# THE CENTURY OF THE GENDER REVOLUTION EMPIRICAL ESSAYS

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For Jenny, and for Cora

---may she grow up in a world where one's gender has ceased to affect one's life opportunities

# DECLARATION

**I** CERTIFY THAT THE THESIS I have presented for examination for the PhD degree of the London School of Economics and Political Science is solely my own work, with the exception of Chapter 4, which was co-authored with Henning Finseraas. I certify that the theoretical, empirical, and written work for this chapter was carried out by both authors (Finseraas did 30 percent and I did 70 percent of the work). The copyright of this thesis rests with the author. Quotation from it is permitted, provided that full acknowledgement is made. This thesis may not be reproduced without my prior written consent. I warrant that this authorisation does not, to the best of my belief, infringe the rights of any third party.

I declare that my thesis consists of 63,139 words.

Helmer: First and foremost, you are a wife and mother. Nora: That I don't believe anymore. I believe that first and foremost I am an individual, just as you are. —Henrik Ibsen, A Doll's House, 1879

### ACKNOWLEDGMENTS

THOMAS HOBBES DEPICTED LIFE without a Leviathan state as "solitary, poor, nasty, brutish, and short." Some would say the same about being a doctoral candidate. Although there is some truth to this, owing to my supervisors, friends, and colleagues, the experience of writing a thesis has foremost been solidary instead of solitary, rich instead of poor, nice instead of nasty, and beamish instead of brutish. Short it has still been, yet not too short.

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To finish a doctoral thesis is memorable. To see your daughter enter the world is unequalled. Above all, I therefore wish to thank Jenny Sandvig—love of my life, best friend, terrific thinker, and sharpwitted reader. Without her, there would be no thesis. I cannot wait to be the leaving-taking dad while the talented one of us returns to work. This thesis is dedicated to Jenny, and to our daughter Cora.

### ABSTRACT

**T**<sup>HE INCLUSION OF WOMEN in the public sphere delineates the last century from the previous ones. This thesis investigates three key aspects of the gender revolution.</sup>

At the turn from the 18<sup>th</sup> to the 19<sup>th</sup> century, countries began to grant women equal voting rights to men. Equality in the act of voting, however, failed to ensue. To address this conundrum, the first essay argues that elites and organizations had greater incentives to mobilize women to vote under a proportional representation (PR) than a plurality electoral system. I test the argument empirically by studying a reform which required half of the about 600 Norwegian municipalities to replace plurality with PR before the 1919 election. The difference-in-difference design reveals the reform increased women's share of the votes cast by about ten percentage points, thus notably reducing gender inequities in political participation.

Women's inclusion in voting did, however, not imply women's inclusion in employment, education, and political offices. Indeed, after World War II, the social partners and political parties favored policies aimed at male-breadwinner families. The second essay studies the puzzle of why unions, employers, and parties nonetheless, from the 1970s and onwards, went from opposing to proposing work-family policy reforms, such as daycare services and paid parental leave. My argument is that, as women have become an increasingly important part of the membership base for unions and source of high-skilled labour for employers, the social partners have come to push for the expansion of work-family policies. Yet, centralised corporatist institutions, which give policy influence, are needed for unions and employers to succeed with their policy demands. Both a time-series crossnational quantitative analysis and an in-depth case study of Norway and shadow case studies of the United Kingdom, the Netherlands, and Sweden support the argument.

By the new millennium, women made up half of the labor force but only one-third of managers, indicating that significant gender inequities remain. The third essay therefore examines whether the introduction of full-time daycare services increase mothers' possibility and willingness to invest a professional career. Empirically, the essay exploits a staggered, large-scale expansion of daycare centres across Norwegian municipalities in the 2000s. Analysing registry data on the whole Norwegian population, the instrumental variable estimates indicate that the availability of daycare services made women more likely to enter into occupations requiring longer hours and leadership positions.

In sum, the thesis demonstrates that reforms of political and public policy institutions can impact both the pace and the direction of the ongoing gender revolution.

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# 1

# INTRODUCTION: THE CENTURY OF THE GENDER REVOLUTION

ET ME IMAGINE, since facts are so hard to come by, what would have happened had Shakespeare had a wonderfully gifted sister, called Judith, let us say", Virginia Woolf writes in A Room of One's Own (1928). She continues by unfolding how William headed to grammar school and then London, where he got involved in the world of theatre, whereas Judith stayed behind. She was soon "betrothed to the son of a neighbouring wool-stapler." Yet, defying marriage, she made it to London on her own. "Like him, she had a taste for the theatre. She stood at the stage door; she wanted to act, she said. Men laughed in her face. The manager—a fat, loose-lipped man—guffawed. He bellowed something about poodles dancing and women acting-no woman, he said, could possibly be an actress." Unlike her brother, Woolf imagines, Judith ended her life tragically, and she "lies buried at some cross-roads where the omnibuses now stop outside the Elephant and Castle."1 Similar fictions could be told about the sisters of prominent politicians and magnates, as women have largely been excluded from positions of power at least since the Neolithic Revolution.<sup>2</sup> The inclusion of half of the Earth's population in public affairs—such as in voting, political offices, and man-

<sup>1</sup> Woolf 2004 [1928], 54-6.

<sup>2</sup> See Engels 1902 [1884]; Whyte 1978; Dahlberg 1981; Blumberg 2004; Ch. 2 Iversen and Rosenbluth 2010; Pinker 2011; Alesina, Giuliano, and Nunn 2013.

agerial positions—is the "quiet revolution" of the twentieth century (Goldin 2006; Iversen and Rosenbluth 2010). It is still ongoing (England 2010; Esping-Andersen 2009).

Through three empirical papers, this dissertation explores some of the institutional causes and consequences of women's inclusion in politics, in education, and in the labor market over the last century. By inclusion, I refer to the presence of women in public affairs, such as in voting, in higher education, and in leadership positions (Htun 2016, 4). As a number of political theorists have pointed out, accepting that structural barriers, be they legal or social, prevent women (or men) from exercising their equal rights or accessing powerful positions on an equal footing with men is normatively indefensible.<sup>3</sup> For instance, also after women got the right to vote, women were less likely both to vote and to stand for election due to social and political impediments (see below and Mansbridge 1999, 639). Studying to what extent political institutions and public policies can promote women's presence at the voting booth or top of the occupational ladder may therefore pinpoint how we can achieve a fairer distribution of power, positions, and privileges between the genders. This thesis addresses such issues by exploring three aspects of the two waves of the last hundred years' gender revolution.

The first wave of the gender revolution brought the enfranchisement of women, starting at the national level with New Zealand in 1893. Other states followed suit, particularly in the wake of the First World War. By 1940, 42 countries had granted women the right to vote, including the Scandinavian countries, the United Kingdom, and the United States. The revolution was a result of combined pressure from well-organized suffrage movements and weak incumbents believing

<sup>3</sup> For philosophical discussions of the inclusion of women, see notably Mill 2006 [1869]; Phillips 1992, 1995, 53; Mansbridge 1999, 639; Murray 2014, 523; Young 2000, 141-8; Nussbaum 2000; Sen 2001; Richards 1980, 2014.

that granting women the right to vote would benefit them electorally (Teele 2014, 2015, forthcoming; see also Przeworski 2009).

The puzzle, however, is why, despite equal political rights, women did not turn out to vote to the same extent as men after female enfranchisement. From the early twentieth century and until at least the 1960s and 1970s, women's share of the turnout in elections typically remained below that of men (Corder and Wolbrecht 2006; Duverger 1955; Norris 2002; Tingsten 1937). Contemporary and later observers documented how social norms discouraged women from turning out to vote (Andersen 1990, 1996; Baker 1984; Danielsen, Larsen, and Owesen 2013; Merriam and Gosnell 1924).<sup>4</sup> A number of studies have additionally documented that differences in education, labor market participation, urbanization, and liberal voting laws can go some way in explaining why fewer women than men turned out to vote.<sup>5</sup> Nevertheless—although Lijphart (1999) and others<sup>6</sup> have emphasized the importance of electoral institutions for the inclusiveness of the political system-the extent to which proportional representation (PR) mobilizes women to vote compared to plurality systems has received scant attention in the comparative politics literature.<sup>7</sup>

The first paper in this dissertation (Chapter 2) therefore investigates how the shift from a plurality to a proportional representation (PR) electoral system increased women's share of the turnout in the early twentieth century. To do so, I make use of the fact that about half of the Norwegian municipalities were required to replace plurality with PR in 1919, giving me exogenous variation in electoral systems.

<sup>4</sup> In their classic study, Merriam and Gosnell (1924) found that more than one in ten women not registered to vote in Chicago in the 1920s listed "objections of husband to women voting" and "disbelief in women's voting" as the main reasons for failing to register (see also Andersen 1996; Corder and Wolbrecht 2006).

<sup>5</sup> See, for example, Andersen 1996; Burns, Schlozman, and Verba 2001; Corder and Wolbrecht 2006; Duverger 1954b; Rokkan 1970; Tingsten 1937; Welch 1977.

<sup>6</sup> Notable examples include Duverger 1954a; Grofman and Lijphart 1984; Iversen and Soskice 2006; Kittilson and Schwindt-Bayer 2012; Powell 1982, 2000.

<sup>7</sup> See Kittilson and Schwindt-Bayer (2012) for an eminent exception. Their focus, however, is on the early 2000s, and they rely on cross-sectional survey data.

I couple this with detailed data on votes cast broken down by gender for each of the several hundred municipalities over the 1898-1928 period. The difference-in-difference results show that the switch from plurality to PR in 1919 increased women's share of the votes cast, particularly where there were pre-existing women's networks, such as suffrage and temperance movements. Women's degree of de facto inclusion in politics as voters was, in other words, dependent on the electoral system. Yet, contrary to the beliefs of women activists at the time, as well as later arguments by political scientists,<sup>8</sup> the reform did not increase women's presence in legislative assemblies. Such developments had to await the second wave of the gender revolution starting in the 1960s.

The second wave concerns women's entrance into higher education, employment, and public positions (Goldin 1990, 2006; Goldin and Katz 2008; Inglehart and Norris 2003; Iversen and Rosenbluth 2010). The *Trente Glorieuses* of the post-World War II period—characterized by unprecedented growth rates and a massive expansion of social protection<sup>9</sup>—reinforced the male-breadwinner family model. With the growth of the middle class, more families could afford that the wife stayed fully at home, which was also supported by the growing welfare state.<sup>10</sup> The powerful political actors—the main political parties of the left and right, employers, and trade unions—all favored such family arrangements.<sup>11</sup>

<sup>8</sup> Bogdanor 1981; Castles 1981; Kenworthy and Malami 1999; Lakeman 1976; Means 1972; Norris 1985, 2006; Paxton, Hughes, and Painter 2010; Rule 1987; Salmond 2006, See, e.g.,

<sup>9</sup> See Eichengreen 2007; Huber and Stephens 2001; Judt 2005; Lindert 2004.

<sup>10</sup> A married woman outside the labor force was thus linked to the social insurance system for sickness, unemployment, and old-age indirectly through her husband (Blom 1999, 339). This also meant that, as Blom (1998, 419) notes, "[t]he predominance of the complementary understanding of gender continued to make the male full-time wage earner the model for social rights to the detriment of women who were not taken care of by a male provider."

<sup>11</sup> See, e.g., Blom 1998; Goldin 1990; Gruber and Graves 1998; Hernes 1987; Hinnfors 1992; Leira 1992; Morgan 2006; Quataert 2001; Swenson 2002.

The conundrum is therefore why the very same political actors subsequently came to turn around and start to introduce work-family policies (WFPs) aimed at dual-earner couples generally and working mothers in particular, such as daycare services and paid parental leave. Most existing studies agree that this shift has to be understood as a response to women entering into higher education and labor markets on an epoch-making scale from the 1960s and onwards.<sup>12</sup> Yet, contrary to the assertions of the modernization approach maintained by Inglehart and Norris (2000, 2003), these trends cannot on their own account for the variation in WFPs across countries and time (Fleckenstein and Lee 2012; Morgan 2006, 2013).

To address this puzzle, the second paper, found in Chapter 3, studies the *politics* of wFP reforms. Existing research has argued that party competition over women's votes and women's inclusion in parliament, parties, and government has lead expansion of wFPs (e.g., Fleckenstein and Lee 2012; Morgan 2013; Wiliarty 2010). Surprisingly, however, the joint influence of trade unions and employers—which, in countries with centralized corporatist institutions, are integrated in the making of labor market and social policies—has not been systematically theorized or empirically studied.

In this chapter, I argue that unions start to favor and push for WFPs as women become an growing share of their membership base. Similarly, employers' associations turn around and start favoring WFPs as the gender gap in higher education reverses and women become a increasingly important source of highly skilled labor for firms. Yet,

<sup>12</sup> Women's inclusion in education and in the labor market is itself well understood in the literature and can be accounted for by the investment in higher education (Aakvik, Salvanes, and Vaage 2010; Barro and Lee 2015; Black and Juhn 2000; Goldin and Katz 2008), the rise of the service sector (Iversen and Rosenbluth 2010), the invention of the Pill (Bailey 2006; Goldin and Katz 2000, 2002), advancement in obstetric practices and the infant formula (Albanesi and Olivetti 2016), and the spread of home appliances (de V. Cavalcanti and Tavares 2008; Greenwood et al. 2016; Greenwood, Seshadri, and Vandenbroucke 2005; Greenwood, Seshadri, and Yorukoglu 2005). For analyses of the politics of higher education and the service transition, see notably Ansell and Gingrich (2013) and Ansell (2010).

I contend that only social partners operating within centralized corporatist institutions have had the policy influence to translate these changing preferences into policy. Combining (1) a quantitative study of eighteen advanced democracies from the 1960s and onwards, with both (2) an in-depth study tracing the political processes leading to the large expansion of work-family policies in Norway, and (3) shadow case studies of the United Kingdom, the Netherlands, and Sweden, I find support for these conjectures. The extent to which a country has reformed the welfare state to address the needs of dual earner families and knowledge-intensive businesses thus crucially depends on the presence of social partners operating within centralized corporatist institutions (cf. Martin and Swank 2012).

The second wave of the inclusion revolution hides another empirical conundrum. Gender convergence in participation in education and labor markets, as well as in gender egalitarian attitudes, have not been followed by a corresponding increase of women in leadership positions (Goldin 2014). Occupations characterized by long work hours and overtime, including managerial positions, have a low female share (Bertrand, Goldin, and Katz 2010; Catalyst 2016; Guvenen, Kaplan, and Song 2014; OECD 2016). A key explanation for this gender inequality is that women not only give birth but also do more of the childrearing and household work than their partners, which prevents women from investing more in their career and enter into occupations that are less compatible with childrearing.<sup>13</sup> A number of prominent studies in comparative political economy have argued that full-time affordable daycare may lessen the care-career tradeoff for mothers of young children and thus increase their possibility to fully engage in their career (Esping-Andersen 1999a, 2009; Estévez-Abe 2006; Iversen and Rosenbluth 2010).

<sup>13</sup> See, for instance, Adda, Dustmann, and Stevens forthcoming; Cha and Weeden 2014; Esping-Andersen 2009; Estévez-Abe 2006; Gerson 2011; Goldin 2014; Halrynjo and Lyng 2009; Iversen and Rosenbluth 2010; Pedulla and Thébaud 2015.

Chapter 4 theoretically develops and empirically evaluates whether the introduction of full-time, affordable daycare increases women's career investment. Exploiting the staggered expansion of daycare services across Norwegian municipalities in the 2000s to get exogenous variation in access to daycare, and using registry data covering the whole Norwegian population, it shows that the availability of daycare services induced mothers to enter into occupations with longer average hours and increased their chances of obtaining a leadership position in the labor market.

Together, the three chapters take us through aspects of the first century of the gender revolution and critical issues of gender equality in the public sphere: voting, work-family policy reforms, and leadership positions in the economy. In the remainder of this introductory chapter, Sections 1.1 to 1.3 consider each of the three studies in more detail. I then discuss the empirical and data contributions of the thesis in Section 1.4, including why Norway is a fruitful case for investigation. Thereafter, in Section 1.5, I zoom out to locate the dissertation's institutional perspective within the broad literature on gender inclusion. Lastly, Section 1.6 roadmaps the rest of the thesis.

### 1.1 ELECTORAL SYSTEMS AND WOMEN'S INCLUSION IN VOTING

Central to the inclusion of women in politics is voting behavior. As Verba, Schlozman, and Brady (1995, 1) remind us, "[s]ince democracy implies not only governmental responsiveness to citizen interests but also equal consideration of the interests of each citizen, democratic participation must also be equal." Women's enfranchisement was a watershed in democratic history, which meant that on average across the Western world, the percentage of adult citizens eligible to vote increased from 43 percent in 1900 to 80 percent in 1930.<sup>14</sup> Notwithstanding equality in the right to vote, equality in voting did not follow, which Duverger (1955, 10) pointed out early on: "One fact, at least, seems beyond doubt—the existence of great inequality between both sexes in the actual exercise of political rights. Legally, women are on an equal footing with men; they are not so in practice."<sup>15</sup> Further understanding of the institutions that might have affected women's inclusion in voting is therefore paramount.

A voluminous literature on gender and politics has argued that women's inclusion in parliaments and cabinets is higher under PR than plurality, first-past-the post systems.<sup>16</sup> These studies argue that the impact of PR works through several mechanisms, including that under PR parties have more control over the party lists and can introduce party-specific gender quotas (Kittilson and Schwindt-Bayer 2012; Thames and Williams 2010), there is a higher district magnitude and thus more places to fill on a list (Darcy, Welch, and Clark 1994; Lakeman 1976; Matland 1993; Means 1972), there is less focus on the candidate and more on the party (Iversen and Rosenbluth 2008), and a larger number of relevant parties means a greater incentive to include women on the party list in order to broaden the electoral appeal (Paxton, Hughes, and Painter 2010; Reynolds 1999; Rule and Zimmerman 1994; Salmond 2006; Thames and Williams 2010). The evidence also points out that the association between PR and women's representation is dependent on a potential

<sup>14</sup> My own calculation based on the VDem database (Coppedge et al. 2016b). In France, Belgium, Italy, and Switzerland women received the right to vote after the Second World War. The Western countries comprise Western Europe, Northern America, Australia, and New Zealand. The measure "does not take into consideration restrictions based on age, residence, having been convicted for crime, or being legally incompetent" (Coppedge et al. 2016a, 76).

<sup>15</sup> He also added that: "It is for governments to draw the inferences from this fact; political scientists can do no more than record it and assess the extent of its influence."

<sup>16</sup> See notably Castles 1981; Darcy, Welch, and Clark 1994; Duverger 1955; Iversen and Rosenbluth 2008; Kenworthy and Malami 1999; Lakeman 1976; Means 1972; Paxton, Hughes, and Painter 2010; Reynolds 1999; Rule 1981, 1987; Salmond 2006; but see Roberts, Seawright, and Cyr 2013.

pool of women candidates with the educational and labor market experience perceived to be required to compete for political office (Iversen and Rosenbluth 2008; Means 1972). The PR-female legislators link has hence been subject to considerable scholarly scrutiny.

The same does not hold for voting behavior. Despite the historical importance of the gender difference in turning out to vote, remarkably few studies investigate to what extent electoral institutions have influenced voting behavior of women relative to men. An important exception is Kittilson and Schwindt-Bayer (2010, 2012), but their focus is on the early twentieth century, a time period in which women turned out to vote to roughly the same extent as men (Norris 2002). Historically, we have thus little, if any, knowledge about the effects electoral institutions had on women's de facto inclusion in the political sphere through voting.

Chapter 3 addresses this gap in the literature by theorizing and examining how the switch from plurality to PR impacts women's share of the turnout in the early twentieth century. Drawing on the general electoral systems literature, I delineate three mechanisms for why we should expect PR to increase women's percentage of the votes cast: an electoral, a representation, and an organizational mechanism.

First, the *electoral mechanism* runs through the general mobilizing effects of PR. Under PR, parties generally have an incentive to mobilize a larger share of the electorate than under plurality, as every vote counts more towards maximizing the party's number of legislative seats than in a plurality system (Cox 1999; Cox, Fiva, and Smith 2015; Fisher et al. 2008; Kittilson and Schwindt-Bayer 2012).<sup>17</sup> As women after enfranchisement constituted what Kittilson and Schwindt-Bayer (2012) label an "undertapped market" for party elites looking for

<sup>17</sup> The exception is close races in a plurality system, where the impetus to mobilize are higher than under PR (see Cox, Fiva, and Smith 2015; Eggers 2015; Herrera, Morelli, and Palfrey 2014).

voters to mobilize, substituting plurality with PR should increase women's share of the vote.

Second, the *representation mechanism* runs through the inclusion of women as representatives (Kittilson and Schwindt-Bayer 2012). Under PR, the literature demonstrates that it is simpler to achieve a representation of women, as I discussed above. A series of studies additionally show that the election of women legislators may in turn signal inclusion of women and break down social norms against female political participation.<sup>18</sup> PR might, accordingly, lower the cost of voting for other women citizens and increase their share of turnout (Atkeson 2003; Campbell and Wolbrecht 2006; High-Pippert and Comer 1998; Kittilson and Schwindt-Bayer 2012; Wolbrecht and Campbell 2007).

Third, an *organizational mechanism* might be at play. The literature on voter turnout has uncovered how social networks and organizations increase both political knowledge and the pressure to vote (for instance, DellaVigna et al. 2014; Iversen and Soskice 2015b; Pons and Liegey 2013). Under PR party elites have stronger incentives to mobilize more broadly; nevertheless, their capacity to do so may vary. Thus, the presence of social organizations—such as trade unions, temperance societies, and suffrage movements—may help political parties and elites to tap in to women's network that again can mobilize women. These networks may also seek to mobilize women independently of requests from party elites (Cox 1999, 2015; Powell 1982; Radcliff and Davis 2000).

These three mechanisms all predict that replacing plurality with PR elections should lead to women increasing their share of the vote. To test this hypothesis and to explore the three mechanisms, the chapter studies the exogenous switch from plurality to PR in the about

<sup>18</sup> For notable contributions to the "role model" literature, see, e.g., Atkeson 2003; Beaman et al. 2009, 2012; Blumenau 2016; Gilardi 2015; High-Pippert and Comer 1998; Wolbrecht and Campbell 2007.

600 Norwegian municipalities before the 1919 election. Whereas half of the municipalities were already using PR by that time, the other half were required by the national parliament, the Storting, to exchange plurality with PR before the 1919 election. Using a "differencein-difference" design, I estimate the causal effect of the PR switch for the reformed municipalities to be an increase in women's percentage of the total turnout of about nine to ten percentage points.

An exploration of the mechanisms behind the result indicates that both the electoral and the organizational mechanisms are linking the reform to the mobilization of women. There is no evidence of a representation mechanism, as the PR reform did not lead to more women entering into municipal councils, at least not in the short to medium term.<sup>19</sup> In sum, the chapter indicates that PR contributes to lessen gender inequities in voting during a time period in which women were less likely to vote than men.

# 1.2 EDUCATIONAL AND POLITICAL INCLUSION AND THE POLI-TICS OF WORK-FAMILY POLICY REFORM

In the aftermath of World War II, women's suffrage was introduced in the remaining Western countries—Belgium, France, and Italy—with the exception of Switzerland, where women gained the right to vote in 1971. The gender gap in voting continued to narrow (Norris 2002). Legal barriers to women's labor market participation were gradually removed. One example is "marriage bars", referring to rules restricting the employment of particularly married women. In Norway, the ban on hiring women as state officials was lifted in 1938 (Schrumpf 1985). In the United States marriage bars in school and

<sup>19</sup> This might be due to the fact that the pool of women with the political and labor market experience to match and compete with male potential candidates was small (Iversen and Rosenbluth 2008; Rokkan 1970).

private firms disappeared more or less completely in the course of the 1950s (Goldin 1990, 160-79). For public sector workers, the marriage bar was abandoned in 1945 in the United Kingdom, in 1957 in the Netherlands, in the 1960s in Australia, and in 1973 in Ireland (Wolf 2013, 14-5).

Notwithstanding these trends, when governments sought full employment and expanded social protection in the post-World War II period, it was with a male-breadwinner family in mind.<sup>20</sup> As Morgan (2006, 68) phrases it, "[p]olitical parties from across the ideological spectrum endorsed the notion of men as breadwinners and women as full-time caregivers." Though often overlooked, the same held for union and employers, which were crucial actors in the development of the welfare state (Hacker and Pierson 2010; Hinnfors 1992; Korpi 1983; Mares 2003a; Rasmussen 2016; Stephens 1979; Swenson 2002). In the post-war era, in other words, the political aim of employment for all meant employment for all *men*, the aim of decent wages meant decent *family* wages, and the aim of social security benefits meant benefits tied to the *male breadwinner*.

From the 1970s and onwards, however, governments bit by bit redirected the welfare state towards the needs of working women and dual-earner families (Huber and Stephens 2001; Morgan 2006). Whereas states cut back on or cost contained other welfare state programs, such as unemployment insurance,<sup>21</sup> work-family policies (WFPs) were expanded, also during times of fiscal pressure. Some studies have argued that structural drivers, such as the rise of female employment and education, alone can account for the introduction of WFPs and other gender equality measures (see, notably Inglehart and Norris 2003). Without doubt, these secular changes matter, as they cre-

<sup>20</sup> See, for example, Blom 1998, 1999; Goldin 1990; Gruber and Graves 1998; Hernes 1987; Hinnfors 1992; Leira 1992; Morgan 2006; Quataert 2001; Ruggie 1984; Swenson 2002.

<sup>21</sup> Allan and Scruggs 2004; Huber and Stephens 2001; Korpi and Palme 2003.

ate the *need* for work-family policies (Bonoli 2005; Fleckenstein and Lee 2012; Häusermann 2006, 2010; Leira 1992; Togeby 1994). Yet this structural approach leaves the puzzle of explaining the significant variation in both timing and magnitude of wFP reforms across countries unresolved. The questions that remain are thus: How did this sea change in welfare state policy come about? Why did unions, employers, and parties come to change their policy preferences at different points in time? And why did they manage to translate their preferences into policy in some countries and not others? Chapter 3 seeks to investigate these questions by studying the expansion of work-family policies across advanced democracies from the 1960s and onwards.

To explain the connection between the rise in need for WFPs and the political response in the form of reforms, the existing literature on the *politics* of WFPs has argued that women's entrance into parties—combined with party competition over an increasing electorate of working women—spurred expansion of WFPs (Fleckenstein and Lee 2012; Morgan 2013). Such an account, however, does not address the puzzle of uneven political response across countries with the same levels of female labor market participation, such as Norway and the United States. Others have pointed to the combined role of increased female labor force participation and the strength of left-wing parties (Huber and Stephens 2000), but these studies cannot explain why conservative and Christian Democratic parties have embraced and instigated WFPs. The existing studies can thus only partially explain the rise of WFPs.

Chapter 3 turns to the involvement of organized employers and trade unions in the making of social policy, to attempt to further account for the over-time and cross-national variation in the provision of WFPs. The importance of trade unions and organized employers for the making of other social policies has been thoroughly documented (Mares 2003a; Martin and Swank 2012; Rasmussen 2016; Stephens 1979; Swenson 2002).<sup>22</sup> Yet these accounts generally see the social partners' policy stances as fixed across time.<sup>23</sup> As I will document in Chapter 3, however, the social partners have, in many instances, gone from opposing to proposing wFP reforms. The accounts focusing on unions and employers thus point to the powerful influence of unions and employers on social policy legislation but leaves the explanation for the *shift* in wFP preferences unsettled. Focusing on wFPs, as I do in Chapter 3, may therefore contribute to both the literature on wFPs and on the role of unions and employers in the making of the welfare state more generally.

In order to provide a dynamic theoretical argument for the social partners' preferences and influence on wFPs expansion, Chapter 3 takes the shift from Fordist to knowledge-based economies as the point of departure. Knowledge economies refer to the "production and services based on knowledge-intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence" (Powell and Snellman 2004, 201; see also Ansell and Gingrich 2013; Brynjolfsson and McAfee 2014; Soskice 2014). The shift was not gender neutral. The massive expansion of higher education from the 1960s and onwards brought with it a narrowing and then a reversal of the gender gap in higher education. By 1989, women's average gross enrollment in higher education was on a par with men's enrollment across advanced democracies. By 2010, women's enrollment was about fifteen percentage points above that of men, though with the coordinated market economies of Continental Europe exposing smaller gaps in favor of women than the liberal,

<sup>22</sup> These studies generally agree that unions favor welfare state expansion (see Rasmussen 2016, for a more nuanced view). The extent to which employers are antagonists, unwilling consenters, or protagonists of social policy development is still subject to debate in the literature (see Hacker and Pierson 2002, 2004; Iversen and Soskice 2009; Korpi 2006; Mares 2003a; Martin and Swank 2012; Nelson and Stephens 2013a; Paster 2013; Swenson 2004 Spr; Swenson 2002).

<sup>23</sup> Notable exceptions are Mares 2003a; Paster 2013.

Anglo-Saxon and the coordinated, Nordic economies (cf. Iversen and Stephens 2008; Ansell 2010). Women, and particularly these skilled women, entered into full-time employment and trade unions.

Next, the chapter contends that the inclusion of women in higher education and trade unions are the sources of the shift in unions and employers' preferences for wFPs. For *employers*, wFPs are costly but not of much use to them when the skilled labor force is predominantly male. As women start to outnumber men in higher education, employers are predicted to become increasingly interested in supporting social policies that may help to improve high-skilled women's attachment to the labor market. Likewise, as *trade unions*' membership base become progressively feminized, and the prospect for membership growth lies in the women-dominated service sectors, unions are hypothesized to come to favor and push for wFPs.

Still, these changes in the social partners' policy preferences do not inevitably translate into policy reforms. It is the presence of centralized corporatist institutions, which give the social partners a direct involvement in policymaking, that furnish unions and employers with the power to successfully push for and drive through wFP reforms. An explanation for both the timing and the cross-national differences in wFP provision thus lies in the interplay between women's increasing skill levels and entrance into unions and corporatist institutions.

To test this argument, Chapter 3 takes a multi-method approach and combines an econometric analysis of time-series cross-section data for 18 countries from 1960 to 2010 with an in-depth case study of Norway and shadow case studies of the United Kingdom, the Netherlands, and Sweden. Together, these different pieces of associational evidence support the contention that unions and employers are key actors in the expansion of WFPs.

# 1.3 DAYCARE SERVICES AND WOMEN'S INCLUSION IN LEADER-SHIP POSITIONS

Women's inclusion in education and employment has today reached that of men to the extent that England (2010) labels it the "gender revolution." Goldin (2014) equivalently employs the term "the grand gender convergence." Women now make up 48 percent of the labor force across advanced economies (ILO 2016). Despite the progress, both scholars argue that the "last chapter" of the revolution has yet to be written. Occupational gender segregation is one of the key issues that remain (England 2010; Goldin 2014). Even though women enter into professional degrees in business, medicine, and law on par with men, and express an equal interest in a career, women are still less likely to end up in occupations requiring long hours and in leadership positions (Catalyst 2016; Ely, Stone, and Ammerman 2014; Estévez-Abe 2006; Gjerberg 2002; Goldin 2014; OECD 2016; Pettit and Hook 2009).<sup>24</sup> Women's percentage of managerial positions, for instance, remains at 30 percent (ILO 2016). Indeed, if the average yearly increase in women's share of managerial positions continues at the same pace as it did between 1991 and 2014, gender parity in these powerful positions will not be reached until 2050.25

There is a voluminous literature aiming to explain occupational gender segregation and the accompanying wage gap. Sociological theories have turned their attention to *culture and values*. Among these scholars, Charles and Bradley (2009, 925) influentially argue that "the enduring cultural force of gender-essentialist ideology (i.e., cultural beliefs in fundamental and innate gender differences)," combined with "a strong Western cultural emphasis on individual self-

<sup>24</sup> These are also positions that are typically paid more per hour, contributing to the gender wage gap (Goldin 2014; Petersen and Morgan 1995; Petersen et al. 1997).

<sup>25</sup> My calculations based on data from ILO (2016).

expression and self-realization," lead women to choose the humanities and health-related subjects, and men to choose engineering and the natural sciences. Sex segregation is thus caused by the broader culture and values in a given society.<sup>26</sup> Available evidence, however, suggests that norms about women's position in the labor market and in education shift according to changes in educational and economic opportunities for women rather than the other way around.<sup>27</sup>

Another strand of literature on gender segregation focuses on (innate) psychological differences between the genders. Early studies in this tradition explained differential human capital investment among women and men, which again lead to segregation, as being due to women having an innate comparative advantage in and preference for caring activities (Parsons and Bales 1955; Mincer 1974; Heckman 1979). With women outnumbering and outperforming men in higher education, however, this explanation has become outdated (Bettio and Verashchagina 2009, 38). Later theories have therefore instead turned their attention to other possible psychological gender differences, such as women's higher aversion to competition, bargaining, and risk (Gneezy, Niederle, and Rustichini 2003; Kray, Thompson, and Galinsky 2001; Niederle and Vesterlund 2007; Stuhlmacher and Walters 1999). In a major review of this literature, Bertrand (2011, 11) nevertheless finds that "only a very limited amount of research is able to establish the relevance of these factors for [actual] labor market outcomes" (see also Azmat and Petrongolo 2014). The psychological factors can, for example, only explain substantively small parts of the gender gap in early-career wage growth and why there are few women in highly competitive jobs with performance pay (Manning and Petrongolo 2008; Manning and Saidi 2010).

<sup>26</sup> See also Charles and Bradley (2002), Pfau-Effinger (1998, 2004), Pfau-Effinger (2005), and Barone (2011).

<sup>27</sup> Cunningham (2007), Ross (2008), Berrington et al. (2008), Jensen (2010, 2012), Iversen and Rosenbluth (2010), Banerjee and Duflo (2011), and Alesina, Giuliano, and Nunn (2013).

One problem with both the cultural and the psychological explanations is that they lump together all women and look at gender differences at large. As a result, these accounts cannot address why the career and wage trajectories of men and women are more or less identical until the arrival of children and *then* diverge, with husbands' careers racing ahead (Bertrand, Goldin, and Katz 2010; Cools and Strøm 2014; Goldin 2014; Lacey and Perrons 2015). An important reason for this pattern is that employed women still do significantly more of the childrearing and household work than men—all of which comes in addition to childbearing itself (Bertrand, Goldin, and Katz 2010; Hochschild 1989; Iversen and Rosenbluth 2010). Evidence from the United States indicate that the gender differences in non-paid work even holds when women out-earn their male partners (Bertrand, Kamenica, and Pan 2015).

A set of studies convincingly focuses on *workplace organization and operation* as a key source of occupational segregation. One classic approach has been to look at discrimination in hiring and promotion. Though difficult to identify empirically (see Guryan and Charles 2013), there are some indications of labor market discrimination of women (Claudia and Rouse 2000; Correll, Benard, and Paik 2007; Finseraas et al. forthcoming; Riach and Rich 2006). Another emerging approach shows the importance of working-time flexibility (Cha and Weeden 2014; Gerson 2011; Goldin 2014; Skorge 2015; Slaughter 2015). With more flexible working-time arrangements, it is simpler to combine full-time work with care responsibilities. As illustrated in Chapter 4, there is a strong negative correlation between the average hours worked in an occupation and the female share in that occupation (see also Skorge 2015). This also holds for leadership positions, which typically require long hours. These explanations, however, ignore the institutional and public policy context within which employers and employees make their labor market decisions (cf. Estévez-Abe 2006). Goldin, for instance, strikingly contends that "[w]ell-intentioned policies backfire 98 percent of the time.... We are thinking about policy when we should be thinking about the workplace. That's the cause of all of this" (quoted in Kliff 2016). Such an assertion, however, fails to acknowledge that public policies may reduce the need for flexibility in the first place.

Working-time flexibility should, for instance, be less important to dual-earner families and mothers' opportunities for career investment if full-time affordable daycare is available, as several seminal comparative political economy studies have remarked (see notably Esping-Andersen 1999b, 2000, 2009; Estévez-Abe 2006; Iversen and Rosenbluth 2006, 2010; Morgan and Zippel 2003; Morgan 2013; Rosenbluth, Salmond, and Thies 2006). Despite being proposed as a potential way to address the gender inequities in career investment, the impact of affordable, full-time daycare remains largely uncharted. The few existing studies that have looked at women's inclusion in leadership positions have had to rely on patchy cross-national data, which makes it difficult to isolate the daycare effect from policies and institutions (see, e.g., Pettit and Hook 2009). The within-country studies using causal inference techniques have been limited to investigating employment and wage effects. We therefore lack systematic theorizing and evidence regarding the effect of daycare services on women's entrance into occupations requiring longer hours and into leadership positions in the economy.

Chapter 4, coauthored with Henning Finseraas, zeroes in on dealing with these shortcomings in the literature. The chapter contends that the availability of daycare services can make it possible to both return to work earlier after childbirth and to work full-time also when the children are under school age (Esping-Andersen 2009; Estévez-Abe 2005, 2006; Iversen and Rosenbluth 2010). Moreover, the availability of daycare might also enhance mothers' *desire* to invest in a career. Career investment and entering into leadership positions typically require more presence at work and longer hours. Without *reliable* fulltime care options for the children, taking on more responsibility at work entails higher risk for mothers than other employees. The development of full-time daycare may hence increase mothers' willingness to enter into occupations with long hours, as well as accepting leadership responsibility, as a reliable and full-time care option is available. The chapter therefore hypothesizes that full-time, affordable daycare services increases mothers' propensity to enter into occupations requiring longer hours and leadership positions.

Empirically, the chapter improves on existing analyses by making use of Norwegian population-wide registry data with information about the individual-level uptake of daycare among all mothers of twoyear-olds between 2002 and 2010. To attempt to estimate the causal effect of daycare services the chapter exploits that the massive daycare reform in Norway in the 2000s-which increased daycare enrollment by about 35 percentage points, reduced parental fees, and made daycare available full-time for all children between the age of one and school-starting age-lead to an uneven expansion of daycare across the more than 400 Norwegian municipalities. The instrumental variable estimates indicate that the use of daycare allowed mothers of two-year-olds to enter into occupations with longer hours and having a higher probability of entering into leadership positions. In a supplementary analysis, the chapter also shows that the availability of full-time daycare made mothers value their career more equally compared to the careers of men.<sup>28</sup> These results consequently docu-

<sup>28</sup> In line with Gingrich and Ansell (2012), we thus show that individuals' preferences are shaped by the the presence of welfare state institutions,

ment that public policies may help to break the glass ceiling, change norms regarding careers, and help to finalize the last chapter of the gender revolution.

### 1.4 DISCUSSION: CAUSATION, RESEARCH DESIGN, AND DATA

### 1.4.1 Causal inference

All the three empirical chapters put forth and test causal hypotheses, as we saw the previous sections. The chapters use different research designs and methods to test the hypotheses-including difference-indifference (Chapter 2), process tracing (Chapter 3), cross-national regression (Chapter 3), and instrumental variables (Chapter 4)—but all adhere to the same logic of inference, namely the potential outcomes framework of causation.<sup>29</sup> Some social scientists have contrasted the potential outcomes framework with mechanistic explanations such as process tracing (e.g., Mahoney 2010; Mahoney and Larkin 2008). As pointed out by Gerring (2010, 2012) and Bennett and Checkel (2013), however, also process tracing aiming to test causal hypotheses either uses other units, other time points, or hypothetical counterfactuals to attempt to identify what would have happened to the outcome of interest if the event or process had not taken place (see also Fearon 1991). The underlying logic of causation is therefore the same in all the empirical chapters.

The point of departure in the counterfactual model is to compare a given outcome in two possible worlds, in which the only difference between these two worlds is a change in a given event, i.e., the cause

<sup>29</sup> Also called the counterfactual method or the Neyman-Rubin-Holland model; see Cox (1958), Holland (1986), King, Keohane, and Verba (1994), Neyman (1990 [1923]), and Rubin (1974, 1978). For a discussion of different notions of causality in social science research, see King and Powell (2008) and Reiss (2009).

(Gerring 2012, 199).<sup>30</sup> More specifically, define *D* as the "treatment" population-level random variable, which takes the value 1 if the individual is in the treatment group and o if in the control group.<sup>31</sup> We want to know the causal impact of this variable on an outcome *Y*. Let  $Y^1$  and  $Y^0$  be the potential outcome random variables, with  $y_i^1$  and  $y_i^0$  being the realized values of these variables, respectively, for individual *i*. The superscripts, in other words, denote the potential outcome under treatment (1) and control (o). The *causal effect* of *D* for *i*,  $\delta_i$ , is then defined as:  $\delta_i = y_i^1 - y_i^0$ .

In practice, we only observe *one* of these potential outcomes—that is, the potential outcome under treatment,  $Y^1$ , for individuals in the treatment group and the potential outcome under control,  $Y^0$ , for those in the control group. The observable outcome variable Y is accordingly:  $Y = D \cdot Y^1 + (1 - D) \cdot Y^0$ . This is what Holland (1986) calls "the fundamental problem of causal inference." It leaves direct identification of  $\delta_i$  impossible, since we only observe the outcome under either treatment or control for each individual *i*.

To nonetheless be able to identify causal effects, we need to create control groups by making assumptions about the control group being, on average, identical in all relevant aspects to the treatment group, apart from the treatment itself. To get a causal estimate, we can thereafter estimate the average effect of the treatment, i.e., the difference between the expected outcome for the treatment and the control group:  $E[\delta] = E[Y^1 - Y^0]$  and thus  $E[\delta] = E[Y^1] - E[Y^0]$ . Here  $E[Y^1]$  denotes the expected value of *Y* for the treated group and  $E[Y^0]$ the equivalent for the control group. In a *randomized* experiment this estimate remains unbiased due to due the fact that treatment assignment is independent of potential outcomes:  $(Y^1, Y^0) \perp D$ , with  $\perp$ 

<sup>30</sup> The following exposition draws on and follows the notation of Morgan and Winship 2007, ch. 2.

<sup>31</sup> It must also precede the outcome.
signifying independence. It can consequently be interpreted as an estimate of the average causal effect,  $E[\delta]$ .<sup>32</sup>

The empirical chapters in this thesis, however, consist of observational studies of the effects of treatments on a set of outcomes: PR on women's share of the votes cast in Chapter 2, the interplay between respectively the reversal of the gender gap and women's entrance into unions and corporatist social partners on WFP provision in Chapter 3, and the use of daycare services on career investment in Chapter 4. In observational studies treatment assignment cannot be controlled by the researcher, which makes the identification of a causal effect more complicated because the selection into treatment is seldom random (Rosenbaum 2009, ix). A key issue is therefore the "selection problem", meaning that those in the control group have systematically different untreated potential outcomes than those in the treatment group if they had been untreated (Angrist and Pischke 2009a, 12-24). One example is that the effect of PR on women's share of the votes cast might be due to the fact that countries adopting PR also experience strong industrialization<sup>33</sup>, and thus increasing turnout by workingclass women. The correlation between PR and women's voting participation might therefore have an upward bias. To deal with the selection problem, one of the contributions of this thesis is to leverage the case of Norway, which offers especially two advantages: ample (exogenous) within-case variation and detailed data. I will discuss these in more detail in the next two subsections.

<sup>32</sup> Note that the potential outcomes framework here makes the stable unit treatment value assumption (SUTVA), meaning that "the potential outcomes of individuals [must] be unaffected by potential changes in the treatment exposures of other individual" (Morgan and Winship 2007, 37).

<sup>33</sup> See Boix 1999; Cusack, Iversen, and Soskice 2007.

#### 1.4.2 Leveraging within-case variation in Norway

Testing the chapters' causal hypotheses requires different types of data and institutional variation. In Chapter 2, a key issue is to be able to separate the impact of PR from other factors, such as years since suffrage and industrialization. Across countries, PR institutions seldom change and when they change they are often part of a larger set of reforms (Ahmed 2012; Colomer 2005). In the case of women's share of the turnout, this problem is severe, as countries introduced PR and universal suffrage either simultaneously or PR before women's suffrage.<sup>34</sup> In Norway, however, the Storting introduced women's suffrage for women with a household income above a certain level in 1901 for municipal elections and 1907 for national elections. The parliament enacted universal suffrage in 1910 for municipal elections and 1913 for national elections. The PR reform came in 1919. There was thus a time lag between the introduction of PR and women's suffrage.

