O'Grady, and Warshaw 2019, 689; Solt 2020b, 10). In the left panel of Figure 3.3, we examine the four-point question on political leaders mentioned above, the most common item in the source data across all country-years. Then, in the center panel, we look at the question that provides the most data-rich cross-section in the source data, which asked whether respondents felt "men generally make better political leaders than women" and was included in Pew Global's Spring 2007 survey. Finally, in the right panel, to evaluate how well the PGE scores capture change over time, we

focus on the item with the largest number of observations for a single country in the source data, which asked respondents to the U.S. General Social Survey whether they agreed or disagreed that "most men are better suited emotionally for politics than are most women." In every case, the correlations—estimated taking into account the uncertainty in the measures—are in the expected direction and very strong.[1]

Note: Gray whiskers and shading represent 80% credible intervals.
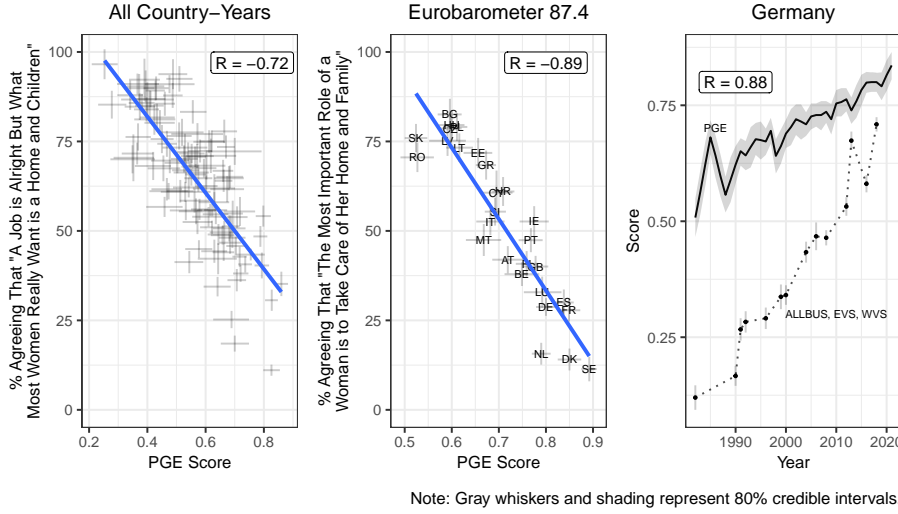
Figure 3.4: Construct Validation: Correlations Between PGE Scores and Individual 'Balancing' Gender Egalitarianism Survey Items

We continue, then, to construct validation, which refers to demonstrating, for some *other* concept believed causally related to the concept a measure

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[1]The uncertainty in the PGE score and in the percentage in the population who would agree with the item does not substantially affect the correlation with the political leadership question, but failing to account for this uncertainty would overstate the correlation with the Pew item, at $R = -0.88$, and the U.S. GSS item, at $R = 0.97$. We take up the issue of the importance of taking uncertainty into account when working with the PGE data in a subsequent section.

seeks to represent, that the measure is empirically associated with measures of that other concept (Adcock and Collier 2001, 542). In Figure 3.4, we look to individual survey items not included in our source data but tapping a related category of gender egalitarianism, namely questions that ask how women should balance opportunities in the public sphere with their traditional duties in the private sphere. Assuming that attitudes that women should prioritize housework and childcare over paid employment and politics—or convictions that there will be negative consequences if they do not—will lead to less gender egalitarian opinions with regard to these latter, public-sphere activities, evidence for this theoretical relationship will provide construct validation for the PGE scores. Exemplars of such items across all available country-years ("a job is alright but what most women really want is a home and children" from the WVS and EVS), in cross-section ("the most important role of a woman is to take care of her home and family" from the Eurobarometer 87.4), and in time series ("a pre-school child is likely to suffer if his or her mother works" from the German ALLBUS, WVS, and EVS) all show strong correlations with the PGE scores.
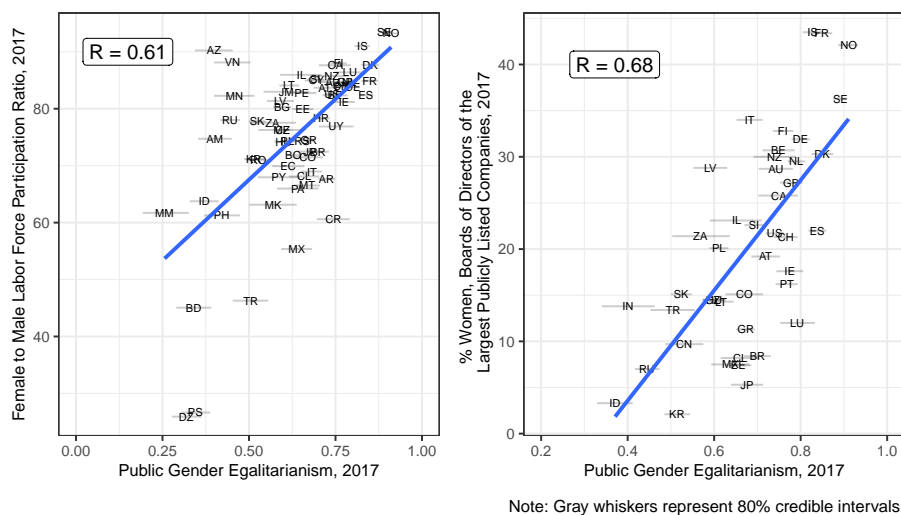
Figure 3.5: Construct Validation: Correlations Between PGE Scores and
Indicators of Workplace Gender Equality

Finally, Figure 3.5 shows additional tests of construct validation. As attitudes toward gender egalitarianism in the public sphere plausibly both cause and are caused by women's gains in the workplace, strong relationships between the PGE scores and measures of workplace gender equality provide construct validation for our measure. In the left panel of Figure 3.5, we compare the PGE scores to the ratio of women's to men's labor force participation rates in 67 countries in 2017, drawing on data compiled by the Statistics Division of the UN Department of Economic and Social Affairs (2020). In the right panel, we plot the PGE scores against the percentage of women on the boards of directors of the largest publicly listed companies in 43 countries, also in 2017 (see OECD 2020). Both correlations are strong. Together, this evidence of construct validation and convergent validation attests to the validity of the PGE scores as measures of public opinion towards gender equality in the public sphere.

3.4 Public Gender Egalitarianism Around the World

Attitudes toward gender equality in the public sphere vary greatly across countries. Figure 3.6 and Figure 3.7 display the most recent available PGE score for each of the 126 countries and territories in the dataset. Together, they underscore the geographic breadth of the PGE dataset, which allows the study of countries and regions too often neglected in political science research (see Wilson and Knutsen 2020).
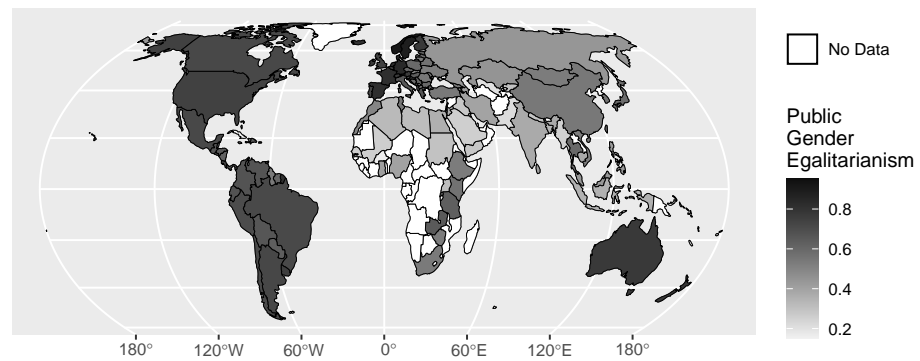
Figure 3.6: PGE Scores Around the World

Figure 3.7: PGE Scores, Most Recent Available Year

Figure 3.7 shows that the Scandinavian countries and Germany are at the top of this list, along with Puerto Rico, which has had women of both of its major parties serve as chief executive and as recently as 2020 had a woman from each party holding the two most prominent elected offices on the island. The latest scores for Burkina Faso, Uzbekistan, Pakistan, Myanmar, and Saudi Arabia have them as the places where public opinion is least favorable to gender equality in the public sphere. The PGE scores vary considerably across countries. Next, we examine this variation more closely in each of the world's regions.

3.4.1 Europe

We turn first to Europe, the region with the largest number of countries in the PGE database. Figure 3.8 depicts how the point estimates of the most recent PGE score for each country vary across the region. The map reinforces that the public in many northern and western European countries have some of the most egalitarian views toward women in politics and the workforce in the world. Led by Norway, Sweden, and Denmark, nearly all of these countries have PGE scores of .75 or higher in the most recent available year. Gender egalitarianism tends to be lower in the countries to the east and southeast. The lowest levels of gender egalitarianism in Europe were observed in Ukraine, Slovakia, and Moldova. It should be noted, however, that the point estimates of the most recent available PGE scores in even these latter countries still attained or approached .5, indicating that roughly half the population holds egalitarian views. Gender egalitarianism is generally a widely held attitude among European publics.
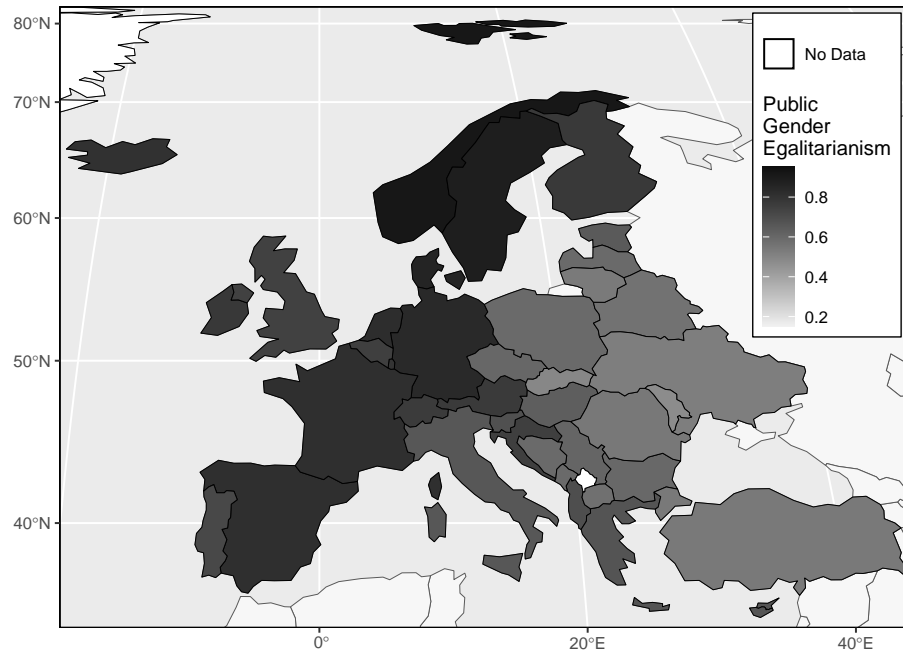
Figure 3.8: PGE Scores Across Europe, Most Recent Available Year

Figure 3.9 displays how PGE scores have changed over time in the forty European countries for which estimates are available. The biggest changes in gender egalitarianism over the observed years occurred in Estonia, Germany, and the Benelux countries of Belgium, the Netherlands, and Luxembourg. The PGE scores in each of those countries were estimated to have increased by 30% or more of the measure's theoretical range. On the other hand, shifts over time in the public's views toward gender equality were indiscernible in Moldova, Greece, Bosnia and Herzegovina, and North Macedonia. Although some temporary declines are easily seen in this figure, and egalitarianism dips recently in a few, none of the countries of Europe exhibited lower levels of public gender egalitarianism in the most recent observed year than in their first observed year.
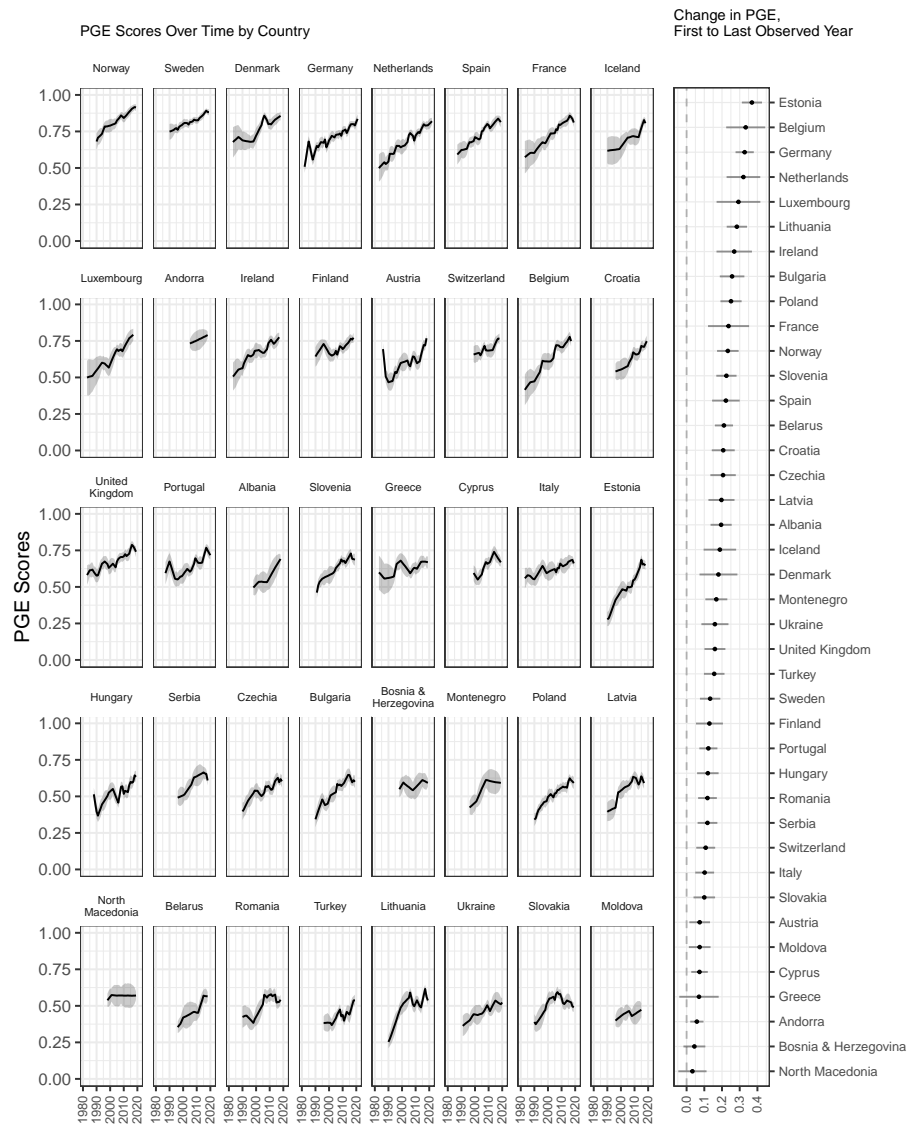
Figure 3.9: PGE Scores in Europe Over Time

3.4.2 Latin America and the Caribbean

Latin America and the Caribbean encompass the next largest number of countries and include one of the places with the world's most gender egalitarian attitudes with regard to politics and the workplace, Puerto Rico. Figure 3.10 shows the most recent PGE scores, as point estimates, for the region. It shows that public opinion in Latin America has generally become favorable to gender equality in the public sphere. In addition to Puerto Rico, Uruguay and Costa Rica have PGE scores of .75 or higher in the most recent available year. Argentina, Mexico, and Brazil—countries with three of the four biggest populations in the region—also exhibit gender egalitarianism scores nearly that high. The Latin American countries with the lowest levels of gender egalitarianism are Guyana and Haiti, but as with the least egalitarian countries in Europe, even these countries' most recent PGE scores are around .5, putting them not far below the median of all countries.
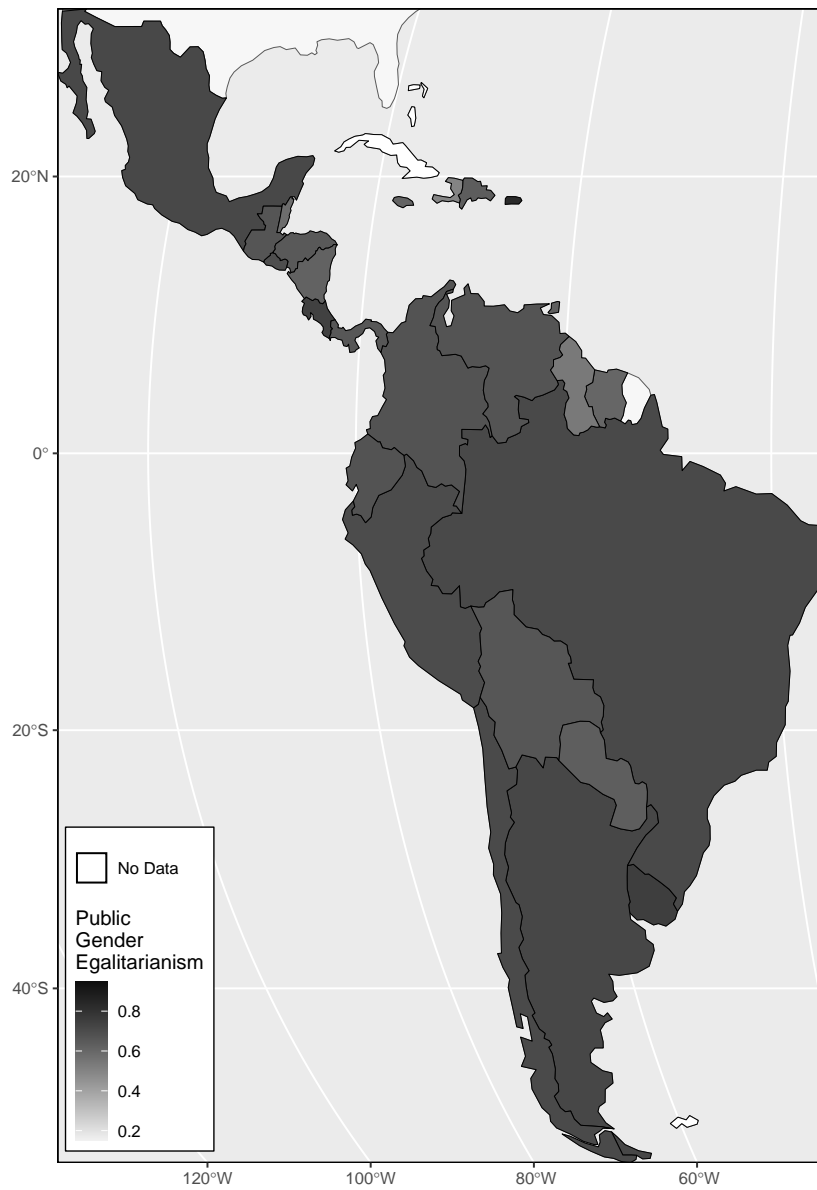
Figure 3.10: PGE Scores Across Latin America and the Caribbean, Most Recent Available Year
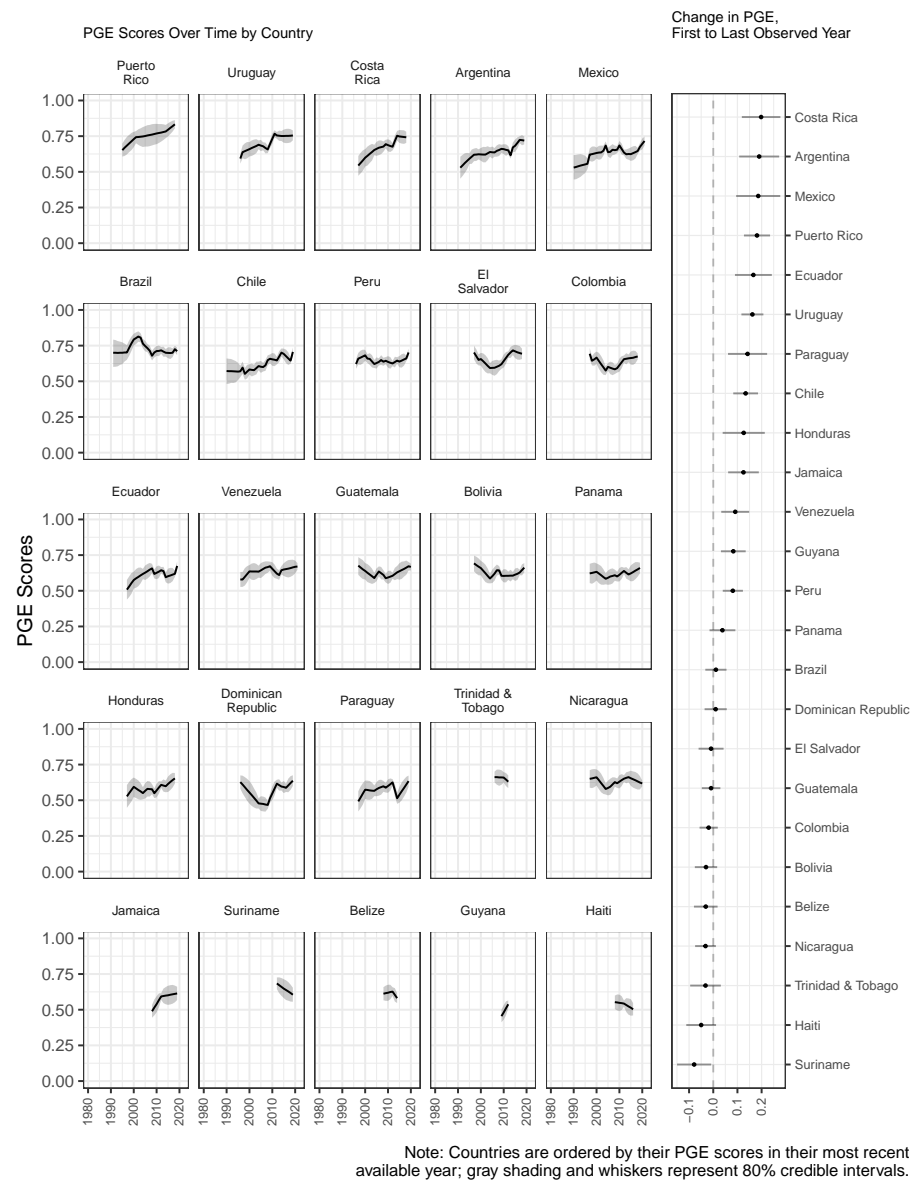
Figure 3.11: PGE Scores in Latin America and the Caribbean Over Time

How PGE scores in Latin America and the Caribbean have changed over time is shown in Figure 3.11. Attitudes shifted the most in Costa Rica, Argentina, and Mexico, moving about a fifth of the theoretical range of the measure over the years spanned by our observations. But in nearly half of the region's countries, the difference in the estimated level of public gender egalitarianism from the first observed year to the last observed year is indistinguishable from zero. These countries are listed, from Panama to Suriname, towards the bottom of the rightmost pane of Figure 3.11. Still, only in Suriname did the public's views grow decisively less gender egalitarian, at least according to the 80% credible interval, over the observed time span.

