Empowered to Succeed? Quotas and Women's Descriptive Representation in Mixed Member Systems

Evidence from South Korea and Japan

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Master Thesis in Political Science

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Word Count: 29 384

Spring 2022

Abstract

This thesis studies the spillover effects of gender quotas in Mixed Member Representative (MMR) electoral systems. While previous research has paid much attention to the differences between majoritarian and proportional systems, little attention has been paid to the unique institutional factors that can affect women's representation in MMR systems. These systems combine majoritarian and Proportional elements, but given that they exist in the same space, we expect these lists to affect each other through contagion effects. Gender quotas have been studied in many aspects of women's representation, but what can happen when a gender quota is implemented in a PR list inside an MMR system?. This thesis hypothesises that gender quotas in the proportional list will lead to an increase in candidates running for Single Member Districts (SMD), and an increase in the number of women elected. By utilising candidate data from South Korea and Japan, empirical evidence will demonstrate that the implementation of a gender quota for the proportional list in the mixed system, can increase the long-term representation of women, by giving them an insider track into winning election in SMD seats. Regression analysis using the Difference-in-Differences framework demonstrates, that a significant increase in the share women candidates, and their chances of winning SMD elections happened after the implementation of a gender quota. Further regression analysis shows that experience in PR lists increases the chances of winning SMD elections, and this effect holds even when controlling for beneficial placement of candidates. This implies that the advantage gained by PR experience is not related to managing to carve out a safe seat for oneself, but is rather related to some increase in ability to run a successful election campaign. In addition this thesis will present possible effects that this policy can have in Japan.

Acknowledgements

As a long journey through the education systems of all levels comes to a close, it finally culminates in this singular work, representing the amalgamation of all accumulated knowledge acquired through years of learning. Every aspect from learning how to read, to how to analyse sentences, even math and biology, have all helped me get to where I now. This thesis concludes a five year long journey of higher education. As i sit here late in the evening ready to put the final touches on it all, I look back fondly on the time I have spent studying, working, socialising, and everything else that these past 5 years of university have brought me. This is the crowning achievement of countless long nights of work, and many tears shed over my fragile self-confidence.

I owe every success to my advisors, Francesca Refsum Jensenius and Øyvind Søraas Skorge, both of whom have given me so much in terms of feedback, motivation, and encouragement. Without their support, I doubt I would have gotten far. Consider this preface as my final apology for taking too much of your time. In addition I must thank Dorothy Amy Guan, Jon Hussem Martinsen, Jesper Seelk and Helge Andreas Johansen, who have been close friends providing me with the much (at times extremely) needed emotional support, that I have required to get through the process. I also want to thank my little sister Anna Sofie Dietrichson, who always inspire me to be a better role model, and my mother Hege Dietrichson, who raised me all on her own, and who inspires me every day to maker her proud of me. She gave me the groundwork to recognise the structural challenges that I am far too privileged to experience for myself. Other than that I can only thank all the friends that I have made, especially those that helped me through the past few years of COVID-19, all members of the class of 2020-2022 in this masters course have been kind, friendly, helpful, joyous, and open to sharing both trials and tribulations that have occurred on this journey. In the end, this work is my own, and all my own, any faults belong to me, and reflects only on myself.

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Chapter 1

Introduction

1.1 Context and Justification

While campaigning to become president, Yoon Suk-yeol pledged to abolish the ministry of gender equality in South Korea, claiming that women did not face discrimination in South Korea (Gunia, 2022). His claim rings particularly hollow, as South Korea is placed at the bottom of almost all OECD nations in many indicators on women's empowerment, both politically and socially (OECD, 2022a; OECD, 2022b). Not to mention the plethora of evidence towards workplace discrimination and harassment of women (Min et al., 2014, p. 90; Park, 2013, p. 92). Yoon would go on to win that presidential election, capitalising on a rising tide of anti-feminism (Gunia, 2022), which is an interesting occurrence, given that 10 years earlier, South Korea elected their first woman president, in a moment that should have been a triumph for gender equality. Unfortunately for those championing for women to be more competent leaders, Park ended up impeached and removed from office, with popularity polls giving her an approval rating of 5% (Reuters staff, 2016).

Regardless of the causes, it is a known fact that women are systematically underrepresented in political office all around the world, with only a handful of countries ever achieving even parity (World Bank, 2022). Worldwide, women still only account for 25% of all legislators (World Bank, 2022). This trend has been consistently rising for many years, helped in some parts by the conference on women's political representa-

tion in Beijing in 1995. The conference began a trend of highlighting low parliamentary representation as a measure of general lack of political integration for women (Norris & Inglehart, 2003, p. 3; Htun, 2016, p. 2). As a countermeasure, the popularity of gender quotas, legally enforced mandates to integrate a certain number of women, became more popular. These quotas force descriptive representation of women in the national legislature. But a major obstacle for the implementation, is that the quotas have to work within the electoral system, and what type of electoral system that exists, decides what possible types of quotas can feasibly be implemented (Dahlerup, 2005, p. 2-3).

While much attention has been paid to gender quotas in both plurality electoral systems and in proportional (PR) electoral systems (see Tremblay (ed.) (2012) for examples of both), far less has been paid to the effect of quotas in electoral systems that mix these electoral systems together i.e., Mixed Member Representative (MMR) systems (but see Lee, 2018; Shin, 2014). These are systems that use both plurality and proportional methods to elect their representatives. This is an important omission, because the quota effects in MMR systems may differ from "pure" PR and plurality systems. If two countries, both with Mixed Member Representative systems, where one has a quota for its Proportional electoral systems, while the other does not, are compared when it comes to women's representation in plurality districts, would they be similar? Or would the proximity to a list with quotas lead to it being affected by those quotas, through so called "spillover" effects? This is the central research question of this thesis, and can be formulated as such:

> *"Can gender quotas for proportional lists in mixed member systems affect the number of women running and being elected in the majoritarian districts?"*

I will now outline the remainder of this thesis. In the remaining parts of this chapter, I elaborate on some of the key terms that I plan to actively use in this paper, and that needs clarification. In chapter 2, I review the existing research on forms of gender quotas and their effects. I will use this research to create specific hypotheses as to whether and how gender quota might alter women's chances of running and being elected in majoritarian elections. I hypothesise that the gender quotas will lead to an increase in the share of candidates that are women, and that they will increase the probability of women winning. In addition to this I set out three specific hypotheses related to the mechanisms by which

the number of women candidates and their chances to win increase. These are related to voter attitudes towards women politicians, the qualifications of the women running, and specific strategies from parties. In chapter 3, I explain my data and methods. I describe the choice of looking at the MMR systems of Japan and South Korea, and the usage of the Difference-in-Differences framework to arrive at causal conclusions. In chapter 4, I present the empirical findings of this data. I find that the share of women candidates in the majoritarian lists increase significantly after the quota regime was implemented in South Korea, and that their chances of winning also increased significantly. I also explore the mechanisms behind these patterns. In chapter 5, I discuss what implications this has for the general use of gender quotas, and whether the results are generalisable. Finally, I summarise the thesis in chapter 6, my conclusion.

1.2 Key Terms

1.2.1 Representation

The word representation has been used in several different ways, and I should clarify the distinct usage that I employ in this thesis. Hannah Pitkin (1967), in her seminal work on political representation summarises four distinct types of understanding inherent to the word representation. These are formalistic, symbolic, descriptive, and substantial.[1] When I use the term "representation" in this thesis, I understand it in a manner concurring with what she describes as descriptive representation. Descriptive representation refers to the way in which the political office holders, on the whole, mirror the composition of the population in general, in key ways such as gender, ethnicity, age, income, etc.

A measure of women's descriptive representation, seen in stats used by the World Bank (2022) or IDEA (2022b), is that of percentage of legislators who are women. This reflects the understanding of the term as Pitkin explains it, as it is a measure of how much the legislature "looks like" or "reflects" the population. This is a distinction which

[1]Formalistic representation is understood as merely the legal process by which a representative represents their constituency. Symbolic has to do with the manner in which symbols stand for other thing. Substantial representation is the manner in which a representative acts on behalf of, and in the interest of their represented.

looks at who the legislators are, and not necessarily what they do, which is the focus of the "substantial" understanding of representation.

1.2.2 Electoral systems

The family of electoral systems is well documented in contributions such as in Lijphart (1984), and Borman and Golder (2013). This thesis is concerned with the effects of quotas in MMR systems, and as such it is necessary to give a general outline of those electoral systems.

There are, broadly speaking two main families of electoral systems, Majoritarian and Proportional (PR). All electoral systems are a way of transforming votes into seats given to particular individuals in an elected assembly. But the focus on what the vote substantially means, and represents, leads to a fundamental split in how to arrange the electoral system.[2]

Mixed Member Representative (MMR) systems are thought to combine aspects of these to compensate for some of the shortcomings in both. In essence, most MMR systems allow the voter to cast two votes, one for a PR list, and one for a majoritarian list. Thus, the legislative is made up of both representatives being elected from PR lists and from plurality districts, leading to the term Mixed Member Representative. The majoritarian list is often then a local district in which the parties field a candidate, electing only a singular candidate as the winner of that local district. This is usually in the form of Single Member District Plurality (hereafter referred to as SMD), where the one candidate with most votes win. MMR systems can in general be further divided between those where the PR seats are distributed in a way that is meant to compensate for the skewed results of the SMD seats. This division is then between systems that are classified as Mixed Member Majoritarian (MMM)[3] and Mixed Member Proportional (MMP).

Although the specificities of electoral systems vary considerably, these simple families serve as an umbrella which covers most of the electoral systems of the large nations in the

[2]The division between majoritarian and proportional is often hotly debated (Carey & Hix, 2011, p. 383) and the deficiencies to one are often touted as a reason to change.

[3]Sometimes referred to as Parallel Voting (PV) systems, by IDEA (2022b) for instance.

world today. This thesis will primarily focus on MMR systems, as previously mentioned, and within those I will elaborate on the differences between SMD lists and PR lists.

Chapter 2

Theory and Literature Review

In order to answer the question that this thesis states, we must first review the literature on what previous research has found as effects of gender quotas. This chapter will be divided into four distinct parts. First I will explain what gender quotas are. Second, I will introduce the theoretical framework of Norris (1993, p. 309-329), supplemented by Rule (1981) and a later work by Lovenduski (2016). Third, this framework will be utilised to map out the different arguments that others have made in relation to the potential effects of gender quotas. Building on this literature I will develop theoretical expectations regarding the effect of gender quotas in MMR systems. I have two main expectations for what will happen, first, there will be more women candidates running for SMD seats, and second there will be an increase in women winning SMD seats. Fourth, I will utilise the framework to create three distinct hypotheses about the mechanisms by which the main hypotheses work.

2.1 Gender Quotas

Women are still systematically underrepresented in national legislatures across the world. The World Bank's aggregate statistics tells us that of all legislators in the world, only 26% of them are women (World Bank, 2022), despite women making up about 50% of the population. To alleviate this, several countries employ gender quotas, a type of

affirmative action. Affirmative action consists of deliberate actions taken to improve the social standing, or mend the social injustice that is currently in place. For many, the underrepresentation of women in politics is considered to be a part of that social injustice, as well harming the legitimacy of democracy (Clayton et al., 2019; p. 113). For this reason, some countries and parties have chosen to commit to a regime of affirmative action to improve women's descriptive representation. Gender quotas is the term that is usually applied to these regimes, but quotas come in many forms.

Gender quotas are generally understood as one of three distinct legal and voluntary regimes that aim at increasing the descriptive representation of women (IDEA, 2009; Krook, 2009, p. 5). The first is reserved seats, which are laws or constitutional mandates that declare that the end result must be a certain number of women elected. The second type of gender quota is legally or constitutionally mandated candidate quotas, which do not necessarily require a distinct result, rather they demand that a certain number of all candidates be women. While the first type of quota legally requires the result to be a certain number of women elected to office, this type is only concerned with the total number of women and men running for office. These run the risk of being "gamed" by the parties, who utilise candidate placements to avoid the intended effects (Esteve-Volart & Baguse, 2012; Baskaran & Hessami, 2018; p. 96). Therefore, quotas often specify particular list placement in the case of PR quotas such as "zipper" quotas, mandating alternating genders on the list (Hughes, 2011, p. 605). This can also come along with legal threats of list rejection should it fail to comply with the mandate (Hughes, 2011, p. 605). Lastly, there is voluntary party quotas, which are quotas set by the parties themselves, unrelated to what the law or the constitution requires of them. This thesis will largely be concerned with the first and second types, as they affect all parties, are nationally implemented, and the unit of analysis in this instance are countries.

Of the 32 countries that the Institute for Democracy and Electoral Assistance (IDEA) lists as having some form of MMR system, 19 of them have some form of gender quota implemented. Most of these are forms of candidate quotas, which state that each party "must" run a certain percentage of their candidates as women, however, these are often found to be ineffective (Murray, 2004; Hughes, 2011, p. 605). This ineffectiveness becomes even more pronounced when the enforcement mechanism is particularly weak or non-

existent. The more common and more effective type of quota is to mandate that certain percentage of candidates in the PR list are to be women, and to add a zipper mandate. A zipper mandate means that the order of the genders must alternate, and often the law will mandate that the first name is to be a woman (see for instance South Korea's law, which states that all odd-numbered candidates in ranked order should be women, meaning the first has to be a woman (IDEA, 2022a)). Other regimes also include methods such as creating reserved lists for only women candidates, like in Zimbabwe. These PR quotas are, in general, easier to enforce (Jones & Navia, 1999, p. 344; Shin, 2014; Lee, 2018).

The central takeaway here then is what these quotas do, substantially. In effect, they aim to force descriptive representation of a previously underrepresented group. When effective, quotas may thereby force interaction, exposure, and therefore experience with women legislators. The central theme of investigation in this thesis, is how this mandated increase in representation affects the systems around it. Of interest is the fact that when these quotas are effective they yield exposure to women as politicians, and it may affect the dynamics by which parties conduct their selection processes (Davidson-Schmich, 2016), and consequently elections not covered by the quota requirement. The public is given exposure to women doing the job of politicians, and party leaders are given exposure from working with them, and the women are potentially afforded the resources and benefits inherent to political office. To build on this we can look at what previous literature has found, to set expectations for what we might find when investigating these systems.

2.2 Spillover Effects

The term "spillover", has seen several uses, but in general is a form of effect that works outside the direct effects a policy or a political outcome can have. Spillover effects have been widely researched for both its own sake, as a type of indirect effects, but also for its problems in violating experimental research (Cunningham, 2021, p. 140-142). To illustrate the point of spillover effects, Sinclair et al. (2012, p. 1056) use an example in experimental vaccine research. If unvaccinated person A is surrounded by vaccinated people, and unvaccinated person B is surrounded by unvaccinated people, person A is

likely to receive some of the protection from those that did receive the vaccine, due to no one being around to infect them. This type of spillover is often lauded as a confounding issue in experimental research design (Cunningham, 2021, p. 140). MMR systems offer a unique insight into how spillover effects can happen in electoral systems, but few studies have been committed into looking at the spillover effects with a particular focus on MMR systems, and those that have, have limited their scope to single country studies (Batto, 2014; Shin, 2014; Lee, 2018). Consider for instance SMD lists in two countries with MMR electoral systems, one in a nation with a PR quota and one in a nation without. Both of these are nominally "untreated" by the quota. But the central focus of this thesis is whether the SMD list in the country with PR quota, will be indirectly affected by the quota, and as such is the "victim" of a spillover effect.

Spillover effects have been used in some instances of potential effects of gender quotas. Many investigations have, for instance, focused on how gender quotas affect the attributes of men running in elections, despite the fact that quotas are not targeted at them (Besley et al, 2017). In addition, some articles have explored how descriptive representation can have spillover effects into other lists, for instance increasing the number of personal votes that women gain (Baskaran & Hessami, 2018). These findings carry interesting implications in terms of the effects of descriptive representation within a type of system such as MMR systems.

For other specific uses of the term in relation representation; Shin (2014, p. 89) applies the term in relation to descriptive representation in SMD elections after the use of PR quotas, understanding it as an effect on an institution other than the institution it directly applies to. Trappen et al (2021, p. 1) applies the term to effects of heads of lists in PR party lists on the descriptive representation of the same entire list. In this context they seemingly apply the term as meaning unintended effects of a certain action.[1] I will apply the term spillover effect generally speaking, with the understanding of the term being consequences of a policy or political decision that take place in domains that are not directly affected by said policy or political decision. It is also important to note that I say nothing of intended effects, as the intent of the implementation is, in this case,

[1]In this context it might be difficult to ascertain whether Trappen and her co-authors view the placement of a certain person on top of a list as a type of "policy", but this thesis will primarily concern itself with the effect of a policy.

unrelated to whether or not it can have effects outside the domain it affects.

2.3 Theoretical Framework: the candidacy process

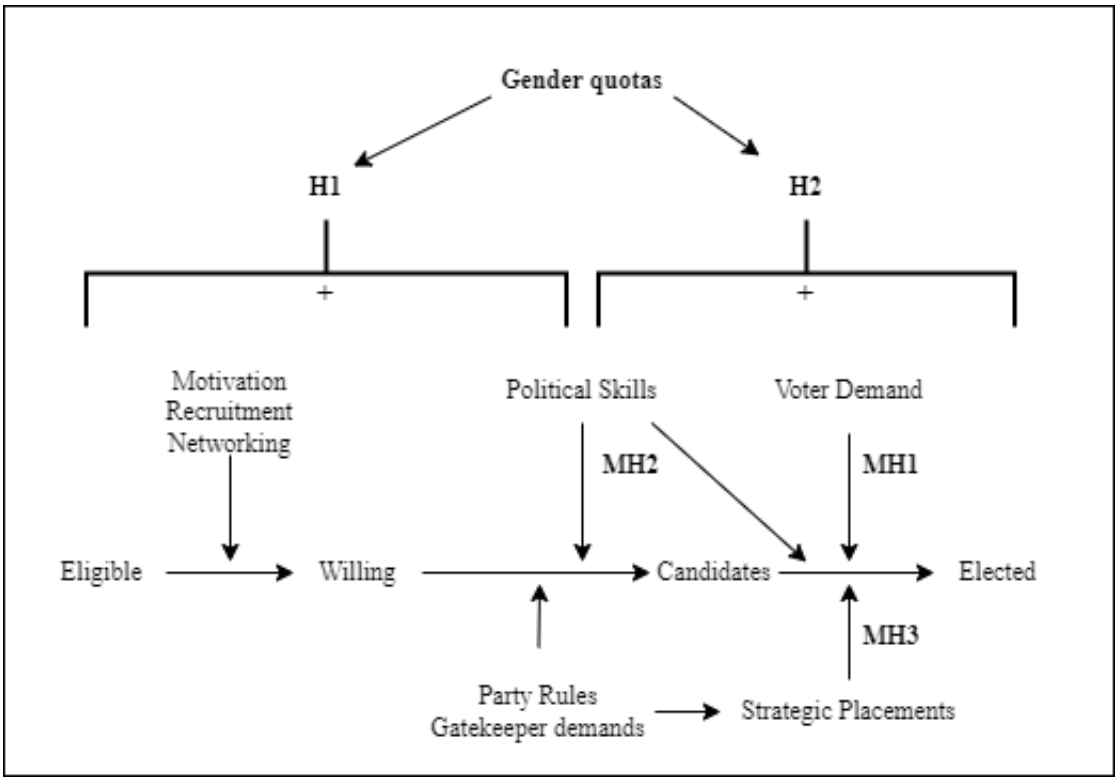
In order to explore the potential effects PR quotas can have on women's entry into the SMD lists in MMR systems, I will first outline what constitutes the general process of entry into SMD seats. I will then elaborate on how previous research gives expectations about the effects gender quotas in PR lists can have on women's entry into SMD elections.

As described by Rule (1981) and further investigated by Norris (1993), and by Lovenduski (2016), the road from citizen to elected legislator is one that takes place in several stages. Each stage comes in the form of some filter, and discrepancies between patterns in the population at each side of the filter must be the result of the nature of the filter. The first stages are affected by factors relating to "supply" and the last stages relate to what is known as "demand" factors (Norris, 1993, p. 311). The first stage of the candidacy process is the separation between the general population and those who are eligible. Legal requirements such as certain age restrictions come into play here. The population before the filter has a wide age distribution, while no one in the population after the filter is below the age of 18 (or whatever the legal requirement is in that country). The discrepancy in age is then explained by the nature of the filter, as it separates based on the law.