Importantly, as I discussed in Section 1.1 above, about half of the municipalities were already using PR before the 1919 election and the remaining ones where required by the Storting to shift to PR in 1919. I use a difference-in-difference (DiD) design to compare the difference in the change in women's share of the votes between the municipalities that had to switch to PR in 1919 and those that did not. As the DiD compares differences in changes over time, which removes all time-invariant differences between the "treatment" and "control" group, the key assumption is that the trends between the two groups would have been parallel if the PR reform in 1919 had not taken place. Although this assumption is untestable, I muster indirect evidence in

<sup>34</sup> Finland: 1906 (suffrage) and 1907 (PR); Denmark: 1915 (PR and suffrage); Austria: 1918 (suffrage) and 1919 (PR); Germany: 1918 (suffrage) 1919 (PR); Sweden: 1908 /(PR) and 1919 (suffrage); the Netherlands: 1917 (PR) and 1919 (suffrage); Spain: 1931 (PR and suffrage); France: 1919 (PR) and 1944 (suffrage); Italy: 1919 (PR) and 1945 (suffrage); Belgium: 1899 (PR) and 1948 (1948); and Switzerland: 1919 (PR) and 1971 (suffrage).

favor of it, which means that we can regard the PR effect as a causal estimate. The case of Norway is thus a unique opportunity to explore the consequences of electoral systems for women's mobilization at the voting booth.

Also with regard to the investigation of daycare services on women's career investment in Chapter 4 does the subnational level in Norway provide an unparalleled opportunity for investigating the effects of the availability of daycare services on mothers' career opportunities. The 2002-2008 reforms established affordable, full-time daycare places for all children between the age of one and five. Whereas Sweden and Denmark have similar daycare regimes, these were expanded gradually over an extended period of time, making it harder to detect the causal effects of these reforms. The pace and scope of the Norwegian reforms makes it a suitable case for investigating how daycare impacts mothers' careers.

Variation at the municipal level in Norway again provides us with the opportunity to disentangle daycare from other reforms and socioeconomic factors. To attempt to account for the concern that the mothers who make use of daycare are also the ones who are more likely to enter into occupations with long hours and leadership positions in the first place, the chapter uses an instrumental variable strategy. During the 2002-2008 period, the Norwegian parliament passed daycare reforms that aimed at achieving full daycare coverage across all municipalities. The study then uses the yearly change in municipalities' daycare coverage during the reform period as an instrument for individual mothers' uptake of daycare, as the changes in the coverage rates are plausibly exogenous to the outcomes we look at. The existing studies, such as Pettit and Hook (2009), have had to rely on variation across a limited number of countries observed during a limited number of years, which makes the possibility of a spurious relationship ubiquitous. The examination of the Norwegian case thus contributes with a more detailed test of the relationship between daycare and mothers' careers.

In Chapter 3 on the development of wFPs, the argument requires investigation at the national level and there is no quasi-experiment and exogenous variation available to assess the main hypotheses. This means that, for the cross-national regressions in the chapter, biased estimates as a result of endogeneity and omitted variable bias are more serious worries. Country and year fixed effects—which control for time-invariant unobservable confounders and common shocks—and the inclusion of potential observable cofounders—such as economic development, women in politics, government color, and demography—should reduce these concerns but cannot fully remove them. Moreover, the cross-national regressions, which uses parental leave benefits as the dependent variable, cannot detect whether the predictions regarding the shift in preferences for wFPs among the social partners, as well as their involvement in the the making of wFPs, find empirical support.

The strategy here is therefore to triangulate several methods and data types to establish the veracity of the theoretical causal claims.<sup>35</sup> Lieberman (2005) specifically recommends combining the large-*N* analysis with process tracing of one or more cases that are well-predicted by the theory, which is the case with the Norwegian case.<sup>36</sup> In the investigation of the Norwegian case, I furnish over-time variation in the gender gap in higher education and women's presence in trade unions to gauge the social partners' influence on, and pref-

<sup>35</sup> For fruitfulness of multi-method research, see notably Collier, Brady, and Seawright 2010; Dunning 2010; Freedman 1991, 2010; Hall 2003, 2008; Humphreys and Jacobs 2015; King, Keohane, and Verba 1994; Lieberman 2005.

<sup>36</sup> Process tracing can be defined as "the examination of 'diagnostic' pieces of evidence within a case that contribute to supporting or overturning alternative explanatory hypotheses ... [where a] central concern is with sequences and mechanisms in the unfolding of hypothesized causal processes" (Bennett 2010, 207; see also Bennett and Checkel 2013; Collier 2011; and see Beck 2010, for a critical assessment).

erence for, the expansion of wFPs. What is more, by adding shadow case studies of the United Kingdom, the Netherlands, and Sweden, the study can assess whether the development in the politics of wFP provision in countries with different levels of corporatism is as hypothesized (cf. Gerring and McDermott 2007).

The empirical results in this chapter, nonetheless, call for more caution concerning causation, as the research design neither gives exogenous variation in the independent variables, nor allows for a formal estimate of the counterfactual outcomes.<sup>37</sup> At the same time, the triangulation of a qualitative within-case analysis of Norway, crossnational time-series regressions, and shadow case studies should reduce the weaknesses of each of the methods when employed on its own, and increase the likelihood that the relationships are causal (Bennett and Checkel 2013; Bennett 2010).

#### 1.4.3 Bringing more data to bear on the hypotheses

Another related advantage of examining the Norwegian case is to be able to use novel and uniquely detailed data to analyze the theoretical arguments. Beyond providing quasi-experiments and a high-leverage case for process-tracing, a key reason for focusing on the Norwegian case is hence the unique data availability.

In Chapter 2 on PR, I collect and make use of data on the number of voters for *each municipality* for *each gender* using the original Statistics Norway electoral reports for the municipality elections between 1898 and 1928.<sup>38</sup> Few countries have national or subnational voting data broken down by gender, and, to my knowledge, Norway is the only

<sup>37</sup> As King, Keohane, and Verba (1994, 32) point out, "perhaps the single most serious problem with qualitative research ... is the pervasive failure to provide reasonable estimates of the uncertainty of the investigator's inferences" (see also Gerring 2012, 82-4).

<sup>38</sup> These reports have been digitized by the Norwegian Centre for Research Data.

country with such data for a prolonged period of time for a large panel of subnational units. Combined with data on the municipalities' electoral system, as well as large number of covariates from census data and other historical statistical reports, I can carry out the first direct test of the prediction that PR increases women's share of the votes cast.

To explore the mechanisms behind the result that PR increases women's share of the turnout, I additionally collect novel data on women's movements and network in the early twentieth century. In 1905, the parliament decided that the secession from Sweden should be subject to a nationwide Norwegian referendum. Against loud protests, women were not allowed to vote (Agerholt 1937; Danielsen, Larsen, and Owesen 2013). Spontaneously, women's suffrage organizations started to collect women's signatures in support of independence.<sup>39</sup> Making use of local networks and activists, the petition campaign spearheaded by the suffragists collected around 280,000 signatures from across the country—that is, more than 50 percent of adult women. The 9,081 original petition sheets with the handwritten signatures are available and have been digitized by the Norwegian Parliamentary Archives. To create a measure of the strength of a women's network in each municipality, I have counted and predicted the number of signatures per municipality and divided it by the adult female population in the municipality obtained from census data. I also create two alternative measures of local networks based on the size of the temperance movement, which was dominated by women, and the presence of local trade union chapters.<sup>40</sup> Chapter 2 consequently draws on a range of newly collected and systematized data

<sup>39 99.9</sup> percent of the men who voted, voted yes and the turnout rate was 84 percent (Danielsen, Larsen, and Owesen 2013).

<sup>40</sup> I collected data for the former measure from original Statistics Norway reports from the early twentieth century; for the latter measure, the data came from the trade union federation's annual reports, which have been digitized by the Norwegian Centre for Research Data.

to provide a premier test of the main PR argument, as well as the mechanisms behind this effect.

Similarly, a key challenge to inference about the effect of daycare services is the lack of data, even at the national level. Chapter 4 utilizes Norwegian administrative registry data for the *whole* Norwegian population between 2002 and 2010. These data ensure that the sample is representative and the panel dimension makes it possible to follow individuals over time. The registry data are, moreover, unrivaled for their quality (Atkinson, Rainwater, and Smeeding 1995). A particular contribution is that we have been able to use social security (case-forcare) records to calculate whether each individual mother made use of daycare for her children. We thus have an individual-level measure of daycare uptake. Likewise, through information about each individual's detailed occupational category, we can code whether individual mothers are in leadership positions. As such, the efforts to compile a data set that contains daycare and labor market information for the whole Norwegian population, as well as for municipalities, means that the chapter can provide empirical results on the individual level that go beyond the existing empirical investigations, which have been forced to use aggregate and survey data.

Finally, in Chapter 3, I use a multitude of data and sources to evaluate the argument. First, to create a time-series cross-section measure of parental leave generosity, I use a range of sources to update the parental leave variables provided by Gauthier (2011), which gives me data for eighteen advanced democracies from 1960 to 2010. Second, in the case-study analysis, I combine national and trade union statistics, archival correspondence between key actors, official reports, archival sources and interviews, parliamentary records, white papers, party manifestoes, newspaper articles, and secondary historical sources to pinpoint when and why the social partners turned around and started pushing for WFPs and to what extent they were successful in these endeavors. Coupling these sources together results in a detailed narrative of all the major WFP reforms in Norway since the 1970s.

#### 1.4.4 Trading off external for internal validity

Across the empirical chapters, conducting within-case analyses of Norway enhances the internal validity of the study, referring the findings' veracity for the investigated sample (Gerring 2012, 84-6). The research designs aim to enhance precision and decrease bias through the use of exogenous variation and samples covering the whole Norwegian population of municipalities in Chapter 2 and of mothers of two-year-olds in Chapter 4. In Chapter 3, the use of a wide variety of sources and variation across time and countries in the social partners' preferences and influence on wFPs aims to more accurately capture the reform processes when combined with the quantitative timeseries cross-national analysis. The detailed study of the Norwegian case in all three chapters are, in other words, devised to have high internal validity.

Yet the research simultaneously pays a price in terms of the generalizability of the findings, or external validity. Chapter 3 addresses this by combining the Norwegian process-tracing study with both a time-series cross-national regression analysis and three shadow case studies. The regression analysis aims to ensure that the association between the gender gap, corporatism, and wFPs can be identified when examining the whole sample for the whole period, whereas the goal of the shadow case studies is to lend credibility to the generalizability of the mechanisms of the theoretical argument. These additional analyses increase the plausibility that the results are applicable across advanced democracies, the population to which the theoretical argument applies (Geddes 2003; Korpi 1989).

In the two other chapters, however, we should be more careful about directly generalizing the findings to other democracies and time periods. Concerning Chapter 2 on PR, I only expect that the results would hold for other countries in the early twentieth century with universal suffrage. Introducing PR in countries in which for instance electoral intimidation is widespread, or where women were not marginalized in terms of voting, would not necessarily lead to the same results. First, widespread electoral intimidation means that local political elites can use their power to prevent that new groups of voters turn out to vote in response to changes in the electoral system (cf. Mares 2015; Nichter 2008). Changing from plurality to PR would thus not necessarily increase women's share of the vote in countries where clientelistic networks permeate electoral politics. Second, if women are not marginalized in the public sphere and are at the ballot box, then women are no longer an "undertapped market" of potential voters that can be mobilized after a switch to PR. A switch to PR in for instance the United Kingdom today should accordingly not necessarily lead to a boost in women's share of the votes cast. The results might nevertheless be applicable to the current situation in countries where women have the right to vote but play a more limited role in voting.

What is more, the analysis of the mechanisms suggests that the effect of PR should be strongest where there are well-organized women's networks and organizations. Since women's suffrage mobilization coincided with the nationalist movement to separate Norway from its union with Sweden, women's networks may have been unusually strong, indicating that the effect of PR might be smaller in otherwise similar contexts. In sum, the findings are foremost ex-

pected to travel to the introduction of PR in democracies in which women play a limited role in public affairs but have the right to vote, and where there are organized women's social networks and organizations. Within this domain, however, my findings illuminate how electoral institutions potentially can enhance women's inclusion in politics.

Chapter 4 explores the effect of full-time, affordable daycare services to all children under school age. The reform was particularly aimed at expanding coverage for one- and two-year-olds. Investigating daycare reforms with similar aims and of similar magnitude in other countries should be expected to produce comparable results. Reforms with more modest aims—such as small increases in tax breaks, expanding part-time daycare, or being limited to older children—should, on the other hand, be of lesser significance for women's career investment, as such reforms do not give mothers access to the reliable full-time daycare for their children that allows for continuous presence in full-time work.

The effects of daycare are also likely to be conditional on the structure of the economy. In countries with high income inequality, where well-off parents can buy childcare relatively cheaply off the market, the reform may foremost impact the labor market opportunities of low-income mothers. In contexts where many women have high education but fewer participate fully or partly in the labor market than in Norway—which is the case in for instance Italy, the United Kingdom, and the Antipodes—reforms with an equivalent scope may have larger effects than in the Norwegian case. Consequently, although the results need to be replicated elsewhere to ensure that they are not idiosyncratic to the Norwegian context, the findings do indicate that daycare service reforms in other advanced democracies can promote women's inclusion in occupations requiring longer hours and in leadership positions.

#### 1.5 PLACE IN THE BROAD GENDER INCLUSION LITERATURE

Although the three chapters are self-contained and include freestanding theoretical arguments, they all take an institutional approach to the study of gender equality and inclusion.<sup>41</sup> Chapter 2 investigates the link between *electoral institutions* and gender differences in voting, Chapter 3 argues that *corporatist institutions* are key to understanding whether the inclusion of women in education and unions leads to wFP expansions, and Chapter 4 studies the effect of *daycare policies* on women's inclusion in managerial positions and occupations requiring long hours.

By institutions, I refer to formal rules regulating social interaction (Pierson 2004, 34-5; Streeck and Thelen 2005, 9-16). As Pierson (2004, 34) points out, "in politics, institutional constraints are ubiquitous ... [b]oth formal institutions (such as constitutional arrangements) *and public policies* place extensive, legally binding constraints on behavior" (emphasis in original). A key feature of institutions is that they distribute power and influence to some political actors and not others (Mahoney and Thelen 2010, 7-10). Thus, in line with institutionalist approaches, I emphasize the interplay between institutions and social actors: in Chapter 2, the shift to PR increases the role of political parties and has the largest effect on women's share of the vote where there are women's networks; and, in Chapter 3, the social partners gain influence over work-family policymaking through corporatist institutions. The thesis thus contributes to the literature demon-

<sup>41</sup> See, for instance, Dahlerup 2013; Htun 2016; Iversen and Rosenbluth 2010; Kittilson and Schwindt-Bayer 2012; Means 1972; O'Brien and Rickne 2016; Pettit and Hook 2009; Rule 1987.

strating that that political institutions, including public policies, have an important impact on women's inclusion in politics and the labor market, which is being underplayed in other dominant approaches. Various structural approaches—focusing either on economic changes, culture, or historical roots—and political accounts all overlook how these factors are embedded in institutions and thereby provide a too crude picture of the gender revolution.

First, in the modernization approach, culture-defined as the "social norms, beliefs, and values existing in any society"42-is seen as the driving factor.<sup>43</sup> In Inglehart and Norris's (2003) influential application of the theory to gender issues, societal modernization-including rising education levels, female labor force participation, deindustrialization, and intergenerational replacement—leads to a more gender egalitarian culture. The change in culture and attitudes more or less automatically produces political change and support for public policies furthering gender equality (Inglehart and Norris 2003). In short, "culture matters, and indeed it matters a lot" (Inglehart and Norris 2003, 8). Work within this approach has looked at a number of outcomes, including turnout, party membership, interest in politics, representation in parliament, social policies, female labor market participation, the absence of women in leadership positions (see, e.g., Alesina and Giuliano 2011; Charles and Grusky 2004; Fernández 2007; Inglehart and Norris 2003; Leslie et al. 2015; Pfau-Effinger 2005; Pfau-Effinger 2004).

Undeniably, there have been large shifts in attitudes toward women's role in society. By ignoring institutions and politics, however, the approach leaves unanswered the large degree of variation in women's inclusion in voting and positions of power, as well as the public policies supporting dual-earner families, across countries

<sup>42</sup> Inglehart and Norris 2003, 8.

<sup>43</sup> See, e.g., Fernández 2007; Inglehart and Norris 2003; Pfau-Effinger 2004; for the modernization approach in general, see Bell 1973; Lipset 1959.

with similar gender norms, as I also discussed above (Iversen and Rosenbluth 2008, 2010). The approach furthermore disregards how institutions and political actors may also activate, alter, and shape cultural attitudes, which is what recent evidence suggests (Acharya, Blackwell, and Sen 2016; Iversen and Rosenbluth 2010; Jensen 2012; Pinker 2011; Ross 2008). For instance, Chapter 4 documents that the expansion of daycare coverage lead mothers to deem women's careers as equally important as men's careers. The modernization approach thus paints a too simplistic picture of the development of the gender revolution.

Second, a related set of critiques holds for accounts focusing on the historical roots of women's contemporary inclusion in politics and the labor market (Alesina, Giuliano, and Nunn 2013; Bertocchi and Bozzano 2015; Carranza 2014; Dilli, Rijpma, and Carmichael 2015; Morgan 2006; Voigtländer and Voth 2013). Morgan (2006), for instance, highlights that the variation in work-family policies and state intervention in family affairs today has its roots in the political cleavages established around the eve of the twentieth century. Where religious forces where subordinated to secular politics, as in Sweden and France, active state involvement in the politics of the family became possible. In religious pluralist countries such as the Netherlands and the United States, on the other hand, religion-based ideological resistance to state intervention "led to the emergence of a reticent state tradition in education and family policy" (Morgan 2006, 27).

Others go even further back in history. Alesina, Giuliano, and Nunn (2013) demonstrate that the role of women in society—such as gender egalitarian norms and women's inclusion in the labor market and in parliament—is linked with plough use in preindustrial periods, as it rewards upper-body strength and thus gender divisions more than other forms of preindustrial agriculture (see also Boserup 1970). Others have focused on other aspects of agriculture (Carranza 2014; Hansen, Jensen, and Skovsgaard 2015; Voigtländer and Voth 2013), inheritance rules (Bertocchi and Bozzano 2015), and an historically high male-to-female ratio (Grosjean and Khattar 2015). This historical roots approach musters important evidence to explain broad, crosssectional variation in gender inequality. It nevertheless leaves a large black box concerning how historical differences "travel" through generations. On its own, it is also unable to explain the varying pace of the grand gender convergence over the last decades. It thus needs to be coupled with other explanatory factors to provide a convincing explanation for the inclusion of women in politics, education, and the labor market (see also Banerjee and Duflo 2014).

Third, also a purely political account does not take us far. Following the power-resource theory to the welfare state, where left-wing parties are seen as the main protagonist of welfare state expansion,44 one political approach has argued that social democratic and other left-wing parties are the main driving force behind gender equality legislation and labor market opportunities for women (Ferrarini 2006). Such an approach, however, fails to explain why social democratic and other left-wing parties previously favored the male-breadwinner model. Huber and Stephens (2000) therefore argue that it is in the face of increasing female labor market participation that left parties start addressing the concerns of working women. Overall, however, the power-resource theory has found mixed empirical support.<sup>45</sup> From this perspective it is also puzzling that conservative and Christian democratic parties have also come to support wFPs and other gender equality measures (see Chatper 3 and Borchorst 2004; Fleckenstein and Lee 2012; Häusermann 2006; Wiliarty 2010). Recent studies have

<sup>44</sup> See, notably, Huber and Stephens 2001; Korpi 2006; Korpi 1983; Stephens 1979.

<sup>45</sup> See, for example, Bolzendahl 2011; Dahlström, Lindvall, and Rothstein 2012; Fleckenstein and Lee 2012; Hieda 2013; Htun and Weldon 2012; Jensen 2009; Kittilson 2008; Morgan 2013.

therefore sought to go beyond the left-right dichotomy by arguing in favor of a political competition approach in which mainstream parties to the left and right compete for the votes of working women by instigating wFPs and other gender equality policies (Fleckenstein and Lee 2012; Morgan 2013). In this approach, however, political parties simply respond to structural changes, which means that it leaves little room for varying political responses to the same structural pressures. The accounts focusing solely on political parties are thus poorly equipped to explain key facets of the gender revolution, such as the introduction of gender equality measures.

In sum, all these reviewed approaches touch on key aspects of the gender revolution. Nevertheless, what they have in common is that they do not take into account the institutional context in which the structural factors and political parties operate. As such, these theories are unable to explain key variation in, for instance, the gender gap in voting, work-family policy development, and gender segregation in the labor market. An institutional approach, where the impact of structural changes and political movements depends on the institutional context in which these forces operate, may be better equipped to account for the varying pace of the gender revolution across advanced democracies (Esping-Andersen 2009; Estévez-Abe 2006; Iversen and Rosenbluth 2010; Krook and Mackay 2011; O'Brien and Rickne 2016).

#### 1.6 ROAD MAP

The remainder of the thesis proceeds in the following way. Chapters 2 through 4 each include a complete and independent study on an aspect of the century of the gender revolution. Chapter 2 analyzes the impact of PR on women's share of the votes cast in Norwegian

municipalities in the early twentieth century; Chapter 3 investigates the politics of work-family policies in advanced democracies from the 1960s and onwards; and Chapter 4 examines the impact of introducing affordable, full-time daycare services for toddlers on women's possibilities of entering into occupations requiring long hours, and in particular leadership positions. Finally, Chapter 5 concludes by summarizing the main findings from the three preceding chapters and discussing their limitations. The conclusion also considers the wider significance of the findings for future research and for policymaking.

# 2

## PROPORTIONAL POLITICS: ELECTORAL INSTITUTIONS AND WOMEN'S SHARE OF THE VOTE IN THE EARLY TWENTIETH CENTURY

**ABSTRACT**: Did proportional representation (PR) systems enhance women's inclusion in voting after the introduction of women's suffrage? Focusing exclusively on women's representation in parliaments and cabinets, the existing research has overlooked how electoral rules affect women's share of the votes cast. I argue that PR gives party elites greater incentives to mobilize women to vote. Empirically, I study the effect of the imposed shift from plurality to PR in Norwegian municipalities in the early twentieth century. About half of the around 600 municipalities were already using PR, whereas the remaining municipalities were forced to replace plurality with PR before the 1919 election. Using a difference-in-difference design, I estimate that the move from plurality to PR increased women's share of the votes cast by about nine to ten percentage points. My study suggests that the design of electoral institutions plays a key role in promoting gender equality in political participation.

**C**<sup>AN CHANGES IN ELECTORAL institutions lessen gender inequalities in political participation? Women first gained the full right to vote in national elections at the Isle of Man in 1881, in New Zealand in 1893, Australia in 1902, Finland in 1906, and Norway in 1913. Others, such as Germany, the United States, and the United Kingdom, soon followed.<sup>1</sup> De jure political rights did not, however, result in de facto political inclusion. Across Europe, Northern America, and Oceania, women were still significantly less likely to vote than men and in legislatures women held at maximum three percent of the seats during the pre-World War II period (Corder and Wolbrecht 2006, 2016; Teele 2014; Tingsten 1937).</sup>

Early twentieth century observers saw electoral institutions as an important tool for facilitating women's mobilization at the voting booth. The Norwegian Association for Women's Rights, for instance, wrote to the Parliament in 1919 to voice its support for proportional representation (PR), saying that "[i]f the proposal about singlemember districts goes through, women will in the foreseeable future be excluded [from Parliament]" (Stortingstidende 1919, 2350; see also Tingsten 1937). The existing research on gender differences in turnout—which compellingly shows how individual resources, voting laws, electoral competition, and urbanization increased women's propensity to turnout after enfranchisement—has, nevertheless, yet to incorporate the role of electoral institutions.<sup>2</sup> The same holds for the incisive research documenting an important positive relationship between PR and women's parliamentary representation,<sup>3</sup> as well as

<sup>1</sup> See Teele (2014, 2015) for excellent analyses of the enfranchisement of women in the United States, France, and the United Kingdom.

<sup>2</sup> For instance: Corder and Wolbrecht 2006; Rokkan and Valen 1962; Schlozman, Burns, and Verba 1994, 1999; Tingsten 1937; Verba, Burns, and Schlozman 1997.

<sup>3</sup> See Castles 1981; Darcy, Welch, and Clark 1994; Engstrom 1987; Hughes 2011; Iversen and Rosenbluth 2008, 2010; Kenworthy and Malami 1999; Kittilson 2006; Matland 1993; Matland and Brown 1992; Matland and Studlar 1996; Means 1972; Norris 1985; Paxton, Hughes, and Painter 2010; Reynolds 1999; Rule 1981, 1987; Rule and Zimmerman 1994; Salmond 2006; Thames and Williams 2010.

between PR and *overall* turnout.<sup>4</sup> Yet neither of these strands of literature deals with uneven political participation among women and men.<sup>5</sup>

By theorizing and investigating the impact of PR on women's share of the votes cast, the study makes two important contributions. Theoretically, I draw on the literature on turnout and on women's representation to spell out three mechanisms through which PR may increase women's inclusion in voting, compared to a plurality electoral system. The electoral mechanism delineates that PR increases women's participation at the ballot box thorough its positive effects on turnout overall. Since every vote counts towards a party's share of the legislative seats, elites have incentives to mobilize further under PR than under plurality rules. Women, making up half of the eligible voters but voting to a lesser extent than men constituted an "undertapped market" of potential voters for elites to mobilize (Kittilson and Schwindt-Bayer 2012, 18-19; Cox 1999). The representation mechanism operates through PR increasing women's representation in the legislature, which again has a "role model effect" on women's propensity to vote by raising political interest and aspirations among women voters.<sup>6</sup> Finally, the *organizational mechanism* leads to the expectation that PR particularly affects female participation in voting where there are pre-existing women's networks and organizations, as these can help elites to translate the greater incentives to mobilize into actual mobilization.<sup>7</sup> Elites may tap into these networks or they may mobi-

<sup>4</sup> For reviews, see Blais (2006), Cancela and Geys (2016), Cox (2015), and Geys (2006). Cox, Fiva, and Smith (2015) and Eggers (2015), for instance, show that, compared to plurality, PR increases turnout in districts with lopsided races and decreased turnout in districts with tight races, as elites have more incentives to mobilize outside close districts under PR.

<sup>5</sup> For important exceptions, see Kittilson and Schwindt-Bayer 2010, 2012.

<sup>6</sup> See Atkeson 2003; Beaman et al. 2012; Burns, Schlozman, and Verba 2001; Desposato and Norrander 2009; Gilardi 2015; Wolbrecht and Campbell 2007.

<sup>7</sup> See Abrams, Iversen, and Soskice 2011; Cox 2015; Cox, Rosenbluth, and Thies 1998; DellaVigna et al. 2014; Pons and Liegey 2013; Powell 1982, 1986; Radcliff and Davis 2000.

lize on their own initiative. Based on these mechanisms, the overall expectation is that PR increases women's share of the votes cast.

Empirically, I investigate the causal effect of switching to PR by examining electoral returns in municipal elections in early twentiethcentury Norway. In 1913, Norway was one of the first countries to grant women the right to vote. Still, men continued to dominate in politics. Prior to World War II, women held 0.7 percent of the seats in the Norwegian parliament, and 1.4 percent in municipal councils. Compared to men, women's turnout was on average 13 and 16 percentage points lower in national and municipal elections, respectively (Statistics Norway 1938).<sup>8</sup> The case also furnish us with a natural experiment to test the theoretical argument.9 In 1919, the Storting required about half of the about 600 municipalities to change their electoral system from plurality to PR. The other part of the municipalities were already employing PR in elections. As such, it is an ideal setting for understanding how electoral institutions affect the political inclusion of women. I use the exogenous shift to PR and a differencein-difference design to estimate the effect of PR on women's voting inclusion. The results reveal that substituting plurality with PR produces a nine to ten percentage point rise in women's share of the votes cast for the reformed municipalities—a result which is stable across various specifications of the empirical model. Before the reform, about every fifth voter was a woman; after the reform, about every third.

Moving beyond the main effect (or the average treatment effect for the treated), I explore the mechanisms behind the findings. These additional analyses indicate that the electoral and organizational mechanisms contribute to explaining the impact of PR. There is no support for the representational mechanism, as the reform left women's rep-

<sup>8</sup> Men's turnout averaged 78 percent in national and 65 percent in municipal elections.

<sup>9</sup> On natural experiments, see Dunning 2012.

resentation in local legislatures unaffected. In sum, the research contributes with a first causal test of the relationship between PR and the inclusion of women at the ballot box in the early twentieth century. The study should thus be particularly relevant for learning about how electoral reforms can further the democratic ideal of equal participation.<sup>10</sup>

The study proceeds as follows. In section 2.1, I discuss the relevant literature and the theory. I then introduce the case of Norway in section 2.2. Thereafter, in section 2.3, I show the results of the empirical tests of the effect of electoral institutions on women's share of total turnout. The section also explores the mechanisms behind this result. Section 2.4 concludes.

#### 2.1 ELECTORAL SYSTEMS, GENDER, AND VOTING

#### 2.1.1 Women and the vote

Achieving equality in the right to vote did not imply achieving equality in voting. Across Europe and Oceania, women's turnout in the early twentieth century consistently lagged that of men, typically by more than ten percentage points, as Tingsten (1937) and Duverger (1955) document. Corder and Wolbrecht (2006, 2016) show that the same holds for the ten American states they investigate after 1920. These differences persisted into the post-World War II period (Duverger 1955). For those countries that record turnout by gender since 1945—Finland, Germany, Japan, Iceland, New Zealand, and Norway—we can observe that the gender gap in turnout did not close until the 1970s and 1980s (Norris 2002, 98; Campbell et al. 1960; Pharr 1982, 25). In other words, for a significant portion of the twenti-

<sup>10</sup> See Mansbridge 1999; Mansbridge 1980; Pateman 1970; Rawls 1971; Verba, Schlozman, and Brady 1995; see Beitz 1989; Dahl 1989, for discussions and nuances.

eth century, even after women had the right to vote, the act of voting was a male-dominated activity.

There is a rich and long-standing literature aiming to explain these differences in women and men's voting participation. Contemporary activists and later observers particularly highlighted socialization and gender norms hostile to participation (Corder and Wolbrecht 2006; Welch 1977). Reflecting the opinions voiced against giving women the right to vote, a prominent attitude communicated to women was that political participation was, by nature, a male activity (Andersen 1996; Corder and Wolbrecht 2006). Exemplifying this misogynistic attitude, Ole Malm, a Conservative Norwegian MP, argued in opposition to women's suffrage that "heavy brain activity does not in itself cause an indisposition but it does make women directly unwell" (cited in Danielsen, Larsen, and Owesen 2013, 183). Similar attitudes were not uncommon also in other Western countries. After enfranchisement in the United States, for instance, nearly one in ten female nonvoters in Chicago cited disbelief in voting or the husband's opposition as grounds for why they did not vote (Merriam and Gosnell 1924; Corder and Wolbrecht 2006, 35). Thus, according to this view, women's lower rates of participation was due to gender norms of the time, and women having been socialized into believing that politics is a man's game (see Campbell et al. 1960; Lane 1959).

Although attitudes hostile to women's inclusion in politics lingered on, participation nonetheless varied substantially among individual women. Later research has therefore instead emphasized the impact of women and men's different positions and roles in society on political participation generally and voting particularly (Welch 1977). First, this perspective has paid attention to the time-dimension of the household division of labor, arguing that women's disproportionate household work and childcare responsibilities have left little time for political participation, in particular when combined with paid work.<sup>11</sup> Second and relatedly, a number of studies document the importance of gender differences in educational resources and occupational experiences for political participation.<sup>12</sup> For instance, with more absence from paid work and the public sphere, this approach has convincingly contended that women are less likely to be exposed to political discussions and gain interest in politics, which also affect participation levels (Almond and Verba 1963; Welch 1977). Having less professional experience than otherwise comparable men moreover implies a disadvantage in running for office (Iversen and Rosenbluth 2006). This perspective consequently highlights the lack of exposure to and experience with politics as the a key reason for gender inequality in voting.

As the classic studies by Tingsten (1937), Duverger (1955), and Rokkan (1970) remind us, however, women's voting rates were not only a function of individual-level factors and social norms, but also of the socio-political context. These pioneering scholars particularly emphasized the difference between urban and rural areas, with the gender gap in voting tending to be wider for the latter.<sup>13</sup> They attributed this difference to the greater economic development and commercialization in industrial areas, with the population in rural areas having less access to education and lower income. More recently, research has highlighted different contextual factors—such as voting laws and the mobilization efforts of the suffrage, labor, and temperance movements—as a key to increasing women's share of

<sup>11</sup> See, e.g., Campbell et al. 1960; Lipset 1960; Rosenbluth, Salmond, and Thies 2006; Schlozman, Burns, and Verba 1994; Welch 1977; see Fox and Lawless 2014a, for a recent assessment.

<sup>12</sup> JAlmond and Verba 1963; Schlozman, Burns, and Verba 1999; Verba, Burns, and Schlozman 1997.

<sup>13</sup> See also Dahlerup (1978). In the United States, however, Corder and Wolbrecht (2006) note the opposite pattern, arguing that it was a result of more anti-suffrage norms among new immigrants from Europe, who were clustered in cities. Rural areas in the US, moreover, tended to vote in favor of women's suffrage in state-specific referenda in the pre-1920 era.

the votes cast.<sup>14</sup> In their recent study of women and men's turnout in 1920s' Connecticut, Illinois, Massachusetts, Michigan, and New York, Corder and Wolbrecht (2006) find that both previous pro-suffrage activity—as well as more liberal electoral laws reducing poll taxes, literacy test and residence requirements—has a greater effect on women than men's propensity to vote. In other words, these studies indicate that women's voting behavior was more responsive to changes in the surrounding political and socioeconomic context.

None of these studies, however, look at the effect of electoral institutions on women's inclusion in voting. Tingsten (1937, 15) comes closest, noting that after the introduction of PR in Norway "electoral participation [in national elections] increases both for men and women, somewhat more for the latter, particularly in the country."<sup>15</sup>

#### 2.1.2 Electoral systems

Among the many studies investigating the effects of having a PR compared to a plurality electoral system, research on how PR impacts women's share of the vote is conspicuous by its absence. This oversight comes despite the fact that in the early twentieth century, women's right to vote and PR where often reformed simultaneously or within few years from each other.<sup>16</sup> A voluminous literature has

<sup>14</sup> See, notably, Andersen 1990, 1996; Butler 1924; Corder and Wolbrecht 2006; Hallum 2003; Nilson 1977; Schuyler 2008.

<sup>15</sup> One reason for this omission is perhaps the lack of data, as election statistics broken down by sex are only available for a handfull of countries. Changes in electoral institutions is also a rare phenomenon (Benoit 2007; Colomer 2005).

<sup>16</sup> Specifically suffrage for women and PR was introduced in the following years: Finland: 1906 (suffrage) and 1907 (PR); Denmark: 1915 (PR and suffrage); Austria: 1918 (suffrage) and 1919 (PR); Germany: 1918 (suffrage) 1919 (PR); Sweden: 1908 (PR) and 1919 (suffrage); the Netherlands: 1917 (PR) and 1919 (suffrage); Spain: 1931 (PR and suffrage); France: 1919 (PR) and 1944 (suffrage); Italy: 1919 (PR) and 1945 (suffrage); Belgium: 1899 (PR) and 1948 (1948); and Switzerland: 1919 (PR) and 1971 (suffrage) (Ahmed 2012; Coppedge et al. 2016b).

On the subject of PR adoption, competing explanations point to the impact of party competition (Calvo 2009), industrial structure (Cusack, Iversen, and Soskice 2007; Iversen and Soskice 2009), and the rise of Social Democracy and the votes-seats dis-

examined the consequences of PR on overall turnout<sup>17</sup> and women's descriptive representation in parliament,<sup>18</sup> typically finding that both are higher under PR than under forms of plurality systems. The impact of electoral institutions on other forms of political participation, most notably the act of voting, has, nevertheless, received far less attention.<sup>19</sup> Given the importance of the socio-economic composition of the voters for parties' and politicians' electoral strategies and policy reforms,<sup>20</sup> this is a surprising omission. As Duverger (1955, 13) notes "once they have to reckon with them [women], and need their votes, the political parties will try to make their propaganda appeal to them and will take their problems into account, at any rate to some extent." Women's share of the vote, and the extent to which electoral systems contributes to it, therefore forms an important object of inquiry. In the next subsection, I therefore discuss why PR is likely to have positive impact on women's share of the votes cast.

#### 2.1.3 **PR and women at the ballot box**

Going from a plurality to a PR system might increase women's participation and share of the vote thorough several complementary mechanisms. Building on both the turnout and the women's representation literature, we can distinguish between an electoral logic, a representational logic, and an organizational logic.

proportionality (Boix 1999; Leemann and Mares 2014; Rokkan 1970) for conservative and liberal elites' strategies and willingness to adopt PR (Ahmed 2012).

<sup>17</sup> Cox, Fiva, and Smith 2015; Eggers 2015; for extensive reviews, see Cancela and Geys 2016; Cox 2015.

<sup>18</sup> See, e.g., Castles 1981; Kenworthy and Malami 1999; Means 1972; Norris 2006; Paxton, Hughes, and Painter 2010; Rule 1987; Salmond 2006.

<sup>19</sup> I refer to the next subsection for exceptions.

<sup>20</sup> See, e.g., Bechtel, Hangartner, and Schmid 2015; Lax and Phillips 2009; Pontusson and Rueda 2010.

#### The electoral mechanism

The first mechanism builds on the insight that parties typically have an incentive to mobilize more broadly in PR systems, as every vote contributes more to the party's seat share in the legislature (Cox 1999; Kittilson and Schwindt-Bayer 2012). In plurality systems, however, the incentives are different. In single-member districts using plurality rule, a candidate who knows that her or his seat is safe will not have incentives to mobilize further, as it will not provide any additional benefits, only costs (Cox 1999, 395). If the race is close, however, both candidates will have reasons for continuing the mobilization race, with a resulting high level of turnout. The result is that uncompetitive districts will have lower, and competitive districts higher, turnout in plurality systems than under PR (Cox 1999, 2015; Cox, Fiva, and Smith 2015; Eggers 2015).

The hypothesis concerning women's share of the turnout is thus that women will be mobilized to a larger extent as a district goes from plurality to PR rule. After the establishment of universal suffrage, women made up approximately half of the electorate, yet they were not mobilized to the same extent as men, as I discussed above. Women were accordingly what Kittilson and Schwindt-Bayer (2012) call an "undertapped market" of voters. The result is that the higher turnout under PR is predicted to entail a larger mobilization of women than men to vote, as this was a newly enfranchised and large share of the electorate that is not already mobilized (Tingsten 1937).

#### The representation mechanism

A second logic runs through the election of female representatives. This mechanism proceeds in two steps. First, in first-past-the-post systems, where individual candidates compete for votes, parties are less able to balance their electoral lists than in PR systems, where parties generally play a larger role and control the nomination procedures (Iversen and Rosenbluth 2008; Thames and Williams 2010). As voters mainly vote for party lists, parties can also more easily put underrepresented groups on the ballot.<sup>21</sup> Second, a growing number of studies find that the presence of female candidates, elected representatives, and government ministers subsequently increases political aspirations, interest, and participation among women.<sup>22</sup> Women's representation signals a logic of inclusiveness and inspires women to participate in politics to a greater extent. Consequently, PR is predicted to induce mobilization of women to vote indirectly through the presence of women on ballots and in elected positions (Kittilson and Schwindt-Bayer 2012).<sup>23</sup>

This second mechanism, however, is perhaps less applicable in the early twentieth century setting, as very few women held elected office prior to the Second World War. It is perhaps more likely that women first get mobilized to vote, and only later get activated into politics by standing for election. As Rokkan (1970, 216) succinctly writes: "[the] contrast between [women's] rates of mobilization and rates of activation into politics reflects basic differences in the *cost of the alternatives* in the two cases. Electoral turnout is a matter of co-operation, an act of compliance: the participation of one citizen does not exclude that of another. Nominations and elections are *competitive* and it took a long time before women could be motivated to break with established cultural norms and face such public ordeals." The representation mechanism is thus less likely to have an impact in the early than in the late twentieth century.

<sup>21</sup> See Darcy, Welch, and Clark 1994; Duverger 1955; Kittilson 2006; Kittilson and Schwindt-Bayer 2012; Norris 1985.

<sup>22</sup> Atkeson 2003; Beaman et al. 2012; Blumenau 2016; Burns, Schlozman, and Verba 2001; Desposato and Norrander 2009; Gilardi 2015; High-Pippert and Comer 1998; Schwindt-Bayer and Mishler 2005; Wolbrecht and Campbell 2007; but see Clayton 2015; Dolan 2006; Lawless 2004.

<sup>23</sup> We could also think of this as a feedback mechanism, whereby women are first mobilized to vote and then vote for women candidates, which again boosts women's participation.

#### The organizational mechanism

A third mechanism may be more relevant to the historical setting, as it focuses on organizational differences across political units. Although every vote counts to a larger extent under PR than under plurality, effort and resources are needed to mobilize new voters. Both theory and evidence suggest that social networks and pressure to vote are effective tools for increasing turnout (Abrams, Iversen, and Soskice 2011; DellaVigna et al. 2014; Pons and Liegey 2013). Mobilization is accordingly less costly where there are pre-existing, organized networks, such as trade unions (Radcliff and Davis 2000), or, in the case of women's turnout, suffrage and temperance movements (see, e.g., Andersen 1996; Danielsen, Larsen, and Owesen 2013; Nilson 1977; Tilly and Gurin 1990). Thus, as one moves from a plurality to a PR system, in which the returns to mobilization are greater, social networks and organizations may be crucial vehicles for inducing more women to vote (see Carpenter and Moore 2014). The movements may do so on their own initiative, independent of parties' requests. But social movements may also help political elites to "get out the vote" in ways that sparks what Cox (2015, 51-2) calls "secondary mobilization", where elites mobilize some voters directly, who again mobilize others in their (organizational) networks.

Moreover, parties under PR are generally more ideologically cohesive and are therefore more likely to have close ties to social groups, such as women's, farmers', workers', and religious's movements (Cox 1999; Powell 1982, 1986; Radcliff and Davis 2000). Parties may use these linkages to more easily reach women. In a race with several parties, such mobilization is likely to be aimed at those in the parties' pre-existing social network, since they otherwise risk mobilizing other candidates' supporters (e.g., Cox, Rosenbluth, and Thies 1998). With the electoral system shifting from plurality to PR, political elites consequently make use of existing social organizations to mobilize women not formerly participating in political activity.

In sum, these different mechanisms lead to the main hypothesis that an exogenous change in electoral institutions, from plurality to PR, will cause an increase in women's percentage of the total number of votes cast. This mobilization to persuade more women to visit the voting booth may be driven by several mechanisms simultaneously, including the electoral, representational, and organizational mechanisms.

### 2.2 ELECTORAL REFORM IN EARLY TWENTIETH-CENTURY NOR-WAY

To test the general hypothesis about the impact of PR on women's share of the electoral turnout, I turn to the case of Norway in the early twentieth century. I examine the 1919 PR reform, in which about half of the more than 600 Norwegian municipalities were required by the Norwegian parliament, the Storting, to switch from plurality to PR. As we shall see, this change of electoral system was plausibly exogenous to local politics, making the Norwegian case a natural experiment to test the argument. Another important reason for examining the Norwegian case is that the move from plurality to PR, and from male to universal suffrage, happened more or less simultaneously in all countries but Norway and Sweden, as detailed in Section 2.1.2 above.<sup>24</sup> The co-occurrence of the two reforms makes it difficult to separate the effects of the two. Moreover, Sweden—and later France, Italy, Belgium, and Switzerland—introduced PR before they enfran-

<sup>24</sup> Later, also France, Italy, Belgium, and Switzerland had a significant time lag between PR and women's suffrage reforms but, as in Sweden, the PR reform occurred before the suffrage reform.

chised women, which implies that we also cannot use these cases to investigate the *switch* from plurality to PR on women's inclusion in voting. A key advantage of the within-case analysis of Norway is thus that it allows us to separate the impact of PR from suffrage reforms, while at the same time holding cross-country differences constant (Gerring 2007). Still, as women were significantly underrepresented at the ballot box across the Western democracies during this time period, the findings from Norway should be applicable beyond the Norwegian case. This section first provides details on the historical context and then on the 1919 reform.

#### 2.2.1 Secession and suffrage

As a result of the Kiel Treaty after the Napoleonic Wars, the Kingdom of Norway changed hands in 1814, from Denmark to Sweden. In 1814, the Norwegian elite, inspired by French and American ideas, adopted a liberal constitution for its time, granting the franchise to state officials and landowners, as well as holders of merchant and artisan licenses in the cities and free- and lease-holders in the countryside (Rokkan and Valen 1962, 113). From 1814 until 1884, about ten percent of the male population were thus eligible to vote. Driven forward by a coalition of workers, smallholders, teachers, and the urban bourgeoisie, the Storting expanded the right to vote in 1884 and fully introduced suffrage for men over the age of 24 in 1898.<sup>25</sup>

Like so many of the democratizing measures during this era, one reform set in motion another (E.g., Capoccia and Ziblatt 2010; Pierson 2004). The 1898 enfranchisement of propertyless men brought fear of expansion of municipalities' spending and taxation, and threatened the Conservatives' position in local politics (Flo and Aars 2010).

<sup>25</sup> See, e.g., Belu, Bronner, and Skorge 2015; Collier 1999; Rueschemeyer, Stephens, and Stephens 1992; Stråth 2005.