3.4.3 East Asia and the Pacific

The countries of East Asia and the Pacific exhibit more variation than the countries of either of the two regions discussed above. Figure 3.12 shows the point estimates of the most recent PGE scores for each territory in the region. In New Zealand and Australia, these PGE scores exceed .75 in the most recent year available. On the other hand, attitudes remain decidedly opposed in gender equality in politics and the workplace in Myanmar. South Korea, where a PGE score just above .5 indicates the public is nearly evenly split in its views, constitutes the median of the region, with Japan and China close to either side.
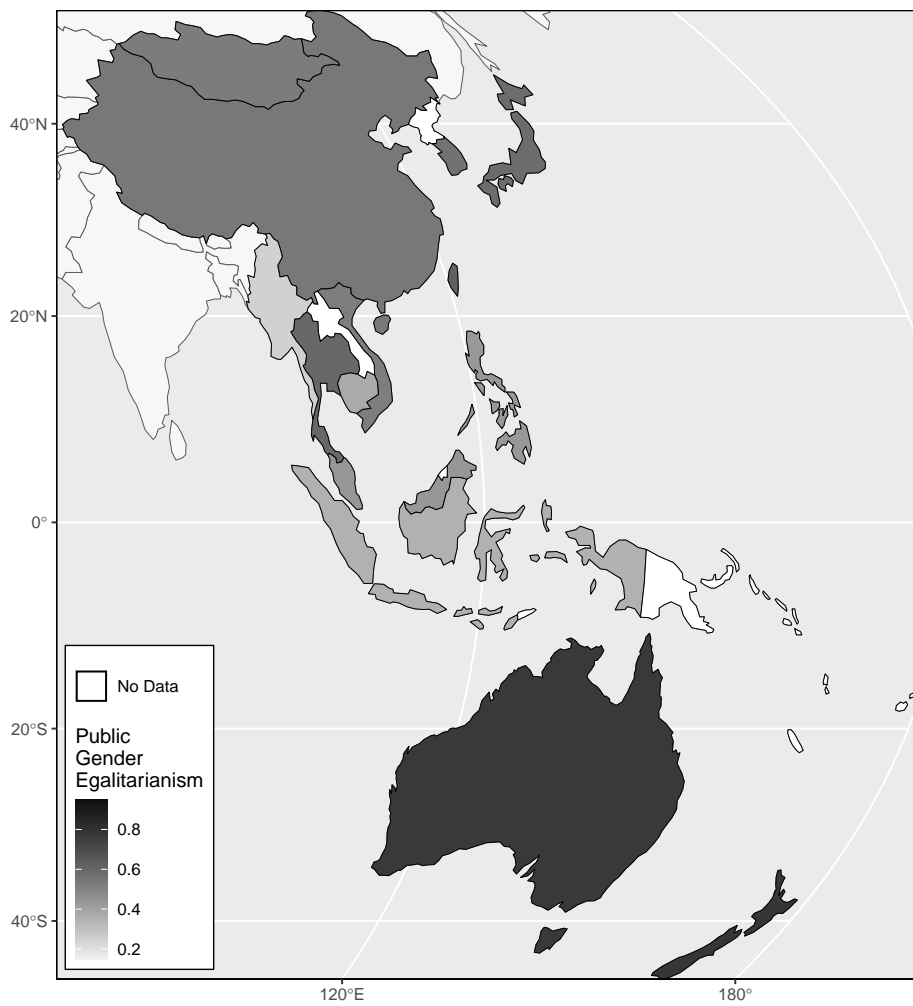
Figure 3.12: PGE Scores Across East Asia and the Pacific, Most Recent Available Year
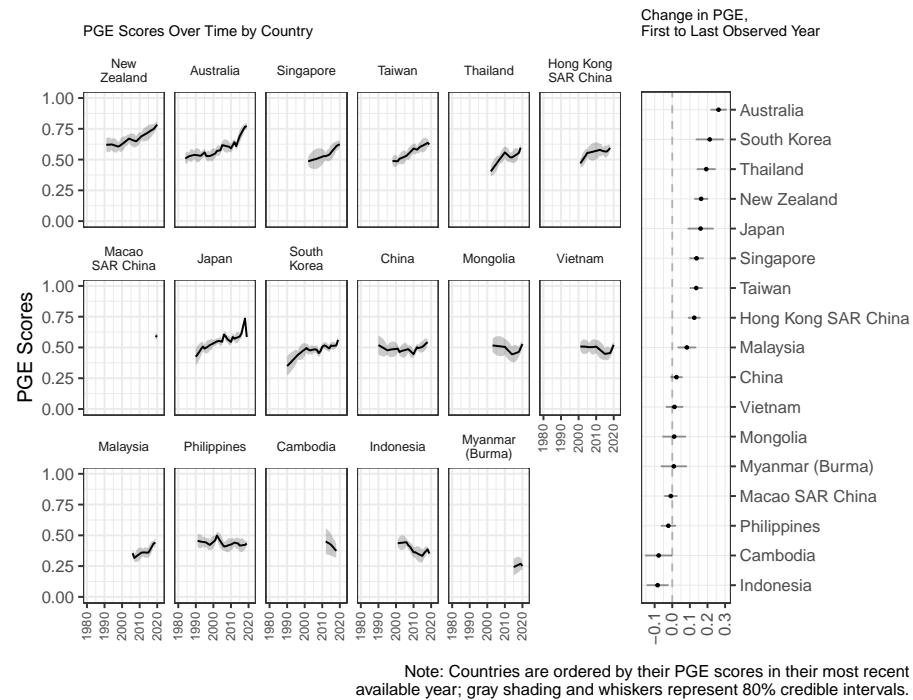
Figure 3.13: PGE Scores in East Asia and the Pacific Over Time

Figure 3.13 shows how attitudes toward gender equality have evolved over time in the region. Comparing the first observed year to the last, nine of the seventeen countries and territories saw gains in public gender egalitarianism whose 80% credible intervals exclude zero, with the biggest increases occurring in Australia, South Korea, and Thailand. In six places—China, Vietnam, Mongolia, Myanmar, Macao, and the Philippines—the change from the first to last observed year is not distinguishable from zero. The public in both Cambodia and Indonesia registered a relatively small but statistically discernible decline in gender egalitarianism over the time observed.

3.4.4 The Middle East and North Africa

The available survey data described in the first section of this chapter allows us to estimate public gender egalitarianism in fifteen countries across the Middle East and North Africa. The most recent point-estimate PGE scores that resulted in these countries are mapped in Figure 3.14. Attitudes are most egalitarian at the western end of the Mediterranean, exceeding .6 in both in Lebanon and in Israel. Public gender egalitarianism scores of over .5 are found in Tunisia and Morocco. Views toward equality between women and men at work and in politics are more negative in the rest of the region, particularly in Saudi Arabia, Iraq, and Yemen. The most recent PGE score is roughly .25 in each of these last three countries.
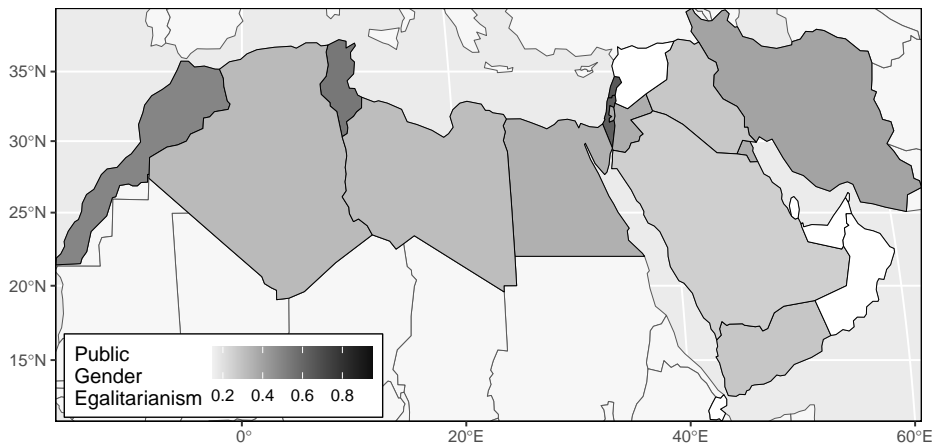
Figure 3.14: PGE Scores Across the Middle East and North Africa, Most Recent Available Year
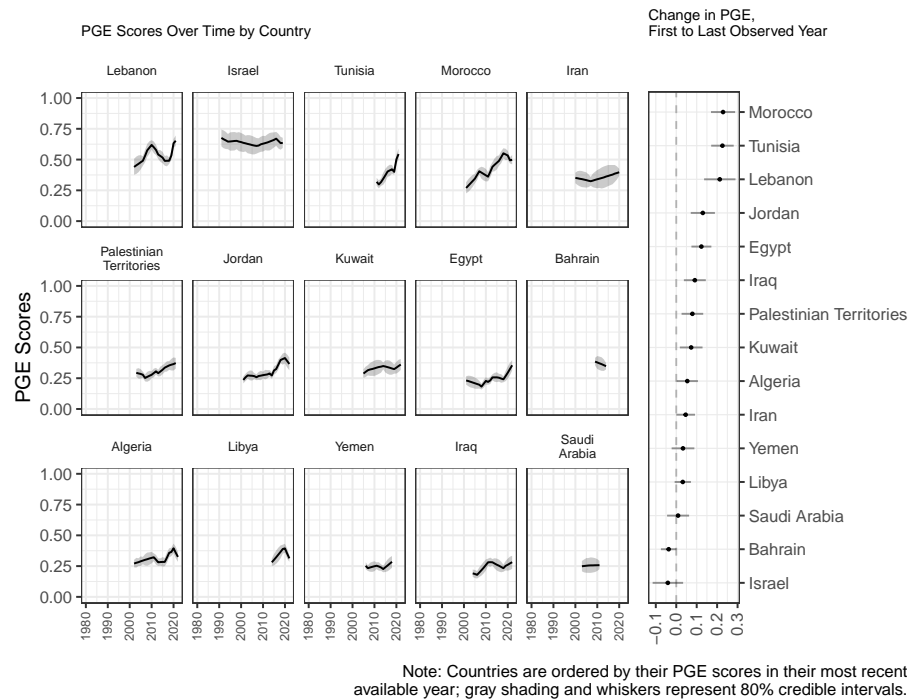
Figure 3.15: PGE Scores in the Middle East and North Africa Over Time

The trend over time in how the public considers gender equality in each of the countries of the Middle East and North Africa is plotted in Figure 3.15. Most of the countries for which data are available have seen some increase over the time observed, and indeed in Morocco, Tunisia, and Lebanon, these increases exceeded a fifth of the entire theoretical PGE scale. Gains in gender egalitarianism were not distinguishable from zero in Algeria, Yemen, Libya, and Saudi Arabia. Public gender egalitarianism was estimated to decline over the years observed in Bahrain and Israel, though only in the former country does the 80% credible interval of this drop

exclude zero.

3.4.5 Sub-Saharan Africa

Although sub-Saharan Africa is a large region encompassing over forty countries, it is also among the parts of the world most neglected by survey research. Moreover, the premier survey of the region, the Afrobarometer, unfortunately does not include questions regarding gender equality in politics or work. As a result, even the PGE dataset includes only fourteen countries in the region, and generally over relatively short time periods. Still, these fourteen countries include eight of sub-Saharan Africa's ten most populous, missing only Congo-Kinshasa and Angola, and together the included countries account for nearly two-thirds of the region's total population.

Figure 3.16 maps the point estimates of the most recent PGE scores of these countries. Zambia and Tanzania are the countries where public opinion is the most gender egalitarian, with scores over .6, in the region. Kenya, South Africa, Rwanda, Ethiopia, and Zimbabwe score at or above .5 in the most recent available year. Of these countries, attitudes toward gender are least egalitarian in Sudan, Senegal, Mali, and particularly Burkina Faso. The most recent point estimates for Burkina Faso are the lowest of all of the countries in the PGE dataset (see Figure 3.7).
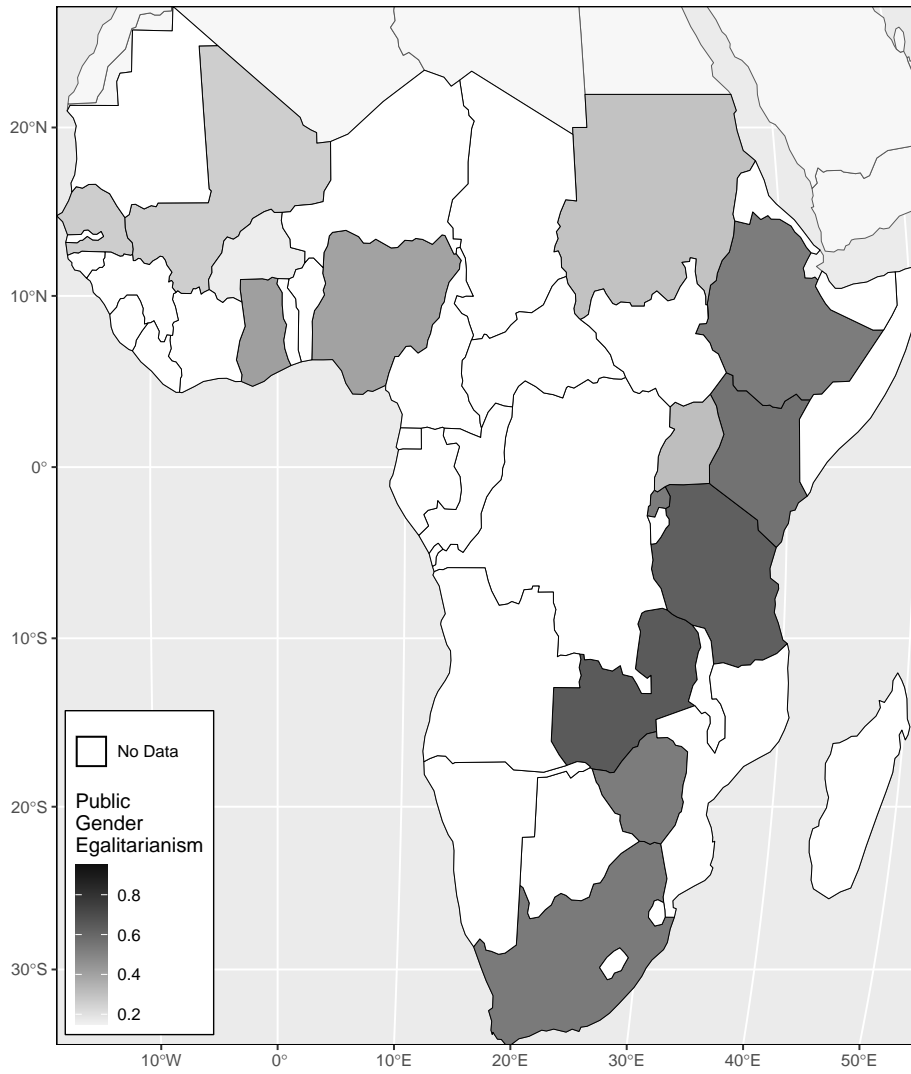
Figure 3.16: PGE Scores Across Sub-Saharan Africa, Most Recent Available Year
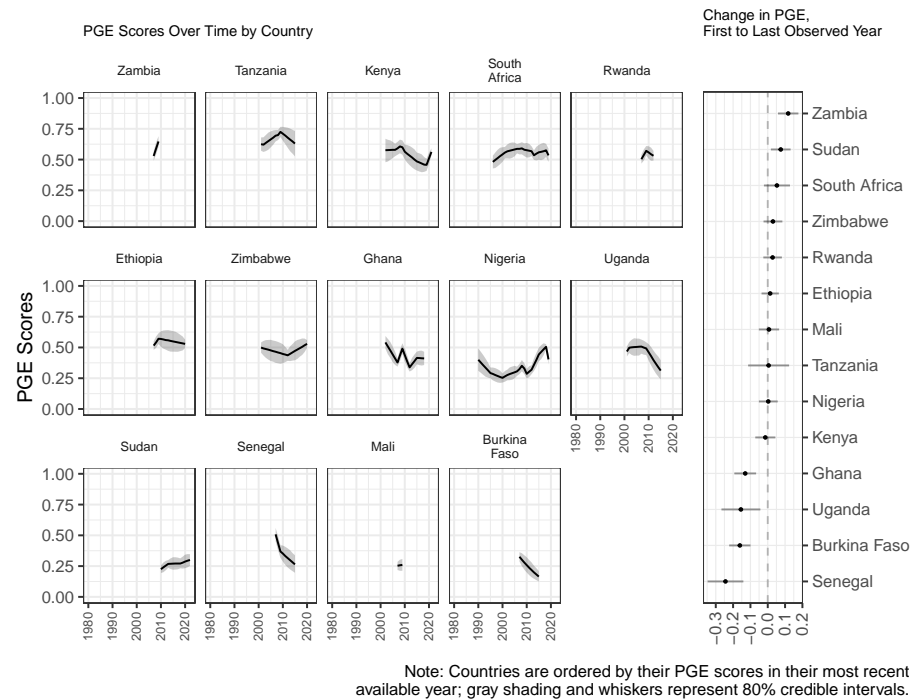
Figure 3.17: PGE Scores in Sub-Saharan Africa Over Time

Figure 3.17 shows how the public's views on gender equality in the public sphere have changed over time, and the differences across sub-Saharan countries are stark. The sparse data on attitudes in Zambia, covering only the three-year period from 2007 to 2009, indicates there was a small but sharp uptick in egalitarian views during that time. Of the fourteen countries included in the PGE data, only Sudan also saw an increase in public gender egalitarianism from the first observed year to the last, albeit a small one and from a very low base. Attitudes shifted considerably over time in Tanzania and Nigeria, but ended up roughly where they began in both of these cases. Trends in Ghana, Uganda, Burkina Faso, and Senegal

all exhibit well-estimated declines in gender egalitarian public opinion.

3.4.6 Central Asia

The availability of relevant survey data allows better coverage of the countries of Central Asia than of sub-Saharan Africa, with only Tajikistan and Turkmenistan excluded from the PGE dataset for want of surveys. The most recent year of PGE point estimates available in the region is mapped in Figure 3.18. Only in Georgia does this score exceed .5, and there only barely: gender egalitarian views are not widespread in this part of the world. Across the region, public opinion is least favorable to gender equality in the public sphere in Uzbekistan. The point estimate of the most recent PGE score, that is, putting aside uncertainty, is scarcely above .2 in that country, making it one of the least gender egalitarian countries in the PGE dataset (see Figure 3.7).
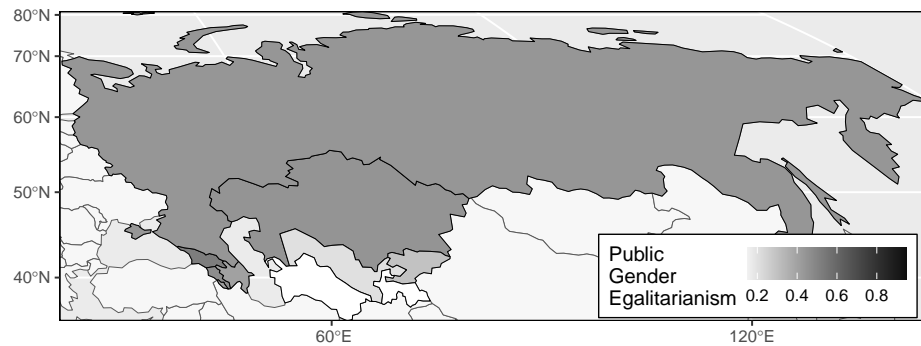
Figure 3.18: PGE Scores Across Central Asia, Most Recent Available Year

PGE Scores Over Time by Country

Change in PGE,
First to Last Observed Year
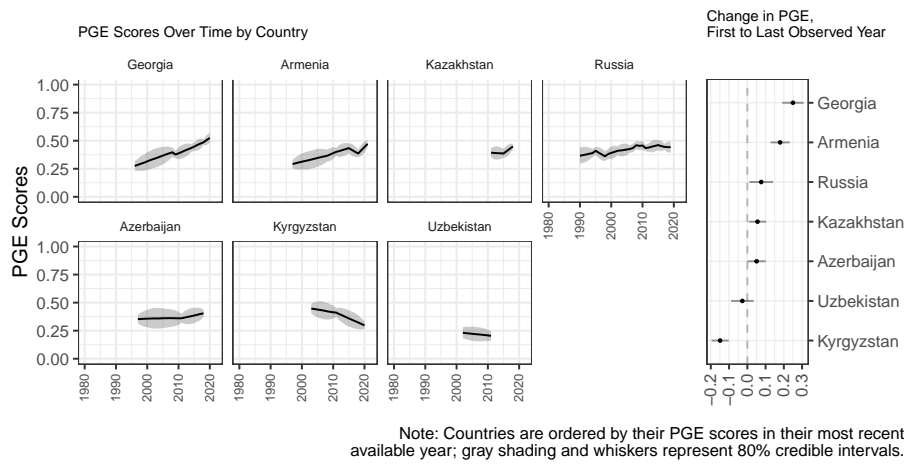
Figure 3.19: PGE Scores in Central Asia Over Time

How PGE scores have changed in Central Asia over the years is depicted
in Figure 3.19. Georgia and Armenia have seen attitudes toward gender
equality trend upwards over the past quarter-century by roughly a fifth
of the PGE scale's range or more. Public gender egalitarianism has in-
creased slightly and slowly from the first to last observed year in Russia,
Kazakhstan, and Azerbaijan. Uzbekistan saw little change. But accord-
ing to the PGE data, public opinion regarding gender equality declined
considerably in Kyrgyzstan.