The second stage separating those who are eligible, from those who are willing to run. The filter here consists of variables like personal motivation, perception of suitability, resources, etc. Here is where we expect the first of gendered discrepancies to come into play, as women might often be less inclined to seek office (Norris & Inglehart, 2001, p. 129), might have fewer resources with which to run (Norris & Inglehart, 2003, p. 129), or might perceive themselves to be less fit for office than men are.

The third stage takes us from the willing to the selected, where political parties select those who they wish to run as candidates. This process is heavily weighted by the preferences of the relevant party gatekeepers, and the rules and norms that they operate under (Norris, 1993, p. 329). Some have observed that although there is rarely explicit

Figure 2.1: Main Theoretical Model



Framework as outlined by Rule (1981) and Norris & Lovenduski (1993), mapping out the hypotheses that this chapter will discuss within the framework

language of gender within these norms and rules, their form still carries the legacy of gendered ideals, focusing on traditional masculine attributes and stereotypical gender norms biased towards men (Bjarnegård, 2013; Matland & Studlar, 1996, p. 708).

The fourth stage of the process is the election, where voters vote for their favoured candidate. Where issues such as ideology, current issues, and of course, candidate characteristics become salient (Norris, 1993, p. 329). While focus may be often be on the ideologies and parties, if they carry with them patterns of gendered selection, the results of the elections will demonstrate this. If an election has a left-wing party, which fields 50% women, and a right-wing, which fields 10% women, which party wins will heavily affect the descriptive representation after the election has taken place. This model is not without its' flaws however, as Lovenduski (2016) points out, it is at times overly reductive, and ignores the differences between selection levels, as well as ignoring party membership as a separate stage (Lovenduski, 2016, p. 521).

Three of these filters have distinct points of interest which may be affected by gender quotas. In Figure 2.1, I demonstrate the process in its entirety, and the relevant points at which the filters may be affected by gender quotas. The model serves as a framework and reading guide for the remainder of the chapter, as it maps out the areas of the process that hypothesis 1 (H1) and hypothesis 2 (H2) cover, along with the specific mechanisms that are related to them. The connections themselves, and the literature connected to them will be elaborated on in each subchapter. The model is also a simplification as I do not investigate the manner in which party context can vary in relation to the implementation of a gender quota, although much work has been done in this area (for a few examples: Fox & Lawless, 2004; Lundell, 2004; Reiser, 2014).

2.4 Main Hypotheses

As demonstrated in Figure 2.1, I will spell out two main hypotheses, and propose three mechanisms which may be related to them. As illustrated in Figure 2.1 H1 is concerned with the increase in women running for election, whereas H2 is concerned with the increase in women's success in being elected. By investigating these points, we have the opportunity to further look at mechanisms which may account for findings in the overarching hypotheses; negative or positive findings here can help illuminate the findings of the main hypotheses.

2.4.1 Hypothesis 1: A higher share of women candidates

Existing literature provides at least two plausible reasons for why there may be an increase in SMD candidates that are women following the implementation of a gender quota in PR lists. The first is how gender quotas can motivate other women, unaffected by quotas, to run for office. The second is related to the women who were elected through a quota at a different level then go on to run for other types of office.

The first proposed mechanism has its' roots in the symbolic effects of descriptive representation. These potential effects are a notion that many have championed as a

potential positive reason to apply gender quotas (Hinojosa, 2012). But what does the literature tell us about the effects of descriptive representation in inspiring, or getting more women to run for office? As explained in the theoretical model, what accounts for willingness to run is largely due to personal motivation, resources, and a view that one is fit for the job. In this sense inspirational effects, or what is coined as "pathbreaker" effects by some (Maitra & Rosenblum, 2021, p. 22; Bhalotra et al., 2018; Goyal, 2021, p. 28), can be instrumental in allowing women to overcome their internal biases and view themselves as fit for the job.

Many contributions have pointed out the need for a distinct shift in party preferences and internal organising as necessary to bring about more women candidates (e.g. Davidson-Schmich, 2016; Bjarnegård, 2013). These contributions point out that women, when given positions of influence, are often more inclined to network and recruit fellow women into their local organisation. This is in many regards, the first step towards candidacy (Rule, 1981), and we can expect that to influence further candidates. By giving women positions of power, through actions such as quotas, they are put in a position where in the future they can become central actors in their local political organisation. As Goyal (2021, p. 28) points out, this means that they are far more likely to put an extra emphasis on recruiting similar individual to themselves. In addition, women are more motivated to participate in organised activities headed by a woman.

Furthermore, as argued by Shin (2014, p. 89), gender quotas can assist in both informing parties of the viability of women candidates, as well as providing women an opportunity to acquire resources that can help them run on their own. By giving party gatekeepers on-hand experience with women as legislators, they can overcome internal biases and prejudices towards women as candidates and become more inclined to recruit more women in the future. A similar exposure argument is found in Bhalotra et al. (2018) from parties running more women in response to descriptive representation in opposing parties.

The second proposed mechanism, concerning getting the same women to run is also relevant in our case. Batto (2014), Shin (2014), and Bahvnani (2009), focus on women previously elected by quotas at different levels than the SMD list. Their contributions tell us that we can expect these women to utilise their position in "lower" levels of the

political system, gained by gender quotas, to qualify themselves to run in SMD systems. In addition, these individuals may have an information advantage in the eyes of the party gatekeepers, as they are more likely to be considered for candidacy at higher levels simply because of their already prominent position. In addition, these individuals may utilise the networks they have gained during their time in office to mobilise a more effective campaign at higher levels of the party, than would have otherwise been possible (Goyal, 2021, p. 31).

Together, the two mechanisms lead us to expect the following relationship between gender quotas in PR districts and women's accession to candidacy in SMD lists in MMR systems:

> H1: PR quotas in MMR systems lead to an increase in the share of candidates that are women running for SMD elections.

2.4.2 Hypothesis 2: A higher share of women candidates elected

There have been several studies investigating the effects of descriptive representation on women's future chances of being elected. I will here, tie these together into expectations of how descriptive representation in PR lists can affect women's chances of being elected to SMD seats. While I will elaborate on the mechanisms thought to underpin this in a later subsection, this section will primarily overall change in the share of more women winning elections.

Batto (2014) finds that gender quotas on lower levels have increased the chances of women winning office at higher levels as an example of spillover effects of gender quotas. These findings are also present in articles by Bahvnani (2009) and De Paola et al. (2010) which look at increased chances of winning, particularly for incumbents, following the implementation of gender quotas in India and Italy, respectively. In addition to this, Baskaran and Hessami (2018) finds spillover effects from descriptive representation of women in high position into voter behaviour. They find that areas with women mayors end up with higher levels of votes for municipal candidates who are women in open lists, hinting at changes in voter behaviour that leads to increased women's descriptive

representation.

These contributions form expectations related to the effects of gender quotas in majoritarian and proportional systems. But it is important to recognize the differences in electoral systems that these studies were analysed and assess whether it is apt to expect similar effects across lists in MMR system. These papers do not look at MMR systems themselves, as they are largely concerned with only briefly mentioning the electoral context. I expect these findings to travel to MMR systems, because while mechanisms theorised in the literatures are in some regards contingent on institutional context, the conditions presented as the main reasons the effects are found are not substantially different between the countries and settings. For instance, the literature investigating the reduced prejudices against groups of certain characteristics rely largely on individually elected mandates, and a strong symbolic presence of the relevant characteristics for the relevant voters, both of which are still present in MMR with gender quotas. To summarise, I expect the following effect of PR gender quotas on women's winning chances in SMD lists:

> H2: The implementation of a PR quota leads to increased chances for women to win SMD seats in MMR systems.

2.5 Potential Mechanisms

The increase in the share of women candidates can largely be driven by an increase in the number of women who are willing to run, or a change in the parties' rules and preferences for candidate attributes. The potential changes in increased candidacy could be owed to more women being willing to run, such as due to an increased interest in politics following the implementation of the quota. It could alternatively be due to the party leaders changing preferences in terms of their distinct gendered requirements for candidacy. Both of these are difficult to test, and it is difficult to pose direct hypotheses that are empirically testable to them, particularly without detailed insight into the processes by which candidates are selected.

As for the increased winner chances, there are at least three distinct changes that can occur which can give rise to an explanation for why women's chances of winning increases. Those are either decreased hostility from voters (Norris & Inglehart, 2001, p. 133), increased candidate quality (Mondak, 1995), or decreased hostility by parties (Casas-Arce & Saiz, 2015). Each of these mechanisms have previously been investigated as results of descriptive representation in previous literature of women's access to political office.

2.5.1 MH1: A change in attitude towards women as politicians

The hostility of voters towards women as politicians is highly associated with lower levels of women's descriptive representation (Norris & Inglehart, 2001, p. 133; Norris & Inglehart, 2003, p. 138). The literature on the effects of descriptive representation offers some evidence of potential effects of gender quotas in MMR systems. Hajnal (2001) demonstrates that experience with high profile politicians of minority status (in their case African Americans) is associated with a decreased negative perception of that minority's ability to perform as a politician. These findings are echoed in contributions such as Chauchard (2014), Beaman et al. (2009), De Paola et al (2010), Maitra and Rosenblum (2022), and Bahvnani (2009) which indicates that experience with individuals from under-represented groups can help alleviate hostile opinions about them. If we were to find increases in women's chances of being elected, this could be one of the mechanisms which account for it. The PR quota forces a set amount of descriptive representation, which gives voters actual experiences to lean on, rather than prejudices, and they are as such less hostile to them as individual candidates in SMD seats.

While this is a potential consequence of descriptive representation, it could also lead to a potential "gender backlash" (Bhalotra et al, 2018, p. 1846). A potential effect the implementation of a gender quota may be increased hostility, due to the initial perception by the public being that these women "do not deserve" their positions. As the implementation of the quota happens, an initial backlash occurs, due to them seemingly being "given" undeserved positions. But as some time passes the increased representation, and their position as very clearly being "women" legislators, they may become less hostile to

them, as theorised above.

> Mechanism H1: Gender quotas in PR have led to a decrease in hostility towards women as politicians in the general population.

2.5.2 MH2: Increased candidate quality

The second mechanism that may drive women's increased winning chances, is the quality of the candidates themselves, also understood as women candidates becoming better at the skills needed to gather votes. Weeks & Baldes (2015, p. 120-122) summarises much of the literature on the "quality" of politicians, and several papers have investigated the effects of gender quotas on several measures of quality (for example Murray, 2010; Baltruine et al., 2014a; Baltruine et al., 2014b; Besley et al., 2017). These papers usually find that gender quotas are positively associated with an increase in quality for both men and women candidates, due to squeezing the existing pool of men to accommodate the new women. What is defined as quality varies greatly, from general level of educational attainment (Joshi, 2021; Profeta & Woodhouse, 2022; Baltruine et al., 2014b), to performance in the private sector (Galasso & Nannicini, 2011), and previous political experience, such as election to local level elected office (Aldrich & Daniel, 2019). This is also the central point of works by Batto (2014) and O'Connell (2010) when they investigate candidate increases. The advantages thought to be obtained by election to lower levels, range from practical experience, to resources and network opportunities.

The notion of political experience as a positive trait is also closely related to the potential effects of incumbency, as described by Bernhardt & Ingerman (1985). Incumbency is thought to confer several advantages, similar to the ones ascribed to local political experience. Incumbency gives a considerable advantage over being a outsider (Fulton, 2012, p. 304), largely due to factors such as familiarity to voters, increased resources, and extensive political experience (Bernhardt & Ingerman, 1985, p. 48). This, and the notion of political experience in general, allows a particular inroad to SMD candidates for women elected by quotas in PR lists. If this pipeline were to exist, then gender quotas in PR could also have spillover effects into the SMD list. By already being a PR member,

voters may already have some familiarity with the politician from national politics. PR service may also give relevant candidates other advantages. For example, PR legislators are likely to have better connections, and more political experience, than candidates who do not have it. This is due to sharing the actual effects of some elements of the "incumbency advantage" as described by Bernhardt and Ingerman (1985). For this reason, we can expect that women who chose to make the transition from PR into SMD seats, will have the advantage of incumbency, and this will be reflected in a higher chance of winning elections.

> Mechanism H2: The PR gender quota has led to an increase in women running in SMD seats with political experience, which has led to increasing winner chances.

2.5.3 MH3: Parties place women in more winnable seats

Finally, the actor that is often best positioned to decide the chances of a candidate to win, is the parties themselves. Canon (1993) dubbed the practice of "sacrificial lambs" in their study on amateurs running against safe incumbents, presenting it as a particular step on the journey for an individual on the journey to elected office, as a candidate runs in hopeless districts to gain experience (p. 1137). Others have pointed out the utility for the parties themselves (Coma & Lago, 2021, p. 3), running candidates in a district that they know they will lose is not wasted resources, as the parties can use the area as potential training grounds for future candidates. Allowing an individual to run in a losing district lets the party give a future candidate hands-on training in running political campaigns. It also allows for parties to test whether the relevant candidate is skilled at political campaigning, and whether they can communicate the party's central messages and policies well.

However, this practice is not exclusively used as a tool for granting prospective candidates experience. It is arguably sometimes used to systematically exclude certain members from entry into the legislature (Coma & Lago, 2021; Baskaran & Hessami, 2018, p. 96). Some findings seem to imply that they use this as a dumping ground for candidates that

they do not wish to see elected including women (Lee, 2018; Esteve-Volart & Baguse, 2012). These candidates are still selected, due to external requirements, legal quotas, or a desire to rid a party of an "anti-female" image. But the parties utilise several mechanisms by which they can exclude these women (Bjarnegård, 2013). What a change in probability of winning might then imply, is that parties have changed their practices in terms of placing women in losing districts. This mechanism remains unexplored, and to the best of my knowledge, no articles have researched whether affirmative actions can alleviate these trends. For that reason, I investigate whether quotas can credibly change the tendency of women to be placed in losing districts.

Women may be kept in losing districts for several reasons. For instance, women may be judged to be at an electoral disadvantage, and there is ample evidence that parties focus their most "qualified" candidates in districts that are contested (Galasso & Nannicini, 2011). Given that safe seats are usually in the hands of incumbents, we can then also expect that those in the unwinnable seats are more likely to be women (Schwindt-Bayer, 2005). Building on this, Le Barbanchon and Sauvagnt (2018), and Frechette et al. (2008), find that there is an electoral penalty associated with being a woman, in the case of French elections. If such a penalty exists, or there is a perception that it exists, it may incentivise strategic placements along gendered lines. But as previously mentioned, works like Beaman et al. (2009), Bhavnani et al. (2009), Hajnal (2001), De Paola et al. (2010), and Baskaran and Hessami (2018) demonstrate that gender quotas can be connected to a reduction in this kind of hostility.

The question of whether women are at an electoral disadvantage from the point of voters is a contested one. A common experiment conducted in several countries is to show several respondents two candidates, whose attributes have all been randomised, and ask them who they would support (Schwarz & Hoppock, 2021). This form of investigation attempts to isolate the unique effect of being a woman unto potential electoral success. This technique is not without its criticisms, namely that it ignores some forms of how discriminating attitudes are formed (Mo, 2015, p. 359), but to many, it serves as an indicator as to whether women face a direct electoral disadvantage. These effects have been found in MMR systems like Japan (Ono & Yamada, 2020), but repeated experiments reveal a reliability problem as they fail to produce similar results (Horiuchi et al, 2017;

Kage et al, 2018). An important caveat for the transposition of these ideas to candidate placements is also that it is not given that the parties are acutely aware of this potential disadvantage.

To ask whether a person would not vote for a candidate, is different than asking whether a person thinks other people might not vote for them. This possible discrepancy is also touched on by Casas-Arce and Saiz (2015) as they highlight the effect of imperfect information on the descriptive representation of women, as they hold that women face little outright electoral disadvantage, but parties fail to take advantage of this. In this sense, experience with women legislators might account for stronger symbolic effects on those who are closest to those legislators.

Regardless, a disadvantage, however slight, is most likely amplified in SMD elections, where the penalties could be the difference between marginal wins and marginal losses (Galasso & Nannicini, 2011, p. 96). As such, we would expect party leaders to keep women out of these seats, and instead keep them in losing seats. However, if the disadvantage disappears, as theorised in MH1, then this trend could also dissipate. In addition to this, the potential opportunities for networking (Goyal, 2021; Davidson-Schmich, 2016) would then lead us to believe that the PR quota, which increases descriptive representation, can help in reducing the tendency for women to be placed in losing districts.

> Mechanism H3: An increase in the winning chances can be explained by a reduction of the tendency for women to be placed in losing seats, or by PR candidates securing winning seats for themselves.

In summary, I have outlined two overarching hypotheses of what we can expect the gender quotas in PR systems to affect, in terms of women's entry into the SMD lists. These are summarised as H1: an increase in the share of candidates that are women, and H2: an increase in women's winning chances. In addition to this, I have proposed three distinct hypotheses of mechanisms by which this increase could have occurred, these are: A reduction in hostility towards women, increased candidate quality, and finally a reduction in the tendency for women to be placed in losing districts. In the next chapter I will outline my empirical approach to testing these hypotheses.

Chapter 3

Methods and Data

3.1 Empirical Strategy

In order to test my hypotheses, related to the effects of quotas on the PR list in MMR systems, we need a strategy that allows us to isolate the treatment effect of gender quotas. The gold standard in causal inference is the experiment (McDermott, 2002, p. 34), which allows us to isolate the treatment of interest, and its effect upon our desired outcome of interest. However, experiments require us to have control over who gets the treatment and who does not, something that we are unable to do in this case. Electoral systems and gender quotas are not randomly assigned, and are not the result of random processes, they occur as a consequence of internal and external political processes for each country we investigate. What is needed is a framework by which we can use observational data to estimate a plausible effect of the treatment of interest.

The method of Difference-in-Differences (hereafter referred to as DiD), helps us in this regard. DiD is a general causal framework which leans upon the ideals of the experiment through the potential outcomes model of causal inference (Rubin, 1974; Cunningham, 2021).[1] DiD tells us that we can estimate a causal treatment effect, by comparing two naturally occurring instances of the treatment happening and not happening, and where

[1]The potential outcomes model is a general model for making quantified inferences based on observed data. It builds on the problem of being unable to observe a counterfactual, and uses population level data to make counterfactual claim about individual treatment effects.

we have data on the outcome of interest both before and after the treatment occurred. In order to employ this strategy we then need to find two cases using the MMR system where one has implemented a PR gender quota at some point in time, and the other has gone the same period of time without the PR gender quota.

3.2 Case Selection

As previously mentioend, and documented in the appendix, there are 32 countries that currently employ some form of MMR system as their electoral system for selecting the main chamber of their national legislature. These data are collected from IDEA (2022a; 2022b) and supplemented with data from Freedom House (2022) and the Constituency Level Election Archive (Kollman et al, 2021). Of these, 17 employ some form of gender quota. Further, only 3 score higher than 80 on the Freedom House index indicating highly functioning democracies: South Korea, Taiwan, and Italy. I chose this as a criterion in order to ensure that there is a lower chance of findings being skewed by undue corruption and external (to the electoral process) influences. Since the implementation of gender quotas happened concurrently with the change to an MMR system in Taiwan, we have no adequate pre-treatment time period, which leaves us with South Korea and Italy as possible cases to look at. Italy implemented a gender quota ahead of the 2018 election, and as such has only one post-quota election to measure from. In addition the pre-treatment time make it difficult to isolate effects, due to the constantly shifting electoral system of Italy, and their previous experience with gender quotas producing potentially lingering results (Baltruine et al, 2014a, p. 5). This leaves us with South Korea which I believe provides the best example of a functioning democratic country with a clear-cut implementation of a quota regime, and adequate post-treatment time that we can use to isolate effects of the gender quota in the PR list on the outcome of interest in this thesis.

As a counterfactual South Korea that did not go through this change, I chose Japan, as it is culturally similar (Inglehart et al., 2014), has a similar high democratic score, no experience with gender quotas, and has the same electoral system (MMM). South Korea implemented a 50% gender quota in the PR system in 2004, while Japan has not had any experience with gender quotas (although not without pushes for it, as the

main opposition party in Japan has it as a main policy goal (CDPJ, 2022)). Common between these two countries is their surprisingly low levels of political integration for women. Currently, 9.7% of Japan's lower house is women, while South Korea sits at just under 20%. Numbers that place them in the average brackets on par with low Human Development Index countries (UNDP, 2022), and they are among the worst performing countries in women's representation in all the OECD nations. This is despite these two countries being some of the richest and most well-developed nations in the world. In the following section I will outline the development and history of women's descriptive representation these two cases.