When women with a household income above a certain threshold,<sup>26</sup> or about 40 percent of voting age women, were made eligible to vote for the first time in 1901, it was a result of the Conservatives' need to counterweight the full enfranchisement of men. The 1901 municipal election shored up support for the Conservatives and lead to the entrance of the first 100 female representatives in municipal councils, of which only seven percent represented the Labor Party and other socialist lists (Danielsen, Larsen, and Owesen 2013, ch. 5).<sup>27</sup>

Among the first countries to grant equal voting rights to women and men, the struggles for independence and suffrage rights were often two sides of the same coin. Norway was no exception. In a dramatic move on June 7, 1905, the Storting unilaterally declared Norway's secession from Sweden, leading the two countries to the brink of a civil war. Only after prolonged and heated negotiations did the Swedish and Norwegian representatives agree that Norway should be allowed to decide its future through a popular independence referendum.

Despite calls for their inclusion, the Storting decided to restrict voting in the referendum to men. In response, suffragists spontaneously started to collect signatures, or unofficial "votes", from women to make up for their exclusion from the referendum itself (Hagemann 2008). The National Association for Women's Suffrage (*Landskvinnestemmerettsforeningen*, NAWS), which had grown in size since its establishment in 1898, soon took the lead in organizing a nationwide petition campaign in favor of independence. With the help of local organizations and volunteers, the signature campaign spread across the country (Agerholt 1937).

<sup>26</sup> NOK 400 in urban and NOK 300 in rural areas. NOK 400 in 1901 is equivalent to about NOK 33,000, or \$5,400, in 2014.

<sup>27</sup> Following the same logic as in other Western countries enfranchisement of women thus came as a result of ordinary instrumental strategies from the established parties to maximize their influence (E.g., Teele 2015).

In the referendum on August 13, 99.9 percent—of the 84 percent of men who turned out to vote—voted in favor of the secession from Sweden. On August 22, the NAWS leadership presented the Storting with 244,765 signatures from Norwegian women in support for independence. In October, another 35,113 signatures, which had been delayed in the mail, were added. In total, more than half of the female adult population signed the petition (Danielsen, Larsen, and Owesen 2013). Nation-building and the mobilization of women thus went hand in hand.

The mobilization soon led to further expansions of the right to vote (Hagemann 2008). In 1907, women who satisfied the income restriction were now also allowed to vote in parliamentary elections, again to the great benefit of the Conservatives, which thereby secured a majority in the 1909 election. The NAWS continued its quest for universal suffrage. Attempting to counter the Conservatives electoral advantage, the Liberal government tried, without success, to introduce universal suffrage in 1908. Still, as the inclusion of wealthy women had proven to be no threat to the existing political order, the Liberals managed to convince the more liberal wing of the Conservatives to accept full female suffrage in municipal elections, starting with the election in 1910 (Agerholt 1937).

When it came to full suffrage in parliamentary elections, however, the Conservatives continued to resist, though not for long. By 1912, pro-suffrage representatives were in a majority within all parties, and in 1913 the Storting passed the bill on universal suffrage unanimously and without debate (Ytre-Arne 2013). The first national election with universal suffrage was held in 1915.

#### 2.2.2 Plurality and PR: Norwegian political institutions

Until 1896, representatives to the approximately 600 Norwegian municipal councils were elected in multimember districts with plurality voting.<sup>28</sup> That is, in an election to a council with *M* seats, the voters wrote the names of the *M* candidates they wanted elected to the council on the ballot. The *M* candidates receiving the most votes were elected. "The election was thus primarily an election between persons," notes Hjellum (1967, 11), where "'[t]he best of men' should lead local politics." Individual candidates were at the center of the electoral competition in the municipalities; parties seldom played a role in these elections (Rokkan 1970).

In 1896, however, the Storting opened up the possibility for municipalities to change their electoral system to PR if a certain number of voters signed a petition requesting the change.<sup>29</sup> In the form of PR system that the municipalities were allowed to switch to, voters voted for lists of candidates,<sup>30</sup> and the law required the use of Hagenbach-Bishof's system, a largest remainder method, to transform votes into seats.<sup>31</sup> In these PR elections, both parties and voters were allowed to express their preference for certain candidates (Hjellum 1967, 14). First, the party could decide to enter a candidate's name up to three times on the party list. Second, the voter could enter a candidate's name either once or twice.<sup>32</sup> In total, a candidate could thus receive

<sup>28</sup> The grand majority of municipalities consisted of one district (*sogn*) (Lind-støl 1903, 7).

<sup>29</sup> From 1901, the number required was one fifth of eligible voters for municipalities with fewer than 5,000 voters in rural areas and 8,000 in towns. With 5,000 or more eligible voters, the petition had to be signed by at least 1,000 in rural areas and 1,600 in towns.

<sup>30</sup> If a list was proposed by 10 eligible voters, and 20 in towns, then the list could stand for elections.

<sup>31</sup> The quota of votes, Q, required to get a seat in this system is Q = V/(M+1), where V is the number of votes and M is the number seats. If some seats are unallocated after the quota rule is applied, these seats are allocated to those lists with the largest remainders, with the list with the largest remainder remaining the first remaining seat, the second largest remainder the second remaining seat, etc. (Cox 1997, 57).

<sup>32</sup> If entered twice, then the voter had to cross out another candidate.

five votes on a list, three from the party and two from the voter.<sup>33</sup> In other words, although seats were distributed according to the total number of votes received by each list, voters could to some extent influence *which* candidates who got elected. The electoral system available to municipalities was thus a typical open-list PR system.

Whereas the plurality elections induced a competition between *indi*vidual candidates, the PR elections fostered a contest between collective lists (Carey and Shugart 1995; Hjellum 1967). The incentives to cultivate a personal vote—that is, the value of personal reputation for getting elected—varied greatly between these two electoral systems. Using Carey and Shugart's (1995) schema for analyzing the strength of the incentives to cultivate a personal vote, I show in Appendix A.1.1 that the plurality system in Norwegian municipalities was decisively candidate-centered and the PR system was clearly party-centered. In PR municipalities, political, as well as apolitical, often geographical, lists were competing with each other. After the 1916 election, for instance, the share of municipal representatives elected from political lists was about 40 percent, from apolitical lists about 15, and from plurality elections about 45 (Hjellum 1967, 31). Although we unfortunately do not have data on the vote and seat shares for more than the major towns, historical accounts suggest that the Labor Party was typically the first party to present lists in municipal elections (Hjellum 1967; Rokkan 1970).<sup>34</sup>

After the Storting in 1898 permitted municipalities to switch to PR, a rising share of the municipalities seized this opportunity. In the first election allowing municipalities to replace plurality with PR, held in 1898, 21 percent of the municipalities used PR, increasing to 22 per-

<sup>33</sup> Preference voting was not restricted to a particular list.

<sup>34</sup> The election reports from Statistics Norway were written on the basis of election forms that the municipalities mailed Statistics Norway after the elections. These original forms did contain party vote and seat shares but the information was not reported in the final reports from Statistics Norway. Sadly, when there was a fire at Statistics Norway a few decades later, the original forms were turned to ash.

cent in 1901. 33 percent in 1907, and 38 percent in 1913. By the 1916 election, which was the last before the Storting required all municipal elections to be held by using PR, 54 percent of the municipalities employed the proportional system. The map in Figure A.1 shows the distribution of PR and plurality municipalities across the country in 1916. Regressing an indicator variable for PR on a set of covariates for a cross section of municipalities in 1916 reveals that municipalities with PR typically had a larger population size, more employment in industry and less employment in shipping (compared to agriculture), and a larger percentage of the population on poor relief (see Model 1 in Table A.2 in the Appendix). Municipalities with a larger percentage of the female population signing the 1905 petition were also more likely to have PR. Next, a regression with a set of covariates and municipality and election year fixed effects for the 1898 to 1916 period indicates that municipalities where the percentage of employment in industry and in services increased, and where the share of the population that were non-religious was growing, were more likely to also introduce PR (see Models 2 and 3 in Table A.2). In short, more populous municipalities, typically cities, and more industrial municipalities were more likely to adopt PR than smaller, more agricultural municipalities.

#### 2.2.3 From plurality to PR: the 1919 reform

Two PR reforms were passed in 1919, one for parliamentary elections and one for municipal elections. The adoption of PR in elections to the Storting, replacing a two-round runoff system in singlemember districts, came after intense debate in late 1919.<sup>35</sup> The plurality system had produced an underrepresentation of the rising La-

<sup>35</sup> See Aardal 2002, for an overview of the Norwegian electoral reforms, and; Cox, Fiva, and Smith 2015, for an incisive analysis of the effects of the reform on overall turnout.

bor Party—in the 1918 national election it received 31.6 percent of the votes but merely 14.3 percent of the seats. The party threatened to withdraw its MPs and with electoral boycott (Stortinget, Dokument no. 24, 1919). Also the bourgeois Norwegian Association for Women's Rights were in favor of a PR reform, hoping to increase the representation of women in parliament (Stortingstidende 1919, 2350). The nonsocialist parties initially opposed the introduction of PR, yet ended up securing the two-thirds majority to pass the constitutional amendment. Rokkan (1970) and others have explained the turnaround as a strategic move to prevent the swiftly radicalizing Labor Party, a member of Comintern from June 1919, from securing a parliamentary majority in the longer run.<sup>36</sup>. That said, though various sources support such an interpretation, political historians have not found direct evidence of such reasoning among Conservative and Liberal party strategists (Danielsen 1984, 19). Among the Liberals, who were deeply split on the issue, there are also indications that occupational and geographical interests impacted on their preferred type of electoral system (Worm-Müller, Bergsgård, and Nissen 1933, 348; see also Cusack, Iversen, and Soskice 2007).

The same fierce debate and position shifting, however, did not arise with the reform which made it compulsory to use PR in municipal elections, which passed unanimously almost half-a-year earlier, in July 1919 (Stortingstidende 1919). Having seen the consequences of PR at the municipal level since 1898, chairs of all parliamentary party groups had agreed to the proposal already in 1916 (Stortingstidende 1916, 367-8).<sup>37</sup> The reasons for forcing municipalities to employ

<sup>36</sup> See also Ahmed 2012; Blais, Dobrzynska, and Indridason 2005; Boix 1999; Leemann and Mares 2014; and, for the Norwegian case, Worm-Müller, Bergsgård, and Nissen 1933, 346-9; Danielsen 1984, 18-19.

<sup>37</sup> As a constitutional amendment, the proposal had to be passed with a two-thirds majority in two subsequent Storting. In the empirical analysis below, I show that there were no "anticipation" effects present for the 1916 election.
the PR system were eloquently summed up by Johan Castberg, the head of the Constitutional Committee, in the proposal:

In favor of this electoral system [i.e. PR], it has, for instance, been alleged that it, in difference from the old plurality system, give all entitled opinion or interest groups access to cooperate for the best of the municipality; [...] that the PR election has contributed to harmonizing disagreements and to a strengthening of a fruitful cooperation for solving of more difficult tasks, not at least through the representation of the different opinion groups in municipal committees (Stortinget, Dokument no. 4, 1916, 1).

Both the parliamentary debates and other sources thus suggest that the rationale behind the municipal reform was not the socialist threat but rather to secure broader interest representation in local government (Hjellum 1967; Stortingstidende 1919).

Starting with the municipal election held in October 1919 in the countryside and December in the cities, the Storting consequently legislated that the 46 percent of municipalities still using the plurality rule were required by law to switch to the same PR system as the rest of the municipalities. For the PR elections, party lists had to be handed to the electoral committee by September 7 in the countryside and October 15 in cities. The only exception to the use of PR was if none or only one list stood for election. The election would in these instances be held using the plurality rule. It was only the case in a small minority of sparsely populated municipalities in the country-side (Hjellum 1967). The shift from plurality to PR did not affect the size of the municipal councils or district magnitude. The total number of electoral districts remained more or less the same in the 1913-1922 period (Statistics Norway 1920, 1923),<sup>38</sup> and the number of council

<sup>38</sup> For instance, the number rural of municipalities was 612, 628, 637, and 646 in 1913, 1916, 1919, and 1922, respectively. The total number of electoral districts across these municipalities was 916, 918, 918, and 921 during the same period (Statistics Norway 1923).

representatives in the municipalities that had to switch to PR in 1919 did not change significantly (Hjellum 1967).

In sum, the 1919 PR reform, which was forced on the municipalities that still used the plurality system, provide me with a natural experiment to assess the impact of a shift from a multimember plurality system to open-list PR system on women's share of the votes cast.

# 2.3 THE EFFECT OF PR ON WOMEN'S INCLUSION IN VOTING

Beyond offering a natural experiment in the period right after women gained the right to vote, the Norwegian case is also suitable due to the detailed electoral data. Official election reports compiled by Statistics Norway after the election provide voting statistics broken down by sex for each of the more more than 600 municipalities starting in 1898. These accurate and unparalleled data makes it possible to investigate the role of electoral institutions on gender inequalities in turnout in a more comprehensive way than previous studies, which has had to rely on surveys, data for national elections, or a limited number of subnational regions (see Corder and Wolbrecht 2006; Kittilson and Schwindt-Bayer 2012; Tingsten 1937).

The outcome of interest is women's percentage of the total number of votes cast in a given election. Dividing the number of women voting by the total number of votes cast—instead of, for instance, by the number of eligible female voters—ensures that we can look at whether there is an unequal number of women and men among the citizens who turn out to vote. Several studies argue and show that elected politicians are responsive to the composition of the *voting* population, not the population as a whole (see Bechtel, Hangartner, and Schmid 2015; Pontusson and Rueda 2010; Powell 1982). To give an overview of the dependent variable, Figure 2.1 plots women's per-



FIGURE 2.1. The distribution, mean and interquartile range of women's percentage of votes cast across municipalities for each election.



centage of votes cast for each municipality (grey points), along with the mean (black points) and the interquartile range (black, horizontal ticks) across all municipalities, for each municipal election between 1910 and 1928. 1910 is the first municipal election with universal suffrage. The figure illustrates that gender inequality in voting persisted even after the women were given equal voting rights as men. In the large majority of these elections, fewer than 50 percent of the votes were cast by women.<sup>39</sup> Between 1910 and 1916, less than one in three voters were on average women. From 1919 and onwards, however, women's share of the turnout increased to about 40. The distribution of the grey points and the interquartile range indicate that the variance also decreases notably if we compare the 1919-1928 to the 1910-1916 period. In other words, and although the figure does not

<sup>39</sup> Indeed, even the maximum share across the period was 64.5, which occurred in the municipality of Lillesand in 1925.

disaggregate the statistics by the type of electoral system, we can see the contours of the 1919 PR reform.

# 2.3.1 Research Design

To examine whether the shift from plurality to PR had a positive impact on women's percentage of the vote, I use a difference-indifference (DiD) design. In this study, the crux of the design is to compare (1) the change in women's percentage of the vote before and after the 1919 reform in the reformed municipalities with (2) the equivalent change in the municipalities that did not alter their electoral system (i.e., the municipalities that had previously introduced PR). To identify a causal effect of the reform, the key assumption is that, in the absence of the reform, the trends in women's percentage of the vote would have been similar in the reformed and the unreformed municipalities. Given this assumption, the DiD will estimate the average causal impact of the PR reform on women's share of over-all votes for the treated units (Angrist and Pischke 2009a, ch. 5).<sup>40</sup>

I use a municipality- and election years-fixed effects regression model to estimate the DiD:<sup>41</sup>

$$WV_{mt} = \eta_m + \delta_t + \gamma \cdot PR_{mt} + \varepsilon_{it}.$$
(2.1)

Subscripts *m* and *t* denote municipality and election year, respectively. The dependent variable,  $wv_{mt}$ , is women's percentage of the total number of votes cast. At right hand side of the equation,  $\delta_t$  is the election-fixed effects, which accounts for election-period common shocks, and  $\eta_i$  is the municipality-fixed effects. The fixed effects

<sup>40</sup> In addition, we assume that there is not an issue of selective migration between municipalities. Since the comparison group already had the reform, this is less of an issue in this application.

<sup>41</sup> See, Angrist and Pischke 2009a, 229 for details.

means that I estimate within-municipality effects and control for timeinvariant, unobserved variables.

The treatment,  $PR_{mt}$ , is an indicator variable. It takes the value of 1 for elections held using PR and the value of 0 for those held using plurality. In other words, for the municipalities in which PR was in place during the 1910-1916 pre-reform period, as well as during the post-reform period, it takes the value of 1 for all election years. For the municipalities that were forced to switch to PR in the 1919 election, it takes the value of 0 for the 1910, 1913, and 1916 elections and the value of 1 for the 1919, 1922, and 1928 elections.<sup>42</sup> The  $\gamma$  coefficient will thus give the estimated average treatment effect for the treated municipalities of introducing PR on women's share of the total turnout in municipal elections. The model is estimated by OLS with robust standard errors clustered by municipality to account for serial correlation within clusters (Angrist and Pischke 2009a, 318-9).

In some of the model specifications, I also include a vector of timevarying covariates to account for possible confounding trends across municipalities, as these are not picked up by the year fixed effects. In particular, we might worry that changes in the female or male population, such as variation in the number of female or male eligible voters, correlates with both the 1919 reform and the outcome. As covariates, I therefore include eligible voters (log), women's percentage of the eligible voters, population size (log), women's percentage of the population, and the number of representatives in the municipal council (log).<sup>43</sup> Similarly, changes in the municipalities' industrial structure may also act as a confounder, as this was a period of industrialization and the rise of the working class (Collier 1999). Using census data, I compute the percent of the working-age population in four exclusive and exhaustive occupational categories-industry, agricul-

<sup>42</sup> The municipalities that moved from plurality to PR between 1913 and 1916 are excluded from the analysis.

<sup>43</sup> See the note to Figure 2.2 for the data source.

ture, services, and shipping—and include all but one (agriculture) in the analysis. In October 1919 there was also a national referendum on whether to uphold the prohibition of alcoholic beverages in Norway, which had been in place since 1916. As some research, such as Nilson (1977), has suggested that women were mobilized more where Nonconformist (Dissenting) religion and the temperance campaign was on the rise, which again could be correlated with the PR reform and women's votes, I include the percentage of the population belonging to Nonconformist religious societies and the percentage of the population that was a member of the temperance movement.<sup>44</sup> Finally, to account for unobserved local trends in confounders, some model specifications also include either linear or quadratic municipalspecific time trends.<sup>45</sup>

# 2.3.2 The Effect of PR on Women's Share of the Votes Cast

Figure 2.2 plots the mean level of women's percentage of the the votes cast separately for the municipalities that held PR election throughout the period (triangular points) and the municipalities that held plurality elections prior to the 1919 reform and PR elections thereafter (circular points). In 1910, the first election in which women could vote on equal footing with men, women cast about one in five votes in municipalities using plurality elections and more than one in three in municipalities using PR. Between the 1910, the 1913, and the 1916 elections, the trends are slightly positive, but similar for both plurality and PR municipalities, which provides indirect evidence in favor of the parallel trends assumption.

<sup>44</sup> The latter variable is only available at the county level for 1913, 1919, and 1923 and has been linearly imputed for the 1916 and 1922 election.

<sup>45</sup> Hence, the full model is:  $wv_{mt} = \eta_0 m + \delta_t + \gamma \cdot PR_{mt} + X'_{mt}\beta + \eta_{1m} \cdot t + \eta_{2m} \cdot t^2 + \varepsilon_{it}$ , where  $X'_{mt}\beta$  denotes the time-varying covariates and  $\eta_{1m} \cdot t + \eta_{2m} \cdot t^2$  the quadratic time trends.



FIGURE 2.2. Women's share of total turnout in Norwegian municipal elections, 1910-1928.



Turning to the main result, the effect of the PR reform is clearly visible in the figure. In 1919, as the PR reform takes effect, there is an eleven percentage-point shift, from 22 to 33, in women's share of the votes cast for the municipalities that were affected by the reform (circular points). For the municipalities which used PR throughout the 1910-1928 period, the previous trend continues uninterruptedly, with a one percentage-point increase between 1916 and 1919, from 42 to 43. The DiD estimate suggested by this graph is thus ten percentage points.<sup>46</sup> After the reform, the trends for both sets of municipalities again continue more or less in parallel.<sup>47</sup> In sum, the graphical evi-

<sup>46 (33 - 22) - (43 - 42) = 10</sup> percentage points.

<sup>47</sup> Given the similarity of the trends, the remaining difference between these two sets of municipalities after 1919 are likely to be a result of time-invariant differences between them.

	Women's percentage of votes cast (mean among reformed in 1919: 33%)				
	(1)	(2)	(3)	(4)	(5)
PR	9.7	9.0	9.0	10.1	9.3
	(.7)	(.7)	(.9)	(1.1)	(1.1)
	<0.001	<0.001	<0.001	<0.001	<0.001
Municipality FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Election FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Covariates		$\checkmark$			$\checkmark$
Trends			$\checkmark$	$\checkmark$	$\checkmark$
Trends <sup>2</sup>				$\checkmark$	$\checkmark$
Observations	4,127	4,127	4,127	4,127	4,127
Municipalities	593	593	593	593	593
Effect size (% $\Delta$ )	42	38	38	44	39
95% CI	30,47	32,44	30,45	135,54	30,491

table 2.1. Regressio	on results report	ing the effect of	PR on women	's share of
total turi	nout in municipa	l elections, Nor	way 1910-1928	3.

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.

dence points to a substantial impact of the change in electoral institutions on women's inclusion in voting.

To subject the hypothesis to a more rigorous analysis, Table 2.1 displays the results from estimating the DiD regression model in Equation 3.1. Echoing the graphical analysis, Model 1 indicates that the passage from plurality to PR in 1919 is estimated to have increased women's share of overall votes by an average of 9.7 percentage points for the reformed municipalities, compared to the counterfactual where the reform did not occur. With small standard errors, the effect is precisely estimated. If we think of this effect in terms of the percent increase from the counterfactual, then this amounts to a 42 percent increase in women's share of the votes cast (see the last

two rows of Table 2.1).<sup>48</sup> Including the rich set of covariates in Model 2 does not alter these conclusions, as it only slightly decreases the size of the PR coefficient. The same holds for the linear municipality-specific trends (Model 3), whereas the quadratic time trends slightly *increases* the size of the estimated PR effect (Model 4). Model 5, which includes both the covariates and the quadratic time trends, is similar in size to the baseline estimate in Model 1, though with slightly larger standard errors. These robust findings provide evidence that the PR reform had a noteworthy impact on women's share of overall votes among the municipalities subject to the 1919 reform.

The reform was thus instrumental in starting to translate the recently achieved gender equality in the right to vote into de facto gender equality at the ballot box. Indeed, instead of one in every fifth voter being a woman before the reform, one in every third voter was a woman after the reform in the reformed municipalities (see Figure 2.2).

For these estimates to be treated as causal, we need to assume parallel trends in the mean of women's percentage of votes cast *absent* of the reform. As we cannot observe what the outcome would have been without the reform in the municipalities subject to the 1919 reform, the assumption is directly untestable. Indirect evidence, however, lends credence to the plausibility of the assumption in this study. The two lines in Figure 2.2 are parallel prior to the reform and also continue along the same path after the reform, which suggests that the trends are parallel. Further evidence of parallel trends is provided in Figure 2.3. The figure plots the estimated coefficients and 95 percent confidence intervals from a re-run of Equation 3.1 with leads and lags of the 1919 PR treatment. The leads give a placebo test of the PR reform: if the estimate is causal, then the 1919 reform should

<sup>48</sup> The percent increase from the counterfactual is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.



FIGURE 2.3. Leads and lags of the effect of changing to PR in 1919.

*Notes:* The estimated coefficients are from a regression model similar to the one in Equation 3.1 but with two leads and three lags. The 95 percent confidence intervals are based on robust standard errors clustered by municipality.

have no impact in 1913 or 1916. The confidence intervals for the 1913 and 1916 leads overlap with zero and the coefficients are small in size, thus supporting the parallel trends assumption. The lags show that the reform had an immediate impact that did not increase over time, apart from a small positive effect in 1928. Given that this effect appears nine years after the reform, it probably reflects other changes that affected the municipalities differently. Overall, the PR coefficient and its lags suggest that the effect was immediate and remained over time, which is similar to what Figure 2.2 displayed.

In the analysis I have treated municipalities as the unit of interest and given all units equal weight, regardless of the size of the electorate in the municipality. Reassuringly, re-running models 1 to 5 weighted relative to the eligible voters in each municipality, the results are about one percentage points *stronger* (see Table A.3 in the Appendix).

# 2.3.3 Additional evidence from female suffrage expansions

If the results are driven by the changes in the electoral system, an implication would be that the expansion of women's right to vote—first the introduction of suffrage in municipal elections for women with income in 1901 and then the introduction of universal suffrage in municipal elections in 1910—would result in a larger expansion of women's share of the votes cast in PR than in plurality municipalities. To investigate this implication, I look at the change in women's share of overall votes between the last election before the given suffrage expansion and the first election after it—i.e., the change between 1898 and 1901 and between 1907 and 1910, respectively.

Obviously, as PR and plurality municipalities are different in ways that plausibly are correlated with both the type of electoral system employed and the size of the change in women's percentage of the vote these estimates cannot be given a causal interpretation. To mitigate the omitted variable bias concern, I include both the levels and the changes for an extensive set of covariates, notably changes in women's percentage of eligible voters, previous turnout levels, population size and changes, and fixed effects for counties.<sup>49</sup> For the 1910 expansion, I also control for women's share of overall votes in 1907.

The results for the two suffrage expansions are presented in Table 2.2. With the 1901 suffrage reform, women's share of overall votes increased 3.4 percentage points more among PR than plurality municipalities, holding women's percentage of eligible voters and other co-

<sup>49</sup> The full set of covariates include: the change in the percentage eligible women voters, the change and the number of eligible voters (log), the lag of turnout, the number of representatives in the municipal council (log), the change in and the size of the population (log), the change in and level of women's percentage of the population, the change in and the level of the percent of the employed in industry, agriculture, shipping, and services (with agriculture as the omitted category), whether the municipality is urban or rural, the change and the level of the percentage of the population belonging to a Nonconformist religious society, and fixed effects for counties. Municipalities that use PR for the first time in the election that suffrage was also expanded are excluded from the analysis.

	$\Delta$ women's % of votes cast				
	(1) Suffrage 1901	(2) Suffrage 1901	(3) Suffrage 1910	(4) Suffrage 1910	
PR	3.5 (.9) <0.001	3.4 (1.0) <0.001	9.1 (1.6) <0.001	10.3 (1.9) <0.001	
Covariates County FE	$\checkmark$	√ √	V	$\checkmark$	
Observation	s 512	512	400	400	

TABLE 2.2. Regression results reporting the differing effect of suffrage on women's percentage of votes cast.

*Note:* OLS regressions with standard errors in parentheses and *p*-values in italics. See the text for details.

variates constant (see Models 1 and 2). Whereas the 1901 reform gave voting rights to the minority of women with a certain level of house-hold income, the 1910 reform granted all women over the age 25 the right to vote.<sup>50</sup> The change in women's percentage of the vote votes cast between the 1907 and 1910 election was 10.3 percentage points higher among PR than among plurality municipalities (see Models 3 and 4). Finally, in Table A.4, I additionally show that if we look at the municipalities that (endogenously) chose to switch to PR before 1919, a similar association, albeit smaller in size, between PR and women's share of overall votes emerges also there.

Together, the pieces of evidence from both the 1919 electoral reform and the 1901 and 1910 suffrage expansions give precise evidence in favor of the hypothesis that going from a multimember plurality to an open-list PR system resulted in an increase in women's share of the votes cast. It is important to note that the causal effect of PR that I have estimated for the 1919 reform is the average treatment effect for the *treated*. For instance, since the municipalities that were forced to switch to PR were mostly rural municipalities, we cannot necessarily generalize the finding to the urban municipalities that did not change

<sup>50</sup> Women and men on poor relief did not have the right to vote.

to PR in 1919. Still, the associational findings from the suffrage expansions (see Table 2.2) and the pre-1919 switches (see Table A.4), which I discussed above, give indicative evidence of a PR effect also beyond those municipalities that were treated in 1919.

# 2.3.4 Potential mechanisms

What are the mechanisms driving the noteworthy impact of PR on women's share of the votes cast? The theoretical discussion in Section 2.1 specified three potential mechanisms for the impact of PR on women's inclusion in voting, with one mechanism running through general electoral mobilization, another running through PR's positive effect on women's representation in legislatures, and a third running through women's networks and organizations. In this section, I will explore each of these mechanisms, starting with the representation mechanism.

# The representation mechanism

To investigate the role of the representation mechanism—where PR increases the number of female legislators, which again increases women's propensity to vote through a role model effect—we can examine whether the reform affected women's presence in local government, which would be a requirement for this mechanism to apply. The official election reports provide data on the number of female and male representatives elected to the municipal councils.<sup>51</sup> Across the 1901 to 1928 period, only 1.4 percent of the representatives elected to serve in municipal councils were women. The Norwegian women's movement argued that the introduction of PR would improve women's access to political positions (Stortingstidende 1919).

<sup>51</sup> But unfortunately not on the number of women candidates.



FIGURE 2.4. Percentage of municipalities with at least one woman in the municipal council, 1910-1928.

*Notes:* The circular points shows percentage of the municipalities with at least one woman in the municipal council in municipalities that held plurality elections until 1916 (grey) and PR elections from 1919 (black). The triangular points shows statistic for the municipalities that introduced PR before the 1913 election. *Sources:* Statistics Norway (1911, 1914, 1917, 1920, 1923, 1926, 1929).

Later research based on cross-national evidence from the post-World War II period indicates that PR is associated with a higher representation of women than plurality systems (see, e.g., Paxton, Hughes, and Painter 2010).

To see whether the reform had any effect on female representation, we can calculate the proportion of municipalities that had at least one female representative in the municipal legislature separately for the municipalities that changed to PR in 1919 and for the comparison group of municipalities that had PR throughout the 1910-1928 period. In the comparison group, 17 percent of the municipalities had female presence in the legislature in both 1916 and 1919. In the 1919 reform group, 3 percent of the municipalities had female presence in the results in the figure, it is clear that the PR reform did not

have a short or medium term impact on women's representation in municipal legislatures. Consequently, it is unlikely that the reform influenced women's mobilization to vote through its effect on women's representation.

This evidence also suggests that PR alone is insufficient to increase women's descriptive representation. As convincingly argued by Iversen and Rosenbluth (2008), it is only in conjunction with supply-side mechanisms, such as women's large-scale entrance into higher education and full-time employment, that PR is likely to produce higher legislative representation of women than plurality systems (see Rokkan 1970).

# The electoral mechanism

The existing literature documents that PR has a positive effect on the average level of turnout, at least apart from very competitive districts (Cox, Fiva, and Smith 2015; Eggers 2015). The generally greater incentive for political elites to mobilize voters under PR than under plurality rules may have lead them to particularly try to get women to vote, as women made up about half of the eligible voters but were an "undertapped market" in terms of participation in elections. This mechanism would make particular sense in a context where turnout among men was already very high. Party elites would then be required to look to women for new voters to mobilize. Among Norwegian municipalities using the plurality system, however, the turnout rate was only 44 percent in 1916, indicating that mobilizing new voters did not necessarily imply to mobilize women.

We can first look at whether the PR reform had an impact on overall turnout. The results from re-estimating Equation 3.1 above with overall turnout as the dependent variable shows a substantive effect of PR (see Table A.5), which echoes previous findings (Cox, Fiva, and

Smith 2015; Eggers 2015). If this is the mechanism producing the effect of PR on women's share of votes cast, we should perhaps see that the effect evaporates once we control for the impact on turnout in Equation 3.1. The problem with including turnout as a regressor in Equation 3.1, however, is that it may induce post-treatment bias in the estimate of PR on women's share of the votes cast. Moreover, as Acharya, Blackwell, and Sen (forthcoming) demonstrate, we cannot know the direction of the bias. To nonetheless enable the estimation of the effect of the treatment on the outcome net of a mediating variable, in this case overall turnout, they develop the what they call the "sequential g-estimation." It allows us to include mediating variables without post-treatment bias. It involves a two-step estimation procedure. I first regress the women's share of overall votes on turnout (the mediator), PR (the treatment), the fixed effects, and the set of covariates discussed above. This model is thus similar to Model 2 in Table 2.1 Second, I "demediate" the outcome using the first stage, which, in this case means subtracting the coefficient on turnout multiplied by the observed level of turnout from the observed level of women's share of overall votes for each observation. I then use this demediated version of the women's share of overall votes and regress it on the PR variable.<sup>52</sup> Following Acharya, Blackwell, and Sen (forthcoming), I use a bootstrap procedure to obtain standard errors that take into both stages of the estimation.<sup>53</sup>

The results are shown in Table 2.3. For reference, the first row shows the estimated PR effect from Model 2 in Table 2.1. The next row shows the estimated PR effect after taking out the effect that runs through PR's impact on overall turnout. More precisely, it is the av-

<sup>52</sup> Acharya, Blackwell, and Sen (For details on the estimation procedure, see forthcoming). I thus assume that all the covariates are intermediate variables; that is, that they can be affected by the treatment. Alternatively, I could assume that some or all of the covariates were pretreatment covariates. This would not notably change the results presented below.

<sup>53</sup> As observations are clustered in municipalities, I use the block bootstrap with sampling of municipalities (with replacement).

		Women's % of the votes cast		
		Pr	95% CI	
	Baseline (Model 2, Table 2.1)	9.0	[7.7, 10.4]	
Model	<i>Effect net of turnout (seq. g-estimation)</i>	6.3	[5.4, 7.2]	
	<i>Effect net of turnout (naive estimation)</i>	5.8	[4.9, 6.7]	

TABLE 2.3. The estimated effect of PR on women's share of the votes cast net of turnout using sequential g-estimation

*Note:* Rows 1 and 3 display confidence intervals based on robust standard errors clustered by municipality; row 2 displays confidence intervals based on block bootstrapped standard errors with 1,000 replications. The PR column is the coefficient from regressions including municipality and year fixed effects and the set of covariates described in Section 2.3. See the text for details on the estimation procedures.

erage effect of PR on the treated municipalities if we hold turnout constant at its mean value. The third row gives the "naive" estimated effect of PR net of turnout; that is, if we re-estimate Model 2 in Table 2.1 but control for turnout. Both of these methods indicate that about a third of the overall effect of PR comes from increased electoral mobilization, which gives an indication that the electoral mechanism is partially at play. Yet, it is notable that the impact of PR on women's share of votes is still highly significant and substantive in size. The general turnout mechanism accordingly does not seem to be the whole story.

# The organizational mechanism

Finally, I explore the organizational mechanism, where the expectation is that the impact of PR will be larger where there are existing networks of women. The elites, which have greater incentives to mobilize under PR, will more easily be able to get out the vote if they can tap into pre-existing organizations that can help out with the mobilization. There were three particularly large women's movements in Norway at the time: the bourgeoise suffrage movement, the working class women's movement, and the temperance movement (Danielsen, Larsen, and Owesen 2013, ch. 5; Agerholt 1937). I create separate measures for all three movements.

First, in 1905, the suffrage movement mobilized more than 280,000 women across the country to sign the independence petition, as I discussed in Section 2.2.1 above. To collect the signatures, they relied on local chapters of the women's movement and other similar networks (Agerholt 1937). The share of women in a municipality who signed the 1905 petition can therefore serve as a measure of the strength of the women's movement in a given municipality. Since the original sheets with the petition signatures still exist, it is possible to create such a measure. More specifically, in 2013, the Parliamentary Archives scanned the 9,081 sheets of original signatures and categorized the sheets by municipality. To count the signatures, I proceeded in the following steps. First, as the signatures were grouped by municipality, I selected a random sample consisting of a fourth of the municipalities. In each of these sampled municipalities, I counted the number of signatures per sheet. In total I counted 67,885 signatures, or about a fourth of the total number of signatures, across 2,086 pages. Second, using these data, I created an estimate of the average number of signatures per sheet. Since I had the total number of signature sheets for all the municipalities that I had not hand counted, I could use the hand counted data to predict the number of signatures in the "uncounted" municipalities. Finally, to create a measure of the percentage of the female adult population who signed the petition in each municipality, I divided the number of signatures by census data on the adult female population and multiplied this number by 100. As the collection of petitions depended on local organizational capacity, it should serve as a proxy for the presence and the strength of the women's movement in a given municipality. An example of the signature sheets is shown in Figure A.2 in the appendix.

Second, for the working class movement, I have no direct measure for women. Still, between 1909 and 1915, the Norwegian Trade Union Federation's Annual Report contained information on the number of trade union members in each municipality.<sup>54</sup> I use trade union members as a percentage of the population as a proxy for the presence of a working class women's organization.

Third, to measure the strength of the temperance movement, I use data from the report on alcohol usage from Statistics Norway in 1924, which contains time series data on membership in temperance organizations between 1913 and 1923 for all 19 out of the 20 counties (*amt*) (Statistics Norway 1924). Unfortunately, the measure is not available at the municipality level, so I will need to use the percentage of the county population that is a member of a temperance organization as a proxy.

To explore whether the impact of PR varies with the presence of women's organized networks, Table 2.4 shows estimates of the impact of PR for subsets of municipalities. As the g-estimation and the naïve estimation of the mediating effect of the electoral mechanism show very similar results, I here use the naïve version and simply control for turnout. First, Models 1 and 2 show the impact of PR for sets of municipalities that score above the median value for the 1905 petition variable (Model 1), or equal to or below the median value (Model 2). Models 5 and 6 do the same for the temperance movement variable. As 400 out of the 593 municipalities in the sample do not have any trade union members, these estimates are subset by whether there are trade union members present (Model 3) or not in the municipality (Model 4). For all three indicators the PR estimate is notably higher for the subset with higher presence of a women's network. For the 1905 variable, the PR coefficient is 45 percent larger

<sup>54</sup> The Norwegian Center for Research Data have digitized these data. There is missing data for some municipalities.

	1905 mc	1905 mobilization		Trade unions		Temperance mov.	
	(1) > median	(2) $\leq$ median	(3) > o	(4) = 0	(5) > median	(6) $\leq$ median	
PR	7.0 (.8) <0.001	4.8 (.6) <0.001	8.9 (1.5) <0.001	4·4 (.5) <0.001	5.4 (.6) <0.001	3.8 (.7) <0.001	
Municipality FEs Election FEs Covariates Turnout covariate Observations Municipalities	√ √ √ 1,966 283	√ √ √ 1,949 280	√ √ √ 1,145 193	√ √ √ 2,388 400	√ √ √ 1,998 287	√ √ √ 2,127 306	
Effect size (% Δ) 95% CI	27 [21,33]	17 [13,21]	37 [25,49]	15 [12,19]	20 [15,24]	13 [8,18]	

 TABLE 2.4. Regression results reporting the effect of PR on women's share of total turnout in municipal elections, Norway 1910-1928.

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the PR coefficient and then multiplying this number by 100.

for the above-median subset; for the trade union variable, the PR coefficient is about twice the size where trade unions are present; and for the temperance movement variable, the PR coefficient is 42 percent larger for the above-median subset. These consistent results lend support to the organizational mechanism.

Together, these pieces of evidence give tentative support to the electoral as well as the organizational mechanism. The results suggest that the move from a plurality- to a PR -based electoral system in Norwegian municipalities in 1919 increased overall turnout, which also meant an increasing mobilization of women to vote. They also indicate that the impact of PR was larger where pre-existing organized networks of women—such as the suffrage, the workers', and the temperance movements—stood stronger.

#### 2.4 CONCLUSIONS

In this paper, I have shown that replacing a plurality with a PR electoral system can increase women's share of the votes cast. I did so through an empirical investigation of the switch from plurality to PR in Norwegian municipalities before the election in 1919. About half of the municipalities already used PR, whereas the national parliament forced the remaining half to go from plurality to PR elections between the 1916 and 1919 election. Using a difference-in-difference design, I compared the change in women's share of the total turnout in municipalities that did not change electoral system between 1916 and 1919 with those that were forced to switch. My estimates indicate that the change from plurality to PR significantly increased women's share of the votes cast. Exploring the mechanisms behind this result suggests that the general incentive to mobilize a larger share of the population under PR, as well as the presence of organized women's networks, are important mechanisms for the effect of PR.

Even after women were granted the right to vote, they were not included in the in the act of voting to the same extent as men. The results in from this study suggest that substituting plurality with PR significantly contributed to reducing gender inequality in political participation.

# 3

# PARTNERING CHANGE: THE POLITICS OF WORK-FAMILY POLICIES

ABSTRACT: Under what conditions do employers, unions, and political parties go from opposing to proposing and pushing for work-family policies? Work-family policies (WFPs), such parental leave and daycare services, have surged over the last decades, even despite fiscal pressures. Despite their central position in the making of labor market policies, the role of organized employers and trade unions in WFP reforms have largely been overlooked. In my argument, the shift from Fordist to knowledge economies, with the associated reversal of the gender gap in higher education, is the impetus for social partners' and parties' changing policy stances. If women make up an increasing share of high-skilled employees, employers' associations start favoring WFPs in order to increase these workers' labor supply. Similarly, unions favor WFPs if women constitute a significant part of their current and prospective membership base. The translation of these preferences into policy depends on the presence of national-level corporatist institutions, which give unions and employers policy influence. I support these claims with time-series cross-section analyses of WFPs in eighteen advanced democracies from the 1960s and onwards, as well a detailed case study of the legislative processes in Norway over the last five decades and shadow case studies of Sweden, the Netherlands, and the United Kingdom.

THE MASSIVE TRANSITION FROM a Fordist to a knowledge-based economy has entailed an unprecedented surge in higher education enrollment and labor market participation among women (Goldin and Katz 2008). Yet, due to childbearing, establishing a family entails higher labor market risks—including job and wage loss, skill depreciation, and lost promotion opportunities-for women than men in paid employment (Estévez-Abe 2006). Work-family policies (WFPs), including daycare services and parental leave, are policies that aim to reduce these risks and financially enable both spouses to return to and participate in the labor market while they have young children. During the period of Fordism, lasting into the 1970s, unions, employers, and political parties almost without exception defended the male-breadwinner welfare state (Leira 1992; Morgan 2006). Despite this initial opposition, however, advanced democracies have, with ample variation in both timing and magnitude, implemented WFPs. By 2010, advanced democracies spent on average five percent of their total social spending on wFPs—that is, a 65 percent increase since 1980 (OECD 2010).

A series of incisive studies document the importance of left-wing parties, increasing political competition between blocs over working women's votes—as well as women's entrance into parties, parliaments, and cabinets—for the introduction and expansion of wFPs (see, e.g., Fleckenstein and Lee 2012; Huber and Stephens 2000; Morgan 2006, 2013). While the focus on party politics provides convincing insights into the expansion of wFPs, these factors can only partially explain to what degree states choose to mitigate the risks facing working women, as I will show below. Indeed, even though women's integration into education and the labor market are seen as the driving forces behind the changing political dynamics, it is commonly—and perhaps paradoxically—assumed that policies aimed at women in the *labor* market fall outside the realm of *labor* organizations' interest and influence (see, e.g., Huber and Stephens 2000; Morgan 2013). As such, we lack a systematic analysis of organized employers and unions' changing attitudes toward, and role in, WFP reforms.

To this end, this study makes a theoretical and an empirical contribution to the literature. Theoretically, the article provides an argument about the condition under which both unions and employers change from opposing to proposing WFPs, and to what extent they can be expected to influence policy. I contend that the rise of knowledge economies<sup>1</sup>—characterized by skill-biased technological change, increases in education levels<sup>2</sup>, and the reversal of the gender gap in higher education<sup>3</sup>—is the source of the changing coalitions underpinning the new welfare state (Iversen and Soskice 2015a; Martin and Thelen 2007; Hall and Thelen 2009; Thelen 2014). With women starting to outnumber men in higher education, organized employers will call for expansion of WFPs in order to secure that these high-skilled, potential employees remain attached to the labor market in case of childbirth. For trade unions, as democratic membership-based organizations, pushing or not pushing for WFPs is a question of their membership base. Only unions in which women make up a significant share of the members, or constitute a promising future avenue for recruitment, will promote WFPs (Berger and Piore 1980; Rueda 2007; Häusermann 2010). A majority of female members of trade unions have tertiary education, and increases in tertiary education is a key source of growing female labor force participation.<sup>4</sup> The gender gap reversal is, in other words, the source of emerging cross-class coalition between capital and labor in *favor* of wFPs. Unions and employers thus

<sup>1</sup> Powell 2004; Soskice 2014.

<sup>2</sup> Autor, Levy, and Murnane 2003; Goos and Manning 2007; Ansell 2010; Reenen 2011; Oesch 2013; Ansell and Gingrich 2013.

<sup>3</sup> Goldin, Katz, and Kuziemko 2006; Goldin and Katz 2008.

<sup>4</sup> Evidenced in Section 3.1 below.

try to sway both left- and right-dominated cabinets and parliaments to expand wFPs.