3.4.7 South Asia

Across South Asia, the available survey data allows us to estimate PGE scores for only five of the region's seven countries; there are no estimates for Afghanistan or Bhutan. The top panel of Figure 3.20 provides a map showing the most recent score, as a point estimate, for each of the remaining countries. These estimates are below .5 for all of the South Asian countries: indeed, only for Sri Lanka does .5 even fall within the 80% credible interval. The public in each of these countries is, in the aggregate, opposed to gender equality in politics and in the workforce. This is particularly true in Pakistan, where the most recent PGE score is estimated to be below .25, among the lowest in the PGE database (see Figure 3.7).
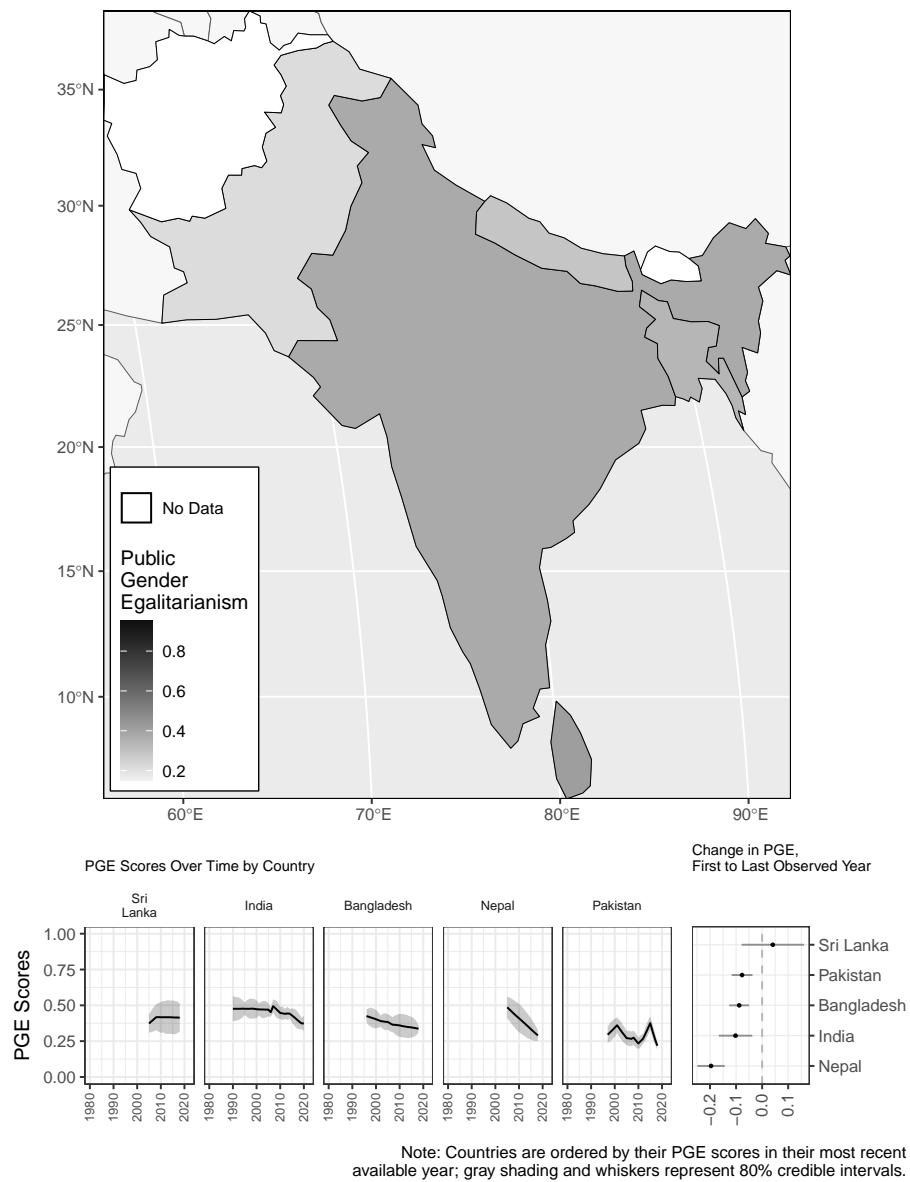
Figure 3.20: PGE Scores Across South Asia, Most Recent Available Year

Moreover, as shown in the trends over time are shown at the bottom of the figure, public attitudes toward gender equality in most of these countries have been veering downward. Only in Sri Lanka do the available data suggest that views have remained unchanged since the first observed year, 2005. In Pakistan, Bangladesh, and India, PGE scores appear to have declined by roughly a tenth of the index's full range, and in Nepal they have fallen by approximately twice that amount.

3.4.8 North America

Canada and the United States comprise the last region of our survey of public gender egalitarianism around the world. As shown in the top panel of Figure 3.21, the point estimates of both countries' most recent PGE scores are fairly high. Each is around the .75 mark, comparable to such countries as Austria and Croatia in central Europe, Costa Rica and Mexico in Latin America, and Australia in the Pacific, but substantially lower than the most egalitarian countries of northern and western Europe, Puerto Rico, or New Zealand (see again Figure 3.7).

Note: Countries are ordered by their PGE scores in their most recent available year; gray shading and whiskers represent 80% credible intervals.
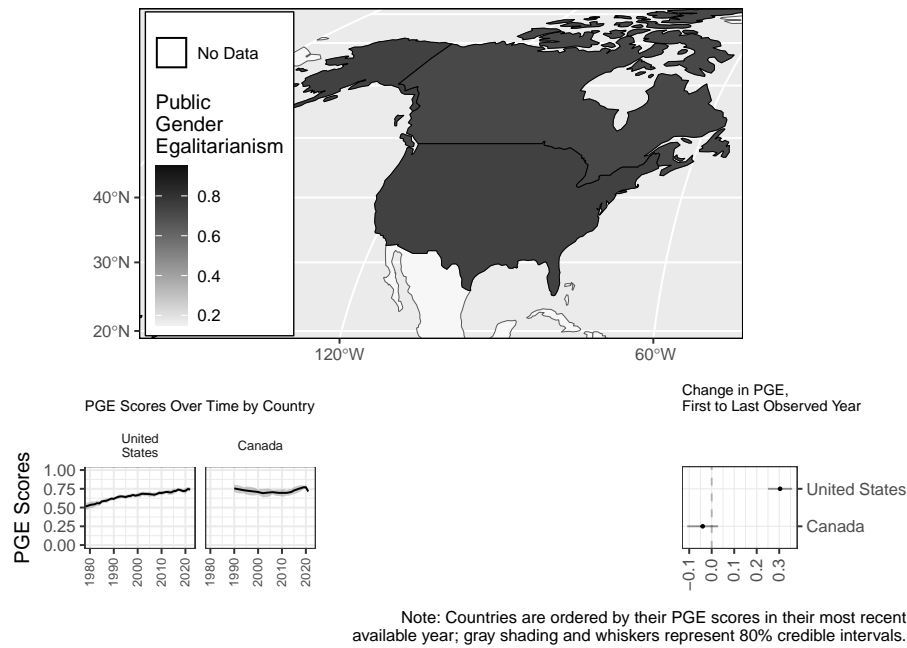
Figure 3.21: PGE Scores Across North America, Most Recent Available Year

Their similar recent scores notwithstanding, the lower panels of Figure 3.21 show that public gender egalitarianism in Canada and in the United States followed very different trajectories over the past three decades. In the United States, PGE scores have climbed slowly but rather steadily over this time. In fact, although this time frame does not entirely appear on the plot, the public's views toward gender egalitarianism in work and politics have grown more positive in this fashion since 1972, gaining some 30% of the full theoretical range of the PGE index since then. Canadians' attitudes, on the other hand, were already quite gender egalitarian in 1990, the first year for which PGE scores in the country are available. In the intervening years, egalitarianism may have fallen slightly, only to recover in the latter half of the 2010s and then again decline somewhat after 2020. The difference between the first and last observed years in Canada cannot be distinguished from zero.

3.5 Conclusions

Despite ample theorizing on the role of public opinion regarding gender roles in politics and the workplace, empirical evidence has been limited, consisting of studies of one or a few cross-sections or based on dubious proxies. The reason for this regrettable outcome is the want of data on this concept that is comparable both across countries and over time. The PGE dataset addresses this need.

It does so by compiling the available survey data on the subject and estimating a latent variable model built to take into account the both the differences in the items asked—i.e., their incomparability—and the variation across countries and years in the number of these items that are available—that is, their sparsity. The result is a set of complete time-series in countries around the world, a comparable measure of the public's attitudes toward equality for women and men in the public sphere, the traditionally male domain of politics and paid employment, along with quantified uncertainty in this measure. The PGE dataset covers nearly

3,000 country-years, almost six times as many as provided by the most commonly asked single survey item.

In the following chapters, we will take advantage of the PGE data to better address such long-standing questions as how collective attitudes on gender roles have influenced the election of women to national legislatures (see, e.g., Paxton and Kunovich 2003; Alexander 2012) and to pursue both new and more nuanced lines of inquiry on issues of policy responsiveness (cf., Kittilson 2008; Busemeyer, Abrassart, and Nezi 2021).

4 Dynamic Descriptive Representation

In the traditional view, politics is a man's game. From this perspective, the public sphere, both politics and the workplace, is unsuited to the participation of women, and elected office is considered to be a position for men only. Nonetheless, around the world in the rich democratic countries of the OECD, women have succeeded in winning election to seats in the national legislature. Such successes were once rare. In ten of these rich democracies, no more than one in twenty members of the lower house of the national legislature were women into the 1980s or even later. And success in gaining office remains uneven. At this writing, gender parity—equal numbers of men and women—has been achieved in the lower legislative houses of only two of these countries, Mexico and New Zealand. But women continue to number fewer than one in five legislators in twice as many of these rich democratic countries.

Trends in the share of women elected to the lower houses of the legislature, the most commonly studied measure of women's descriptive representation, across the OECD countries over more than forty years can be found in Figure 4.1. The data are drawn from the Quota Adoption and Reform Over Time (QAROT) dataset (Hughes et al. 2019), supplemented with information provided by the Inter-Parliamentary Union (IPU) (2023). The OECD countries appear in order of women's percentage of legislative seats in the most recent available year. The differences are stark. Across much but not all of western Europe, women politicians have made rapid and substantial gains. These trends are perhaps most striking in Belgium and

Note: Solid lines trace trends over the years covered in this chapter's analyses; dotted lines extend to years that were not included. Sources: Hughes et al. (2019); Inter–Parliamentary Union (2023).

Figure 4.1: Women's Descriptive Representation in the OECD

Spain. In the Nordics—Iceland, Sweden, Norway, Finland, and Denmark— parity has been relatively close, if yet unattained, for most or all of the twenty-first century. Along with Mexico, the Latin American countries of Costa Rica, Chile, and Colombia have seen sharp increases in the share of women in the legislature in their most recent elections, albeit from a range of previous values. On the other hand, any movement toward gender equality in legislative officeholding has been slow and halting in a number of countries, from Ireland and Greece to South Korea and Japan.

These differences across countries in women's descriptive representation have been closely studied. Case studies and cross-national work alike have found support for the elite-led theory described in Chapter 2. Both ways in which this theory suggests the supply of women candidates may be increased appear to work. Countries that employ electoral systems that include party lists have been found to elect more women than those without, evidence that party lists provide better opportunities for feminist activists to convince party leaders to run more female candidates—or indeed to supplant those leaders and do it themselves (see, e.g., Rule 1994, 18; Matland 2005, 101–5; Paxton, Hughes, and Barnes 2021, 164–69). And the national quota laws advocated by these activists that, when adopted, require all parties to put forward a minimum share of women as candidates, likewise have been found generally to increase the share of women elected, if not typically by the amount their mandated candidate shares would perhaps lead one to expect (see, e.g., Dahlerup and Freidenvall 2005; Schwindt-Bayer 2009; Paxton and Hughes 2015).

The role in this process of public opinion has attracted much less attention. Again, this is not because scholars do not think that the public is important. They certainly do. In the rich democracies that we are concerned with in this book, after all, the public is the electorate, and the mass-public theory described in Chapter 2 argues that the public is very important. But the limitations in the measures of public opinion available to researchers has constrained them to study countries at just one or a few time points (see, e.g., Paxton and Kunovich 2003; Alexander 2012) or to rely on very loose proxies such as predominant religion or the percent-

age of women already in office (see, e.g., Burns, Schlozman, and Verba 2001, 340–41; Claveria 2014; Barnes and O'Brien 2018). Cross-national and longitudinal investigation of, for example, the argument that such "attitudes influence both the supply of, and demand for, female candidates" has remained persistently a topic for future research (Paxton, Hughes, and Painter 2010, 47). Equipped with the PGE data, this chapter takes up the question of the role of public attitudes in the election of women to legislative office in the rich democratic countries.

To quickly review, the theory connecting gender egalitarianism in the public sphere with women's descriptive representation is straightforward. Where the public holds more egalitarian views toward women in politics and the workforce, voters will be more willing to elect female candidates running for office, and party gatekeepers will be more willing to allow women to run. In other words, more egalitarianism should be expected to increase both demand for and supply of women candidates, with the consequence that more women will win office.

Although women's share of the legislature does vary somewhat in the course of most legislative terms—officeholders retire and are replaced, for example—those fluctuations are not really relevant to the explanations for descriptive representation that we have discussed, all of which focus on what happens in elections. Therefore, we examine only election years. Combining the data on women legislators presented in Figure 4.1 with the PGE database gives a substantial number of elections to study. In fact, across the 38 countries, there are 319 elections, for an average of more than eight elections per country. The sample is unbalanced, however: some countries hold elections more often than others, of course, but there are also longer series of PGE data for some countries than others.
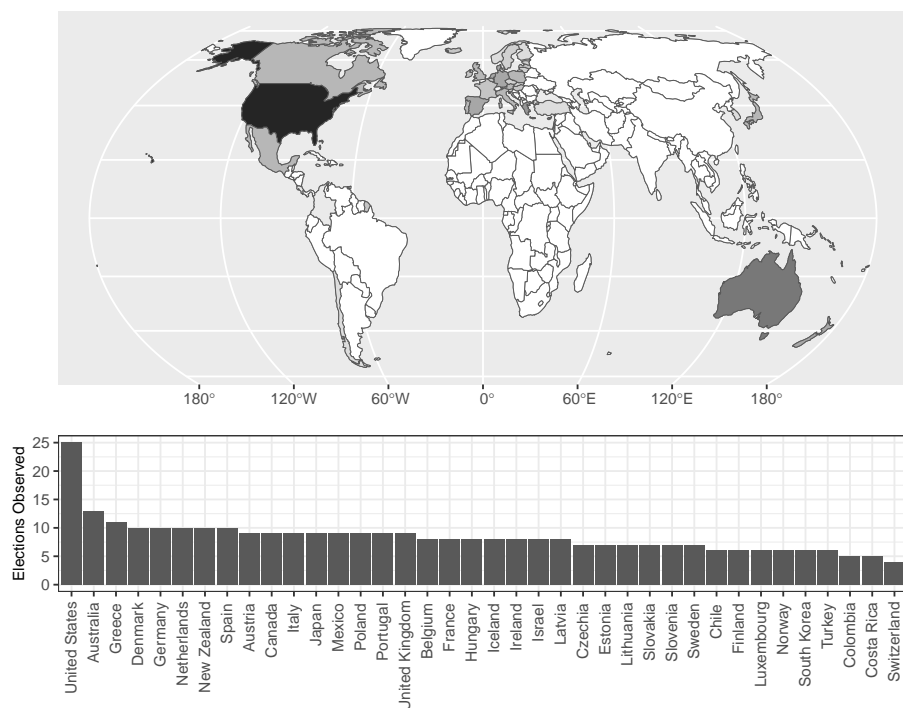
Figure 4.2: Observed Democratic Elections in the OECD

The number of elections available for our analyses in each country are depicted in Figure 4.2. Our scale here runs from light to dark: the darker the country the more observed elections we have. The United States, with its short two-year terms to the House of Representatives and a series of PGE scores spanning a half century, has the most elections to examine, followed at considerable distance by Australia. Colombia and Costa Rica are observed in just five elections, and Switzerland in only four. Still, a solid majority of our countries, twenty-six of the thirty-eight, have been observed in at least eight elections, giving us some confidence that we have adequate data to capture not only the differences between the countries in

which many women are elected and those with much smaller numbers of women in office but also and perhaps more importantly the dynamics of change over time. We will start, though, by looking at the raw bivariate data.
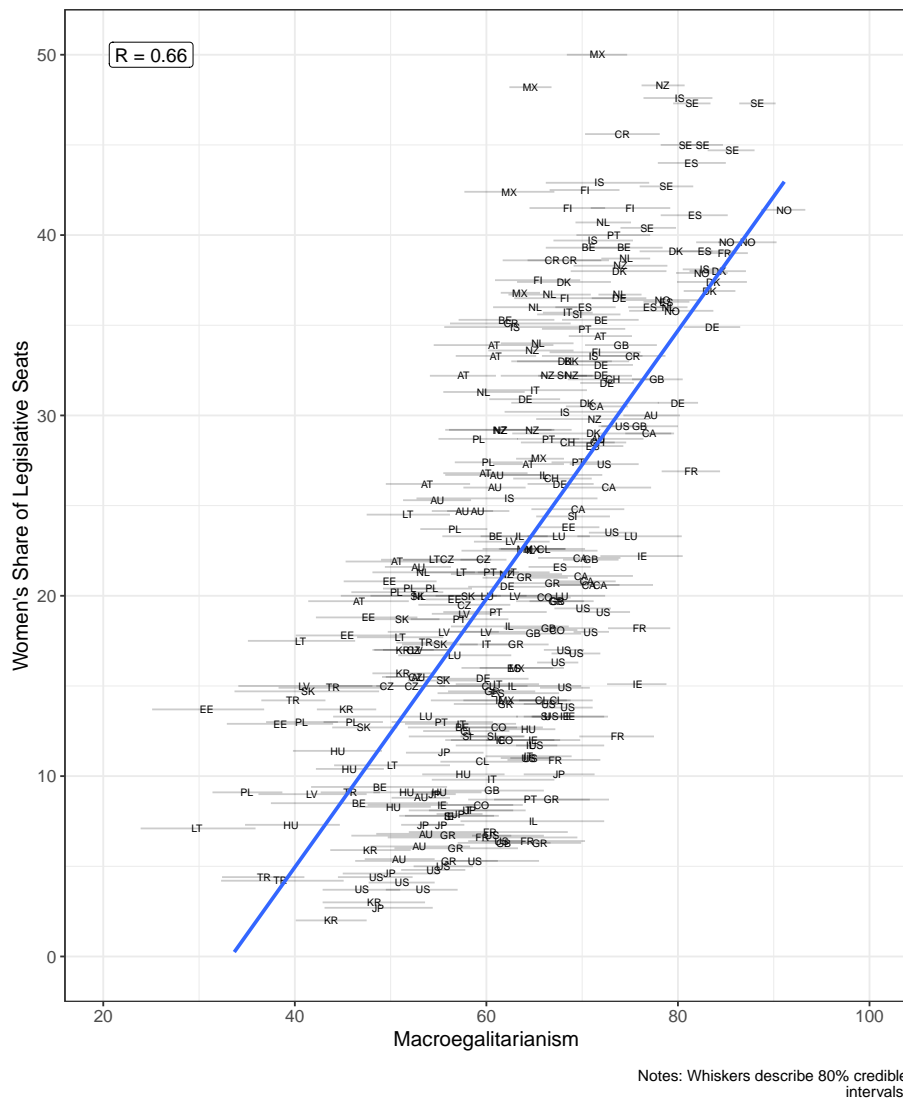
Figure 4.3: Macroegalitarianism and Women's Share of Legislative Seats in OECD Democracies

Are macroegalitarianism and women's descriptive representation related? Every point in Figure 4.3 represents an election in a particular country, and each is labeled with that country's two-character codes assigned by the International Organization for Standardization (ISO). The figure's x-axis presents the country's macroegalitarism, as measured by its PGE score, in the year the election was held. And because the PGE scores are estimated with uncertainty, each point is shown with horizontal whiskers tracing its 80% credible interval. The plot's y-axis depicts the percentage of seats won by women in each election to the lower house of the national legislature in that election. There is a strong positive relationship between the two. Taking the uncertainty in the PGE scores into account, the bivariate correlation is .66. This is promising evidence for the mass-public theory, but there are many potential explanations for a strong correlation besides the theory that more egalitarian views among the public cause more women to win office.

4.1 Macroegalitarianism and Women's Descriptive Representation in National Legislatures

To better assess whether macroegalitarianism in public opinion influences women's descriptive representation, we need a more sophisticated analysis. To start, we will need to take into account other potential explanations for when more women are elected to office, in particular, those offered by the elite-led theory. After all, public opinion may simply reflect cues provided by the activists and party leaders who play a central role in the elite-led theory. If that is the case, the strong relationship seen in Figure 4.3 would result from both public opinion (through these cues) and descriptive representation (through their successes in getting national quotas enacted and women candidates on party lists) being consequences of the strength of feminist activists. To rule out this potential source of spurious association, we control for the strength of any national legislative quotas for women

and the presence of an electoral system that includes party lists as well as a direct measure of the strength of the feminist movement.

Data on whether a country's electoral system contains at least a party-list component comes from the Democratic Electoral Systems Around the World dataset (Bormann and Golder 2022). Elections held under list proportional representation, mixed-member proportional, and mixed-member majoritarian electoral rules are coded one for this variable, while all other elections are coded zero. Some 77% of the elections in our sample were held with such rules.

Data on national quotas are drawn from the QAROT database and updated with information from the Gender Quotas Database maintained by the International Institute for Democracy and Electoral Assistance (2023). Hughes et al. (2019), which presents the QAROT data, provides an exceptionally good measure of quotas, the de facto threshold. The de facto threshold is based on "a country's stated quota threshold and the breadth of a quota's actual reach" (Hughes et al. 2019, 225). It is the combination of these two factors that determine the mandated minimum share of women on the ballot. For example, South Korea requires 50% of candidates on each party's list to be women. However, this quota applies exclusively to the proportion of the legislature that is elected from party lists, which, under the country's mixed-member electoral system, is only about a sixth of the National Assembly. For the remaining roughly five-sixths of the seats that are elected from single-member districts, only 30% of the candidates are required to be women. Taking these quota levels and their respective breadths of application together, the de facto threshold in Korea is about one-third of each party's candidates. There are other important aspects of national legislative quotas, such as whether and how they are enforced or if the position of women on an electoral list is specified. Still, the de facto threshold provides a straightforward measure of the share of women candidates that is required to appear on the ballot, and we use it as our measure of national legislative gender quotas here.
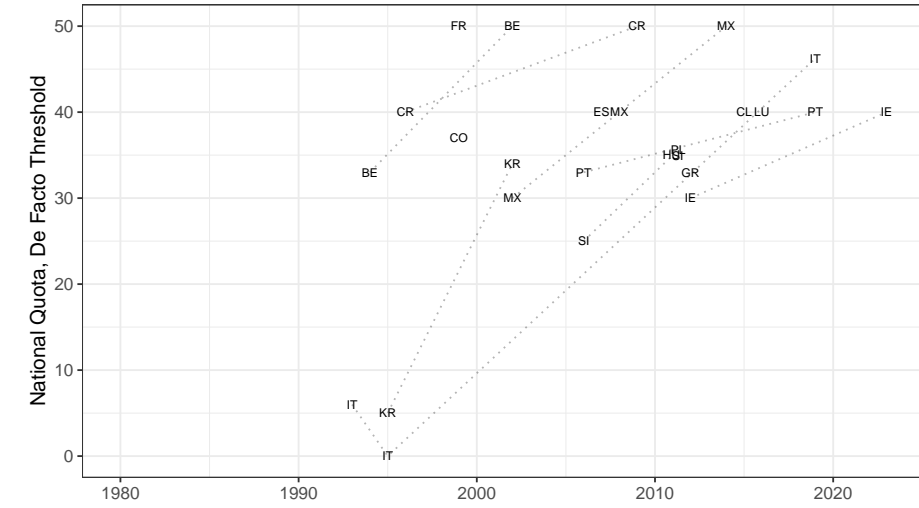
orms are joined by dotted lines. Sources: Hughes et al. (2019); International Institute for Democracy and Electoral Assistance (2023).

