Public Responses to Engineering Equality: Gender Quotas and Satisfaction with Democracy

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Abstract

Does the enactment of gender quotas in legislatures affect satisfaction with democracy? We argue that positive effects resulting from the descriptive representation of women are attenuated by negative reactions to the implementation of a quota system. Specifically, we posit that the backlash to these compulsory parity-corrective policies will lead to lower levels of satisfaction with democracy, particularly for men. Using cross-national survey evidence from as early as 1973 covering 69 countries and well over a million respondents, as well as a generalized synthetic control design, we find strong support for our expectations regarding the negative effects of quotas on democratic satisfaction, but we do not find clear evidence that gender or support for quotas conditions this relationship. Instead, we observe the strongest negative associations between quotas and satisfaction in contexts with higher levels of corruption. If quotas reduce satisfaction with democracy regardless of gender and support for quotas, our analysis has implications for governmental procedures used to attain gender-equal legislatures.

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In the vast majority of governmental decision-making bodies across the world, women are under-represented (Barnes and Córdova 2016; Bauer and Tremblay 2011; Escobar-Lemmon and Taylor-Robinson 2005; Krook 2009). Although we have witnessed significant increases in the proportion of women elected to legislative bodies over the past three decades, the current composition of most legislatures remains overwhelmingly wealthy, ethnic-majority, and male (Krook and Zetterberg 2014; Murray 2014). As an attempt to correct this gender imbalance in political power and quickly transform the gender make-up of legislatures, some governments have worked to establish minimum thresholds for the number of women candidates in a legislative arena through the implementation of quota policy. The rapid diffusion of gender quotas is testament to these countries' preference for a "fast-track" model of gender parity in government (Dahlerup and Freidenvall 2005). For instance, in Latin America, a region historically at the forefront of the gender quota policy movement, close to half of the region's governments had implemented a state-mandated electoral gender quota by 2015 (Barnes and Córdova 2016). Around the world, this popular solution to target gender bias in the political sphere had been applied in some form in nearly 130 countries by 2017 (Krook 2009).[1] Quota policies, ranging from laws reserving parliamentary seats for women to laws requiring all parties to include women candidates to intraparty rules committing individual parties to select more women for party lists, have been incredibly successful in generating target percentages of women in legislatures in rapid fashion.

Both quota campaigns and scholarly research on gender quotas have often theorized that this large social engineering project aimed at gender parity at the elite level of government could have powerful effects on women's individual-level political attitudes and activities (Norris 2004; Zetterberg 2009). According to this argument, quotas may not only generate an increase in the number of women elected to government, but they could also generate political empowerment for women at all levels of society. Indeed, extant research has supported these claims, suggesting that quota policies shift greater attention to women's substantive interests and have positive effects on women's political engagement, efficacy, and ambition (Atkeson and Carrillo 2007; Beaman et al. 2009; Franceschet and Piscopo 2008; Burnet 2011; Beaman et al. 2012; Wolbrecht and Campbell 2007). Other analyses have demonstrated that the rapid inclusion of women in politics through quotas can democratize

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[1]See https://www.idea.int/data-tools/data/gender-quotas.

the everyday features of political institutions and enhance institutional trust and legitimacy (Bauer and Britton 2006; Htun 2004). Quotas as a method for electing more women to legislative bodies is thus viewed as significant for promoting women's interests, engaging women at all levels of society, and inspiring them to become more active political citizens (Phillips 1995; Wolbrecht and Campbell 2007; Zetterberg 2008).

Yet, despite the normative benefits to increasing the representation of women in government, is it possible that quotas might also elicit a backlash among those who disagree with their imposition and that these "electoral affirmative action policies" aimed at correcting women's underrepresentation could negatively affect public satisfaction with democracy (Barnes and Córdova 2016; Meier 2008; Obrien and Rickne 2016)? Opponents of electoral quotas have suggested that, rather than promote equality and level the playing field, gender quotas instead "violate principles of equality, promote unqualified individuals, do not further women's interests in policy making, are undemocratic, and are demeaning to women" (Hughes, Paxton and Krook 2017, p. 337). Though the rise in research on gender quotas has mirrored the spread of quota implementation worldwide, questions about how men and women in the public respond to quota mechanisms remain contentious, and the specific ways in which quotas may affect political attitudes and behavior remain unclear (Franceschet, Krook and Piscopo 2012). While there is a strong democratic argument for the inclusion of women (and other marginalized groups) in legislative bodies through the use of gender quotas, these affirmative action mechanisms may have negative consequences for democratic attitudes. As stable democracy requires public consent to democratic rule, and "attitudinal deconsolidation via discontent among the populace can be particularly harmful" for democratic deepening, it is crucial that we continue to develop an understanding of phenomena that could cause schisms in democratic satisfaction in the public (Blais, Morin-Chassé and Singh 2017, p. 2; Diamond 1999; Linz and Stepan 1996; Lipset 1960; Bratton and Mattes 2001).

Although women's rapid inclusion into democratic institutions through quota policy has many advantages, we argue in this paper that citizens in countries that have implemented these mechanisms will be less satisfied with their democracy. We begin by first providing an overview of the linkage between an increase in women's descriptive representation and individual-level democratic attitudes. Although previous literature suggests that positive individual-level empowerment effects occur with greater numbers of women in politics, there is less work assessing how demo-

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cratic attitudes shift as a result of quota-mandated gender parity in government. We expect that gender quotas, particularly those with tougher sanctions for non-compliance, will have negative consequences for citizens' levels of democratic satisfaction. While we argue that a degree of dissatisfaction with democracy exists for both men and women post quota enactment, we also posit that the perceived exclusionary nature of gender quotas will particularly bias men's views of their government, as increasing numbers of women could prompt additional resistance from the "traditional majority" (Weeks 2019). We theorize that men's reaction to a gender quota, whose implicit intent is to reduce the overrepresentation of their own gender in government, will be more negative, as their political status is threatened, and they question the need for corrective policies that target women as a marginalized group.

Additionally, we also investigate whether the degree of satisfaction with democracy will be particularly lessened for citizens of countries in which political corruption is a major problem. In such contexts, quota reforms could be perceived as a strategic maneuver to legitimize otherwise corrupt regimes, and individuals in such societies could view those who benefit from quota policy as unfairly gaining access to politics with the help of a corrupt network. Lastly, in an attempt to test the underlying mechanism put forth that gender quotas generate backlash effects for democratic satisfaction, we posit that those who support quota policies will be more satisfied with their democracy. If a citizen views quotas favorably and perceives such a policy as an appropriate measure to ensure power-sharing and parity in their democracy, it should follow that they would be more satisfied with their political system.

In order to test whether quotas affect individual-level democratic attitudes, we conduct two separate sets of analyses. First, we conduct cross-national analyses using survey data from Latin America, Europe, and other democracies around the world to test if the effect of quotas is associated with lower levels of democratic satisfaction. Next, we use data from the Eurobarometer and Latinobarometer to estimate the effect of implementation of quotas in Mexico and three European countries (Greece, Portugal, and Spain). Our second analysis utilizes the generalized synthetic control method to examine the causal effects of quota implementation on satisfaction with democracy. Evidence from both analyses supports our expectations that "hard quotas," or gender quotas with more binding forms of gender parity legislation, are linked to a decline in democratic satisfaction. Moreover, we fail to find evidence to suggest that the degree to which individuals are satisfied with

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their democracy is systematically conditional on gender. In other words, women's satisfaction with democracy post gender quota adoption is diminished in similar ways as their men counterparts. In addition, for citizens of countries plagued by higher levels of corruption, we find a stronger degree of decreased democratic satisfaction when quotas are in place. Our research thus demonstrates that quota implementation has the potential to weaken the level of men's *and* women's levels of democratic satisfaction, particularly in contexts where the deepening of democratic norms is already threatened. These results have profound implications for the governmental procedures used to attain more gender-equal legislatures.

Gender Quota Adoption and Individual-Level Attitudes

Gender and politics scholars have claimed that an increased number of visible women decision-makers in legislative bodies will lead to more positive attitudes toward politics and potentially spur political engagement among women. This research has traditionally conceptualized the ability of women politicians to induce attitudinal changes as a form of symbolic representation (Pitkin 1967). Thus, quotas that increase the number of women in legislatures work symbolically to create "a social meaning of 'ability to rule' for members of a group in historical contexts where that ability has been seriously questioned" (Mansbridge 1999, p. 628). Following this theory, women, viewed as a historically marginalized group, respond positively to a more representative legislative body, a symbol of a more open and legitimate political arena (Bobo and Gilliam 1990; Franceschet and Piscopo 2013; Schwindt-Bayer and Mishler 2005). Indeed, studies have shown that there is a positive effect of women candidates on political interest, political discussion, external efficacy, and confidence in the legislative body among women in the electorate (Alexander 2012; Atkeson and Carrillo 2007; Beaman et al. 2012; Burns, Schlozman and Verba 2001; Fox and Lawless 2004; Schwindt-Bayer and Mishler 2005).

While some of these studies do not particularly focus on the adoption of quotas, it should be noted that it is often difficult to distinguish quotas from gender in analyses, particularly when quota legislation applies to all candidates (Franceschet, Krook and Piscopo 2012; Hughes, Paxton and Krook 2017; Weeks 2019). As such, it is important to also address analyses that simply seek to assess the effects of women's presence on the political scene and women in the electorate's levels of engagement. For example, Wolbrecht and Campbell's (2007) results from a sample of 28

Organization for Economic Cooperation and Development (OECD) countries highlight that women (particularly young women) are more likely to engage in political discussion and participate in politics when there are higher numbers of women in parliamentary bodies. Norris and Krook (2009) also find that women's civic engagement is higher in countries with legislative bodies that are closer to gender parity. In the United States, Clayton, O'Brien and Piscopo (2019) find that women's equal presence on legislative committees legitimizes decisionmaking processes and confers institutional trust. Interestingly, their results also suggest that women's equal presence legitimizes decisions that go *against* women's interests. Research on sub-Saharan African countries that have adopted gender quota initiatives finds that women's political participation is higher when countries have a higher percentage of women politicians (Barnes and Burchard 2013). However, in the American context, it is important to note that scholars have recently found that these apparent positive effects can be largely attenuated when partisanship is properly included, suggesting that the ideology of the candidate could be more important than gender (Dolan 2006; Lawless 2004; Reingold and Harrell 2010).

Nevertheless, it is still disputed among scholars "if and under what conditions an increased political presence of members of an underrepresented group has a positive impact on political values and political activities among constituents" (Zetterberg 2009). Some empirical analyses do not support this claim, and others take issue with the theoretical assumption of symbolic representation (Atkeson 2003; Lawless 2004; Mansbridge 1999). Role model theory has been accused of essentializing a societal subgroup with its assumption that members of the group have a singular, shared, and therefore mobilizing identity. As this is a contested notion, there is "the risk that no common traits associate women representatives with female constituents" (Zetterberg 2008, p. 717).

Importantly for this analysis, many of the above studies do not explicitly address the adoption of gender quotas nor do they examine how this could affect the relationship between the presence of women politicians and individual-level attitudes. Fewer studies directly relate gender quota implementation to women's political attitudes or engagement at either the national or local level. The results of those that do explore the relationship between quota adoption and individual-level attitudes have indicated some promising conclusions about the potentially positive link between gender-balancing quota legislation and women's attitudes toward their democracies. For example, Allen and Cutts (2018) find that quotas of all types are associated with increased support for women

leaders. In research focused on the African context where there has a been a rapid diffusion of gender quota legislation, case studies have documented the positive effects of quota adoption, presented as mechanisms for changing traditional or conservative political cultures (Bauer 2012). For example, Burnet (2011) documents the effects of the gender quota in Rwanda concluding that, even in an authoritarian context, quotas have fostered women's political engagement and encouraged them to take more leading roles in other aspects of society. However, Kittilson and Schwindt-Bayer's (2012) cross-national analysis of gender quotas suggests that quota implementation decreases the gender gap in some dimensions of political engagement, but not in others (political knowledge and discussion). Interestingly, they also find that the gender gap is minimized due to men's decreased political interest, rather than women's increased political interest.

Counter-intuitively, Clayton (2015) finds evidence that in the short term all citizens, men and women, "express less interest in politics and that female citizens in particular express lower levels of political efficacy under a quota-assigned female leader" in a sub-national randomized policy experiment in Lesotho (p. 361). She concludes that "without local buy-in or discussion," gender quotas generate "negative unintended attitudinal reactions" (p. 358). Liu (2018) similarly finds that women political leaders generate a backlash effect on women's political engagement in the context of East and Southeast Asia. Finally, in Latin America, recent analyses report null findings on the effect of gender quotas on women's political attitudes and behavior (Zetterberg 2008, 2009). Examining 17 Latin American countries with variations of quota adoption, Zetterberg (2008) writes, "there is hitherto little proof of the positive impacts of quotas" (p. 725). While descriptive representation is most easily achieved through the implementation of gender quotas, attaining the aims of symbolic representation and shifting the attitudes and behavior of a citizenry remains out of reach of a gender quota system. In other words, more women in office has not been proven to significantly change political attitudes or disturb the sociocultural manifestations of gender inequality (Franceschet and Piscopo 2013). To date, the evidence of the impact of gender quota adoption on individual-level attitudes and political behavior remains inconclusive.

Theoretical Framework: Gender Quotas and Satisfaction with Democracy

As discussed, an increase in the number of women representatives in government has been theorized to have a symbolic effect on women in the electorate. The power of these symbolic effects may propel previously underrepresented groups, like women, to engage in the political process. However, these positive symbolic effects stemming from a more representative legislative body rest on the assumption that a democratic citizenry responds to gender quotas and the selection of candidates in positive ways. Contrary to the intended positive effects stemming from more gender-equal representation, it is possible that quotas specifically could elicit negative reactions to government. Legislative gender quotas, whether adopted through top-down elite measures or through bottom-up women's activism, require the state to assume an active role "as *guarantors*−rather than mere promoters−of equality" (Franceschet and Piscopo 2013). This expanded state role in securing gender equality could have a profound impact on citizen perceptions of their government. If gender quotas are viewed as unnecessary affirmative action policies or illegitimate methods for increasing women's representation, quotas could not only discourage political engagement but could also impact democratic attitudes (Clayton 2015; Norris 2004; Zetterberg 2008).