Still, the social partners must be able to influence policy to see their new preference for wFPs realized. Corporatist institutions organized at the national level—what Martin and Swank (2012) have labeled "macro-corporatism"—facilitate cooperation and coordination between social partners, as well as providing them with influence over policy (Katzenstein 1985; Traxler 1997; Hall and Soskice 2001; Rueda 2008; Martin and Swank 2012; Nelson and Stephens 2013a). The result is that both unions and employers use their central position in policymaking to ensure that wFPs are enacted.

By spelling out the mechanisms for employers and unions' changing preferences for wFPs, this study also illustrates that analyses emphasizing<sup>5</sup> and questioning<sup>6</sup> employers' proactive role in welfare state development can be complementary rather than competing explanations. Among the skeptics, Korpi (2006, 202) asserts that "employercentered research has not yet presented empirical evidence indicating that employers have been protagonists with first-order preferences for major reforms extending social citizenship rights." The advocates, on the other hand, document how employers, and particularly their interest associations, have had an active hand in the extension of key social policies, such as unemployment insurance and active labor market policies (Mares 2003a; Martin and Swank 2012; Nelson and Stephens 2013a). In this analysis, I show that these two approaches can be squared by allowing employer associations' (and trade unions') preferences to vary over time according to the composition of the labor force (see also Mares 2003a). As women have become a key source of skilled labor, employers have gone from "antagonists" to "protagonists" of wFPs, to borrow Korpi's (2006) terminology. This study, in

<sup>5</sup> Hall and Soskice 2001; Mares 2003b; Martin and Swank 2012; Swenson 2002.

<sup>6</sup> Hacker and Pierson 2002; Korpi 2006; Nijhuis 2009; Paster 2013.

other words, documents how the rise of knowledge economies is the source of the shifts in preferences for welfare policies geared toward working women among the key political actors in advanced democracies. This emphasis is related to recent work by Thelen with Hall and Martin<sup>7</sup>, Häusermann<sup>8</sup>, and Iversen and Soskice<sup>9</sup>, who all provide insightful arguments about how the collapse of Fordism has created new policy coalitions. Yet they analyze active labor market policies and pensions and do not deal with wFPs or the consequences of the reversal of the gender gap in higher education.

In order to examine WFPs in the wake of the knowledge-economy transition, the study combines an econometric analysis of the expansion of parental leave across advanced democracies from the 1960s until today with a detailed case study that traces the political dynamics behind all major WFP reforms in Norway. Corporatist Norway is particularly suited for a case-study analysis because it has gone from having less than three percent daycare coverage and 12 weeks of low paid parental leave in the 1960s to over 80 percent daycare coverage and 49 weeks of fully paid leave in 2016. In the appendix, I also include brief case studies of Sweden, the Netherlands, and the United Kingdom to document that the argument's mechanisms are at play also beyond the Norwegian case.

In the large-*n* analysis, I show that the reversal of the gender gap in higher education is clearly associated with the expansion of wFPs in countries with centralized and influential employers' associations and trade unions but not in countries with weaker and more fragmented social partners. In the case study analysis, I use archival resources and interviews, historical statistics, newspaper articles, party manifestoes, and secondary sources to show that women have gone from having a marginal to a prominent role within unions, and that this shift lead

<sup>7</sup> Hall and Thelen 2009; Martin and Thelen 2007; Thelen 2014.

<sup>8</sup> Häusermann 2010.

<sup>9</sup> Iversen and Soskice 2015a.

the labor organizations to go from opposing to proposing reforms. Later on, employers underwent the same shift. Up to the 1980s the employers' associations were clearly hostile to wFP expansions; yet, as women's share in key higher education fields such as business, STEM, and law started to surge, they gradually came to favor wFPs. Specifically, I show that the massive parental leave expansion in the 1980s was initiated by the social partners through wage negotiations. Later, employers and unions have, in a unison and coordinated fashion, called for expansion of both daycare and the fathers' quota. I also show that the social partners collaborated closely with women within parties both to the left and right. The analysis is consequently able to not only demonstrate that the argument is generalizable to the full set of advanced democracies, but also that both unions and employers made a U-turn on WFPs.

The paper is organized as follows. In Section 3.1, I present the theoretical argument and discuss the relevant literature. I first deal with the role of corporatism and the rise of knowledge economies. I then specify when and why we should expect to see employers, unions, and parties to be in favor of and introduce wFP reforms. I the two subsequent sections, I test the argument in two ways. First, in Section 3.2, I carry out a time-series cross-section analysis of data on wFPs for 18 OECD countries from 1960 to 2010, which allows me to show the general applicability of the theoretical model. Second, in Section 3.3, I conduct an in-depth case study of Norway to provide evidence of the mechanisms leading to expansion of wFPs.<sup>10</sup> Section 3.4 concludes.

<sup>10</sup> Appendix B.1.1 includes the short studies of Sweden, the Netherlands, and the United Kingdom.

# 3.1 SOCIAL PARTNERS AND THE POLITICS OF WORK-FAMILY POLICIES: THEORY AND LITERATURE

The existing literature on employers and unions' preferences toward social policy legislation shows that higher centralization and coordination of employers' associations and trade unions increase their support for policies and outcomes-such as unemployment insurance, active labor market policies, wage compression, and redistribution.<sup>11</sup> First, centralization forces employers and unions with initially diverse preferences to reach common ground and enables them to solve collective action and coordination problems (Hall and Soskice 2001; Nelson and Stephens 2013a). Second, instead of fragmented groups of firms and employees bargaining for the advancement of their individual benefits, centralized social partners take into account the productivity and sustainability of the national economy, as well as aggregate labor supply, in their bargaining policies (Martin and Swank 2012). With its implications for economic growth, the issue of national welfare policy legislation will therefore be more central to unions and employers organized at the central level than in countries with decentralized wage bargaining. Third, through regular participation in policy commissions, corporatist institutions allow the social partners to have their say in the formulation of social policy, which reduces concerns that social policy legislation will be insensitive to the their preferences (Katzenstein 1985; Rokkan 1987; Traxler 1997; Molina and Rhodes 2002; Martin and Swank 2012; Martin 2012). This contrasts with pluralist countries, where both organized capital and labor are decentralized and fragmented, and thus less involved in policymaking and unable to voice collective interests. In short, social partners

<sup>11</sup> See, e.g., Hicks and Swank 1984, 1992; Western 1989; Wallerstein 1986; Wallerstein 1999; Swenson 2002; Estévez-Abe, Iversen, and Soskice 2001; Rueda 2008; Hall and Gingerich 2009; Martin and Swank 2012.

operating within a corporatist industrial relations system have considerable policy influence.

These arguments about the role of corporatism, however, are static in the sense that the they implicitly assume that the social partners' preferences do not change over time: in highly corporatist countries, the social partners have always been positive to various social policy legislation.<sup>12</sup> This is problematic when trying to explain wFPs because neither unions nor employers have at all times been supporters of these policies, but rather opposed them. *The aim of this study is therefore to understand the sources of these shifts in the social partners' preferences for and influence on this emerging part of the welfare state.* 

I contend that two aspects of the rise of knowledge economies are central to understanding the shift in capital and labor's preferences for WFPs. The first aspect is that skill-biased technological change has, as forcefully demonstrated by Iversen and Soskice (2015a), decoupled the complementarities that existed between skilled and semi-skilled workers in Fordist "assembly line" economies (see also Wallerstein 1990; Acemoglu, Aghion, and Violante 2001). In Fordist economies, strong unions were a result of a coalition between the skilled and semi-skilled. Technological change, however, automates away routine manual tasks, leading to a decline in the number of semi-skilled jobs and the bargaining power of these workers (Autor, Levy, and Murnane 2003). Decentralization of wage bargaining, as well as a decline unionization rates, has therefore ensued, as it is no longer necessary for skilled workers and their employers to coordinate with semi-skilled workers. The ability of unions and employers in different sectors to coordinate and cohesively influence policy has

<sup>12</sup> Mares (2003a), who highlights risk exposure as a determinant of employers' and unions' attitudes towards social policies, comes closer to providing a dynamic argument. Changes in exposure to risks, such as increasing unemployment or international competition in a given sector, can cause shifts in preferences for social policy. Yet, she deals only with the "old" welfare policies, such as unemployment and workaccident insurance and early retirement policies.

consequently *started* to decline. The exceptions are the Nordic countries, and to some extent Belgium, where unionization rates and centralization of wage bargaining have declined less due to high unionization rates among particularly highly educated women in the public sector (Iversen and Soskice 2014, 15-6; Martin and Thelen 2007; Dølvik, Andersen, and Vartiainen 2014; Pontusson 2011). I return to this aspect below. The second aspect is that the rise of knowledge economies is also characterized by a revolution in enrollment rates and the closing, and later reversal, of the gender gap in higher education, as illustrated in Figure 3.1. The liberal market economies and the Nordic countries have the highest gross enrollment rates.<sup>13</sup> By the 1990s, women had higher enrollment rates in tertiary education than men, particularly in these countries. What we can infer from these trends is that women with higher education make up a more and more significant group of employees.

In the following I spell out how these two aspects of knowledge economies—the reversal of the gender gap and the changing role of corporatism—affect employers and unions policy preferences for wFPs, as well as the social partners' opportunities to influence legislation, and finally the role of political parties.

# 3.1.1 The rise of a cross-class coalition for work-family policies

# **Employers**

The preferences of employers toward wFPs depend on the gender gap in higher education as well as the level of corporatism. As other social policies, wFPs have significant costs to firms. Unless there are clear-cut

<sup>13</sup> For excellent analyses of the development of higher education, see, e.g., Ansell (2010), Ansell and Gingrich (2013), and Iversen and Soskice (2008). In particular, Ansell and Gingrich (2013) theorize and document the close relationship between the expansion of higher education and knowledge-intensive service sectors.



FIGURE 3.1. Gross enrollment rates in tertiary education, with countries ordered according to when the female outnumbered the male enrollment rate. The vertical lines indicate the year of the reversal of the gender gap in enrollment.

> *Notes:* The gross enrollment rate "is defined as the number of pupils enrolled at a given level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for the same level of education. For the tertiary level, the population used is the fiveyear age group following on from the secondary school leaving age. Gross enrollment rate can be over 100% due to the inclusion of overaged and under-aged pupils/students because of early or late entrants, and grade repetition" (Svensson et al. 2012, 148). *Source:* UNESCO (2012) in Svensson et al. (2012).

benefits of having WFPs, they will oppose their introductions. *Parental leave* implies significant non-wage costs for firms in terms of finding temporary replacement of staff who are on leave, either by employing a replacement worker, by making internal reshuffles of staff, or by allocating the work to other employees (Estévez-Abe 2006; Ruhm 1998). With few employees, the option of staff reshuffles is more difficult for small firms, and they will need to find temporary replacements in the external labor market. Even with fully publicly-financed leaves, there

are therefore extra search costs for such companies, also entailing the risk of not finding suitable replacements.<sup>14</sup> The introduction of paid leave also have direct negative consequences for firms' bottom line, as the leave has to be financed by firms or through increased taxation. Although financing through general taxation lessens the burden imposed on firms, it still affects their overall labor costs. An expansion of *daycare services* does not entail the same non-wage cost as parental leaves, as daycare services reduce the time away from work in relation to childbirth and childrearing. Nevertheless, as affordable, full-time daycare services are much more costly and requires an enlargement of the publicly-funded service sector, they involve higher taxation, higher government spending, and possibly higher payroll taxes. Overall, wFPs are consequently costly to firms. In the absence of a tangible advantages, which was the case in a male-breadwinner economy, the default position of firms should therefore be to oppose WFPs.

With the closing and then reversal of the gender gap in higher education, however, I argue that firms in sectors relying on high skills become more interested in both making sure that high-skilled women enter the labor market and return to full-time work after childbirth. These firms therefore shift from opposing to favoring wFPs. With regard to daycare services, they will favor high-quality full-time services that suits dual-earner couples. In addition to childbearing and birth, women still do a larger share of the household work and childrearing than men (Iversen and Rosenbluth 2010). Firms perceive that daycare services decrease the risk that women employees permanently leave the workforce to care for children, and also enables a faster return to employment after childbirth. Moreover, the service makes it possible to combine full-time work with having small chil-

<sup>14</sup> Small firms will therefore generally oppose job-protected parental leave to a larger extent than larger firms.

dren, particularly for women, which again results in increased skill investment and job experience.<sup>15</sup> With regard to leaves, firms will prefer short and well-paid parental leaves with high wage ceilings to prevent high-skilled women from leaving the labor market altogether. They will also start favoring fathers' quotas, where one part of the leave is reserved for fathers, since it will increase the chance that high-skilled women return faster and do not permanently drop out of the labor market.

Employers in countries with highly centralized peak employers' associations will on average be more favorable to wFPs. With skill increases among women, centralized employers' associations are more likely to focus on the benefits of WFPs for the nationwide economy than fragmented associations. In economies increasingly reliant on high skills to innovate and grow,<sup>16</sup> wFPs becomes a vehicle for ensuring high employment and skill investment (Gingrich and Ansell 2015; Morel, Palier, and Palme 2012). As the Confederation of Norwegian Enterprise, for instance, argued in favor of the fathers' quota: "[t]here are so many well-educated women, and it is a large problem that they have difficulties with entering the labor market on the same level as men" (Klassekampen 2010). Centralized employer federations thus take into account outcomes and the provision of collective goods beyond the bottom line of individual companies to a larger extent than fragmented employers (Martin 2005; Martin and Swank 2012, 23; Crouch 1993; Katzenstein 1985; Nelson and Stephens 2013a; Rothstein 1998, 2005). This also makes them more likely to favor statefunded and -administered WFPs because such policies ensure that collective goals are achieved and that daycare services and parental leave become available to all employed women.

<sup>15</sup> See also Chapter 4 of this thesis.

<sup>16</sup> See Brynjolfsson and McAfee 2014; Acemoglu 2008; Aghion and Howitt 2009.

Summarized, we should expect to see employers becoming increasingly favorable towards wFPs as women outnumber men in higher education. This should especially be the case in corporatist countries, where employers' associations are more likely to participate in policymaking and be concerned with the overall health of the economy. This is also where their policy influence is the largest. Employers in male-dominated sectors may still oppose parental leave and other wFPs because they increase government spending without being of direct use to them. As I will also emphasize when I discuss trade unions' preferences below, employers' federations will thus only become favorable to wFPs when firms and sectors in need of the labor supply from women with high general skills acquire a dominant position within the associations.

# Trade unions

Trade unions have been regarded as the representatives of the working class as a whole, and as organizations that strive to introduce social and labor market policies benefiting the broad class of dependent employees (Esping-Andersen 1990; Huber and Stephens 2001; Korpi 2006; Korpi 1983; Stephens 1979). Instead, I argue that trade unions and their confederations are best seen as democratic interest organizations, with internal, democratic decision-making procedures (Wallerstein 1999). The policy positions of a trade union will therefore crucial depend on the distribution of preferences among their individual members (see also Rasmussen 2016; Mares 2003a; Häusermann 2010). A trade union's policy positions will additionally depend on whether the policies can contribute to membership retention and expansion. Accordingly, the stance of a trade union *confederation* will be a function of the distribution of policy preferences among the *affiliated* unions. Thus, if the female share of union members increases—either as a result of rising female employment or declining male membership rates—the issue of wFPs will become an issue of contention within the movement, since these policies are more beneficial to employed women than men. There is particularly a conflict between highly educated women and male industrial workers (and their home-staying spouses) (Emmenegger et al. 2012; Häusermann 2010; Rueda 2007). As trade unions affiliated with a confederation typically organize employees in different sectors and occupations, and as women's entrance into paid work is predominantly segregated into service sectors,<sup>17</sup> the increase in female education and employment rates will often pit affiliated unions' interests and policy preferences against each other. Yet, as the share of women within trade union confederations increase, the organization will be more and more likely to come out in favor of wFPs and to use its influence to push for such social policies.

Figure 3.2 displays that, when plotting women's percentage of union members (*x*-axis) against the percentage of unionized wage earners (*y*-axis) across countries for the 2000s, three clear clusters of countries emerge. The coordinated market economies of Continental Europe, in the bottom left corner of the figure, have a low share of women members compared to the two other clusters. One reason is that, in these countries, unions are organized along industrial lines with sectoral coordination. They thus to a lesser extent organize the public service sector, which is also smaller in these countries (see Iversen and Stephens 2008; Iversen and Wren 1998). About half of the union members are women in both the liberal market economies and the Nordic coordinated market economies. What distinguishes them is overall union density, which is 50 to 70 percent in the latter and 10 to 30 percent in the former, as also illustrated in the figure. Addi-

<sup>17</sup> See, e.g., Bettio and Verashchagina 2009; Charles and Grusky 2004; Iversen and Rosenbluth 2010.



FIGURE 3.2. Cross-national variation in total union density and the percentage of women union members in the 2000s

*Notes:* Union density is defined as the percentage union members among employed wage and salary earners. The clusters are identified using cluster analysis with Ward's method and a four cluster solution (a three-cluster solution would cluster Belgium together with the Nordic countries). Intuitively, the Ward's method takes each pair of clusters and computes how much information that would be lost, in the form of sum of squares about the mean, with that given clustering. It selects the clustering that would minimize information lost (see Bartholomew et al. 2008). *Sources:* Visser (2011) (female membership share); Brady, Huber, and Stephens (2014) (union density).

tionally, it can be noted that the (new) female members are typically highly educated and work in the public sector. For instance, using survey data from the International Survey Programme's 2012 wave for advanced economies, more than two-thirds of female union members have post-secondary education, more than half have a tertiary degree, and about one-third have a master's degree or more. The reversal of the gender gap in higher education, women's employment rates, and the entrance of women into unions are thus tightly interlinked.

In my argument, I expect unions in the Nordic and the liberal clusters of countries to particularly favor wFPs but only the Nordic unions to be powerful enough to succeed with their demands. In labor markets where female workers are struggling to get access—such as in
the coordinated market economies of Continental Europe, which are dominated by workers with specific skills and small public service sectors (Estévez-Abe 2006)—unions should not be expected to promote wFPs. In these instances unions might actually work against such policies, as they reduce their male members' advantages in the labor market by, for example, increasing the supply of labor (Bonoli and Reber 2010, 98; see also Gingrich and Ansell 2015).

#### Cross-class coalitions

Summarized, employers become increasingly likely to favor WFPs as the gender gap in higher education reverses in favor of women, and unions are increasingly likely to favor WFPs as the female share of union members grows. As employers-due to increased tax burdens, and temporary absences of staff in terms of leave—pay a higher cost for WFPs than trade unions and their members, the expectation is that unions will start pushing for WFPs earlier than organized employers.<sup>18</sup> Cross-class alliances in favor of wFPs—that is, instances where unions and employers have a common interest in favoring wFPs-become viable when women outnumber men in higher education and female employees have a dominant position in organized labor. Crucially, the probability for, and the effect of, these cross-class coalitions on WFPs will depend on the presence of corporatist institutions. Where such institutions are present, employers and labor will be more interested in public policies that benefit the economy as a whole, they will more easily coordinate their preferences, and they will have the power to influence policy. These predictions are summed up in Table 3.1. When men outnumber women in higher education, there should be little expansion of WFPs. As the gender gap narrows and reverses, wFPs should increasingly be enacted in countries with centralized so-

<sup>18</sup> Moreover, as not only highly educated women but also low-skilled women may unionize, unions may experience an additional pressure for advocating wFPs.

		Gender gap in higher education				
		Men > women	Women > men			
Corporatism	High Low	Limited Limited	Extensive Limited/intermediate			

TABLE 3.1. Predictions	regarding	the	level	of	WFPS	based	on	the	theoretical
discussion									

cial partners, and to a lesser extent in countries with less influential unions and employers.

A corollary of the argument is that the social partners have a larger influence on the expansion of parental leave and the introduction of the fathers' quota than on daycare services. The reason is that paid leave expansions can often be directly agreed upon in wage negotiations between unions and employers, whereas development of publicly funded daycare services requires the active participation of the government from the very beginning, as is also the case with other welfare state services such as health and old-age (Mares 2003a,b). This means that regarding daycare, social partners can influence the policy only indirectly, for example through participation in policy commissions and lobbying.

# The role of political parties

Even though the social partners are theorized to play a key role in the introduction of wFP reforms, we need to understand their influence in relation to political parties, as well as the parties' independent incentives to expand wFPs. The power-resource approach has argued for the importance of social democratic parties for the development of wFPs (Huber and Stephens 2000, 335).<sup>19</sup> Yet, recent studies—which

<sup>19</sup> Although some of the early formulations of the approach, such as Stephens (1979) and to some extent Korpi (1983), focused on both trade unions and social democratic parties, later work in this vein has predominantly focused solely on social democratic parties, also when it comes to explaining the development of wFPs (see, e.g., Ferrarini 2006; Huber and Stephens 2001; Korpi 2006).

show that social democratic and other left-wing parties have not been the only or even the main protagonist of wFPs—have raised doubts about the approach's explanatory power (Borchorst 2002; Fleckenstein and Lee 2012; Häusermann 2006; Hieda 2013; Morgan 2006, 2013; Wiliarty 2010). In their insightful studies, Morgan (2013) and Fleckenstein and Lee (2012) instead underscore issue entrepreneurship party competition over employed women's votes as a key explanatory factor across different types of political and labor market regimes.<sup>20</sup> Whereas Fleckenstein and Lee (2012) remain vague as to which mechanisms produce party competition, Morgan (2013) lucidly shows that as parties were faced with declining traditional constituencies, such as male industrial workers in the case of leftwing parties, they started to appeal to women by increasing women's representation within parties and modifying their policy stances. A PR electoral system here makes it simpler for parties to increase women's representation than in plurality systems (Morgan 2013, 85; Wangnerud 2009). Women within the parties are then again crucial for pushing parties to instigate wFP reforms, often against strong internal opposition from the traditional party elite (see also Wiliarty 2010; Hinnfors 1992). This persuasive argument can be seen as complementary to this study's emphasis on social partners in that it highlights how women pushed for WFPs also within parties.

Neither Morgan (2013) nor Fleckenstein and Lee (2012), however, discuss the differences between wFPs. Yet I expect that daycare services bring out a stronger left-right divide, as well as internal party opposition, than paid parental leave. Paid parental leave implies that parents can spend more time at home with their newborn before they return to work. Although paid leave, which depends on employment prior to birth, is directed toward working mothers, it is simpler to square with conservative and Christian Democratic parties' accentu-

<sup>20</sup> On issue entrepreneurship, see, e.g., De Vries and Hobolt 2012.

ation of mothers as main caregivers and the family as the core unit of society than daycare.<sup>21</sup> As paid parental leave additionally does not require an expansion of the publicly-funded or -provided service sector, it is more straightforward for the right-wing constituencies to accept the expansion of leave. Turning to daycare, highly educated women demand daycare services more than those with low education (Skorge 2016). As many highly educated women are lowand medium- income earners and can only to a limited extent afford to buy daycare off the private market, the expansion of affordable, full-time daycare will have a redistributive effect (Havnes and Mogstad 2011b). If governments moreover expand daycare to cover most of children under school age, then it may become increasingly redistributive, as children with parents from all backgrounds will attend daycare. Taking these aspects into account, I expect to see less of a left-right divide over paid parental leave than over daycare reforms and the fathers' quota.

# 3.2 EXPANSION OF WORK-FAMILY POLICIES OVER THE PAST FIVE DECADES

# 3.2.1 A multi-method empirical strategy

To test the hypotheses set forth in the previous section—in particular, whether the reversal of the gender gap is associated with wFP expansion foremost in the countries with the highest levels of corporatism—I will use several pieces of evidence.

First, in this section, I use data on daycare services, paid parental leave, the gender gap in higher education, and corporatism for 18 ad-

<sup>21</sup> Note that this does not hold for the fathers' quota policy, which reserves a part of the leave for fathers, thus reducing working mothers' time at home with the child.

vanced economies from 1960 to 2010.<sup>22</sup> I use time-series cross-section regression techniques to analyze these data, with the aim to uncover whether the aforementioned association is present for the whole time period and all countries of interest. The analysis will allow me to capture the broad, structural changes in education, as well as being able to control for competing explanations.

Second, in Section 3.3, I conduct a detailed case study of Norway to investigate the mechanisms of the argument that the cross-national analysis cannot address. To support the argument, the case study should reveal (i) that the social partners come to favor wFPs as women outnumber men in higher education and as women rise within the unions; (ii) that the organizations used their policy influence to push for reforms; and (iii) that also women within the parties played an important part in wFP reforms (Bennett and Checkel 2013).

In research combining a large-*n* analysis with a case study, Lieberman (2005) recommends choosing a case that is well-explained by the theory (see also Gerring 2007, 58-60). Norway is therefore particularly suitable for an in-depth study, since it (1) went from having limited to having generous wFPs, which gives me copious temporal variation, and (2) has a centralized corporatist system, which makes it possible see whether the social partners have exerted influence on the wFP development. Using a range of sources, the case study traces the role of the social partners and political parties in all major parental leave and daycare reforms since the 1960s. Finally, in Appendix B.1.1, I also conduct brief case studies of Sweden, the Netherlands, and the United Kingdom to show that evidence from other countries with different levels of corporatism are also consistent with my argument. The case studies hence seeks to demonstrate that cross-country statistical results match up with process-tracing evidence (Lieberman 2005).

<sup>22</sup> The countries are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom United States.

#### 3.2.2 Measurement and initial evidence

The main independent variables are the gender gap in higher education and corporatism. To measure the gender gap in higher education, I use the same data as in Figure 3.1<sup>23</sup> and take the gross enrollment of men in tertiary education and subtract the enrollment of women.<sup>24</sup> I use enrollment data instead of, for instance, female labor force participation data as the former better captures the changing incentives of both employers and unions. Next, I have argued that the level of corporatism—i.e., institutionalized bargaining and participation in policymaking among highly centralized and encompassing trade union and employer federations-determine to what extent employers and unions are able to push for expansion of WFPs in the face of a reversal of the gender gap in higher education. I use Martin and Swank's (2012) measure of corporatism, as it accurately matches my conceptualization spelled out in Section 3.1. It is a standard-score index of the combination of employers' organization, trade unions' organization, and the level of collective bargaining. Employers' organization is an index of the existence of a national employers' federation, its conflict funds and appointment and veto power, and the integration of employers in policymaking. Trade unions' organization is an index of the peak organizations' association power, as for employers' associations, their integration into policymaking, and union density. The variable thus captures both the centralization and the integration into

<sup>23</sup> To get a complete time-series that stretches back to 1960, I have complemented the data with an equal measure from Barro and Lee (2015). To avoid gaps in the time series, I have linearly interpolated between the few missing values that existed in the combined data set. The results are both qualitatively and quantitatively similar if I do not interpolate.

<sup>24</sup> Although this measure does not directly capture the share of the population or the cohort that attends higher education, the gender gap is highly correlated with the expansion of higher education, with r = .8 (p < .001, N = 18) for a 2010 cross section and r = .84 (p < .001, N = 779) across the whole sample. In Appendix B.1.7, I show that the results hold if I replace the gender gap in enrollment measure with women's enrollment in higher education.

policymaking of employers and unions, and it varies over time (for further details, see Martin and Swank 2012, 132-4, 140).<sup>25</sup>

I analyze both daycare services and parental leave. Unfortunately, for daycare, there are no reliable time-series cross-section data available to measure to what extent full-time daycare services are available.<sup>26</sup> The OECD, however, has data for thirteen European countries in 2013, and these data provide both the daycare coverage—i.e., the percentage of the population aged 0-2 that attend formal daycare—and the average hours of attendance per week. Together, these two variables capture the extent to which daycare services are available as a care option for parents in full-time work. Figure 3.3 plots the average hours attended (x-axis) against the coverage rate (y-axis). The upper-right quadrant shows the countries that have high coverage and full-time care. The size of the points in the figure shows that the gender gap in higher education in favor of women typically is higher in this quadrant than in the other ones. The countries in the upper-right quadrant also have high levels of corporatism, with the exception of France (Martin and Swank 2012). Moreover, if we collapse these two dimensions of daycare services into one summary measure by creating the full-time equivalent (FTE) coverage rate,<sup>27</sup> the correlation between the gender gap in higher education and the FTE coverage rate is notable and statistically significant.<sup>28</sup> Although these

<sup>25</sup> Figure B.1.5 in the appendix plots the corporatism scores for the eighteen countries in the 2000s. The measure has been extended from 2002 to 2010.

<sup>26</sup> The OECD's data on daycare spending from 1980 to 2014 changes definition in 1998 and thus has a clear break (personal correspondence with the OECD). Moreover, for a number of countries the data before 1998 is also missing. The spending data can therefore not be used. Daycare coverage data are unavailable before the 2000s, with the exception of the Nordic countries, and even after 2000 we do not know the average hours attended per week, which is crucial for gauging the generosity of the daycare service regime.

<sup>27</sup> This is defined as the coverage rate weighted by the average share of a full-time week attended. Full time is defined as attendance for 30 hours or more per week. In other words, the FTE rate is calculated as  $FTE = c \cdot (\bar{h}/30)$ , with *c* being the coverage rate and  $\bar{h}$  being the average weekly hours in formal childcare.

<sup>28</sup> r = .56 (p = .047, N = 13)



FIGURE 3.3. Daycare coverage, average weekly daycare attendance, and the gender gap in higher education across thirteen European countries in 2013.



results are suggestive, it is the pattern that the theoretical framework would lead us to expect.

For parental leave, however, I can analyze the full 50-year period for all 18 countries, which enables a more rigorous analysis. Parental leave generosity is measured as number of weeks leave weighted by the wage replacement rate.<sup>29</sup> For instance, if parental leave is available for 20 weeks with a benefit equal to 75 percent of the average wage, then parental leave generosity is 15—that is, the equivalent number of weeks with a 100 percent replacement rate, or "the full-pay equivalent" (FPE) number of weeks of leave. The data comes from a variety

<sup>29</sup> For a similar operationalization, see Akgunduz and Plantenga (2012), Ferragina, Seeleib-Kaiser, and Tomlinson (2012), Nelson and Stephens (2013b), Ruhm (1998), and Tanaka (2005). Leave is, in other words, calculated as:  $LEAVE = n \cdot r$ , where *n* is the number of weeks leave and *r* is the replacement rate calculated as the benefit's share of average gross female wages in manufacturing.

of sources and are detailed in Appendix B.1.2.<sup>30</sup> I expect that there is a positive association between the gender gap and parental at high but not low levels of corporatism.

To test this hypothesis, I turn to a series of time-series cross-section regressions. To account for commons shocks, country-specific factors, and alternative explanations, and thereby give a more precise estimate of the size of the association between leave and the gender gap for different levels of corporatism, I use the following country- and year-fixed effects model:

$$LEAVE_{i,t} = \gamma_1 \operatorname{GG}_{i,t-1} + \gamma_2 \operatorname{CORP}_{i,t-1} + \gamma_3 (\operatorname{GG}_{i,t-1} \cdot \operatorname{CORP}_{i,t-1}) + X'_{i,t-1}\beta + \eta_i + \delta_t + \varepsilon_{it}.$$
(3.1)

I am interested in how the association between leave and the gender gap (denoted as GG) depends on the level of corporatism (CORP). The model therefore includes a multiplicative interaction term, GG · CORP, between these two variables.<sup>31</sup> To enhance the interpretation of the interaction, I center both the gender gap and the corporatism variables at one standard deviation above their respective means. The advantage of this strategy is that it permits the direct interpretation of  $\gamma_1$ and  $\gamma_2$  and their standard errors, of course without altering the estimated associations.  $\gamma_1$  can thus be interpreted as the estimated partial association between the gender gap and paid leave when corporatism is held constant at one standard deviation above the mean.

To account for year-specific common shocks and time-invariant, unobserved country factors that may influence the relationship between the gender gap and leave, I include year and country fixed effects,

<sup>30</sup> Figure B.1.6 in Appendix B.1.2 shows the correlation between the change in leave generosity and in the gender gap in higher education between 1960 and 2010 for countries with a high and low corporatism score, respectively.

<sup>31</sup> The associated increase in paid leave of a unit increase in the gender gap is then given by  $\gamma_1 + (\gamma_3 \cdot \text{CORP})$ , which means that the effect is *conditional* on the level of corporatism. The association between corporatism and paid leave is, correspondingly, dependent on the gender gap:  $\gamma_2 + (\gamma_3 \cdot \text{GAP})$ .

denoted  $\delta_t$  and  $\eta_i$ , respectively. The model is estimated by OLS with robust standard errors clustered by country to account for serial correlation within clusters (Angrist and Pischke 2009a, 318-9).

 $X'_{it}$  is a vector of covariates that vary over time and that could potentially confound the association between the gender gap and leave. First and as I discussed above, convincing research by Morgan (2013) and others show that women within parties have played a key role in expanding wFPs. To test this explanation—and to control for the explanation that the effect of the gender gap runs through highly educated women entering parliament—I include the percentage of seats in the parliament held by women. Further details, summary statistics, and sources for these and the other covariates are given in Appendix B.1.2. Second, I include variables capturing the government's partisanship. To capture the difference between having a right and a center or left government, I include two variables: left cabinet and center cabinet. By including these two variables, I compare them to right governments, as the left, right, and center variables together sum up to 100 percent. Third, the unemployment rate and the log of GDP per capita are added to account for the fact that economic crises may constrain the possibilities of governments to expand WFPs. As GDP per capita is seen as the key source of post-materialistic values, it also controls for such values (Inglehart and Norris 2000, 2003). Likewise, the unemployment variable additionally controls for the fact that low unemployment and labor shortages may give an incentive to try to increase female labor force participation by expanding WFPs (Huber and Stephens 2000). Fourth, I add a measure of the share of the pop*ulation over 65 years.* The older the population, the more dire it may be to increase fertility rates by way of providing more generous WFPs (Pierson 2001a,b).

	]	Dependent var	iable: parental l	eave
	Basic (1)	Basic (2)	Covars. (3)	Covars. (4)
Gender gap (GG)	0.15	$0.41^{**}$	0.16	0.38***
Corporatism	2.02	(0.14) 4.08*	1.31	2.96
$GG \times corp.$	(2.79)	(2.3) 0.24 <sup>***</sup>	(2.07)	(1.95) 0.18**
Ĩ		(0.07)		(0.06)
$F_{(\gamma_1=\gamma_2=\gamma_3=0)}$	0.3	3.89***	0.88	3.11**
Observations	890	890	890	890
Countries	18	18	18	18
Country FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Covariates			$\checkmark$	$\checkmark$
Adj. R <sup>2</sup>	0.80	0.84	0.85	0.86

TABLE 3.2.	Regression	results for	the:	provision	of	leave	schemes,	18	OECD
	countries, 1	1960-2010							

*Note:* p < 0.10, p < 0.05, p < 0.01 (two-tailed test). OLS fixed effects regressions with robust standard errors clustered by country in parentheses. All independent variables are lagged by one year. See the text and Appendix B.1.2 for details on the variables.

# 3.2.3 Evidence from eighteen advanced democracies, 1960-2010

The estimated regression coefficients for Equation 3.1 are presented in Table 3.2. Model 1 gives the results without the interaction and covariates, Model 2 adds the interaction between corporatism and the gender gap, Model 3 includes the covariates but not the interaction, and Model 4 gives the results with the interaction and the covariates.<sup>32</sup> In Models 1 and 3, without the interaction, there is no statistically significant relationship between respectively the gender gap and corporatism, and leave expansion. In Models 2 and 4, where I include the interaction term, the *F*-test shows that the three terms are jointly significant.<sup>33</sup> In line with my argument, this result indi-

<sup>32</sup> The results for the covariates and from testing alternative specifications are given in Table B.1.3 in Appendix B.1.7.

<sup>33</sup> For the interaction to be significant, I need to reject the null of the *F*-test (Kam and Franzese 2007). It tests whether the null hypothesis that the three terms for the



Predicted change in paid parental leave

FIGURE 3.4. The conditional effect of the gender gap and corporatism on parental leave expansion

*Notes:* \*p < 0.10,\*\* p < 0.05,\*\*\* p < 0.01 (two-tailed test). The predicted change in parental leave from a two standard deviations change in the gender gap in favor of women, holding corporatism constant at one standard deviation below and above the mean. The predictions are based on Model 4 in Table 3.2.

cates that there is significant interaction between the gender gap and corporatism.

In order to gauge the direction and magnitude of these associations, I use the results from Model 4 to simulate the expected expansion of leave in the face of a shift in the gender gap in favor of women at high and low levels of corporatism, respectively.<sup>34</sup> The results are illustrated in Figure 3.4. The figure displays the predicted increase in fully-paid weeks of parental leave from a change of two standard deviations in the gender gap, or 24.1 percentage points. This amounts to about the change in the gender gap in, for instance, the United Kingdom and Denmark between 1985 and 2005.<sup>35</sup> In a corporatist setting, such an increase should result in employers and unions using their policy influence to push for expansion of paid parental leave. The upper bar shows the predicted increase in parental leave when

gender gap, corporatism, and their interaction are jointly equal to zero, i.e.  $\gamma_1 = \gamma_2 = \gamma_3 = 0$ .

<sup>34</sup> The conditional marginal effects plots in Figure B.1.8 in Appendix B.1.7 shows that the interpretation of the results remain unchanged if we instead inspect the conditional marginal effects of the gender gap and corporatism *over the range* of the other variable (see Berry, Golder, and Milton 2012; Brambor, Clark, and Golder 2006).

<sup>35</sup> In Denmark, women outnumbered men by 1 percentage point in 1985 and by 26 in 2005. In the United Kingdom, the gap went from -4 to 20 percentage points during the same period.

corporatism is one standard deviation above the mean level of corporatism, and the lower bar shows the increase when corporatism is one standard deviation below the mean. Under corporatism, the change in the gender gap is correlated with a 9.4-week increase in fully paid leave, whereas under pluralism the 2.8-week increase is not statistically significant. This is a notable but plausible association between the gender gap and parental leave under different degrees of corporatism. The findings are consistent with the argument that the social partners react to changes in the gender composition of the skilled workforce and the union members by pushing for wFP reforms. As I show in Appendix B.1.7, these results are robust to alternative measures of parental leave, the gender gap in education, and corporatism, as well as alternative specifications of the statistical model.

Consistent with Morgan (2013), there is an association between women in parliament and paid leave, which statistically significant at the one-percent level (see Table B.1.3 in the appendix). The coefficient on women in parliament indicates that where women's share of MPs increases with two standard deviations, or about 24 percentage points, it is associated with a 9.5-week expansion of fully paid leave. This is a notable correlation, although it is less consistent across alternative specifications. Regarding the partisan effects, the results are also in line with the studies showing parties converging on wFP expansion to appeal to working women, as there are no discernible partisan effects. In sum, the cross-country regression estimates document that both the social partners, in the face of a reversal of the gender gap, and women's entrance into politics are associated with paid leave reforms.

# 3.3 TRACING THE POLITICS OF WORK-FAMILY POLICIES: THE CASE OF NORWAY

The cross-national, quantitative analysis gave support to the my argument's prediction that the reversal of the gender gap in higher education, combined with corporatist social partners, is associated with an expansion of wFPs. The aim of this section is to use within-case evidence from Norway to see whether the mechanisms stipulated by theory find support. First, we should see that the unions and employers' expressed preferences shifted from being indifferent to, or even opposing, wFPs to favoring and actively pushing for such policies. This shift should, moreover, coincide with the rise of women within unions and the gradual reversal of the gender gap in favor of women. Second, we should be able to detect that the social partners, together with women within the main parties, influenced the passing of wFP legislation, both through corporative channels, such as wage bargaining, and lobbying.

Today, Norway has generous wFPs. Norwegian parents can choose between 49 weeks of parental leave with a 100 percent replacement rate or 59 weeks with a 80 percent rate,<sup>36</sup> one of the most generous parental leave programs in the world. At current, the leave is "tripartite", which means that ten weeks are reserved for each of the parents and are non-transferrable. Mothers have three additional weeks before childbirth and they must take six of their ten weeks right after childbirth. The remaining 26 weeks can be split as desired. As for publicly subsidized daycare, 80 percent of one- to two-year-olds and 97 percent of three- to five-year-olds attended daycare centers in 2014. 97

<sup>36</sup> There is a ceiling at six basic amounts (see the note to Figure 3.5 for details on the basic amount), which is in 2015 was equivalent to about 104 percent of an average wage.



FIGURE 3.5. The development of paid maternity, paternity, and shared leave policies in Norway.

*Notes:* Between 1956 and 1977, mothers' had the right to 12 weeks of paid leave with a benefit amounting to about one-third of previous earnings. From 1978 and onwards, paid leave benefits amounted to 100 percent of previous earnings up to a ceiling of six "basic amounts." The Norwegian National Insurance's basic amount, or *G*, is an amount regulated by the Storting and updated annually on May 1 (to take into account price inflation). As of May 1, 2016, the basic amount is 92,576 NOK (approx. \$11,100) per year and 7,715 (approx. \$925) per month. Six basic amounts have been above average yearly earnings in Norway during the 1977-2016 period. *Sources:* NOU (1996), Ot.prp. nr. 19 (1989-1990), Ot.prp. nr. 5 (1987-1988), Ot.prp. nr. 7 (1986-1987), Ot.prp. nr. 7 (1988-1989), Ot.prp. nr. 76 (1976-1977), Stortinget, Act 48 (2013-2014), and Brandth and Kvande (2013, 16).



(a) Percent of children in daycare centers (b) Percentage of children in daycare registered for 32 hours or more per week.

FIGURE 3.6. Children in daycare centers in Norway, 1963-2014.

*Sources:* Gulbrandsen (2007), Norwegian Directorate for Education and Training (2016), and Statistics Norway (2016d).

Full-time daycare is also relatively cheap. For example, a family in which the parents earned respectively 100 and 50 percent of average earnings paid eleven percent of their net income in daycare fees in 2012, compared to 34 percent in the United Kingdom (OECD 2012a). Since 2009 parents have a right to daycare for their children starting at age one.<sup>37</sup>

In the early 1970s, however, Norway's wFPs were still limited, as illustrated in Figure 3.5 for parental leave and Figure 3.6 for daycare. Paid maternity leave was 12 weeks, with payment typically amounting to a third of previous earnings.<sup>38</sup> Only 2.8 percent of children under school age attended daycare institutions, and only 13.2 percent attended other forms of non-parental childcare (Vollset 2011, 32-6). Norway thus epitomized the work-family policies found across advanced democracies at that time. Yet three waves of reforms—the first in the late 1970s, the second from the mid 1980s to the early 1990s, and the third from the 2000s and onwards—introduced considerable reforms of daycare and paid leave.

Turning to the Norwegian labor market institutions, the country is characterized by corporatist social partners. Centralized peak level associations organizing a large share of firms and employees participate in tripartite collective wage bargaining, with the state as the third part.<sup>39</sup> The social partners participate actively in the development of social and labor market policies, through wage bargaining agreements, participation in official policy commissions, policy consultations, joint committees, regular meetings, and lobbying. Additionally, the Confederation of Trade Unions (*Landsorganisasjonen*, LO), the main trade union confederation, has close ties with the Norwegian Labour

<sup>37</sup> Provided that the child turns one year before September 1 that year.

<sup>38</sup> Prior to 1978 benefit levels were not fixed by law and therefore varied by workplace.

<sup>39</sup> For a thorough analysis of the development of industrial relations in the Nordic countries, see Dølvik, Andersen, and Vartiainen 2015; Løken, Stokke, and Nergaard 2013.

Party, with the LO traditionally having a seat on Labor's executive committee and supporting the party with election campaign funds.

Each of the national trade unions affiliated with the LO typically organizes workers in a specific trade, business branch, or public sector (Løken, Stokke, and Nergaard 2013, 25). The LO hence organizes workers that are blue and white-collar, skilled and unskilled, and employed in the private and the public sector.<sup>40</sup> In 2014, the union density, that is, the percentage unionized among the employed, was 52 percent. On the employers side, the Confederation of Norwegian Enterprise (NHO, *Næringslivets hovedorganisasjon*) is the main employers' association, founded in 1989 as a merger between the Norwegian Employers' Confederation (*Norsk Arbeidsgiverforening*, NAF) and two smaller industry and craft organizations (Løken, Stokke, and Nergaard 2013).<sup>41</sup> Among employers, the share of private sector workers employed in an organized enterprise is 67 percent (Nergaard 2016).

As I will show in the three next subsections, which deals with the three waves of reforms, first unions but later also employers, along with highly educated women within the political parties, played a key role in this shift from a male-breadwinner to a dual-earner regime. In each of the three subsections, I consider the role of the social partners and then the political parties.

<sup>40</sup> In addition to the LO, there are three smaller trade union confederations: the Confederation of Vocational Unions (*Yrkesorganisasjonenes sentralforbund*, Ys, founded in 1977), which organizes many of the same sectors as the LO; the Confederation of Unions for Professionals (*Unio*, founded in 2001), which organizes teachers, nurses and some other public sector workers; and the Federation of Norwegian Professional Associations (*Akademikerne*, founded 1997), which organizes professions such as lawyers, engineers, and doctors (Løken, Stokke, and Nergaard 2013).