Figure 4.4: Adoption and Reform of National Legislative Gender Quotas in OECD Democracies

Figure 4.4 shows the adoption and reform of national legislative gender quotas over time in the rich democratic countries of our study. Italy in 1994 was the pioneer among these countries, but its small quota was abolished just two years later. In later years, those quotas that have been adopted have been more demanding, and, as the dotted lines linking quotas and their subsequent reforms demonstrate, many countries that adopted quotas strengthened them over time. Belgium, Costa Rica, and Mexico, which along with France now have de facto quotas requiring that women make up half of all candidates, had earlier adopted lower quotas, and when Italy adopted a quota for the second time in 2019, its de facto threshold was nearly as strong at 46.25%.

Finally, the Feminist Movement Index (FMI), first presented by Htun and Weldon (2012) and updated in Forester et al. (2022), serves as our measure

of the overall strength of the feminist movement. Among the advanced democracies we consider here, FMI scores range from one to three. A score of one represents a feminist movement that is either weak or not independent from male-dominated organizations. Movements scored two are both stronger and autonomous from male-dominated organizations. The strongest autonomous feminist movements are scored three. How the FMI has changed over time across the OECD countries during the elections included in our analyses is shown in Figure 4.5.
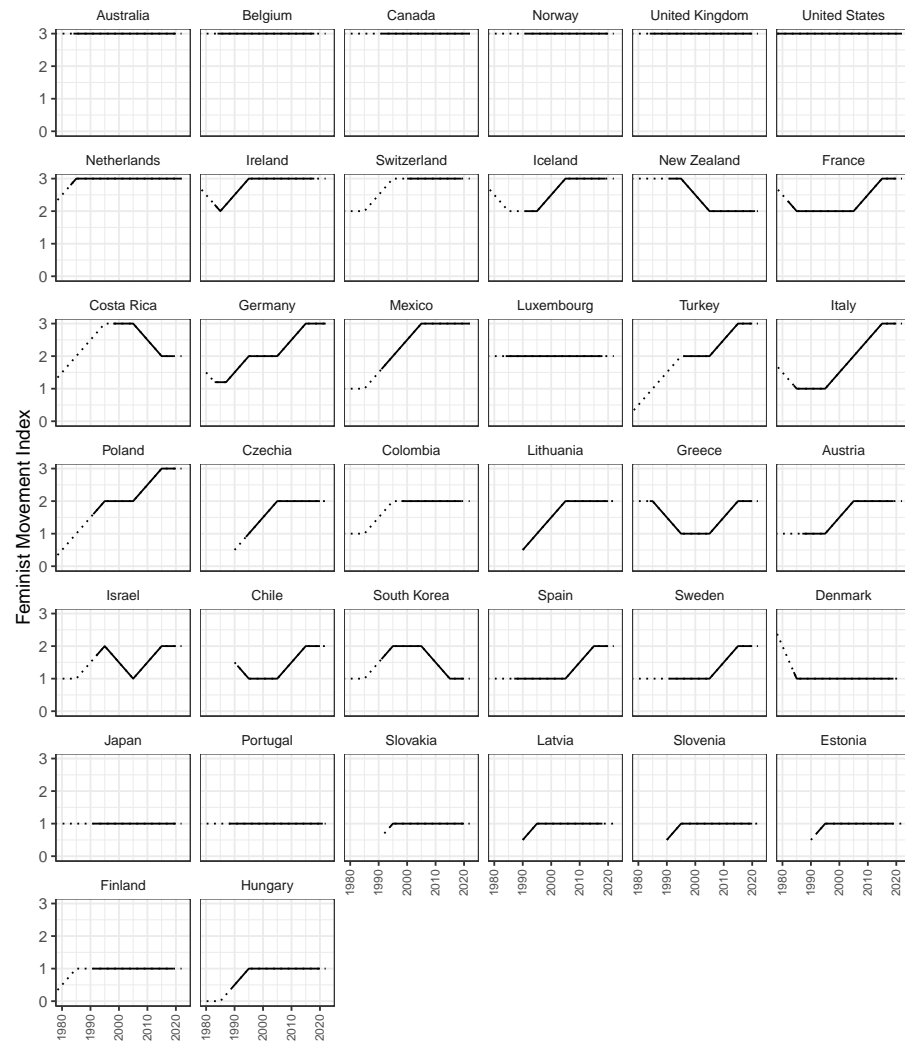
Note: Solid lines trace trends over the years covered in this chapter's analyses;
dotted lines extend to years that were not included. Source: Forester et al. (2022).

Figure 4.5: The Feminist Movement Index in the OECD

With these data in hand, we can turn to how best to use them to test our theories. The dataset includes a series of time points representing years with democratic elections for each of the thirty-eight OECD member states. Pooling these time series and analyzing them together has two long-appreciated benefits (see, e.g., Stimson 1985, 916). On the one hand, examining changes over time can provide strong evidence of causality for even questions involving concepts like public opinion and women in office that are not subject to manipulation by researchers and so are ill-suited to experimental research. On the other, examining many countries can provide strong evidence that our conclusions are general and not specific to a particular, possibly exceptional, context. These are powerful advantages. But certain statistical difficulties associated with pooling time series have been long recognized as well (see, again, among others, Stimson 1985).

Shor et al. (2007) demonstrates that two of the difficulties with pooled time series are best addressed using a Bayesian multilevel model that includes varying intercepts for both space and time. Such models take into account the distinctive structure of our data as comprised of observations of a particular country in a particular year. They incorporate the fact that what we see in an observation is influenced by *where* we are looking. All observations of Spain, for example, may share distinctively Spanish traits. If these distinctive traits are unknown and ignored, our model will consistently under- or over-estimate women's descriptive representation for all of our Spanish observations over time.[1] But these distinctive traits can be modeled by including a varying intercept for each country, a parameter that shifts our prediction of the outcome for all observations from that country by the same amount. Together, the country parameters avoid the problems caused from those national traits for which we do not have data or otherwise omit from our analysis. These models also recognize that what we observe is also influenced by *when* we are looking; to give an instance, all observations from 2020 may share peculiarities as a result of the COVID-19 pandemic and other events felt around the globe that

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[1]This problem is a form of *heteroscadisticity*, a violation of the assumption of regression analyses that error variances are equal.

year.[2] These distinctive temporal characteristics are similarly modeled with a varying intercept for each year. The year parameters shift our predictions for all observations from a particular year equally to account for whatever 'time shocks' operated on all countries simultaneously at that point in time (Shor et al. 2007, 171–72).

Another persistent concern with in the analysis of pooled time-series data is that cross-country differences can be confused with over-time changes. Change in our explanatory variable followed in time by change in what we seek to explain provides strong evidence of causation. That our proposed cause and effect covary across countries, on the other hand, *may* reflect potentially different long-running and historical causal processes, but it may also reflect other, unmodeled cross-national differences. We follow Bell and Jones (2015) and employ the 'within-between random effects' specification to take into account the difference between change over time and differences across countries. To do this, we separate each time-varying predictor into its mean value for each country, which does not vary over time, and the difference between its value in a given year in a country and this country mean. The latter, time-varying difference variables capture the short-term causal effects of the predictors. The former, time-invariant country-mean variables reflect their often different long-run, historical effects as well as any country differences that would otherwise cause omitted-variable bias (Bell and Jones 2015, 137).

Yet another complication occurs when the processes observed are dynamic. That is, empirically, that past values predict current values and, theoretically, that there reasons to think that the past matters to the present. As in most events that unfold over time, that is true in this case. Here, in the present election, women serving in office in the just concluded legislative term may on the one hand enjoy the benefits of incumbency, but on the other they may be held to higher standards of conduct than their male peers. Either way, the extent of women's descriptive representation in the

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[2]Such contemporaneous correlation violates the regression assumption that, conditional on the model, the errors in our predictions are independent.

preceding term can be expected to influence the extent of representation in this one. Given these circumstances, we include as a predictor the lag of the variable to be predicted, that is, its value at the time of the last election (see Keele and Kelly 2006).

One last source of problems is measurement uncertainty. As described in the previous chapter, our measure of macroegalitarianism, the PGE scores, are estimated with uncertainty as a result of the sparsity and incomparability of surveys addressing the topic. Because measurement uncertainty in a latent variable like the PGE scores can bias our the results of our analyses, to ignore it is to run the risk of drawing incorrect conclusions from the data (see Tai, Hu, and Solt 2024). We therefore incorporated the measurement uncertainty in the PGE scores into our analysis. The model was estimated using the `brms` R package (Bürkner 2017) with noninformative priors.[3]

Figure 4.6 presents the results. The shaded regions represent the posterior probability distributions; the higher the shading, the more likely that what each region depicts—here, one regression coefficient—takes on that value conditional on these data and this model. The dots mark the median values of these distributions, so half of the probability falls to either side. The whiskers trace the 80% credible intervals; that is, there is an 80% probability that the regression coefficient falls within that range, again, conditional on these data and this model. The bottom panel shows, as expected, that descriptive representation is dynamic: the percentage of legislators who are women after the previous election strongly predicts the percentage of legislators who are women after this one. In other words, incumbency matters. But the unstandardized coefficient is less than one, which suggests that absent the actions of elites and the support of the public as considered in the model, descriptive representation would decline

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[3]By default, `brms` assigns linear regression coefficients improper flat priors over the real numbers. That means that, before considering the data and model, the probability that a coefficient takes on any value, from negative infinity to positive infinity, is assumed to be equal. Weakly informative priors—for example, normal(0, 2)—yield substantively similar results for all of these analyses.

rather than grow over time. This provides suggestive evidence that women in office are held to a higher standard than their male colleagues.

Notes: Dots indicate posterior medians; whiskers describe 80% credible intervals; shading depicts the posterior probability distribution.
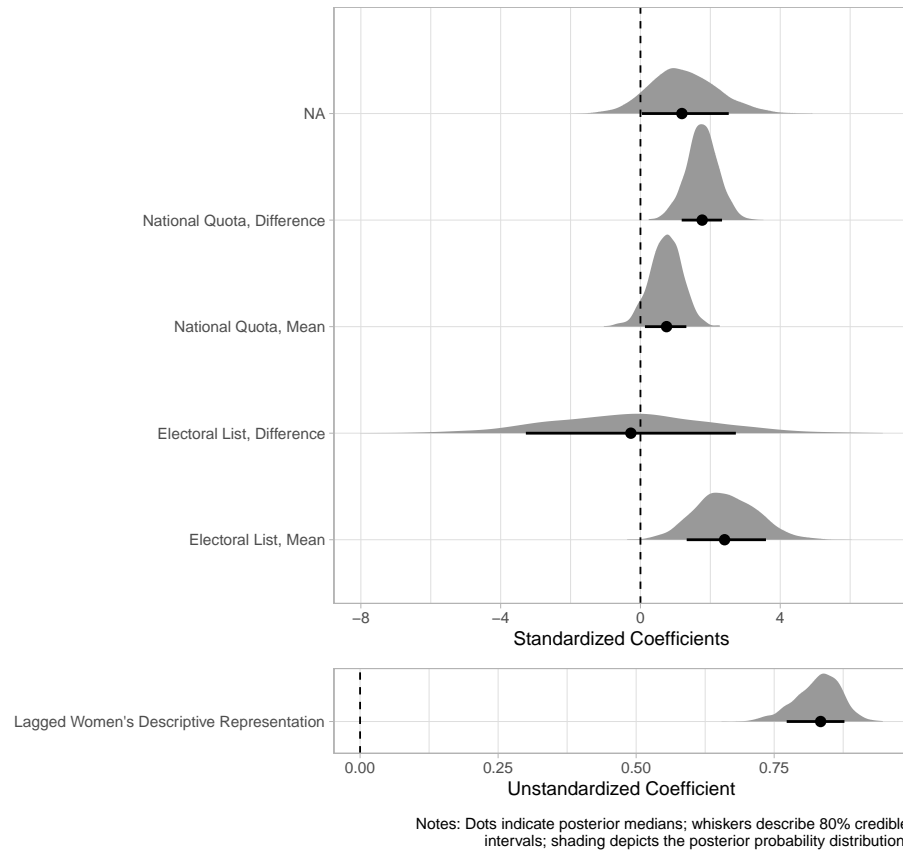
Figure 4.6: Predicting Women's Descriptive Representation in OECD Democratic Elections

The regression coefficients for the variables suggested by the elite-led and public opinion theories appear in the top panel of the figure. For the

variables regarding electoral lists, these coefficients are scaled to the values of zero (the electoral system does not include party lists) and one (the system does have party lists). The coefficients of the other variables are each multiplied by a factor of two times the variable's standard deviation; this puts all of the coefficients on the same scale for easy comparison of their magnitudes (see Gelman 2008).

Continuing to work up the plot's y-axis, consider the variables about the presence of a party list component in a country's electoral system. The coefficient for the country mean of this variable indicates that in countries with party lists women make up 2.4 percentage points more of the legislature, with an 80% credible interval of 1.3 to 3.6 percentage points, than in countries without party electoral lists. Again, this is the difference in descriptive representation *between* these two groups of countries, those with lists and those without, in a single election. Because the women who win office in one election then shape women's descriptive representation in future elections, this difference compounds over time. Taking into account the dynamics of the model through the lagged value of women's descriptive representation, over time, the total effect of this difference is estimated to reach 14.6 (80% c.i.: 8.6 to 20.6) points. However, while this may be the long-term historical effect of electoral system differences on women's descriptive representation, it may also reflect unobserved differences between these countries that correlate with their electoral systems. Therefore, although this coefficient provides some evidence for the electoral-list aspect of the elite-led theory, it should not uncritically understood as evidence that party lists *cause* more women to be elected.

Our best evidence for causation comes instead from the variable labeled as the *difference* in the presence of an electoral list. This variable allows us to estimate the difference between having a list and not having a list over time *within* the data for a single country. As looking within a country holds so many possible but unobserved alternate causes constant, the grounds for considering the estimated coefficient for this variable evidence of causation are considerably more solid. Unfortunately for the purposes of estimation, in this case only three countries in our dataset—New Zealand, Japan,

and France—adopted electoral-system reforms that changed whether there was a party list over the elections we observe. Further, in each of these countries, the reform came after only the first observed election. As a result, there is little leverage in these data to precisely estimate a causal effect, and indeed the range of credible values is very wide, from -3.3 to 2.7 percentage points. Because this range includes zero (marked in the figure with the dashed vertical line), these data and this model provide no support for a short-run effect on women's descriptive representation of party-list electoral systems at all.

The findings with regard to national legislative gender quotas, on the other hand, are much stronger. The difference in descriptive representation *between* a country that never had a quota of female candidates and a country whose de facto threshold required an average, over all of its observed elections, of 22% of each party's candidates to be women (that is, two standard deviations higher on this variable) is 0.7 (80% c.i.: 0.1 to 1.3) percentage point in one election, reaching 4.4 (80% c.i.: 0.6 to 9.2) points over time. And across elections *within* a country, as national legislative gender quotas increase, women's descriptive representation also increases. From an election when the national quota was ten points below the country's observed mean to one when the quota was ten points above its mean (again a two standard-deviation difference), women's descriptive representation is estimated to increase by 1.8 (80% c.i.: 1.2 to 2.3) percentage points immediately, and this effect compounds to 10.3 (80% c.i.: 6.9 to 15.5) points over time. The within-country estimate is strong evidence of a causal process. Consistent with earlier research on this elite-led argument, this model shows that the hard work of women's organizations and feminist activists to win passage of national legislative quotas for women pays off in more women in office, albeit at rates of perhaps little better than half of the required share of candidates on average.

We next turn to the direct effect of the strength of the feminist movement, net of the opportunities granted by electoral lists and success in enacting national quotas. Compared with countries with a mean feminist-movement index score one standard deviation lower than average, in countries whose

feminist-movement index score was one standard deviation higher than average the share of the legislature held by women was 1.3 (80% c.i.: 0.6 to 2.1) percentage points higher in one election and 7.9 (80% c.i.: 3.3 to 13.1) points higher over time. Changes in the strength of the feminist movement over time, moreover, are less consistently associated with gains in women's descriptive representation. A one-point increase in the FMI index is estimated to yield a short-run 0.5 percentage-point increase in women's descriptive representation, but with an 80% confidence interval from -0.5 to 1.5 points, or 2.8 (80% c.i.: -3.1 to 8.8) over time. It appears that—net of the other variables in the model—the strength of feminist movements has only a limited and inconsistent direct influence on women's descriptive representation.

At last, we reach the top rows of the plot, where we find the coefficients for macroegalitarianism. Once more, the country mean of this variable captures the differences between countries. Compared to a country like Czechia or Latvia with a mean PGE score of about 54, a standard deviation below the OECD average for this variable in our dataset, a country like Canada or Iceland with a mean PGE score of about 72, a standard deviation above, is estimated to elect women to 2.3 (80% c.i.: 1.5 to 3.3) percentage points greater share of the national legislature in a single election. Given that descriptive representation is dynamic, with gains in one election persisting in future elections, this difference grows to 13.7 (80% c.i.: 10 to 17.4) percentage points over time. As was the case with our other country-mean variables, this result may reflect historical processes over the long term; it may reflect some degree of reverse causation, in which women in office shape the public's views of gender equality; and it may also simply be due to other country-level factors correlated with public opinion that have yet to be identified, measured, and included in the model. This ambiguity is not actually a problem, as this result's utility is not really in a causal interpretation. The true importance in this model of the result for the country-mean of macroegalitarianism is that it isolates the consequences of changes in egalitarian public opinion over time.

And the topmost row of Figure 4.6 shows the posterior probability dis-

tribution for the difference in PGE over time within each country. With this dataset and model, this distribution indicates that there is a 90.45% chance that this variable has a positive effect on women's descriptive representation. Compared to an election held when egalitarian public opinion is a standard deviation below the country's mean, an election held when egalitarian public opinion is a standard deviation above that value will yield 0.8 (80% c.i.: 0 to 1.6) percentage points more women in the national legislature, compounding over time to 4.9 (80% c.i.: 0 to 8.7) percentage points.

This result provides strong evidence that the public's views on gender equality in the public sphere of politics and work actually does shape the extent to which women gain an equal share of descriptive representation. But it suffers two problems. The first problem is that there is a disconnect between the elite-led and mass-public theories and this evidence. Both of those theories concerned processes that largely or entirely take place within political parties. In the elite-led theory, it is *political parties* that respond to pressure from women's organizations and internal activists to adopt gender quotas or to run more women as candidates on their electoral lists. In the mass-public theory, it is *political parties* that react to an increasingly egalitarian public by running more women candidates in races they can win. But the observations in the foregoing analysis are of countries' entire legislatures. At that level, we cannot really see what going on within political parties, really not at all. And if rising macroegalitarianism coincides with, for example, greater success of green and left parties that are committed to gender equality, then the results just described may be the consequence of aggregation bias. If it is the ideology of the parties elected to the legislature that actually drive women's descriptive representation, looking across all parties at once as we just did may generate mistaken conclusions.

The second problem is that there is ample theory and evidence across many fields of public opinion that the public responds to cues provided by elites. This analysis does control for the cues presented to the public by the factors identified in the elite-led theory, the adoption of legislative gender

quotas and the presence of electoral lists as well as the strength of feminist movements, and through including the lagged value of women's descriptive representation it also seeks to control for how women in office provide examples of their fitness to lead. These remedies, though, are arguably somewhat indirect. There remains the possibility that the associations underlying our findings are the consequence of the cues provided by the share of legislators who are women influencing gender egalitarian public opinion rather than the public's gender egalitarianism influencing the share of women elected to the legislature. If so, the remedies we employed above are insufficient.

In the following sections, we address each of these two problems directly. First, to ensure that our findings are not clouded by aggregation bias, we collect and analyze data at the party level. And second, to confirm that we have adequately addressed the potential for reverse causation, we then explicitly incorporate the effect of the extent of women's descriptive representation achieved in an election on the public's subsequent gender egalitarianism.

4.1.1 Addressing Aggregation: Explaining Descriptive Representation Within Parties

Because the theories outlined in Chapter 2 work through the actions of parties, they are most appropriately tested using data measured at the party level. We compiled data on women's share of each each party's legislative representation after each election, drawing on the datasets employed in Weeks et al. (2023) and Adams et al. (2023) and supplementing with national sources. The resulting data comprises over 1400 observations.
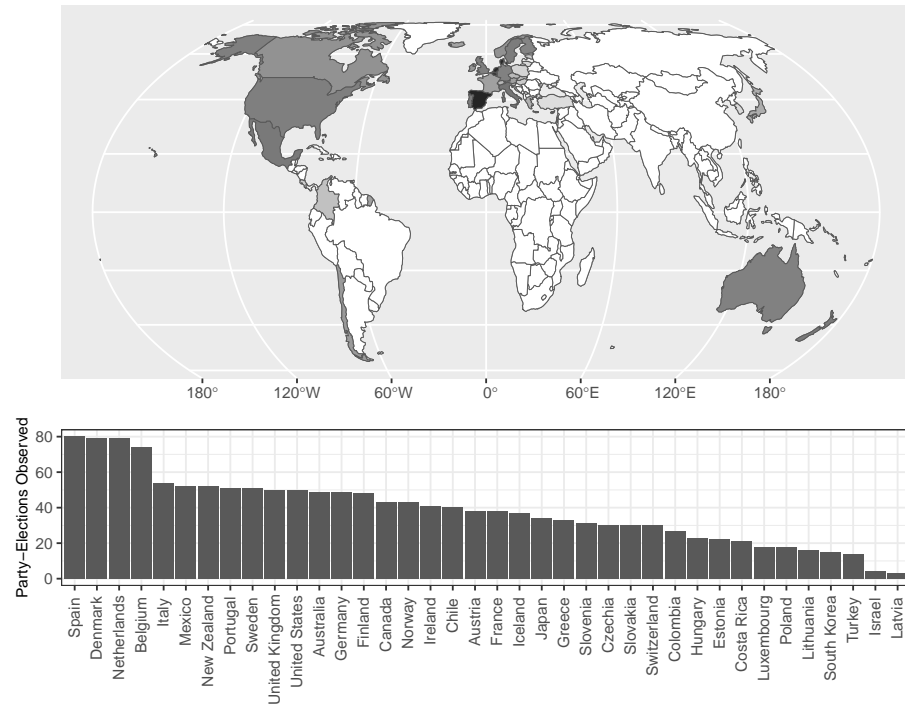
Figure 4.7: Party-Election Observations in OECD Democracies

Figure 4.7 shows the distribution of these party-election observations across countries. Spain, Denmark, and the Netherlands have the most party-elections observed, while Israel and Latvia have the fewest. The United States, although observed over many more elections than other countries as shown in Figure 4.2, has only two parties represented in Congress, so it is no longer an outlier in terms of the number of observations when party-elections are the unit of analysis.