We argue that negative symbolic effects stemming from the implementation of gender quotas will lead to lower levels of citizen satisfaction with democracy. Although the definition of satisfaction with democracy is oft-disputed in the literature, we define the concept "as an expression of approval of regime performance located between diffuse notions of support for democratic principles and specific attitudes toward political actors" (Blais, Morin-Chassé and Singh 2017, p. 7; see also Aarts and Thomassen 2008). We assume here that these attitudes toward democracy "typically include both an affective and an evaluation dimension" and seek to uncover citizen responses to the process of democratic governance at work (Anderson and Guillory 1997). Gender quota enactment requires willingness by a state to use its governing power to engineer equality (Zetterberg 2008; Franceschet and Piscopo 2013). This shift from promotion to guarantee of gender parity via "fast track" quota legislation can be viewed as a significant extension of the state's role in redistributing power (Dahlerup and Freidenvall 2005; Franceschet and Piscopo 2013). Particularly if the state at hand has demonstrated weak capacity to govern in the recent past, it is reasonable to suspect that

satisfaction with democracy will be weakened by such a substantial institutional reform. In essence, state-sanctioned corrective policies to solve the underrepresentation of women (and, by extension, overrepresentation of men) can harm satisfaction with democracy by making one frustrated with how the "system" either oversteps or underproduces (Blais, Morin-Chassé and Singh 2017).

Although gender quotas have feminized legislative bodies in a formal sense if effectively enforced, these policies have not necessarily disrupted other manifestations of sexism pervasive in society (Franceschet and Piscopo 2013; Verge and De la Fuente 2014). For example, in Uganda, women from reserved seats are less likely to be recognized in debate compared to representatives elected via open seats (Clayton, Josefsson and Wang 2014). In Catalonia, a multitude of informal party practices contribute to women's lack of real governing power after the quota law was introduced (Verge and De la Fuente 2014). Gender quotas in Latin America have often not interfered with the centralized and informal nomination procedures whereby party leaders handpick candidates (Baldez 2006; Zetterberg 2008). At this point in time, quota implementation cannot be credited with significantly subverting long-standing gendered patterns of engagement and power relations across all levels of society. For policies such as these to "subvert the main informal sources of male power...the time span may need to be much longer" (Verge and De la Fuente 2014, p. 76). Even if individuals hold normative beliefs that attribute responsibility to their government for improving their well-being, we posit that the artificial quality of gender quotas, policies that often disguise "the more limited degree to which women are in fact politically empowered," will cause citizens to question the validity and reliability of their government's policies (Krook and Zetterberg 2014, p. 7; Verge and De la Fuente 2014). These cues could be particularly consequential in terms of democratic satisfaction if citizens consistently interpret them to mean that nothing has changed but "the introduction of new players to a political arena with unfair rules and practices" (Zetterberg 2008, p. 725).

In addition, if individuals do not even perceive the problem of pervasive gender inequality in society, we argue that corrective policies that privilege one group over another will be harmful to democratic satisfaction. The inclusion of quotas on the political agenda and their adoption require the reframing of a national discourse of equality in such a way as to make the lack of gender parity in government become defined as a problem and mandatory quotas an acceptable way to solve it (Meier 2008). If the public does not perceive women as a group in need of special treatment due to a

history of underrepresentation or marginalization in the political process, affirmative action policies, such as gender quotas, could lead to stigmatization of the policies beneficiaries (i.e. "quota women") among both in-group and out-group members (Clayton 2015; Kittilson and Schwindt-Bayer 2010; Norris and Krook 2009).

While gender quotas may create what Franceschet and Piscopo (2008) call a "mandate effect," whereby women legislators perceive an obligation to act on behalf of women, they may also cause a "backlash effect" and problematically "encourage beliefs that women elected under quota systems are less experienced and less autonomous" (2008, p. 395). Of course, these beliefs rest on "a flawed (and often untested) assumption of meritocracy," and it is clear that men legislators "have escaped the same criticisms, even though they have long been beneficiaries of preferential selection based on sex" (Murray 2014, p. 521). These backlash effects nonetheless generate a "label effect" for quota women who are perceived as less competent and undeserving of their status in politics (Dahlerup and Freidenvall 2005; Murray 2014; Tripp 2003). Though all women in politics are vulnerable to this kind of stigmatization in a male-dominated sphere, this threat may be particularly acute for women elected via quota policies (Dahlerup and Freidenvall 2005; Obrien and Rickne 2016). While Franceschet and Piscopo (2008) discuss the demeaning stereotype that "quota women" are underqualified or unfit as being a hindrance to a representative's ability to undertake actions on behalf of women, we argue that the "label effect" could apply more broadly to perceptions in the general public. If quota legislation is perceived as exempting women from competition or giving them special treatment, it is reasonable to expect public perceptions of illegitimate governmental action, which could dampen the degree of satisfaction with democracy. By destabilizing the status quo, quotas could thus cause adverse reactions that undermine the desired outcomes of the policy (Nanivadekar 2006).

Additionally, there is research to suggest that in some cases gender quotas can even exacerbate biases against women, particularly if women politicians are perceived as violating cultural gender norms, and there remains a fear of resentful male politicians trying to prevent "quota women" from exercising real political power (Michelle Heath, Schwindt-Bayer and Taylor-Robinson 2005; Rudman and Fairchild 2004). Clayton (2015) elaborates on this observation in her study in Lesotho where some "female constituents may believe their new female representatives are behaving inappropriately, causing them to avoid association or contact with these women" (2015, p. 241).

Although she examines a particularly conservative context, she also notes that there is evidence to believe that gender role stereotypes are often enforced and policed most strongly among women. Furthermore, in Liu's (2018) investigation of the gender culture in East and Southeast Asia, she also notes the role of context in the effectiveness of women's symbolic representation in the legislature for ordinary women in the electorate. These long-standing expectations surrounding the societal roles appropriate for women lead us to expect that short-term decreases in levels of satisfaction with democracy are plausible in the wake of gender quota implementation.

We expect that the quota method for the selection of women as political candidates could lead to lower levels of satisfaction with democracy, either as a response to the artificial nature of state-engineering of gender equality, the compulsory nature of affirmative action gender policy, or backlash effects stemming from the stigmatization of women assisted through quota policy. Our hypothesis thus follows:

> **Hypothesis 1a** Citizens will be less satisfied with their democracy in countries that have implemented gender quotas compared to citizens in countries where quota policy has not been enacted.

Gender quotas can either be compulsory policies designated by law or constitutional amendment, or they can be voluntary stemming from party rules (Norris 2004; Krook and Zetterberg 2014). Used in Scandinavia for quite some time, party quotas are voluntary measures adopted by political parties to increase the numbers of women as candidates. In contrast to these sorts of voluntary quotas, quota policies, like those imposed in Latin America, are implemented by law through legislative bodies. For example, the quota system in Argentina, which later produced contagion effects in other Latin American countries, was designated by law and specifically mandates a minimum of 30 percent of women candidates on party lists. This type of quota implementation, known as legislated candidate gender quotas, require all political parties to nominate a minimum percentage of women as their candidates.

We expect the backlash to quotas to be exacerbated by policies with stricter rules regarding enforcement mechanisms—rules that more effectively change the gender make-up of a legislature and influence the masculinized environment within parliaments. We argue that a reduced satisfaction with democracy will be conditioned by the degree to which the quota is effective in its aims of

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increasing women's descriptive representation. In other words, does the quota policy have enforcement mechanisms to ensure that the policy enactment is not merely rhetorical posturing? The more quotas are viewed as compulsory mandates to stem fast-track societal change, the more we expect satisfaction with democracy to be reduced in the eyes of the public. Therefore, we hypothesize that:

> **Hypothesis 1b** The decrease in the degree of satisfaction with democracy will be stronger in countries that have implemented effective gender quota strategies with tougher sanctions for non-compliance.

Although gender quotas requiring women's presence in legislatures could in the long term promote women's substantive representation as well as encourage women's political engagement or participation (i.e., positive symbolic effects), in the short term these policies could generate negative symbolic effects for both men and women. We further argue that quotas might elicit a stronger backlash from the majority group in governance−men. When minorities in governance like women are small in number, they are perceived by the majority group to be nonthreatening; however, as minority numbers grow and political power is perceived to accumulate, majority groups are more likely to feel threatened and react negatively (Krook 2015). For the long-standing majority group in political bodies, men, gender quotas "might cause particular consternation because they necessitate men being replaced by women, rather than simply increasing numbers of women" (Weeks 2019, p. 851). Debates over quotas can thus be understand as "renegotiating the public sphere in more egalitarian terms" whereby, in order to achieve more equal numbers of men and women, a redistribution of power positions is required (Sgier, 2004, p. 2). This redistribution of positions, formerly occupied by men, into the hands of women can be perceived as symbolically exclusionary and status-threatening (Meier 2008).

While we believe quotas could have negative symbolic effects for both men and women, we argue that men are even more likely to view the implementation of quotas as unwarranted corrective policies and thus view governmental actions as illegitimate. Evidence from Western Europe and North America, Asia, Africa, and Latin America suggest this, often pointing out that men are predominantly among those who are anti-quota (Lovenduski et al. 2005; Krook 2007). We do not imply that men do not accept the supposition of gender equality. Rather, we argue that men are more likely to *not* view women as a still-marginalized societal group. They are thus more likely to

find quotas as a problematic means to achieve gender parity.

Gender regimes "are extremely resilient to change;" although women have made great strides toward equality with their male counterparts across the globe, societal attitudes are not easily transformed (Verge and De la Fuente 2014). We suggest here that male citizens are more likely to hold sexist attitudes and far less likely than women to "attribute gender disparities to unfair treatment and limited opportunities" (Barnes and Córdova 2016, p. 673; Cassese, Barnes and Branton 2015; Swim et al. 1995). Consequently, we seek to test the following hypothesis:

Hypothesis 2 Men will be less satisfied with their democracy in countries with gender quotas compared to women.

In a large number of countries where electoral gender quotas have been adopted, political corruption remains a significant issue, and there is little consensus in the literature about the effects of quotas on real or perceived levels of corruption. There are a number of studies that have posited that an increase in women's descriptive representation may positively influence the perceived level of corruption in government and signal a party or country's commitment to equality and democracy (see Schwindt-Bayer 2010; Bjarnegård and Zetterberg 2011; Rahat 2009). However, other strands of research on quota adoption have emphasized that these reforms can be initiated instrumentally by corrupt governments, as a method of strengthening the regime's electoral power or legitimacy on the world stage (Goetz 2007; Hassim 2009; Tripp 2001; Watson and Moreland 2014). For example, in the African context, many opponents of gender quotas believe that the policy leads to tokenism and can become yet another mechanism reinforcing patronage politics (Tripp and Kang 2008; Hassim 2009). In the case of Rwanda, extant research addresses whether the high number of women politicians elected in the wake of quota reform represent an achievement of equality or whether they are "serving an authoritarian state" (see Longman 2006). In such contexts, quota detractors may perceive quota policies as simply another "tool on the menu of manipulation" (Bjarnegård, Yoon and Zetterberg 2018, p.106 using terminology from Schedler 2002).

If the populace is likely to view the adoption of quotas as unnecessary corrective policies that undermine meritocracy in democratic procedure, they will be quicker to claim that this method of addressing women's underrepresentation is merely a symbolic gesture. Consequently, in countries plagued by higher levels of corruption, we argue that the level of satisfaction with democracy in

the wake of quota implementation will decrease. The hypothesis stated below addresses the degree of democratic satisfaction post quota adoption in contexts of corrupt governance:

Hypothesis 3 The decrease in the degree of satisfaction with democracy will be stronger in countries with higher levels of corruption.

Despite the potential for backlash effects on democratic satisfaction in response to quota implementation from those who do not support such measures, we also theorize that those who support quota mandates will be significantly more satisfied with their democracy than those who do not support quotas in countries where these policies have been implemented. If a citizen views quotas favorably and perceives such a policy as an appropriate measure to ensure power-sharing and parity in government, it follows that they will be more satisfied with their political system. As a feature of electoral politics that has implications for the party system, the degree of representativeness within legislatures, and the composition of governments, gender quotas could be viewed by citizens in favor of such an approach as as important symbol of the democratic ideal of inclusiveness and broad representation. By reconfiguring the methods of democratic institutions and fostering the growth of diverse new democratic spaces for women's participation in governance, quotas would thus be perceived by their supporters as not only significant for the representation of a traditionally marginalized set of political actors, but also significant to the process of democratization and to the legitimacy of their new or established democracy.

Promoting gender equality through quotas has become a key part of international democracy promotion, and the discursive strategy of appealing to democratic norms to increase support for quotas has been utilized in the context of both established democracies and post-conflict democratizing countries (Freidenvall and Krook 2011; Bush 2011. The following quotation taken from Dahlerup and Freidenvall (2009, p. 411) is an example of such a connection being made between the inclusion of women in government via quota measures and the legitimacy of democracy by the European Women's Lobby (2008):

The current under-representation of women in most elected assemblies in Europe, including in the European Parliament, is a serious democratic deficit threatening the legitimacy of European institutions and political parties.

Such strong signals of the connection between democracy and quota policy may lead citizens who endorse these policies to further appreciate their government's commitment to democratic ideals. In order to examine the full scope of the ideational effects of quota policy for democratic citizens then, this analysis provides a key test of previous hypotheses asserting backlash effects—if the level of democratic satisfaction decreases for a citizen who disagrees with quota implementation, does the level of democratic satisfaction then increase for those who view quotas favorably? We state our final hypothesis as follows:

> **Hypothesis 4** In countries where a gender quota policy has been implemented, citizens who support quotas will be more satisfied with their democracy compared to those who do not support quotas.

Analyses

We conduct two separate sets of analyses. In the first, we estimate a series of multilevel models using survey data from Latin America, Europe, and other democracies around the world to test whether quotas are associated with lower levels of satisfaction with democracy. In our second study, we use data from the Eurobarometer and Latinobarometer to estimate the effect of implementation of quotas in three European countries (Greece, Portugal, and Spain) and Mexico. More specifically, our second analysis makes use of the generalized synthetic control method to more precisely examine the causal effects of implementing gender quotas on general levels of democratic satisfaction. Evidence from both analyses supports our expectations of effective quotas lowering levels of satisfaction with democracy.

Study 1

Data and Measurement

In order to test the effects of country-level quotas in legislatures on satisfaction with democracy, we use cross-national individual-level data and country-level data from the AmericasBarometer[2], Com-

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[2]https://www.vanderbilt.edu/lapop/about-americasbarometer.php

parative Study of Electoral Systems (CSES)[3], Eurobarometer[4], and Latinobarometer[5] (LAPOP 2019; CSES 2018; Commission: 2019). For our analyses, we also only include countries that are rated as "Partly Free" or "Free" by Freedom House (Freedom House 2018). We also make use of country-level data on political and economic indicators from the 8th wave of the Varieties of Democracy (Coppedge et al. 2018) project, as well as data sourced from the World Bank Development Indicators (*World Development Indicators* 2019).