3.2.1 South Korea

The political franchise of women in South Korea starts at the time of Japan's defeat in World War 2. Women's descriptive representation remained extremely low, with a total of 12 legislators in the period 1948-1967 being elected, and never more than 3 in one election (Shin, 2014, p. 85). South Korea scores very low on the Polity IV index during this time, representing the fact that the nation was controlled by a military dictatorship until 1988 (Kollman et al., 2020). South Korea has had a variation of parallel lists since 1963, when a second list of legislators was added, based on the party that won the majoritarian lists. This system was amended to be appointed by the president in 1972. This was changed back to the winner bonus system in 1980, which was then changed to a fully proportional parallel list in 1988 (Kollman et al., 2020).

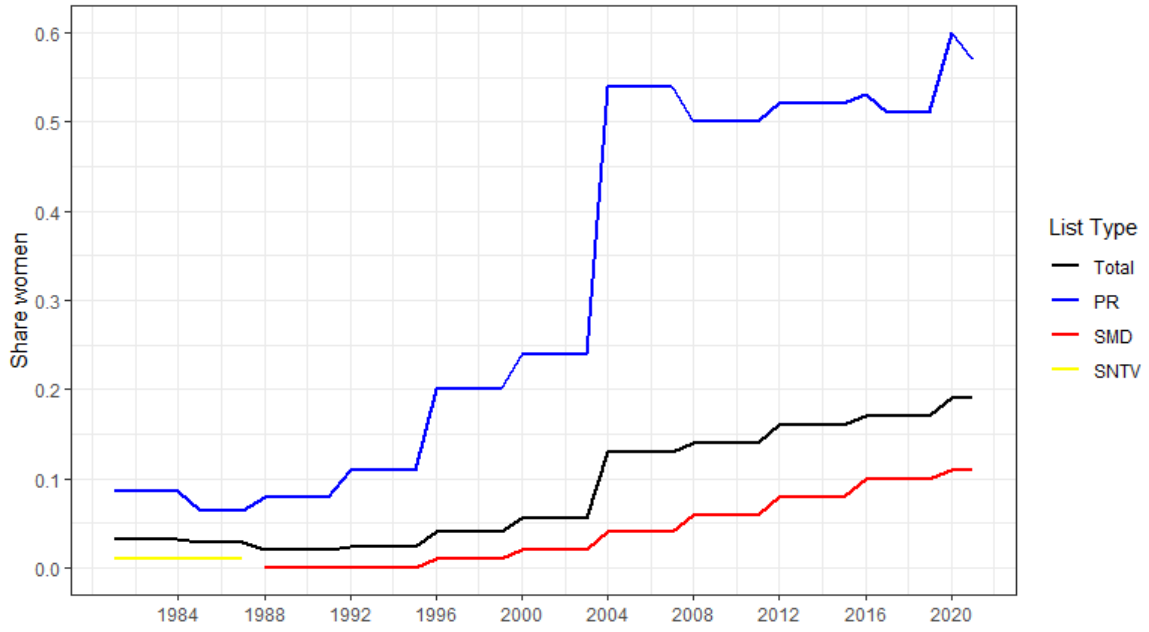
Since 1988, the relative size of each list has varied considerably. In 1988, there were 224 SMD seats and 75 PR seats, for a total of 299 seats. This distribution changed to 237 SMD seats and 62 PR seats in 1992, and to 253 SMD seats and 46 PR seats in 1996. SMD seats were then reduced to 227 in 2000, with 46 PR seats, for a reduction to 273 seats in total. 2004 increased the total back to 299, with 243 SMD seats and 56 PR seats. The balance was changed again in 2008 to 246 SMD seats and 53 PR seats. A single seat was added in the SMD list in 2012, for a total of 300 seats, with the PR list unchanged. In 2016 the balance again shifted from 253 SMD seats and 47 PR seats, a number which was maintained for the 2020 election.

Elections in South Korea are contested between two main families of parties. These families are called the Democratic party, and their predecessors, and the current People Power Party, formed after the previous Grandnational party had to disband following president's Park's resignation (Park, 2021b). These parties have reshaped and renamed themselves several times over, but the main leadership remains (Lee & Shin, 2016, p. 354). In all elections since 1988 one of these two party families have controlled the legislature.

The largest changes in women's descriptive representation happened in 1996 and 2004, when the PR list makes sudden leaps in increased share of women representatives. The 2004 leap coincides with the implementation of a gender quota law which is the main reform studied in this thesis. Before the implementation of the quota, South Korea had historically low levels of women's representation. The total descriptive representation of women in parliament remained below 5% consistently for many years, only climbing to 5.6% of the legislators being women in 2000. This development is shown in Figure 3.1. Under the new quota system, the single member representativeness has improved slowly, and steadily, without any setbacks in representation, despite changing ideological constellations. This will be further explained in Chapter 5.

This law was implemented after uproar from women's activists over the previous attempts at increasing descriptive representation had largely failed (Shin, 2014, p. 82). The law stipulates that the first name on the list should be women, and that at least 50% of elected legislators from PR lists must be female, alternating every other name on the list (a zipper quota, as explained earlier). The law, described in article 47 of the Public Official Elections Act, specifies that any list that fails to comply with these specifications will be rejected by the National Election Commission (NEC), meaning the party would be unable to compete for PR seats (IDEA, 2022a). As is evident from Figure 3.1 above, this section of the law has largely been complied with. Simultaneously, a candidate quota was adopted, targeting the SMD list of the system, which required that 30% of all candidates for the SMD seats be women. This part of the quota has proven to be largely ineffective, as can be seen in the data utilised in this thesis, no party has ever met the quota. The failure of the SMD quota has largely been attributed to the complete lack of enforcement mechanisms, as no party faces punishment for failing to meet it (Lee, 2018).

Figure 3.1: Descriptive Representation in South Korea



Data compiled from: National Election Commission (NEC) (2021), International Parliamentary Union (IPU) (2021a), Shin (2014). Note that Shin (2014) and the NEC disagree on number of women elected in SMD seats for 1992, I have listed the NEC's number of 0 women legislators under the assumption that the NEC is more credible.

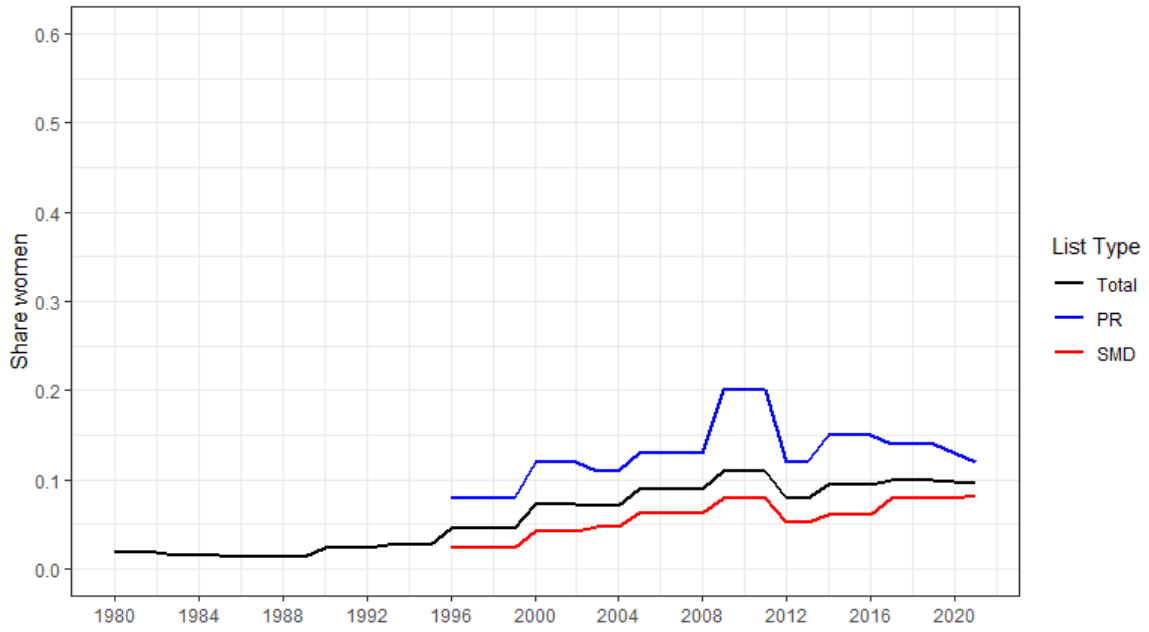
3.2.2 Japan

In the period between 1946 and 1993, the electoral system that was used in Japan was the Single Non-Transferable Vote (SNTV), a system where each citizen voted for a single candidate. The number of legislators elected from each district varied, but if the district elects 5 legislators, then the 5 individuals with most votes would be elected (Kollman et al., 2020). During this period, the legislature and government was largely dominated by the Liberal Democratic Party (LDP). During this system, the representation of women peaked in the first election in 1946, with 8.3% of the elected legislators being women (Reed & Smith, 2017). An unprecedented 39 women won election to the lower house in 1946 (Tokuko, 1996). However, this number would soon decrease, and in the election following it was lowered to 3.2% and would fail to go above 4% until the 1996 election.

Eventual dissatisfaction with corruption and a series of scandals within the LDP led to a grand coalition of anti-LDP parties taking power in the 1993 elections, and implementing electoral reforms, including adopting the Mixed Member Majoritarian system. The result of this reform was the creation of 300 single member district (SMD) seats, along with 11 regional proportional (PR) blocks, which elected an average of around 16 members each for a total of 180 seats. The number of SMD seats was lowered to 295 in 2014, and to 289 in 2017, along with a reduction of the PR seats to 176, also in 2017. The descriptive representation of women has since increased in Japan, as reflected in Figure 3.2, but only barely. In 2009, the number peaked, as the Democratic Party of Japan (DPJ) beat the LDP in an election in their first ever electoral loss. The DPJ had cultivated a more women-friendly image (Eto, 2010), and thus had a higher number of women candidates elected. This progress was undone when the DPJ lost power in 2012, and was further set back numerically in the 2021 election (NHK, 2021).

Current elections in Japan are contested between the Liberal Democratic Party, a conservative party, and the Constitutional Democratic Party, a centre to centre-left party. With several minor additional party capturing regional seats, such as Nippon Ishin No kai, a right-wing party strong in Osaka particularly, and Komeito a political party closely related to the Buddhist Sokka Gakkai sect (Carlson, 2014), which collaborates with the LDP.

Figure 3.2: Descriptive Representation in Japan



Different lines stand for different list types. Totality is equal to SNTV representation pre-1996, and is not separated like it is in figure 3.1. Data compiled from: Ministry of Internal Affairs and Communications (2021), Reed & Smith (2017), Shugiin (2021), NHK (2021).

If we break down the patterns of women's descriptive representation between the lists, we see results consistent with the much-studied link between a PR electoral system and women's descriptive representation. In Japan the PR list consistently performs better in the descriptive representation of women. Whereas the SNTV system at most returned 2-3% of the winners as women, under the new MMR system, descriptive representation has increased to 8.3% in 2021, which is still low compared to other highly developed countries.

3.3 Data

In order to test my hypotheses, I collected electoral information from South Korea and Japan. I source four different datasets, two from each country, to cover all outcomes of interest that I have explained in my theory chapter. The datasets for South Korea are Nemoto (2022) and Lee (2018) who have constructed datasets on candidates running

in South Korean elections in the space between 1988 to 2016. For Japan, I acquire an extended version of the Reed-Smith dataset (Reed et al., 2017), which I supplement with a dataset on the 2021 election, acquired through personal correspondence with the authors of the data. This data is supplemented by the Party Personnel Database (PPDB, Bergman et al., 2017). I required four datasets in large parts because of shortcomings with each dataset; while Reed-Smith is more extensive than PPDB, PPDB has information on education and former political positions, which were relevant at one point of writing. The same issue became salient for South Korea, as well as the need for a unified party family variable, which was not present in Nemoto (2022).

All four datasets have a similar general form, they consist of observations of individuals who are running for election in South Korea and Japan, both in byelections and general elections. Each row then represents a single candidate, with attached values on variables of personal characteristics, such as age, education, etc. In addition they also have values on variables that belong to aggregate level, such as total votes in the electoral district, general demographic variables for the electoral district and such.

Lee (2018) and Nemoto (2022) cover the candidates running for South Korea's national assembly, in the 8 elections covering the period between 1988-2016, with 1988 being the first democratic modern election, and 2016 being the last election in the dataset. Reed-Smith (Reed et al., 2017), covers all candidates running in Japanese elections in the period from 1947-2017, with 1947 being the second election after the Second World War, and 2017 being the latest election. Of interest to us is the electoral period from 1994 to 2017, as Japan switched to the MMR system in 1994. This period covers 8 elections held at intervals ranging from 2 to 4 years, as snap elections remains a relevant instrument in Japanese politics. This data is supplemented by the Party Personnel Database (PPDB, Bergman et al., 2017), which covers the period from 1980-2009, this covers partially the period of interest in Japan for us, from 1994-2009, meaning we lack certain data for elections in 2012, 2014 and 2017. This means that we have for each country eight distinct groups of elections wherein a number of contesting candidates run. This number is similar for both countries, as each election has around one thousand candidates running in each.

I extract relevant values from each dataset in order to create my own dataset consisting of the observations and variables relevant to my research. I limit the dataset to the MMR

period of Japan 1994-currently, and I remove all candidates from the dataset who are running in PR districts, as our research question is concerned with the entry into SMD elections. In addition, I remove all who run in by-elections, as these may be systematically different from the general elections. What we are left with is a complete dataset at candidate-year level with 17,514 observations which includes candidates who have ran in a total of 16 national elections, over a time period of 1988-2016 for South Korea and 1994-2017 for Japan. Each observation indicates a single candidate running for office in the national legislature and has 40 variables relating to electoral district information (where they ran, what year they ran) as well as personal characteristics (age, education, former occupation, political experience, party) and election results (votes achieved, share of votes achieved, result). An overview of the variables can be found in Table 3.1 below.

3.3.1 Data and missing values comments

What is apparent from overview in Table 3.1, which displays general summary information on our variable, is that there are some variables with a large degree of missing values. Most notably, education is lacking a value on about 30% of its observations. Most of these come from the lack of observations in the elections of 2012, 2014 and 2017, making up about half of these missing values. These are not relevant for looking at the 2004 quota reform.

In addition to this, prevshare, which is the variable for lagged vote share for the candidate's ideological camp in the previous election, is also missing a substantial amount of values. The missing values are almost exclusively attributed to the automated manner in which they are created. All new districts, or districts that are substantially different from previous under the same name, have no adequate previous district, and as such are assigned missing. The code for electoral district changes when it is redistricted, and as such it has no meaningful previous share, as it does not adequately reflect the true potential performance in the previous area. This may only be an issue if redistricting is somehow associated with gender, and that the areas in which women traditionally run are more likely to be redistricted. I find little plausible reason to think this may confound the results, and as such preliminarily assume that the values are as-good-as missing at

Table 3.1: Dataset variables

Statistic	N	Mean	St. Dev.	Min	Max
pid	17,404	9,805.993	6,052.782	1.000	20,405.000
year	17,514	2,004.068	8.289	1,988	2,017
yr	17,514	19.401	3.743	13	26
byelection	17,514	0.000	0.000	0	0
el_distr	17,514	9.348	9.891	1	60
el_distr_code	17,514	37,622.160	49,905.070	101	170,100
total_vote	17,513	146,390.100	68,013.350	36,409.000	339,780.000
personal_votes	17,513	37,127.780	36,281.370	0.000	201,461.000
vote_share	17,513	0.247	0.198	0.000	0.953
rank	17,514	2.729	1.510	1	13
female	17,514	0.096	0.295	0	1
age	17,514	50.673	10.192	25	94
education	12,217	4.169	0.811	1.000	5.000
edufield	12,242	2.821	3.497	0.000	11.000
inc	17,514	0.339	0.690	0	7
inc_exactly	17,514	0.183	0.387	0	1
resultRS	8,872	0.480	0.698	0.000	4.000
pol_exp4	7,936	0.262	0.440	0.000	1.000
lawyerexp	16,578	0.051	0.220	0.000	1.000
PRexp	17,514	0.034	0.181	0	1
PRprev	17,514	0.057	0.231	0	1
prevshare	12,753	0.329	0.232	0.000	1.905
prevtop	12,753	0.291	0.196	0.000	0.953
pshare	17,513	0.341	0.244	0.000	1.905
topperf	17,513	0.287	0.194	0.000	0.953
ImpPRexp	17,508	0.037	0.188	0.000	1.000
result	17,514	0.248	0.432	0	1
pol_exp3	8,532	0.077	0.266	0.000	1.000
PolEdu	12,242	0.438	0.496	0.000	1.000
localExp	16,468	0.166	0.372	0.000	1.000
NatVoteParty	17,514	9,558,923.000	9,017,411.000	1,071	33,475,329
VoteYear	17,514	40,898,237.000	20,823,387.000	17,200,301	70,581,668
NatVoteShare	17,514	0.251	0.185	0.00002	0.734
AvgShare	17,262	0.245	0.152	0.006	0.535

random.

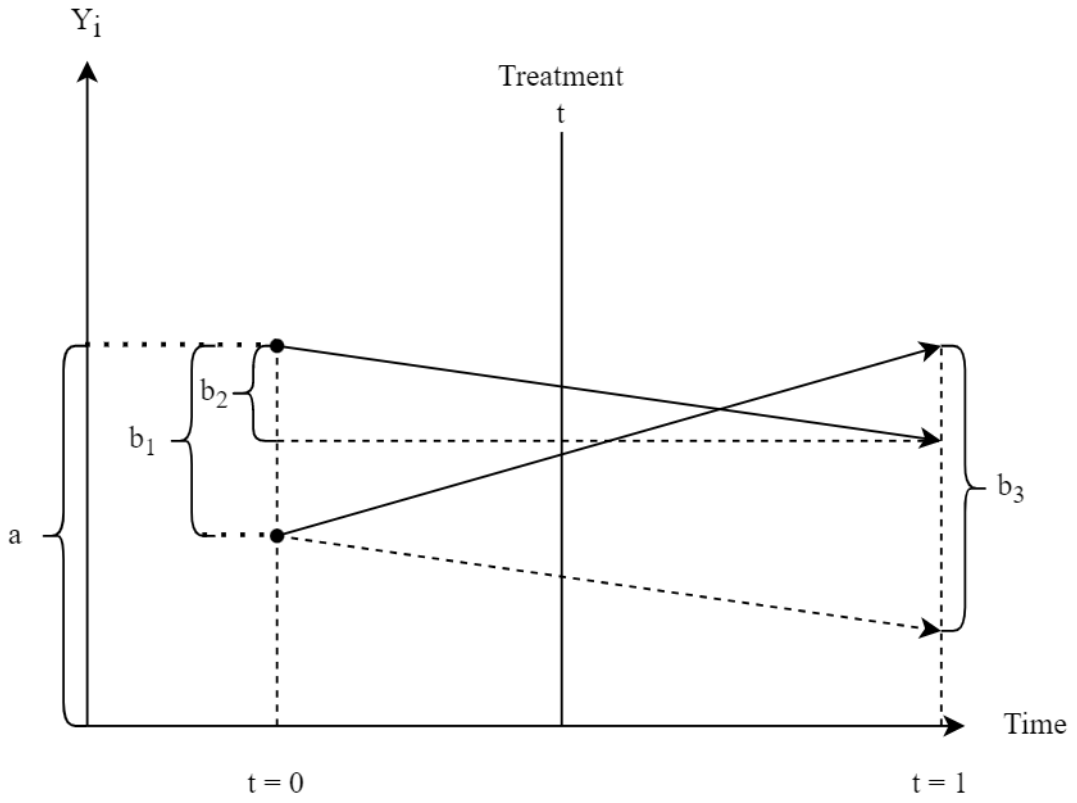
The cleaned data in the end has 17,514 observations, across 16 elections in two countries, meaning an average of 1092.9 candidates running in each election. There are 8872 observations across 8 Japanese elections, for an average of 1109 candidates running in each, and there are 8642 observations in South Korea's 8 elections, for an average of 1080.25 candidates in each election. Given that South Korea's national legislature is smaller than Japan's, this difference might seem unsurprising. This means that on average there are about 3.75 candidates per seat in Japan, and 4.48 candidates per seat in South Korea. These differences are stable, and are represented as a constant difference between these two countries, and should therefore easily be captured by our region dummy used in the DiD estimations.