Because some political parties in a country have many elected women among those who sit in the legislature and others have few or none, the

bivariate relationship between national public opinion on gender equality and women's descriptive representation within parties is fairly noisy, as Figure 4.8 reveals. Compared to when both concepts are measured at the country-year level, as in Figure 4.3, the correlation falls by nearly half. The points in this plot are faded by the parties' share of the legislature: the largest parties appear darkest and the smallest are very light. (Parties whose delegations in the lower house of the national legislature are mostly women tend to be smaller, but otherwise there is little apparent relationship between party size and descriptive representation; across all observations, the bivariate correlation R is just -0.16.) In any event, the much looser relationship between public opinion and descriptive representation seen here reinforces the concern that difference between the units observed in the analysis first presented and those at which the theories are thought to operate may influence our conclusions.
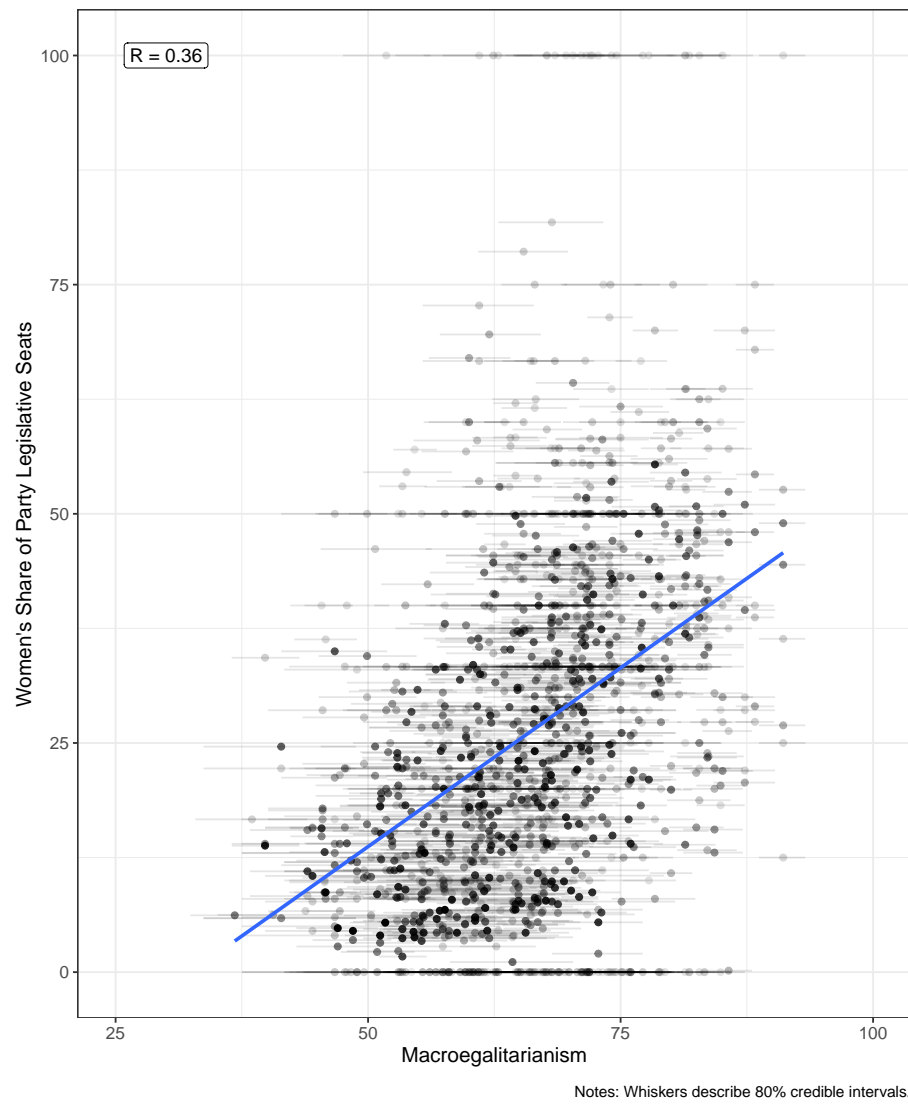
Figure 4.8: Macroegalitarianism and Women's Share of Party Legislative Seats in OECD Democracies

Indeed, previous research finds that little explains women's share of party legislative delegations. Weeks et al. (2023, 434), for example, examined women's representation in 175 parties across 30 European countries over an average of 3.5 elections. The only variable to emerge from that paper's analysis of this party-level evidence was the lagged value of women's share of the legislature: in countries where a greater share of women was elected to the last legislature, parties are predicted to elect a greater share of women to the next one. There was no evidence that countries' electoral systems had systematic effects, nor did a variety of party characteristics. Even the hypothesis that national legislative quotas lead to a greater share of women legislators within parties found no support.

Regardless, as in the previous analysis, we include information about the country-mean and the difference from this mean for the feminist movement index created by Forester et al. (2022) and the presence of a party list in the electoral system drawn from the the Democratic Electoral Systems Around the World dataset dataset (Bormann and Golder 2022). We refine our measure of gender quotas to incorporate information regarding parties' voluntary quotas. The gender quota variables for a party are based highest quota applicable to a party's legislative candidates, whether set by national legislation or by its own internal rules. The "within-between" specification of the model here employs the mean value of this variable for each party and the difference from that mean. The model also accounts for the complex hierarchical structure of these data. As our party-election observations are cross-classified in the histories of parties and in country-elections, both being of those levels nested in countries, and country-elections are nested in years, the model also includes varying intercepts for each party, country-election, country, and year.

One factor supported in prior scholarship is party ideology. Caul (1999, 88) finds that, at three time points in the 1970s and 1980s, among parties in eleven European democracies and the United States, those with greener ideologies and those more to the left had larger shares of women among their elected legislators (see also, e.g., O'Brien 2018). Among more recent work, O'Brien (2018) examines parties in a dozen rich democracies from

1980 to 2013. That research finds that socialist and social democratic parties on the left—and especially green parties—elected more women than the liberal and agrarian parties of the center, the Christian democratic and conservative parties of the right, or the nationalist parties of the extreme right. We therefore also control for parties' memberships in these ideological groupings.
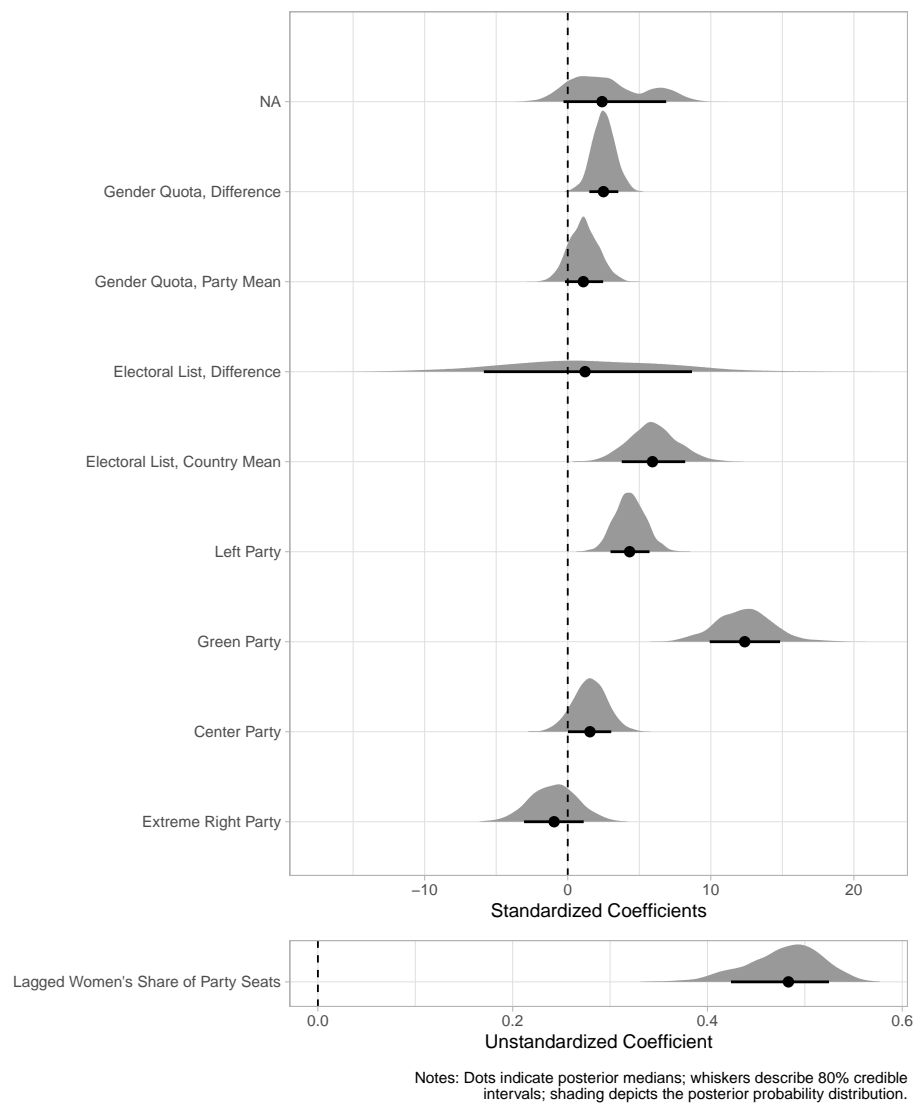
Figure 4.9: Predicting Women's Share of Parties' Legislative Seats in OECD Democracies

Figure 4.9 shows the results of this model of women's share of seats within parties' legislative delegations. They reinforce several of the conclusions reached when looking only at the legislature as a whole. There is consistent divergence, estimated to be 5.9 percentage points (with an 80% credible interval of 3.8 to 8.2 points), between countries with and without party lists in their electoral systems. Given the dynamics of descriptive representation, the long-run estimate of this divergence is 11.4 (80% c.i.: 7.3 to 15.5). The few episodes of electoral-system differences over time in our data, however, again fail to support the conclusion that changes in the presence of lists have immediate effects. Gender quotas, both parties' mean de facto thresholds (by an estimated 1.1 points with an 80% credible interval of -0.2 to 2.5 over two standard deviations of that variable) and the differences from these means over time (2.5 points; 80% c.i. 1.5 to 3.5), are found to increase the share of women in parties' legislative delegations. The estimates grow to 2.1 (80% c.i.: -0.4 to 4.8) points and 4.8 (80% c.i.: 2.9 to 6.7) points, respectively, over time as current values of descriptive representation influence future values. Intriguingly, this model of parties shows somewhat stronger evidence for the hypothesis that stronger feminist movements are more successful in gaining descriptive representation for women than the country-level model. Although countries with stronger average movement strength do not differ significantly from countries with weaker average movement strength—this estimate is 0.3 (80% c.i.: -1.2 to 1.9) points—a one-point increase on the three-point scale of the Feminist Movement Index yields an immediate increase of 1.4 (80% c.i.: -0.4 to 3.3) percentage points in women's share of parties' seats, growing to 2.8 (80% c.i.: -0.8 to 6.4) points over time.

In line with previous findings, the posterior probability distributions for the variables representing green and left parties are large and positive. Compared to in right-wing parties, women's share of elected representatives is 12.4 (80% c.i.: 9.9 to 14.8) points higher in green parties and 4.3 (80% c.i.: 3 to 5.7) points higher in parties of the left. Women's shares of parliamentary delegations of parties of the ideological center were found to be 1.6 (80% c.i.: 0 to 3) points larger as well, but extreme right parties

are no different from other parties of the right.

Most importantly for present purposes, training our focus on parties within elections and taking into account party ideology do not change our findings with regard to public opinion. Here, too, there is strong support for the theory suggesting greater macroegalitarianism causes more women's descriptive representation. Consider first the cross-country findings. Parties in a country where public opinion is a standard deviation above the sample mean elect 6.6 (80% c.i.: 5.2 to 8.1) points more women representatives within their delegations than those in a country where public opinion is a standard deviation below. And over time *within* a country, a two-standard deviation increase in macroegalitarianism is found to yield on average a 2.9 (80% c.i.: 1.5 to 4.3) point increase in the extent to which parties send women to the legislature. Taking the dynamics into account, the estimated effect of country-mean differences grows to 12.7 (80% c.i.: 10.1 to 15.3) and that for over-time differences from these means to 5.5 (80% c.i.: 2.9 to 8.2) points. The conclusions reached in our analysis of entire legislative elections are not an artifact of aggregation; if anything, analyzing the more theoretically relevant unit of party-elections provides even stronger evidence of public opinion's importance to women gaining descriptive representation.

4.2 Public Responsiveness to Descriptive Representation

As mentioned above, the other concern with our analysis of elections across the rich democracies is the potential that its results are driven by reverse causation. This problem arises where what we have theorized as the causal relationship, here that more gender egalitarian public opinion causes more women's descriptive representation, can also be theorized as running in the opposite direction. Often public opinion is influenced by elite cues, and one such cue may be how many women are in the national legislature. If

opinion is the consequence of elite cues, then, despite the model's inclusion of controls for some of these cues as well as for the previous share of women in the legislature, the association observed between public opinion and descriptive representation that underlies our conclusions may not evince opinion's effect on representation. It may instead reflect causation that runs only in the opposite direction, from representation to opinion.

That when the public sees more women in office it adopts more gender egalitarian opinions is indeed plausible. It has in fact been found in previous research to have empirical support. Alexander (2012) employs a seemingly unrelated regression model and aggregate data of a cross-section of twenty-five countries included in two waves of the World Values Survey. It finds that increases in women's presence in parliaments over the decade between WVS waves predicted greater belief that men are not better political leaders than women in the second wave, even when beliefs in the first wave were taken into account. J. Kim and Fallon (2023) examines four waves of the WVS in 87 countries for a total of 187 observed country-years. In multilevel models of individuals with varying intercepts for country-years and countries, that work finds strong evidence that women's descriptive representation influences attitudes toward women in politics.

The larger evidentiary base in J. Kim and Fallon (2023) provides more confidence than the very small sample used in Alexander (2012). In terms of modeling strategy, though, J. Kim and Fallon (2023) represents the converse of the analyses presented in this chapter so far: it looks only at one side of this potentially reciprocal relationship and concludes that all of the association observed to remain after controlling for other observed variables flows on this side. As J. Kim and Fallon (2023, 17) itself notes, "Perhaps the biggest concern is that preexisting egalitarianism skews results," a concern the study could not address in its model due to the limited observations available over time in the WVS data. The combination of building a single model that explicitly incorporates both hypotheses, as in Alexander (2012), and estimating its parameters with a large dataset, as in J. Kim and Fallon (2023), would be the "ideal" approach to disentangling these relationships (J. Kim and Fallon 2023, 22 at endnote 21).

Fortunately, the dataset used in this chapter, built around the extensive PGE dataset on gender egalitarian public opinion, allows us to proceed along exactly these lines. We return to examining country-elections to match the level at which both public opinion and descriptive representation can be measured. As before, we estimate the within-between specification of a Bayesian multilevel model with varying intercepts for each country and year. What is new is that we model the potentially reciprocal relationships using a pair of equations, one for women's descriptive representation and one for macroegalitarianism, within a multivariate simultaneous equations model. That means that gender egalitarianism and descriptive representation are each used to predict the other and that the varying intercepts for each country and year are correlated across the two equations.

Figure 4.10 presents the results, with the equation predicting women's descriptive representation in the left-hand panel and the equation predicting macroegalitarianism in the right-hand panel. Both the conclusion reached earlier in this chapter that opinion affects representation and the finding of J. Kim and Fallon (2023) that representation affects opinion are supported, reinforcing our confidence in each. The evidence for the relationship we are most interested in here, from gender egalitarian public opinion to women's descriptive representation in national legislatures, is if anything strengthened by controlling for the potential for reverse causation. The posterior probability that increasing PGE over time within a country leads to an increasing percentage of women legislators, conditional on these data and this model, is 94%. The magnitude of this estimated effect is substantial: a two-standard-deviation increase in within-country PGE before one election is estimated to yield an increase of 1.29 (80% c.i.: 0.2 to 2.4) percentage points in women's descriptive representation in that election and 6.2 (80% c.i.: 1.1 to 9.8) percentage points over time. This is similar to the estimated consequences for descriptive representation of the adoption of a national quota requiring 20% of each party's candidates to be women.
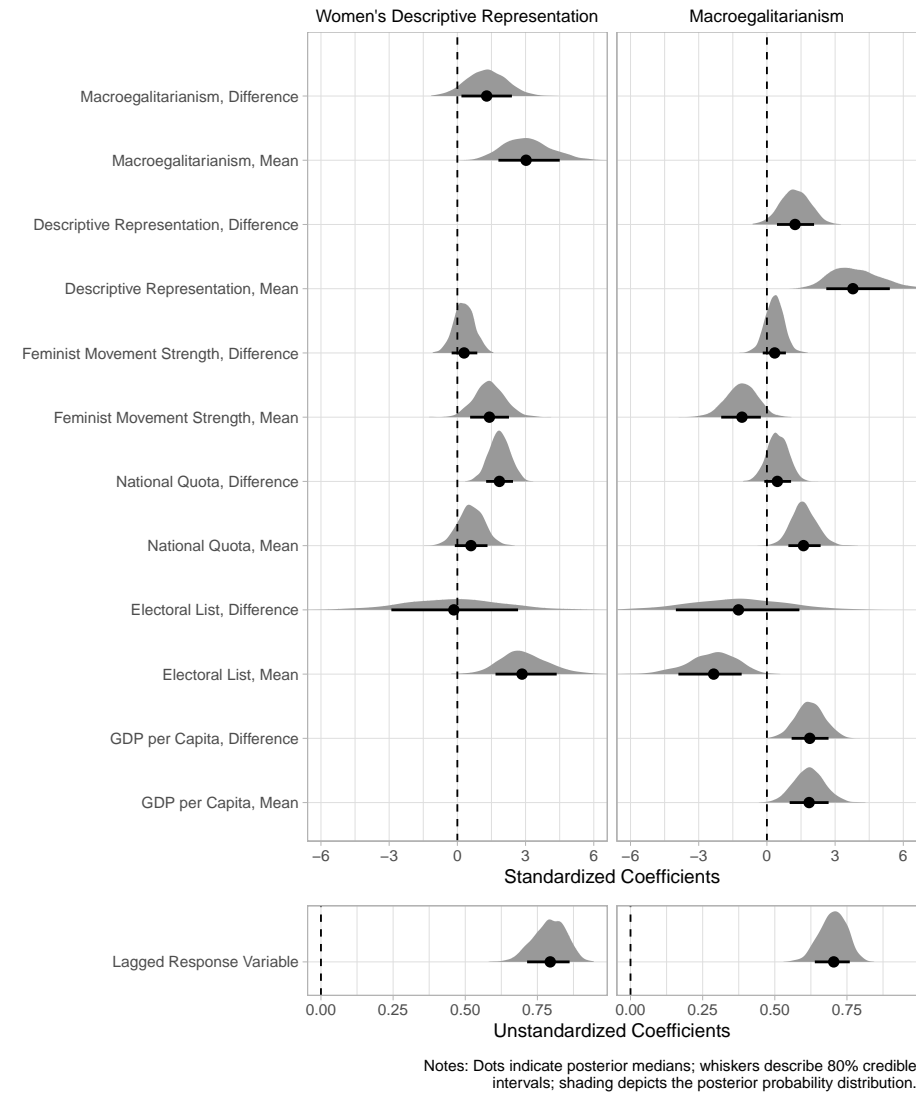
Figure 4.10: Predicting Women's Parliamentary Representation in OECD Democratic Elections

4.3 Conclusions

The role of gender egalitarian public opinion in the election of women to national office has been a cornerstone of theory on descriptive representation. Evidence, though, has been thin, particularly in comparison to that marshaled in support of arguments regarding the part of elites, women's organizations and feminist activists working within political parties, in pushing toward gender equality in positions of power. Moreover, some of these latter theories as well as other understandings of democratic politics, suggest that the public may not actually influence these outcomes at all. Instead, these accounts would have it, the public is an onlooker to the events that matter and its opinions are a consequence, rather than a cause, of what happens. Elite negotiations such as those between activists and party gatekeepers determine the extent of women's descriptive representation, and public attitudes shift in response.

This chapter presents strong evidence that the public does in fact matter to the extent to which women gain office. When public opinion towards gender roles in the public sphere of politics and the workplace shift toward egalitarianism, more women are elected. And, although these public attitudes do respond to the extent to which women hold positions of power, the importance of the public is still clear when taking this reverse causation is also considered. Taking macroegalitarianism into account is a valuable complement to the elite-led theory of women's descriptive representation. In the next chapter, we examine whether public opinion also shapes women's substantive representation, the adoption of policies of gender equality.

5 Dynamic Substantive Representation

Definitions of substantive representation and dynamic representation, how do we get to dynamic substantive representation.

In this chapter, we consider policies that advance gender equality, first in politics and then in the workplace.

We find

5.1 Policies Advancing Gender Equality in Politics

One of the most-studied policies advancing gender equality is the adoption of gender quotas for candidates running for legislative seats. National gender quotas—that is, candidate quotas instituted by law—mandate that women constitute a specified minimum share of each political party's candidates for the national legislature. As we saw in the previous chapter, legislated national quotas have proven to be effective policies for increasing the share of women in office.