Our dependent variable in this analysis is *satisfaction with democracy*. Canache, Mondak and Seligson (2001) claim that satisfaction with democracy captures support for authorities, system support, and general support for democracy as a form of government. Others have considered it to be representative of a diffuse emotional expression of approval of the democratic system (e.g., Aarts and Thomassen 2008; Anderson and Guillory 1997; Singh 2014) or its practical function (Linde and Ekman 2003). Although defining the meaning of satisfaction with democracy remains a topic of rigorous debate in the literature (Canache, Mondak and Seligson 2001), we follow Anderson (1998) and consider satisfaction with democracy as a measure of "system support at a low-level of abstraction," specifically focusing on the "functioning of the democratic system" (Anderson, 1998, p. 583). Satisfaction with democracy is measured with questions across the surveys that broadly ask about how satisfied respondents are with the way democracy works or with democracy in general in their respective countries. In all cases, all surveys have 4 categories of satisfaction. We reorder these from 1 to 4, with a 1 meaning least satisfied and 4 being most satisfied.

The independent variable is the existence of a *quota policy* and the *effectiveness of the quota*. Given this, we combine available indicators from QAROT into one of the three categories of countries with no quota, countries with a non-effective quota, and countries with an effective quota. A quota is coded as effective in the QAROT data if it reaches a 10 percent threshold for candidate or reserved seats quotas, while candidate quotas are deemed effective if valid enforcement mechanisms exist. As such, these effective quotas have "institutional features that should influence numeric legislative representation" (Hughes et al. 2019). The use of this variable allows for a better com-

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[3]Data from modules 1,2,3 and 4 of the CSES. These modules span elections between the periods of 1996-2015 in a number of countries and can be found at: https://cses.isr.umich.edu/

[4]https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm 1973-2015

[5]http://www.latinobarometro.org/lat.jsp. Includes data from 2006, 2008, 2010, 2012, and 2014

parison across different countries and political systems, as well as types of quotas (Hughes et al. 2017, 2019). In Figure A1, Figure A2, Figure A3, Figure A4, and Figure A5, we plot the average satisfaction with democracy by quota status for each country-year in our analyses. In line with our theoretical expectations, these plots illustrate that countries with effective quotas are associated with lower mean levels of satisfaction with democracy.

We account for a number of variables that present plausible threats to our ability to estimate the relationship between gender quotas and satisfaction with democracy. First, in order to account for individual-level demographic features, we control for the *age*, measured in years, of the respondents, as older individuals are plausibly more likely to express satisfaction with democracy. Where data is available, we also account for *income*, as well as *education*, as individuals with higher income and higher levels of education are also more likely to be satisfied with democracy (Anderson et al. 2005; Hobolt 2012).[6] Income is measured slightly differently across surveys. In AmericasBarometer, income is measured as the level of household income for the respondent, with ten options for responses. In the CSES, household income is again used, but there are only 5 categories in the variable. Given that many of these individual characteristics are not only related to expression of satisfaction with democracy but may also be correlated with gender quota implementation, the independent variables of interest, including these factors as control variables ensure that the key relationship is estimated correctly.

At the survey-level, we include a variable for *Polity score*, as well as for *GDP per capita (logged)* and *GDP growth per capita* (Lipset 1960). Countries that are more democratic, with higher GDP and GDP growth, should have citizens that express higher levels of satisfaction with democracy (Tavits 2005). Additionally, development is seen as a predictor of quota implementation, so inclusion of polity scores and economic indicators of development is necessary to adequately parse out the effect of quotas (Htun 2016). Polity scores are drawn from the Polity IV project and sourced from the Varieties of Democracy project. GDP per capita and GDP growth are also taken from the Varieties of Democracy, as well as the World Bank development indicators (Coppedge et al. 2018; *World Development Indicators* 2019).

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[6]Note for Latinobarometer data we use age finished education rather than level of education completed as the measure for education.

Additionally at the survey-level, we control for the *degree of presidentialism* in a country, using a presidentialism score that ranges between 0 and 1, with higher values indicating stronger presidential systems (Ostrom and Simon 1989). In strong presidential systems, support for democracy and expression of satisfaction with democracy could be more heavily correlated with evaluations or perceptions of the executive (Singh 2014), and this variable could also plausibly be relevant for the effect of gender quotas and their effects on legislative bodies. A control is also included for the *percentage of women in the legislature (lagged)*, as it is possible that this more systemic reflection of womens political integration into the political system affects women's (or men's) satisfaction with democracy, in addition to the perceived need of quota policy. Furthermore, we control for the level of *corruption* with an index measure that accounts for corruption in different areas of politics. Corruption would clearly relate to citizen satisfaction with the democratic system and political outputs, and higher perceptions of corruption among political elites have also been empirically shown to be positively correlated with gender quotas in previous literature (Goetz 2007; Hassim 2009; Tripp 2001; Watson and Moreland 2014).

Because our data are cross-national and aim to explain individual-level evaluations with a contextual variable, a 2-level multi-level model is the appropriate estimation technique. We consider the survey-level the highest level of clustering, which accounts for both country variation as well as time based variation (Singh 2014). This also avoids problems including too few level-2 units in our analyses (Stegmueller 2013).

Results

We display the results of Study 1 for the multi-level linear models evaluating **Hypothesis 1** in Figure 1 by each of the four data sources. In this figure, we show the difference in the predicted level of satisfaction with democracy by quota type as compared to the baseline category of no quotas. Given this, negative estimates indicate that the predicted level of satisfaction is *higher* in the No Quota category. On the other hand, positive predicted differences indicate higher levels of satisfaction when there are no quotas.

From Figure 1, it is clear that when there are effective quotas implemented, there tends to be lower levels of satisfaction as compared to when there are not quotas. For instance, from the AmericasBarometer data the predicted satisfaction score for effective quotas is 0.130 less than when

Figure 1: **Predicted difference in satisfaction by quota status (*No quota* is baseline)**
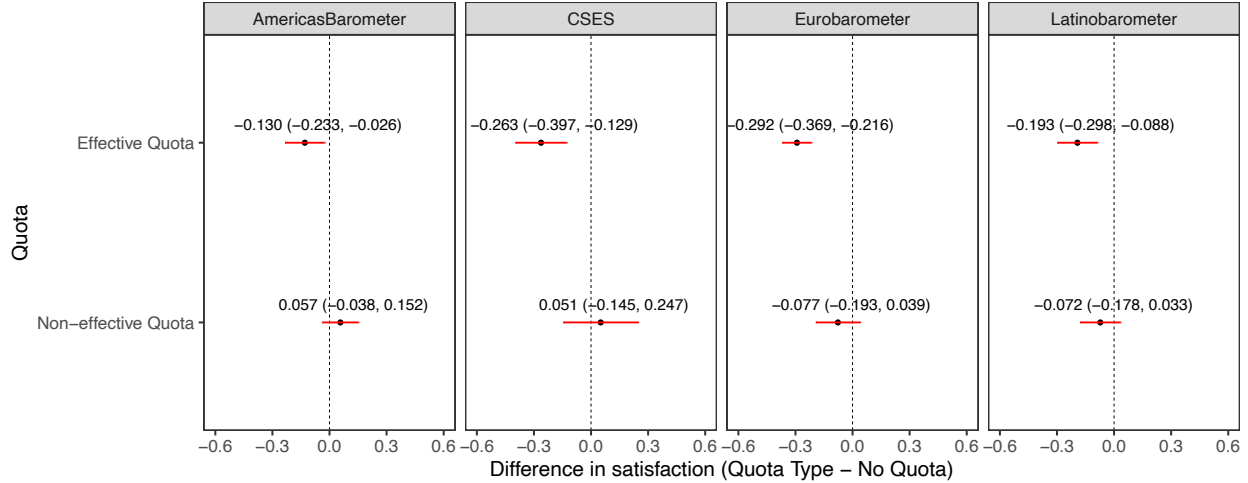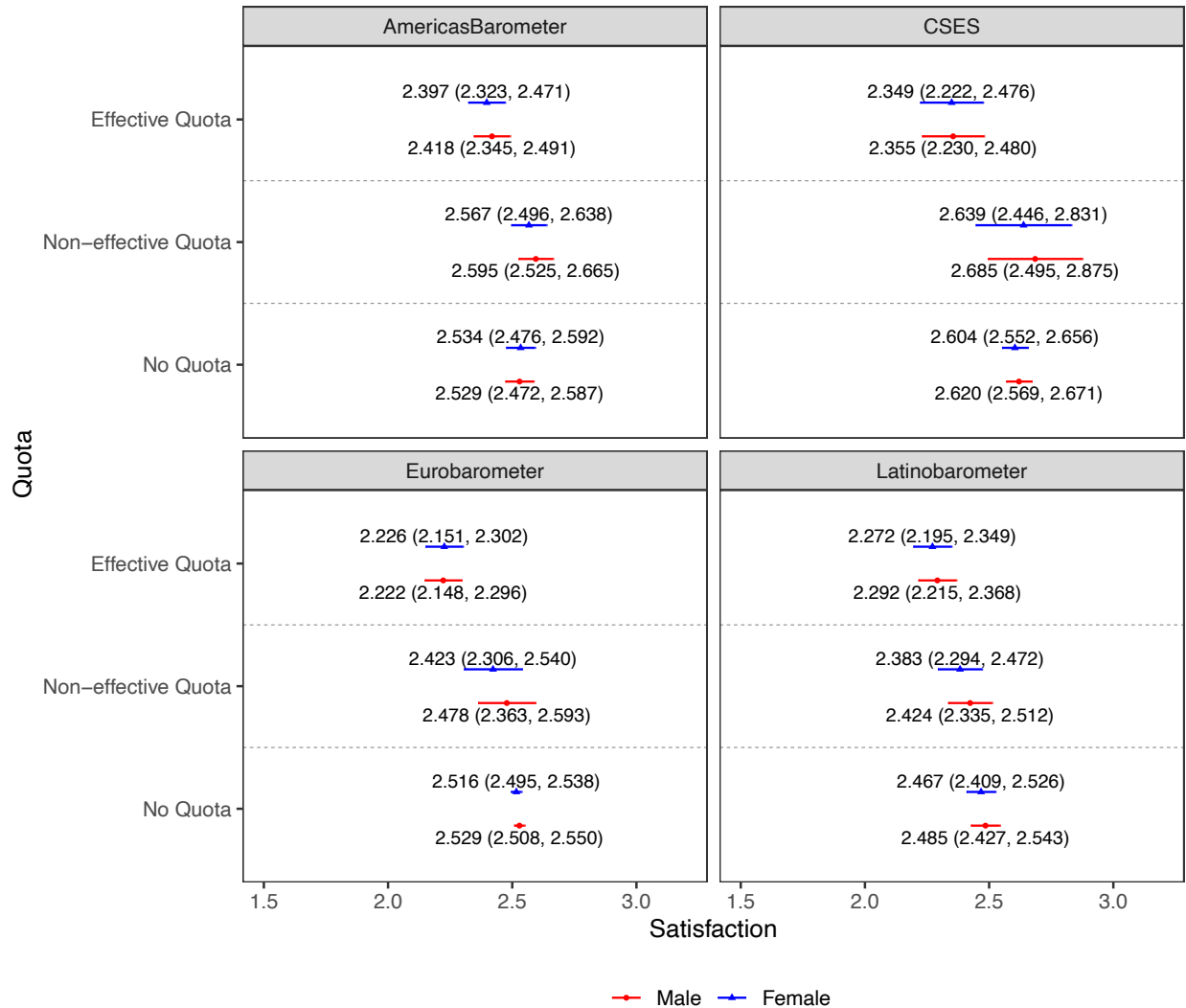

Note: Data are from AmericasBarometer, Comparative Study of Electoral Systems (CSES), Eurobarometer, Latinobarometer. Quota effectiveness is determined by the ability of quotas to have an impact (QAROT). Satisfaction with democracy is measured with responses to a survey question that asks if the respondent is satisfied with the way democracy works in their country. Predicted differences are from a multilevel linear regression model that includes the quota effectiveness measure, as well as several control variables described in the text. Differences are shown above the point with 95% confidence intervals in parentheses. The figure is created from models in Table A1, which is detailed in the appendix. The constant is allowed to vary randomly across country-year, of which 91 for AmericasBarometer, 148 for the CSES, 601 for Eurobarometer, and 316 for Latinobarometer. The number of observations in the AmericasBarometer model is 119,929 and 189,783 for the CSES, 758,976 for the Eurobarometer, and 346,717 for the Latinobarometer. Dashed lines represent 95% confidence intervals.

there is not a quota. This difference is also statistically significant at the 0.05 level. The results between effective quotas and no quotas for other data sources are even larger, with differences of 0.263 (CSES), 0.292 (Eurobarometer), and 0.193 (Latinobarometer). All of these differences are again statistically significant ($p < 0.05$). On the other hand, when there are non-effective quotas there is no evidence of difference in satisfaction as compared to no quotas. For each data source, there is not a statistically significant difference in predicted satisfaction between these two categories.

In order to test **Hypothesis 2** regarding the gender difference in satisfaction, we estimate a series of multilevel linear models with each data source where respondent sex is interacted with quota status. In Figure 2, we show predicted values for each quota category by sex. As can be seen from this figure, there is minimal difference between predicted levels of satisfaction between male and female respondents across quota categories. Indeed, in every quota category for each data source, there are no statistically distinct differences across sex. Given this, we find no evidence of a sex-based difference in satisfaction with democracy, meaning the association between effective quotas and lower levels of satisfaction exists for both males and females.
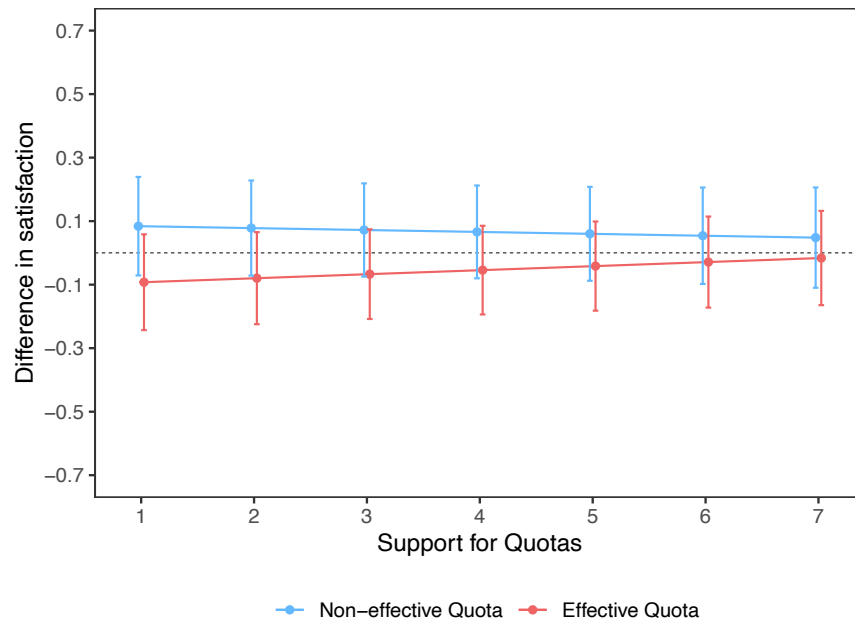
Similar to our tests for effects based on sex, we also probe the mechanism of quota support using data from AmericasBarometer about support for gender quotas. A selection of respondents

Figure 2: **Predicted value of satisfaction by quota status and sex**

Figure 3: **Predicted difference in satisfaction by quota status and level of quota support (*No quota* is baseline)**

Note: Data are from AmericasBarometer. Quota effectiveness is determined by the ability of quotas to have an impact (QAROT). Satisfaction with democracy is measured with responses to a survey question that asks if the respondent is satisfied with the way democracy works in their country. Predicted values are from a multilevel linear regression model that includes the quota effectiveness measure, as well as several control variables described in the text. The constant is allowed to vary randomly across country-year, of which there are 18. We also use a random coefficient for the quota support measure. The number of observations is 12,933. For numerical results, refer to Table A3 in the Appendix. Dashed lines represent 95% confidence intervals.

in the 2012 AmericasBarometer were asked if "The state ought to require that political parties reserve some space on their lists of candidates for women, even if they have to exclude some men. How much do you agree or disagree?". Our expectation was that those citizens that more strongly supported quotas would be more satisfied with democracy when quotas are in place (see **Hypothesis 4**). However, despite this expectation, we find that there are no strong distinctions across levels of support for quotas. To illustrate this, in Figure 3 we show predicted differences in satisfaction as compared to when there is no quota for the range of values of quota support (higher values mean greater levels of support for quotas). When quota support is at its highest value of 7 in the effective quota category, there is a difference of -0.016 (95% CI -0.165, 0.132) compared to no quota, not statistically distinct from 0 or from the value of 0.048 for non-effective quotas. Further, the predicted difference in satisfaction for effective quotas at the lowest value of quota support is -0.092 (95% CI of -0.243, 0.058), again not statistically distinct from the predicted difference in satisfaction of -0.016 at the highest level of quota support.