3.4 Difference-in-Differences

As mentioned at the outset of this chapter, this thesis will use the framework of Difference-in-Differences as a general framework of causal inference, as outlined in the seminal article by Card and Krueger (1994). As mentioned in the start, this utilises two cases, or clusters of units, where one has been treated and another has not. As now outlined, I will use Japan and South Korea, where Japan is used as a control case to give us an idea of what the outcomes of interest would have looked like in South Korea, had they not adopted a gender quota in the PR list.

The key assumption underpinning the DiD framework is what is known as the parallel trends assumption. This assumption states that while the outcome variables may be different, they evolve similarly over time, and had the treatment not happened, the relative distance between the units of investigation would've been identical both before and after the time of treatment (Cunningham, 2021, p. 406). The effect of time is the same on the outcome variable in both our cases. The challenge for any work that applies the DiD framework is to demonstrate this assumption, the challenge being that this assumption is untestable in practice, since it deals with a counterfactual. We cannot, in fact, fully demonstrate what value the units that did receive the treatment would have

Figure 3.3: Difference-in-Differences Visually demonstrated



Model demonstrating the logic behind DiD, partially based on Cunningham (2021, p. 420). The estimators of formula 3.1 is demonstrated. Note the dashed line indicating the treated region's hypothetical development

had, if they had not been treated (because then they would not have been treated). We can make educated guesses based on trends and analysis as to what might have occurred had it not happened, but we can never say for certain. The logic underpinning DiD is demonstrated in Figure 3.3.

DiD is often applied in a regression using what is known as the Two-way Fixed Effects model. This is the primary form of estimation that I will use in this thesis, and will refer to it as DiD Estimation. This estimator takes the following form (Cunningham, 2021, p. 420):

$$Y_i = a + b_1 R + b_2 t + b_3 Rt + b_j X + e \tag{3.1}$$

Where Y_i is the outcome Y for each unit i, which in this thesis is either winning, or being a woman. This outcome is modelled as determined by R: a dummy variable for regions, which has a value of 1 for the region or the units affected by the treatment.

t is a dummy for the time effect, which is 0 for pre treatment time, and 1 for post treatment. The interaction link b3, is then an estimator of the difference between the two units of comparison before and after the treatment. As is evident through the visual representation in Figure 3.1, we assume that the sum effect of the treated units' values after the treatment time is the sum of time effects b_1, which we get by including a non-treated unit, the difference between these units normally b_2 and the treatment effect b_3. If b_3 is significant that means that the treated units have a value which is significantly different from the sum of the difference from the time trend effect and the regional difference. If the parallel trends assumption is correct, we have then gained an unbiased estimate of the treatment effect (Cunningham, 2021, p. 418). Time effect is measured by the units with value 0 on the region/treated dummy, thereby using the value of the untreated units to estimate the hypothetical value of the treated units, had they not been treated. The difference between the two units is measured when t = 0, using only the dummy variable of region/treatment, thereby estimating the difference between the two units. In general, if b_3 is taken to be significant then this is taken as evidence (given all relevant assumptions holding) that the treatment had an effect on the outcome. Using this specification above, in conjunction with the parallel trends assumption, we can specify an estimation of all four categories that units in our data can have: Japan pre-treatment, Japan post-treatment, South Korea pre-treatment, and South Korea post-treatment. Since our main specification is using dummy variables, the mean of each category equals the simple addition of the intercept and the coefficients.

3.5 Operationalizations and Main Variables

In order to apply a Difference-in-Differences method to my research design, I specify that all observations in South Korea, the treated region in this instance, gets the region dummy variable R of 1, and Japan is assigned 0 on this value. I also specify that the treatment timing is 2004, and therefore all units in elections in or after 2004 are assigned a time dummy t value of 1, while units before are assigned 0.

In order to conduct placebo tests for the parallel trends assumption I also create a dataset consisting of only the data from the 1996 and 2000 elections from both Japan

and South Korea, and utilise those as a test of parallel trends assumption. Running the same regressions on that time frame, but with the post treatment period being the 2000 election. I will first explain how I operationalise and test the first two hypotheses, which are based on dummy variables and the categories they create.

3.5.1 H1: Women candidates

In order to test whether the quota has increased the share of candidates that are women, I use the dependent variable of female, included in the dataset. Using this binary outcome as a dependent variable, where 1 indicates female, and 0 indicates male, the resulting regression coefficients will estimate the mean in each of our estimation groups. This will correspond to the known mean of women candidates before and after the treatment. But more importantly the regression will estimate a treatment effect, by allowing us to estimate what South Korea would have looked like without the treatment.

The main question is then if this is a more apt way of testing our hypothesis than aggregating the share of candidates that are women in each election, and using share of women in each election as dependent variable. I believe that utilising a binary trial outcome as a dependent variable, which we can then analyse in a logit model, is more accurate in regards to measuring the standard errors. Since using individual data can afford us with a far greater number of observations, and affords a measure of probability, which can more easily capture the differences between the two countries, given the different sizes of their legislature.

When addressing validity of certain manners of testing hypotheses, we should assess whether the measure of our dependent variable is constructed in such a manner that it captures the concepts we are studying (Adcock and Collier, 2001, p. 530). While the total number of women candidates might be what the hypothesis asks for, just measuring the raw number does not reflect the development across countries, given potential different sizes in legislatures. For that reason, the share of candidates that are women is more apt. By using the discrete variable of gender as a dependent variable, we are in effect asking what the difference in means is for each category we specify by using DiD. Through this we can the estimate difference in probability of a candidate being women for each

grouping of units, which equals the share of candidates who are women.[2]

3.5.2 H2: Women candidates elected

The second hypothesis states that women are more likely to win election in SMD seats after the implementation. To measure this, we could simply look at the number of women elected to the SMD seats before and after the change, and measure this potential change against the change in Japan. They can be grouped into a pre-treatment group and a post-treatment group, and then run through a DiD estimator to find any differences there. However, in order to avoid the result being a simple reflection of the previous hypothesis, that there are more women running, I investigate what changes happen in the probability of women being elected. For this I can instead utilise the discrete variable of success as a dependent variable.

The dependent variable of success is in our case measured as a simple binary variable, being 1 if the candidate won the election in the local district in which they were running. By interacting the dummy variable of female with our DiD coefficients, we can then achieve a measure of the treatment effect on the subcategory of women specifically.[3] With the binary dependent variable being success we can use the regression to determine what affects the probability of winning. Through the DiD estimator interacted with female, we can then measure how time and treatment has affected the winning chances of women in South Korea. Given our parallel trends assumptions hold, we can isolate an unbiased estimate of the effect of the quota regime, on the chances of women winning.

Probability of winning an election for men versus women is essentially simply dividing the number of candidates on the number of winners. If 100 women run and only 10 win, then women have a raw probability of 10% of being elected. If 100 men run and

[2]I operationalise gender in this instance as a binary, given that there is no instance of that being problematic in my dataset, nor is the difference between gender and sex relevant to this data. However, more research should be mindful in the future of the differences gender and sex, and which of these is actually the cause of disadvantages for prospective legislators. This becomes especially more salient in the face of reconstructed views on sex and gender.

[3]This is akin to what is known as the triple difference estimator (DDD) (Olden et al, 2020), which achieves measures of subcategory by interacting a subcategory with the normal DiD estimation. This means that the original parallel trends assumption can be violated, as long as a new parallel trends assumption is maintained, which is that had the subcategory of female not been treated, it would have developed in a similar (parallel) manner as the subcategory of male.

20 win, they have a raw 20% chance of winning election. But if 50 women ran and 10 won, they have the same chances of winning election as men, and the discrepancy between descriptive representation is only in the form of not having the same number of candidates. Therefore, I use probability of election in order to ascertain whether there is something different than simply changes in candidate numbers that change after the treatment

3.5.3 MH1: A change in attitudes towards women as politicians

The first mechanism hypothesis states that women's chances of winning have been affected by a change in attitude from voters. Operationalising electoral penalty for being a woman is a difficult task, although the recent resurgence of candidate experiments would allow for such a measurement, there are no experiments of that kind that have been conducted before or directly after the relevant period in our case (Kage et al., 2017, is the earliest I could find). To that end, I lean on an operationalisation similar to the one applied by Norris and Inglehart (2001), using the World Value Survey, which includes a question framed as "Men make better political leaders than women do" (Inglehart et al., 2017). Respondents may answer "Agree", "Somewhat Agree", "Somewhat Disagree" and "Disagree". These answers correspond to a four-point scale, 1-4, where 1 is agreement with the statement, and 4 is disagreement with the statement. By using this scale as a dependent variable in the DiD setup, we can estimate the difference in means on the score for each category, given that the parallel trends assumption holds. A significant interaction link in that case would be associated with a change in popular attitude towards women as politicians.

The problems of applying this survey item to our hypothesis is whether this preference is likely to be reflected in voter behaviours. We have no way of knowing if this preference for individual characteristics is ever likely to supersede ideological preferences. The question also does not inherently ask the voters if they would not vote for a woman candidate, merely on their preferences, and as such, it perhaps is not directly measuring hostility towards women. But given the past nature of the period, it is the best approximation we can use, especially given previous literatures usage of it (Norris & Inglehart, 2001, p.

134).

3.5.4 MH2: Increased candidate quality

The second mechanism hypothesis states that women are more often candidates and winners due to having gained political skills following being elected through quotas previously. As mentioned earlier, the most used understanding of quality is political experience (Weeks & Baldez, 2015). While other measures, such as education and age (Baltruine et al., 2014a; Baltruine et al., 2014) have been used, these are not usable in our cases, due to violations of parallel trends.[4] Most relevant is political experience, and in particular that of parallel experience, PR experience. Which, as previously explained, can possibly also confer the advantages of incumbency.

PR experience is a central variable of interest, as it can be used to measure certain strengths of the gender quota. For that reason we should operationalise it in our dataset. I include a variable which measures if the candidate in question has ever been incumbent in the PR list. For South Korea this is straight forward, as both datasets have measured some form of PR service for candidates running.[5] We also run into comparison issues when looking at Japan, due to dual candidacy, the practice by which candidates are allowed to run in both lists at the same time, and their performance in SMD can sometimes affect their ranking in PR. In order to appropriately separate the experience of PR service, and to give potential results the possibility of being transferrable, I only give the value 1 to candidates that have been previously elected as a pure PR candidate in Japan. This is also because if not done, then incumbency and lagged vote share will be overlapping with the PR experience variable.

[4] I list some of these findings in my appendix, but most are discarded due to violations of parallel trends assumption

[5] There are some mild inconsistencies in Lee (2018) and Nemoto (2022) coding, and as such I choose primarily to lean on Nemoto's coding, as a spot check at the NEC seemed to confirm his being more accurate for my purposes

3.5.5 MH3: Parties place women in more winnable seats

The third mechanism hypothesis states that the gender quotas have led to a decrease in the tendency for women to be placed in losing districts. In order to operationalise this measure, to make it directly measurable, I chose the share of votes that the party family achieved in the previous election. This is done because the parties themselves change very often, as will be explained later. In a rough sense, the extreme values of this variable will capture districts that are known to be "strongholds" of an incumbent party family or ideology. Given that this number is an aggregate of potentially more than one party, it is not without its flaws as it potentially fails to capture competition between two parties of the same family competing in the same district, but this is not an issue in my dataset. I list a complete list of the ideological camps used for each country in the appendix, but noteworthy is that I also group the minor parties and independents.

The term "party family" is not quite accurate, as the aggregate basis is more on cadre groupings of politicians that band together, which remain the same, while the party organisation in both countries change very often. These cadre groupings are reflected in previous literature on both Japan and South Korea, and this is reflected in their inclusion in both Lee (2018) and Reed-Smith (2017) datasets. The only time this becomes particularly problematic is the 2004 election in South Korea, in which the democratic camp was split into the Uri party and the Millenium Democratic Party. But this loses its salience after that as they merge into one party shortly thereafter. I chose to still apply this methodology because I believe it still remains valid for the 2004 and 2008 election. For 2004, both parties most likely utilised the information from the previous election in order to assess their chances, when they were the same party, thereby using the same numbers. For the 2008 election, the variable becomes even better, as it is already the merged vote share of both parties in 2004, which most likely represents the information that the party organisation was working with in 2008, given that they had merged their two parties, and now views their vote as not being split between two parties.

This indicator is potentially more problematic than the others, and requires some debate as to whether it is fit to be used as an indicator of party strength. It should be mentioned that for some parties this will capture their performance in the previous

election, indicating that lower values will be associated with losing parties in the previous election. But since party belonging and performance will be addressed later, I believe that the variation in the number that this gives will be solely due to the potential strengths of a party or ideological camp in this district.

3.5.6 Control variables

Given that this quasi-experimental design captures many of the differences between our two cases, there are not too many control variables that should be introduced, to reduce the risk of controlling on a collider.[6] The most relevant things to control for are elements that can vary between years, and have a potential link to our dependent variable. This is where differences in ideology can become salient, particularly with such a low n. It is a well-studied phenomenon that right-left ideology is also related to gender ideology (Och & Joshi, 2021; Davidson-Schmich, 2016). Gender ideology is how the parties relate to ideas surrounding women's and men's role in society (Davis & Greenstein, 2009, p. 88-89). This is particularly important because it relates to how they recruit, and to what degree they recruit women. Right wing parties emphasise traditional gender roles, while left wing parties promote feminist ideals (Och & Joshi, 2021, p. 172). This means that the ideological outcome of an election, or rather who wins, can affect the descriptive representation of women. This can also then confound our results, if the ideological in the country varies before and after the treatment. This is, in effect, a violation of the parallel trends assumption, that the two countries would not have developed similarly if the treatment had not happened. But this is a violation we can control for. I control for this by using a number which is unique for each party in each year, and which is also related to the outcome of women's representation, which is party performance. I measure party performance as the average share of votes attained by the party in all the SMD elections they run candidates in.

In addition to this, when looking at factors relating to the success of women at being elected, incumbency is strongly associated with electoral success (Mondak, 1995). If we

[6] A collider is, per Cunningham (2021, p. 106), when you introduce a variable that has a confounding variable behind itself and the result that you cannot control for. A common risk inherent to attempting to overfit a model

were to look at women's objective chances at winning, then this should be accounted for, as men make up the majority of incumbents, and the coefficient for gender, without controlling for it, may suffer from legacy biases from previous elections. For that reason, the dataset also includes an incumbency variable, which is 1 when the person running is incumbent in that exact district, and 0 if otherwise. This incumbency measure is distinct from the PR experience variable, which does reflect certain incumbency advantages, but this in effect also captures the incumbency effect of being familiar to voters.

3.6 Modelling Choices

Given that most of our dependent variables are binary outcomes on the axis of "having" or "not-having" a certain quality, a simple ordinary least squares estimation might yield poor results in this case. What most of the hypotheses state, and what the equations estimate is a form of calculated likelihood of being in possession of the relevant quality being studied. For this reason we must acknowledge the limitations of Ordinary Least Squares (OLS) regressions when simply applied on the data. The main assumptions broken is in regards to linearity and possible values. OLS assumes a linear relationship between predictor and outcome (Ward & Ahlquist, 2018, p. 47), and that each change in one unit ought to change the value of the outcome in an equal way. This becomes problematic within probability, as increases in summed probability of an outcome, usually reaches some form of diminishing returns (McElreath, 2020, p. 337), and as such, OLS does not give an adequate illustration of the data-generating process. Central to any form of modelling is to consider how the data came to be, what processes generate the pure numbers in our spreadsheet (McElreath, 2020, p. 315). As such we need a model that can more accurately account for the way in which probability of "success" in discrete values is generated. The second issue precedes the first in a certain manner, as a linear model will have an easy time predicting what are essentially impossible values, such as more than 100% chance of success, or less than 0% (Ward & Ahlquist, 2018, p. 50). These issues make the use of standard OLS questionable as an estimation method.

The solution to this comes in the form of a link function that transforms our predictive function into a dependent variable with a continuous distribution that can be linked to our

original dependent variable. The relevant link function for binary outcomes of probability is the log-odds model. In this model we first transform our outcomes into an odds-scale by dividing probability of said event occurring by probability of it not occurring. The natural logarithm of this then is a linear scale (should the relevant curve have a sigmoid form) which possesses infinite positive and negative possible values, which can be used for linear regression (Cramer, 2003).

$$logit(P) = log\frac{p}{1-p} = Z \tag{3.2}$$

Equation 3.2 demonstrates the mathematical link between the dependent variable in a logit regression Z, and the actual dependent variable of p, or the probability of success of any given trial. The function connects our dependent variable to the our estimating DiD model, and through it we can estimate effects on the probability of our outcome, based on our relevant predictors. The expression summed up in Z is the log-odds, and can be used as a dependent variable in a standard expression of regression model. This also means that the results of any regression coefficients have to be interpreted as affecting the log-odds scale, and not strictly on the probability of the outcome. This means that interpreting some of the outputs can be difficult and should be done as predicted probabilities and marginal effects.

The other strength of assuming the relationship to be expressed in the form of likelihood is that the number of total candidates vary within each election, meaning a proportional outcome that also accounts for the number of total candidates will more accurately reflect the true nature of our causal relationship of interest. Furthermore, Ward & Ahlquist (2018, p. 50) notes that the logit model almost always outperforms Linear Probability Models that are estimated using OLS.

However, a logit regression may not be necessary unless we are strictly speaking dealing with continuous variables. In regressions where all our independent variables are dummy variables and categories of something, then a Linear Probability Model would be adequate. This is because what we are essentially measuring is the difference in means between the discrete categories that are set up using the dummy variables. The Linear Probability Model is what we refer to when using OLS on a simple discrete outcome

without a logit link function (Ward & Ahlquist, 2018, p. 47).

The concerns raised in Bertrand et al. (2004) are also worth addressing. They find that without proper caution, DiD estimators have a tendency to overly reject null hypotheses, and put out several recommendations for actions to be taken. Preliminarily, I attempt to cluster the standard errors on country-level, but it is important to acknowledge that with such a low case count, the risk of rejecting null hypothesis based solely on the DiD estimator comes with dangers of committing type 1 errors, and should be backed up with other points of investigation.

3.7 Robustness Checks in DiD

Since we are estimating a treatment effect on an explicit counterfactual, we cannot adequately demonstrate that our estimator is unbiased. However, we can look for evidence of bias previously in our cases, and investigate if we have good cause to believe that the time trends do affect our units in a similar manner. One way to do this is to run so-called placebo estimations, done by testing the DiD regression in a period when we know there was no treatment (Cunningham, 2021, p. 425). If we get a similar region estimate and an insignificant b3 coefficient, we have a reason to believe that the countries are, or at least were, affected similarly by time trends.

However, even if the parallel trends assumption is demonstrated during the pre-treatment period, this does not necessarily mean that it will continue to remain. As such, robustness checks will also require the researcher to look into alternative explanations for any causal findings, leaning on theoretical insights from other aspects of the literature and asking whether or not they seem relevant in the causal framework. Worth noting is the fact that any explanation found to differ in either case or grouping of units technically will violate the parallel trends assumption. However, this does not necessarily mean that the findings are useless. Should we find an effect that decreases the distance between our control case and our treatment case, then this increases the chances that our results become insignificant. But, if we find that this is the case, and our results are still significant, this boosts the credibility of our treatment effect.