<sup>41</sup> There are also three other smaller employers' associations: the Enterprise Federation (*Virke*, founded 1990), which organizes small firms in trades and services; Spekter (founded 1993), which organizes state enterprises; and the Norwegian Association of Local and Regional Authorities (*Kommunenes sentralforbund*, κs), which is "a national members' association for municipalities, counties, and public enterprises under municipal or county ownership" (Løken, Stokke, and Nergaard 2013, 31).

#### 3.3.1 The 1970s: the first minor reforms

The first minor reforms of paid parental leave and daycare services occurred in the mid 1970s. Concerning paid parental leave, the Storting in 1977 replaced twelve weeks of maternity leave with eighteen weeks of parental leave, of which twelve weeks could be shared and six weeks were reserved for the mother. From 1978, parents had the right to full replacement of earnings during leave (Vollset 2011, 49). The leave reforms aimed to improve mother's and children's health, improve educational opportunities, and support dual-earner families (Leira 1992).

The Storting passed the first daycare act in 1975. The reform led to an expansion of daycare centers for three- to six-year-old children. Between 1975 and 1980 daycare coverage for this age group went from eleven percent in 1975 to 32 percent in 1980, as the grey line in Figure 3.6a display. Even so, it is full-time daycare for children under the age of three that is most geared toward the needs of dual-earner households, as it allows parents to return early to the labor market (see also Morgan 2006). This was not the case with the 1975 reform. First, only around half of these places were full-time places (see Figure 3.6b). Second, for children under the age of three, daycare coverage expanded slowly, with less than one in ten children in this age group attending daycare in 1985, ten years after the reform. Third, the reform left it to the more than 400 democratically elected municipal legislatures to decide whether they would build new daycare centers or not, leading to considerable variation in daycare coverage across municipalities (see Chapter 4 of this thesis). As a WFP reform it was consequently a small reform-more aimed at child development and less at responding to the needs of working mothers (Leira 1992, 125). These reforms, nonetheless, marked the onset of the Norwegian welfare state's move toward active support for working mothers.

#### Starting to shift: the role of the social partners

Trade unions took their first steps in the direction of favoring WFPs during this period. The main trade union confederation, the LO, was heavily male dominated in the 1960s. During the quadrennial, democratic LO Conventions in 1961, 1965, and 1969-where the manifesto and key policies and strategies were discussed, voted on, and adopted-neither gender questions nor wFPs were on the agenda (LO 1961, 1965, 1969). Women's issues were left to the Women's Committee, which was without any formal powers. By the early 1970s, however, policies supporting working mothers started to become an issue of contention within the LO, reflecting changes to the LO's membership base (Nergaard, Bråten, and Ødegård 2013, 16, 26). The growth in education and employment rates among women, and particularly mothers, entailed rising female union membership rates. The first woman, Liv Buck, entered the LO leadership in 1971—despite the resistance from the male LO president, Tor Aspengren. As the black line in Figure 3.7a exhibits, by 1975 one fourth of the LO's members were women, rising from one fifth 10 years earlier. The same year, the women-dominated Norwegian Union of Municipal Employees replaced the male-dominated Norwegian Union of Iron and Metalworkers as the largest union affiliated with LO.

Women within the trade union confederation called for longer and better paid parental leave, as well as increased availability of public daycare centers, to help reconcile work and family life (Vollset 2011,45, 48; Nergaard, Bråten, and Ødegård 2013,78; Leira 1992,285-7). At the 1973 Convention, for example, several prominent women emphasized the need for expansion of daycare ser-



(a) Percent female union members.(b) Percent of employed that are unionizedFIGURE 3.7. Working women's participation in trade unions in Norway.

*Sources:* LO (2015), Nergaard (2014, 2016), Nergaard, Bråten, and Ødegård (2013), Nergaard and Stokke (2006, 2010), and Visser (2011).

vices and paid leave (LO 1973).<sup>42</sup> Within the unions there was consequently a movement toward putting wFPs on the agenda. That said, women did not yet constitute a sufficiently important share of the membership base to force the LO to actively promote wFPs beyond minor reforms.

During the 1960s and 1970s, the NAF, the employers' association, resisted and was against WFP reforms. In 1963, the employers' association argued that separate and lower average wages for women should be maintained, since working women generally had short experience, less stability, and higher rates of absence from the work-place (Danielsen, Larsen, and Owesen 2013, 317; Bjørnhaug 2010, 119). By 1975, the NAF had dropped this stance but still maintained that expanding WFPs was too costly and other social issues were far more pressing (Vollset 2011, 45). For example, responding to proposed increases in leave rights and payments, the association noted that "in our opinion, there exist in our country a number of other tasks in the social sector which should be prioritized than larger financial com-

<sup>42</sup> Lillan Bekkevad, head of the Women's Committee, for instance called for the LO to "work for greater understanding in the government concerning measures that can make it less necessary for working women to be absent from work ... such as ... the building of more daycare centers" (LO 1973, 286).



(a) Percent of the population aged 25-39(b) Percentage women in each field of with a higher education degree. study in higher education.

FIGURE 3.8. Higher education and gender in Norway, 1970-2015.

*Notes:* Figure 3.8b gives the percent female students that are enrolled in a field of study in higher education in a given year. The numbers in parentheses give the percent of the total student body who are enrolled in a given field of study in 2014. *Sources:* Statistics Norway (2015, 2016c,e).

pensation" (NAF 1975, 38). There was thus little interest, and even outright opposition, to wFPs from the employers' side.

In light of the framework proposed in this study, the employer association's policy stance makes sense. Figure 3.8a shows that the percentage of the population aged 25-39 with a higher education degree was almost 50 percent higher among men than among women in 1970.<sup>43</sup> There were thus few reasons for the employers to care about the labor supply of high skilled women in the course of the 1970s.

# Consensual policymaking: the role of the political parties

As women's entrance into higher education and employment ascended, so did women's active participation in politics. The percentage female representatives in the Storting started to rise in the 1970s, from about nine percent in the 1960s to 23 percent in 1977, as is illustrated by the grey line in Figure 3.9. The white bars in the figure display the parties' percentage of the parliamentary seats, whereas the grey bars show women's percentage of seats by party. The figure

<sup>43 11</sup> percent of women and 16 percent of men in the age group had a higher education degree.



FIGURE 3.9. Parties' seat percentages and the percentage female representatives by party in the Storting for each parliamentary session, 1945-2017.

Source: Stortinget.no

depicts that it was foremost the Labor Party and the Conservatives that contributed to the increase in female MPs in the 1970s. Many of the incoming female MPs, who were younger and with higher education, tried to raise gender equality issues on the agenda, including WFPs (Brundtland 2008; Notaker 2012; Skard 2016; Vollset 2011). Some also had links to the women's movement.<sup>44</sup> There is also evidence that they cooperated across party lines on gender issues (Skard 2016). As within trade unions, women MPs' stance on WFPs often met strong internal opposition from dominant male figures within the party (Brundtland 1998; Danielsen, Larsen, and Owesen 2013; Gjertsen and Lae 2004; Notaker 2012). The dominant Labor Party, for instance, had

<sup>44</sup> The women's movement itself, however, played a limited role. As Leira (1992, 131) writes, "[w]omen's associations were divided on the issue of daycare and mothers' employment in the mid 1970s."

been a strong advocate of a welfare state and tax system favoring single-earner families throughout the post World War II period, and many MPs still held on to this stance (Danielsen, Larsen, and Owesen 2013, 290; Leira 1992, 69). Consequently, as women were a small minority in the parliament, and were without strong external support from the social partners, they could not achieve the expansion of WFPs that they favored.

As neither the parties nor the social partners wanted large-scale reforms, the expansions of WFPs that were agreed on in the 1970s were modest and passed unanimously in the Storting. In the parliamentary debates on the reforms, it was not gender equality and labor shortages that became the main locus of the discussion. The leave and daycare reforms were instead predominantly favored on the grounds of being beneficial for child development (Leira 1992). Only the small Socialist Left consistently argued for more radical expansions of WFPs to increase the opportunities of working mothers (Skjeie 1993).<sup>45</sup>

These reforms marked the *beginning* of a shift in policy stances among unions and the political parties. For employers, on the other hand, the need for highly qualified female labor had yet to emerge. It is also noteworthy that neither the LO nor the NAF were interested in demanding further wFP expansions in the late 1970s, including that the two-week leave available to fathers right after childbirth became paid. As Vollset (2011, 108), a former high-ranking official in the ministry in charge of wFPs, notes, it "should have been an easy matter for the LO to promote this as a demand and have it implemented, if this was something unionized fathers prioritized." There was, in other words, still opposition to *further* wFP expansion, both within labor market organizations and the political parties.

<sup>45</sup> For instance, contrary to the wishes of the Socialist Left and the LO, the bill did not require municipalities to expand daycare coverage (LO 1981, 256; Leira 1992). As the costs of the reform would be split between the national government, the municipalities, and the parents, it left it up to municipalities to decide the rate of expansion.

#### 3.3.2 The 1980s and 1990s: significant reforms

The reforms introduced in the 1970s did, however, not suffice for long. A wave of leave expansions started in the latter half of the 1980s. Between 1987 and 1993, the total paid parental leave went from 18 to 42 weeks, and four of these weeks came as a fathers' quota (see the black bars in Figure 3.5). The reforms transformed Norway from a laggard to a leader in terms of paid parental leave. Norway also expanded daycare services during the 1980s and 1990s, though these reforms were less important than the leave reforms. Among the one- to twoyear-olds, daycare coverage increased notably; nevertheless, four out of ten children still attended daycare on a part-time basis (see Figure 3.6). Daycare was, moreover, expensive and supply did not equal the demand for full-time daycare (Gulbrandsen 2007; Vollset 2011). Partially, the daycare expansion was a result of the 1975 Daycare Act, as well as further prioritization over the national budget, as I will discuss below. Another important reason was that both the youngest and the oldest children were taken out of daycare. The leave expansion in practice removed children younger than one from daycare services, whereas the 1997 school reform, which lowered the entrance age from seven to six years, pulled out a whole age group from daycare centers. These reforms freed up daycare places for one- to five-year-old children. A considerable share of the daycare expansion of the 1980s and 1990s hence came as a by-product of other policy reforms (Ellingsæter and Gulbrandsen 2003, 34).

# Reforming work-family policies: the role of unions and employers

In Sweden, the social partners played a essential role in expanding daycare services from the 1960s and onwards, as female union membership, skill levels, and employment surged earlier than in Norway (see Appendix B.1.1). In Norway, the social partners turned around and started pushing for wFPs from the 1980s and onwards, with unions first shifting their stance and later also the employers.

Women's share of unionized workers continued to increase throughout the 1980s and 1990s, as a result of deindustrialization and growth in service sector employment (Nergaard, Bråten, and Ødegård 2013). Whereas 25 percent of LO members were women in 1980, the percentage was 35 by 1985 and 44 by the late 1990s.<sup>46</sup> During the 1980s, the LO faced competition over members from vs, which was established in 1977 as a contender to the LO. In the vs, the share of women was even higher than in the LO (see Figure 3.7a).

Women within the trade unions continued to push for better availability of much demanded leave and daycare services, and ultimately succeeded in raising the issue to the top of the agenda. During the LO Conventions in the 1980s and early 1990s, gender equality became a key issue—despite opposition from the male-dominated unions affiliated with the LO (Nergaard, Bråten, and Ødegård 2013, 16-17, 26, 30). In 1981, the LO Convention had gender issues as a central topic, and by the late 1980s "the growth in the women's share [of LO members] produced an irresistible weight", according to a prominent labor historian (Bergh 2009, 61, 192). Moreover, Esther Kolstøl became the LO's first female vice president in 1989, and she contributed to further promote the focus on women's issues within the confederation. In short, women grew into a powerful group in the labor movement.

During this period, the LO completed a U-turn concerning WFPs, and became willing to use its political influence to push for reforms. In the 1980s, the confederation was dissatisfied with the current provision of WFPs. Corresponding directly with the Prime Minister's Office in 1984, the LO demanded a considerable expansion of employees' rights

<sup>46</sup> Compared to their share of members, however, women were still underrepresented in leadership position throughout the confederation (Hernes 1987; Nergaard, Bråten, and Ødegård 2013; Skjeie 1989).

during childbearing and childrearing. To quote from the letter, the organization requested that:

- The paid share of the parental leave is being expanded from 18 to 30 weeks.
- 6 weeks are being reserved for mothers in relation to childbirth.
- 20 weeks are being shared between the parents as preferred.
- 4 weeks are being reserved for fathers. ...
- The father's right to 2 weeks of care leave in relation to childbirth must be paid (LO 1984, 1-2).

They argued that there was a "need for an expansion of the [WFP] provisions if they to a larger extent than today shall contribute to real equality between women and men in the employment market", and that, by "giving a fixed number of weeks reserved for the mother and the father, both parents' care duties are being underlined" (LO 1984, 1-2). The LO secretary Harriet Andreassen, who also sat on Labor's central board and had served as a Labor minister in 1981, repeated this message at the Convention in 1985 (LO 1985).

The union confederation also, from the early 1980s and onwards, stressed the need for a faster expansion of daycare. At the 1981 Convention, for instance, the LO president and former Minister of Social Affairs under Labor, Tor Halvorsen, called development of more daycare centers "crucial" for women's labor market opportunities (LO 1981, 240). The LO accordingly regularly called for increasing the pace of the expansion throughout the 1980s and 1990s. The newly elected LO president in 1988, Yngve Hågensen, was willing to prioritize daycare over pension reforms, which had long been a major issue to the organization: "the LO drops the demand for a general reduction of the pension age ... [which] opens up for demands for other social reforms such as longer parental leave and more daycare centers" (NTB 1988a). The other union confederations, as well as the women's organization within the Labour Party, seconded these calls

for increased daycare (Aftenposten 1988; NTB 1988b). Moreover, in 1990 the LO announced that the organization was considering initiating its own daycare expansion, as it was dissatisfied with the pace of the expansion (NTB 1990a). At the LO Convention in 1989, Esther Kostøl, the vice president, made daycare expansion a primary policy demand from the labor movement (LO 1989). WFP reforms had consequently become a top priority for the trade unions.

The employers, fronted by the NAF, had opposed extensions of paid leave during the 1970s. In the 1980s, however, there were signs that their position started to change. In higher education, women's enrollment rates outpaced that of men, thus closing the gender gap in higher education among young adults by 1988 (see Figure 3.8a). It is particularly notable that the largest transformations in higher education's gender composition took place in the fields that are particularly valuable to employers relying on high-skilled labor: business and administration, social science and law, and science, technology, engineering, and mathematics (STEM). The percentage of women in these fields more than doubled during this period, as is depicted by the black lines in Figure 3.8b, which graphs the percentage of women in each of the broad fields of higher education.<sup>47</sup> The field of business and administration, for example, went from having 16 percent female students in 1980 to 41 percent in 1990. The surge in high-skilled women, also relative to men, was therefore considerable.

With the increasing number of women with the skills that employers needed, the NAF became more interested in gender issues and willing to agree to WFP expansions. In response to the Ministry of Consumer Affairs and Administration's proposed Action Plan for Equality from 1980, the employers wrote the following:

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<sup>47</sup> The numbers in parentheses in the figure give the share of students in each of these fields in 2014.

The association went on to say that, "a gender equality accord will have to build on agreements between the social partners" (NAF 1980, 6). The NAF also added an equal status adviser to their payroll that year. A young, high-profile Conservative, Kaci Kullman Five—who would later become MP (1981-97), deputy leader (1982-8), Minister of Trade and Shipping (1989-91) and leader of the Conservatives (1991-4)—was the first to hold the position. What is more, in 1982, the NAF co-operated with the LO to add a framework agreement on gender equality to the Basic Agreement. The framework required the social partners to work actively to promote gender equality (Supplementary Agreement IV) (Aarvig and Erikstad 1989, 47-9). The framework agreement was a voluntary and contained no promises regarding wFPs and it had a limited substantial implications; nevertheless, it signaled the increasing willingness of employers to promote and facilitate skilled women's labor market opportunities.

The changing stances of unions, and to some extent employers, set in motion WFP reforms. Indeed, the wave of reforms starting in the 1980s not only were lobbied for by the social partners but rather *arose* from their wage settlements (Nergaard, Bråten, and Ødegård 2013; OECD 1989). Since women were first to become dominant in unions organizing public sector employees, leave was first expanded through wage negotiations for public employees in the mid 1980s (Hansen 1991). Moreover, not being content with trying to lobby the government to expand leave for all employees, as they did in the 1984-letter to the Prime Minister quoted above, the L0 included a demand for an increase in paid parental leave from 18 to 30 weeks for all employees in the 1985 wage negotiations. Also the other union confederations demanded leave expansions (Aftenposten 1985). In the wage negotiations in the subsequent years, the trade union confederations continued to request the government to expand leave for

all employees through national legislation and the employers were not hostile to these demands (Dagens Næringsliv 1989). In the words of Nergaard, Bråten, and Ødegård (2013, 27): "[p]arental leave was lengthened from 18 weeks in 1986 to 42 weeks in 1993 ... and the expansion *came as a part of the incomes policy cooperation*" (my emphasis). Consistent with the argument proposed in this study, unions and employers' played a direct and central role in expanding wFPs.

Through the corporatist institutions, the NAF hence significantly contributed to bringing about the reforms in the late 1980s. This was, nonetheless, after pressure from the LO. In the early 1990s, for instance, when further extensions where being discussed, the NAF opposed this proposal, citing the already generous level of leave. The reason was not ideological opposition to wFPs, but rather that, given Norway's difficult economic situation after the bursting of housing and credit bubbles,<sup>48</sup> other government policies, such as investment in infrastructure, should be prioritized (NTB 1990b). Given that the number of women with higher education was still increasing from an initially low level and the gender gap was closing but not yet reversed, as Figure 3.8a displays, this conditional support from the employers is what we would expect.

#### Women rising: the role of the political parties in the reforms

In 1981, ten years of Labour governments ended and the Conservatives took over the cabinet offices, first alone until 1983 and then together with the Christian Democrats and the Center Party until 1986. Thereafter, Labour ruled (1986-89), then the Conservatives (1989-90), then Labour (1990-97), and then a coalition of the Christian Democrats, the Center Party, and the Liberals (1997-2000).

Only after the social partners' reform initiatives did the political parties expand wFPs, as there were tugs of war within the parties over

<sup>48</sup> See Dølvik, Andersen, and Vartiainen 2014.

whether to prioritize working women. From 1977, when the Storting extended paid leave to eighteen weeks, until 1985, none of the parties in the Storting, with the exception of the Socialist Left, presented concrete proposals regarding paid leave (Skjeie 1993, 255). Strikingly, with the support the Socialist Left, Labour had the majority needed to pass further wFP reforms between 1973 and 1981, yet did not do so. The Labour governments in the early 1980s were, in principle, positive toward extensions of paid leave. Nonetheless, Labour's 1981 white paper on family policy concluded that "it [is] in the foreseeable future not possible to fit in these measures [i.e., leave] in the government budget" (St. mld. nr. 25 1981-1982, 25). With regard to daycare, Labour only promised an unspecified "increase" at the beginning of the 1980s. Consequently, when Labour's Gro Harlem Brundtland briefly entered office as Norway's first female Prime Minister in 1981, the new government increased the daycare subsidies somewhat but did not attempt to incentivize further expansion of full-time places or daycare for the youngest children.

When the minority Conservative government came to power in 1981, it withdrew the white paper on leave, as "it didn't really contain anything ... there was not a single concrete proposal there," the Conservative political adviser, Erling Lae, later noted (Gjertsen and Lae 2004, 66). Both the minister in charge of family policy, Astrid Gjertsen, who belonged to the Feminist Group within the party, and Prime Minister Kåre Willoch instead wanted a more forward-leaning white paper—though in different ways, it turned out. The vocal dual-earner wing—including Gjertsen and the aforementioned Kaci Kullman Five—wanted to expand leave (Gjertsen and Lae 2004, 70). The PM, however, together with the Christian Democrats were firmly against leave reforms. The Christian Democrats had a pivotal position, and accordingly holdup power, in the Storting.<sup>49</sup> The deep split inhibited any substantive new WFP reforms, with the content of the new white paper becoming a "never-ending tug of war", as Gjertsen later expressed it (Gjertsen and Lae 2004, 66). "It's evident that I would've liked a further expansion of parental leave", she also noted, with Erling Lae, her political adviser, adding that: "[f]rom your [i.e. Gjertsen's] side we tried to get the government to accept four weeks, though. And the Christian Democrats said zero, and then the result was two" (Gjertsen and Lae 2004, 69). Accordingly, before they lost power in 1986, the Conservatives had proposed to the Storting to increase the number of paid leave weeks by two (St. mld. nr. 50 1984-1985).

The Conservative single-party government (1981-3) also maintained Labour's levels of daycare subsidies, but under the center-right coalition the state subsidies decreased, again due to opposition from the Christian Democrats. Before the 1985 budget negotiations, however, there was a "daycare rebellion" from the dual-earner wing of the Conservatives, ensuring that daycare subsidies again increased slightly (Gjertsen and Lae 2004, 73). The dual-earner wing also managed to get the Conservative Party Convention to promise 26 weeks of paid leave in their 1985 election manifesto, as well as further daycare expansion (Notaker 2012, 138-9).

The Conservatives were not the only ones to promise expansion of wFPs to appeal to working women. As Figure 3.9 portray, the number of female MPs increased throughout the 1980s, and women gained foothold in all parties. As a result, and in line with the Lo's wishes, Labour also promised in the 1985 election campaign to make it mandatory for municipalities to provide daycare. The party also

<sup>49</sup> Although the Christian Democrats only had 9.7 percent of the seats in the 1981-5 Storting, they had 17.6 percent of the Banzhaf voting power, which shows that their decisiveness for securing a parliamentary majority greatly outweighed their share of the seats. See Appendix B.1.8 for further details on the seat shares and the calculation of the Banzhaf power index.

promised 30 weeks of paid leave with the aim of 52 weeks in the long run.<sup>50</sup> Yet, as we saw above, leave expansion was by then already well underway in the corporative system. Parties' promises for leave expansions thus crucially came *after* the social partners had started to expand leave and started to push for national legislation on the issue.

The center-right government lost a vote of confidence in 1986, and a minority Labour government headed by Gro Harlem Brundtland took office. After the 1985 election Christian Democrats' holdup power in parliament had been significantly reduced, despite increasing their parliamentary seat share (see Figure B.1.9 in Appendix B.1.8 for further documentation).<sup>51</sup> With the Labor Party in government and a majority in the Conservative Party in favor of leave expansions, the scene was thus set.

Importantly, whereas about four out of a total of seventeen ministers in the 1973-1986 governments were women, 44.5 percent of the ministers in the Brundtland II government were women.<sup>52</sup> In the Conservative Party, young, highly-educated women—with close links to the employers' association—were the driving force behind the change the Conservatives' shift toward favoring wFPs, as discussed above. A similar but stronger pattern is found in the Labour Party. Of the female ministers in Brundtland II, seven out of eight had a higher education degree, and their average age was 43, compared to 51 among the male ministers in the same government. Women were thus no longer a small minority in government or parliament. From this government on, all cabinets have had at least 39 percent female ministers.

The pressure from the social partners, and women's increased presence in powerful political positions, lead to wFP reforms. Both the

<sup>50</sup> The Socialist Left promised 52 weeks, and also the other parties mentioned leave in their 1985 manifestoes.

<sup>51</sup> They had also started to favor parental leave, although only if benefits for homestaying mothers were expanded at an equivalent rate.

<sup>52</sup> See Figure B.1.10 in the appendix for an overview the percentage female ministers in all post-World War II governments.

Brundtland governments (1986-9 and 1990-6) and the non-socialist coalition government (1989-90) expanded leave, which together gave a massive increase in leave, from 18 weeks before 1987 to 42 weeks in 1993, as depicted in Figure 3.5 (Vollset 2011, 188; Brundtland 1998).<sup>53</sup>

One of the aims of the leave expansion was to make it possible for fathers to take more of it. Yet that did not happen; mothers took more or less all the leave. An official commission on men's roles (1986-1990) therefore supported the Lo's demand for a fathers' quota. Before the 1993 incomes settlement the union confederation once again repeated its fathers' quota request, and the government signaled that it was willing to consider the measure (Lekang 2007). The policy proposal spurred left-right divisions, with the Conservatives and the Progress Party arguing that it infringed on parents' freedom of choice in their care arrangements. The Labor government, however, with the support of the remaining parties in the parliament, reserved four weeks of the 49-week long leave for fathers in 1993, arguing that it would increase gender equality at home and in the workplace (Håland 2005).

Finally, daycare services also saw an upswing in the latter half of the decade. In 1988, the Storting stepped up its commitment to expanding daycare, again coinciding with pressure from trade unions (see the previous subsection). The Labour government proposed a national plan for daycare expansion, which aimed at increasing state subsidies so that full coverage was to be reached by year 2000 (Skjeie 1993). Yet the government refrained from requiring municipalities to expand daycare services and did not intend to reduce the price for parents (Vollset 2011, 157). Coverage was also predominantly expanded through "family daycare centers", in which up to four children could be minded by a daycare assistant in a private home (Vollset 2011, 179-80). The reform was, in other words, a lim-

<sup>53</sup> Note that, due to a housing and credit crisis, unemployment rates surged from 2-3 percent before 1988 to almost 7 percent in 1993. Thus, wFPs were expanded despite difficult economic times.

ited one. It passed without much debate, as the growth in daycare subsidies was favored by a large majority of parties. The main parties had consequently converged on increased daycare provision.<sup>54</sup> The steady daycare expansion continued without much conflict during the Labour governments of the 1990s.

Despite the disagreements over the fathers' quota, this wave of reforms was consequently characterized by a left-right convergence between Labor and the Conservatives (Hagen and Hippe 1989; Håland 2005; Skjeie 1993). Crucially for the argument proposed in this study, the reforms were initiated in close dialogue with the social partners. "We proceeded systematically and gradually in cooperation with the labor movement", Prime Minister Brundtland later recalled (Brundtland 1998, 436; see also Brundtland 2008).

There are additionally indications that female politicians contributed to the wFP expansion. In her in-depth interviews and surveys of 146 out of 157 MPs in 1989, Skjeie (1993) found that—among the issues for which the MPs deemed that "women's increased participation had contributed towards change in party viewpoints"—35 percent of the responses fell into the work-family policy category (Skjeie 1993, 242-3). Interestingly, the MPs themselves judged that the increase in women's representation had been more important for daycare expansion than parental leave. In accordance with the perspective proposed in this study, party politics thus seemed to play a larger role with regards to daycare than to leave—and the other way around for the social partners.

<sup>54</sup> The exception was the Progress Party, as well as to some extent the Christian Democrats. The Socialist Left proposed an alternative, more extensive reform, which was voted down by the other parties in the Storting.

# 3.3.3 The 2000s: further large reforms

Women's entrance into higher education continued, and it was evident that the wFP provision did not meet the needs and demands of dual-earner families at the turn of the millennium.<sup>55</sup> Paid leave was 42 weeks, with four weeks reserved for the father. All the same, it became clear that fathers took little more than the four weeks reserved for them. In 2001, only 13.5 percent of the 85 percent of fathers who took leave, took more than four weeks (St. mld. nr. 29 2002-2003, 38). From 2005 to 2013, paid leave was expanded to 49 weeks. Fourteen of these were reserved for the father, seventeen for the mother (three of them pre birth), and eighteen that could be split as they wished (see Figure 3.5 above). In 2014, the total leave was kept constant while the fathers and mothers' quotas were each reduced by four weeks, giving 26 weeks of shared leave.

Daycare services were also subject to large-scale reforms in the 2000s. Yet, before these reforms occurred, there were setbacks in terms of coverage. First, the center coalition in office from 1997 to 2000 introduced a cash-for-care scheme in 1998, which gave parents with one- and two-year-old children who did not attend publicly subsidized daycare the right to a cash benefit of 3,000 NOK per month, or about one tenth of an average wage in 1998. It was provided irrespective of labor market status. Second, despite the promises of full daycare coverage by 2000, only 37 percent of one- and two-year-old children attended daycare that year, and merely 66 percent of these attended daycare for 33 hours or more per week (see Figure 3.6).<sup>56</sup>

<sup>55</sup> Since the late 1990s, the increase in women's labor market participation rate has stagnated at about 69 percent, compared to around 76 for men (see Figure B.1.11).

<sup>56</sup> Among the three- to five-year-olds, daycare coverage was 78 percent in 2000 but only 62 percent attended daycare for 33 hours or more per week.

Importantly, the demand for daycare places for the youngest children was far greater than the number of places available.<sup>57</sup>

In 2002, however, the opposition forced the center-right minority coalition to introduce a large daycare reform, which was further enlarged by the center-left majority coalition in office from 2005. The reforms increased government subsidies with 230 percent between 2002 and 2008 and reduced the parental fees with an average of 32 percent. By 2014, 80 percent of children aged 1-2 went to daycare centers and 96 percent of these attended for 33 hours or more per week.<sup>58</sup> In 2009, the government additionally introduced the right to daycare from the age of one.<sup>59</sup> The reform, in other words, installed a full-time, affordable daycare regime for all children under school age. Chapter 4 of this thesis analyzes the consequences of the reform for mothers' possibility of entering into occupations requiring long hours and leadership positions.

# The social partners pushing for further reforms

By 2000, women made up 45 percent of the LO members, and by 2010 they were in the majority.<sup>60</sup> In 2001, the LO elected its first female president, Gerd-Liv Valla, a former Minister of Justice. Valla was also the first LO leader with higher education and who came from the public sector. As such, she epitomized the LO's turnaround on gender issues, from a male confederation favoring male-breadwinner policies to a gender-mixed confederation favoring wFPs.

<sup>57</sup> In 2002, 70 percent of parents with one- or two-year-olds would like to use daycare services, either full time or combined with other arrangements, when asked to disregard parental fees and hours and place availability (my calculations from the representative Child Care Survey, *Barnetilsynsundersøkelsen*, conducted by Statistics Norway in 2002).

<sup>58 96</sup> percent of children aged 3-5 went to daycare and 98 percent of these attended for 33 hours or more per week.

<sup>59</sup> Provided that the child was one-year-old before September 1 in the given year.

<sup>60</sup> The proportion female members was also sizable in the other union confederation (see Figure 3.7a).
That the trade unions were not content with the level or design of WFPs, was especially evident from the late 1990s and onwards. The organization called for the price of daycare to be reduced "while simultaneously demanding full daycare coverage with opening hours that are better adapted to the needs of businesses", as Esther Kostøl, the LO's vice president, put it in 1996 (quoted in NTB 1996). The LO teamed up with Labour in their ardent opposition to the center government's 1998 cash-for-care reform, and commissioned a report for alternative use of the public funds spent on the cash-for-care scheme. The LO president, Yngve Hågensen, noted that "the cash-for-care reform ... is at the expanse of daycare and a forward-looking gender equality policy" (LO 2001,72). Full daycare coverage hence remained a top priority for the trade unions (Nergaard, Bråten, and Ødegård 2013). The LO hence supported the major daycare compromise reached among the opposition parties in 2002 but were not content with the size of the reform. At the 2005 LO Convention Valla asserted that "more daycare slots is of outmost importance to prevent that more women choose the dangerous, but simple, path back to the kitchen counter, whose name is the cash-for-care scheme. All children shall have a right by law to a place in the daycare center" (LO 2005, 25). The daycare reforms had thus been long in demand from the LO.

The unions also pushed for further leave reforms. In 2000, the social partners used the wage negotiations to agree that employees would get seniority while on parental leave. In 2001, the LO Convention demanded further expansion of parental leave and particularly the fathers' quota (Dagbladet 2001). President Valla was definite about this demand, stating that "[w]e need to create gender equality both at home and in the workplace to achieve true gender equality. We want to expand the fathers' quota" (transcribed in LO 2001, 139). She also

called "an expansion of the fathers' quota the most important measure for increased gender equality" (quoted in NTB 2003).

In these efforts, the unions were increasingly joined by the NHO, as women continued to outpace men in higher education enrollment. By 2000, 35 percent of women aged 25-39 had a higher education degree, compared to 28 percent of men. By 2010, the same numbers were 45 percent and 30 percent, respectively—that is, a fifteen percent gap in favor of women (see Figure 3.8 above). With this change, which made highly educated women the key source of labor supply, employers became increasingly vocal about new WFP reforms in the course of the 2000s.

The NHO had been against the idea of a fathers' quota in 1993. Seeing the effects of the 1993 expansion, however, they later admitted that the effects of the reform had been advantageous for inducing men to take more of the leave. "These are well spent money", NHO Director Olav Magnussen said in 1997 (quoted in Aftenposten 1997). The employers furthermore expressed their concern about the 1998 cash-for-care reform's impact on women's labor supply. Director Magnussen warned that "if it has already started to burn, it doesn't take much before it all bursts into flames", referring to the projected reduction in women's labor supply as a result of the reform (quoted in Dagens Næringsliv 1998). The employers' confederation stated that they would instead like to see men taking more of the leave (Dagbladet 2001). By 2003, the NHO was accordingly demanding an expansion of the fathers' quota without increasing the total leave period (Dagens Næringsliv 2003).

Concerning daycare, the NHO in 2001 indicated that it was problematic for businesses that families with young children avoided moving to municipalities with low availability of daycare centers (Orheim 2001). The employers thus favored the 2002 daycare reforms but was worried about the increased government spending that resulted from the reform. Summarized, by the early 2000s, both employers and unions agreed that new WFP reforms were required to improve gender equality in the workplace.

The center-right government expanded the fathers' quota and the leave by one week in 2005 and the red-green government in office from 2005 did the same in 2006. The unions and employers in unison, however, held out for the need for a "tripartite" leave, whereby the paid leave would be split in three equally long parts—one for each of the parents and one that could be shared between them as they deemed. As Rita Lekang, the LO secretary, wrote in an op-ed directed at the government in 2007:

The government has announced a white paper on men and men's roles. The distribution of parental leave should have a central role in this document. The LO is of the opinion that:

- The mother should have the right to the first 16 weeks after birth.
- The father should have half of the remaining weeks, while the rest of the leave can be split as the mother and father agree (Lekang 2007).

The social partners received additional support from the government-appointed Commission on Equal Pay in 2008, which made tripartite leave one of their key proposal for a more gender equal labor market.<sup>61</sup> NHO backed the commission: "[a] tripartition of the parental leave may cause women to return quicker to the workplace. This is a good measure for equalizing pay", NHO director Sigrun Vågeng argued (quoted in Dagens Næringsliv 2008). The LO

<sup>61</sup> The commission consisted of professorial researchers and was headed by former Center Party leader Anne Enger. The commission had a reference group consisting of representatives from all the major social partners.

echoed the employers' statements.<sup>62</sup> The social partners were jointly calling for a tripartite paid leave.

The 2009 general election gave the red-green coalition four more years in government and they had pledged to expand both the fathers' quota and the total length of leave. In 2009 the leave was hence extended from 44 to 46 weeks and the fathers' quota from six to ten weeks. The social partners, however, still pressed for a fully tripartite leave. In the LO-NHO 2010-2013 Basic Agreement they therefore agreed to prioritize to push for change in the leave scheme, arguing that "it is important to see the connection between working life and family life and to ensure a better distribution of parental leave between the parents" (LO & NHO 2010, Supplementary Agreement II; NTB 2009). The social partners were partnering wFP change.

Both unions and employers have also defended the daycare reforms and have later demanded further improvements of daycare. The Director General of the NHO, John G. Bernander, wrote in 2010 that "daycare centers and the government should receive credit for having achieved full daycare coverage. It gives more people the opportunity to participate in the labor market and is important both for parents and businesses" (Nettavisen 2010). Abelia, the NHO-affiliated employers' association for knowledge- and technology-based companies, emphasized daycare services as a competitive advantage for Norwegian businesses (Dagsavisen 2010). What is more, in 2013, the NHO voiced that they would like to see compulsory and free daycare for five-yearolds. "The NHO is interested in this because Norwegian business are dependent on skilled labor. The educational system is the economy's most important supplier", argued Kristin Skogen Lund, the first female NHO Director General, appointed in 2012 (NHO n.d.). Most recently, the social partners have also called for more frequent daycare

<sup>62</sup> The LO went further with respect to the length of the leave, demanding 52 weeks of paid leave and increased wage ceiling for the benefits.

admissions, so that children born after September 1 do not have to wait until the year after to start in daycare, which is the case today (Aftenposten 2016).

In sum, the social partners have become close partners in pushing for wFP reforms during the 2000s. Skogen Lund characterized parental leave, the fathers' quota, and full daycare coverage as "milestones in the development of equality between women and men in the Norwegian economy" (quoted in Halrynjo and Teigen 2016, 314). And in a joint op-ed the LO and NHO highlighted the combination of fathers' quota and full coverage of affordable daycare as "unique" for both Norwegian workers and employers (LO & NHO 2014).

#### Giving in to the pressure: the politics of the reforms

After the election in 1997, Labor had to cede government control to a center coalition consisting of the Christian Democrats, the Center Party, and the Liberals. All parties in the new government expressed their support for the existing levels of paid parental leave, the fathers' quota, and continuing the expansion of daycare services. "The goal of full daycare coverage by year 2000 remains set. The government will continue the gender equality foundation in family policy", the Minister of Children and Family Affairs, Valgerd Haugland reassured in 1998 (Haugland 1998). Simultaneously, however, the government joined forces with the Conservatives to instigate a cash-for-care reform. As we saw above, the reform met fierce resistance from the social partners. Labor and the Socialist Left also ardently opposed the introduction; though, they did not have the votes needed in parliament to stop the reform. There were thus still left-right divisions regarding whether the state should provide benefits also for homestaying women.

After a brief one-year spell with a minority Labour government in 2000 to 2001, the Christian Democrats re-entered the government, this time in a minority coalition with the Conservatives and the Liberals. Despite the pressure from the social partners, and a situation where demand for daycare greatly exceeded the supply, the government showed no sign of further expanding daycare services. In a surprising move, however, the opposition parties—from the Socialist Left via Labour to the Progress Party-reached out to each and other and came to a daycare agreement in the Storting in 2002. The opposition, in other words, forced the government to come up with a proposal and allocate the necessary funds to expand daycare. Women within these parties, combined with pressure from the social partners, and the wish to steal female voters from the incumbent government were important factors leading to the reform. To try to appear less hostile to working women, and after pressure from the social partners, the center-right government in the end voted in favor of the daycare reform and initiated a one-week expansion of paid leave, and reserved it for fathers.

Before the 2005 election, Labour, the Socialist Left, and the Center Party pledged to form a government coalition if they together won a majority of seats in the parliament, which they did.<sup>63</sup> The coalition promised to speed up and expand the daycare reform further to ensure full daycare coverage, lower parental fees, and longer hours. After the election, reaching full daycare coverage by 2009 was established as one of the red-green government's key policy goals. This lead to a further allocation of funds to daycare services in the national budget.

With the red-green government in office, also the leave reforms requested by the social partners were put on the table. Still, the government proceeded slowly. One additional week was added to the

<sup>63</sup> The LO President Valla played a key role in creating the coalition.

fathers' quota in 2006. When the Equal Pay Commission proposed the tripartite leave in 2008, which the social partners favored, the red-green government gave the proposal an unenthusiastic and divided response. Jens Stoltenberg, the Prime Minister and Leader of the Labour Party, was against the proposal, and so was Helga Pedersen, the Deputy Labour Leader, and Anniken Huitfeldt, the Head of Labour's Women's Network and recently appointed Minister of Children and Family Affairs (Klassekampen 2008; VG 2008). Others in the party, notably MPs with long records of voting in favor of gender equality measures, as well as the Women's Network in the Oslo Labour Party, sided with the social partners. In the Socialist Left, which had been a long-standing supporter of longer leaves for fathers, the party leader and Minister of Finance, Kristin Halvorsen rejected the proposal, whereas several MPs supported the proposal (Dagbladet 2008). Thus, although all the government parties were in favor of expanding the leave and giving fathers some of the new weeks of leave, only the Center Party wholeheartedly decided to favor a full tripartition of the leave (TV2 2009).<sup>64</sup>

Among the opposition parties the resistance was even stronger. Erna Solberg, the leader of the Conservatives, attacked the tripartition proposal as infringing on families' right to choose their organization and reflected "a rich state coupled with lust-for-power politicians who don't set the limits for politics" and naming "the fathers' quota as a socialist ideology of force proceeding at the expense of families' freedom of choice" (quoted in Klassekampen 2013).

Given the hostility both within the government and from the opposition, the fierce pressure from the social partners may have been decisive for the 2009 leave expansion, which increased the length of the leave with one week but the fathers' quota with two weeks. There

<sup>64</sup> This is also reflected in the party manifestoes from the 2000s. The red-green parties voice support for expanding the fathers' quota, which the opposition is against; yet, only the Center Party commits to a tripartition of the leave.

was no promise to introduce a full tripartition of the leave. In the 2009 election campaign, furthermore, the incumbent red-green parties moved closer to promising a tripartition of leave. Labour pledged "to expand parental leave to 48 weeks with a 100 percent wage replacement rate, and that 14 of these weeks are reserved for the father" (Labour 2009). The Center Party and the Socialist Left explicitly promised to introduce a full tripartition of the leave, with one-third of the leave reserved for fathers. The Conservatives and the Progress Party were still firmly opposed, arguing that it infringed on families right to choose the division of leave between the parents.

The red-green coalition was re-elected, and, as we saw above, the social partners continued to push for the government to live up to its campaign promises. When Audun Lysbakken, the Minister for Children and Equal Status, in 2010 proposed an expansion of the fathers' quota to twelve weeks and the overall leave to 47 weeks, the employers and unions applaud the proposal but argue that it still does not go far enough. In the words of the NHO:

No true tripartition is being proposed. The share which is optional is still larger than the fathers' share. ... The government has yielded a bit to the pressure, and gone too far in the direction of freedom of choice. This gives a limited gender equality effect. ... Tripartition is a true and extremely important gender equality measure. We need all good hands and head in employment. There are so many well-educated women, and it is a large problem that they have difficulties with entering the labor market on the same level as men (quoted in Klassekampen 2010, my emphasis).

Moreover, in the 2011 wage settlement they include a six-point gender equality plan of action, which explicitly calls for the government to introduce tripartite leave and abolish the cash-for-care scheme. In 2013, the government finally yields and legislates that mothers and fathers have the right to fourteen weeks each and that eighteen weeks can be split as they wish (see Figure 3.5).<sup>65</sup>

Whereas the Christian Democrats and the Liberals ended up voting in favor of the tripartite leave, the Conservatives and the Progress Party entered the 2013 election campaign with manifestoes promising to make the whole leave shared, i.e., removing the fathers' quota. In an unusual move during the campaign, the NHO director general, Kristin Skogen-Lund, warned the Conservatives and the Progress Party of the dangers of this position and repeated the employers' support for the tripartite leave (Dagsavisen 2013). The LO did the same.

The center-left lost the 2013 election and the Conservatives and the Progress Party formed a coalition government, with parliamentary support from the Liberals and the Christian Democrats. Already in 2014, the right-wing government decided to cut the fathers' quota to ten weeks. The reactions from the employers and trade union were immediate. Notably, the NHO announces that if the fathers' quota is removed, then leave should be cut back to the 1993 level to allow the saved funds to instead be spent on more frequent daycare admissions for one-year-olds (Lund 2014). The remark made by Skogen Lund is worth quoting at length, as it sums up the employers turnaround on WFPs:

The NHO is an ardent supporter of the Norwegian parental leave scheme with a long fathers' quota. Early on we spoke up for earmarking one-third of the leave period to fathers. We stand by this. Even though parental leaves sometimes can be experience to be a practical challenge to firms, the NHO is of the opinion that the fathers' quota has been advantageous to the business sector. It promotes high female labor market participation and gender equality in the workplace. Norway has a modern family policy which services our most important resource: the work capacity and the skills of both men and women. For the business

<sup>65</sup> In addition, mothers have the right to three weeks before childbirth.

sector and economy more generally this is of crucial importance (Lund 2014).

Due to intense pressure from employers, labor, and the other parties, the government has scrapped its plan to reduce the fathers' quota further. Additionally, when the government in 2014 proposed to make it easier to transfer leave from fathers to mothers, the social partners were once again up in arms, with the LO and the NHO calling for the government to "withdraw" and "shelve" the proposal (LO 2014; NHO 2014). To this date, the government has not gone ahead with the proposal.

#### 3.3.4 Summary

The analysis of the Norwegian case has fleshed out how both unions and employers have gone from being indifferent (in the case of unions) and outright negative (in the case of employers) to actively pushing for WFPs. Given that demands for paid parental leave expansions could be specified through the wage negotiations, whereas daycare service reforms and subsidies were outside this system, the social partners have had even stronger influence on the development paid leave than daycare. In addition, the case study documented that women within the parties played an important role in calling for WFP reforms together with the social partners.