On the other hand, results evaluating **Hypothesis 3** looking at the moderating impact of corruption show an association between corruption, quotas, and satisfaction. The predicted differences in satisfaction are displayed in Figure 4 for each survey, with higher values on the x-axis indicating greater levels of corruption. Again, the reference point for differences remains "no quota". To begin, the findings for non-effective quotas (shown in blue) demonstrate inconsistent trends. While higher levels of corruption associate with positive differences in the Eurobarometer data, other data sources have only minimal contrast in the predicted differences across the range of corruption. Conversely, we plot the differences for effective quotas in red. As can be seen in the figure, for all of the data sources other than the CSES, as the level of corruption increases, the gap between effective quotas and no quotas widens. Specifically, in cases of higher corruption, effective quotas associate with lower levels of satisfaction as compared to the baseline of no quota. This trend appears to be strongest in the Latin American context. For both the AmericasBarometer and Latinobarometer data sources, at the lowest levels of corruption, effective quotas correlate with higher levels of satisfaction as compared to no quotas (AmericasBarometer difference = 0.228 95% CI = 0.022, 0.434, Latinobarometer difference = 0.284 95% CI = 0.035, 0.534). Comparatively, at the highest level of corruption, the difference between effective quotas and no quotas is negative and statistically distinct from both 0 and those previously listed values (AmericasBarometer difference = -0.334

95% CI = -0.475, -0.193, Latinobarometer difference = -0.484 95% CI = -0.657, -0.310). Overall, these results show, that at least for effective quotas, corruption appears to play a major role in conditioning the relationship between quotas and democratic satisfaction.

Figure 4: **Predicted difference in satisfaction by quota status and level of corruption (*No quota* is baseline)**
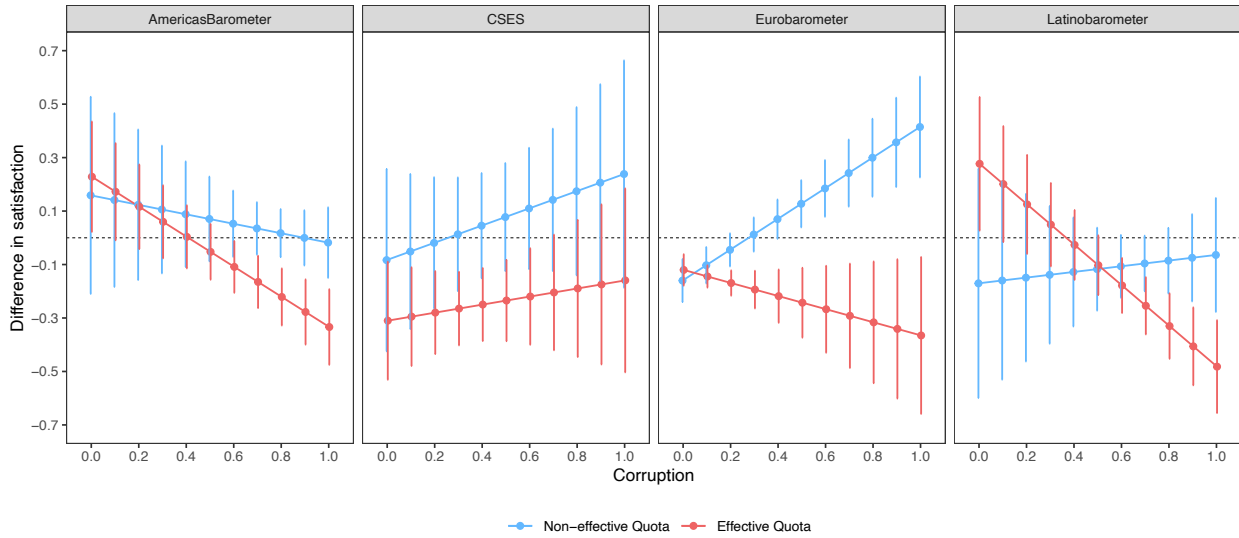
Note: Data are from AmericasBarometer, CSES, Eurobarometer, and Latinobarometer. Quota effectiveness is determined by the ability of quotas to have an impact (QAROT). Satisfaction with democracy is measured with responses to a survey question that asks if the respondent is satisfied with the way democracy works in their country. Predicted values are from a multilevel linear regression models that includes the quota effectiveness measure, as well as several control variables described in the text. The constant is allowed to vary randomly across country-year, of which 91 for AmericasBarometer, 148 for the CSES, 601 for Eurobarometer, and 316 for Latinobarometer. The number of observations in the AmericasBarometer model is 119,929 and 189,783 for the CSES, 758,976 for the Eurobarometer, and 346,717 for the Latinobarometer. For numerical results for these models, refer to Table A4 in the Appendix. Dashed lines represent 95% confidence intervals.

Study 2

Because regression assumes selection on observables, which is often untenable, for the second part of our analysis we estimate a generalized synthetic control model using data from the Eurobarometer and Latinobarometer to evaluate the effect of changes in quota policy on satisfaction with democracy. The synthetic control method has the advantage of more realistic assumptions to identify causal effects. Additionally, rather than the conventional synthetic control (see Abadie, Diamond and Hainmueller 2010, 2015), we instead make use of the generalized synthetic control approach as outlined in Xu (2017). The generalized synthetic control procedure is an extension of difference-in-differences approach with an allowance for time-varying covariates, multiple treated units and time periods, and accommodations for missingness.

Procedure and Specification

Synthetic control is described as a "more empirically rigorous method through which to assess causal inference in comparative" research (Abadie, Diamond and Hainmueller 2015). In traditional synthetic control methods, a "synthetic" unit is created using weights from donor units that never experienced the treatment. This method allows researchers to explore counterfactuals and make comparisons between units that would other otherwise be intractable.

Indeed, synthetic control has been previously applied to a wide array topics in the social sciences and beyond. In health policy fields, for instance, synthetic control has been used to link tobacco policies to lower instances of smoking (Abadie, Diamond and Hainmueller 2010) and opiod policies to lower opioid-related mortality rates (Bonander 2018). This method has also been used to evaluate the rise of key leaders and their policies—for example, the effects of Hugo Chavez on economic outcomes (Grier and Maynard 2016). In political science, synthetic control has also helped show the effects of institutional changes, like compulsory voting on electoral linkage strategies (Singh 2018).

In these applications of the synthetic control method, one single policy change is examined within the analysis or multiple units after the models have been re-estimated. In order to test for the robustness of the effects, Abadie, Diamond and Hainmueller (2015) recommend placebo tests as a sensitivity analysis. Others have also used leave-out k analysis to remove the most influential

contributor units in the donor pool to assess the size and robustness of the effect (Bonander 2018). When there are multiple treated units, estimating the treatment effects with the synthetic control method can be done by aggregating the treated units into one overall unit, as shown by Kreif et al. (2016) in a study of the effects of the P4P health policy shift and suggested by Abadie, Diamond and Hainmueller (2010). Additionally, this approach is extended by Acemoglu et al. (2016) who construct the overall aggregated synthetic unit by borrowing most from the closest synthetic control unit.

Instead of these strategies, the one we follow is that which is suggested by Xu (2017). Instead of aggregating or weighting in post-estimation, the generalized synthetic control method allows for one estimation procedure and easily extends to allow multiple treated units and time periods.[7] This model then can make predictions about both the overall treatment effect and the effect for each individual treated unit.

Generalized synthetic control builds on previous work on Interactive Fixed Effects (IFE) (Bai 2009). Instead of weights for a single unit, interactive fixed effects calculates common factors for the control and treated units. Specifically, however, the generalized synthetic control outliend by Xu (2017) only uses information from control units to estimate coefficients, rather than from treated units in the pre-treatment as well (as done in standard IFE). This allows for the estimation of heterogeneous treatment effects across treated units. Estimated coefficients are then used to make predictions about the counterfactual treated units. For more details of the generalized synthetic control method and estimation procedure, refer to the supplementary materials and to Xu (2017).

The estimand of interest in this procedure is then the overall average difference between the treated units and their synthetic counterparts. This is referred to by Xu (2017) as the Average Treatment Effect on the Treated (ATT). The formula for the ATT is as follows:

$$ATT_{t,t>T_0} = \frac{1}{N_{tr}} \sum_{i \in \tau} [Y_{it}(1) - Y_{it}(0)]$$

Where τ denotes being a member of the treated country where effective quotas are implemented, and $t > T_0$ means the time after the treatment period. Given this, the Average Treatment Effect on the Treated is the difference in the satisfaction with democracy in the treated units $Y_{it}(1)$ versus

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[7]Additionally, this package is easy to implement in R using the *gsynth* package.

the non-treated $Y_{it}(0)$, averaged over the entire set of treated units in the post-treatment.

Uncertainty estimates can be generated by iteralively leaving out control units and then predicting the outcome unit. The difference between the predicted and observed is the predictive error of the IFE model in these placebo models and the error for the main model is then "drawn from the empirical distributions of the prediction errors" (Xu, 2017, p. 65). This approach allows for a more structured solution to estimating the error in the ATT than in the standard synthetic control method.

Data and Results

Because Study 2's synthetic control method is applied to treated units, the unit of analysis is the country-year. The data we use for this is satisfaction data aggregated to the country level for each year available from the Eurobarometer and Latinobarometer. As done previously, each response outcome is assigned a value of 1 to 4, with 4 meaning most satisfied. The changes we then observe is the movement in the overall country-level satisfaction as a result of implementation of gender quotas.

The range of years examined is 1976-2014. The four countries of interest are Greece, Portugal, Spain, and Mexico. We choose these countries because of data availability.[8] Greece introduced an effective quota in 2011, Portugal and Spain in 2008, and Mexico in 2003.

All four countries have implemented party quotas, which, as discussed previously, aim to increase the proportion of women among party candidates. In Southern Europe, the shared pattern of quota adoption began with left-wing parties, often mobilized by parties' women's section and supported by women's organizations, pursuing self-reform. In all three cases examined here of Greece, Portugal, and Spain, this self-reform eventually led to wider institutionalized reform—in Portugal and Greece, the constitution was amended to include legislative quotas, and in Spain, a quota passed by the legislature in 2007 consolidated the incremental track spurred by the internal party quotas (see

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[8]Belgium also switched to an effective quota earlier in the time period. However, this early switch left fewer possible pre-treatment units and made prediction for these units not feasible. As discussed by Xu (2017), for these analyses, a goal is that "treated counterfactuals are produced mostly by more reliable interpolations instead of extrapolations." The relative lack of pre-treatment units makes "reliable" post-treatment counterfactuals for Belgium improbable.

Verge 2013). To note, the diffusion of gender quotas in this region has been most remarkable in Spain whose largest left-wing party (PSOE) implemented parity measures that over time effectively diffused across other political institutions. In terms of the required percentages of women candidates, Spain also establishes the highest level (40%, versus one-third in Portugal and Greece) (Verge 2013; Simón and Verge 2017). Additionally, Verge (2013) notes that levels of sexism towards women politicians was higher in Portugal and Greece prior to quota implementation, as compared to Spain. Moving ahead, this could possibly help explain the steeper decline in satisfaction post-quota adoption in these two countries relative to Spain.

Similarly, for Mexico, quota implementation began with voluntary party quotas and a leftist party (PRD) who first adopted quotas for women in leadership positions then extended their quota to candidate lists by 1993 (Bruhn 2003). Similar to the Southern European cases, the eventual passing of legislated quotas in Mexico in 2002 was the result of quota advocacy by women's organizations and inter-party contagion among quota supporters.[9] Baldez (2004) also highlights the role of the Mexican Supreme Court in upholding gender quotas.

For the purpose of our analysis here, we rely on the coding schemes of QAROT that use the general legislative quotas implemented in each country, as this codification of quota policy would be the most visible to the public. As is generally done in literature using synthetic control, we include a lagged trend in the dependent variable of satisfaction with democracy as the main predictor. Using the lagged trend eschews the need for pre-treatment covariates (Botosaru and Ferman 2019). Indeed, it is even inadvisable to include both pre-treatment covariates and a lagged trend, as this will likely introduce bias into the model (Kaul et al. 2015). Because this trend variable would capture the majority of the variability in the dependent variable, we do not include other predictors (Kaul et al. 2015; Botosaru and Ferman 2019). Despite this, results from robustness check with key covariates instead of the trend in satisfaction can be found in Figure A8 and Figure A9, with results generally similar to the main specification. For a full list of the countries included as donors, as well as the years of available data for those countries, refer to Figure A6 in the supplementary appendix. We also provide information in the Appendix on the respective weights of each donor country for each of Greece, Portugal, Spain, and Mexico in Table A6. The countries included loaded

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[9]Mexico has also passed a more recent change to its constitution 2014 which includes quota provisions.

onto three latent factors, which are shown over the time period in Figure A7.

The challenge in examining the effect of quotas on democratic satisfaction is especially difficult in this time period due to the 2008 financial crisis, an event which would invariably lower satisfaction with democracy around the time of quota adoption, particularly in Greece, Portugal, and Spain. However, the generalized synthetic control design allows us to best address this possibility of a compounding treatment because we are able to compare the countries that implemented quotas to countries that were on the same trend and would also have been affected by the financial crisis.