To measure the adoption and reform of quotas we again employ the data on the de facto threshold provided by the excellent QAROT database (Hughes et al. 2019) updated with information from International Institute for Democracy and Electoral Assistance (2023).[1]

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[1]There are other important aspects of national legislative quotas, such as whether and how they are enforced or if the position of women on an electoral list is specified (see,
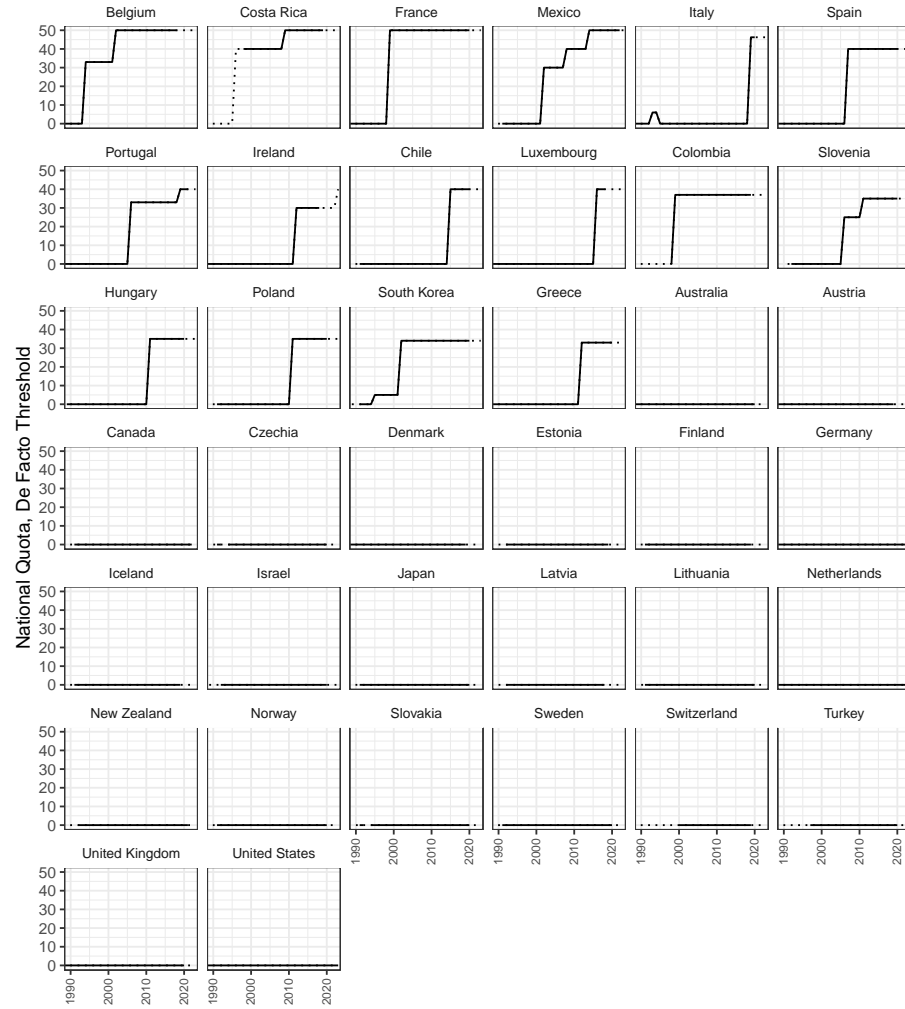
Note: Solid lines trace trends over the years covered in this chapter's analyses; dotted lines extend to years that were not included. Sources: Hughes et al. (2019); International Institute for Democracy and Electoral Assistance (2023).

Figure 5.1: National Legislative Gender Quotas in the OECD

Recall that our measure of national quotas, first presented in the previous chapter, is the de facto threshold, which combines "a country's stated quota threshold and the breadth of a quota's actual reach" (Hughes et al. 2019, 225). Figure 5.1 shows the trends in the adoption and reform of these national quotas over time. Out of the thirty-eight countries of the OECD, four now have parity quotas, that is, half of the candidates run by each party must be women and half must be men: France, Belgium, Costa Rica, and Mexico. Twelve additional countries have quotas with lower de facto thresholds, ranging from Italy's requirement that women comprise 46.25% quota of each party's candidates across all legislative seats to Greece's 33% mandate. The remaining twenty-two OECD countries have no national legislative candidate quota at all. In addition to these contrasts across countries, Figure 5.1 shows that even the countries with parity quotas arrived at them via distinctively different routes. France went from no quota at all to parity at once in 1999. Belgium and Costa Rica adopted their 50% requirements in two steps, previously requiring 33% and 40% of parties' candidates to be women respectively, while Mexico took three, with earlier laws requiring 30% and then 40%. Clearly quota adoption and reform has varied greatly across countries and over time.

5.1.1 Substantive Representation in National Gender Quota Adoption

Does macroegalitarianism help us to explain these policy differences? The bivariate relationship between the PGE scores and national legislative quotas in our data, depicted in Figure 5.2, is only weak. Many countries, even those whose publics hold relatively egalitarian views on gender roles in the public sphere, have never adopted national gender quotas for legislative candidates; the dark, heavy line of observations across the bottom of the plot makes this clear. However, to better assess whether these attitudes in

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e.g., Piscopo and Vázquez Correa 2024), but we leave these characteristics aside in this analysis.

the public make quota adoption more likely, we need to take into account other potential explanations.
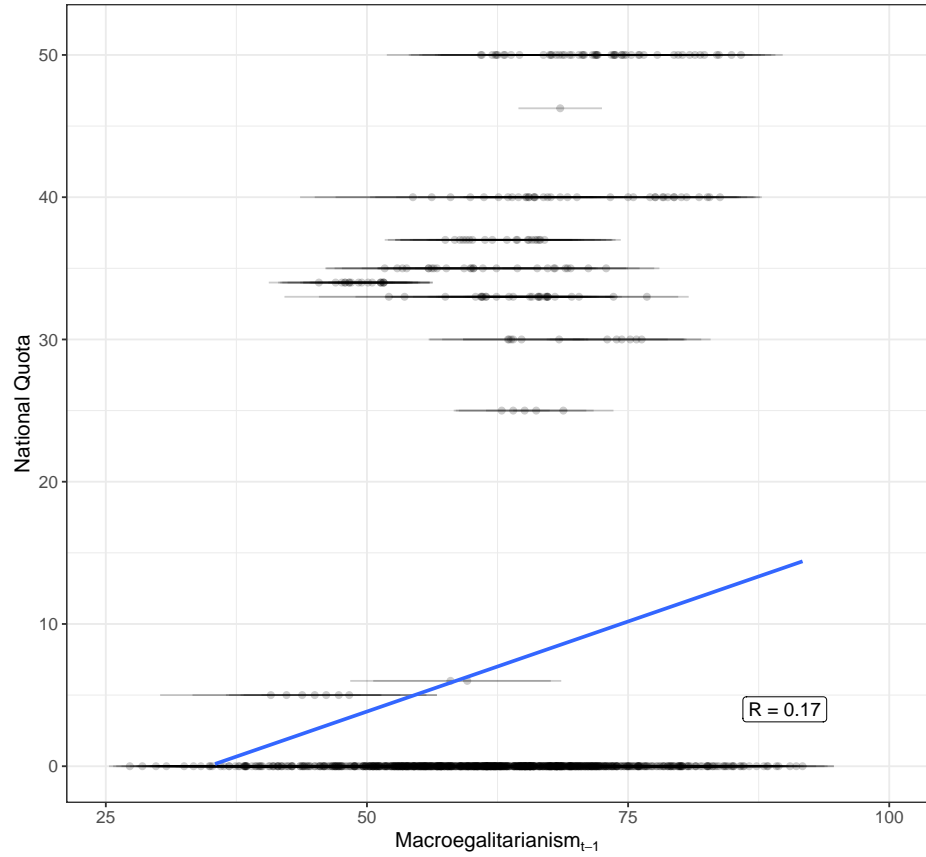

Figure 5.2: Macroegalitarianism and National Quotas in the OECD

A first factor often considered likely to influence the adoption of national legislative quotas is the extent of descriptive representation women have already achieved. There are conflicting arguments, however, regarding *how* descriptive representation shapes quota adoption. From one perspective,

as more women are elected to the legislature, they will be more likely to successfully push for quotas to be adopted and reformed (see, e.g., Krook 2009, 21–22; Piscopo and Vázquez Correa 2024). An opposing view holds that more descriptive representation for women works instead to undermine the sense of urgency that underpins the adoption of gender quotas (see, e.g., Dahlerup and Freidenvall 2005; Hughes, Krook, and Paxton 2015). To measure descriptive representation here, we use the same data from QAROT and the Inter-Parliamentary Union (IPU) (2023) on the percentage of legislative seats held by women that we employed in the previous chapter (see Figure 4.1).

Two other potential influences on legislative quota adoption and reform are also familiar from our previous chapter: feminist movement strength and electoral lists. Feminist movements are frequently argued to be important to the success of the adoption and reform of national quotas (see Paxton, Hughes, and Barnes 2021, 196). As before, we rely on the Feminist Movement Index (FMI) (Forester et al. 2022) as our measure of the strength of these movements (see Figure 4.5). And consistent with arguments that electoral systems with at least a party-list component are more "woman-friendly" (Rule and Zimmerman 1994, 27) and provide better opportunity structures for feminist activists, such electoral systems may make quota adoption and subsequent strengthening more likely as well (Paxton, Hughes, and Barnes 2021, 195–96). We again draw data on whether elections are held with a list component from the Democratic Electoral Systems Around the World dataset (Bormann and Golder 2022).

Our approach to modeling the adoption of gender quotas here is similar in several ways to the methods we employed in the previous chapter to model women's descriptive representation. As in those analyses, we use a Bayesian multilevel model that includes varying intercepts for both space, which capture the idiosyncratic distinctiveness of each country, and time, which capture those shocks that operate on all countries in each year (see Shor et al. 2007). And also as in those analyses, we separate each of our time-varying predictors into its mean value for each country and the difference between its value in a given year and this country mean so as to

avoid confusing the former, cross-country, differences with the over-time changes that provide the best evidence of causation (see Bell and Jones 2015). Another commonality with the models used in the last chapter is that we again incorporate the measurement uncertainty in the PGE scores into our analysis to avoid drawing conclusions that are not supported by the data (see Tai, Hu, and Solt 2024).

The fact that we are now seeking to explain policy adoption—and in particular the adoption of a gender quota—does, however, require a few differences in our modeling strategy. The standard approach to modeling policy adoption is event history analysis (EHA) of pooled time series, popularized in political science by Berry and Berry (1990). Event history analysis, in this context, typically involves a logistic regression of a dichotomous dependent variable observed annually in each country as a series of zeros followed by a one at the time the policy of interest is adopted. Once a country adopts the policy, it is no longer part of the 'risk set'—that is, the country is not 'at risk' of adopting the policy a second time—and observations for that country in years subsequent to adoption are then dropped from the dataset (see Berry and Berry 1990, 398).

However, the general EHA approach is flexible (see Boehmke 2009). The first reason this flexibility is important is that, as Piscopo and Vázquez Correa (2024) explains and as the stair-step pattern often evident in Figure 5.1 illustrates, many countries have not simply adopted quotas requiring a specified share of the candidates each party puts forward to be women but have also raised this share, sometimes repeatedly, to reach or at least more closely approach parity. Removing a country from the analysis after its first quota adoption, as in the standard EHA approach described above, would prevent us from analyzing the 'steady path' (see Piscopo and Vázquez Correa 2024) by which quotas are sometimes reformed. We consider the adoption of a parity quota, one that requires 50% of a party's candidates across all seats to be women, to be the quota policy that maximally advances gender equality, and so a country leaves the risk set—and so further observations of the country are excluded from the data—only after it has adopted a parity quota.

A second reason this flexibility is important is because as seen above national legislative gender quotas and reforms are not all the same, either present or absent. Recall that some countries—specifically France, Belgium, Costa Rica, and Mexico—now have quotas that require parity in the number of women and men each party puts forward as candidates across all legislative seats. Other countries have adopted quotas that, although requiring parties to nominate *some* women candidates, do not require parties to run equal numbers of women and men. Still other countries, many in fact, have no mandatory legislative gender quota at all. We therefore treat the adoption or reform of a quota as a continuous rather than dichotomous variable (see Boehmke 2009, 237).

In a final modification of the standard EHA approach, we take into account the dynamic nature of quota adoption and reform. That is, we account for how the quota in force in the present depends on any mandated share of women candidates that was in force in the past by including the lagged value of the quota as a predictor.

Figure 5.3 presents the results. Starting with the bottom panel, we see that quota laws are strongly dynamic: not surprisingly, even accounting for the other variables in the model, the extent to which the law requires parties to run women candidates for the national legislature this year is strongly influenced by the state of the law last year. The adoption of new quota policies and the reform of old ones are relatively rare.

Moving upward, we next see the estimated coefficients for differences between electoral systems with a party list component as compared to systems that include only personalized races run by candidates within districts. Countries in which all of the observed legislative terms were held with electoral systems with a list component enacted quota laws mandating that 0.8 (80% c.i.: 0.1 to 1.6) percentage points more candidates are women in one year than those that have never held elections with party lists, with a posterior probability that—conditional on these data and this model—that this estimate is positive of 94%. Given the strongly dynamic nature of quota laws, with differences this year persisting into the future,
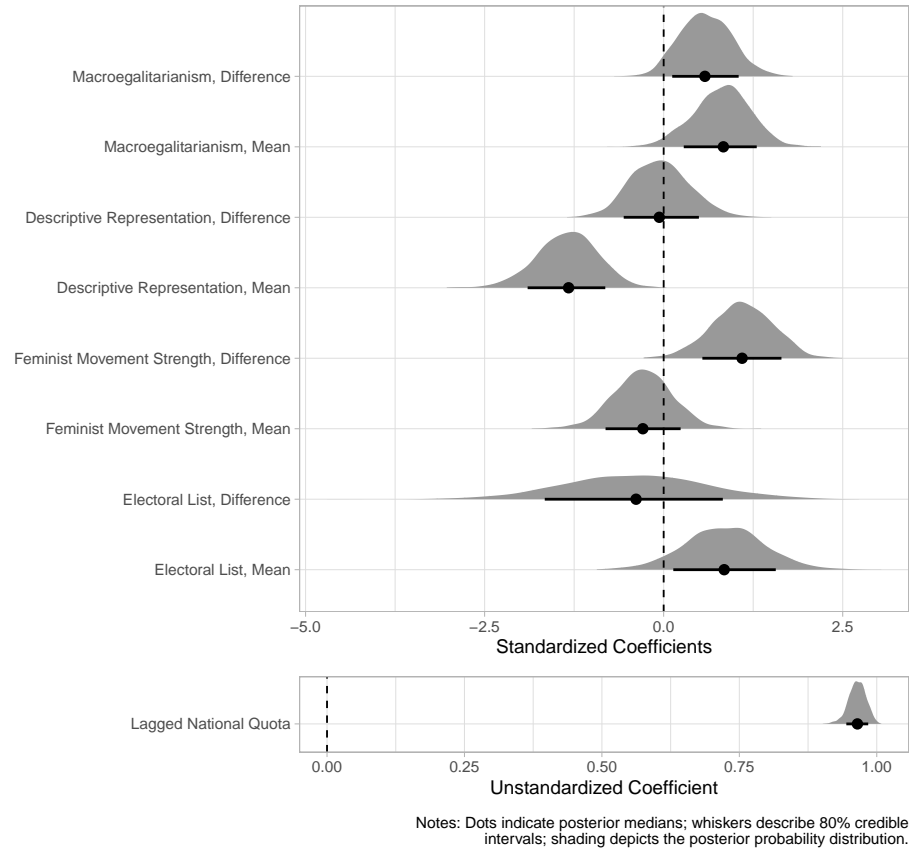
Notes: Dots indicate posterior medians; whiskers describe 80% credible intervals; shading depicts the posterior probability distribution.

Figure 5.3: Predicting National Quotas in the OECD

this seemingly small estimate stretches to 0.8 (80% c.i.: 0.1 to 1.6) points over time. While this result provides some evidence that electoral systems have long-run effects, we cannot rule out unobserved confounding variables correlated with these mean scores. And the coefficient for the *difference* in electoral lists within a country provides no evidence that adopting a party-list electoral system yields a higher quota of women candidates in the short run. A causal interpretation of the association between electoral lists and gender quota adoption remains unsupported.

We turn then to the strength of the autonomous feminist movement. Countries that have experienced higher mean scores on the Feminist Movement Index are estimated to be little different from those with lower mean FMI scores. In any event, the best evidence that stronger feminist movements lead to more demanding gender quotas comes from the estimated coefficient for changes in the strength of the feminist movement over time. A one-point increase in the FMI index over time within a country is estimated to yield a subsequent increase in the country's legislative quota of 1.1 (80% c.i.: 0.5 to 1.6) percentage points immediately and 31.55 (80% c.i.: 14.1 to 66.4) over time. This is powerful evidence that when feminist movements grow stronger they are more successful in their advocacy for higher quotas.

As to the debate regarding whether more women in office creates more or less pressure for legislative quotas, this evidence falls more on the latter side. A countries with a mean level of women's descriptive representation a standard deviation above the overall mean is estimated to have a mandated share of women candidates that is on average 1.3 (80% c.i.: 1.9 to 0.8) points *lower* than a country with mean women's descriptive representation a standard deviation below the overall mean. This decline grows with time to 38.1 (80% c.i.: 80.1 to 21.5). Increases in women's descriptive representation within a country over time, on the other hand, appear to have little impact on quota adoption either way.

The top two rows of the panel display the evidence in support of the argument that gender egalitarian public opinion shapes the extent of success

in enacting legislative candidate gender quotas. This evidence is strong. A country with mean PGE scores two standard deviations higher, for example New Zealand as compared to Poland, is estimated to enact quotas requiring 0.8 (80% c.i.: 0.3 to 1.3) percentage points more women candidates, a difference that grows dynamically to 23.15 (80% c.i.: 7.5 to 55.1) points. As we have been careful to note previously, cross-country estimates like this one provides some evidence of an effect—in this case, of a more egalitarian public on legislative quota adoption—over the long term, but they could also reflect other differences among countries correlated with the predictor, here public opinion, that we are unable to measure and include in our model. That is, such estimates could be the result of omitted-variable bias. Therefore, although suggestive of causal effects, the real work of this estimate is to isolate the consequences of changes in public gender egalitarianism over time.

This estimate, the coefficient for within-country changes in PGE over time, is shown in the top row of the figure. A two-standard-deviations increase in this variable—equivalent to about a twelve-point change in the PGE score from the start of one legislative term to the beginning of the next—is estimated to yield a 0.6 percentage-point increase in a country's legislative candidate quota in the following year, with an 80% confidence interval from 0.1 to 1 points. Over time, this increase is estimated to grow to 16.7 (80% c.i.: 3.2 to 40.9) points. This is strong evidence that when the public of a country grows more egalitarian in its views of gender roles in politics and the workplace, lawmakers respond by enacting higher legislative candidate quotas. Macroegalitarianism matters to electoral policy adoption.

As we saw in the previous chapter, when and where the public holds more gender egalitarian views, women are more successful in gaining elected office. By including descriptive representation, the share of women legislators in office, in our model we effectively partition off that potential causal path. In other words, the positive effect of public opinion on gender quota adoption just described does not work through the number of women elected to office. Instead, these results support the argument that, at least among these rich OECD democracies, both men and women leg-

islators are responsive to growing public demand for gender equality, and they respond with policies that increase the mandated share of women candidates for legislative office.

5.1.2 Public Responsiveness to National Gender Quota Adoption

Does quota adoption trigger a backlash? Or do quotas work to help make gender equality salient, as Weeks (2022) puts it, and so increase macroegalitarianism? Or is the public simply unresponsive to policy change, leaving the relationship between opinion and policy flowing entirely from the former to the latter? The extensive data on macroegalitarianism that we presented in Chapter 3, stretching across decades in all of the OECD countries, allows us to investigate these questions.

As in the previous chapter we model the potentially reciprocal relationships between our two variables of greatest interest using two equations, the first for quota adoption and reform and the second for macroegalitarianism, that are estimated together within a multivariate simultaneous equations model. Past macroegalitarianism is used to predict present quotas, and past quotas are used to predict present macroegalitarianism. The varying intercepts for each country and year in the two equations are treated as correlated, which works to tie them both together in a single model.

Figure 5.4 presents the results of this simultaneous equations model. Consider first the left panel of the figure, which shows the estimates of the equation predicting national quota adoption. It provides additional support for the conclusions we drew from the findings presented in Figure 5.3: macroegalitarianism predicts national quota adoption and reform in both the short term, as evidenced by the estimate for its difference, and the long term, as evidenced by the estimate for its mean. Countries with higher mean descriptive representation are less likely to adopt quotas, consistent with the 'incremental track' identified in Dahlerup and Freidenvall (2005).
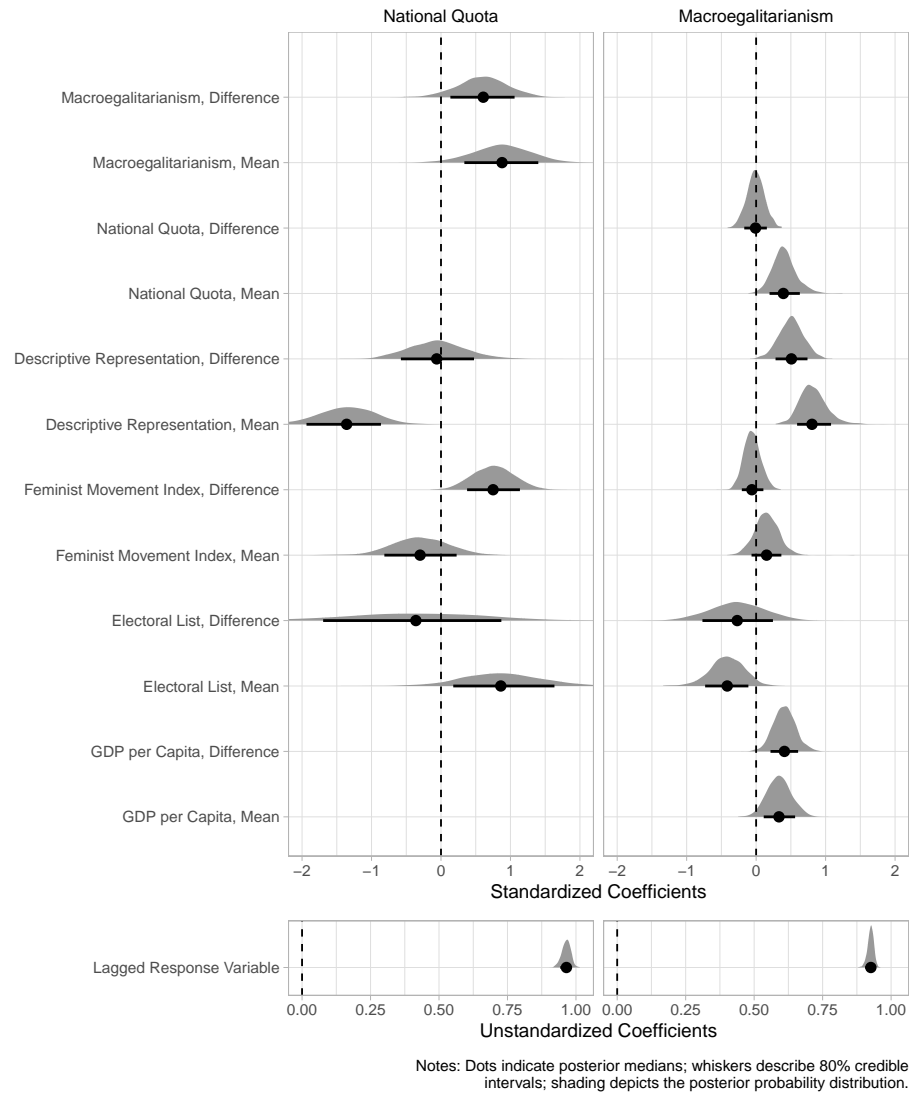
Figure 5.4: Predicting National Quota Adoption and Macroegalitarianism
in OECD Countries

Increases in feminist movement strength appear to prompt higher quotas, and countries with more experience with list electoral systems are found to be more likely to adopt quotas as well. In other words, the results presented on policy representation above in Figure 5.3 are not markedly influenced by simultaneity bias.