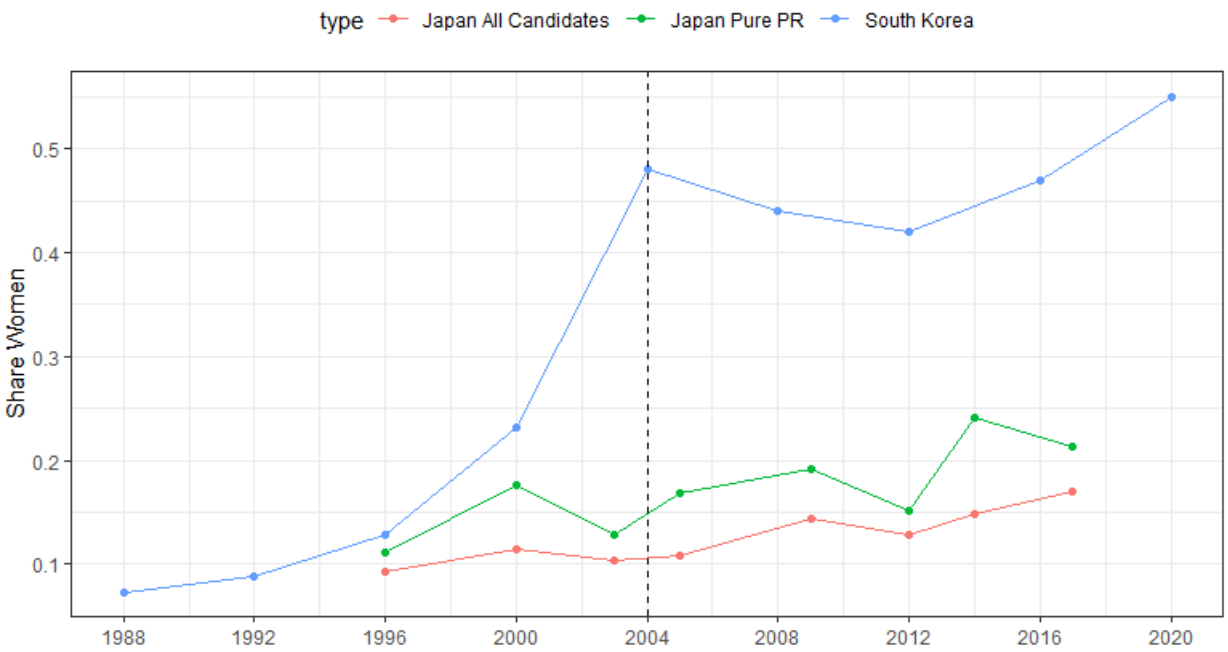
As the theoretical part has set out, there are different plausible mechanisms at hand that can explain the changes. There is the possibility that the enacted law is not the treatment itself, but rather the election itself is. This has potential implications for DiD estimations. If the law is treatment then 2004 contains the first treated units. But the literature on most of these effects theorise that the causal mechanism has to do with the active roles and decisions of women as politicians (see Lee (2018), Beaman et al (2009), Goyal (2021) and De Paola et al (2010)), for example). Given this, we might not see the effect until the women who have been placed into the system through the quota have actually had time to work as politicians within the system. For that reason, the election of 2004 might in reality be the treatment itself, and for that reason we might expect the outcomes we investigate to not be affected until the 2008 election came around, and a new list of SMD candidates are chosen. This is somewhat mitigated by grouping all post treatment observations into one category, but it might still create the risk of underestimating our results, however, given that type 2 error are far less problematic than type 1 errors, I chose not to take specific measures against this possibility.

3.7.1 Example parallel trends

Worth investigating, both to provide an example of visual parallel trends, and to demonstrate the effect of the quota is the development of PR candidates in both our cases. Figure 3.4 shows the share of PR candidates that are women over time. Analysing it we can discern whether the 2004 quota implemented in the PR list was effective or not. In estimating the potential spillover effects, the first step ought to be to investigate if the direct effects actually took place.

Figure 3.4 demonstrates two important patterns. First it provides reason to believe the treatment itself had the intended effect on the strategies of South Korean parties. The parties heeded the mandate from the quota and fielded an increase in candidates running in the PR system when the law was introduced in 2004. However, a visual inspection of the pre-treatment time also gives us reason to believe the parallel trends assumption, as they both demonstrate increases in PR candidate at similar time points. After 2000, we have a split in the timing of elections, which is not unified again until 2012. But visual

Figure 3.4: Compliance and Parallel trends



Share of candidates for the PR lists in Japan and South Korea that are women. Japan candidates are split between pure PR candidates and all PR candidates. Data retrieved from Reed et al. (2022), Nemoto (2022), and the NEC (2021).

inspection on its own is not enough to make valid inferences about the effect on our outcomes of interest, and while DiD is in its strictest sense a method for making causal inferences, we can also test the implications of this framework statistically. For that we need data on the relevant things we investigate.

Chapter 4

Empirical Findings

4.1 Graphical Illustration of Empirical Findings

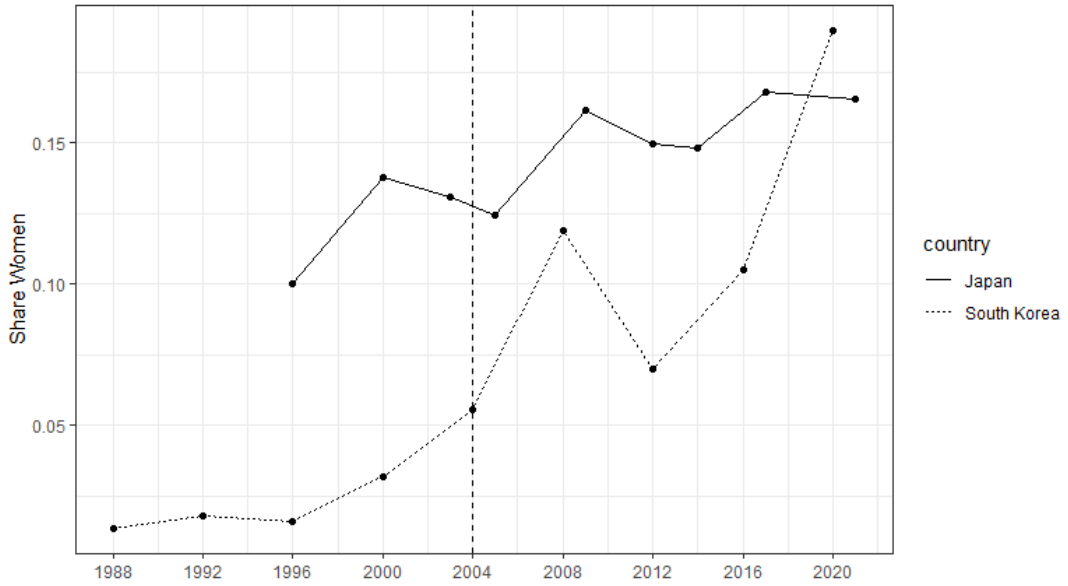
This chapter will first begin with investigating the two main hypotheses, that of more women as candidates, and that of more women winners. I will first demonstrate these findings from the data graphically, then I run DiD regressions for both of them. After that, I investigate the three mechanism hypotheses.

While most of the regressions and graphs lean on the data found in the main dataset, the graphs will sometimes be supplemented with recent result data from the National Election Commission of South Korea (NEC, 2021) and the Ministry of Local Affairs of Japan (2021). These data allows me to plot in extra datapoints for the 2020 South Korean election, and the 2021 Japanese election. However, since this data is not on an individual level, I cannot use it in my regressions.

4.1.1 H1: More women candidates

The data I have compiled allows us to investigate gendered patterns in candidacy and results. To begin I visualise below the trend of women candidates in both South Korea and Japan as share of total candidates.

Figure 4.1: Women Candidates in SMD elections over Time



Demonstrating the proportion of the candidates in each election in the SMD list that are women. The dashed line represents South Korea, and the solid represents Japan.

Evident from Figure 4.1 is that the share of women candidates seems to be slightly rising in South Korea after the implementation of the quota regime ahead of the 2004 election. While this increase cannot be credibly separated from the implementation of the SMD quota in the same timeframe, what is interesting is that the rise does not seem contingent on it as demonstrated in the year 2012, where the share of women candidates decreased sharply. In other words, the parties do not seem to prioritise incremental increases that eventually lead to them meeting the target quota. Furthermore, the figure demonstrates the lack of compliance with the nominal quota, as South Korea has never had more than 22% of the SMD candidates as women, falling short of the 30% requirement. In some respects, the year of 2008 seems like an outlier, given that the rise seems to follow a steady pattern if we discard it. Nonetheless, the elections of 2008 and 2012 already stand out, and we do see a significant increase in women candidates post implementation of the quota, as practically every election has more women candidates than all pre-2004 elections combined.

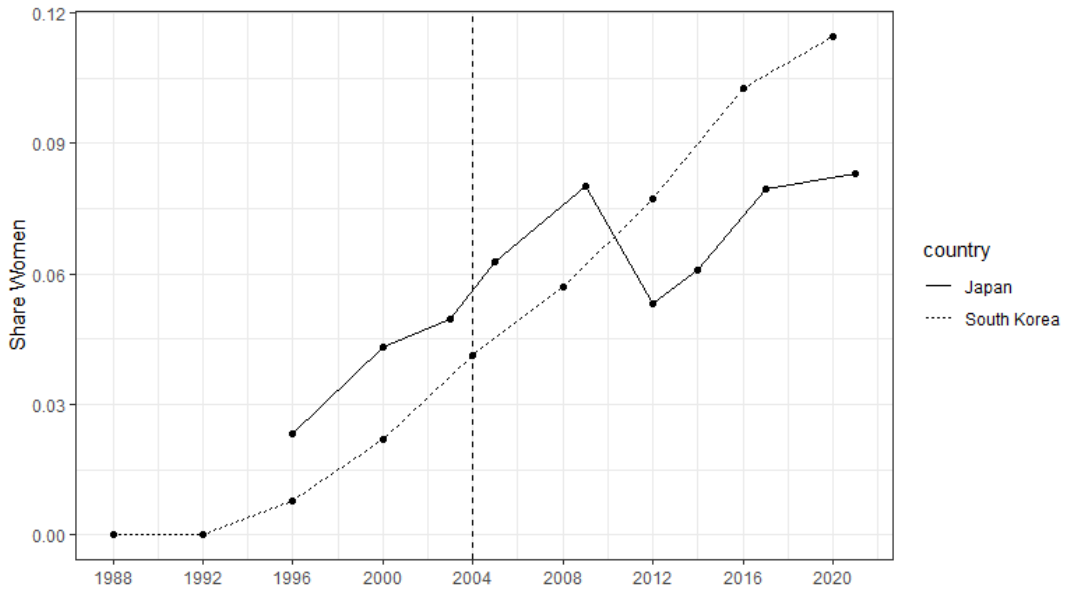
While this does seem to yield some support to the quota impacting women candidacy, we should view the results in comparison to Japan, and see how it compares to a general

time trend, and not a unique situation in South Korea. Japan does seem to imply a weak tendency towards a time trend, but they are not as consistently increasing as South Korea is. In addition, South Korea is rising at a near exponential rate. A simple regression only meant to demonstrate slope numbers before and after for each country (a table is found in the appendix) demonstrates that after the treatment, the rise of share of women candidates is more than double in South Korea, than it is in Japan.

4.1.2 H2: Higher chance of women being elected

By using the collected data to plot the share of winners as opposed to candidates, we learn something more as well. As demonstrated in the plot below, South Korea sees a steady rise in the number of winners, the number is consistently trending upwards, as opposed to our shadow case of Japan, which peaks in 2009, and only barely beats that number in 2021. These trends are reflected in Figures 4.2 and 4.3 demonstrated below.

Figure 4.2: Share of elected SMD candidates that are women

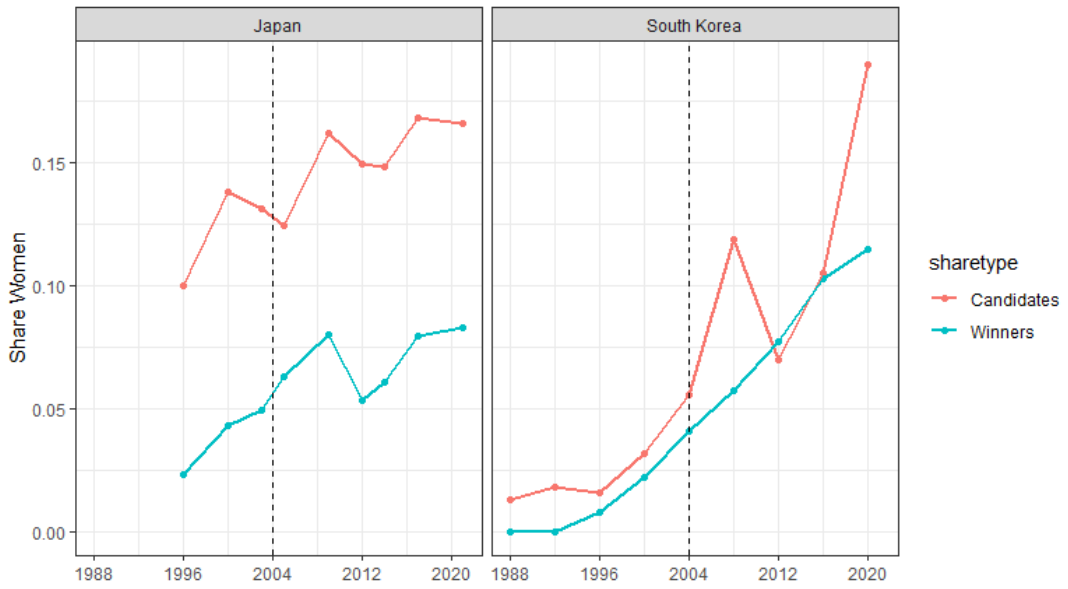


Share of winning candidates in the SMD list that are women. Each point represents an election in either South Korea or Japan, the y-value then represents what proportion of the winners that year were women.

Figure 4.2 demonstrates that there is a consistent rise in women winners in South Korea, and while Japan originally was outpacing South Korea in terms of women's de-

scriptive representation, in 2012 South Korea surpassed them, and in 2016 they outpaced the record SMD representation that Japan had set in 2009. In order to illustrate the discrepancy between women as candidates and as legislators, I plot both of the previous graphs in a single one, to demonstrate the distance between the share of candidates that are women, and the share of winners.

Figure 4.3: Candidates and winners in SMD elections

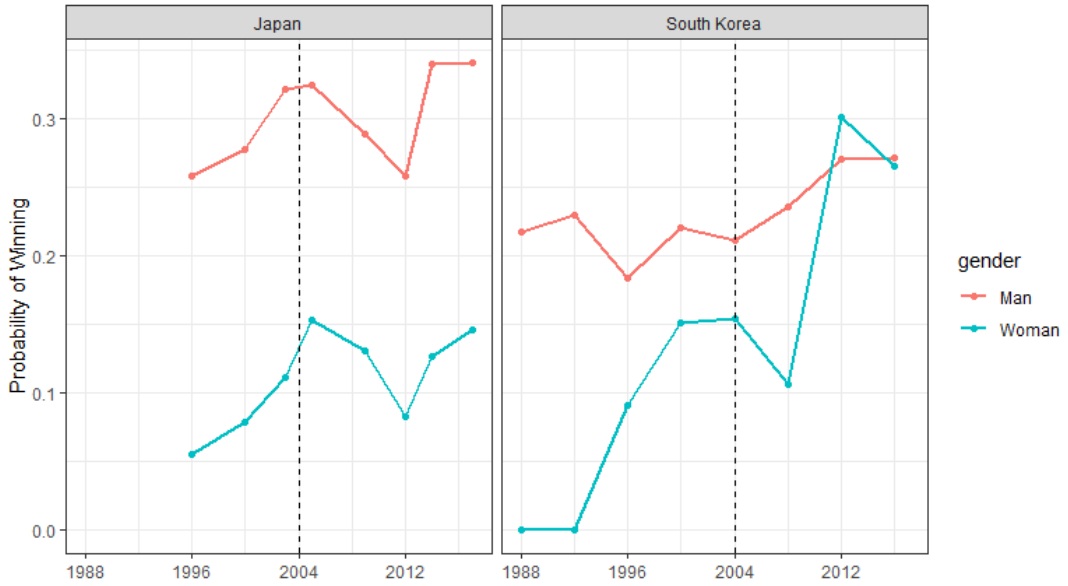


The lines represent share of candidates and winners that are women. The plots are divided into Japan and South Korea. Note the distance between the lines, representing a recurring trend that women have lower chances than men of winning.

Of note is also the trend of distance between share of elected that are women and share of candidates that are women in both countries. In the pre-treatment period, we see a regular discrepancy in both countries in terms of women candidates' chances of winning, especially in Japan. Just on the face of it, being a woman seems to be associated with a lower chance of winning election to an SMD seat. The interesting difference here, hinting at perhaps an issue of comparing these two countries, is the significant discrepancy between the probabilities in Japan and South Korea. In Japan, the gap between candidacy status and elected status is considerably larger than that of South Korea.

The coinciding of the decrease in candidates in 2012, and the steady increase in women

Figure 4.4: Raw probability of winning an SMD seat by gender



Raw probability of winning for candidates in South Korea and Japan, blue line indicates the chance for women, while red indicates for men. Y-value is the probability of each group of candidates winning in each year, not controlled for any variables.

winning seats gives us an interesting trend. This indicates that the probability of women winning is increasing in South Korea. Below is another plot which demonstrates that trend. On the y-axis is the probability of each group winning an elected seat, represented by the lines. The groups are separated into men and women, and the plot is divided into two to better distinguish the differences between the two countries.

A clear trend is demonstrated in South Korea, a massive increase in women candidates' probability of winning, after the 2008 election. This is in despite of men in South Korea having a stable chance of winning. The discrepancy highlights an interesting development, as women seem to suddenly be afforded the exact same opportunities as men to succeed, a trend not reflected in Japan, where there is a persistent difference in the probability of women winning SMD seats. This discrepancy is, based on a visual inspection about 15-20 percentage points lower for women, in every election. The plot demonstrates a consistent gap between the probabilities of men and women in Japan.[1] While women's probability of winning in South Korea initially decreases, it vastly increases in 2012, and persists at

[1]These parallel trends seem to imply that without some kind of intervention this trend will persist in Japan.

a high level continuing ahead. I argue the reason for this can be found in the PR quota, and I will demonstrate this in the next section.

4.2 Regressions and Tests of Hypotheses

4.2.1 DiD for more women candidates

A central framework for investigating differences after a certain treatment or policy has been implemented, that makes usage of shadow cases like I have done with Japan here, is the causal framework of Difference-in-Differences, as elaborated on in the methodology chapter. Figure 4.1 provides some evidence of a parallel trend pre-treatment, but a visual inspection is not sufficient, and I test the robustness of these findings by running regressions reported in Table. 4.1.

I run two generalised linear models with a logit link function, one grouping the units into a before and after period, given the 2004 implementation named model 1. in Table 4.1, and a placebo test named Placebo in Table 4.1. The placebo model covers the 1996-2000 period, attempting to give indications of a general parallel trends. An insignificant interaction link on the DiD coefficient in the placebo model is indicative of passing the placebo test.

The resulting specification demonstrates that there is a significant increase in the probability that a candidate is a woman, post implementation of the quota. The placebo test is also passed. Given that there are no other control variables, the probability that a candidate is a woman is equal to the share of women candidates in the four distinct observed categories. The pre-treatment time Japan average share of candidates that are women is reflected by the constant, while post is the constant and the Time Dummy added together. South Korea pre-treatment is the constant and Region Dummy added together, and post is all the coefficients combined. The DiD coefficient, which is the product of interacting Time and Region Dummies, create the estimated treatment effect. But how can we interpret this substantially?

Table 4.1: DiD Estimation for Women Candidates

	Dependent variable:	
	Probability that a Candidate is a woman	
	Model 1	Placebo
	(1)	(2)
Region Dummy	-1.949^{***}	-1.931^{***}
	(0.119)	(0.234)
Time Dummy	0.240^{***}	0.365^{***}
	(0.064)	(0.126)
DiD	1.330^{***}	0.346
	(0.137)	(0.305)
Constant	-1.972^{***}	-2.198^{***}
	(0.052)	(0.094)
Observations	17,468	4,894
Log Likelihood	−5,203.280	−1,151.974
Akaike Inf. Crit.	10,414.560	2,311.947
Note:		*p<0.1; **p<0.05; ***p<0.01

Interpreting generalised linear models with a logit link is more complicated than a normal OLS function. Since the coefficients are all estimated on a log-odds scale, we need to interpret what a change in the coefficient actually implies for the raw probability of an observation. In order to do that, I need to demonstrate what the model implies in terms of probabilities, and not on log-odds scale. Therefore, I need to transform the predicted log-odds score for our categories into probabilities.[2] Since we are dealing with discrete values, the interpretation is substantially easier than it could have been, as we can use these to create only a few subcategories of what we need to predict for.

In Table 4.2 is the predicted probability for six combinations described and estimated by the model. Four of these values reflect estimations taken from the data, and simply reflect the same averages seen in those data. In addition, I add two counterfactual cells, which reflects what the regression implies would have been the mean score of women had it not received the treatment.

Table 4.2: Predicted Probabilities from DiD estimation

DiD For Candidates	Japan	South Korea
Pre-treatment	12.2%	1.94%
95% CI	11.1%-13.3%	1.57%-2.40%
Post-without-t	15.0%	2.46%†
95% CI	14.1%-16.0%	1.69%-3.57%
Post-with-t	40.1%†	8.70%
95% CI	32.0%-48.7%	7.86%-9.62%

Predicted Probabilites based on model 1 in Table 4.1, note the numbers with † represents estimations of counterfactuals, namely Japan with a gender quota, and South Korea without one. With and without t represents with or without a gender quota.