In Appendix B.1.1, I extend the analysis to Sweden, the Netherlands, and the United Kingdom. The case study of Sweden documents that the unions and employers were crucial to the wFP expansion also there. Importantly, as both women's entrance into unions and higher education started significantly earlier than in Norway, Sweden preceded Norway by ten to twenty years in the expansion of wFPs. Only in the 2000s did Norway catch up with Sweden. Next, the Dutch case study shows that the Netherlands again has lagged behind Norway when it comes to women's entrance into unions and higher education. Thus, even though the social partners play a key role in policymaking in the Netherlands, they have only recently become interested in using their position to call for and instigate wFP reforms. Finally, the study of the United Kingdom documents that, although women have entered unions and education on a large scale, the fragmented organization and limited influence of organized employers and workers have meant that their increasing calls for wFPs have largely been unsuccessful. Instead, it was only when women acquired key government positions under New Labour that serious wFP reforms took place.

## 3.4 CONCLUSIONS: THE CONTINUED BUT CHANGING ROLE OF CORPORATISM

I started out by asking when employers, trade unions, and political parties go from being against to being in favor of work-family policies (wFPs). I have analyzed the development of wFPs and argued that corporatist institutions and social partners, which were pivotal in the expansion of classic welfare programs, still remain fundamental to understand the rise of these new welfare policies. I have, nevertheless, shown that the stances of the social partners are highly dependent on dynamic factors associated with the rise of knowledge economies, in particular the reversal of the gender gap in higher education and the associated rise of women within trade unions. My empirical findings—based on a quantitative analysis of eighteen advanced democracies from 1960 to 2010, an in-depth case study of Norway, and briefer case studies of Sweden, the Netherlands, and the United Kingdom—support these theoretical claims. As women's union membership rose and as women outnumbered men in higher education, the social partners have become increasingly interested in developing wFPs further. Centralized trade unions and employers' associations have used wage bargaining and their policy influence to push parties to enact wFPs. By neglecting the possibility of such shifts in preferences and cross-class coalitions, the study contributes to the existing literature by showing that long-lasting labor market institutions can effectively be used as a vehicle for new policy demands.

# 4

### CARE FOR CAREER: MOTHERS, TODDLERS, AND THE IMPACT OF UNIVERSAL DAYCARE ON FEMALE LEADERSHIP

**ABSTRACT:** Women remain underrepresented in leadership positions and high-powered jobs. In this paper, we argue that work family-policies can reduce the underrepresentation. In particular, we contend that subsidized child daycare services increase mothers' willingness to and opportunities for entering occupations with longer hours and leadership positions. To provide empirical evidence, we make use of a daycare reform in Norway, which led to a staggered and extensive expansion of daycare services across the about 400 municipalities. With administrative register data on the whole population, our instrumental-variable approach reveals that mothers with two-year-olds in daycare are more likely to work in occupations requiring longer hours and in managerial positions. Moreover, using survey data we find that mothers with access to daycare are more inclined to view their career as equally important as men's. Our results document how public policies can be used to address gender inequalities in access to powerful positions. WOMEN'S LARGE-SCALE ENTRANCE INTO education, employment, and politics delineates the last half-century from the previous ones. Despite this "quiet revolution," one of the notable inequities that persists is the gender segregation in the labor market. Across advanced democracies, women, and especially mothers, tend to work in jobs paying less and with fewer hours, often in the public sector. Positions of leadership, be they in politics or the corporate world, are disproportionately occupied by men. Women make up about half of the labor force; yet, only one in three managers today are women (ILO 2016). Moreover, the more senior the position, the fewer women, both in politics and in the labor market (Folke and Rickne 2016). Among the biggest United States companies, for instance, only about one in twenty CEOs and one in four senior managers are women (Catalyst 2016). In the world of politics, only every fourteenth head of government and every fifth member of parliament is a woman (IPU 2015). Women are thus significantly underrepresented in positions of power. In this study, we ask whether the availability of full-time, subsidized child daycare services can facilitate mothers' career investment.

Gender differences in supply-side factors such as labor market experience (Iversen and Rosenbluth 2010), perceptions of one's qualifications (Carroll and Sanbonmatsu 2013; Koenig et al. 2011), and career ambitions (Fox and Lawless 2014b; but see Ely, Stone, and Ammerman 2014), as well as demand-side factors such as recruitment, promotion, and professional networks (Crowder-Meyer 2013; Fox and Lawless 2010; Koenig et al. 2011) are well documented reasons for the lack of women's lack of access to leadership positions, both in the economy and in politics. Gender quotas, as well as more proportional electoral systems, have gone some way in remedying these differences (see, e.g., O'Brien and Rickne 2016). A substantial gender gap, nevertheless, remains. A series of experimental studies have therefore recently zeroed in on psychological differences in how willing women and men are to compete, bargain, and take risk in order to obtain leadership positions (see, e.g., Buser, Niederle, and Oosterbeek 2014; Kanthak and Woon 2015). Despite their valuable insights, a drawback with these studies is that they lump together *all* women and look at gender differences at large. As a result, the psychological approach cannot address why the career and wage trajectories of men and women are similar until the arrival of children and *then* diverge, with men's career racing ahead (Bertrand, Goldin, and Katz 2010; Cools and Strøm 2014).

A key observation is that employed women, and mothers in particular, still do more of the caregiving and household work than their male counterparts, leaving less room for jobs that demand longer and less flexible hours but have more career and wage advancement opportunities (Goldin 2014; Iversen and Rosenbluth 2010). Women's, and particularly mother's, propensity to take on leadership positions is accordingly more sensitive to *time constraints* than what is typically the case for men. Silbermann (2015), for instance, documents that commuting time decreases women's but not men's willingness to stand for election, and Goldin (2014) shows that there is a larger gender wage gap in professions with less working-time flexibility. Given the unequal burden at home, the career-family conflict attenuates mothers' professional ambitions more than it does for fathers.

The theoretical contribution of our study is to highlight the importance of work-family policies for women's access to leadership positions. A set of studies investigate how the availability of child daycare services may enable women to participate in the labor market, both through providing child care and service sector jobs (Esping-Andersen 2009; Estévez-Abe 2006; Iversen and Rosenbluth 2010). Yet few studies theorize how the expansion of daycare services may enhance women's career ambitions and propell women into senior professional positions (for an exception, see Rosenbluth, Salmond, and Thies 2006). Particularly, we argue that the availability of daycare enhances mothers' *willingness* to invest in a career. Career investment and entering into leadership positions typically require more presence at work and longer hours. Without long-term *reliable* full-time care options for the children until they start school, taking on more responsibility at work entails higher risks for mothers than other employees. The development of full-time daycare may hence increase mothers' willingness to enter into occupations with long hours, as well as accepting leadership responsibility, as unpredictable child care duties are taken care of.

The empirical contribution of the paper is to provide a causal test of how *individual* mothers' take-up of daycare impacts career investment. The few existing empirical studies of a relationship between daycare and career investment rely on cross-national measures of daycare coverage and are thus plagued by concerns about omitted variables and measurement errors (Korpi, Ferrarini, and Englund 2013; Rosenbluth, Salmond, and Thies 2006).<sup>1</sup> We are able to more accurately gauge career investment by using population-wide administrative register data from Norway to look at (1) whether mothers of young children enter into occupations with longer average hours and (2) whether they are more likely to access leadership position—both in the short term and five years later.

Moreover, to address the endogeneity concern that career-minded mothers are both more likely both to have children in daycare and to advance up the occupational ladder, our study analyzes a large-scale

<sup>&</sup>lt;sup>1</sup> In economics and sociology, a number of studies investigate the effect of daycare on fertility, women's labor force participation, wages, and child outcomes, see, e.g. Baker, Gruber, and Milligan (2008), Cornelissen et al. (forthcoming), Eckhoff-Andresen and Havnes (2014), England (2005), Fitzpatrick (2010), Havnes and Mogstad (2011a,b), and Pettit and Hook (2009). None of these studies studies deal with career investment beyond employment.

reform that lead to a staggered expansion of daycare centers across the about 400 Norwegian municipalities between 2002 and 2008. The reform passed by the national parliament required all municipalities to expand daycare coverage to meet the demand from parents, which was far surpassing the supply of daycare slots. The reform shifted coverage upwards across municipalities, but to a different extent, as they had a wide range of coverage rates before the reform. With additional unique data on parents use of daycare, we use the plausibly exogenous *change* in daycare coverage at the municipality level as an instrument for whether individual mothers' two-year-old children attended daycare or not. In short, we combine fine-grained data on the entire population of municipalities and mothers with young children with a causal research design to test our novel argument.

The empirical estimates from our instrumental variable strategy-which makes it possible to consider our findings as representing causal effects of daycare-reveal that the take-up of daycare has a significant and substantive impact on women's access to powerful positions in the labor market. Mothers of two-year-olds benefitting from full-time daycare due to the reform are substantially more likely to work in occupations requiring longer hours and to be in a professional leadership position, compared to mothers without the same access to the exogenous expansion of daycare. We also document that this effect is present five years later, which attests to the importance of the reform for mothers' continuous career investment. Finally, as our argument implies that the availability of daycare should increase mothers' willingness to go after a career, we corroborate the results by using waves of survey data to show that the reform increased support among young mothers for the importance of having a professional career.

Our findings should have significance beyond the Norwegian case. Across advanced economies, women's access to positions of power lags far behind participation rates in the labor market and in politics. This "glass ceiling" or "leaking pipeline" has made prominent scholars of gender equality talk of a stalled revolution (England 2010; Goldin 2014). As many countries are considering, or have started to introduce, full-time affordable daycare centers, our results show that these initiatives can have important consequences for women's advancement into the top positions in the labor market and in politics. A number of recent studies convincingly document that the presence of women in visible positions has important role model effects, again increasing recruitment, aspirations, and participation among women and decreasing bias and stereotypes against women and particularly mothers in the labor market (Beaman et al. 2009, 2012; Gilardi 2015; Wolbrecht and Campbell 2007). Female leaders may also help to develop a female-friendly culture inside the organization (Tate and Yang 2015) and decrease the gender wage gap in the establishment (Cohen and Huffman 2007). What is more, a part of the gender gap in political representation stems from the fact that men more often than women have the work experience that voters and legislators consider advantageous for entering and succeeding in politics, such as a professional career and years of political and professional experience (Crowder-Meyer and Lauderdale 2014; Iversen and Rosenbluth 2010; Teele et al. 2015). Many young mothers choose not to enter into the professional careers that qualifies one to run for office, thus decreasing the pool of *potential* female candidates. Moreover, the women who nonetheless do enter into political office are less likely to have children than their male colleagues (Carroll and Sanbonmatsu 2013). Increased career investment among mothers, for instance as a result of the introduction of full-time affordable daycare, may thus also have important positive knock-on effects for gender equality in politics.

The remainder of our study is organized as follows. In Section 4.1 we develop the key predictions regarding the effect of daycare on women's career investment. Section 4.2 provides details on the expansion of daycare coverage in Norwegian municipalities, the factors associated with expansion, and on the Norwegian 2002-2008 daycare reform, which we will use to test our predictions. Thereafter, in Section 4.3 we test the argument using an instrumental variable strategy to identify the causal effects of daycare take-up on mothers' propensity to enter into occupations with longer average hours and into leadership positions. In Section 4.4, we extend the main analysis by using survey data to show that the daycare reform also lead mothers to evaluate their career as more important. Section 4.6 concludes the paper.

#### 4.1 DAYCARE SERVICES AND WOMEN'S CAREER OPPORTUNITIES

Reaching and occupying leadership positions typically require fulltime work, and often longer hours than the average occupation, which comes in conflict with family commitments. We can use data from the European Working Condition Surveys to illustrate this point. Figure 4.1a displays that, across Western European countries in the 2000s, individuals in occupations with long average work hours tend to report that their work fit less well with family and social commitments than individuals in occupations with shorter work hours.<sup>2</sup> General managers, corporate managers, and legislators and senior officials, which together capture leadership positions in the economy,

<sup>2</sup> See the note to Figure 4.1 for measurement details.



Hours of work per week

(a) Hours of work (*x*) and whether working hours fit with family commitments (*y*).



Hours of work per week



FIGURE 4.1. Plots showing the average survey responses to questions about hours of work, whether working hours, and gender by occupational groups (ISCO-88 2-digit) across Western European countries in the 2000s.

*Note:* The survey item about work and family commitments is formulated as follows: "In general, do your working hours fit in with your family or social commitments outside work?" It ranges from 1 ("Not at all well") to 4 ("Very well"). *Sources:* European Working Conditions Survey (2000, 2005, 2010)

have among the longest average hours per week. Figure 4.1b depicts that this pattern is again associated with gender segregation across occupations: occupations with longer average working hours per week tend to have an underrepresentation of women. Only about every 30 percent of managers are woman, as shown by the black points in the figure (see also Cha 2010, 2013; Cha and Weeden 2014; Goldin 2014; Stone 2007).

Yet we know little, both theoretically and empirically, about whether universal daycare can help to reduce the gender gap in access to occupations requiring long hours, including leadership positions. We aim to address this shortcoming in existing scholarship. We argue in the following that daycare services (1) influence the choice of career investment and occupation among women, and (2) thereby further women's chances of reaching leadership positions.

#### 4.1.1 Daycare and Career Investment

Work-family reconciliation lies at the heart of gender differences in the labor market (Goldin 2014). Following childbearing, birth, and childrearing, women are more likely to have career interruptions, shorter working hours, and increased unpaid work (Bertrand, Goldin, and Katz 2010; Manning and Petrongolo 2008). Although employed and highly educated women do a smaller share of the household work and childcare than homestaying women, they still tend to do significantly more than their male counterparts (Esping-Andersen 2009, 40; Iversen and Rosenbluth 2010; Lewis, Campbell, and Huerta 2008). Women are more likely to experience conflicting demands from family and work, as exemplified in Figure 4.1 (Blair-Loy 2003; Blair-Loy and Wharton 2004; Wharton and Blair-Loy 2006). Several studies accordingly indicate that a result of increased childcare responsibilities is that women with small children often refrain from taking on a more senior position, or more often than fathers switch to jobs that they expect will have shorter average hours and higher working time flexibility—even if they are over-qualified for the job and it entails lower wages (Bertrand, Goldin, and Katz 2010; Manning and Petrongolo 2008).<sup>3</sup> Bertrand, Goldin, and Katz (2010), for instance, show that among MBA graduates from a leading business school in the United States, a gender gap in wages appears over the course of these professionals' careers, and it can be traced back to career interruptions, weekly working hours, and training prior to MBA graduation (see also Munasinghe, Reif, and Henriques 2008). Motherhood, in difference from fatherhood, is in other words associated with scaling down paid work and scaling up unpaid work, and working in occupations that fits with caring for children.<sup>4</sup>

The availability of full-time affordable daycare may, however, increase mothers' *opportunities* to combine childrearing with a career, both by allowing mothers to return faster to work after birth and to engage in full-time work while the children are under school age (Estévez-Abe 2006; Iversen and Rosenbluth 2010; Esping-Andersen 2009, 84). More decisively, mothers' *willingness* to enter into a more demanding job or take on a leadership position, which typically requires more presence and longer hours, might increase with the knowledge that reliable, affordable, and full-time care for their children will be available on a daily basis *throughout* the pre-school

<sup>3</sup> For the United Kingdom, Woodland et al. (2003) report that as many as 40 percent of employers would not allow women returning from maternity leave to retain their current job but switch from full time to part time, thus essentially forcing them to change job. Another 20 percent would be allowed to switch from full time to part time but then not retaining her seniority (Manning and Petrongolo 2008, F43).

<sup>4</sup> There is solid evidence of a motherhood penalty in wages and employment but a small, or absent, fatherhood penalty (Adda, Dustmann, and Stevens forthcoming; Budig and England 2001; Correll, Benard, and Paik 2007; Mason et al. 2013; Miller 2009; Sigle-Rushton and Waldfogel 2007). It is present even in Scandinavia (Angelov, Johansson, and Lindahl 2016; Cools and Strøm 2014). The motherhood penalty, moreover, does not seem to be restricted to low-income mothers (Bertrand, Goldin, and Katz 2010).

years. Without daycare—which generally means relying on grandparents, nannies, or neighbors—it might be more difficult to know whether a more senior and demanding position will be compatible with family obligations. With children attending full-time daycare from for instance the age of one, mothers' opportunity and the willingness to enter into more time-demanding occupations should thus increase. The first hypothesis we will test is therefore:

 $H_1$ : The availability of full-time, affordable daycare services increase mother's entrance into occupations with longer average working hours.

#### 4.1.2 Daycare and Leadership

With daycare services present, women may also be more likely to enter into leadership positions. Due to employment spells in relation to motherhood, women face particular risks when making career decisions, such as the risks of skill depreciation and missed training and promotion opportunities (Estévez-Abe 2005, 192) These risks are particularly high in jobs where a large share of the training is done on the job, such as among corporate managers, as opposed to professions where more of the key skills are acquired through university education, such as in health care (Estévez-Abe 2006). Still, being present at work is not only important for obtaining experience, it is also important for signaling commitment to work Spence (1973). As Goldin (2014, 1094) succinctly puts it, "[p]ersistence ... and continuous time at the job probably matters far more to one's success than a desire and ability to compete."5 Through long hours of "face time" at work an employee can show that she or he is invested in the job, develop networks, and upgrade skills. Although most full-time daycare

<sup>5</sup> Goldin is specifically writing about winner-take-all positions, including top managers and partners in private law firms.

is (still) only open during normal working hours, the service nevertheless goes a long way in making it possible for mothers to be more continuously present at work.

The availability of daycare may also affect the demand for female leaders. Social policies in general do not only affect employees' career decisions but also employers' hiring, promotion, and training decisions (Estévez-Abe, Iversen, and Soskice 2001). With young women being more likely to leave the labor market than men, profit-seeking employers may engage in statistical discrimination and hire men instead of women, since it lowers the chance of having to find costly (temporary) replacements and provide retraining.<sup>6</sup> With employers knowing that daycare will be available and affordable to potential female candidates, the statistical discrimination against mothers may decrease, thus mitigating the structural barriers against women's access to leadership positions.

Based on this discussion, we have the following hypothesis:

 $H_2$ : The availability of full-time, affordable daycare services increase mother's chances of accessing leadership positions in the labor market.

#### 4.2 DAYCARE SERVICES IN NORWAY

To test the hypotheses put forth in the preceding section, we investigate a staggered expansion of daycare across more than 400 Norwegian municipalities in the 2000s. Norway is an ideal case for investigating the impacts of daycare services on women's career investment.

First, and as we will detail below, since the daycare reforms was legislated at the national level, the variation in the daycare coverage

<sup>6</sup> Analogously, employers in occupations with long hours might be reluctant to hire young women since they suspect that they will not put in the same number of hours as young men.

expansion across municipalities can be treated as a natural experiment at the municipality level. This allows us to give an estimate of the causal effect of daycare.

Second, Norway is one of few countries with a daycare system that is simultaneously universal (high coverage), full-time, and affordable. It thus provides a predictable childcare option for parents and is the type of system where we should see the hypothesized effects on mothers' career investment. Figure 4.2 illustrates the generosity of the Norwegian system by plotting the percentage of children aged o to 2 who attend daycare (y-axis) against the average hours per week in daycare (*x*-axis) in 2013. The horizontal bars for each country shows the typical daycare cost, calculated as the percentage of a dual-earner couple's total wage, where one of the spouses earns an average wage and the other earn half of an average wage. In addition to Norway, only Denmark, Sweden, France, and Belgium have a daycare system that are about equally extensive. The two other clusters of countries either have low coverage or part-time daycare and high costs. The Norwegian case thus provide us with a possibility to directly test our hypotheses.

Third, although Norway and the other Scandinavian countries are known for their gender egalitarian attitudes (see e.g. Inglehart and Norris 2003, 33), they are comparable to other European countries when it comes to labor force participation and women in leadership positions (see Figure C.1.1). By the 2010s, women make up about half of the labor force in most advanced democracies, including Norway (ILO 2016). Among leaders, there is some more variation, with Italy scoring particularly low and France especially high; however, in most countries, including Norway, about one in three managers are women.Our findings should thus be of more general interest.<sup>7</sup>

<sup>7</sup> We discuss this point further in Section 4.5 below.



FIGURE 4.2. Variation in daycare coverage, costs, and average weekly hours among advanced industrialized democracies in 2013

*Note:* The horizontal bars gives the percentage of a net dual-earner income—where one of the parents earn 100 percent and the other 50 percent of the average wage—that is spent on daycare. *Source:* OECD (2012a)

#### 4.2.1 The 2000s Daycare Reforms

In the mid 1970s, the Norwegian parliament set in motion the first significant expansion of subsidized, formal daycare, although mostly for three- to six-year-olds, as Chapter 3 analyzed in detail. Daycare services were gradually expanded over the next three decades; never-theless, places for children aged one and two remained much harder to come by than for older children. Figure 4.3 illustrates the development. By 2002, right before the parliament passed the major daycare reform we investigate in this paper, 84 percent of three- to five-year-old children attended daycare. Still, less than one in three one-year-olds and less than one in two two-year-olds attended formal daycare. Among the parents, moreover, demand for formal daycare of toddlers exceeded supply. Using the representative Child Care



FIGURE 4.3. The percentage of children in formal daycare, 1963-2014

*Note:* Daycare coverage is measured as the percentage of children in a given age group who attend formal daycare. In 1997 school-starting age was reduced from seven to six. *Sources:* Gulbrandsen (2007), Norwegian Directorate for Education and Training (2016), and Statistics Norway (2016d).

Survey (*Barnetilsynsundersøkelsen*) conducted in 2002, we find that 60 percent of parents with one-year-olds and 81 percent with two-year-olds responded that—if price, hours, and availability were not an issue—they would like to use daycare either full-time or in combination with other types of childcare.

Fueled by a lower growth than expected in new daycare slots in 2001 and 2002, and, importantly, responding to the demand from particularly highly educated women and their employers, Chapter 3 documented that an alliance of trade unions, employers' associations and women within the political parties pushed for daycare reforms (St. mld. nr. 3 2002-2003, 30). They succeeded. The 11<sup>th</sup> of June 2002, a broad coalition of opposition parties—encompassing the Socialist Left and the Labor Party on the left, the agrarian Center Party in the center, and the populist Progress Party on the right—forced the minority center-right government—consisting of the Christian

Democrats, the Conservatives, and the Liberals—to implement a major reform changing both the financing and management of daycare centers in Norway. The Daycare Agreement (*Barnehageavtalen*) initially stipulated the creation of 32,500 new daycare slots, 80 percent funding from the central government, and a cap on parents' payments to be introduced and lowered between 2003 and 2005.<sup>8</sup> It also gave municipalities the duty to supply sufficient daycare slots. Already in the 2003 budget, passed in the fall of 2002, the government duly followed up on the Daycare Agreement by allocating the required financial resources to the daycare expansion.

The willingness to reform accelerated further in 2005. During the campaign for the 2005 General Election, the Socialist Left, the Labor Party, and the Center Party promised to form a coalition if they collectively gained the majority of parliamentary seats. A key campaign promise was further investments in daycare, the right to full-time daycare for all children between one and five, and further reductions in the parental fees. These political parties won the election, and the zeal for reform continued uninterruptedly until the government proclaimed in 2008 that they had secured full daycare coverage.

Together, the 2002-2008 reforms created a massive surge in fulltime, affordable daycare. Central government subsidies increased with about 230 percent between 2002 and 2008, from 0.68 to 2.24 billion 2011 NOKs (see Figure C.1.2b in Appendix C).<sup>9</sup> Coverage for one-year-olds doubled and coverage for two-year-olds increased with 50 percent. Figure 4.3 depicts this surge in coverage. Furthermore, before the reform about 70 percent of children in daycare were enrolled full time and the rest part time, whereas after the reform almost 90 percent of the children were enrolled full time (see Figure C.1.2c). Finally, the parliament lowered the maximum parental fees, giving on

<sup>8</sup> The final agreement set a max price of 2500 NOK in 2004 and 1500 NOK in 2005.

<sup>9</sup> This is equivalent to an increase from about 122 to 403 million 2011 USD.

average a 32 percent reduction in the price of daycare between 2002 and 2008 (see Figure C.1.2a). As illustrated by the bars in Figure 4.2 above, parents with one child and earning 100 and 50 percent of an average Norwegian wage, respectively, spent 11 percent of their net income on daycare after the reform. The scale and breadth of the reform consequently gives us a rare opportunity to study the effects of universal daycare on women's opportunities for career investment and advancement.

Since the reform foremost increased daycare availability for oneand two-year olds, we analyze the consequences of the reform for mothers with children in this age group. For mothers of two-year-old children we can also, as we further discuss below in Section 4.3, create a measure of daycare services at the individual level.

#### 4.2.2 Municipal Variation in Daycare Coverage Expansion

Daycare coverage varied considerably across the municipalities before 2002. Norwegian municipalities are governed by democratically elected municipal councils and have the responsibility and fiscal autonomy to make priorities in many areas, such as health and education. Prior to the 2000s reform, municipalities, in other words, had autonomy in the area of daycare provision, which meant that some municipalities expanded daycare, whereas others did not.<sup>10</sup> At the onset of the 2002 reform, the more than 400 municipalities consequently had very different levels of daycare coverage. The gray-filled bars in Figure 4.4—which plot the distribution of coverage rates in 2002 for one- and two-year-olds across municipalities—illustrates this point.

<sup>10</sup> The supplementary analysis in Table C.1.1 in the appendix, where we regress daycare coverage on a series of covariates and municipality and year effects, reveals that the historical variation is positively associated with the women's share of the highly educated, turnout, women's share of the population, municipal public expenditures per capita (net of daycare spending), and population change, and negatively associated with unemployment.



FIGURE 4.4. Distribution of daycare coverage across municipalities in 2002 (grey) and 2008 (black) for one- and two-year-olds, respectively.

*Note:* Daycare coverage at the level of municipalities. See notes to Figure 4.3 and the text for details. *Source:* Statistics Norway (2016b).

During the 2002-2008 national-level reform, the distribution of coverage rates shifted from right- to left-skewed for both one- and twoyear-olds, as displayed by the black-outlined bars in the Figure 4.4. The reform created notable variation in coverage rate *changes* across municipalities. Figure 4.5 plots the density of the municipal-level changes in daycare coverage between 2002 and 2008. The median change in coverage rates was 39 percentage points for one-year-olds, with a standard deviation of 22, and 33 percentage points for twoyear-olds, with a standard deviation of 26. The variation in expansion was spread out all over the country (see the maps in Figure 4.6).

These changes provide us with the opportunity to test for the effect of daycare service expansion on women's career opportunities in a quasi-experimental setting. Since the reform was introduced at the national level, we can sidestep the worry that daycare expansion was a result of municipal level politics.<sup>11</sup> In other words, although local factors produced variation in the levels of daycare coverage before the reform, the yearly *changes* in daycare coverage between 2002 and 2008 are plausibly exogenous to such factors. If daycare expansion is as good as random, it means that we can use municipal variation

<sup>11</sup> For a similar approach, see, e.g., O'Brien and Rickne 2016.



FIGURE 4.5. Density plot of change in the daycare coverage between 2002 and 2008.

in coverage rates changes to identify the causal effects of the reform (Cornelissen et al. forthcoming). To support this assumption, we look at whether the yearly timing of daycare coverage expansion is plausibly quasi-random. Using a model with municipality- and year-fixed effects, we assess whether changes in the set of covariates both at time *t* and *t*-1 are related to changes in the daycare coverage rate (see Table C.1.2 in Appendix C). There are some indications that changes in daycare coverage is associated with the unemployment rate, municipal expenditures per capita (net of daycare spending), median wage, and population size changes. To make sure that the results presented below are not driven by the significant covariates, we include these in the empirical models presented in the next section.

*Note:* See notes to Figure 4.3 and the text for details. *Source:* Statistics Norway (2016b)



- (b) Two-year-olds
- FIGURE 4.6. Daycare coverage in Norwegian municipalities in 2002 and 2008 and density of yearly changes in coverage and changes between 2002 and 2008.

*Note:* Daycare coverage at the level of municipalities. See notes to Figure 4.3 and the text for details. *Source:* Statistics Norway (2016b).

#### 4.3 THE EFFECT OF DAYCARE SERVICES ON MOTHER'S CAREER INVESTMENT

We are interested in analyzing women's career investment, in the form of entrance into time-demanding occupations and leadership positions. The Norwegian registry data provide a unique opportunity to study this question with individual level data for the whole population. Our data consist of merged administrative registers encrypted to prevent identification of individuals and made available by Statistics Norway for research purposes. The Norwegian registry data are known for their unrivaled data quality (see Atkinson, Rainwater, and Smeeding 1995). The starting point is a public demographic register with information on *all* births in Norway linked to information on the mother regarding employment status, occupation, earnings, welfare benefits, education, residence, partner, and more. The sample consists of all mothers who had a two-year-old child in the reform period (2002-2008), which gives us 268,000 observations.

#### 4.3.1 Measuring Career Investment and Daycare Uptake

We study two main dependent variables, hours and leadership. For reasons of space, we here provide a brief description of how these variables are constructed, and refer to Section C.1.5 in Appendix C for details. The first dependent variable, *hours*, is the work pressure in a job, operationalized as the average working hours in a detailed set of occupations. We make use of two data sources to obtain such a measure. From the register data, we know the detailed occupation of each of the employed individuals in our sample. From the Norwegian Labor Force Surveys, we compute the average actual hours worked for each of these occupations in the years prior to the reform. Thus, each mother with an occupational code is assigned the average hours worked of her occupation. Figure C.1.4 shows that there is a strong negative correlation between average hours and the female percentage in that occupation, supporting the relevance and the validity of our measure.

The second dependent variable, *leader*, is a binary indicator equal to 1 if the mother is in a leadership position, and o otherwise. The leadership positions are identified from the ISCO-88 three digit-level occupational groups (see Section C.1.5 in Appendix C for a list of the occupations). 9.8 percent of employed men and 4.6 of employed women were leaders in the 2003-2008 period. In 2003, 28.4 percent of leaders were women, which corresponds to the estimates provided by the ILO (2016) and in Figure 4.1b. By 2008 the number had increased to 33 percent. In other words, women did gain better access to leadership positions during this period.

Since our argument implies that the effect of daycare should be persistent over time, we study the hours and leadership dependent variables at t+1 and t+5, i.e., when the child is at the age of three and seven. We measure the outcome at t+1 instead of t because the occupation codes are not available before 2002. Since the latest year for which we have occupation codes is 2010, our t+5 can only include mothers with a two-year-old child between 2002 and 2005.

The key independent variable, *daycare*, is constructed from information on uptake of the cash-for-care subsidy. The cash-for-care subsidy is a direct cash transfer scheme. All mothers mothers of one- and two-year-olds who do not have their child in subsidized childcare are entitled to and receive the cash-for-care subsidy. Mothers who have their child in part-time child care can receive a share of the subsidy. We have the exact amount of cash-for-care paid to the mother in the year the child was two years of age, which allow us to calculate the share of daycare utilized by the mother. About 33 percent in our sample have full time daycare, about 31 percent have no daycare, while the average is about 49 percent daycare share.

#### 4.3.2 Estimating the Effect of the Daycare Reform

Empirically, we aim to estimate the causal effect of daycare, *D*, on the outcomes *Y*. Regressing *D* on *Y* with a set of covariates as controls is unconvincing to reveal the causal effect of *D*, since the assumption of selection on observables is unlikely to hold. For instance, mothers might have preferences over daycare which are correlated with our outcomes. Such preferences are hard to observe and we have no information about them in our data. Instead, we rely on an instrumental-variable approach. As described in the previous section, we get exogenous variation in the uptake of daycare services by exploiting the spatial and temporal variation in the expansion of public child care services over the period 2002-2008 (Eckhoff-Andresen and Havnes 2014). We employ exact data on the daycare coverage for oneand two-year-olds in each municipality-year in the expansion period (2002-2008) to construct coverage rates, which we use as instruments for daycare share in a 2SLS set-up.

We estimate the following first stage of a 2SLS model:

$$D_{imt} = \gamma_1 DC2_{mt} + \gamma_2 DC1_{m,t-1} + \gamma_n X_{imt} + \theta_n X_{mt} + \eta_m + \chi_t + \epsilon_{imt} \quad (4.1)$$

In this set-up *i* indexes mothers, *m* municipalities, and *t* years,  $DC2_{mt}$  is the daycare coverage of two-year olds,  $DC1_{m,t-1}$  is the daycare coverage of one-year olds at t - 1,  $X_{imt}$  is a vector of individual level covariates,  $\eta_m$  is municipality fixed effects,  $\chi_t$  is year fixed effects, and  $\epsilon_{imt}$  is a normally distributed error term. In addition we control for several time-varying municipality level covariates,  $X_{mt}$ : the employment rate

of childless men, which picks up differences in labor demand that are not influenced by the reform; the log of municipal expenditures per capita (excluding daycare expenditures) and the mean wage level among childless men, which both account for varying fiscal possibilities to expanding daycare; and the percent change in population size, which controls for population movement and growth during the reform period.<sup>12</sup> The key coefficients in the first stage are  $\gamma_1$  and  $\gamma_2$ . We expect these to be positive and sufficiently strong to serve as instruments for  $D_{imt}$ .

The second stage of the 2SLS is then:

$$Y_{imt} = \beta_1 \hat{D}_{imt} + \beta_n X_{imt} + \zeta_n X_{mt} + \rho_m + \phi_t + \epsilon_{imt}$$
(4.2)

where  $\hat{D}_{imt}$  is the predicted daycare share from the first stage, with the corresponding  $\beta_1$  giving us the estimate of daycare usage on *Y*. It is important to remember that  $\beta_1$  is a local average treatment effect driven by the compliers, i.e., those who change their daycare usage in response to the reform. We return to this issue below when we interpret our results.

The key, untestable assumption of our approach is that the instruments influence Y only through its relationship with D (the exclusion restriction). One concern is that expansion is a response to increasing demand for labor; in other words, that local labor market developments influence both uptake of daycare and career investment. The controls for the labor market situation in the municipality will at least partly account for this potential problem. In addition, we exclude those employed in the daycare sector to avoid an almost mechanical correlation between expansion and employment. We discuss and address additional concerns when we interpret the results.

<sup>12</sup> As Table C.1.2 indicated that either lags or simultaneous values on these variables are associated with changes in daycare coverage, we include these at *t*, *t*-1, and *t*-2 (see C.1.5 for a full variable description).
Our instruments for daycare—daycare coverage for two-year-olds (DC2) and lagged for one-year-olds (DC1)—are, as explained above, the daycare coverage in the mother's municipality of residence the year the child was two years of age. To ensure that our results are not driven by alterations in the geographical size of municipalities, we limit our analysis to municipalities without missing data that do not change borders and exist throughout the whole period, meaning that our analysis comprise 395 out of the 434 municipalities existing in 2002.

The vector of individual level controls includes age, age-squared, whether the mother is foreign born, whether she is married, a set of dummies for the number of children, a set of dummies for the level of education (measured the year the child was born since education level might be affected by the reform), earnings in the year prior to giving birth, and a dummy for the education level of the partner. Unless stated, the variables are measured in the year the child was two years of age. Variable descriptions and descriptive statistics are included in C.1.5. We consistently include mothers who are not employed to avoid conditioning on employment, which is an endogenous variable, since the reform did influence mothers' labor supply (see Eckhoff-Andresen and Havnes 2014).<sup>13</sup> Obviously, those without employment have no leadership position and no working hours.

<sup>13</sup> In Appendix Table C.1.10 we show that all conclusions remain if we restrict the sample to those with an occupation. In the main analysis below, we consistently control for pre-birth employment and earnings.

# 4.3.3 Results: Daycare Coverage Expansion and Women's Career Opportunities

Our main estimates are presented in Table 4.1.<sup>14</sup> To recap, daycare is measured the year the child was two years of age, while the outcomes are measured one and five years later. For transparency, we present reduced form, first stage and second stage estimates for all outcomes.

The validity of our approach is strengthened by the correctly signed coefficients for both instruments across the first stage models, as well as the corresponding high Kleibergen-Paap *F*-values. Furthermore, the reduced form estimates are also correctly signed, the coefficient sizes of the instruments are not implausible, and the instruments are jointly significant in the reduced form estimations (as indicated by high *p*-values of the *F*-tests). Finally, as an additional test of weak instrument bias, we exploit that we have two instruments and follow the advice to estimate the IV models using only the strongest instrument (Angrist and Pischke 2009b, 213). Reassuringly, the results, presented in Table C.1.6, produce the same conclusions as those discussed below.<sup>15</sup>

The second stage estimates are presented in top row in the table. The results tell the same story for both outcomes: the exogenous shock in daycare increased mothers' presence in occupations with longer expected hours of work and the probability of holding a leadership position. As our administrative data stops in 2010, we have only long-run estimates (t+5) available for mothers with two-year-old children between 2002 and 2005. For these women, there is a clear

<sup>14</sup> Table C.1.4 in the Appendix presents the endogenous estimates of the relationship between daycare and our two outcomes. In line with our hypotheses, women with children in daycare are more likely to be employed in occupations with a higher workload and to be in leadership positions.

<sup>15</sup> As evident in the tables, the estimations further produce insignificant Hansen *J*-values. Although large *p* values in these tests are reassuring, overidentification tests are known to be biased against finding significant values when the instruments are correlated (as they are in our case).

	Hours		Leader	
	(1)	(2)	(3)	(4)
	t+1	<i>t</i> +5	t+1	<i>t</i> +5
IV				
Daycare	2.6**	3.8**	.04**	.07**
	(1.2)	(1.6)	(.02)	(.03)
First stage				
Coverage, age 1	.28***	.27***	.28***	.27***
	(.02)	(.02)	(.02)	(.02)
Coverage, age 2	.05***	.03	.05***	.03
	(.02)	(.02)	(.02)	(.02)
Reduced form				
Coverage, age 1	.58	.88	.01	.01
	(.41)	(.61)	(.01)	(.01)
Coverage, age 2	·34	.28	$.01^*$	.01
	(.36)	(.49)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	22.3 (13)	22.3 (13)	.05 (.22)	.05 (.22)
Mean (SD) daycare	.49 (.43)	.4 (.42)	.49 (.43)	.4 (.42)
F-test (p-value)	3.08 (.05)	2.93 (.05)	3.41 (.03)	3.97 (.02)
Kleibergen-Paap F	93.7	115.1	93.7	115.4
Hansen J (p-value)	.33 (.57)	.12 (.72)	1.81 (.18)	1.75 (.19)
Observations	268,060	153,931	268,525	154,039
Municipalities	395	395	395	395

TABLE 4.1. Regression results reporting the association between	daycare	us-
age and the outcomes of interest		

*Note:* \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Robust standard errors adjusted for clustering on municipalities in parentheses. All regressions include controls for age, age squared, number of children, level of education in the year prior to giving birth, education level of the partner, whether the mother is foreign born, whether she is married, earnings and employment in the year prior to giving birth, year fixed effects and municipality fixed effects. See Appendix C.1.5 for variable definitions and summary statistics.

effect of daycare also five years later, when the child is seven years of age. These results support the expectation that publicly provided child care is important for mothers' career development.

The magnitude of the effects suggests that they are sociologically and economically important. For the short-term effects on occupational hours, a one standard deviation shift in the daycare share variable amounts to a shift of, on average, 1.1 hours. With a median working week amounting to about 32 hours in the 1997-2001 pre-reform period and the regulated full-time working week being 37.5 hours, the impact of daycare on hours is thus substantive in size. For instance, with 47 working weeks in a year, which is the case in Norway, this increase in typical working time would amount to about 52 hours per year, that is almost one and a half week extra work per year.<sup>16</sup> Regarding leadership, a one standard deviation shift in daycare increases the probability of being in a leadership position by 1.7 percentage points. In 2003, 9 percent of employed men, 4 percent of employed women, and 1.2 percent of employed mothers where in a leadership position. The effect of having the child in daycare is therefore of great importance for mothers' access to more senior positions in the labor market.

We carry out several tests to address potential threats to treating these results as causal. One potential threat is selective migration. If parents have information on what municipalities which are about to increase their childcare coverage, we might expect migration to expanding municipalities. This type of migration is likely to be selective; parents with strong preferences for childcare and labor market careers is most likely to respond to such information. If so, our estimates will not reflect shifts in behavior but also reflect that the composition of the population shifts with our instruments and blow up the size of the second stage coefficient.

<sup>16</sup> As a comparison, to expand or reduce vacation with one and a half week would be likely to cause large political turmoils (see Rasmussen 2015).

To ensure that migration is not driving our results, we conduct a robustness analysis where we use childcare coverage in mothers' municipality of residence the year prior to giving birth instead of the year the child was two years of age. This approach discards recent (and potentially endogenous) changes in municipality of residency. If endogenous migration is unimportant, the results using this approach should be similar to the previous ones. Reassuringly, this is what we find in Table C.1.8. Selective migration does therefore not seem to be driving our findings.<sup>17</sup>

A second potential threat may be that the daycare variables pick up the influence of municipality-specific shocks that are correlated with both the expansion of child care and the probability of becoming a leader.<sup>18</sup> Remember that our specification includes a set of municipality controls, which will capture much of the effects of labor market shocks. In Table C.1.9 we additionally present, in our view, very convincing evidence that general shocks or omitted variables do not explain the results in Table 4.1. Table C.1.9 displays that the instruments do not predict our outcomes for a group of women which should not be directly affected by the daycare expansion, namely women above the age where they have small children in daycare. More specifically, we employ the same empirical approach and specification as in Table 4.1, but on the population of 55 year old women in the years 2002-2008. This constitutes a set of placebo analyses which should not produce significant results, since the expansion is not directly relevant for the career development of these women. If, however, they produce similar results as above, it raises concerns regarding what the estimates in Table 4.1 signifies. The reduced form estimates in these placebo regressions are never statistically significant and very

<sup>17</sup> The conclusions remain also if we exclude movers from the sample (Table C.1.7); however, doing so is potentially problematic since we condition the sample on a potentially endogenous variable (immobility).

<sup>18</sup> We discussed this possibility in Section 4.2.2, and the empirical evidence presented there does not indicate any such correlated shocks.

different from those above, which makes us much more confident in interpreting the results in Table 4.1 as reflecting the causal effects of daycare.

Spillover effects is a third threat. It is plausible that the reform had effects beyond those on mothers who were directly affected by the reform. For instance, the reform might have influenced perceptions of female leaders among employers (a demand-side effect), which could have influenced the probability of becoming leader among mothers not directly affected by the reform (the "never-takers" and the "always-takers" in the IV terminology). If so, the reduced form reflects the combined effect on those directly and those indirectly affected by the reform. Such spillover effects are hard to detect empirically, but are less plausible in the short than in the long run. Accordingly, it is only the long run effect that may also reflect such demand-side mechanisms.

To sum up, we find strong and robust effects of the daycare reform on mothers' career investments. The increased availability of daycare led to mothers working in occupations with higher expected hours at work and a higher probability of being in a leadership position.

## 4.4 DAYCARE COVERAGE AND WOMEN'S ATTITUDES TOWARDS HAVING A CAREER

Our analyses have given evidence that daycare positively impacts women's career investment. In this section, we study an additional, key implication of our argument, namely whether mothers see their career as more important as a consequence of having daycare available. If our theoretical perspective of a supply effect of the reform is correct—i.e., that daycare has a positive impact on the share of mothers who are willing to invest more in their career—we should see that attitudes towards career investment change as a result of the reform. If we fail to find such effects, the effects above are more likely to be driven by effects on the demand side.

To investigate this question, we use the biannual Norwegian Monitor survey. What makes this survey particularly suitable is that it asks the respondents' about their opinion on women's career. The survey furthermore contains the respondents' municipality of residence, which allows us to use the same empirical framework as above. To see whether changes in daycare impact career attitudes among mothers with young children, we regress attitudes among the respondents on daycare coverage and municipality- and year-fixed effects. We study mothers whose youngest child is under the age of three. The dependent variable is coded as 1 if the respondent fully agrees with the statement "women have the same need for a professional career as men have" and o otherwise.<sup>19</sup> Since the survey do not contain data on daycare usage at the individual level, our results will be reduced form estimates.

The results are presented in Table 4.2. In model 1, a 20 percentage points increase in daycare coverage in a municipality, which is about a standard deviation, is predicted to lead to 12 percentage point increase in a the probability of a mother fully agreeing that women have the same need for a career as men have, which is a substantial effect. These results hold up to alternative specifications: in model 2, we include a set of individual- and municipality-level controls; in model 3, we treat the dependent variable as continuous;<sup>20</sup> and in model 4, we restrict the sample to mothers whose youngest child is two years of age. The results remain significant and similar or larger in magnitude.

As daycare services increase women's career opportunities but do not generally incentivize men to change their behavior, it is assuring

<sup>19</sup> The set of response categories are: fully disagree, partially disagree, partially agree, fully agree, and fully impossible to answer.