This is reassuring, but it is really the right side of the figure that is now our focus. That side shows the model's results for macroegalitarianism. And so it is that side that speaks to the question of whether quotas 'create their own constituencies' or instead trigger among the public a thermostatic backlash against gender equality. Before we reach that answer, however, we again start at the bottom of the plot with the estimates for our control variables.

After the estimate of the strongly dynamic effect of past values of macroegalitarianism on present values in the bottom right panel, the two bottom rows of the top right panel present the estimates for GDP per capita. As in Figure 4.10 in the previous chapter, these estimates show support for modernization theory (see, e.g., Inglehart and Baker 2000; Inglehart, Norris, and Welzel 2003). Countries with higher GDP per capita exhibit more macroegalitarianism: compared to a country that is a standard deviation below the mean on this variable, a country that is a standard deviation above is predicted to have a PGE score 0.33 (80% c.i.: 0.1 to 0.6) points higher, compounding over time in this dynamic model to 4.4 (80% c.i.: 1.4 to 7.5) points. This evidence from cross-country differences even within the OECD for a long-run effect of economic modernization is matched by the result for within-country differences. A two-standard-deviation gain in GDP per capita from one year to the next is estimated to yield an increase of 0.41 (80% c.i.: 0.2 to 0.6) points in a country's PGE score. This increase then grows to a total of 5.5 (80% c.i.: 2.9 to 8.1) over time.

Next are the estimates for electoral systems with a party-list component. As was also seen in Figure 4.10 in the last chapter, net of the other variables in the model, countries that elect at least some legislators via a party list are estimated to have less macroegalitarianism than those with only

more candidate-oriented single-member or small multi-member districts. In this model, this difference in PGE scores is estimated as 0.42 (80% c.i. 0.7 to 0.1) points, growing over time to 5.6 (80% c.i. 9.5 to 1.5) points. Whether this is a true long-run effect of list electoral systems or instead the result of some other, unmeasured and omitted variable is unclear. The latter interpretation is perhaps reinforced by the inconclusive posterior distribution for differences over time in such electoral systems, although that distribution is mostly negative and its width is at least partially the product of the near absence in our dataset of changes in this variable within countries. There is no evidence that the strength of the feminist movement has a direct effect on macroegalitarianism in these results. Neither cross-country differences nor within-country year-to-year changes yield estimates that are little different from zero.

As we have seen previously, the same cannot be said for women's descriptive representation. Countries that have elected more women over the timeframe examined here exhibit higher levels of macroegalitarianism on average than those that have elected fewer women, consistent with a long-term effect. A two-standard-deviation difference in cross-country means is estimated to correspond to 0.8 (80% c.i. 0.6 to 1.1) points higher PGE scores. Thanks to the strong influence of past values of macroegalitarianism on present and future values, this jump up is estimated to grow over time to 11 (80% c.i. 8.3 to 13.8) points. Similarly, a two-standard-deviation increase in descriptive representation in one year is estimated to correspond to 0.51 (80% c.i. 0.3 to 0.7) point gain in macroegalitarianism in the next, which increases over time to 6.8 (80% c.i. 3.9 to 9.7) points.

Finally, we arrive at the estimates for national quotas. The results are mixed. On the one hand, countries that have had higher average quotas over the years examined exhibit more macroegalitarianism than countries that had lower average quotas. A country with a mean quota of 9.6%, a value similar to those of Spain and South Korea, is estimated to have PGE scores 0.88 (80% c.i.: 0.3 to 1.4) points higher than an otherwise similar country that never adopted a national legislative gender quota; over time, this estimated difference grows to 24.25 (80% c.i.: 8.5 to 54.5) points. So,

with all of the caveats that should now be familiar regarding cross-national differences and potential omitted variables, this result points to a positive reinforcement of macroegalitarianism by national legislative quotas. On the other hand, quota adoptions *within* a country's timeline do not appear to influence later macroegalitarianism at all: the dashed vertical line a zero bisects the posterior distribution for this estimate very nearly perfectly. The one conclusion that is safe to draw from these results is that the adoption and reform of national legislative gender quotas do *not* provoke a negative response in the public. There is no evidence whatsoever of anti-egalitarian backlash.

5.2 Policies Advancing Gender Equality in the Workplace

Intro paragraph needed here.

To measure policies advancing gender equality in the workplace, we rely on the World Bank's Women, Business, and Law v1.0 (WBL) policy index (World Bank 2024a). As shown in Table 5.1, the WBL policy index comprises thirty-five policies addressing eight topics meant "to capture inequality in legislation throughout the duration of a woman's working life, from the time she can enter the labor force through to retirement" (Hyland, Djankov, and Goldberg 2020, 476). Each is a provision enhancing gender equality in the law. The WBL policy index's *de jure* rather than *de facto* nature makes the index especially suited for our purposes because it ensures we are considering not policy outcomes but policy outputs. Outcomes, the extent to which a goal is achieved, are clearly important. But representation is better measured not by what governments achieve—which may after all be influenced by many factors beyond their control—but the steps they take (or fail to take) to reach those goals.

We hasten to add that the WBL policies do appear to get results. Cross-sectionally, in countries with more of these policies, Htun, Jensenius, and

Nelson-Nuñez (2019) found that women have greater access to economic resources: more access to bank accounts, higher ownership of firms, more participation in the labor force, and smaller gender wage gaps. Looking across countries and over time, their adoption has been shown to be closely linked to subsequently increased women's labor force participation rates, both in the OECD (Gonzales et al. 2015, 21–23) and beyond (Gonzales et al. 2015, 25–26; Hyland, Djankov, and Goldberg 2020, 478–88). Increases in the WBL policy index also yield narrowing gaps in the wages earned by men and women (Hyland, Djankov, and Goldberg 2020, 478–88). The WBL policies listed in Table 5.1 are not only actionable but also effective.

Table 5.1: WBL Policy Index

Topic	Laws
1. MOBILITY	1. Can a woman choose where to live in the same way as a man?
	2. Can a woman travel outside her home in the same way as a man?
	3. Can a woman apply for a passport in the same way as a man?
	4. Can a woman travel outside the country in the same way as a man?
2. WORKPLACE	1. Can a woman get a job in the same way as a man?
	2. Does the law prohibit discrimination in employment based on gender?
	3. Is there legislation on sexual harassment in employment?
	4. Are there criminal penalties or civil remedies for sexual harassment in employment?
3. PAY	1. Does the law mandate equal remuneration for work of equal value?

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	2. Can a woman work at night in the same way as a man?
	3. Can a woman work in a job deemed dangerous in the same way as a man?
	4. Can a woman work in an industrial job in the same way as a man?
4. MARRIAGE	1. Is the law free of legal provisions that require a married woman to obey her husband?
	2. Can a woman be head of household in the same way as a man?
	3. Is there legislation specifically addressing domestic violence?
	4. Can a woman obtain a judgment of divorce in the same way as a man?
	5. Does a woman have the same rights to remarry as a man?
5. PARENTHOOD	1. Is paid leave of at least 14 weeks available to mothers?
	2. Does the government administer 100 percent of maternity leave benefits?
	3. Is there paid leave available to fathers?
	4. Is there paid parental leave?
	5. Is dismissal of pregnant workers prohibited?
6. ENTREPRENEUR-SHIP	1. Does the law prohibit discrimination in access to credit based on gender?
	2. Can a woman sign a contract in the same way as a man?
	3. Can a woman register a business in the same way as a man?
	4. Can a woman open a bank account in the same way as a man?
7. ASSETS	1. Do women and men have equal ownership rights to immovable property?
	2. Do sons and daughters have equal rights to inherit assets from their parents?

	3. Do male and female surviving spouses have equal rights to inherit assets?
	4. Does the law grant spouses equal administrative authority over assets during marriage?
	5. Does the law provide for the valuation of nonmonetary contributions?
8. PENSION	1. Is the age at which women and men can retire with full pension benefits the same?
	2. Is the age at which women and men can retire with partial pension benefits the same?
	3. Is the mandatory retirement age for women and men the same?
	4. Are periods of absence due to childcare accounted for in pension benefits?

Source: Women, Business, and the Law Database v1.0 2024 (World Bank 2024).

Figure 5.5 depicts the trends in the WBL policy index in the thirty-eight countries of the OECD from 1970, the first year included in the WBL database, through 2023, when the time series end. A half-century ago, policy in many countries did little to advance gender equality in paid employment and much to stand in its way: the only WBL policy adopted in all of these countries was that women could travel internationally in the same way as men. At that time Denmark and Sweden had the highest scores on the index, having already adopted twenty-five of the thirty-five policies advancing gender equality in access to employment and entrepreneurship, but neither had passed such crucial policies as prohibiting discrimination in employment based on gender or addressing and penalizing sexual harassment at work and domestic violence at home. More recently, twelve OECD member states have adopted every one of the policies listed in Table 5.1 and so reached a score of 100 on the index: Belgium was the first to do so, in 2010, and the Netherlands the last of these twelve, in 2022. In 2023, even the lowest-scoring OECD countries—Israel, Chile, and Japan, each with an 80 on the WBL policy index—had adopted more equality-enhancing policies than the highest-scoring countries had five decades earlier. Over
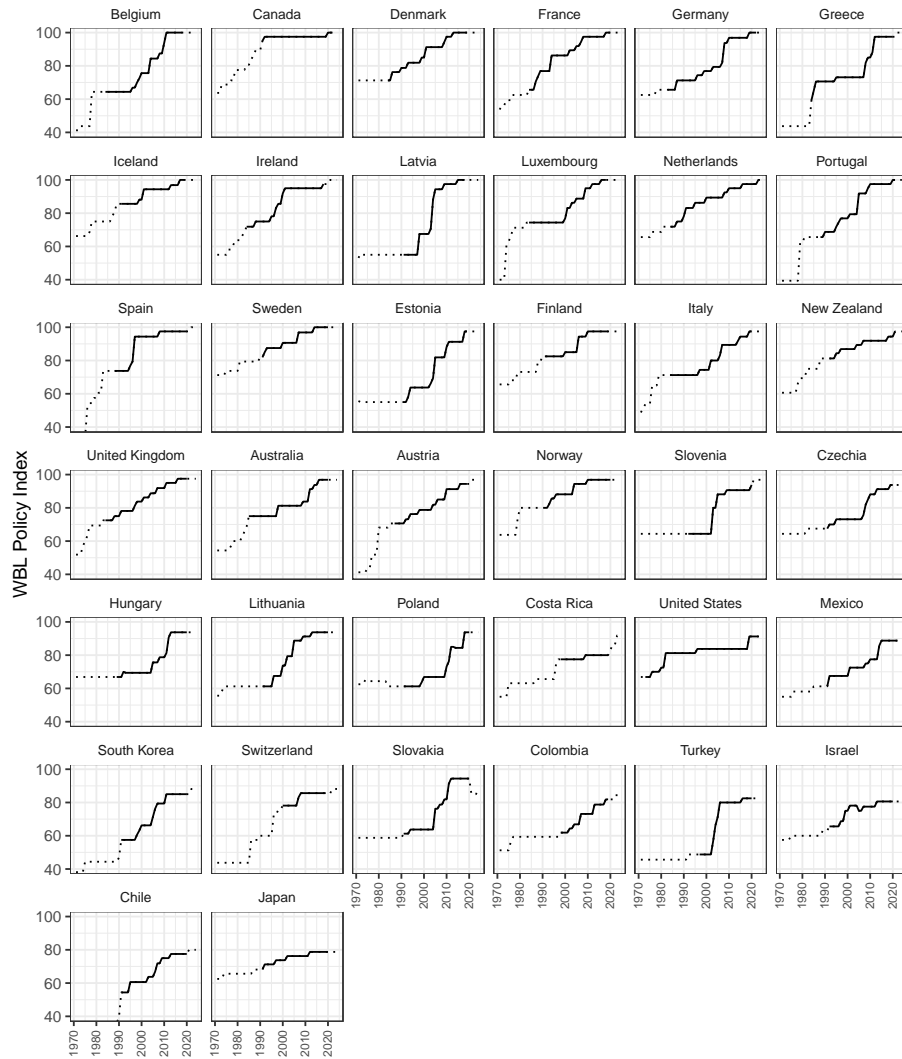
Source: World Bank (2024).

Figure 5.5: The WBL Policy Index in the OECD

the countries and years we analyze here, gender equality policymaking progressed the most in Latvia and Estonia, where the WBL index increased by over 40 points, and the least in Canada, where only two additional policies were adopted, and in Costa Rica, where just one was. Both the extent to which these countries have passed these laws and the pace at which they have done so varies considerably.

5.2.1 Substantive Representation in Policies Advancing Workplace Gender Equality

Our first question is whether growing gender egalitarianism among citizens prompts their representatives to adopt policies that enhance gender equality in employment. As can be seen in Figure 5.6, the correlation between macroegalitarianism and the WBL policy index is very strong.

Researchers are wary of drawing conclusions based on such correlations, however. This strong bivariate relationship may be the consequence of spuriousness. N. K. Kim (2022), for example, finds that gains in women's descriptive representation predict subsequent increases in the WBL policy index, especially in democratic countries. As we have seen in Figure 4.10 in the last chapter and Figure 5.4 in this one, gains in women's descriptive representation also yield higher macroegalitarianism in the democracies of the OECD. The apparent relationship between gender egalitarianism among a country's citizens and the adoption of policies increasing gender equality may be driven entirely by women in the legislature—or some other variable, like national legislative quotas (see Weeks 2022)—causing both.

So we again construct a model that includes our usual suspects of such spuriousness: national quotas, women's descriptive representation, feminist movement strength, and the presence of party lists in the electoral system, each measured as in our previous analyses. And, also as before, we use the within-between specification to parse out cross-country differences from over-time trends in each of our variables (see Bell and Jones 2015)
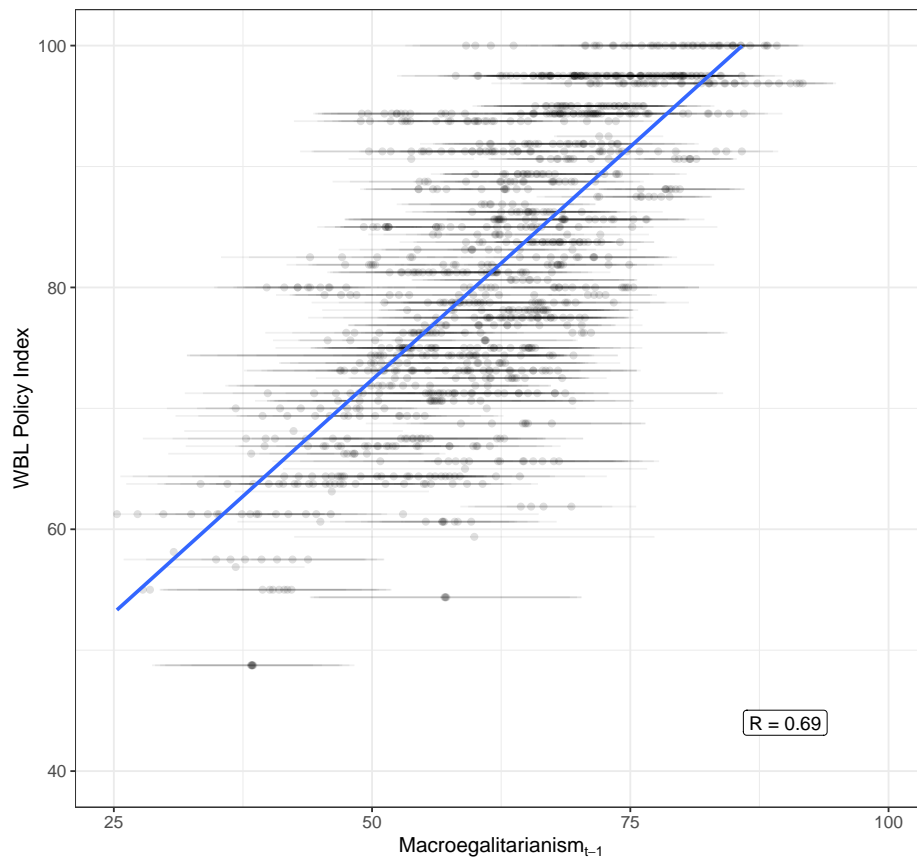
Figure 5.6: Macroegalitarianism and Policies Advancing Gender Equality
in Employment in the OECD

in a Bayesian multilevel model with varying intercepts for both countries and years that capture the distinctive time-invariant characteristics of each country and the global time-varying traits that affected all countries at once (see Shor et al. 2007). Consistent with our now-familar approach, we also include as a predictor the one-year lag of the WBL policy index to capture the dynamics of policy adoption (see Keele and Kelly 2006) and the measurement uncertainty in the PGE scores (see Tai, Hu, and Solt 2024).

The results are displayed in Figure 5.7. The are, perhaps, surprising. Even with OECD, a group of relatively high-income countries, the richer countries score higher on the WBL policy index than the poorer ones, by -0.1 (80% c.i.: -0.3 to 0.2) points immediately, and due to the strong dynamics in the adoption of these policies, -1.2 (80% c.i.: -4.9 to 3.4) points over time. This may indicate a long-term causal influence, but gains in GDP per capita do not evidence a similar effect so we are careful to not draw strong conclusions.

National gender quotas bear little relationship to the adoption of these equality-enhancing policies in this model. Nor does the average strength of the feminist movement, but *gains* in the Feminist Movement Index increase the adoption of these policies by 0.4 (80% c.i.: 0.1 to 0.7) points in the short run and 5.9 (80% c.i.: 1.8 to 10.1) points compounded over time.

We turn then to the model's estimates of the coefficients for macroegalitarianism on policies advancing gender equality in employment, first considering cross-country differences. A two-standard-deviation difference in PGE scores is found to correspond to an immediate 0.3 (80% c.i.: 0 to 0.6) point difference in the WBL policy index, which grows to 4.2 (80% c.i.: 0 to 8.5) points when the dynamics of the index are taken into account. The posterior distribution indicates that the probability that this estimate is positive is 88%. Again, we treat this result cautiously: it may reflect how public opinion influences policymakers over the long term, but it may also
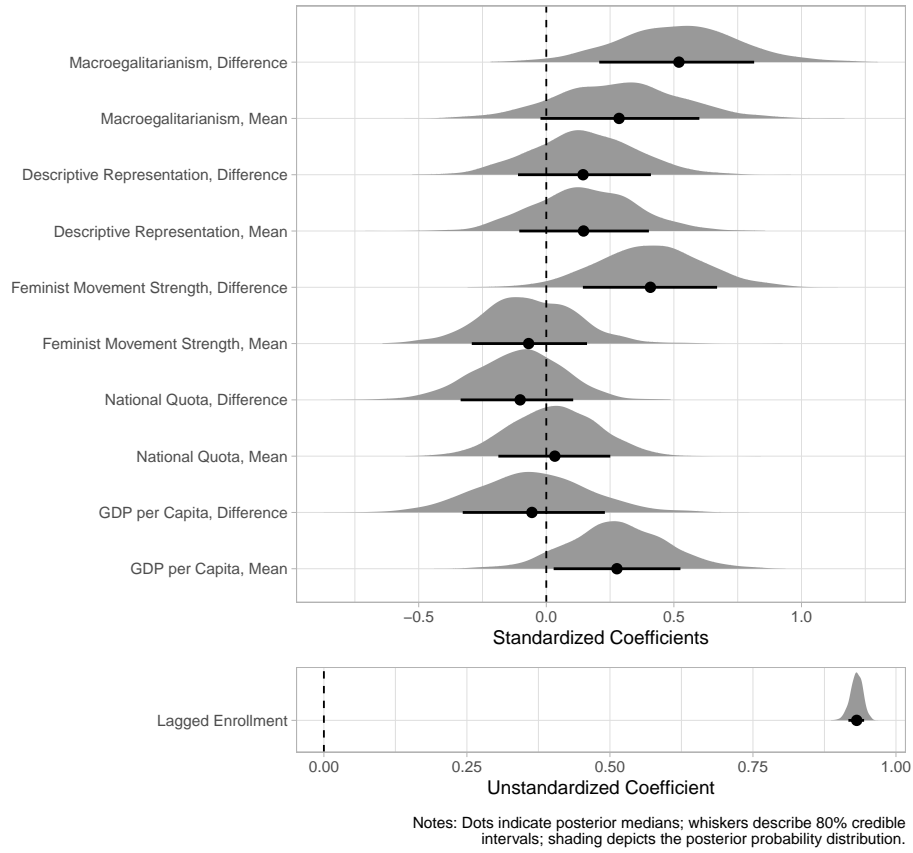
Figure 5.7: Predicting the WBL Policy Index in OECD Countries

be the product of differences across countries that remain outside of our model.