As Table 4.2 demonstrates, without the treatment, South Korea is predicted to have had 2.5% women candidates, as opposed to the actual post treatment average of 8.6%.[3] This implies that the treatment gave an increase of around 6 percentage points in women candidates. I run a linear probability model, which I report in the Appendix, which yields similar significant effects, but estimates a treatment effect of 4 percentage points

[2]This is done by putting the resulting predicted log-odds score through the following formula: $\hat{p} = \frac{1}{1+exp[-(\hat{a}+\hat{b_1}R+\hat{b_2}t+\hat{b_3}Rt)]}$ Where p with hat represents the estimated probability from the regression.

[3]As is reflected in the predicted scores for Japan with treatment, since the regression works on a log-odds scale, this is more akin to a 2.5 times increased chance in probability. This may show the weakness of treating the treatment effect as a log-odds result. The reported 6% is more plausible as a general treatment effect.

flat increase in women candidates. This means that depending on the selected estimation model, the treatment effect is estimated at between 4-6% point increase in the share of candidates that are women after the implementation of the gender quota in PR.

4.2.2 H2: Regression for women's chances of winning

Secondly, I run a DiD estimation for women's chances to win, and interact the relevant dummy variables with the dummy variable for female. This allows me to isolate the effect that being a woman has on chances of winning, but also what effect being a woman after the treatment in South Korea has on winning. If this is substantially different from the effect of a woman before the treatment, then the treatment can be said to have had an effect. Like the previous regression, I run the regression on the simple difference between the 1996 and 2000 elections as a placebo test. In addition to this, I find it necessary to introduce a control variable as winner chances might be affected by the performance of their party. This would in itself not be an issue, as both countries are equally affected by the performance of the party, and any differences between general anti-women sentiment would be captured in one of the interaction links measuring group differences within each country. But given previous research finding a connection with ideology and women candidates (Wangnerud, 2009, p. 55), a violation of the parallel trends might occur if in one country a centre-left party, friendly to women win, while in the other a centre-right unfriendly to women win. Adding a variable to each unit based on their party's performance in that election allows us to control for that as a confounder. I report the results of that regression below. I report the result of both of these regression, Model 2 for the DiD estimation, and Placebo in Table 4.3.

First, to address our placebos, we find that the placebo regression does not produce significant results on the relevant interaction, which in this instance is the Region x Time x Female interaction link, and that we cannot say that the region and female interaction, is significantly different from each other at each election. Secondly, the DiD and female interaction is significant at a 5% level, which leaves it open for doubt, particularly due to risks acknowledged by Bertrand et al. (2004) about the dangers of committing type 1 errors in DiD frameworks . But the regression does seem to imply that

Table 4.3: DiD with Gender Interaction

	Dependent variable:	
	Win in SMD	
	Model 2	Placebo
	(1)	(2)
Region Dummy	0.565***	0.613***
	(0.067)	(0.120)
Time Dummy	−0.159**	−0.171
	(0.064)	(0.117)
Female	−0.527**	−0.632
	(0.208)	(0.433)
Party Performance	11.566***	12.096***
	(0.205)	(0.424)
DiD	−0.316***	−0.432**
	(0.090)	(0.169)
Region x Female	−0.483	0.314
	(0.476)	(0.894)
Time x Female	−0.233	0.225
	(0.248)	(0.547)
DiD x Female	1.256**	−0.124
	(0.526)	(1.112)
Constant	−4.716***	−4.669***
	(0.091)	(0.165)
Observations	17,216	4,894
Log Likelihood	−6,691.203	−1,879.010
Akaike Inf. Crit.	13,400.410	3,776.020
Note:	*p<0.1; **p<0.05; ***p<0.01	

on the aggregate level, women in South Korea have a higher chance of winning election post quota legislation. This does reflect the somewhat mixed face value results found in Figure 4.4, which demonstrates the raw probability of winning based on gender. The implementation itself seems to first have reduced women's chances only to later increase them. I will reflect more on the causes of this later in the chapter.

As previously mentioned, interpreting what the treatment effect actually is in this instance can be difficult. As such I once again create a table of predicted probabilities based on hypotheticals and the estimation itself. This is done in the same way as the last table of predicted probability, only this time, due to the control variable, I average the control variable for prediction in the model. This creates the predicted probabilities reported in the table 4.4 below. When estimating these probabilities, I keep the variable for party performance at the average, to get the marginal effects at the mean of party performance for each of the coefficients. This is so we can estimate what the quota has done for the "average" woman.

Table 4.4: Predicted Probabilities from DiD x Gender model

Model 2	Japan		South Korea	
Gender	Men	Women	Men	Women
Pre-treatment	13.2%	8.25%	21.1%	8.90%
CI 95%	12.0% - 14.5%	5.66% - 11.9%	19.8% - 22.6%	4.00% - 18.6%
Post-without-t	11.5%	5.72%	18.6%†	6.19%†
CI 95%	10.5% - 12.6%	4.45% - 7.35%	17.1%-20.1%	4.45%-8.53%
Post-with-t	8.66%†	13.5%†	14.3%	14.4%
CI 95%	7.87%-9.51%	10.6%-16.9%	13.1% - 15.6%	10.7% - 19.3%

Predicted probabilities for sub categories in Japan and South Korea. Daggers represent estimations of counterfactuals.

From the table we can read that women in South Korea have gained an approximate 8 percentage point increase in their chances of winning due to the reform, all else equal. This is also predicated on the parallel trends assumption actually being true. Similarly the regression implies that had the quota been implemented in Japan as well, women would see an approximate 3 percentage point increase in winning chances. The significant results is also reflected in a Linear Probability Model, which I run and report in the appendix, this estimates a treatment effect of 11.4 percentage points increase in chances for women to win election.

In addition to this I have run two more regressions I report these in the appendix, because they turned out to be unhelpful. I run one of the regressions using clustered standard errors, however, given the notion that this is a deliberate step to counteract the dangers of falsely concluding a relationship where there is none, I rejected this approach, as it yielded t-values that were far too high to be plausible. This is most likely due to not having enough units within the clusters. I also estimated a Fixed Effects model with fixed interactions for each concurrent election in Japan and South Korea, these regressions reflected largely the same as figures 4.3 and 4.4, and the results of regression table 2, as such I only include it in the appendix.

Regardless of the differences in our robustness checks, we should investigate whether we can accurately attribute this difference in probability to the implementation of a gender quota. I will spend the next subchapter on investigating the implications that the raw findings might have, what constellations of mechanisms might explain the trend, and whether these changes themselves truly arise from the implementation of the gender quota.

4.3 Mechanisms

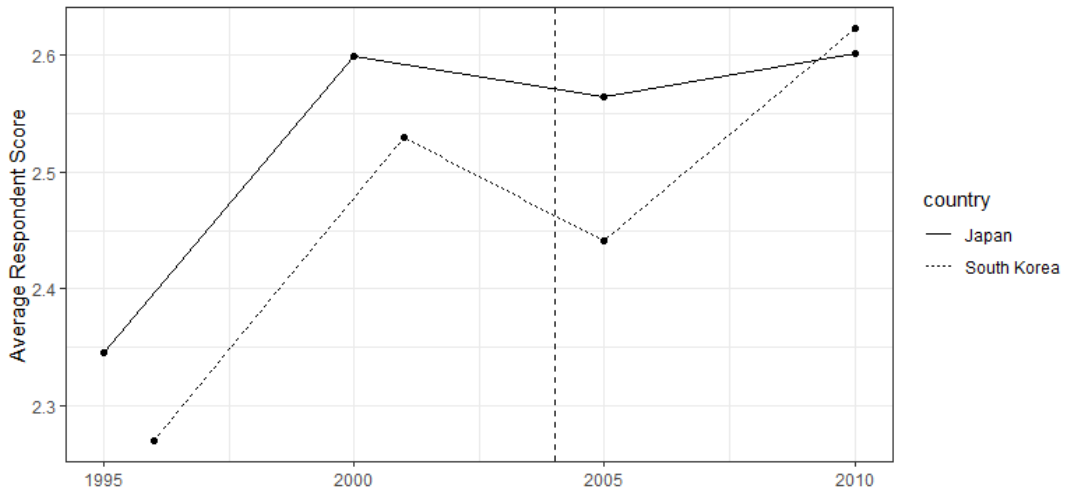
If we revisit the framework outlined by Norris (1993) we recall that the primary reason for gendered patterns of distortions are found in the transitions between the stages of candidacy. In the theory chapter, I posited three distinct possible mechanisms that could account for an increase in both chances to win, and in more women running.

4.3.1 MH1: A change in voter attitude

In order to investigate whether the population's attitudes are a credible reason for the change in the chances of women winning, I employ survey data from the World Values Survey (WVS), which for each of its surveys asks the question "Men make better political leaders than women" (Inglehart et al., 2014). I employ this as a very general indicator of hostility towards women politicians. The WVS was held in Japan in the years 1995,

2000, 2005 and 2010, and in South Korea in the years 1996, 2001, 2005 and 2010, giving us an approximate equal timing, with which we can compare the developments of these countries. I create a combined dataset based on the observations from both countries in the relevant survey waves.[4] Below I have plotted the mean scores for each country in each year. The y-axis demonstrates ranked agreement with the statement where 1 is total agreement, and 4 is total disagreement, and as such, higher values indicate less hostility towards women politicians. The x-axis represents the year the survey was done in.

Figure 4.5: Attitudes towards women as politicians

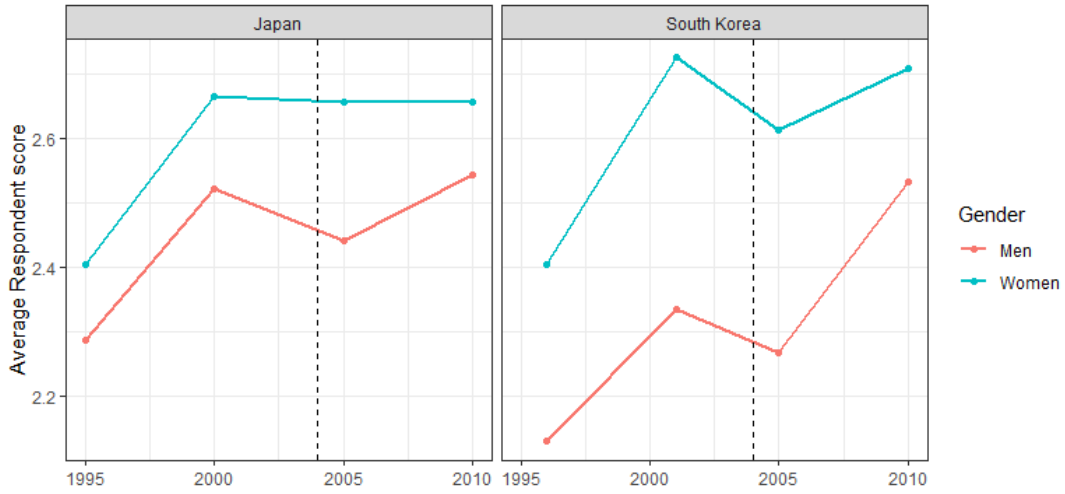


Demonstrating the over-time development of attitudes towards women politicians

The plot gives evidence towards a parallel trend before the 2010 survey, as the differences in all three survey waves before 2010 maintains a roughly similar distance. But what is of interest is what happens in 2010, a sudden increase in South Korea, matching the period after the quota had been implemented. Noteworthy here is that while the quota was implemented in 2004, we still might expect, from earlier information theory contributions (see Hajnal 2001, or Beaman, 2009 for reference), that the actual change in attitude follows after an extended period of exposure to women as politicians. This matches with having the experience of two elections using the quota quite well, as is the case in 2010. Of note is also that the change appears to be positive for all respondents, if only slightly stronger for men, and not divided by gender, as illustrated by the additional

[4]I also included some other frequent survey items in order to test whether political interest for women had increased during this timeframe, but found no significant connection, plus a violation of parallel trends. I report these in the appendix.

Figure 4.6: Attitudes towards women as politicians by gender



Demonstrating the differences in gender in attitudes towards women politicians over time

plot.

In order to examine the robustness of the visual trends found in the plots, I run a DiD regression between the two countries, in all three periods covering the time frame. By doing this I can paint a more accurate picture of the moving trends of the attitudes in both countries. I chose not to group all of them into a simple pre and post treatment period in order to demonstrate at what precise injunction the change happened. I report the result of these in Table 4.5.[5]

As is evident from the regression, we have support for our parallel trends assumption from the placebo regression ran in the years 95-00. Furthermore, the immediate effect of the implementation does not seem apparent. The effect first takes hold in the survey wave conducted in 2010. This hints at a delayed effect, which is consistent with the idea that it is particularly the experience with legislators of a minority status that is associated with reduction in hostility. The model in the regression table shows that the difference in differences between Japan and South Korea in the 2010 wave is significant at a 1% level, and implies an increase of 0.15 points on the scale on the categorical scale.

But a question worth asking is also whether or not it is credible that this change was

[5]I also run a triple difference estimator that I list in the appendix, however, there is little evidence that it the aggregate effect is due to one particular gender being affected more.

Table 4.5: DiD for attitudes

	Dependent variable:		
	Less Hostility		
	95-00	00-05	05-10
	(1)	(2)	(3)
Region Dummy	-0.076^{**}	-0.069^{*}	-0.123^{***}
	(0.037)	(0.036)	(0.036)
Time Dummy	0.253^{***}	-0.035	0.037
	(0.039)	(0.040)	(0.035)
Interaction	0.007	-0.055	0.145^{***}
	(0.052)	(0.053)	(0.047)
Constant	2.345^{***}	2.599^{***}	2.564^{***}
	(0.029)	(0.026)	(0.028)
Observations	4,051	3,996	4,723
R^2	0.028	0.006	0.008
Adjusted R^2	0.027	0.005	0.008
Residual Std. Error	0.808 (df = 4047)	0.819 (df = 3992)	0.779 (df = 4719)
Note:			*p<0.1; **p<0.05; ***p<0.01

The three models estimated are Difference-in-Differences estimations using two-way fixed effects in the time periods that surveys are held. Estimated by OLS.

itself caused by the implementation of the gender quota. While theoretically the DiD estimator accounts for general time trends that affect the countries in the same way, they do not account for differences in time trends. And this issue is of significant note when we are dealing with units on the level of countries. Even if we accept that the primary driving force for the reduction in hostility is related to the symbolic representation of women as politicians, there might be a difference in other sources of symbolic representation in the time frame between 2005-2010.

The change in itself might arise from other differing factors of symbolic representation. For example, in 2006 Han Myeong-sook was appointed prime minister of South Korea by president Roh (Kim, 2006); this is a demonstrable difference between the two countries that might violate the parallel trends assumption. The presence of a high profile women politician does not have the same parallel in Japan, and her role as a symbol of women politicians might also account for some of the apparent changes in attitude. Two issues should be connected to this idea, first, the role of prime minister is not the same across the two countries, as the prime minister of Japan is the uncontested leader of the executive in Japan, and for all intents and purposes the leader of the country. The parallel to this role in South Korea is more likely to be the president. South Korea's president and the prime minister of Japan both have responsibility to appoint cabinet members, and are both the main representative of their respective nation in both foreign and domestic affairs. If we view the role of prime minister as subservient to the leader of the executive, then perhaps other cabinet appointments might be a better parallel to the South Korean prime minister. In this regard, Japan is ahead, given the early appointments of Makiko Tanaka in the Koizumi cabinet in 2001 and Yuriko Koike in 2003 (Lin, 2009), or the earlier victory of Takako Doi, who was elected speaker of the House of Representatives as early as 1993, at a time when only 2.7% of the house were women (Nakano, 2013; Kingston, 2013; Lin, 2009).

My second point of debate regarding this issue, is whether or not the appointment of Han was in fact also related to the implementation of the quota. Han was herself elected in 2000 on the PR list, and then subsequently was elected to the SMD list for a district in Gyeonggi in 2004. A potential explanation for her appointment might in fact be related to the rise of women in general attributed also to the decision of Roh

picking her. A subsection of Roh's party might have used their leverage in parliament to barter for the appointment of a female prime minister. While evidence of such pressure is not something that can be substantiated, it is worth mentioning that in the 2004 election, preceding Han's appointment, Roh's Uri party won 152 of 299 seats, meaning their continued majority was in fact dependant on the support of the women in the Uri party.

Lastly, another factor could be integral to explaining the 2012 election. In 2012, both South Korean major parties were led by women leading up to the legislative election. The former prime minister Han Myeong-sook, mentioned above, led the democratic party, while Park Geun-hye, daughter of the former dictator of South Korea, led the conservative Saenuri party. Lee and Shin (2016) give a comprehensive account of the nomination process and find that personalised politics is what largely accounts for the nomination procedures. The procedures are highly centralised with party leaders being influential in placing people on the selection committee. In regards to the central 2012 election, there is mixed evidence that the party leaders both being women was an influential factor. While the democratic party increased their share of women committee members, as well as candidates and those elected, the Saenuri party, who won the election, did the opposite. Nonetheless, the simple nomination procedures and the amount of nominees does not tell the full story.

4.3.2 MH2: Increased candidate quality

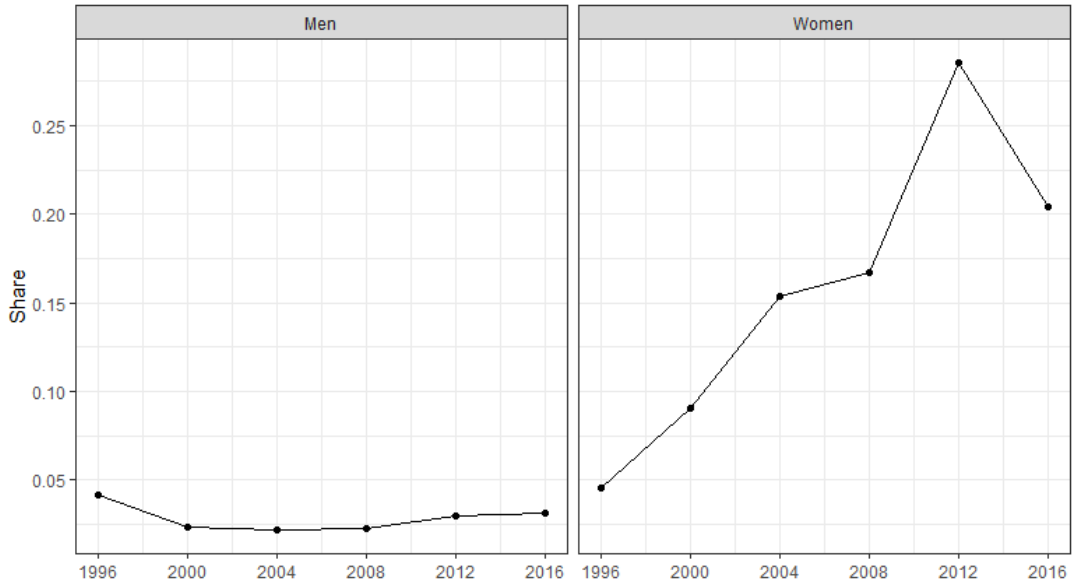
The second mechanism hypothesis asks us to investigate the patterns of PR experience among the SMD candidates. Given that we are working with quotas, which might limit the amount of "proving" that the legislator goes through, we can theorise that the quotas imbue some form of resource or advantage to the legislator not afforded to them elsewhere. In line with my theoretical expectations, I investigate whether patterns of different levels of experience is noticeable over time in South Korea. To test this, I investigate whether there is a discrepancy between the candidates and winners in terms of having experience serving in the PR list.

In order to accomplish this, I create a lag for each candidate, and give them a dummy

variable of experience in PR if they have, at some point, been incumbent in the PR list. For South Korea, I plot these below in figure 4.7, which demonstrates the share of candidates of both gender that have had PR experience over time.

While there is a quite stark difference in the total amount of women candidates versus male ones, of note is the fact that substantially higher percentage of the women candidates have PR experience, as is illustrated in the figure below, 4.7. This graph simply illustrates what share of men and women candidates have previously served in the PR list in some capacity. As it clearly demonstrates, the share of women candidates that have served in PR sharply increases following the quota implementation, while the men see little to no remarkable change.