<sup>20</sup> With values 1 (fully disagree), 2 (disagree), 3 (agree), and 4 (fully agree)

		Mothers' attitudes				Placebo	
	(1)	(2)	(3)	(4)	(5)	(6)	
	Baseline	Covars.	Continuous	Age 2	Fathers	Age ≥ 50	
Daycare coverage	0.64***	0.66***	0.78**	0.94**	0.13	0.17	
	(0.21)	(0.24)	(0.31)	(0.38)	(0.31)	(0.14)	
Muni. & year FEs Controls Mean (SD) outcom Mean (SD) daycare	√ e .62 (.49) .58 (.21)	√ √ .62 (.49) .58 (.21)	√ √ 3.52 (.7) .58 (.21)	√ √ .63 (.48)	√ √ .61 (.49) .6 (.2)	√ √ .72 (.45) .72 (.16)	
Observations	971	971	971	303	669	3575	
Municipalities	153	153	153	73	120	299	

TABLE 4.2. Regression results reporting the reduced form effect of daycare coverage on agreeing with the statement "women have the same need for a professional career as men have".

*Note:* \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Robust standard errors adjusted for clustering on municipalities in parentheses. All the models contain year- and municipality-fixed effects. The municipality-level covariates are unemployment, municipal expenditures per capita, female share of the population, and percent change in the population size. The individual-level covariates are age, age-squared, dummies for the number of children under age 6, dummies for level of education, and whether the respondent is married.

that model 5 shows that the effect of daycare coverage for fathers is small in magnitude and far from significant. Likewise, we find a small and insignificant coefficient when we restrict the sample to respondents above 50 years of age (model 6). The "placebo" results in models 5 and 6 are reassuring also from a political economy perspective, because large effects on these groups would have opened up for a reverse causality story where the coverage rates are expanded due to local political demand. This story is implausible when the effect is concentrated among mothers with small children, because this group constitutes a relatively small group of the electorate.

In total, there is not only clear evidence that the reform increased mothers' entrance into occupations with longer hours and positions of leadership, but also that the reform made mothers more career minded. Our results hence indicate that the access to full-time daycare induces more mothers to go for a professional career and thereby reducing persistent gender inequities in the labor market.

# 4.5 GENERALIZABILITY: THE EXPECTED IMPACT OF DAYCARE BEYOND NORWAY

In this paper, we have studied the impact of daycare in Norway in the 2000s. Our empirical analyses revealed substantive impacts of the Norwegian daycare reform—on entrance into more work-heavy occupations and leadership positions, as well as on attitudes toward having a professional career. These results should hold relevance beyond the Norwegian case. Across advanced economies, women make up half of the labor force but only one in three in managerial positions, reflecting the fact that parents, and particularly, mothers are torn between work and family demands. In a number of advanced democracies-including Germany, Japan, and the United Kingdom—expanding subsidized daycare has thus risen on the political agenda, with proponents arguing that such welfare state services can increase the labor supply of highly educated women and facilitate career investment. Understanding whether daycare reforms may help to reduce the motherhood penalty in getting access to a professional career and senior positions in the labor market is thus of more general interest.

Whereas the other Scandinavian countries have a long tradition of subsidized daycare, daycare coverage for toddlers in Norway was, prior to the reform, quite limited and more on par with other European countries. What characterized the reform was its introduction of *affordable, full-time* daycare available to *all* parents. As the demand for daycare from parents exceeds supply and as women are underrepresented in leadership positions across Western countries, a similar large-scale reform may be expected to raise mothers' access to professional careers also outside Norway.

That said, our study can say less about reforms that have a more *limited* scope, such as simply increasing childcare subsidies, introducing tax breaks for childcare, or expanding part-time daycare. There is, for instance, evidence to suggest that the 1975 daycare reform in Norway, which expanded daycare for older children but mostly on a part-time basis, did not increase mothers' labor force participation or investment in education (Havnes and Mogstad 2011a). Our results do accordingly not lend credence to beliefs about similar impacts of more modest reforms.

What is more, the effect of a daycare reform is likely to have varied effects across different types of market economies. Norway's coordinated market economy-with wage compression between the top and the bottom-made private, unsubsidized childcare costly, as childminders are relatively more expensive than in liberal market economies (LMEs). Bonoli and Reber (2010) and others have forcefully shown that in liberal market economies it is possible for highincome earners to buy childcare off the market. The consequence is that the introduction of subsidized daycare in a liberal market economy should have less effect on high-income than on low-income mothers. Moreover, the large wage disparities among working mothers mean that there is less of a unified demand for daycare services, making extensive daycare reforms unlikely. Our results are therefore foremost expected to travel to other coordinated market economies with relatively low wage inequality and more limited unsubsidized daycare service markets.

#### 4.6 CONCLUSIONS: CARE AND CAREER

In this study, we have argued that daycare services make it possible for mothers of young children to enter into occupations with longer hours and into leadership positions. Childbearing and more than a fair share of childcare responsibilities mean that mothers face particular risks when making career decisions, including skill depreciation and lacked promotion opportunities. Entering into occupations requiring long working hours and continuous presence, and where skills and experience are acquired on the job, may be particularly risky. The result is that women are severely underrepresented in highpowered occupations. We have contended that daycare services can help to reduce these risks by making it possible for mothers to return to work more quickly and to enter into occupations and positions that otherwise are viewed as incompatible with raising toddlers. Daycare services accordingly hold promise of reducing the motherhood penalty in professional career investment.

Unique individual-level data on the whole population of Norwegian mothers—combined with plausibly exogenous municipal variation in the expansion of affordable, full-time daycare centers in the 2000s—have made it possible for us to investigate these hypotheses in a much more rigid way than in the existing literature. The farreaching Norwegian 2002-2008 daycare reform we analyzed increased daycare coverage for one-year-olds from 29 to 66 percent and for twoyear-olds from 51 to 86 percent. Whereas around 60 percent of these children were enrolled in full-time daycare in 2002, it had increased to almost 90 percent by 2008. To our knowledge, our study is the first one to investigate the causal impact of daycare services on women's career investment beyond labor supply decisions. We document a substantial effect of the reform on mothers' career opportunities. Mothers' with two-year-old children in formal daycare are (1) more likely to enter into occupations requiring longer hours, and (2) they have a higher chance of entering into leadership positions. Importantly, these effects are persistent. We show that they are present also five years down the line, when the children are seven years of age. The empirical analysis thus supports the claim that affordable daycare can pave the way for women's entrance into occupations and positions which are still heavily dominated by men. In an extension of this analysis, we used survey data to gauge whether the reform also induced mothers' to judge their career as more important, and presented clear evidence that it did. Our results therefore also speak to an burgeoning literature on how the welfare state affect (gender) norms and preferences (see, e.g., Cavaillé 2014, 2015; Gingrich 2014; Gingrich and Ansell 2012).

The positive effects of daycare services do not imply that daycare services are a panacea that will propel women into executive positions. Though they seem to aid the possibility of young mothers to combine family and career, most daycare is limited to care during *standard*, 9-5 working hours. Full-time affordable care may alone be insufficient to enable more mothers to reach the highest echelons of professional life, which typically require extensive traveling and evening work. Daycare services cannot, moreover, guard against children becoming sick and requiring home care. Without fathers taking a larger share of the childcare and household work, daycare services can only go some way in facilitating women's ascendence to the top of occupational hierarchies. Future research should therefore also—beyond investigating whether similar effects of daycare services are detectable elsewhere—delve deeper into what institutional factors that influence norms about fathers' role in the household and incentivize fathers to

stay more at home (see e.g. Cools, Fiva, and Kirkebøen 2015; Kotsadam and Finseraas 2011a). Only such attitudinal and behavioral changes will make it possible to achieve gender equality in access to leadership positions.

# 5

#### CONCLUSIONS

Moreover, in a hundred years, I thought, reaching my own doorstep, women will have ceased to be the protected sex. Logically they will take part in all the activities and exertions that were once denied to them.

In the epigraph, written in 1928, Virginia Wolf predicts that by 2028, or twelve years from now, gender equality will be reached. Unfortunately, her prophecy will not be fulfilled in time. Significant gender inequities persist, both at home, in politics, and in the workplace, in the developed as in the developing world. The empirical essays in this thesis, however, have pointed to several ways in which public institutions, combined with structural changes and political movements, can, and have, driven the gender revolution forward.

First, reforms of public institutions can, in relatively short time, significantly alter gender inequalities in both politics and the labor market. In Chapter 2, I argued and showed empirically that replacing a plurality with proportional representation (PR) system raised women's inclusion in the act of voting. Although the process was more gradual, Chapter 3 demonstrated that, in the course of a couple of decades, trade unions and employers were willing to use corporatist institutions to push for work-family policies (WFPs) aiming to accelerate the gender revolution. Finally, Chapter 4 indicated that the introduction of full-time, affordable daycare available to all children

simplified mothers' career investments and made them see women's careers as equally important to men's. Institutional reforms may, in other words, advance gender equality.

Second, the thesis also documented the importance of women's political organization and structural changes. In Chapter 3, the quantitative and qualitative empirical evidence suggested that women's entrance into higher education, unions, and political parties was indispensable for securing the expansion of wFPs. The positive impact of PR on women's share of the votes cast in Chapter 2 was also stronger in municipalities where there were women's networks and organizations present. In line with research on other aspects of the gender revolution—such as the introduction of women's suffrage (Teele forthcoming), women's political leadership (O'Brien and Rickne 2016), and addressing violence against women (Htun and Weldon 2012)—institutions' effects were magnified by the political agency of organized women working within the system to shape the pace and scope of the gender revolution.

In this concluding chapter, Section 5.1 summarizes the three empirical chapters and discusses the wider implications and contributions of these studies. In Section 5.2, I thereafter consider the limitations of the research, as well as how future research may address these shortcomings. Finally, Section 5.3 concludes by proposing that, in order to finalize the gender revolution, we need to "bring men back home."

#### 5.1 CONTRIBUTIONS AND WIDER IMPLICATIONS

#### 5.1.1 PR as a vehicle for women's inclusion in politics

The effects of political institutions—notably electoral systems, quotas, and voting laws—have long been of interest to scholars of women's

presence in politics. As Kittilson and Schwindt-Bayer (2012, 2) draw attention to, however, "almost no research has considered the way in which [electoral] institutions may have different effects on men's and women's political involvement." Chapter 2 therefore theorized and empirically investigated to what extent a move from a plurality to a PR electoral system helped improve the gender imbalance in voting in the early twentieth century. Women had recently gained the right to vote but were in practice severely underrepresented in the political sphere, both as voters and elected politicians.

The chapter specified three mechanisms through which substituting plurality with PR could lead to improved inclusion of women at the voting booth. The first was an electoral mechanism, whereby the increased incentive to mobilize voters under PR would lead elites to particularly turn to women, which made up about half of the eligible voters but were "undertapped" in terms of participation in voting. The second was a representation mechanism, which combined the evidence that women's representation in elected bodies is higher under PR than under plurality, with the findings that elected women serve as role models for other women, thus encouraging and lowering the cost associated with turning out to vote for other women. The third was a organizational mechanism, saying that where political elites seeking to mobilize more voters could tap into pre-existing women's networks and organizations to get out the vote, the impact of switching to PR would be stronger. The chapter thus drew on and developed the existing literature on electoral institutions and interest organizations to provide an argument about the link between electoral systems and women's share of the turnout.

The empirical investigation made three contributions. First, it used exogenous variation in electoral institutions at the municipal level in Norway to separate the effect of switching from plurality to PR from potential confounders, which has been difficult cross-national research on women's political participation (see, e.g., Kittilson and Schwindt-Bayer 2012). Second, it collected and made use of data on women's share of the vote for Norwegian municipalities between 1898 and 1928, thereby directly measuring the outcome of interest instead of having to rely on, for instance, self-reported survey data. Third, to go beyond the main finding that the switch from plurality to PR substantively increased women's inclusion at the ballot box, the chapter sought to look into the explanatory power of the three mechanisms. It found indicative evidence in favor of both the electoral and the organizational mechanisms but not the representation mechanism. In total, the chapter's results imply that institutions and organizations were crucial to fight the de facto exclusion of women from the political sphere.

By providing a theoretical argument and a first causal empirical test of the link between PR and women's share of the votes cast, the study adds to the institutional literature on gender equality in politics, which shows that institutional design, such as quotas,<sup>1</sup> closed compared to open electoral lists,<sup>2</sup> voting laws,<sup>3</sup> presidentialism<sup>4</sup> and labor market institutions<sup>5</sup> can significantly contribute toward increasing women's presence in and engagement with the political system. The evidence from the chapter leads us to expect that the countries which adopted *both* PR and women's suffrage in the first half of the twentieth century achieved not only de jure inclusion of women, but also a better de facto inclusion, than the countries enfranchising women but retaining the plurality electoral system. Extending this reasoning to electoral system reform in the developing world to-

<sup>1</sup> See, for example, Besley et al. 2013; Chattopadhyay and Duflo 2004; Dahlerup 2013; O'Brien and Rickne 2016.

<sup>2</sup> Iversen and Soskice 2008; Thames and Williams 2010.

<sup>3</sup> Corder and Wolbrecht 2006.

<sup>4</sup> Krook and O'Brien 2012.

<sup>5</sup> Estévez-Abe 2006, 2011; Rosenbluth, Salmond, and Thies 2006.

day, the results from Chapter 2 could consequently be informative to reformers. Scholars disagree about the relative weight to put on the different advantages of PR and plurality systems (see, e.g., Balinski and Laraki 2010; Hix, Johnston, and McLean 2010; Lijphart 2004). Carey and Hix (2011) convincingly argue that low-district magnitude PR may be the "electoral sweet spot" between representation and accountability. We could add that, if women are severely underrepresented at the ballot box, then my findings suggest PR may additionally be a tool to start leveling the political playing field.

The chapter's findings may also help us think further about the policy effects of PR. As a number of studies document, politicians are responsive and enact policies in response to the preferences of their *voters* (Bechtel, Hangartner, and Schmid 2015; Hobolt and Klemmensen 2008; Lax and Phillips 2009; Lijphart 1997). The results should therefore also lead us to expect legislatures to be more responsive to the needs of women after the move to PR. Future studies should therefore investigate whether legislatures enacted policies that directly addressed women's preferences—such as for instance land and inheritance rights, access to education and public positions, and widow's pensions (Duflo 2011; Hanssen, Pettersen, and Tveit Sandvin 2001; Htun and Weldon 2011; Schrumpf 1985).

Finally, the chapter also contains lessons about the link between electoral institutions and women's representation in legislatures. The argument that PR leads to a higher presence of women in parliament has often been couched in general terms, leading to the expectation that it would hold across all time periods and countries after women got the right to vote (e.g., Norris 2006; Paxton, Hughes, and Painter 2010). I find, however, that replacing plurality with PR did *not* increase women's presence in local legislatures, at least not in the short to medium run. This finding points in the direction that the rela-

tionship between PR and women's legislative representation is conditional on a supply of women the relevant experience and willingness to go into politics, as for instance Iversen and Rosenbluth (2008) have argued. Another avenue for future research is therefore to pin down the conditions that are necessary for PR to have an impact on women's entrance into parliaments.

#### 5.1.2 Corporatism and the new welfare state

PR reduced the gender gap in voting in the early twentieth century; yet the broader transformation of women's role in society had to await the second wave of the gender revolution, starting in the 1960s. Indeed, the post-war growth period reinforced the male-breadwinner division of labor. It was instead the massive expansion of education, and the entrance of women into the labor market, that marked the onset of the second wave of the gender revolution (Goldin 2006). Still, the extent to which mothers in particular, and dual-earner house-holds generally, became supported by the welfare state in their need for work-family policies was by no means automatic. Rather, as I argued in Chapter 3, it crucially depended on the presence of centralized and influential social partners.

More precisely, I contended that unions and employers turned around and started favoring, and pushing for, wFPs for two interrelated reasons. For trade unions, as organizations with democratic decision-making procedures, their preferences is a function of their membership base and prospects for future recruitment. If women's share of union members grows, I argued that unions become increasingly likely to favor wFPs. For employers, the change in preferences from (a) an indifferent, or even outright hostile, attitude toward the increased taxes and labor costs wFP reforms would entail, to (b) favoring and pushing for WFPS, materialized as women became a growing source of highly-skilled labor power. To successfully influence policy, however, unions and employers needed to be integrated into centralized corporatist institutions, which gave them a direct say in the making of WFPS. Additionally, and in accordance with recent analyses, I highlighted the importance of highly educated women's rise within parties (Morgan 2013). Employing a multimethod approach—combining a time-series cross-national analysis with process tracing of WFP reforms in Norway but also briefer studies of the United Kingdom, the Netherlands, and Sweden—I showed that this explanation contributes to the welfare state literature with important answers to the puzzle of WFP reforms, especially since the argument can explain both cross-national variation and the withincountry timing of reforms.

The study also speaks to the general literatures on institutional change (Hacker, Pierson, and Thelen 2015; Streeck and Thelen 2005) and employers and unions (Hacker and Pierson 2002; Mares 2003a; Paster 2013; Swenson 2002). The study shows that old institutions, such corporatism, can be redirected to new use, in this case to expand wFPs, for instance by including new groups such as women. Thelen (2003, 2004) labels this "conversion" and notes that "institutions do not survive through 'stasis' or by standing still but rather precisely through their ongoing adaptation and renegotiation in response to shifts in the political, market, and social environments" (Thelen 2004, 276; see also Hacker, Pierson, and Thelen 2015). In line with Martin and Swank (2012) and Thelen (2014), the findings in Chapter 3 show that, in the face of a reversal of the gender gap in higher education and women's entrance into unions, centralized corporatist institutions have been effective in updating their preferences and using their influence to redesign the welfare state to meet the

needs of dual-earner couples, and ensure the labor market participation of high-skilled women. Indeed, by organizing workers across sectors, professions, and industries, the centralized trade union federations have partially succeeded in compensating for the declining number of industrial male workers with the entrance of female service sector workers.

Comprehending wFPs and women's entrance into higher education and unions may thus be conducive to further our knowledge regarding the future role of corporatism, and hence the development of the welfare state. In difference from new politics of the welfare state literature, which argued that unions and employers have lost their sway over social policy expansion and retrenchment (Pierson 1996), this study has documented that the development of the welfare state still hinges on the preferences and power of employers and trade unions. Moreover, unlike the studies seeing employers as unequivocally for or against publicly-funded social services and benefits, the chapter has shown the policy preferences of the social partners to be conditional on structural changes in the labor market (see also Hall and Gingerich 2009; Mares 2003a; Paster 2013). In doing so, the chapter also indicated that the institutional change literature has paid too little attention to how specific structural changes incentivizes institutional political actors to change their policy stances and behavior.

#### 5.1.3 Daycare services and mothers' careers

Social policies do not always, or even predominantly, work as intended. Policymaking is ridden with unintended consequences. A crucial task for social scientists is therefore to assess the effects of public policies (Banerjee and Duflo 2011). This is particularly important when there are well-founded, theoretical reasons for believing that the policy may address unfair social inequities, such as the underrepresentation of women in powerful labor market positions (Deaton 2010). As we move up the occupational or political ladder, the absence of women becomes more and more striking, as documented by for instance the OECD (2016) and Folke and Rickne (forthcoming). Given that women, and mothers in particular, still do a disproportionally large share of the childrearing and household work, an important question is whether affordable, full-time daycare services for children under school age can reduce the trade-off between work and family, and thereby increase mothers' career investment (Esping-Andersen 1999a, 2009; Estévez-Abe 2006; Iversen and Rosenbluth 2006, 2010; Rosenbluth, Salmond, and Thies 2006; Stier, Lewin-Epstein, and Braun 2001). Chapter 4 argued that daycare services may particularly intensify the willingness of mothers to enter into occupations requiring longer hours and to apply for leadership positions, as the service provides parents with a reliable source of care for their children. As such, it makes it possible to enter into positions with limited working-time flexibility and requiring continuous presence.

To test for the impact of full-time affordable daycare services on mothers' propensity to enter into occupations with longer hours and managerial positions, Chapter 4 made use of a large-scale reform of the Norwegian daycare service system between 2002 and 2008. The reform aimed to ensure full daycare coverage across the country, thus leading to a 35 percentage point increase in daycare coverage for oneand two-year-old children. The study exploits the fact that the yearly change in daycare coverage varied greatly across municipalities and was plausibly exogenous to local politics, at least after conditioning on local labor market conditions. Using the municipal variation in daycare as an instrument for individual mothers' uptake of daycare, and register data on the whole population of Norwegian mothers in the reform period, the chapter found that daycare services make mothers of two-year-olds more likely to enter into occupations requiring longer hours as well as leadership positions. The study consequently provides evidence that daycare services may help to reduce the dominance of men at the top of the labor market.

With regard to Chapter 2 on PR, I discussed the "role model effect", whereby the presence of women leaders in politics and in the labor market raise the aspirations and participation of other women. With more women entering into leadership positions as a consequence of the daycare service reform, this might have the knock-on effect of subsequently induce more women to aspire to become executives and leaders in private firms and government agencies. The reform may therefore "snowball" over time and thus further help to break down the barriers to women's leadership in the economy.

Although the chapter investigated the labor market as a whole, the results have implications for women's presence in politics, and particularly in senior positions (cf. Rosenbluth, Salmond, and Thies 2006). Several studies indicate that mothers, due to family responsibilities, are at a disadvantage when it comes to relevant labor market experience for successfully advancing in politics (Iversen and Rosenbluth 2008; Teele et al. 2015; but see Fox and Lawless 2014a). They also have fewer opportunities for continuous presence, network building, and time investment than their male counterparts, which again affects their opportunities for successfully obtaining positions such as committee chairs, cabinet ministers, and heads of government (Campbell and Childs 2014; Childs 2016; Lacey and Perrons 2015; Lovenduski 2005; Wangnerud 2009). Given the similarities between politics and managerial positions in terms of working time, the findings presented in Chapter 4 give rise to the expectation that daycare services can reduce the gender bias in senior political positions by making it

possible for more mothers to reconcile having a family with investment in a political career.

# 5.2 LIMITATIONS AND RELATED AVENUES FOR FUTURE RE-SEARCH

#### 5.2.1 Generalizability

The empirical findings in the three empirical chapters mainly stem from subnational evidence, and, as noted in the introduction, the thesis intentionally traded off external for internal validity. Here I will mainly focus on what this choice implies for future research.

The findings regarding the effect of PR on women's inclusion in voting stems from an analysis of municipal elections. In their metaanalysis of the literature on the determinants of overall voter turnout, Cancela and Geys (2016) find that the effect of PR is stronger in studies investigating subnational than national elections. As they point out, one reason for this pattern might be that the subnational results predominantly stem from quasi-experimental studies. Still, if these differences are due to substantive differences—for instance, that they are caused by smaller population sizes, which is positively associated with voter turnout—then this might imply that the results I found in Chapter 2 would be weaker in national elections. Future research should therefore seek to replicate and expand on the findings by investigating national elections. Using district-level data and the move to PR at the national level in Norway could prove valuable in this regard (cf. Cox, Fiva, and Smith 2015).

Additionally, the chapter's results are from the historical setting in which women were considerably less likely to vote than men. Yet, to identify the domain of cases to which the finding applies, future research should also seek to investigate electoral changes in contemporary politics, both in the developed and the developing world. The fact that Italian and French municipalities have to use different electoral systems depending on whether their population is above or below certain population thresholds (Bordignon, Nannicini, and Tabellini 2014; Eggers 2015), might prove useful in this regard.<sup>6</sup> Given the theoretical framework, it would be particularly interesting to analyze the effect of electoral institutions in countries where gender inequality in turning out to vote is prevalent, such as in India (Norris 2002). To try to extend the findings to other settings could also answer the question of whether the results are applicable to the switch from single-member district plurality (SMD) to PR, and not just from multi-member district plurality, which is what I investigated with the Norwegian reform. There is no a priori reason to believe that the results would not hold also for SMD but the exercise would nonetheless help to determine the generalizability of the results.

Likewise, the findings from the daycare services reform also raise questions about how applicable the results are to other institutional settings. One of the strengths, but also weaknesses, of investigating the reform is its scope. The strength is that it allowed us to investigate the effect of full-time, affordable daycare. The weakness is that the costliness of the reform makes it unlikely to be implemented at a similar pace or scope anywhere else. Indeed, most of the studies that look at the effect of daycare on mothers' labor supply use much smaller reforms. It is therefore crucial to look at similar outcomes as in Chapter 4, but using more modest reforms as the treatment variable, to determine whether such reforms may still enhance mothers' possibilities to obtain leadership positions in the labor market.

<sup>6</sup> Though such analysis would also require the number of voters broken down by gender, which might be harder to obtain.

The study of the politics of wFP reforms in Chapter 3 do not run into the same questions of generalizability, as the analysis covers the advanced democracies for which the argument is intended to hold.7 Moreover, by emphasizing centralized and corporatist unions and employers as crucial actors in WFP reforms, it is not evident that the analysis would travel to other parts of the world. In Latin America, as well as in South-East Asia, unions are neither centralized nor encompassing enough to be able to significantly push governments to enact WFPs. As Schneider (2009, 561), for instance, notes: "labour relations in Latin America are atomistic and often anomic because most workers have fluid, short-term links to firms and weak or no horizontal links to other workers through labour unions" (Schneider 2013, see additionally,). The weakness of organized labor makes it unlikely that a similar surge in higher education rates and labor market entrance among women would result in the development of generous wFPs. Yet, if the gender gap in higher education reverses also here, we might see that individual business and constellations of firms start calling for WFPs.

#### 5.2.2 Mechanisms

Instead of extending the analysis of wFPs to other parts of the globe, another area for future research would be to delve further into the intra-organizational mechanisms of how unions, employers and parties come to favor wFPs. For instance, within the employers' association, were the employers relying on high-skilled female labor the most eager to make the organization come out in favor of wFP reforms? Given that it is more difficult for small than large firms to find temporary replacement for workers on parental leave, were small firms consistently more opposed to the employers accepting reforms

<sup>7</sup> It would, of course, be valuable to also expand the analysis to in-depth case studies of other countries beyond Norway.

of parental leave? Similarly, within the trade union confederations, it would be valuable to map out the stances of affiliated unions and whether their attitudes toward WFPs correlated with the female share of their members. In other words, future research should seek to go even further in establishing the exact intra-organizational mechanisms behind the results. The chapter was also foremost concerned with the generosity of WFPs and had less to say about the precise design of these policies, such as whether public funding should be provided through tax deductions or the provisions of services, whether policy provision should be centralized or decentralized to subnational governments, whether provision should be publicly funded or also publicly provided, and how and to what extent markets should be introduced in the provision of daycare services (Gingrich 2011). An profitable path for research would therefore be to theorize further, and investigate, the social partners and parties' preferences over these different designs of WFPs.

In the chapter on PR, I investigated three central mechanisms that could be at play, and found support for both the electoral and the organizational mechanisms. There might, however, also be other mechanisms than these three at play. One example would be to further examine the role of linkages between political parties and women's organizations (cf. Powell 1982). A possible hypothesis could be that parties with stronger ties to civil society, such as the Labour party, would be more successful in mobilizing women than the more loosely organized parties and lists found to the right in the political landscape in Norway during the early 1900s. Unfortunately, the election reports from the time period do not contain data on party vote or seat shares for more than a handful of cities (Hjellum 1967),<sup>8</sup> which makes such an inquiry difficult, if not impossible, to carry out for the Norwegian

<sup>8</sup> The election reports from Statistics Norway were written on the basis of election forms that the municipalities mailed Statistics Norway after the elections. These original forms did contain party vote shares but the information was not reported in the

elections. An important topic to explore in future investigations of other cases is therefore the role of different political parties in mobilizing women to vote as the electoral system switches from plurality to PR. Such inquiries would provide a more complete account of the mechanisms leading to positive impact of PR on women's inclusion in voting.

Finally, also the mapping of how daycare services affect women's possibility to enter into leadership positions would benefit from further investigations of the mechanisms behind the result. For instance, future research should try to identify which aspect of the daycare reform, such as the reduction in the price of daycare or the increased availability of full-time daycare, that had the largest effect on women's career investment. Another option would be to see whether other policies have comparable results, and which mechanisms they hit. For instance, Kotsadam and Finseraas (2011b) find that the 1993 paternity leave reform in Norway resulted in lower levels of conflict over the household division of labor among parents. It would be fruit-ful to investigate whether men's increasing presence at home also leads mothers to become more career minded. Indeed, the most effective way of giving mothers more time for career investment would probably be to incentivize fathers to do more at home.

# 5.3 BRINGING MEN (BACK) HOME TO FINALIZE THE GENDER REVOLUTION

Compared to a century ago, gender equality has reached revolutionary heights. The opportunities to pursue one's life goals have perhaps never in modern human history been as equally distributed across the genders as today. So far, however, women's roles have changed far

Statistics Norway reports. Sadly, when there was a fire at Statistics Norway a few decades later, the original forms were turned to ash.

more than men's. To finalize the gender revolution, which involves addressing the uneven division of household work and occupational gender segregation, we may therefore paradoxically have to focus on men. Women have entered the previously male-dominated spheres of politics and careers. Men have not to the same extent entered the female-dominated sphere of the family—to the detriment of both women and men. Future research on the gender revolution should therefore seek to investigate how public institutional reforms can enable women *and* men to invest in care *and* career.

# A

# APPENDIX TO CHAPTER 1: PROPORTIONAL POLITICS

#### A.1 APPENDIX

# A.1.1 From a candidate-centered plurality to a party-centered PR electoral system

The plurality and the PR systems used in Norwegian municipalities in the pre-World War II period had different incentives for cultivating a personal vote, i.e. the value of personal reputation for getting elected. In table A.1, I use Carey and Shugart's (1995) scoring scheme to classify the two systems for each of the three variables influencing the incentives to cultivate a personal vote. A score of 6 means a fully personalistic system and o means a fully party-centered one. The plurality system scores 5 in total, indicating that it was a personalistic system: there was no leadership control over ballots, there was no pooling across candidates, and voters vote for as many candidates as there were seats.<sup>1</sup> A similar system is today used in the Philippine Senate. The PR system, on the other hand, only scores 2. It was, in other words, a party-centered system: parties' nomination meetings decided the lists (but voters could cumulate), votes were pooled at the party level, and voters had as many votes as there were seats. The

<sup>1</sup> If voters had cast one vote for a single candidate, then it would have been a fully personalistic system.

move from plurality to PR in Norwegian municipalities consequently meant a shift from a typically candidate-centered plurality system to a typically party-centered PR system.

	Electoral system (both with $M > 1$ )		
	Multi-member plurality	Open-list pr	
Ballot (0-2)	2 (no leadership control over ballots)	1 (party lists with preferential voting)	
Pool (o-2)	2 (no pooling)	<b>o</b> (pooling at party level)	
Votes (o-2)	1 (vote for several candidates)	1 (vote for several candidates)	
Sum (min: 0, max: 6):	5 (candidate centered)	2 (party centered)	
Other example:	Philippine Senate (Carey and Shugart 1995)	Italy pre 1993 (Carey and Shugart 1995; Katz 1980)	

TABLE A.1. Incentives to cultivate a personal vote in the plurality and PR electoral systems in Norwegian municipalities.

*Note:* Based on Carey and Shugart's (1995, 420-3) scoring scheme, which is as follows. *Ballot* "measures the degree of control party leaders exercise over access to their party's label", with: o = leaders present a fixed ballot, voters may not "disturb" list; 1 = leaders present party ballots, but voters may "disturb" list; 2 = leaders do no control access to ballots, or rank. *Pool* "measures whether voters case for one candidate of a given party also contribute to the number of seats won in the district by the party as a whole", with: o = pooling across whole party; 1 = pooling at subparty level; 2 = no pooling. *Votes* "distinguishes among systems in which voters are allowed to case only a single vote for a party, multiple votes, or a single vote for a candidate", with: o = voters cast a single vote for one party; 1 = voters cast votes for multiple candidates; 2 = voters cast a single vote below the party level.



### A.1.2 Map of the electoral system used in 1916

FIGURE A.1. Map of type of electoral system used in Norwegian municipalities in 1916.

*Notes:* The map shows the administrative borders for Norwegian municipalities in 1918. White colored municipalities have missing data. *Sources:* Statistics Norway (1917).

### A.1.3 The covariates of proportional representation

	Cross section	Over time	
	(1)	(2)	(3)
	$\hat{eta}_{1916}$	$\hat{eta}_t$	$\hat{\beta}_{t-1}$
Population (log)	.14***	07	04
	(.03)	(.08)	(.08)
Women (% of pop.)	03***	.01	.00
	(.01)	(.01)	(.01)
% of employed (agriculture omitted)			
Industry	.01***	.01***	.01***
-	(.00)	(.00)	(.00)
Services	.00	.01***	.01***
	(.00)	(.00)	(.00)
Shipping	02***	02*	02
	(.01)	(.01)	(.01)
Non-religious (% of pop.)	.01	.04*	.05**
	(.02)	(.03)	(.03)
Poor relief (% of pop.)	.05***		
	(.02)		
1905 signatures (% of female pop.)	.00***		
	(.00)		
Observations	625	2448	1864
Municipalities	625	655	655
Adjusted $R^2$	.30	.63	.64
Municipality FEs	-	$\checkmark$	√. 
Election FEs		$\checkmark$	$\checkmark$

# TABLE A.2. Regression results reporting the association between PR and a set of covariates.

*Note:* \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. OLS regressions with standard errors in parentheses. Models 3 and 4 report robust standard errors clustered by municipality in parentheses.

#### A.1.4 Weighted regression results

		Women's p (mean amon	percentage o g reformed	f votes cast in 1919: 32%	<b>)</b>
	(1)	(2)	(3)	(4)	(5)
PR	11.4 (.8) <0.001	10.1 (.7) <0.001	10.6 (.9) <0.001	11.6 (1.0) <0.001	10.7 (1.1) <0.001
Municipality FEs Election FEs Covariates Trends	$\checkmark$	$\checkmark$	√ √ √	v v	$\checkmark$
Trends <sup>2</sup> Observations Municipalities	4,127 593	4,127 593	4,127 593	√ 4,127 593	√ 4,127 593
Effect size (% Δ) 95% CI	54 [47,62]	46 [40,52]	49 [41,57]	56 [47,66]	49 [39,59]

TABLE A.3. Regression results reporting the effect of PR on women's share oftotal turnout in municipal elections, Norway 1910-1928.

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.

# A.1.5 The association between switching to PR between the 1913 and the 1916 election and women's share of the votes cast.

TABLE A.4. Regression results reporting the association between PR on women's share of total turnout in municipal elections, Norway 1913-1916.

	Women's percentage of votes cast		
	(1)	(2)	
PR	5.3	5.5	
	(1.5)	(1.6)	
	<0.001	<0.001	
Municipality FEs	$\checkmark$	$\checkmark$	
Election FEs	$\checkmark$	$\checkmark$	
Covariates		$\checkmark$	
Observations	490	490	
Municipalities	245	245	

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.
# A.1.6 The effect on overall turnout

	Turnout (mean among reformed in 1919: 41%)							
	(1)	(2)	(3)	(4)	(5)			
PR	7.3	7.2	12.1	12.2	11.1			
	(.9)	(1.0)	(1.3)	(1.5)	(1.6)			
	<0.001	<0.001	<0.001	<0.001	<0.001			
Municipality FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
Election FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
Covariates		$\checkmark$			$\checkmark$			
Trends			$\checkmark$	$\checkmark$	$\checkmark$			
Trends <sup>2</sup>				$\checkmark$	$\checkmark$			
Observations	4,125	4,125	4,125	4,125	4,125			
Municipalities	593	593	593	593	593			
Effect size (% $\Delta$ )	22	21	42	42	37			
95% CI	[16,27]	[15,27]	[33,51]	[32,53]	[27,48]			

TABLE A.5. Regression results reporting the effect of PR on turnout in municipal elections, Norway, 1910-1928.

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.

# A.1.7 Main results after controlling for turnout

	Women's percentage of votes cast (mean among reformed in 1919: 33%)							
	(1)	(2)	(3)	(4)	(5)			
PR	6.3 (.5) <0.001	5.8 (.5) <0.001	3.6 (.7) <0.001	4.9 (.8) <0.001	4·5 (.9) <0.001			
Municipality FEs Election FEs Turnout covariate Other covariates Trends Trends <sup>2</sup> Observations	√ √ √	√ √ √ √	√ √ √ √	√ √ √ √ ↓ ↓	√ √ √ √ √ √			
Municipalities	593	593	593	593	593			
Effect size (% Δ) 95% CI	24 [20,27]	21 [18,25]	12 [8,17]	17 [12,23]	16 [10,22]			

TABLE A.6. Regression results reporting the effect of PR on women's share oftotal turnout in municipal elections, Norway, 1910-1928.

*Note:* OLS regressions with robust standard errors clustered by municipality in parentheses and *p*-values in italics. Trends are municipality specific. The covariates are: eligible voters (log), women's percentage of eligible voters, representatives in the municipal council (log), population (log), women's percentage of the population, percentage of the population in nonconformist (dissenting) religious societies, and variables for the percentage of the population in each of the employment categories industry, shipping, services, agriculture, home services, and non-employed (with agriculture as the omitted category). The effect size is calculated by dividing the estimated PR coefficient by the sum of the mean for the treated units minus the TO PR coefficient and then multiplying this number by 100.

# A.1.8 1905 Petition

Jacken Undertequede kounder four herre sit Da til de mands, der har red til at deltage i folkapstem. ningen den 13ª august. Gildestil 13 - august 1905ie Magelsten - Ingrid Magelseen. Bergliot Thodal Magelsfen. dine Dave . Maven Hansen a tople Amande Andonsen Hansu, Emilie Edwardsen Magdalina Pechessen Marie Pedersen 10 Hongen Elen Syeggen lenter unl Marianne Olsen he Yohanesen Hanna Oben ana andreaser nna Hansen Gennig Johansen Lusie Block un ofimonson anna Brian Rameth Johnien Eda Bansen Marie Hansen line Olsen Petine Petterion Emelie Sharmer Fristine Moritsin Margreth Ha Koren forgesen Selvin Fidersen Anna Andreaser Laule Hanna Andreas Tohnsen marka Hausen Hansen enla Lovie Witedal. tikoline kelkersen, Damilsen Jamie neeraao. Anne Be Josepine Tomaso Jahannese ugsen. a cf Johanna Faurakissen Paline Hanaen in Amunsen Hrispine Metalsen lija Amunsen Indiama Israelsen Amalija Amunsen

FIGURE A.2. An example of the signatures collected for the 1905 independence petition (from Gildeskål).

Source: The Norwegian Parliamentary Archives.

# B

# APPENDIX TO CHAPTER 2: PARTNERING CHANGE

B.1 APPENDIX

# B.1.1 Shadow case studies

To ensure that the mechanisms linking the social partners to wFP expansion are not specific to the Norwegian case, and also to investigate countries with different levels of corporatism and gender gap in higher education, this section conducts brief case studies of Sweden, the Netherlands, and the United Kingdom based on the secondary literature. These cases cover the range of both corporatism (see Figure B.1.5) and the development of the gender gap in higher education (see Figure B.1.5). As such, the cases complement both the quantitative cross-country analysis and the in-depth case study of Norway.

# Sweden: centralized corporatism and high education rates among women

Until the 1960s, Swedish family policy was geared towards malebreadwinner families, and the preference for such a family arrangement "was strong, especially within the trade unions" (Hirdman 1998, 38; Ginsburg 2001, 213-5). As in Norway, few Swedish children attended daycare centers—the coverage rate was three percent in 1965 (Sörensen and Bergqvist 2002, 8). The six-month parental leave available was paid at a low rate (Björklund 2006). In Sweden, however, women's education and employment rates started to surge earlier than in Norway (Barro and Lee 2010; Sörensen and Bergqvist 2002). Accordingly, whereas the Norwegian wFP reforms in the 1970 were minor, Sweden considerably expanded daycare and leave already during this decade.

First, the Swedish 1975 Daycare Act aimed at ameliorate working mothers' labor market position and was a major reform. As a result of the reform, Sweden's daycare coverage for one- to two-year-olds considerably outpaced Norway's coverage until the 2000s—which is visible from the different trends in Figure B.1.1. From early on, moreover, a larger share of children attended daycare on a full-time basis (Sörensen and Bergqvist 2002). Second, also leave was expanded at an earlier point in time than in Norway. In 1974, parental leave benefits were increased to 90 percent of previous earnings. Thereafter the Riksdag extended the length of the leave—to eight months in 1978, nine months in 1980, twelve months in 1989. In 1995, the fathers' quota was introduced. Today, Swedish parents have 480 days of leave, with 390 of them paid at a 77.6 percent replacement rate and the rest at a flat rate.

Like in Norway, both unions and employers played a key role in turning the Swedish welfare state around to favor working mothers and dual-earner households (Swenson 2002, ch. 13; Hinnfors 1992; Huber and Stephens 2000; Daguerre 2006; Ginsburg 2001; Danielsen, Larsen, and Owesen 2013). Within the trade unions, the share female members, and their representation in leadership positions, rose earlier than in Norway, as can be glanced from Figure B.1.2a. For instance, in Sweden 30 percent of union members were women in already in 1968; in Norway women reached the same number around



FIGURE B.1.1. Daycare coverage in Sweden and Norway, 1963-2014.

Source: Nordic Council (2016) and Sörensen and Bergqvist (2002)

1980.<sup>1</sup> Hinnfors (1992) documents that the LO started its turnaround and came to favor daycare expansion from the late 1960s, as a means to improve the labor market position of working women. Thus, in 1969 the Social Democrats and the LO releases a joint report arguing that "a continued strong expansion of daycare centers are therefore one of the most important equality reforms" (cited in Hinnfors 1992, 147). The result was that "both LO and the [socialdemocratic] party became advocates for child care and, ultimately, for parental leave" (Mahon 1997, 389). They were, furthermore, joined by the employers, who also started to favor wFP expansion during this period to increase mothers' supply of skilled labor (Swenson 2002). As Figure B.1.2b shows, also the enrollment rate in higher education among women surged in Sweden before Norway.

The dominant position of the Social Democrats in Swedish politics meant that it had an important role in the wFP expansions; still,

<sup>1</sup> Unions also organized a larger share of the workforce in Sweden than in Norway—Sweden's mean union density across the 1970-2009 period was 78 percent and Norway's was 56 percent (Visser 2011).



FIGURE B.1.2. Women in trade unions and higher education in Sweden and Norway.

*Notes:* See Figure 3.1 for the definition of enrollment in higher education. *Sources:* Visser (2011) (union membership); Barro and Lee (2015) (education).

also the Liberals and the agrarian Center Party embraced the reforms (Sörensen and Bergqvist 2002). Within the parties, and particularly within the Social Democratic Party, the women's network actively pushed for wFP reforms (Bergman 2004; Daguerre 2006; Hinnfors 1992). The within-party splits between those favoring homecare allowances and those favoring daycare services was decided in favor of the latter as women's representation grew (Sörensen and Bergqvist 2002, 11). The result was that a broad coalition of parties supported the introduction of wFPs from the 1960s and onwards.

In sum, from early on, the existing research documents that both the employers' and the trade union confederations, along with women within parties, played a pivotal role in changing the Swedish welfare state from favoring male-breadwinner families to actively supporting dual-earner ones. A similar key role of the social partners, and convergence among the political parties, can be found in Finland and Denmark, also there coinciding with the rise of women's education rates and their representation within unions (Abrahamson 2010, see, e.g., Borchorst 2002; Hansen and Petersen 2000; Lammi-Taskula and Takala 2009).



FIGURE B.1.3. Women in trade unions and higher education in the Netherlands and Norway.

*Notes:* See Figure 3.1 for the definition of enrollment in higher education. *Sources:* Visser (2011) (union membership); Barro and Lee (2015) (education).

#### The Netherlands: corporatism and lower education rates among women

Work-family policies were developed much later in the Netherlands compared to Norway. By 1988, only about two percent of the children under the age of three attended daycare (Bussemaker 1997, 32). Although coverage increased somewhat during the 1990s, it was just above 20 percent in 2001, and demand far exceeded supply (Bettendorf, Jongen, and Muller 2015, 115; Gustafsson and Kenjoh 2004, 45). Since then it has increased to 55 percent in 2013 (see Figure 3.3). That said, it is a part-time service—average hours of attendance per week is only seventeen-and the cost of a daycare slot is twice that of for instance Norway, Belgium, and Germany (OECD 2012a; Bettendorf, Jongen, and Muller 2015, 114). Daycare services are, in other words, still much more limited than in Norway. Paid maternity leave was twelve weeks with full pay until 1990, when it was increased to 16 weeks. In 2009, 26 weeks of paid parental leave was introduced (OECD 2012a). Payment and rights to leave have, however, varied extensively depending on agreements between unions and employers in sector-level collective bargaining (Plantenga and Remery 2009).

Unions and employers play a key role in the making of Dutch wFPs. Plantenga and Remery (2009, 182) put this point concisely: "[f]rom the very beginning, employers have been given an important role in the introduction of leave policies within the Dutch working time regime. By way of collective labour agreements, the social partners are supposed to top up public policy, which is mainly concerned with guaranteeing the minimum right." This also holds for daycare, where a "main part of the organization of childcare provision has been delegated to employers and employees, who have to negotiate childcare in their collective agreements" (Bussemaker 1998, 88).