Indeed, the synthetic donor countries that most positively load onto the treated countries tend to be countries that would also be most negatively affected by the financial crisis. For example, Greece and Spain's most impacting positive donor is Guatemala, a country heavily affected by the global financial crisis and by a widespread drought in this time period (Sandberg and Tally 2015). On the other hand, donor countries that most negatively load onto the treated countries are those better insulated from the 2008 financial crisis, such as Denmark, Finland, and Sweden. These donor weights demonstrate that the donor pool of countries is creating a theoretically valid set of synthetic units for comparison. As such, even considering the large impact of the financial crisis on Greece, Portugal, and Spain post-2008, we are confident that the generalized synthetic control design gives the best possible framework to analyze the effect of a transition to a quota system in these countries.[10]

Given this, the Average Treatment Effect on the Treated is calculated over the four treated countries. The estimated ATT is -0.268 with a standard error of 0.040. This is an effect that is both statistically and substantively significant, especially considering satisfaction has a range of only 1 to 4. This means that a change to an effective quota is associated with an expected decrease of 0.268 in the overall satisfaction with democracy in that country over the post-treatment period. Additionally, this effect is robust to an alternative specification where pre-treatment covariates are used instead of a lagged trend in the dependent variable. For these results refer to the supplementary materials.[11]

To better visualize the effect of quota in each post-treatment time period, we also plot the

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[10]The countries included as donor countries are shown in Table A6 in the appendix.

[11]See Figure A8 and Figure A9 for more detailed results of this specification.

Figure 5: **Quota treatment effects between average treated (solid line) and generalized synthetic control estimated averages (dashed line)**

Note: Data are from the Eurobarometer and Latinobarometer. In the figure on the left, the solid black lines are the average aggregate satisfaction levels in the actual countries for each time period, the dashed lines the av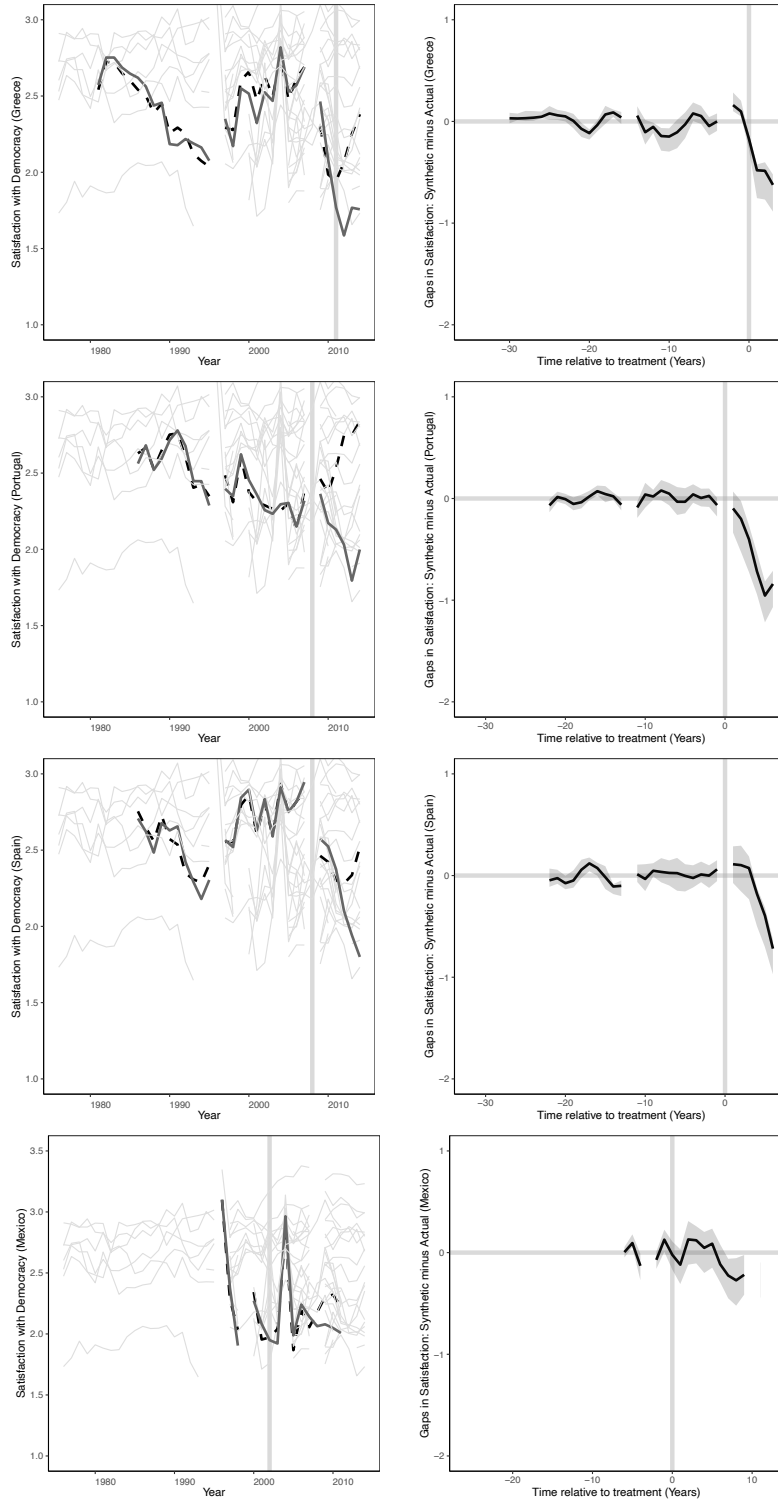eraged satisfaction levels for the synthetic countries that do not have a quota, and the faded gray lines the trends in the treated countries. The shaded area in the left figure show the period post quota enactment. In the figure on the right, the line shows the difference in the averaged satisfaction between the synthetic countries and the actual countries over time. The shaded regions around the line represents a 95% confidence intervals.

average synthetic unit compared to the average real countries in Figure 5. From this figure we can see a tight pre-treatment fit between the outcome variable of satisfaction with democracy, then a sharp divergence in the satisfaction between the synthetic unit without an effective quota as compared to the one that did implement quotas. Except for a few time periods, the difference between the actual countries and the synthetic is minimal and not statistically significant in the pre-treatment period, the optimal pre-treatment fit for synthetic control models. There is also no statistically significant difference between covariates between the treated and synthetic (trend in satisfaction with democracy). From this, we can see a statistically significant negative difference of noticeable magnitude over the entire post-treatment period. Notably, the effects in the post-treatment are also consistently negative, providing support for the overall negative effect, rather than a single large negative difference in one time period.

In order to further demonstrate that these trends exist and are similar for each of the countries that receive the treatment, we also plot the same plots for Greece, Portugal, Spain, and Mexico in Figure 6. Although compared to the average treated unit in Figure 5 there are some slight fluctuations of the fit in the pre-treatment in some time periods in the three European cases, especially in some times in Greece and Spain, the pre-treatment fit is still very good, with the gaps between the individual synthetic countries and the real countries statistically indistinguishable for

the vast majority of the pre-treatment period. The one exception is Mexico. However, in Mexico's case there are far fewer pre-treatment time periods, making a valid synthetic unit more difficult. Given this, the result for Mexico are more tentative and should be taken with more caution. Despite this, the post-treatment trends all generally support the results found for the average unit in Figure 5.

Figure 6: **Quota treatment effects between treated countries (solid line) and generalized synthetic control estimated countries (dashed line)**

Note: Data are from the Eurobarometer and Latinobarometer. In the top row, the solid black lines are the actual aggregate satisfaction levels in each treated country in each time period, the dashed lines the satisfaction levels for the synthetic country that does not have a quota, and the faded gray lines the trends in the control countries. The area to the right of the vertical line shows the period post quota enactment. In the bottom row, the line shows the difference between the synthetic country and the actual country over time. The shaded regions around the lines represent 95% confidence intervals.

Discussion and Conclusion

Advocates of gender quotas claim that the engineering of gender parity in legislatures could have far-reaching effects for the empowerment of women at both the elite and mass level of society. We argue that the positive effects stemming from the achievement of gender-equal bodies of government through quota adoption could be attenuated by negative reactions to the imposition of these fast-track affirmative action measures. We posited that the compulsory nature of gender quotas, conditioned by the type and sanctions associated with the quota policy, will lead to lower levels of satisfaction with democracy. We also argued that, in contexts where corruption has infiltrated key institutions of democracy, satisfaction with democracy post quota adoption will be negatively affected. Our results show strong support for our hypothesis that quotas can lead to negative evaluations of democracy, across multiple surveys and regions. Interestingly and perhaps counter-intuitively, we find no strong evidence that this reduction in satisfaction with democracy is conditioned by gender. Our results also indicate that quotas' negative effects on democratic satisfaction are indeed specifically pronounced when levels are corruption are higher. These findings indicate a need for more explicit attention to backlash and resistance to gender quotas in research on women's political representation, particularly in political systems where corruption remains a feature of the political system.

To summarize our findings, using data from AmericasBarometer, the CSES, Eurobarometer, and Latinobarometer, we find evidence that quota policy, and specifically quotas whose sanctions have sharper teeth, generate lower levels of satisfaction with democracy. Additionally, there is conflicting evidence of the effect of gender on this relationship, meaning that *both* men and women may view these gender-equalizing corrective policies in a similar light. First, cross-nationally, we can see that effective quotas are associated with lower levels of satisfaction with democracy. Through our use of data from multiple sources over a wide period of time and across multiple regions, we find that these linkages between gender quotas and dissatisfaction with democracy are quite robust. Next, in order to better assess the causality of this relationship, the generalized synthetic control model in our second study lends more credibility to the negative effect of effective quotas on citizen satisfaction with democracy. Both the aggregate and the individual country effects of switching to a gender quota are of a considerable and consistent magnitude. From the results of our two sets of

analyses, a clearer image of the relationship between gender quotas and satisfaction with democracy emerges—these findings demonstrate that the enactment of gender quotas can have negative side effects.

Although our results generally support our first hypothesis, we do not find any consistent evidence of gender conditioning the relationship between quotas and satisfaction with democracy. Instead, dissatisfaction with one's democracy post quota enactment appears to be relatively similar across gender. We believe that this finding in particular could be a starting point for future research to uncover a more complete and nuanced theoretical narrative as to why gender cannot predict satisfaction with democracy after quota adoption. While rapid inclusion into political institutions through quota mechanisms certainly brings advantages for women, the negative effects on democratic satisfaction found here should be explored alongside work that addresses other necessary structural changes to improve political outcomes for women and other under-served subgroups of the population. Our results suggest that particularly in contexts where higher levels of corruption exists, increasing women's representation through the fast-track model should be accompanied by measures to ensure the deepening of democratic satisfaction for all. We should not assume that fast-tracking women's descriptive representation in legislatures will necessarily transform the attitudes of women toward their democracy, particularly without attention to other institutional and socio-cultural processes, as extant literature on gendered institutions already shows (Hawkesworth 2003). Gender quotas may in fact have the potential to disrupt the gendered nature of politics over time by altering popular conceptualizations of political leaders and transforming political party recruitment patterns (Barnes and Holman 2019). However, at present, our results indicate a significant unintended negative side effect of quota policy, lower levels of satisfaction with democracy.

We strongly call for further research on the processes through which governments attempt to correct overly masculinized political contexts and disrupt the empirical norm of men's overrepresentation. Seeing that quotas have the potential to generate a backlash in democratic satisfaction among men and women, our results raise concerns for the effectiveness of the fast-track method in deepening norms of democracy and equality. We thus urge future studies to further investigate the effects of different types of quotas in tandem with other initiatives aimed at increasing women's political power. The policy implications of our results point to the need for investment in improving governance quality, building capacity to fight corruption, and promoting policies that provide

women and other marginalized citizens with political opportunities at all levels of society.

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Public Responses to Engineering Equality: Gender Quotas and Satisfaction with Democracy
Supplementary Appendix

Contents

1 Appendix Study 1

1.1 Satisfaction Dotcharts Across Surveys

Figure A1: **Mean satisfaction with democracy by quota type (AmericasBarometer)**
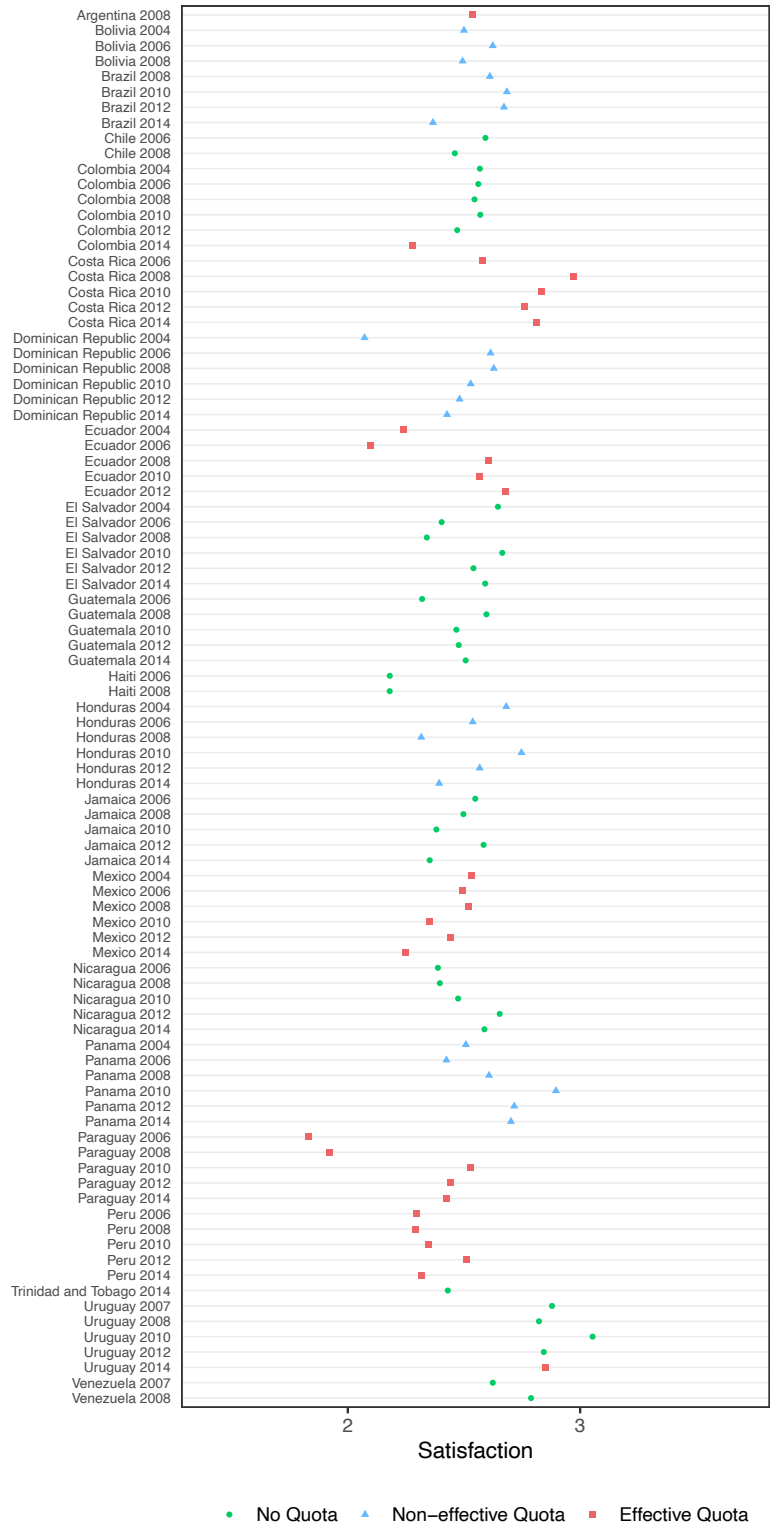
Note: Note: Data are from the AmericasBarometer. Quota status is derived by existence and effectiveness of a gender quota (sourced from QAROT). Satisfaction with democracy is measured with responses to a survey question that asks: "And now, changing the subject, in general, would you say that you are very satisfied [coded 4], satisfied [coded 3], dissatisfied [coded 2], or very dissatisfied [coded1] with the way democracy works in [country]?"