Figure 4.7: Share of South Korean Candidates with PR experience, by Gender

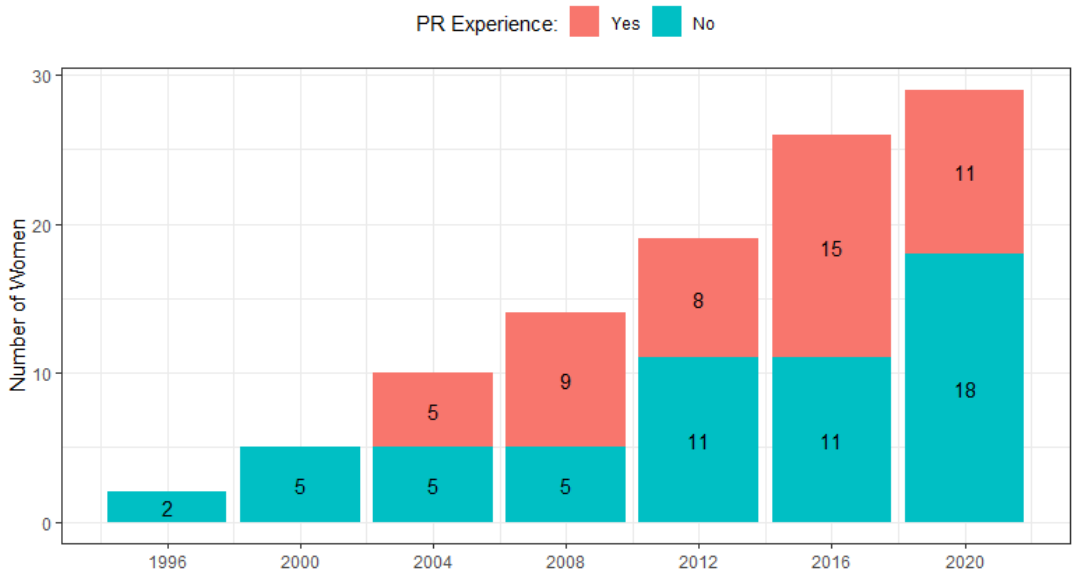


Note that the total amount of candidates is not relevant to this plot, only the percentage of candidates who have PR experience.

There is a steady increase in the share of candidates that have PR experience, up until the 2012 election. The fact that this trend peaked in 2012 is also interesting, given the fact that it coincided with the unusually high probability of winning election for women. This means we have another candidate for explanation for the increased winning chances that we can investigate later in the chapter. But for a simple visual inspection I plot the total number of women winners in a bar plot in the Figure 4.8 below, and demonstrate

the discrepancy between women winners with PR experience, as opposed to simply the candidates as shown in Figures 4.7 and 4.8.

Figure 4.8: Women Winners with PR experience



Number of women candidates elected each year, the fill indicates whether they had PR experience.

Of note is the fact that in every year since 2004, a larger share of the women winning has PR experience, than candidates. To apply the terms used earlier, a filter has been placed on the transition between candidacy and legislator, a filter which seems to favour women with PR experience. In 2008 for instance, even though only 17% of the candidates had PR experience, they constituted more than half of the winners. Clearly PR experience is, in some way, associated with an increase in chance of winning. I will investigate to what degree this is the case later in the chapter.

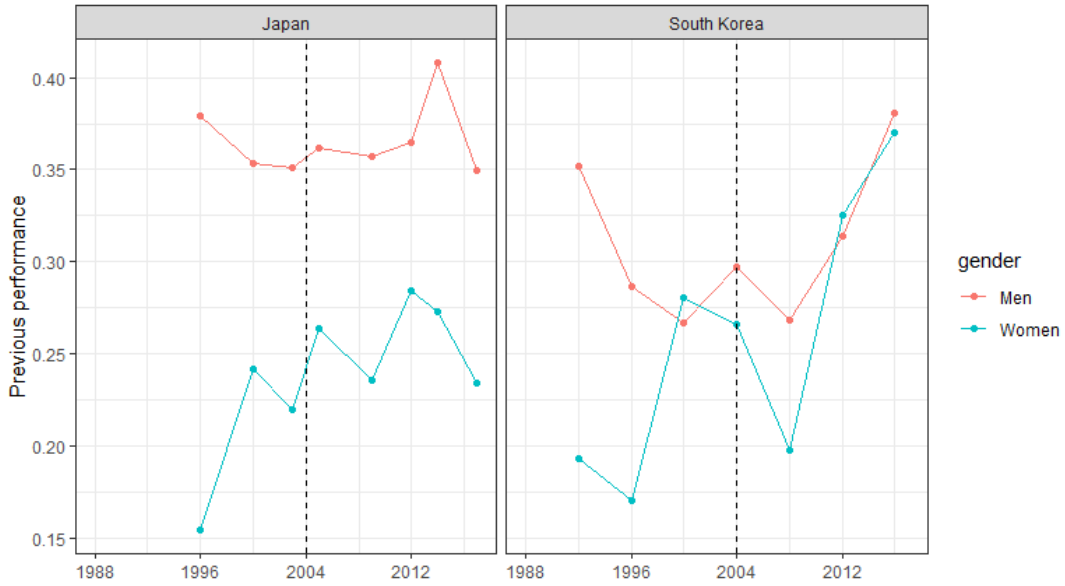
A possible mechanism for the increase in chances of winning based on PR experience may be the possibility to bargain a better potential district for oneself. Given that those who already are in the legislature likely carry higher prestige than those without, and that with higher political capital, they could be in a better position to ensure a better placement for themselves, as such we should be mindful of this being a possible explanation for changes the in probability of winning.

4.3.3 MH3: Parties place women in more winnable seats

Similar to the hypothesis on voter attitude, demand for women may come from the parties as well. A measure of how much a candidate is desired can be what sort of district they are placed in. As discussed in Chapter 2, parties often place candidates in districts even if they know that they have no chance of winning said districts, this is the practice known as sacrificial lambs. This strategic placement of candidates often has a gendered nature (Lee, 2018; Baskaran & Hessami, 2018, p. 96), and the question remains if what has changed over the period of investigation is primarily related to the parties in question being more amicable to integrating women into the more competitive, or even safe seats. To investigate this, I utilise the previous share variable I created in my dataset. This variable is created by lagging the vote share in each district and for each ideological camp, meaning each observation has a value which indicates what the party's ideological camp achieved in that electoral district in the previous election. This indicator is, strictly speaking, not a purely lagged variable of what the party achieved last election, but rather an indication of what sort of ideological tint the relevant district has, and how that reflects a party's winning chances. This party family is used instead of the party in order to capture some of what is lost in the myriads of party organisational changes that occurs over the years, in both of the countries in my dataset. The graph under then demonstrates the mean score for each gender on the previous ideological share, and in each country.

Of interest is the fact that there is a consistent trend of placing women in worse districts than men in Japan. There is a similar occurrence in some elections in South Korea, but the trend is not consistent. However, the trend of South Korea does seemingly match some of the developments reflected in the raw probability of election demonstrated in graph 4.4, such as the dip in 2004 and 2008, as well as the substantial increase in 2012. This means that this could be part of the explanation for the increased chance of winning. I will explore this possibility further later. I also run a DiD estimation with gender interaction, with previous share as dependent variable, reported in the appendix, but find no meaningful change as an effect of the quota being implemented in 2004, in addition to a substantial failure of the placebo test.

Figure 4.9: Strategic Placement Over time



Demonstrates the difference between men and women's strategical placements by their respective parties in both countries.

Also of note is that this is a parallel to the methodologies and design of Lee (2018) who ascertains that there is a gendered pattern in the placements of candidates. My findings somewhat reflects this, but it is inconsistent, as only a few years seem to imply that South Korean parties place women in unwinnable seats. Lee uses a distinct categorical variable to indicate the type of electoral district that each candidate runs in, classifying each constituency as belonging to a category based on the candidate's party and the distance between their party and the winning party's vote share. My approach differs in this respect, given that I apply a metric variable, but I believe this will give the best interplay with the logit-link generalised linear model, as that is more suited to uses with metric level variables. But it is not a given that this is the optimal way of constructing a measurement variable. The variable ought to reflect a real-life process, and while our measure is certainly somewhat reflective of the information that parties utilise, it is also likely that the parties do not see it as a continuous sliding scale, and that their distinction is to a greater degree reflected in Lee's (2018) categorisation.

4.4 Summarising: What Decides Women's Chances?

If we piece together the information that I have previously demonstrated, we can run a regression in order to illuminate what sort of factors truly determine a woman's chance of succeeding in an SMD election. I run a generalised linear model, with a logit link function in order to predict the outcome of a Bernoulli trial for each candidate. The dependent variable is then success in gaining elected office in the SMD list. As covariates of interest, I then add variables from my dataset reflecting some of the earlier used mechanism hypotheses. I include PR experience to measure how this interacts with probability of winning for both countries, I include previous share for the camp in question in the said electoral district for party strategy. I also control for incumbency, whether or not the candidate running is currently the holder of the seat being contested. This is due to incumbency historically favouring men, and we run the risk of it being a confounder when estimating whether being a woman is truly connected to electoral disadvantage (Matland & Studlar, 2004; Schwindt-Bayer, 2005). This regression will then demonstrate what effect experience in PR has on a person's chances of winning. In order to see whether this effect is stronger for women, I add an interaction link between female and PR experience. To control for variations in each election, arising from potential biases in the number of candidates ran by each party, and their interaction with their result in the election, I add a control variable for the average vote share of the party in the SMD seats they run in. Finally, I run these regressions separately in both Japan and South Korea, to see if the coefficients hint at some sort of universality, and whether or not a comparison between the two is warranted. I report the result of that regression in the table below.

The regressions are estimated twice, with and without previous share as it allows us to test whether PR experience only has an indirect effect through previous share, which could imply that PR legislators use their position to secure safe seats for themselves. The difference in models implies that this is not the case. This is interesting because it implies the strength of having PR experience is not due to them being "insiders" so to speak, and that they use their connections to game their strategic placements. It would be easy to conclude that those that have already been elected to the PR list, could use their inside connections, or broker their increased power into securing safe nominations

Table 4.6: Estimating Chances of winning

	Dependent variable:			
	Winning SMD seat			
	South Korea	South Korea	Japan	Japan
	(1)	(2)	(3)	(4)
Party Performance	7.969***	6.162***	12.760***	12.408***
	(0.265)	(0.364)	(0.349)	(0.392)
Female	−0.537***	−0.217	−0.478***	−0.445***
	(0.201)	(0.230)	(0.135)	(0.144)
PR Experience	0.712***	0.886***	−0.034	−0.083
	(0.177)	(0.218)	(0.149)	(0.152)
Incumbent	1.531***	1.417***	1.758***	1.432***
	(0.084)	(0.098)	(0.069)	(0.081)
Previous Share		2.710***		2.109***
		(0.223)		(0.236)
PR Experience x Female	0.203	−0.254	0.676	0.602
	(0.376)	(0.433)	(0.424)	(0.432)
Constant	−3.568***	−4.232***	−6.020***	−6.760***
	(0.082)	(0.127)	(0.148)	(0.188)
Observations	8,390	4,973	8,866	7,620
Log Likelihood	−3,387.769	−1,849.101	−2,753.973	−2,347.436
Akaike Inf. Crit.	6,787.538	3,712.202	5,519.947	4,708.872
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 4.6, Demonstrating two logit regressions ran in each country. Model 1 and 3 are estimated without previous share as a control variable, while 2 and 4 show what happens when we control for previous share.

for themselves. Regardless of the potential mechanism, the effect of being experienced in PR is significant, and strong, and in fact, increases when account for previous share.

Worth noting is also the fact that the coefficient for gender (female) becomes insignificant when including the previous share, echoing some of the findings from Lee (2018) that women are placed more often in losing districts. Interestingly this does not seem to be the case for Japan, as the coefficient for women remains unchanged when controlling for previous shares, meaning they share little overlapping covariance, and that being a woman is uncorrelated with the previous share of a district.

Models 2 and 4 are run through a predictive probability test, and I find that they accurately predict the outcome of 84% and 85% of all outcomes, indicating a decent fit for the data. However, model 2 only manages to predict half of all winners correctly, indicating that there are still some flaws within the model. Model 4 predicted about 75% of all winners correctly.

Finally, while several more factors available to us could be relevant explanations, I will avoid including variables that are unconnected to the ones that are relevant. This is partly to avoid a recurring trend in social sciences, and particularly economics where models are overfitted for the sake of overfitting (McElreath, 2020, p. 200). I attempt to avoid problems relating to just throwing the kitchen sink at the problem. This is despite the fact that I could include covariates for everything from education, to a dummy for independent candidates to ideological tints.

Chapter 5

Discussion of the Findings, and Potential Implications

In this penultimate chapter I wish to discuss whether or not these findings have internal and external validity, and whether or not the findings are applicable in other cases. To do that, I separate and debate the findings implied by the regressions and findings in Chapter 4, and discuss how much faith we should put in the parallel trends assumption.

5.1 Summarising the Findings

The substantial finding discovered in this section can be summed up as follows: after the implementation of the PR gender quota, we have seen a consistent rise in elected women to the SMD lists. This increase comes from an increase in the probability of women candidates winning, and not solely as an increase in the share of candidates who are women. The discrepancy between the share of candidates and the share of winners who have, in the past, been elected to a PR list, leads us to believe that PR experience is indicative of an increased chance of winning. The regressions in Table 4.6 gives us sound reasons to believe this is the case, and notably this advantage remains even when controlling for strategic placements of candidates. Taken together, we can interpret the steady increase in women elected to SMD seats as resulting from an increased quality of women running

due to PR experience, as a consequence of implementing a gender quota. Parallel to this, we also have some evidence supporting the notion that the implementation has granted symbolic representation to women as politicians, and that this representation has yielded a positive effect on the average voters' perception of women's qualifications for political office. In total, the gender quota may have practically eliminated the negative effect of being a woman on the raw probability measure of winning, as seen in the 2012 and 2016 elections. This is in contrast to Japan, who has seen no substantial changes in the discrepancy between women and men's chances at winning over the period of interest, as demonstrated in plot 4.3.

5.2 Implications

The usage of the shadow case of Japan means that we can theorise on what the implications for a potential gender quota of similar form might be in Japan or other MMR systems. While Japan has consistently failed to improve on their poor performance in terms of women's representation, some parties are still calling for significant measures to be implemented. The primary opposition party, the Constitutional Democratic Party (CDP), have in their program, a call for the implementation of a legal gender quota on national general elections (CDP, 2022). The results of our separated regressions do seem to imply that there is a difference in what effect having been elected to PR can do for one's chances. However, the effects are difficult to isolate in Japan due to possibilities around dual candidacy, and the tendency to use PR as a failsafe for failing politicians. The regressions I have used in this instance accounts only for those who have been elected to PR as a pure PR candidate, and then went on to contest an SMD election. In the case of Japan, it appears to not be correlated with victory in the same manner. That being said, the coefficient for women with pure PR experience is positive, but it is not significant, indicating that there may still be a chance that it increases women's chances, but we might in this case be limited by a rather small sample size, given that we only have 31 women who have chosen to run in an SMD election after being elected as a pure PR candidate at some point in their career.

The implication of this is still then that there could be gains in women's descriptive

representaiton representation, if there were to be implemented some form of gender quota, but it is unlikely that this will happen. While the main opposition party is calling for the implementation of such a quota, several reasons speak against this being feasible to implement. Chiefly the relative apathy towards politics, and the continued dominance of the LDP, speaks to it being unlikely that the CDP will win elections any time soon (Martin, 2021; Asahi Shimbun, 2021). Secondly, even if they were to win, they are still beholden to a cadre of career politicians who seem more eager to ensure their own political survival than they are implementing democratic reforms.

5.3 Possible Confounders and Internal Validity

Lastly it should be addressed that there is a general possibility of a confounding relationship clouding our inferences. These confounder pose a threat to our internal validity, the measure by which our research design accurately captures the causal connection that we are interested in (Bryman, 2016; Kellstedt & Whitten, 2018, p. 85). While I have addressed this earlier, it is possible that the factors that caused the quota reform to be enacted are also related to the outcomes themselves. For that reason, we should investigate what the main drivers for implementing gender quotas are, and whether they are also related to the outcomes of interest. The question is also if these differences might provide a better explanation for the development in our outcomes, or lack of development. Violations of the parallel trends that confound our results can then lead us to have lower levels of internal validity, and we risk having concluded that the gender quota caused the effects, when in reality other things caused it.

5.3.1 Party system

Of interest is the differences between the party systems in both countries, they both maintain an approximate of a two-party system, with usually a main conservative party, a main liberal centre-left party, and a fringe far left party. This is reflected in the results of CSES (2015a; 2015b; 2015c; 2018), which demonstrates a very centre liberal party that corresponds to the main opposition to a conservative party. In Japan, the DPJ and CDP

represents the centre-left, measuring between 4 and 5 on the left-right scale, while the LDP represents the right, scoring around 7-8. In South Korea, the variations of the Democratic Party, centre left with a steady 4 on the left-right scale competes with the conservative Saenuri or Grandnational party (recently rebranded to People's Power Party) who are usually between 7 and 8 on the scale.[1] In addition to ideological similarities in party system, both countries have parties that cannot be adequately compared to traditional European party structures, their general structure is more akin to the old cadre or elite parties of European democracies in their infancy (Katz & Mair, 1993). Parties are highly centralised, with little local activity, and mostly created as a tool for politicians to secure election to important offices.

In terms of Japan, this is further elaborated on by Hrebrenar & Itoh (2015), with some exceptions for minor parties such as the communist party and Komeito. For South Korea, authors Lee & Shin (2016) gives a good rundown of the central characteristics of South Korean parties. Mainly that they consist of highly centralised organisations, and fluctuating existence. Over the period my dataset covers, the mainline centre left party has competed under 10 different party names and organisations, seemingly reforming itself more than once per election. This mimics the trend in Japan, where the main opposition party has gone under several names ranging from Japan Renewal Party to the successful Democratic Party of Japan, they later transformed into the Constitutional Democratic Party of Japan formed in 2017, which, mind you, is distinct from the Constitutional Democratic Party of Japan, which was formed in 2020. But while the organisations that form the umbrellas for politicians change as often as the weather, the politicians themselves persist. Long term powerbrokers that use these reforming events as tools of their own agenda are highly present in both nations. Ichiro Ozawa in Japan for instance, a man dubbed "Shadow Shogun" of the opposition (Kingston, 2013) has been elected under eight different party banners in Japan. Or the current (as of 3rd of April 2022) South Korean president, Moon Jae-in, who has been a central figure in centre-left politics since his time on President Roh's staff in the early 2000's (Ministry of Culture, 2022).

The general structures of the parties are remarkably similar, and as such provide some of the explanation towards the low levels of women representation. The insular

[1] A list of these ideological numbers can be found in the Appendix

nature of these parties yields little pressure from grassroots organisations, where women are more likely to be involved in local activities. A common feature of other countries is the ladder of political experience, starting in local chapters, or youth organisations, running in local elections and eventually being selected into higher office. However, in Japan and South Korea there are fewer of these "proving grounds" so to speak, therefore selecting of candidates usually happens on a higher level. This might speak to the difficulty in substantially increasing women's descriptive representation, and it may also have implications for the spillover effect studied here, in that the PR list may be viewed as a more relevant alternative for political recruitment to SMD lists. This could mean that the effects found in the previous estimations is stronger, precisely because of that fact, and that the treatment effect for other countries could be weaker.

5.3.2 Differences in electoral volatility

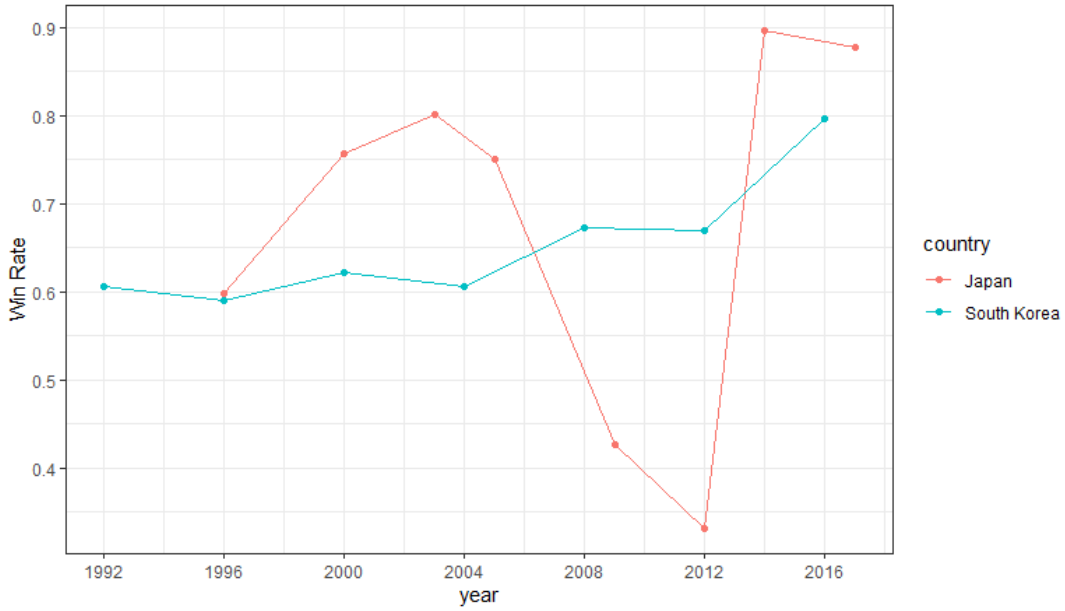
A potential confounder is the differences in electoral volatility of these two countries. In Japan, the LDP has consistently been the biggest party for all but 3 of the past 65 years, and they have been in government for all but 4 of those years. This is somewhat contrasted with South Korea, where electoral competition is far more even. The conservatives won the legislative elections in 1988, 1992, 1996, 2000, then finally lost an election in 2004, but returned to steer the legislature in 2008 and 2012, before narrowly losing to the Democratic Party in 2016, which gained a historically large mandate in 2020. Given the much-researched difference in ideology towards integration of women (Wangnerud, 2009, p. 55) we might then expect this to confound our results, therefore, I address it as a control variable.