We put more weight on how year-to-year changes in macroegalitarianism correspond to subsequent changes in policy. These are not perfect for the purpose of drawing conclusions about causation, but given that the attitudes of the public are not subject to experimental manipulation, they are the strongest evidence available. And, in this case, the evidence is indeed strong. A two-standard-deviation increase in macroegalitarianism in one year within a country is estimated to be followed by a 0.5 (80% c.i.: 0.2 to 0.8) gain in the WBL policy index in the next. Over time, as past policymaking influences future policymaking, this gain increases to 7.4 (80% c.i.: 3.3 to 11.6) points. Just as the models earlier in this chapter indicated that more gender egalitarian public opinion spurs legislators to adopt and raise national gender quotas to advance gender equality in politics, this model indicates that it also induces them to adopt policies advancing gender equality in employment.

5.2.2 Public Responsiveness to Policies Advancing Workplace Gender Equality

That governments respond to gender egalitarianism in the public with policies addressing equality in both politics and work does not necessarily suggest that the public reacts to these policies similarly. That is, even though the public reacts to the election of more women and the adoption of legislative gender quotas by becoming even more egalitarian, it could be that its reaction is different to policies removing barriers to equality in employment. After all, these policies intrude more directly into people's daily lives than the makeup of the legislature does. It would not be too surprising if these more intrusive policies, rather than working to create their own constituencies, instead prompt a thermostatic backlash.

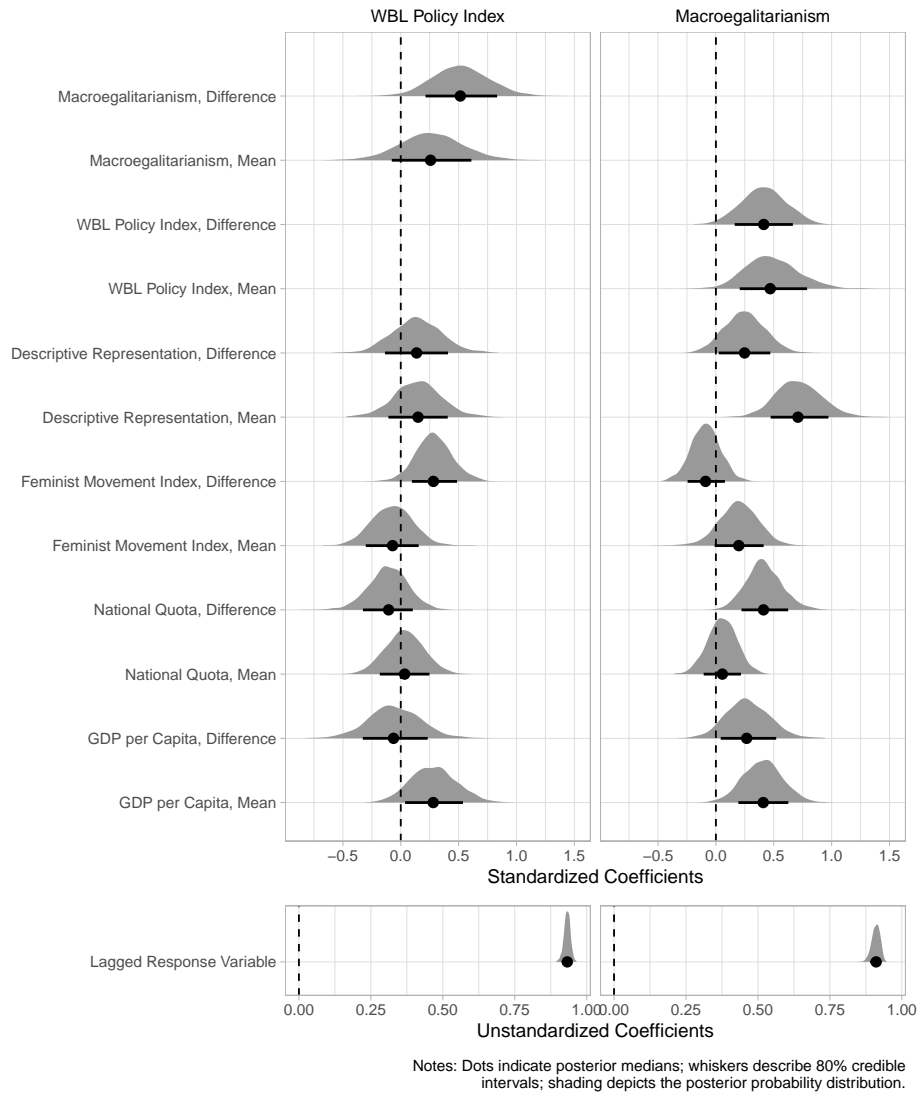We test this possibility with a simultaneous-equations model similar to those we have used previously, predicting at once both the WBL index of

Figure 5.8: Predicting the WBL Policy Index and Macroegalitarianism in OECD Countries

gender-equality-enhancing policies and the PGE scores of macroegalitarianism. Figure 5.8 depicts the results. The left side of the plot reproduces the findings of Figure 5.7, again providing reassurance that our specification of that model successfully avoided any bias due to endogeneity.

The figure's right side shows the model's estimates for macroegalitarianism. These estimates provide no evidence of a thermostatic effect of increasingly gender-equal policies toward work on public opinion; there is no backlash. Instead, increases in the WBL policy index are followed by increases in public egalitarianism. A two-standard-deviation gain in the former yields an immediate 0.5 (80% c.i.: 0.2 to 0.8) point gain in the latter, and this gain expands to 7.6 (80% c.i.: 3.3 to 11.8) points over time.

5.2.3 A Further Test: Childcare Provision

One known shortcoming of the longitudinal WBL data we use here is its exclusion of the single policy most often and closely tied to gender equality in the workforce: childcare. In 2024, the World Bank revised the WBL index to include childcare policy for the first time. Version 2.0 of the WBL dataset includes data on whether there are laws that establish public and private center-based childcare services as well as laws establishing employer-provided childcare.[2] Unfortunately, this newly revised and expanded WBL index is currently available only for a single year. That renders it unsuitable for our purposes for two reasons. Most importantly, the cross-sectional nature of these data prevent the time-sensitive dynamic analyses that we employ to convincingly test the representation of public

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[2]The new version also highlights the importance of gender-based violence to gender equality in the workplace, moving and expanding its treatment of laws combating sexual harassment from the Workplace indicator and provisions addressing domestic violence from the Marriage indicator, along with information about laws banning child marriage and criminalizing femicide, to a new Safety indicator (see World Bank 2024b, 25–27). As the WBL index v1.0 does include some information on policies addressing gender-based violence, we leave a more focused analysis of these specific policies to future work.

opinion and the responsiveness of the public to policy change across the high-income democracies of the OECD. But also, as a practical matter, the PGE data as yet extends to within a year of the updated WBL in only two of the thirty-eight countries in our sample. This makes even a cross-sectional analysis unfeasible. We must look elsewhere for data on childcare policy.

Childcare policy is multifaceted, with many potential levers for affecting cost, availability, and quality (Hegewisch and Gornick 2011, 128–29).[3] We therefore consider childcare enrollments, which are an indicator of all three of these aspects of policy. Further, as a policy outcome can also be seen to complement our earlier focus on policy outputs in the WBL policy index. To provide a measure across our countries of interest, we look to OECD data on enrollments in early childhood education and care among the very young, children aged zero to two (Organisation for Economic Co-operation and Development 2024). Figure 5.9 shows how these enrollments have varied across countries and over time.

Figure 5.10 shows the bivariate relationship between gender egalitarianism and these very early childhood enrollments. Enrollment rates in education and care for children aged zero to two are plotted vertically on the y-axis, and PGE scores are plotted horizontally on the x-axis; the horizontal whiskers trace the 80% credible intervals of the PGE scores. The relationship between these two variables is positive and strong: the bivariate correlation, with the uncertainty in the PGE scores taken into account, is .63. Still, a strong correlation is famously insufficient to establish causation. A strong correlation may instead, for example, simply arise due to spuriousness; that is, egalitarian attitudes and early childhood care enrollments may both be driven by some third factor, such as levels of women's

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[3]The availability of childcare is seen the most important indicator of policy effort—and more predictive of women's opportunities for employment—than government expenditures and childcare costs (**Hegawisch2011?**). In any event, the available expenditures data has validity problems because the it covers older preschool children, whose often 'short-hour' care is associated with more part-time employment among mothers (see, e.g., Korpi 2000, 145).
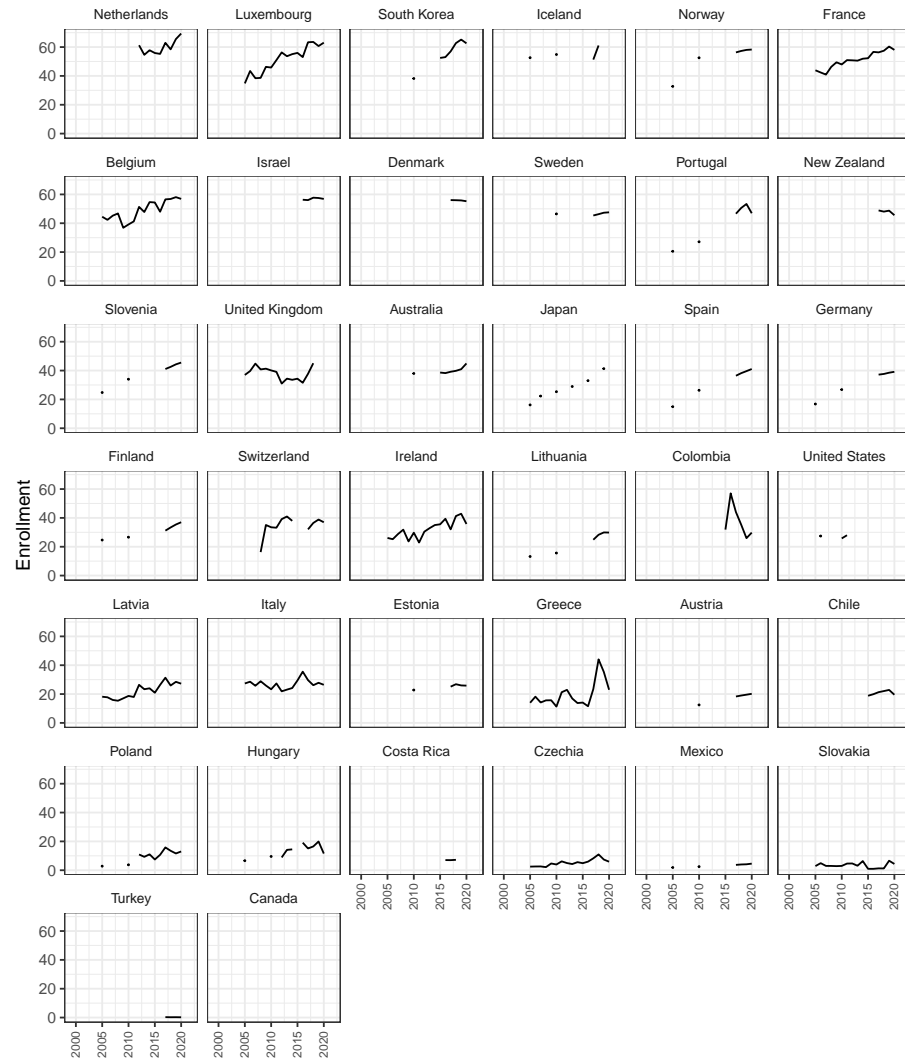
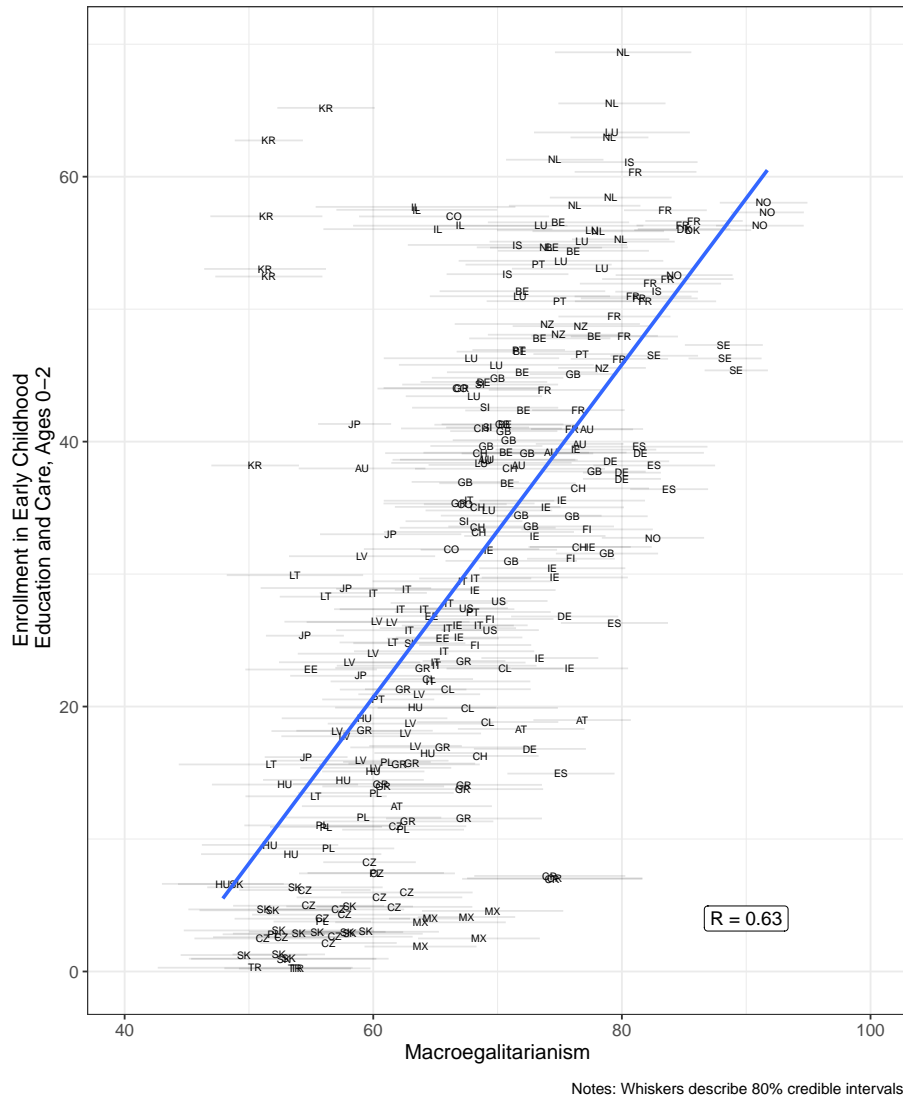Figure 5.9: Enrollment in Early Childhood Education and Care, Ages 0-2,
in the OECD

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Figure 5.10: Macroegalitarianism and Enrollment in Early Childhood Education and Care, Ages 0-2, in OECD Countries

descriptive representation. We need a more sophisticated model to draw firmer conclusions.

First, as ever, we need to account for likely sources of spuriousness. Levels of descriptive representation and the strength of the feminist movement are two variables that plausibly could influence both the public's gender egalitarian attitudes and the constellation of policies that shape the rate of young children's enrollment in education and care. As in previous analyses, we use data from QAROT and International Institute for Democracy and Electoral Assistance (2023) for the former and from Forester et al. (2022) for the latter.

quota: Weeks (2022)

To model enrollment in early childhood education and care, we use now-familiar tools. We again use a Bayesian multilevel model that includes varying intercepts for each country and each year that capture any distinctive differences across space and any shocks that occur over time and so minimize bias due to heteroskedasticity or from variables omitted from the model (see Shor et al. 2007). We use the 'within-between specification' to separate time-varying predictors into their mean values for each country and the changes over time, with the latter providing the best evidence of causation (see Bell and Jones 2015). And we of course incorporate the measurement uncertainty in the PGE scores into our model (see Tai, Hu, and Solt 2024). Finally, because past rates of early childcare enrollment should be expected to predict current values, we treat the process as dynamic and include the rate of enrollment in the previous year as a predictor.

Notes: Dots indicate posterior medians; whiskers describe 80% credible intervals; shading depicts the posterior probability distribution.
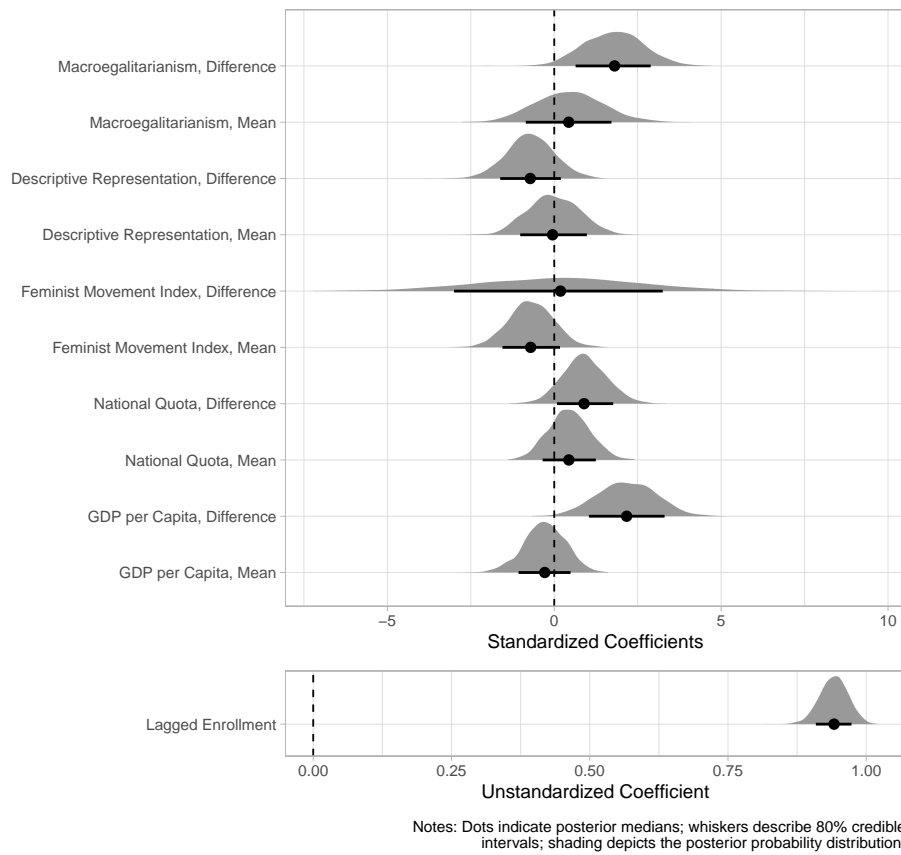
Figure 5.11: Predicting Enrollment in Early Childhood Education and Care, Ages 0-2, in OECD Countries

Sjöberg (2004) argues that institutionalized family policies, particularly the provision of early childhood education and care, promote married women's labor force participation and so reshape the public's attitudes on gender egalitarianism in the public sphere. That is, because these policies "contain normative elements and expectations on the 'proper' role of

men as well as women in society and in the family," they can be expected to influence macroegalitarianism (Sjöberg 2004, 113).
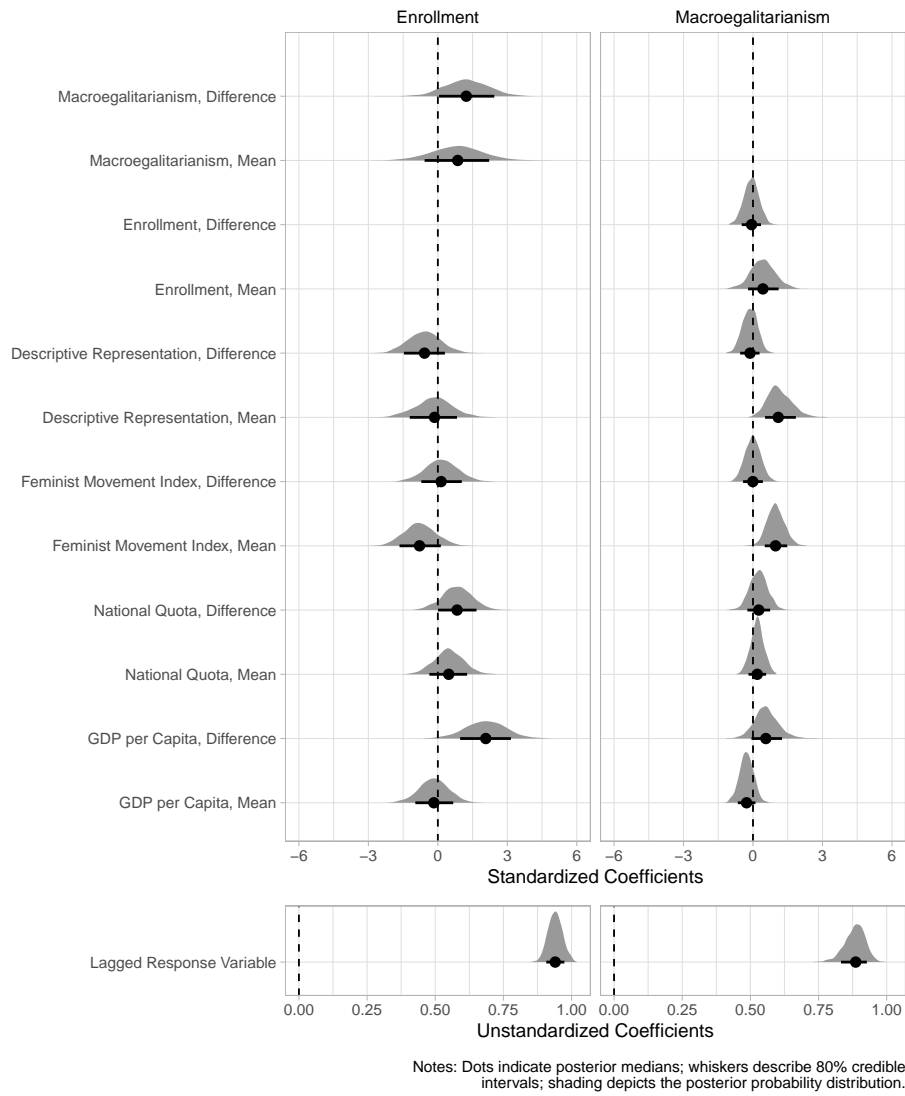
Figure 5.12: Predicting Enrollment in Early Childhood Education and Care, Ages 0-2, in OECD Countries

5.3 Conclusions

6 Macroegalitarianism and Gender Equality in Mexico [Placeholder]

7 Gender Egalitarian Policies in the Korean National Assembly: A Case Study

8 Conclusion

In summary, this book is still super, super drafty.

It could be that the public still might respond thermostatically to increased descriptive representation for women, to higher national legislative quotas for women, and to measures that improve women's roles in the workforce—but only once these work to the absolute, rather than merely relative, disadvantage of men. For example, it would not be surprising for an egalitarian public to view a quota that required *more* than 50% of legislative candidates to be women as 'too much.'

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