Figure A2: **Mean satisfaction with democracy by quota type (CSES)**
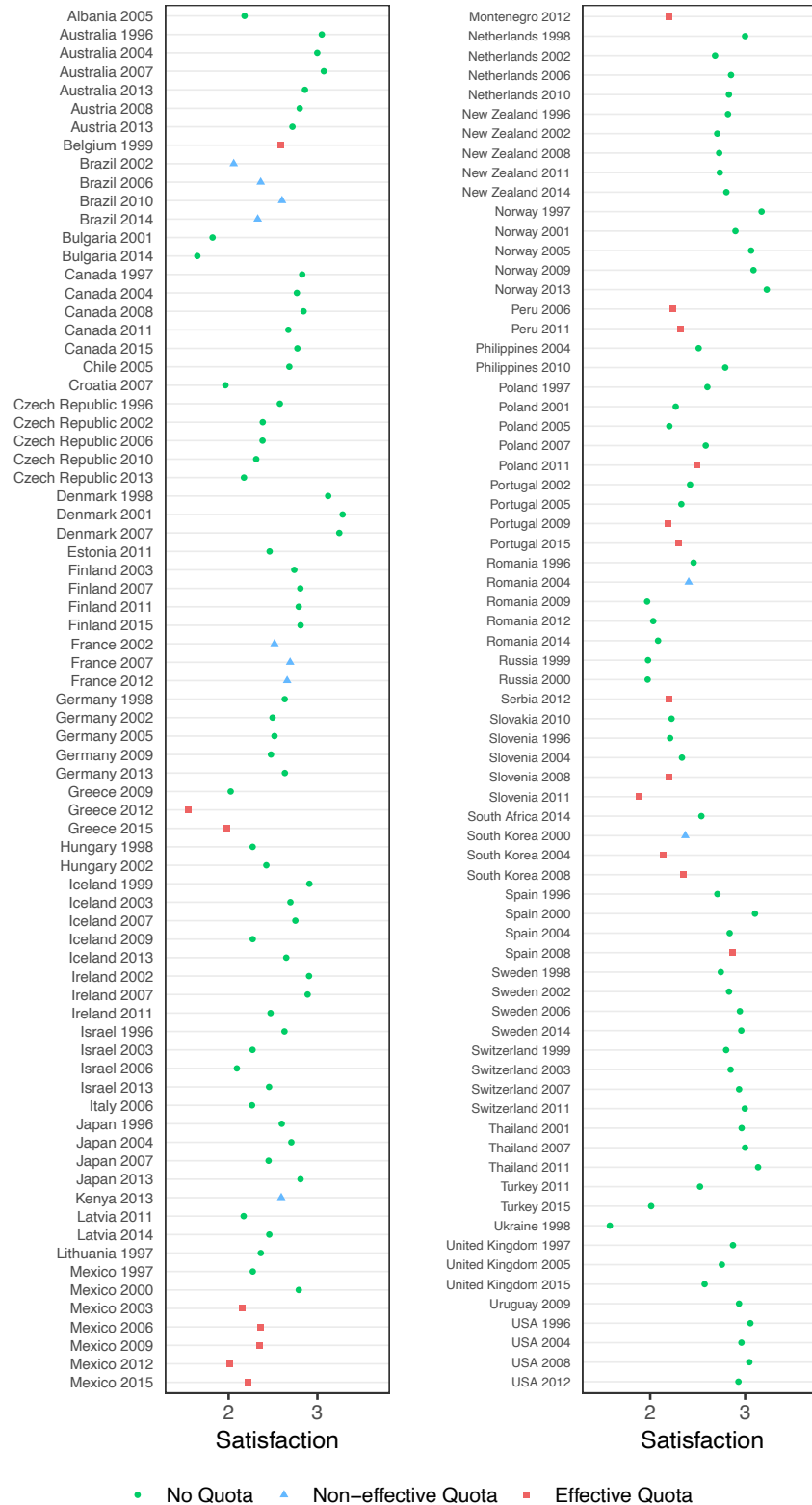
Note: Note: Data are from the Comparative Study of Electoral Systems. Quota status is determined by the existence and effectiveness of a gender quota (derived from QAROT). Satisfaction with democracy is measured with responses to a survey question that asks: "On the whole, are you very satisfied [coded 4], fairly satisfied [coded 3], not very satisfied [coded 2], or not at all satisfied [coded 1] with the way democracy works in4[name of country]?"

Figure A3: **Mean satisfaction with democracy by quota type (Eurobarometer 1)**
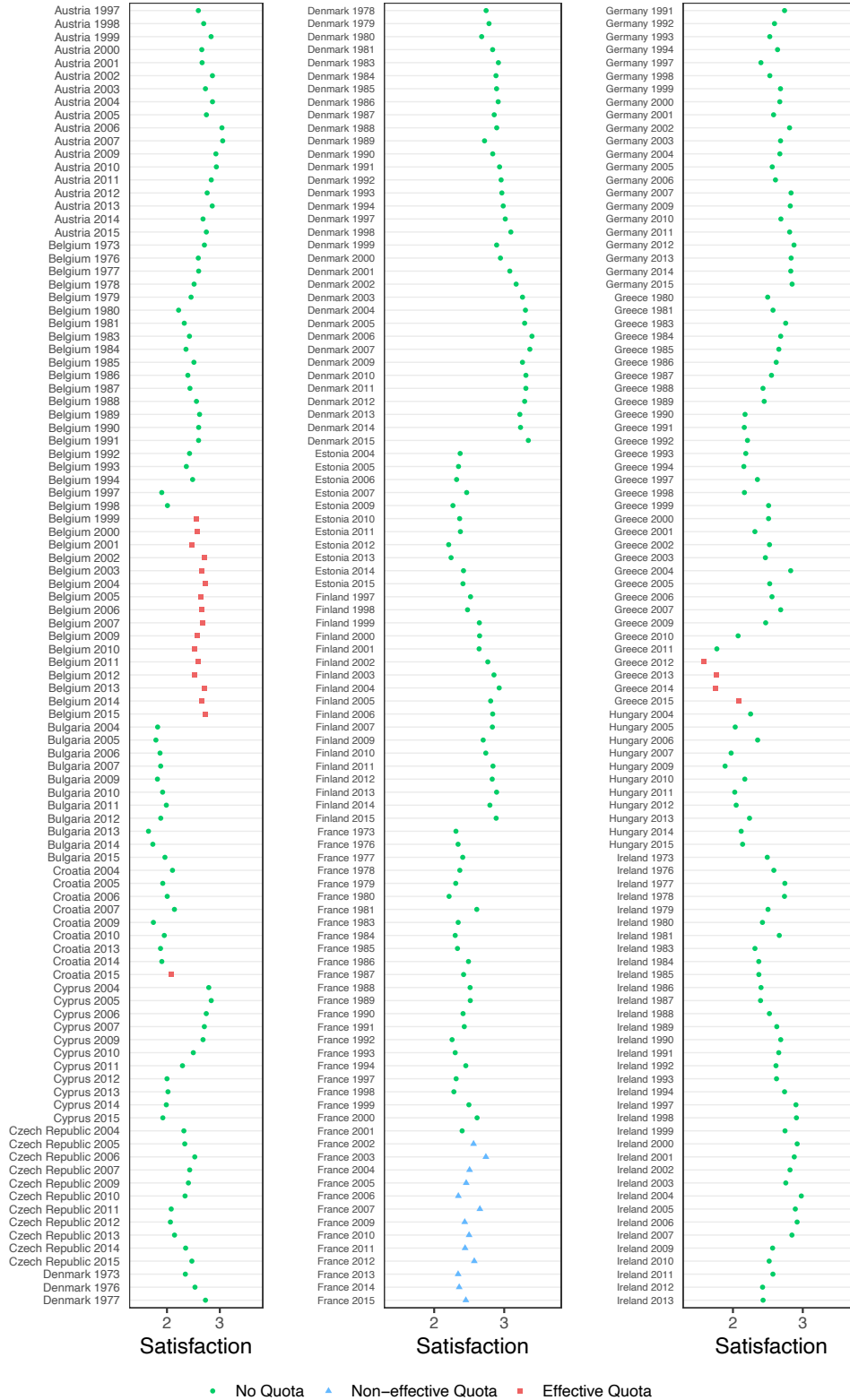
Note: Data are from the Eurobarometer. Quota status is derived by existence and effectiveness of a gender quota (sourced from QAROT). Satisfaction with democracy is measured with responses to a survey question that asks: "On the whole, are you very satisfied [coded 4], fairly satisfied [coded 3], not very satisfied [coded 2] or not at all satisfied [coded 1] with the way democracy works in [your country]?"

Figure A4: **Mean satisfaction with democracy by quota type (Eurobarometer 2)**
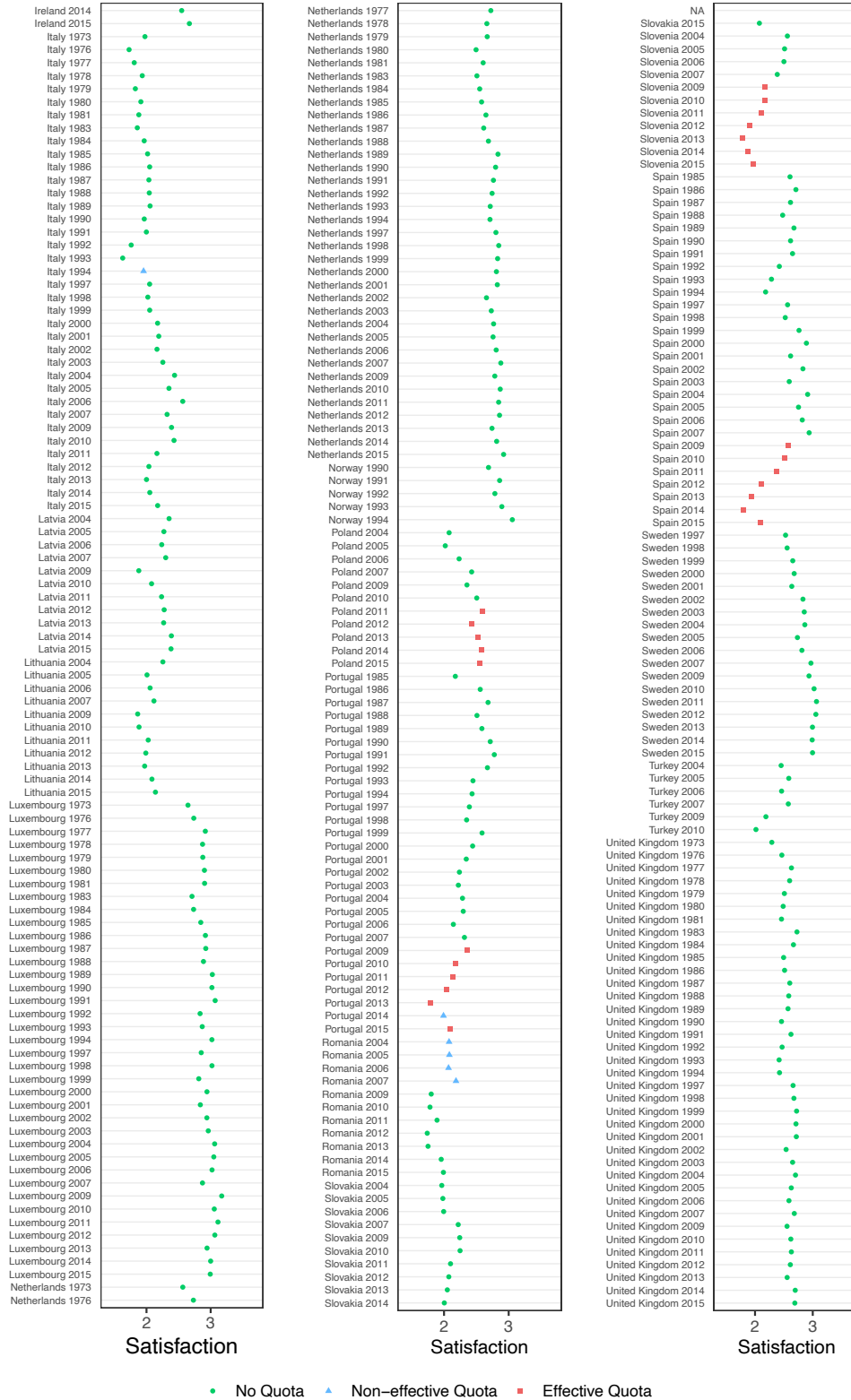
No Quota   Non–effective Quota   Effective Quota

Note: Data are from the Eurobarometer. Quota status is derived by existence and effectiveness of a gender quota (sourced from QAROT). Satisfaction with democracy is measured with responses to a survey question that asks: "On the whole, are you very satisfied [coded 4], fairly satisfied [coded 3], not very satisfied [coded 2] or not at all satisfied [coded 1] with the way democracy works in [your country]?"