But the question at hand is whether electoral volatility caused the treatment, of this there is some reason speculation is to be had. The law was enacted ahead of the 2004 election, and as such is not the result of differing ideologies prevailing in elections and producing policy. And even if it was, we might then have expected that to happen in 2009 in Japan as well, when the centre-left party finally ousted the LDP from power. What might be an issue is an attempt to de-politicize the issue of gender equality by the conservative parties. As incumbent parties sense a new issue gaining saliency, they

might take a position on such an issue in a way to counter the effects they fear it might have on their electoral success, thereby depoliticising it. The apparent difference in electoral volatility may then have caused the treatment itself, but it also could have caused differences in some of the outcomes we look at, particularly in measures of quality. This is of no concern in reality however, as I previously concluded with the quota not having an effect on any measures of quality I used. But it is nonetheless worth addressing as a central point to the problems of looking at this treatment by itself.

What is being discussed here is essentially the measure of electoral volatility, which is an attempt to measure how often large changes in voter attitudes and resulting elections happen (Mainwaring & Zoco, 2007, p. 158). A measure of this that I employ here is the re-election rate for incumbents. As demonstrated by Figure 5.1 below, Japan consistently has a higher rate of incumbency for each election. In the case of the 2014 election for instance, almost 90% of those elected to the SMD seats were incumbent in the same districts, meaning that barely 10% of the seats in the 2014 election saw a new candidate (not even necessarily a new party) as the winner of that district.

Figure 5.1: Re-Election Rates



Y-axis shows winning probabilities for Incumbents running in their own seats

The two notable times that Japan dropped below South Korea's values of re-election rates is 2009 and 2012, representing the rise and fall of the DPJ government, as they

ousted the LDP in 2009, and were themselves defeated in 2012. It is difficult to discern if there is a substantial difference between the two countries from the figure itself. The only relevant point here is related to the main difference between the two nations. Barring these two elections, there is in general a high tendency for incumbents to be re-elected.[2]

Mainwaring and Zoco (2007, p. 158) also argues for the usage of a different measure of electoral volatility, which is expressed as the sum of all absolute changes in percentage votes gained by all parties between elections. I calculate these values,[3] and find that the average for Japan is 12.42 in volatility score, while South Korea scores 15.02. A two-tailed t-test finds that these are not significantly different from each other.

Placing electoral volatility as the central mechanism by which quality is increased could also be related to the findings discussed earlier. While the number of candidates in South Korea almost doubled from 2000 to 2004, and again from 2004 to 2008, the relevant measures of quality did not reflect this increase. The average shares of education and other quality indicators for each year can be found in the appendix and in the dataset.

5.3.3 Outcome caused the treatment

Another potential issue with using the DiD framework is if the treatment itself is caused by the outcome of interest (Cunningham, 2021, p. 425). Meaning that the implementation of the quota depends on certain values on the outcome we are interested in. This is a relevant issue in our case, because while in most of our outcomes South Korea has a lower value than Japan, this might in fact be the cause for implementing a quota. The fact that South Korea performed so poorly on measures regarding women representation might in fact be a cause for the implementation itself. There is some anecdotal evidence that these rankings do matter to political leaders looking to improve their country's standings (Htun, 2016, p. 6). In 2000, South Korea had 5.6% of their total legislators elected as women, which is lower than Japan's comparative 7.3%, but this difference is negligible. The point is perhaps that both countries were near the absolute bottom of OECD countries in terms of women's representation. I find it unlikely that the difference

[2]I also run a t-test in the differences of the mean win rate of incumbents, and find no significant difference between the two groups.

[3]These values can be found in the appendix

in Japan and South Korea implementing a gender quota being reducible to a meagre 1.7 percentage point difference. Although competing with a neighbour might be motivation when one loses out on said metric.

5.4 Summarising Internal Validity

I have done my best to underpin several aspects of the parallel trends assumption, and do believe I have utilised the material in a manner which can best serve those assumptions. The question then remains if I have adequately isolated the source of the effect. More specifically, whether we have good reason to believe, that the increase in women's chances of winning, can truly be attributed to the gender quota itself. While it is never certain that the effect is not the result of random variation, the positive results from the investigations of the mechanisms, in addition to the placebo tests, give us plausible reason to believe that it is the quota regime itself that changed it. While I will later address the commonly used parallel trends assumption, I will here discuss in detail what this assumption substantially involves. As previously discussed our causal inference relies on a counterfactual, the fact remains that we cannot actually observe what the value of our outcome variables would have been in South Korea. The assumption used is that the general "time trend" affects both cases in the same way.

Given that we only have data on the effects on one country, that of South Korea, we are necessarily limited in the types of causal inferences we can make. We might be able to have high confidence in the quota causing the effects we see within our case, but the effect itself might be mitigated, amplified, or otherwise affected by several local factors and interplays. The results of this causal strategy should be interpreted as the possible treatment effect of the treated, if our parallel trends assumption holds, and without cross-referencing other cases we cannot in good conscience say that the results are valid for an average treatment effect across all MMR systems.

5.4.1 Can we believe the parallel trends assumption?

Certain aspects of our data do highlight that we do not have a perfect parallel trend. In the appendix, the reader may find several regression pursuing hypotheses that were thrown out due to failing placebo checks. In addition, I predict the criticism that utilising Japan as a form of shadow case, as well as implying that similar changes could be applied to similar effect, will be present. The potential criticism levied might come in the form that Japan violates the general time trend seen in most countries, as evident by the World Bank (2020), which demonstrates that globally there is a steady increase in women legislators. Japan does not follow this trend. While these accusations are with some merit, the true question is then as to whether it is a poor fit to the case that it is being compared to. Theorising in this area is to thread in dangerous waters, as the question asked is an explicit counterfactual, which ignores myriads of internal processes that have brought about the internal change. But the relevant question at hand, is if South Korea's development without the gender quota would have looked more like Japan, or the rest of the world in aggregate. To this question, several factors of difference do stand out. As previously mentioned in my analysis, relevant factors like electoral volatility do speak in favour of them being somewhat similar. But I argue that the difference between the two countries, and their potentially relevant figures, are smaller, than the difference between South Korea and the aggregate rest of the world. I will here posit four central arguments that I believe underpin the notion that Japan is the best shadow case for how we could expect South Korea to develop without the gender quotas.

First is the argument of cultural similarity, as both countries are in the Confucian spheres according to Inglehart et al. (2014). The map highlights both of the countries deviancies, as they both score quite high on secular values, implying a rejection of traditional family roles as explained by the indicators construction (Inglehart et al., 2014). But they both deviate from other countries with similarly high rating on this field. In fact Norway, Sweden, and Denmark all score lower, in fact on this indicator, but have higher women's representation. These countries fall in line with the findings in Norris and Inglehart (2003) that general women's representation is associated with the mapped diagram. The general diagram is of course not a comprehensive retelling of all the cultural facets of a country, but there is reason to believe that South Korea and Japan share

other facets of similarities.

Second, the reported birth rates of both countries are extremely low. This might seem like an extremely unrelated factor, but fertility is widely believed to be influenced by policies relating to the integration of gender roles into working life (Neyer et al., 2013). Whether or not the laws are implemented in a manner which allows women to act as both mothers and as workers is important in order to measure the degree of potential supply of women. If women are faced with the absolute choice between maternity and successful career (Teele et al., 2017, p. 528), then this can be a common explanatory variable which is shared by the two countries. This issue can also be increased by hyper-liberal working conditions and legal frameworks, such as those present in Japan and South Korea (Lee, 2016).[4] The point being that the labour market and the roles that gender still implicitly play a part, can be a central shared factor which explains both countries' deviancy in the relevant indicators, and through which we would expect a similar evolving time trend.

Third, regionally these two countries are close, being affected by similar regional issues, and in the regional sense they are more closely associated than expected. The World Bank demonstrates the development of women's representation in groups (World Bank, 2020) and in the grouping for East Asia, there are separate plots for all East Asian countries and East Asian countries without high income. Both Japan and South Korea are in the category of high income, and while the trend for East Asian countries with high income is not listed, the interesting trend is that the trend and average for the low-income countries is higher than the whole. Furthermore, these aggregate number is still higher than both South Korea and Japan.

Fourth and finally, the party systems, and their methods of candidate selection make it plausible that they mirror each other better than other countries. Kweon and Ryan (2021, p. 3) for instance, maintain that parties have an unusual high control over candidates in South Korea, this is also echoed in Japan, as described by Hrebrenar and Itoh (2016). This centralised candidacy determination is pointed out by Norris (1993, p. 320) as connected to several factors of women's representation.

[4] I refer here both to the legacy of intense state corporatism, as well as social work culture.

5.5 Possibilities for Generalisation

The research design at hand do not serve as grounds to conclude that these are universal effects of gender quotas. The cases selected are neither typical nor representative, and as such this research alone does not provide us with unbiased and generalisable estimations. But, I will still discuss why these findings might travel to other MMR cases.

5.5.1 Are the findings valid for other MMR systems?

I am cautiously optimistic that these findings can travel to other MMR systems. The finding that PR experience is positive for a politician's career leads us to believe that these results could be replicated in other countries, where PR lists exist parallel to the SMD lists. Furthermore, there seems to be little evidence of a "glass ceiling" when comparing to Japan. By that I mean that we see little traces of women potentially losing out on the chance to compete in SMD districts by being encouraged to remain in the PR list. South Korea sees a steady increase in women legislators, and with every election their pool of women candidates ready to run in SMD seats increase. The mechanism by which they increase their chances, I have been unable to establish with certainty, but we may surmise it has something to do with the resources (both material and immaterial) that they acquire during their time as PR legislators. This mechanism would echo the proposed mechanisms by others, related to what is assumed to be the advantage of incumbency, such as political networks, resources, increased media coverage, and more (Put, 2012; Palguta & Pertold, 2021). In addition, other findings have found that voters prefer incumbents (Bernhardt & Ingerman, 1985), giving them a significant demand advantage as well.

While the PR advantage is statistically significant in South Korea, I should also address the fact that it was not statistically significant in Japan. This may imply that the findings do not travel, and that the implementation cannot always be beneficial to women's descriptive representation. The lack of statistical significance for women's PR experience, which does have a positive signifier, may arise from a low sample number, as only 54 women made the change from PR to SMD. But an increase in sample may

also reveal the opposite, a negative correlation, or remain insignificant. Regardless we cannot make inferences based on statistically insignificant numbers. Further research is needed in this area, to ascertain whether the findings from Japan reflect universal trends, or whether South Korea is closer.

In terms of the symbolic effects found in Chapter 4, there are both reasons to believe and not believe that these effects might travel. The theoretical expectations that underpin this mechanism is connected to articles that cover several manners of minority attributes, and cover several countries. As such, the general notion that experience with a legislator that has negative biases associated with their characteristics can be expected to travel to other systems. But there is the question if this mechanism means that the quotas lose some of their effect on descriptive representation if discrimination is not impactful in low levels of descriptive representations. In other words, there is less reason to believe that the quotas will increase the chances of women winning by 5 percentage points in countries that already have very low levels of hostility towards women politicians. A second point of contention is the potential confounders mentioned under the findings related to this hypothesis. Another point worth mentioning is also that there might be other changes in awareness around women's struggles that I did not address in the previous section, but which may have been salient, breaking the parallel trends assumption. While this threat is always present, I do still find it plausible that this effect will travel to other countries with high levels of hostility towards women politicians, mainly due to the having accounted several potential violations of parallel trends, when estimating the effect.

Finally, there is the question of whether this effect is unique to Mixed Member Majoritarian systems, and whether these effects could also travel to Mixed Member Proportional systems. The main difference between these systems is that the result of the PR list is modified by the results of the SMD list. I see little inherent reason for these systems to be significantly different enough for the effect not to travel. However, if the dependency inherent to the system affects the larger political system, such as it takes away focus from individual mandates and district elections, then these effects might not travel as well as it would have to other MMR systems.

While not all of the previously found mechanisms transfer smoothly over to an MMR system (most of the articles focus on incumbency in majoritarian systems), some of them

are still applicable. Increased networks and political education for instance, is absolutely an asset that PR experience can yield. Other perceived mechanisms of advantage that incumbency can grant, such as familiarity to voters are less obviously related, and are cause for speculating might not be as salient in this instance.

5.5.2 Other types of gender quotas

Another question to pose, is whether all types of gender quotas can have these effects, and whether these effects travel across other quota types. This question hinges on the effectiveness of the quota, and the similarities between the effects. This thesis has primarily been concerned with gender quotas because they bring about descriptive representation of women. Because of that, alternative quotas need to ensure that they increase descriptive representation. In this regard, PR quotas are often touted as being superior in ensuring this (Wangnerud, 2009, p. 54), largely because they are easier to enforce, and provide the opportunity to ensure representation by further specifications such as zipper mandates.

The futility of attempting a candidate quota in the SMD list is also evident, as South Korea already has one, and it appears to do near nothing for women's representation. These types of quotas have been previously debated and largely criticised for their continued lack of effectiveness (Murray, 2004, p. 347). The alternative to an effective PR quota could be seen in systems such as in Pakistan, where a separate list for only women is present. This would likely raise the symbolic status of these quota (or reserved) women. This could be both positive and negative for the potential attitude effects that I found traces of in the previous chapter. For one, it raises their symbolic statue, and places more emphasis on their status as women. However, their lack of coexisting with men in the same list might be to the detriment of the potential effect dispelling notions of inferiority amongst the common voters. Furthermore, it might be easier for party elites to keep women in the PR list, as it might be assumed to be "their place".

The final alternative I wish to touch upon is that of reserved SMD seats, a practice primarily limited to India. In this system, SMD seats are randomly allocated to be reserved for women, meaning only women candidates can run in them (Bhavnani, 2009, p. 24-25). In MMR systems, this would be effective in ensuring descriptive representation

in SMD lists, but the issues often come in the form of implementing it. In MMR systems, we could then reverse the question this thesis has stated, and ask whether the SMD quota has effects on the PR list. In this sense dual candidacy, allowing candidates to run in both SMD and PR might have positive effects, as SMD candidates that are required to be women can also be put on the PR list, leading to higher descriptive representation for PR. But this is also contingent on several other institutional factors, and combined with difficulties in passing such regimes. I find it unlikely that we will see it used actively to increase women's descriptive representation.

In summary, I believe that a PR quota is the best way of ensuring long-term descriptive representation of women in the SMD list as well, and it can be positive in increasing women's descriptive representation in MMR systems.

Chapter 6

Conclusion

I opened this thesis by referencing to remarks made by the president of South Korea, while he was a candidate. His remarks stand out because they do not reflect the reality faced by women in South Korea, or practically anywhere else. It seems a constant fact of political life, that women are systematically underrepresented in national legislatures. To remedy this, activists, parties, and other influential organisations, have called for the implementation of gender quotas (Francheset et al., 2012, p. 7). These quotas affect not only women's representation, but also the systems around them, as this thesis has focused on. I asked the question of whether PR quotas can have spillover effects on women's entry into SMD seats. This thesis has given some evidence towards the fact that the discrimination and underrepresentation women have in SMD lists, can be alleviated in MMR systems.

The research design of this thesis has sought to test some hypotheses related to this, I find evidence from South Korea that provide evidence that speaks in favour of these expectations. Hypothesis 1 asked whether the quota had increased the number of women candidates in SMD elections following its implementation. Both regressions and visualisations seem to provide evidence of this, and after discussing the merits of the parallel trends assumption I find it reasonable to assume that this is indeed the case. Hypothesis 2 posited the expectation that the quota has led to an increase in women winning SMD seats. Again, regressions and plots provide evidence in favour of this expectation. In addition, further investigation of the mechanisms behind it; reveal that there are two

plausible mechanisms to this increase. First, survey data provide reason to believe that a symbolic effect on voter attitude is likely. Second, a look at the effects of being a PR member previously leads us to believe that the increase in women candidates and winners come from the quota directly. This is because the members elected by the PR quota make the move over to SMD lists where they have a significant advantage in their election, leading to a higher winning chance. The most interesting finding in this area is that this increase in chance of winning is not due to securing a safe seat for oneself.

This thesis has attempted to theorise and investigate a under-studied field in the literature on representation and electoral design. By investigating the unique opportunities afforded within an MMR system, I have demonstrated that the implementation of a gender quota in the PR list, can result in an increase in the descriptive representation of women in the other list. Through data, we have seen that the number of women elected to SMD seats has been rising consistently in South Korea. This rise is contrasted with the stagnation of Japan, a similar country in many economical, structural, and cultural factors. By running regression on the determinants of electoral success I find that having experience in PR in South Korea is positively associated with electoral success; this remains relevant even when I control for strategical placement. This empirical evidence then allows us to conclude that the advantage of having PR experience is unrelated to being able to place oneself in an advantageous district. This implies that the individuals who served in PR are in some way "better" than their non-experienced counterparts at running elections and collecting votes when election time comes around. This could be due to increased resources, better connections, familiarity to the voters, or other factors.

The findings of this thesis carry with it several avenues of potential research that should be explored. First, this thesis has only looked at two countries; further research should be conducted into complete sets of all MMR systems, and the determinants of electoral success for women. This thesis alone has utilised a dataset with 17,000 observations, and it has only covered two countries. The strength of multilevel analysis could not adequately be used in this case, but a more complete dataset could take advantage of multi-level Maximum Likelihood estimation in hierarchical dataset in order to ascertain whether the PR advantage is universal to all MMR systems. Second, this paper, while echoing findings of Lee (2018), should also serve as a call to conduct more

research into exactly how PR experience translates into increased chance of winning SMD elections. If the results are also replicable in other countries, research should investigate further exactly how these candidates utilise the resources and/or networks that they have gained following their service in the PR list. Third, the findings in regard to strategical placement of women should be continued, I believe that future research should look at what disadvantages women have in running for elections, can be improved by investigating models before and after controlling for previous shares. This indicator allows us to examine a directly used mechanism by which women are excluded from power.

What the future holds for the representation of women in South Korea is difficult to ascertain, while the 2020 election yielded another increase in the representation of women, recent developments could turn this trend around in the future. In April 2022, Yoon Suk-yeul was elected president of South Korea, riding what many have been describing as a "wave of anti-feminism" (McCurry, 2022). His election was in many respects carried by young men, and their dissatisfaction with what they see as structural discriminations against men. This trend has potential worrying implications ahead of the 2024 legislative election. Given the popularity of the anti-feminism sentiment being fully embraced by the People's Power Party leader Lee Jun-seok, who claimed to be against affirmative actions (Park, 2021). The results of the 2024 election, given the increasing trend of anti-feminism sentiments, will serve as proof of whether the gender quota can provide consistent political representation for women.

In Japan, the next election which will be held in 2025, at the latest. Whether an implementation of a gender quota will happen before that or not, is up to the ruling LDP, who have so far not endorsed any type of quota policy as part of their platform. If the CDP wins the 2025 election, (an unlikely event in the author's view), we may see the implementation of some sort of gender quota. Particularly given the commitments shown by recently elected CDP leader Kenta Izumi to women's representation (Kihara, 2022), where under his leadership, the CDP has pledged that 50% of their upper house candidates for the summer 2022 election will be women. Whether he is successful in finding those candidates, and whether the effort will lead to a substantial increase is yet to be seen.

Chapter 7

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