Figure A5: **Mean satisfaction with democracy by quota type (Latinobarometer)**

No Quota   Non–effective Quota   Effective Quota
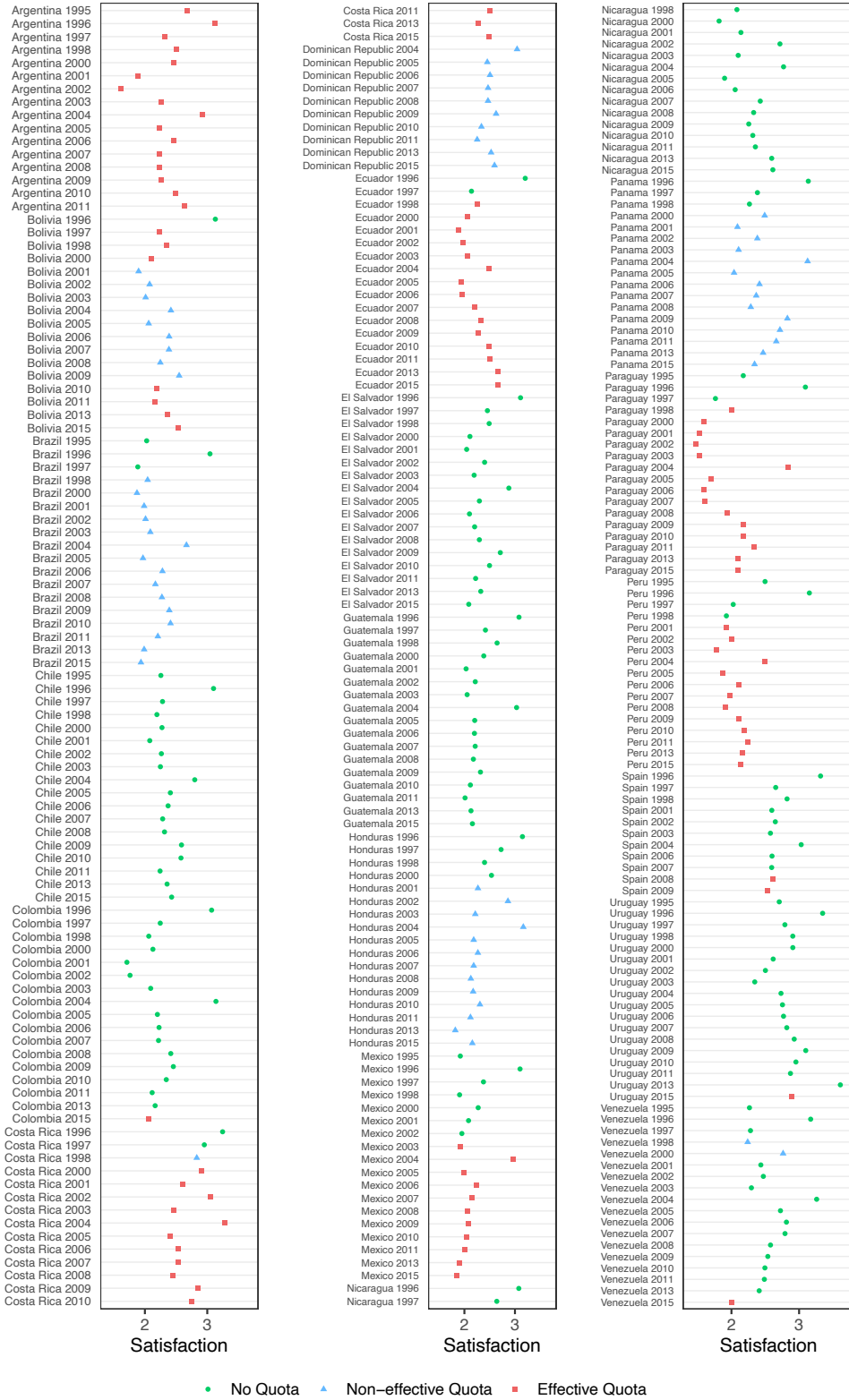
Note: Data are from the Latinobarometer. Quota status is derived by existence and effectiveness of a gender quota (sourced from QAROT). Satisfaction with democracy is measured with responses to a survey question that asks: "In general, would you say you are very satisfied [coded 4], quite satisfied [coded 3], not very satisfied [coded 2], or not at all satisfied [coded 1] with the working of the democracy in [country]?"

1.2 Study 1 Results

Table A1: Results showing association between quota status and satisfaction with democracy

	(1) AmericasBarometer	(2) CSES	(3) Eurobarometer	(4) Latinobarometer
Non-effective Quota	0.057	0.051	-0.077	-0.072
	(0.048)	(0.100)	(0.059)	(0.054)
Effective Quota	-0.130	-0.263	-0.292	-0.193
	(0.053)	(0.068)	(0.039)	(0.054)
Female	-0.020	-0.021	-0.011	-0.023
	(0.004)	(0.003)	(0.002)	(0.003)
Education	-0.149	0.066	0.159	-0.000
	(0.010)	(0.007)	(0.003)	(0.000)
Income	0.030	0.158		
	(0.013)	(0.005)		
Age	0.025	0.052	0.055	0.000
	(0.012)	(0.009)	(0.005)	(0.000)
Polity score	-0.066	-0.143	-0.012	0.026
	(0.098)	(0.234)	(0.056)	(0.014)
GDP per capita (logged)	0.360	0.190	0.496	0.064
	(0.144)	(0.218)	(0.074)	(0.049)
Women's representation (lagged)	0.150	0.269	0.030	0.000
	(0.106)	(0.109)	(0.059)	(0.003)
Corruption	-0.398	-0.343	-1.014	-0.765
	(0.107)	(0.197)	(0.116)	(0.137)
Presidentialism	0.169	-0.195	-0.287	0.733
	(0.112)	(0.303)	(0.317)	(0.144)
Constant	2.600	2.483	2.356	1.824
	(0.130)	(0.300)	(0.070)	(0.521)
var(constant)	0.027	0.076	0.059	0.110
	(0.004)	(0.009)	(0.003)	(0.009)
var(residual)	0.471	0.542	0.606	0.643
	(0.002)	(0.002)	(0.001)	(0.002)
n	119929	189783	758976	346717
Number of groups	91	148	601	316
AIC	250343.375	423088.073	1776015.742	832691.760

Standard errors are in parentheses

Table A2: Results for showing interaction with quota status and sex on satisfaction with democracy

	(1) AmericasBarometer	(2) CSES	(3) Eurobarometer	(4) Latinobarometer
Non-effective Quota × Female	-0.026	-0.030	-0.043	-0.023
	(0.013)	(0.022)	(0.016)	(0.009)
Effective Quota × Female	-0.020	0.010	0.017	-0.002
	(0.013)	(0.016)	(0.010)	(0.008)
Non-effective Quota	0.070	0.065	-0.051	-0.062
	(0.048)	(0.101)	(0.060)	(0.054)
Effective Quota	-0.120	-0.265	-0.307	-0.194
	(0.053)	(0.069)	(0.039)	(0.054)
Female	-0.002	-0.016	-0.012	-0.018
	(0.008)	(0.006)	(0.003)	(0.005)
Education	-0.148	0.066	0.161	-0.000
	(0.010)	(0.007)	(0.003)	(0.000)
Income	0.028	0.158		
	(0.013)	(0.005)		
Age	0.025	0.052	0.055	0.000
	(0.012)	(0.009)	(0.005)	(0.000)
Polity score	-0.068	-0.146	-0.012	0.025
	(0.098)	(0.237)	(0.056)	(0.014)
GDP per capita (logged)	0.365	0.190	0.497	0.066
	(0.144)	(0.221)	(0.074)	(0.049)
Women's representation (lag)	0.147	0.253	0.050	0.001
	(0.106)	(0.110)	(0.059)	(0.003)
Corruption	-0.404	-0.348	-1.009	-0.757
	(0.107)	(0.199)	(0.117)	(0.137)
Presidentialism	0.173	-0.219	-0.322	0.730
	(0.112)	(0.307)	(0.318)	(0.144)
Constant	2.593	2.495	2.352	1.807
	(0.130)	(0.304)	(0.070)	(0.520)
var(female)	0.001	0.002	0.002	0.001
	(0.000)	(0.001)	(0.000)	(0.000)
var(constant)	0.027	0.078	0.059	0.109
	(0.004)	(0.009)	(0.003)	(0.009)
var(residual)	0.470	0.541	0.605	0.643
	(0.002)	(0.002)	(0.001)	(0.002)
n	119929	189783	758976	346717
Number of groups	91	148	601	316
AIC	250316.570	423018.930	1775786.254	832655.282

Standard errors in parentheses

Table A3: Results for showing interaction with quota status and support for quotas on satisfaction with democracy (2012 AmericasBarometer data only)

	(1) Satisfaction
Non-effective Quota × Quota support	-0.006
	(0.010)
Effective Quota × Quota support	0.013
	(0.009)
Quota support	-0.009
	(0.007)
Non-effective Quota	0.090
	(0.083)
Effective Quota	-0.105
	(0.081)
Female	-0.018
	(0.012)
Education	-0.174
	(0.030)
Income	-0.021
	(0.026)
Age	0.019
	(0.034)
Polity score	0.077
	(0.125)
GDP per capita (logged)	0.111
	(0.268)
Women's representation (lagged)	0.047
	(0.142)
Corruption	-0.563
	(0.141)
Presidentialism	0.426
	(0.149)
Constant	2.774
	(0.229)
var(quota support)	.0001
	(.0001)
var(constant)	0.008
	(0.003)
var(residual)	0.438
	(0.005)
n	12933
Number of groups	18
AIC	26103.371

Standard errors in parentheses

Table A4: Results for showing interaction with quota status and corruption on satisfaction with democracy

	(1) AmericasBarometer	(2) CSES	(3) Eurobarometer	(4) Latinobarometer
Non-effective Quota × Corruption	-0.177	0.322	1.187	0.127
	(0.232)	(0.335)	(0.216)	(0.307)
Effective Quota × Corruption	-0.562	0.151	-0.504	-0.768
	(0.146)	(0.250)	(0.313)	(0.188)
Non-effective Quota	0.159	-0.083	-0.343	-0.188
	(0.188)	(0.174)	(0.075)	(0.219)
Effective Quota	0.228	-0.310	-0.227	0.284
	(0.105)	(0.113)	(0.055)	(0.127)
Corruption	-0.253	-0.438	-0.985	-0.618
	(0.106)	(0.220)	(0.115)	(0.138)
Female	-0.020	-0.021	-0.011	-0.023
	(0.004)	(0.003)	(0.002)	(0.003)
Education	-0.148	0.066	0.159	-0.000
	(0.010)	(0.007)	(0.003)	(0.000)
Income	0.030	0.158		
	(0.013)	(0.005)		
Age	0.025	0.052	0.055	0.000
	(0.012)	(0.009)	(0.005)	(0.000)
Polity score	-0.058	-0.158	-0.059	0.030
	(0.091)	(0.234)	(0.056)	(0.014)
GDP per capita (logged)	0.439	0.205	0.588	0.115
	(0.140)	(0.219)	(0.074)	(0.049)
Women's representation (lagged)	0.013	0.246	-0.053	-0.005
	(0.107)	(0.112)	(0.059)	(0.003)
Presidentialism	0.215	-0.113	-0.737	0.807
	(0.105)	(0.311)	(0.318)	(0.144)
Constant	2.505	2.505	2.431	1.298
	(0.124)	(0.301)	(0.071)	(0.523)
var(constant)	0.023	0.075	0.056	0.104
	(0.003)	(0.009)	(0.003)	(0.008)
var(residual)	0.471	0.542	0.606	0.643
	(0.002)	(0.002)	(0.001)	(0.002)
n	119929	189783	758976	346717
Number of groups	91	148	601	316
AIC	250333.292	423090.961	1775986.125	832679.086

Standard errors in parentheses

2 Appendix Study 2

2.1 Description of Generalized Synthetic Control

When there are heterogeneous treatment effects, standard IFE (Interactive Fixed Effects) will lead to bias. This is because IFE originally outline by Bai (2009) makes use of information from the treated units in the pre-treatment period to construct synthetic units. However, because GSC (Generalized Synthetic Control) makes use of only information from control groups to estimate coefficients, this is not the case. See Xu (2017)'s appendix page A-16 for monte carlo simulations of this.

Assumptions for generalized synthetic control estimator:

1. **Functional form**: Linear factor model where the treated and control are affected by the same factors over the observed time periods (no structural breaks in the data generating process).

2. **Strict exogeneity**: Conditional mean of 0.

3. **Weak serial dependence of error terms**: Serial error terms can be correlated, but no strong serial error correlation or unit root processes.

4. **Regularity conditions**: Needed for consistent estimation over factors and time.

5. **Error terms cross-sectionally independent and homoscedastic**: Needed for the construction of error and confidence intervals of the estimator

Model estimation steps:

(a) Control units follow interactive fixed effects model

$$(\hat{\beta}, \hat{F}, \hat{\Lambda}_{co}) = \min_{\tilde{\beta}, \hat{F}, \hat{\Lambda}_{co}} \sum_{i \in C} (Y_i - X_i \hat{\beta} - \tilde{F} \tilde{\lambda}_i)'(Y_i - X_i \tilde{\beta} - \tilde{F} \tilde{\lambda}_i)$$

(b) Estimate factor loadings by minimizing mean squared predicted error (MSPE)

$$\tilde{\lambda}_i = \min_{\hat{\lambda}_i} (Y_i^0 - X_i^0 \hat{\beta} - \hat{F}^0 \tilde{\lambda}_i)'(Y_i^0 - X_i^0 \hat{\beta} - \hat{F}^0 \tilde{\lambda}_i)$$

$$i \in \tau$$

(c) Calculate counterfactuals using $\hat{\beta}, \hat{F}, \tilde{\lambda}_i$
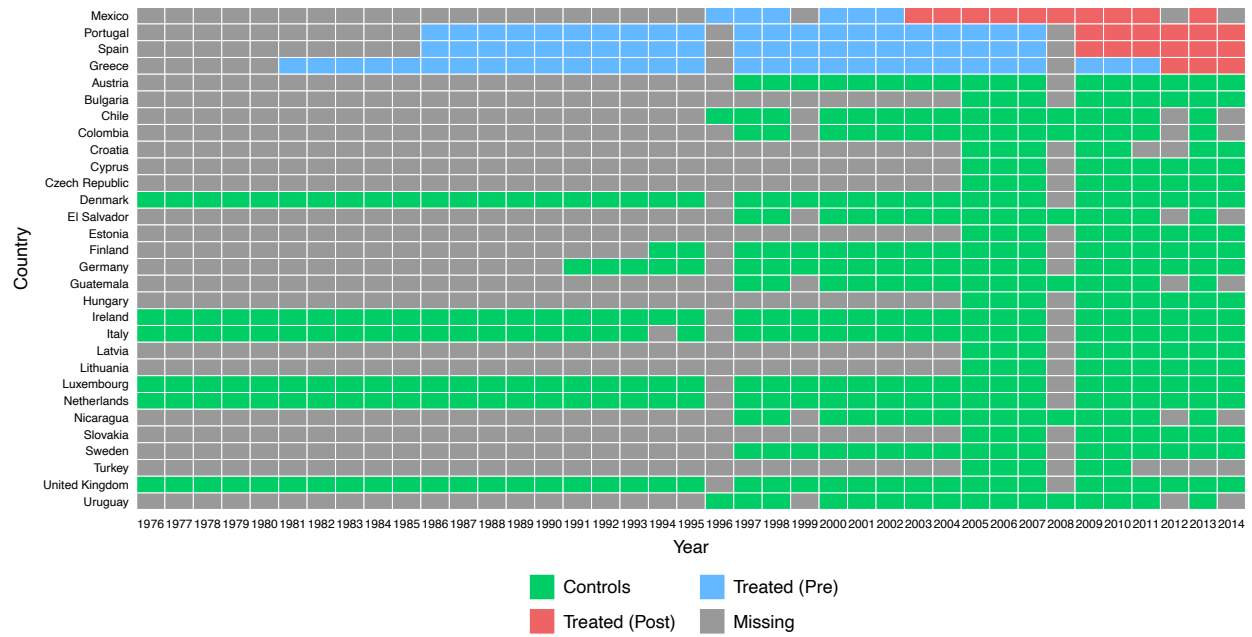
$$\hat{Y}_{it}(0) = x'_{it} \hat{\beta} + \tilde{\lambda}'_i \hat{f}_t$$

$$i \in \tau, t > T_0$$

(d) ATT_t therefore is: $ATT_t = \dfrac{1}{N_{tr}} \sum_{i \in \tau} [Y_{it}(1) - Y_{it}(0)]$

2.2 Study 2 Results

Figure A6: **Quota treatment status by year for treated and control countries**

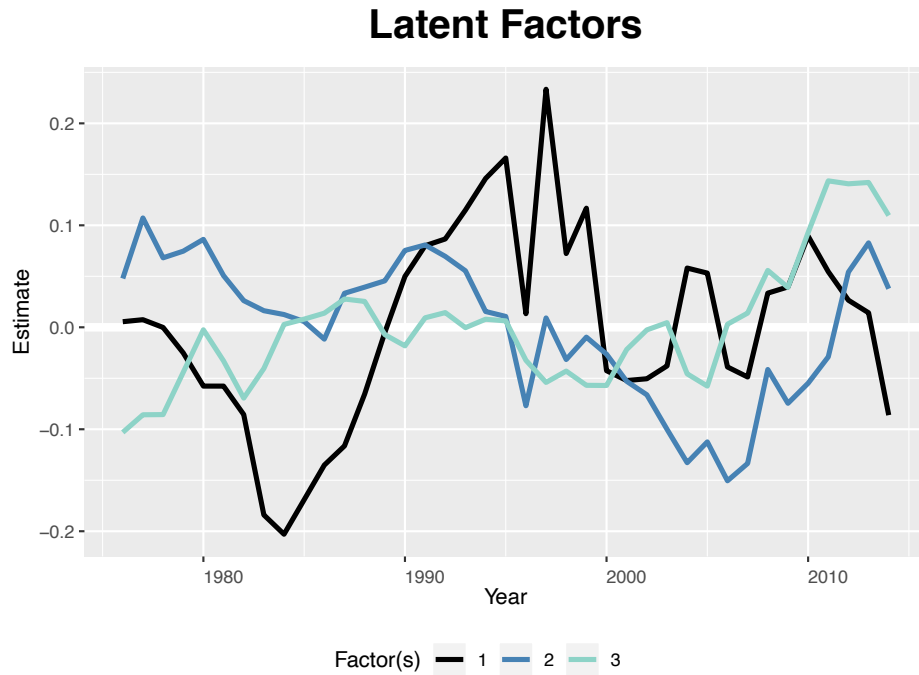Note: Data are from the Eurobarometer and Latinobarometer.

Table A5: **Average Treatment Effect on the Treated (ATT) for each time period**

	ATT	S.E.	CI.lower	CI.upper	p.value	n.Treated
-26	0.046	0.016	0.035	0.100	0	0
-25	0.079	0.034	0.018	0.148	0.018	0
-24	0.061	0.026	0.014	0.114	0.018	0
-23	0.050	0.026	-0.001	0.101	0.054	0
-22	-0.036	0.023	-0.077	0.014	0.174	0
-21	-0.027	0.021	-0.070	0.012	0.182	0
-20	-0.066	0.017	-0.101	-0.034	0	0
-19	-0.046	0.021	-0.086	-0.001	0.046	0
-18	0.029	0.026	-0.020	0.084	0.196	0
-17	0.076	0.015	0.046	0.103	0	0
-16	0.062	0.018	0.021	0.094	0	0
-15	0.014	0.038	-0.060	0.084	0.776	0
-14	-0.010	0.018	-0.046	0.024	0.534	0
-13	-0.089	0.026	-0.145	-0.045	0	0
-12	-0.053	0.027	-0.112	-0.005	0.032	0
-11	-0.073	0.029	-0.146	-0.032	0.002	0
-10	-0.048	0.038	-0.129	0.020	0.146	0
-9	-0.013	0.029	-0.070	0.046	0.718	0
-8	0.028	0.035	-0.038	0.095	0.376	0
-7	0.051	0.033	-0.007	0.124	0.084	0
-6	0.012	0.030	-0.043	0.077	0.654	0
-5	0.003	0.029	-0.052	0.063	0.862	0
-4	-0.028	0.028	-0.084	0.024	0.304	0
-3	0.008	0.035	-0.045	0.091	0.522	0
-2	0.029	0.024	-0.017	0.075	0.202	0
-1	0.055	0.024	0.005	0.100	0.028	0
0	-0.097	0.039	-0.193	-0.040	0.002	0
1	-0.146	0.047	-0.278	-0.102	0	4
2	-0.113	0.058	-0.286	-0.058	0.006	4
3	-0.208	0.053	-0.379	-0.174	0	4
4	-0.283	0.060	-0.477	-0.235	0	3
5	-0.420	0.060	-0.624	-0.385	0	3
6	-0.558	0.053	-0.710	-0.503	0	3
7	-0.225	0.101	-0.446	-0.047	0.022	1
8	-0.273	0.112	-0.505	-0.065	0.016	1
9	-0.218	0.098	-0.408	-0.016	0.036	1
10						0
11	-0.320	0.088	-0.447	-0.085	0.008	1
12						0

Table A6: Factor Loadings for each donor country by treated country

	Greece	Mexico	Portugal	Spain
Austria	-0.224	-0.577	-0.061	-0.172
Bulgaria	-0.236	-0.295	-0.010	-0.184
Chile	-0.166	0.520	-0.322	-0.127
Colombia	-0.194	0.984	-0.623	-0.145
Croatia	0.056	-0.307	0.071	0.044
Cyprus	0.026	0.299	-1.013	0.041
Czech Republic	-0.028	-0.468	-0.226	-0.014
Denmark	-0.559	-1.054	-0.236	-0.431
El Salvador	-0.005	1.105	-0.251	-0.005
Estonia	-0.068	-0.345	0.036	-0.053
Finland	-0.148	-0.715	0.148	-0.117
Germany	0.139	-0.150	0.636	0.097
Guatemala	0.587	1.736	-0.231	0.459
Hungary	-0.003	-0.592	0.227	-0.004
Ireland	0.278	0.709	-0.522	0.227
Italy	-0.225	-0.717	-0.372	-0.165
Latvia	0.148	-0.499	0.376	0.112
Lithuania	0.105	-0.243	0.156	0.081
Luxembourg	-0.139	-0.161	0.138	-0.112
Netherlands	-0.057	0.062	0.079	-0.048
Nicaragua	-0.045	0.939	0.106	-0.044
Slovakia	-0.260	-0.216	0.042	-0.206
Sweden	-0.478	-1.083	0.279	-0.378
Turkey	0.388	-0.084	-0.236	0.313
United Kingdom	0.120	-0.152	0.115	0.094
Uruguay	-0.128	0.306	0.697	-0.119

Figure A7: **Latent factors over time period**
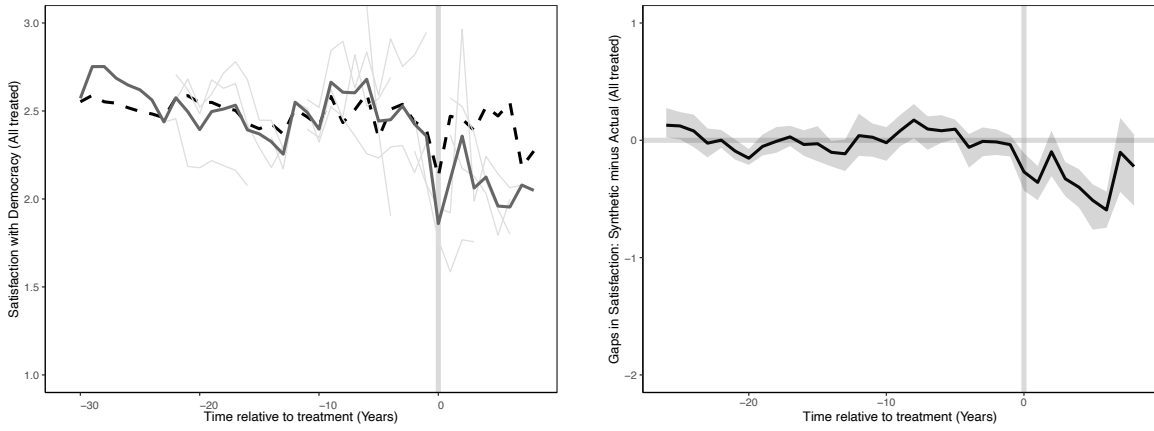
Latent Factors

Note: Data are from the Eurobarometer and Latinobarometer.
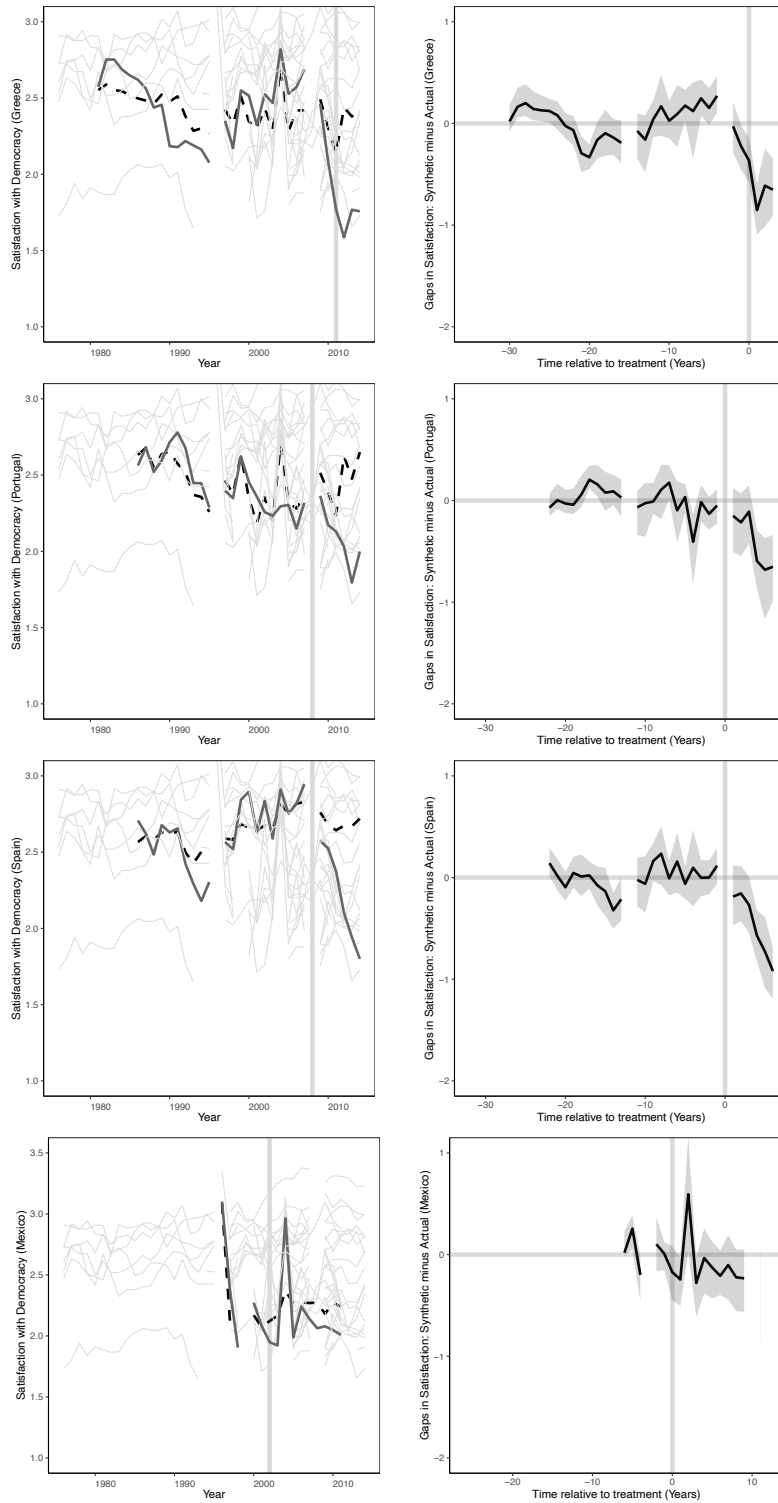
2.3 Alternative Specification

Figures A7 and A8 show results from a generalized synthetic model as estimated with pre-treatment covariates instead of a lagged trend in the dependent variable of satisfaction with democracy. The covariates included are GDP per capita (logged), GDP growth, corruption, and Polity score. Note that overall the effect is still negative in Figure A7, although the pre-treatment fit is not as close as in the model specification using the lagged trend from the main text.

Figure A8: **Quota treatment effects between average treated (solid line) and generalized synthetic control estimated averages (dashed line)**

Note: Data are from the Eurobarometer and Latinobarometer. In the figure on the left, the solid black lines are the average aggregate satisfaction levels in the actual countries for each time period, the dashed lines the averaged satisfaction levels for the synthetic countries that do not have a quota, and the faded gray lines the trends in the treated countries. The shaded area in this left figure show the period post quota enactment. In the figure on the right, the line shows the difference in the averaged satisfaction between the synthetic countries and the actual countries over time. The shaded regions around the line represents a 95% confidence intervals.

Figure A9: **Quota treatment effects between treated countries (solid line) and generalized synthetic control estimated countries (dashed line)**

Note: Data are from the Eurobarometer and Latinobarometer. In the top row, the solid black lines are the actual aggregate satisfaction levels in each treated country in each time period, the dashed lines the satisfaction levels for the synthetic country that does not have a quota, and the faded gray lines the trends in the control countries. The area to the right of the vertical line shows the period post quota enactment. In the bottom row, the line shows the difference between the synthetic country and the actual country over time. The shaded regions around the lines represent 95% confidence intervals.

References

Bai, J. 2009. "Panel Data Models With Interactive Fixed Effects." *Econometrica* 77(4):1229–1279. 13

Xu, Yiqing. 2017. "Generalized Synthetic Control Method: Causal Inference with Interactive Fixed Effects Models." *Political Analysis* 25(1):57–76. 13