In difference from Norway, however, women's entrance into both unions and higher education has been slower in the Netherlands, as Figure B.1.3 delineates. Additionally, although collective bargaining covers a large share of the labor market, union density is today only around twenty percent—down from about 40 percent in the 1960s and 30 percent in the 1980s—and bargaining is more decentralized to the sectoral level in the Netherlands than in Norway. The enactment of wFP reforms has consequently been slow.

Daycare became an issue of political contention in the 1970s, brought to the agenda by women within the trade unions, the social democratic, and the communist parties (Kremer 2002, 123; Morgan 2013, 91). Yet, with the majority of employers and trade unions uninterested, and with the Christian Democrats and Liberals dominating government, the flame quickly died out. Hence, by the late 1980s formal daycare was almost absent (Kremer 2002, 118). The same was true for parental leave (Plantenga and Remery 2009). There was an early initiative on leave in 1980s, with the Social Democrats proposing a partially paid parental leave as an addition to the paid maternity leave. Yet, employers and the other parties were against and unions were largely uninterested in making leave paid (Plantenga and Remery 2009). Paid leave was thus left to social partners, which meant that many workplaces did not pay leave until late 1990s (Plantenga and Remery 2009).

By employers, unions, the early 1990S, and political parties-notably the Social Democrats and the Liberals, but also to some extent the Christian Democrats-started to become interested in daycare as a labor market policy for ensuring the labor market attachment of highly educated women (Bussemaker 1998, 86-7).<sup>2</sup> From 1987 and onwards trade unions requested that daycare arrangements should be included in collective agreements (Gustafsson and Kenjoh 2004). Also the Social Economic Council—Sociaal-Economische Raad, which represents the employers and unions' interests and is the government's main advisory board on social and economic policy-expressed a preference for some expansion of daycare (Plantenga and Remery 2009, 177). The first daycare reforms, initiated under the Christian Democratic-Social Democratic government in office from 1989, and the Liberal-Social Democratic government in place from 1994, gave a modest expansion of daycare slots. The latter government had a record number of women ministers, 26 percent, and these played a part in these reforms (Morgan 2013, 92). The social partners were given the role of implementing the reform through collective agreements (Bussemaker 1998). Still, by 1995, only eight percent of children under the age of four attended formal daycare; and by 2001 the number was just above twenty (Kremer 2002, 119; Bettendorf, Jongen, and Muller 2015). Despite being in the position to expand wFPs, the social partners were thus content with quite minor reforms. As the Netherlands did not experience an equivalently rapid surge in female union membership or higher education rates

<sup>2</sup> The exception was the smaller Christian parties on the right-wing, which still opposed the expansion of daycare (Bussemaker 1998, 87).

during this period as Norway, this is the behavior that the theoretical argument would lead us to expect.

Education and unionization rates among women, however, continued to grow in the late 1990s and 2000s.<sup>3</sup> New reforms were put in place by another Liberal-Social Democratic government at the turn of the millennium. The daycare reforms raised the attendance rate in formal daycare—reaching a coverage rate of 25 percent in 2004. A large share of these daycare slots were subsidized by employers and local governments (Bettendorf, Jongen, and Muller 2015, 114).

The government also modestly expanded leave to include sixteen weeks of leave and two days of paternity leave. The payment of leave was, however, left up to employers, although half of the leave payment would be subsidized. Employers in general have been reluctant, and small employers negative, to increase leave payments, which may reflect the fact that skilled women are still a less decisive part of the workforce than in the Nordic countries (Plantenga and Remery 2009, 183).

The 2005 Daycare Act, initiated by Liberal-Christian Democratic government (2003-6), changed the daycare arrangements so that subsidies were transferred to parents instead of daycare centers (Bettendorf, Jongen, and Muller 2015, 114). Over 2005-2009 period, the governments increased subsidies considerably, leading to daycare coverage to reach 55 percent by 2015. As mentioned above, however, most of the daycare slots are still part-time.<sup>4</sup> In 2009, the Social Democratic-Christian Democratic government (2006-10) also expanded parental leave to 26 weeks, though, apart from some tax deductions for half of the leave, payment was still left up to the collective agreements, with

<sup>3</sup> The same holds for women's share of MPS. In government only about one third of ministers have been women throughout the 2000s, with the exception of the current government, in which 38 percent of the ministers are women.

<sup>4</sup> The 2010-2012 center-right government moderately cut back daycare subsidies (Morgan 2013).

the public sector employees being more likely to have paid leave than private sector employees (den Dulk 2015, 236).

To summarize, wFFs arrived much later and are much more modest than in Norway. As we would expect in a corporatist country, unions and employers are central in the making and implementation of wFP reforms. Women's share of union members, however, has been slower to expand, reaching 30 percent in the late 2000s (compared to the late 1980s for Norway). The same holds for enrollment in higher education. Neither unions nor employers have thus had the same incentives to push for wFP expansion as in Norway. Only more recently have women within the dominant parties been able to work work actively with employers and unions to significantly expand wFPs. Comparing the Dutch to the Norwegian case, in other words, illustrates that, even where the social partners have the power to influence policy, their incentives to do so vary in accordance with the gender gap in higher education and women's entrance into trade unions.

### United Kingdom: low corporatism and lower education rates among women

In the United Kingdom, daycare and leave policies are still limited. Daycare coverage for children under three years of age was 35 percent in 2013, compared to for instance 55 percent in the Netherlands. Moreover, the average hours of attendance per week is sixteen, meaning that full-time daycare coverage is even lower. The cost of daycare is also considerable. A dual-earner family in which the parents earn respectively 100 and 50 percent of an average income typically pay 34 percent of their net income in fees for a full-time daycare slot (OECD 2012a). Paid maternity leave is available for six weeks with benefits equal to 90 percent of previous earnings and then with a low flat rate payment (£140 in 2015) for 33 weeks. There is additionally a two week paternity leave paid at the same low flat rate. WFPS are thus still more restricted in the United Kingdom than in both the Netherlands and Norway.

Despite a brief level of higher coordination between unions and employers' associations in the 1960s and 1970s, the United Kingdom is best characterized as having "pluralist, weakly organized, decentralized employer associations and trade unions, and collective bargaining agreements cover only a small part of the British economy" (Martin and Swank 2012, 191).<sup>5</sup> The institutions that facilitate policy influence for the social partners are thus much weaker in Britain than in Norway. Women make up an increasing share of union members, and this trend track that of Norway, as is illustrated in Figure B.1.4a. Nevertheless, a declining share of workers are union members. Union density reached a peak around 1980, when 52 percent of the employed were organized, before it started to decline, dropping to 25 percent by 2014. Thus, although the social partners never had the same degree of centralization and influence as in Norway, women's increased share of union members coincided with unions further decline. Thus, from Thatcher and onwards, there was "a reduced role in policy-making for trade unions" (Randall 1995, 177) Additionally, women's enrollment in higher education has lagged that of both Norway and the Netherlands, as displayed in Figure B.1.4b. British employers have consequently been less dependent on high-skilled labor in general, and from women in particular.

As in other advanced democracies, not only the British Conservatives, but also the trade unions and the Labour Party, favored the male-breadwinner perspective until at least the 1970s (Ruggie 1984; Randall 2000). Yet, as women entered education and employment, and became increasingly active in trade unions and the political parties, this perspective was challenged, much as it were in Norway.

<sup>5</sup> See, e.g., Crouch 1993; and Thelen 2004, for accounts of the craft- and occupationbased origins of the fragmented industrial relations in Britain.



women.

FIGURE B.1.4. Women in trade unions and higher education in the United Kingdom and Norway.

*Notes:* See Figure 3.1 for the definition of enrollment in higher education. *Sources:* Visser (2011) (union membership); Barro and Lee (2015) (education).

Figure B.1.4a illustrates that in the 1970s, when union density was still rising in Britain, women entered trade unions at the same pace as in Norway—and also in the UK did women call for daycare reforms. In the words of Randall (2000, 184): "It has been women in the Labour Party and the trade unions who have pushed the issue up the agenda."

The British case, however, illustrates the importance of timing. Just as women within the Labour Party began to push for daycare reforms, the Thatcher era began, and with it the active reduction of trade unions' influence and coverage (Glyn 2006, 124). Thus, although the importance of the daycare issue to trade unions continued to grow during the 1980s, "[s]uch voices carried little political weight under Thatcher, however", Randall (2002, 225) remarks. Like Norway, trade unions were thus increasingly titling towards favoring the dualearner model and wFPs. Unlike Norway, they did not have the influence to translate the changing preferences into policies, at least not to any significant extent. In other words, whereas Norway moved beyond the minor reforms in the 1970s, Britain did not. A paid maternity leave, with six weeks paid at 90 percent of previous earnings and twelve weeks with a flat rate benefit, was introduced under Labour in 1976, but it had strict eligibility criteria.<sup>6</sup> Daycare coverage remained low. By 1980 only about two percent of children under the age of three attended publicly funded daycare and did not improve during the 1980s (Bussemaker 1997).<sup>7</sup> By 1988, the number was still two percent, and local authority full-time daycare covered just one percent of children aged zero to four. It had not improved by the mid 1990s (Bussemaker 1997).

The gender gap in higher education enrollment rates started to diminish in the 1960s and 1970s in Britain, though at a slower pace than in the cases discussed above (see Figure B.1.4b and Figure 3.1). Whereas Norway and Sweden massively expanded higher education in the 1960s and 1970s, Britain held back the expansion until the latter half of the 1980s and in the 1990s (Ansell 2010, ch. 5).<sup>8</sup> The labor supply of highly-skilled women compared to men was in consequence even less of a concern to employers in Britain than in Norway in the 1970s and early 1980s. WFPs were, in other words, not of interest to employers (McRae 1991).

By the late 1980s, however, there were signs of change in employers' policy preferences, as they "added their voice to pressures on the government to take more of a lead on the child care question" (Randall 2002, 225). Their lack of willingness to put this policy demand at the top of the agenda, as well as their more limited policy influence compared to employers in Norway, Sweden and the Netherlands, meant that the government could get away with symbolic gestures (Randall 2000). The daycare services that were available by 1990 were

<sup>6</sup> To qualify for the benefit, a mother needed to have "two years of continuous employment of sixteen hours over over wit the same employer" (O'Connor, Orloff, and Shaver 1999, 84). A large share of working mothers were therefore ineligible or only qualified for reduced benefits.

<sup>7</sup> For children aged three to five, the coverage rate was 34-40 percent in 1988 (Randall 1995, 329).

<sup>8</sup> The British Conservatives envisioned a limited expansion in the early 1960s, which would benefit mostly the upper classes, whereas the Labour government in power from 1964 rejected the proposal to build six new universities (Ansell 2010, 197-201).

thus largely fully private ones (O'Connor, Orloff, and Shaver 1999, ch. 3).

As women's entrance into higher education continued to rise, and outpaced men's entrance in the early 1990s, the social partners have growingly emphasized the need for expansive wFP reforms. From the early 1990s and onwards, both the Trade Union Congress and the Confederation of British Industries called for a national daycare strategy. Employers became interested in ensuring the labor supply of highly skilled women (Daguerre 2006, 221-3).

The Labour Party also paid more attention to the issue, both as women rose through the ranks of the party and as highly educated women became an increasingly important group of voters to attract (see, e.g., Annesley 2010; Morgan 2013). Labour's 1997 manifesto included only unspecified pledges for increased wFP provision but by the time of the 2001 election, the appeal to working women had become explicit (Morgan 2013).<sup>9</sup> Within the government, the wFP reforms "were initiated, carried forward and refined by a coalition of feminist actors located in significant institutional positions in and around the New Labour government" (Annesley 2010, 54). These included advisers, MPs, trade union representatives, and ministers—notably Patricia Hewitt, the Minister for Women and Secretary of State for Trade and Industry from 2001 to 2005.

Under New Labour, both paid leave and daycare were expanded, albeit from a low initial level. Daycare coverage reached 35 percent for children under the age of three by 2010, though it was still costly and most daycare slots were only available on a part-time basis. Paid leave was expanded several times during the New Labour period, extending the flat rate benefit period to 33 weeks. Merely six weeks were still

<sup>9</sup> By 2001, also the Conservatives and the Liberal Democrats had turned around and started to favor wFP expansions (Morgan 2013).

paid at 90 percent of previous earnings. Compared to the reforms in the other cases discussed above, as well as the recent daycare expansions in Germany (see Fleckenstein and Seeleib-Kaiser 2011), these are reforms are quite small. That said, they marked the first shift in the British approach to family policy.

In line with women's growing share of trade union members, and the rise of women in leadership positions with in the trade unions, it is unsurprising that the New Labour wFP reforms received active support from the trade unions (Randall 2000). On the employers' side, Fleckenstein and Seeleib-Kaiser (2011) convincingly document that the CBI also promoted daycare expansion to enable mothers to more fully participate in the labor market. Regarding leave, they have been more ambivalent. Although they accepted the leave expansions under New Labour, they also criticized the costs of these reforms for smaller businesses, as my theoretical argument would lead us to expect.

Despite promises of further wFP expansion, the Liberal Democratic-Conservative coalition (2010-5) have not expanded leave. Daycare coverage has remained at 35 percent (2013 numbers). It is telling that although the CBI and the trade unions have become vocal supporters of further wFP reforms,<sup>10</sup> they have not been able to exert sufficient influence to pressure the government to do so.

In short, the British case shows that although the social partners also here have turned around and gone from opposing to favoring wFP reforms, they have only to a limited extent been in a position to notably influence the policy trajectory. Compared to the other cases, this appears to be an important reason for why both the provision of daycare services and the length and benefits of paid leave are more limited in the United Kingdom than in Norway, Sweden, and the Netherlands. The small set of reforms that, nonetheless, have taken place seem to be the result of the active lobbying from women within

<sup>10</sup> Personal conversations with the CBI.

the Labour Party, combined with the importance of attracting highly educated female voters.

### **B.1.2** Details on variables

# Parental leave

The leave data is based on Gauthier (2011) but it has been updated using a number of different sources (Akgunduz and Plantenga 2012; Blum 2010; Borchorst 2004, 2006; Datta Gupta, Smith, and Verner 2008; Finch 2006; Gregg, Gutierrez-Domenech, and Waldfogel 2007; ILO 1984; Kamerman and Moss 2009; Merz 2004; Moss 2009, 2010; Moss and Korintus 2008; Moss and O'Brien 2006; Moss and Wall 2007; Moss 2011, 2012; Moss and Deven 1999; OECD 2012b; Prskawetz et al. 2008; Rasmussen 2010; Rønsen and Sundström 2002; Ruhm 1998; Sundström and Duvander 2002; Zabel 2009). Below, I show that the results hold when using either the original Gauthier (2011) data or alternative measures of paid parental leave.

### *Covariates and summary statistics*

The covariates included in the regression analysis in Tables 3.2 and B.1.3 are defined as follows:

- WOMEN IN PARLIAMENT. The percentage of seats in the legislature held by women in a given year. The data are from Brady, Huber, and Stephens (2014).
- GOVERNMENT PARTISANSHIP. If a party is in government, then the variable is equal to the left-wing parties' percentage of the total number of parliamentary seats held by all the government parties together. If the party is not in government, then the variable is equal to zero. The center government variable is defined in a similar way. For details on the categorization of par-

ties into left, center, and right, see Brady, Huber, and Stephens (2014, Appendix B). The data are from this source.

- UNEMPLOYMENT. The percentage of the civilian labor force who are unemployed. The data source is Armingeon et al. (2012).
- ELDERLY. The percentage of the population aged 65 or more. The source is the same as for the unemployment varible.
- GDP PER CAPITA. The log of the gross domestic product (given in millions of us dollars at purchasing power parity) divided by the country's population. The source for both of these variables are Brady, Huber, and Stephens (2014).

The summary statistics for the variables are provided in Table B.1.1.

Statistic	Ν	Mean	St. Dev.	Min	Max
	0				
Gender gap	890	-0.51	12.07	-20.65	36.07
Corporatism	890	0.04	0.76	-1.58	1.23
Women in parliament (%)	890	14.41	11.84	0.00	47.30
Left cabinet	890	32.75	38.60	0.00	100.00
Center cabinet	890	26.93	34.45	0.00	100.10
Unemployment	890	5.10	3.30	0.00	16.80
Elderly	890	13.11	2.83	5.70	22.70
GDP per capita (log)	890	2.40	0.95	0.02	4.12

TABLE B.1.1. Summary statistics for the variables used in the time-series cross-section regressions in Table 3.2

# **B.1.3** Corporatism scores in the 2000s



FIGURE B.1.5. Corporatism in advanced democracies (2002)

*Notes:* See Section 3.2.2 for how corporatism is measured and defined. *Source:* Martin and Swank (2012).

# B.1.4 Scatter plot of the change in parental leave generosity and change in the gender gap in higher education enrollment between 1970 and 2010

Figure B.1.6 displays the relationship between leave and the gender gap separately for countries with corporatism above and below the mean. The *x*-axis shows the *change* in the gender gap between 1970 and 2010 and the *y*-axis shows the *change* in parental leave generosity during the same period. Among corporatist countries, a larger change in the gender gap in favor of women is associated with a larger change in parental leave between 1970 and 2010. Among less corporatist countries, however, the relationship is somewhat negative: a shift in the gender gap is not associated with an expansion of paid leave.



FIGURE B.1.6. Correlation between change in parental leave generosity and change in the gender gap in higher education enrollment, 1970-2010.

*Notes:* See the text and for the definition of parental leave generosity. See figure 3.1 for the definition of the gender gap. *Sources:* OECD (2012a); Martin and Swank (2012); see also Appendix B.1.2.



# **B.1.5** Women's percentage of union members

FIGURE B.1.7. Percentage female among union members in advanced democracies, 1960-2010.

Source: Visser (2011)



# B.1.6 Conditional marginal effect plots of the effect in Table 3.2

FIGURE B.1.8. The estimated marginal coefficients of the gender gap in higher education and corporatism on parental leave generosity (with 95 percent confidence intervals). The grey histogram shows the distribution of the conditioning variable.

Notes: Based on Model 4 in Table 3.2.

#### **B.1.7** Additional regression results

This section of the appendix describes and discusses the robustness checks of the regression results presented in Section 3.2 and Table 3.2 of the study. Table B.1.2 reports Models 3 and 4 in Table 3.2 but includes the estimates for the covariates.

Table B.1.3 presents the results of a series of additional tests. As in the main analysis the gender gap and the corporatism variables are "demeaned" at one standard deviation above the mean (see Section 3.2 for details). We might worry that the results are driven by the particular operationalization and measurement of the gender gap, corporatism, or parental leave. I therefore specify a set of models using alternative measures. Model 1 shows the results when using the alternative measure of the gender gap. The alternative measure is defined as the average years of education among *women* over the age of 25 minus the average years of education among *men* over the age of 25. The data comes from Gakidou et al. (2010) and are available for the 1970-2009 period. The results are, if anything, stronger when using this alternative measure. The same holds when I, in Model 2, use the percentage of women enrolled in higher education, instead of the difference between women and men, as the measure of women's entrance into higher education. The source and definition of the variable is the same as for the main analysis (see the note to Figure 3.1 for details).

In model 3, I use an alternative measure of corporatism from Jahn (2014). This measure takes into account the organizational structure of collective actors, the structure of work council representation, the rights of work councils, the government intervention in wage bargaining, the dominant level of wage bargaining, the involvement of unions and employers in government decisions, the coordination of

wage bargaining, and the mandatory extension of collective agreements. The corporatism index is derived from a factor analysis and is *z* standardized (for details, see Jahn 2014). Employing this measure of corporatism fully supports the findings from the main models.

In Models 4 to 6, I turn to three alternative measures of the dependent variable. The first comes from Tanaka (2005) and is defined as the weeks of job-protected paid leave. It is available for 16 advanced democracies from 1969 to 2000 Tanaka (see 2005, for further details). The estimates in Model 4 indicates that my results are not sensitive to the use of this alternative operationalization of the dependent variable, which has the advantage of taking into account whether the leave is job protected. In Models 5 and 6, I use data from the Parental Leave Benefits Database (Ferrarini et al. n.d.), which include information on both duration and replacement rates for paternity, maternity and shared leave. Unfortunately, it is only available for every fifth year. I make use of two measures from this database. The first, which is the dependent variable in Model 5, is the number of weeks of paternity and shared leave multiplied by the weekly replacement rate. In Model 6, I use the database's measure of the net replacement rate during the child's first year as a percentage of the average production worker wage. This measure has the advantage that it captures the total generosity of the benefits during the period that constitutes the most important for leave. As these two measures are only available for every fifth year, I take the mean value of the independent variables over the five year *preceding* the years for which the parental leave measures are available. Using these reliable and accurate measures again confirms the results from the main analysis.

Next, in Models 7 to 9, I use different specifications of the model, namely a Prais-Winsten AR(1) model (Model 7), a lagged dependent variable model (Model 8) and an error correction model (9). The interaction term in all of these models is statistically significant, albeit only at the 10 percent level in Models 8 and 9, and the effect of the gender gap when corporatism is held constant at one standard deviation above its mean is in the right direction and significant in Model 7 and borderline insignificant in Models 8 and 9. Thus, although somewhat weaker, also these results are consistent with the results in the main set of models in Table 3.2.

Finally, in Model 10, I bootstrap the standard errors of Model 4 in the main analysis in Table 3.2. The clustered standard errors assume a large number of clusters, whereas I have 18 countries in the analysis. Esarey and Menger (forthcoming) recommends robustness checking the results using bootstrapped significance tests and confidence intervals and shows that the "wild bootstrap" procedure typically provides the most reliable uncertainty estimates. Model 10 reports the main results when using a wild bootstrap with 1,000 replications to obtain *p*-values and confidence intervals. These results are highly significant and very similar to the main results in Model 4 in Table 3.2.

Summarized, these robustness tests have shown that the main results and conclusions are backed up when using different measures for the key variables, alternative specifications of the model, and bootstrapped standard errors.

	Dependent variable: Parental leave				
	Covariates (1)	Basic (2)			
Gender gap (GG)	0.16	0.38***			
	(0.12)	(0.13)			
Corporatism	1.31	2.96			
-	(2.07)	(1.95)			
$GG \times corp.$		0.18**			
-		(0.06)			
Women in parliament (%)	0.57***	0.39**			
<b>•</b> • • •	(0.17)	(0.15)			
Left cabinet	-0.01	0.00			
	(0.01)	(0.01)			
Center cabinet	0.01	0.02			
	(0.01)	(0.01)			
Unemployment	0.19	-0.11			
	(0.3)	(0.27)			
Elderly	1.06***	1.13***			
-	(0.35)	(0.34)			
ддр per capita (log)	20.29**	12.44**			
	(7.56)	(5.87)			
$F_{(\gamma_1=\gamma_2=\gamma_3=0)}$	0.88	3.11**			
Observations	890	890			
Countries	18	18			
Adj. R <sup>2</sup>	0.85	0.86			

TABLE B.1.2. Full regression results for the provision of leave schemes, 18OECD countries, 1960-2010

*Note:* p < 0.10, p < 0.05, p < 0.01 (two-tailed test). OLS fixed effects regressions with robust standard errors clustered by country in parentheses. All regressions include country and year fixed effects. All independent variables are lagged by one year.

	Dependent variable: varies									
	Alt. GG (I) (1)	Alt. GG (II) (2)	Alt. corp. (3)	Alt. DV (I) (4)	Alt. DV (II) (5)	Alt. DV (III) (6)	AR(1) (7)	LDV (8)	ECM (9)	Bootstrap (10)
Gender gap (GG)	8.82**	0.19**	0.42***	0.57**	0.61**	0.71**	0.13*	0.04	0.04	0.38**
	(3.81)	(0.07)	(0.13)	(0.27)	(0.22)	(0.32)	(0.07)	(0.03)	(0.03)	CI: [.09,.67]
Corporatism	17.43***	-5.15**	3.40**	3.12	0.85	4.82	1.04	-0.06	0.18	2.96
	(3.41)	(2.06)	(1.44)	(2.82)	(4.34)	(6.29)	(0.77)	(0.33)	(0.36)	CI: [-1.59,7.42]
$GG \times corp.$	12.35***	$0.11^{***}$	0.18***	0.29**	0.33**	0.47***	$0.1^{***}$	$0.2^{*}$	0.2*	0.18***
	(2.36)	(0.03)	(0.05)	(0.11)	(0.13)	(0.16)	(0.03)	(0.01)	(0.01)	CI: [0.03,0.33]
$F_{(\gamma_1=\gamma_2=\gamma_3=0)}$	9.39***	5.17***	4.04***	4.24***	2.9**	2.93**	4.79***	$\chi^2$ : 4.3	$\chi^2$ : 2.88	4.79***
Observations	720	708	890	495	144	144	890	889	886	890
Countries	18	18	18	15	18	18	18	18	18	18
Adj. R <sup>2</sup>	0.89	0.88	0.86	0.87	0.76	0.82	0.83	0.96	0.83	0.83
$\rho$ /LDV (Models 8 & 9)							0.86	0.87	-0.13	

 TABLE B.1.3. Regression results for the provision of leave schemes, 18 OECD countries, 1960-2010

*Note:* p < 0.10, p < 0.05, p < 0.05, p < 0.01 (two-tailed test). OLS fixed effects regressions with robust standard errors clustered by country in parentheses. All regressions include the covariates specified in Section 3.2 and country and year fixed effects. All independent variables are lagged by one year. The ECM model also includes the first difference of all independent variables.

# B.1.8 The Norwegian case

### Seat percentages and voting power in the Storting, 1961-2017

This section describes how voting power is measured. The most used voting power index is the Banzhaf index (BI) (Banzhaf 1965). McLean (2001, ch. 4), for instance, uses this measure to calculate the relative power of each of the parties represented in the UK parliament between 1868 and 1910. With the BI we measure whether a given legislator's defection from a winning coalition is critical in the sense that it then becomes a losing coalition (Taylor and Pacelli 2008, 83-4). More precisely, to arrive at the power of a legislator  $v_i$ , or what can be called the "total Banzhaf power" (TBF), we count the number of coalitions *C* that simultaneously fulfill three criteria. First, that  $v_i$  belongs to *C*; second, that *C* is a winning coalition; and third, if *v* withdraws from *C* then *C* is *no longer* a winning coalition (Taylor and Pacelli 2008, 83). Thus if  $C_1, C_2, \ldots, C_j$  is the number of coalitions that fulfills the three criteria for voter  $v_i$  then  $\text{TBF}(v_i) = \sum_{i=1}^{j} C_i$ . We arrive at the fraction of the voting power that belongs to  $v_i$  (the normalized BI) with the following formula:

$$BI(v_i) = \frac{TBP(v_i)}{\sum_{i=1}^{n} TBP(v_n)}$$
(B.1)

In Figure B.1.9, I use this formula to calculate the relative voting power of each party for each parliamentary period (the grey bars).



FIGURE B.1.9. Parties' seat percentages and Banzhaf-power index score, 1961-2017.

*Notes:* See the text for the details on how the Banzhaf power index is calculated. *Sources:* The Norwegian Parliament (www.stortinget.no)

# Women ministers



FIGURE B.1.10. The percentage female cabinet ministers, 1945-2016

Sources: The Norwegian Parliament (www.stortinget.no)

Female and male labor force participation



FIGURE B.1.11. Percentage female and male labor force participation in the population aged 15-74, 1972-2014.

Sources: Statistics Norway

# C

# APPENDIX TO CHAPTER 3: CARE FOR CAREER

# C.1 APPENDIX

# C.1.1 Cross-national variation in women's share of managers and the labor force



FIGURE C.1.1. Percentage women among managers and among the employed in advanced democracies in the 2010s. *Note:* "This indicator refers to the proportion of females in total employment in senior and middle management corresponding to the

ployment in senior and middle management corresponding to the ISCO-88 categories 11 (legislators and senior officials) and 12 (corporate managers). The indicator provides information on the proportion of women who are employed in decision-making and management roles in government, large enterprises and institutions" ILO (2016). *Source:* ILO (2016)



# C.1.2 The daycare reform: background statistics

(a) Yearly daycare prices for parents for one child (in 2011 NOKs), 1992-2014



(b) Financing of daycare services (in billion 2011 NOKs), 2000-2010



- (c) Percentage of age group registered in daycare for more than 30 hours per week, 1963-2015
- FIGURE C.1.2. The development of daycare prices, daycare financing, and full-time attendance in Norway.

*Note:* Prices given in CPI deflated 2011 NOKs. *Sources:* Statistics Norway (2015, 21, 2016a), Gulbrandsen (2007), Norwegian Directorate for Education and Training (2016), and Statistics Norway (2016d)

	Age 1		Age 2			
	(1) $\hat{\beta}X_{m,t}$	(2) $\hat{eta} X_{m,t-1}$	(3) $\hat{\beta} X_{m,t}$	(4) $\hat{\beta} X_{m,t-1}$		
Higher edu. share	21.88 (28.16)	20.53 (20.67)	44.22 (28.46)	42.18		
Higher edu. share women	(20.10) $42.10^{***}$ (12.11)	(29.07) 46.51*** (12.27)	$38.23^{***}$	(20.47) 47.83***		
Women reps. share	(12.11) -1.53 (2.52)	(12.27) -0.17 (2.22)	(13.00) 3.07	(12.00) 0.50 (2.80)		
Left seats share	2.84	3.63	(3.03) 5.75	(2.09) 8.25* (4.51)		
Turnout share	(3.92) 28.56***	(4.01) 26.19***	(4·25) 33.36***	(4.51) 28.59***		
Unemployment share	(7.45) -37.29 (28.07)	(7.23) -54.36* (31.01)	(8.38) -97.25 <sup>***</sup> (25.72)	(0.15) -118.30*** (22.87)		
Log exp. per cap.	(20.07) 7.84*** (1.20)	8.96*** (1.22)	(55.72) 12.68*** (1.60)	(32.07) 13.52*** (1.54)		
Women pop. share	(1.29) 102.59 <sup>**</sup>	91.93 <sup>*</sup>	(1.00) 136.92*** (48.66)	(1.54) 142.89***		
Change in pop. (%)	(51.35) 0.28*** (0.10)	-0.01 (0.02)	0.17 (0.11)	(49.07) 0.07 (0.04)		
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		
Observations Municipalities	11,678 403	11,295 403	11,678 403	11,295 403		

# C.1.3 The Associates of Daycare Coverage Expansion, 1972-2001

TABLE C.1.1. Daycare coverage for one- and two-year-olds across Norwegian

municipalities, 1972-2001

*Note:* \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Robust standard errors adjusted for clustering on municipalities in parentheses.
	A	ge 1	Ag	e 2
	$(1) \\ \hat{\beta} X_{m,t}$	(2) $\hat{eta} X_{m,t-1}$	$(3) \\ \hat{\beta} X_{m,t}$	$\stackrel{(4)}{\hat{\beta} X_{m,t-1}}$
Higher edu. share	0.23	0.01	1.45	0.65
-	(1.01)	(1.08)	(1.05)	(1.12)
Higher edu. share women	-0.37	-0.49	0.17	0.10
	(0.45)	(0.44)	(0.45)	(0.42)
Women reps. share	-0.03	-0.01	-0.07	-0.05
	(0.07)	(0.07)	(0.07)	(0.08)
Left seats share	-0.04	0.02	0.01	0.12
	(0.07)	(0.09)	(0.07)	(0.09)
Turnout share	0.14	0.38*	-0.04	0.12
	(0.16)	(0.21)	(0.18)	(0.21)
Unemployment share	-0.59	-2.48***	-0.75	1.35
	(0.92)	(0.95)	(0.95)	(1.34)
Log exp. per cap.	0.05	0.04	-0.10**	0.04
	(0.04)	(0.05)	(0.05)	(0.05)
Median wage	-0.33	0.18	1.28***	0.54
	(0.41)	(0.53)	(0.47)	(0.55)
Women pop. share	-1.45	1.61	0.95	-0.37
	(1.19)	(1.72)	(1.32)	(1.79)
Change in pop. (%)	0.02***	-0.02***	-0.00	0.03***
	(0.00)	(0.00)	(0.00)	(0.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Observations	2,760	2,365	2,761	2,366
Municipalities	395	395	395	395

### C.1.4 The Associates of Daycare Coverage Expansion, 2002-2008

TABLE C.1.2. Daycare coverage for one- and two-year-olds across Norwegian

municipalities, 2002-2008

*Note:* \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Robust standard errors adjusted for clustering on municipalities in parentheses.

### C.1.5 Data Description and Sources

#### DATA SOURCES FOR FIGURES 4.1-4.6

- Figure 4.1: European Working Conditions Survey (2000, 2005, 2010)
- Figure 4.2: OECD (2012a)
- Figure 4.3: Gulbrandsen (2007), Norwegian Directorate for Education and Training (2016), and Statistics Norway (2016d)
- Figures 4.4, 4.5, and 4.6: Statistics Norway (2016b)

CONSTRUCTION OF THE DEPENDENT VARIABLES We study two main dependent variables, hours and leadership. The first, hours, is the work pressure in a job, operationalized as the average working hours in a detailed set of occupations. When parents, and particularly mothers, select their occupation, it is plausible that they do so partially on the basis of perceived working hours. Measuring the average workings hours of her occupation should tell us whether she is in an occupation with higher or lower work pressure—which is the first outcome of interest. We make use of two data sources to obtain such a measure. First, from the register data we know the detailed occupation of each of the employed individuals in our sample. These occupation codes are based on the widely used ILO ISCO-88 classification (three-digit level), where a "set of jobs whose main tasks and duties are characterised by a high degree of similarity constitutes an occupation" (Statistics Norway 1998, 11). Second, we need the average working hours for each of these 107 occupations. The registry data do not contain the actual hours worked. Even if they did, actual working hours during the 2002-2008 period are likely to be influenced by mothers' labor supply. A variable based on actual (or contracted) working hours would hence capture a mix of changes in labor supply and inflow of mothers to occupations with higher average hours of work. Our approach ensures a cleaner measure of the latter effect: we pool the the quarterly Norwegian Labor Force Surveys from 1997 to 2001, which contains information both on the 220,000 respondents' occupation and actual working hours, to create a precise measure of the average working hours for each of the 107 occupations. To do so, we regress actual working hours on a set of occupational dummies and year and quarter fixed effects to adjust for yearly and seasonal variation.<sup>1</sup> We use the estimates for these occupational dummies to predict the average actual working hours for each occupation. Figure C.1.3 supplies the full list of occupations and their predicted average working hours, and Figure C.1.4 shows that there is a very strong correlation between average hours and the female percentage in that occupation, echoing the cross-national results in Figure 4.1a and supporting the validity of our measure. Also reflecting the cross-national results, occupational groups consisting of directors, chief executives, and managers are among the occupations with the longest average hours. Finally, we merge the data on the estimated occupational working hours with the registry data, so that each mother with an occupational code is assigned the average hours worked of her occupation.

The second dependent variable, *leader*, is a binary indicator equal to 1 if the mother is in a leadership position, and o otherwise. At the ISCO-88 three digit-level, we thus identify a leadership position as being in one the following occupational groups: senior government officials (ISCO code 112), senior officials of interest organizations (114), directors and chief executives (121), production and operations department managers (122), other department managers (123), or general managers of small enterprises (131).

<sup>1</sup> We also control for whether the survey interview was done directly with the respondent or with another member of the household.

DESCRIPTIONS OF THE VARIABLES Unless otherwise stated, the variables are measured in the year the child was two years of age. Descriptive statistics are presented in Table C.1.3 below.

Individual level:

- ONE CHILD: Binary indicator equal to 1 if the mother has one child.
- TWO CHILDREN: Binary indicator equal to 1 if the mother has two children.
- THREE CHILDREN: Binary indicator equal to 1 if the mother has three children.
- FOUR CHILDREN: Binary indicator equal to 1 if the mother has four children.
- FIVE OR MORE CHILDREN: Binary indicator equal to 1 if the mother has five or more children.
- AGE: Age in years.
- EARNINGS (t-3): Earnings prior to tax and transfers.
- NO EDUCATION (*t*-3): Binary indicator equal to 1 if the mother has not completed compulsory education.
- COMPULSORY EDUCATION (*t*-3): Binary indicator equal to 1 if the highest completed education is compulsory education.
- HIGH SCHOOL EDUCATION (t-3): Binary indicator equal to 1 if the highest completed education is high school education.
- UNIVERSITY EDUCATION (LOW) (*t*-3): Binary indicator equal to 1 if the highest completed education is a bachelor/cand.mag. degree.

- UNIVERSITY EDUCATION (HIGH) (*t*-3): Binary indicator equal to 1 if the highest completed education is a masters/phd degree.
- UNKNOWN EDUCATION (t-3): Binary indicator equal to 1 if level of education is missing.
- MARRIED: Binary indicator equal to 1 if the mothers is married.
- FOREIGN BORN: Binary indicator equal to 1 if the mother is foreign born.
- EMPLOYED (t-3): Binary indicator equal to 1 if the mother is registered with earnings.
- PARTNER HAS UNIVERSITY EDUCATION: Binary indicator equal to 1 if the mother has a partner with a completed university degree.
- Municipality level:
- DAYCARE COVERAGE, AGE 1 (*t*-1): The share of children age 1 enrolled in daycare. Source: Statistics Norway (2016b).
- DAYCARE COVERAGE, AGE 2: The share of children age 2 enrolled in daycare. Source: Statistics Norway (2016b).

EMPLOYMENT RATE OF CHILDLESS MEN (t-1, t-2, and t-3):

Share of men without children who are employed. As we calculate this variable from the register data, we only have these data for 2002 and onwards and therefore have to use the general unemployment rate for *t*-1 and *t*-2, as this variable is available also before 2002.

EXPENSES PER CAPITA (LOG) (t-1, t-2, AND t-3): The log of the municipal government's total non-daycare expenditures per

capita. Total expenditures is the sum of gross current expenditures and gross investment. Source: Fiva, Halse, and Natvik (2015).

- MEAN WAGE LEVEL AMONG CHILDLESS MEN: The mean wage in the municipality among men without children, which is calculated from the administrative registers. This variable is not available before 2002 and is therefore only included at *t*.
- PERCENT POPULATION CHANGE (*t*-1, *t*-2, AND *t*-3): The percent change in the municipality's population from the previous year. Source: Fiva, Halse, and Natvik (2015).

variables.		
		Standard
	Mean	deviation
Individual level (N = 268,060)		
Daycare	0.492	0.428
One child	0.353	0.478
Two children	0.396	0.489
Three children	0.185	0.388
Four children	0.0480	0.214
Five or more children	0.0188	0.136
Age	32.44	5.151
Earnings (t-3)	182,943	138,994
No education $(t-3)$	0.00239	0.0488
Compulsory education (t-3)	0.175	0.380
High school education (t-3)	0.352	0.478
University education (low) (t-3)	0.328	0.470
University education (high) (t-3)	0.0819	0.274
Unknown education (t-3)	0.0580	0.234
Married	0.552	0.497
Foreign born	0.151	0.358
Employed (t-3)	0.865	0.342
Partner has university education	0.272	0.445
Municipality level ( $N = 395 \times 7 = 2,795$ )		
Daycare coverage, age 1 (t-1)	0.41	0.22
Daycare coverage, age 2	0.67	0.22
Employment rate of childless men	0.66	0.07
Expenses per capita (log)	4.05	0.27
Mean wage level of childless men	194,017	35,453
Percent population change	-0.07	1.39

### c.1.6 Descriptive Statistics for the Individual Level Variables

TABLE C.1.3. Descriptive statistics for the individual level variables.

# c.1.7 Estimates of the endogenous correlations between daycare and our outcomes

age and th	e outcomes of interest	
	Uours	London

TABLE C.1.4. Regression results reporting the association between daycare us-

	Hours		Leader	
	(1)	(2)	(3)	(4)
	<i>t</i> +1	<i>t</i> +5	<i>t</i> +1	<i>t</i> +5
Daycare	2.7 <sup>***</sup>	1.9 <sup>***</sup>	.01 <sup>***</sup>	.02 <sup>***</sup>
	(.2)	(.2)	(.002)	(.002)
Muni. & year FEs	√	√	√	√
Controls	√	√	√	√
Mean (SD) outcome	20.5 (13.8)	22.3 (13)	.03 (.18)	.05 (.22)
Mean (SD) daycare	.49 (.43)	.4 (.42)	.49 (.43)	.4 (.42)
Observations	268,060	153,931	268,525	154,039
Municipalities	395	395	395	395

c.1.8 Estimated average actual hours worked in three-digit occupational groups



FIGURE C.1.3. The predicted average actual working hours in three-digit level occupational groups, 1997-2001.

Sources: The Norwegian Labor Force Survey, 1997-2001



FIGURE C.1.4. Percentage women and average actual working hours in three-digit level occupational groups, 1997-2001.

Sources: The Norwegian Labor Force Survey, 1997-2001

### C.1.9 Results when restricting to individuals observed at *t*+5

	Н	lours	Lead	der
	(1)	(2)	(3)	(4)
	t+1	<i>t</i> +5	t+1	<i>t</i> +5
IV				
Daycare	$6.5^{***}$	3.8**	.03	.07**
	(2.0)	(1.6)	(.02)	(.03)
First stage				
Coverage, age 1	.27***	.27***	.27***	.27***
	(.02)	(.02)	(.02)	(.02)
Coverage, age 2	.03	.03	.03	.03
	(.02)	(.02)	(.02)	(.02)
Reduced form				
Coverage, age 1	1.83**	.88	.00	.01
	(.88)	(.61)	(.01)	(.01)
Coverage, age 2	.13	.28	.01	.01
	(.65)	(.49)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	22.3 (13)	22.3 (13)	.05 (.22)	.05 (.22)
Mean (SD) daycare	.4 (.42)	.4 (.42)	.4 (.42)	.4 (.42)
<i>F</i> -test ( <i>p</i> -value)	5.82 (0)	2.93 (.05)	1.43 (.24)	3.97 (.02)
Kleibergen-Paap F	114.4	115.1	115.4	115.4
Hansen J (p-value)	.01 (.93)	.12 (.72)	1.07 (.3)	1.75 (.19)
Observations	153,622	153,931	154,039	154,039
Municipalities	395	395	395	395

### TABLE C.1.5. Regression results reporting the association between daycare usage and the outcomes of interest

### C.1.10 Results when using only the strongest instrument

	Hours		Leader	
	(1)	(2)	(3)	(4)
	<i>t</i> +1	<i>t</i> +5	t+1	<i>t</i> +5
IV				
Daycare	2.6**	3.8**	.04**	.07**
	(1.2)	(1.6)	(.02)	(.03)
First stage				
Coverage, age 1	.32***	.30***	·32 <sup>***</sup>	.30***
	(.02)	(.02)	(.02)	(.02)
Reduced form				
Coverage, age 1	.82**	$1.12^{**}$	.01**	.02**
	(.35)	(.47)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	22.3 (13)	22.3 (13)	.05 (.22)	.05 (.22)
Mean (SD) daycare	.49 (.43)	.4 (.42)	.49 (.43)	.4 (.42)
Kleibergen-Paap F	181.4	229.8	181	230.5
Observations	268,060	153,931	268,525	154,039
Municipalities	395	395	395	395

# TABLE C.1.6. Regression results reporting the association between daycare usage and the outcomes of interest

### C.1.11 Results when excluding mothers who reside in a different municipality than at *t*-3 to account for selective migration

	H	ours	Lead	Leader	
	(1) <i>t</i> +1	(2) <i>t</i> +5	(3) <i>t</i> +1	(4) <i>t</i> +5	
IV					
Daycare	2.5*	4.9***	.04**	.08**	
-	(1.4)	(1.9)	(.02)	(.03)	
First stage					
Coverage, age 1	.29***	.28***	.29***	.29***	
	(.03)	(.03)	(.03)	(.03)	
Coverage, age 2	.05***	.02	.05***	.02	
	(.02)	(.02)	(.02)	(.02)	
Reduced form					
Coverage, age 1	.63	.92	.01	.01	
	(.49)	(.69)	(.01)	(.01)	
Coverage, age 2	.26	.61	.01	.01	
	(.40)	(.54)	(.01)	(.01)	
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	
Mean (SD) outcome	22.7 (12.7)	22.7 (12.7)	.05 (.22)	.05 (.22)	
Mean (SD) daycare	.49 (.43)	.4 (.42)	.49 (.43)	.4 (.42)	
<i>F</i> -test ( <i>p</i> -value)	2.02 (.13)	3.85 (.02)	2.81 (.06)	3.46 (.03)	
Kleibergen-Paap F	83.4	93	83.5	93.3	
Hansen J (p-value)	.11 (.74)	.96 (.33)	1.26 (.26)	1.59 (.21)	
Observations	206,051	118,281	206,371	118,363	
Municipalities	395	395	395	395	

### TABLE C.1.7. Regression results reporting the association between daycare usage and the outcomes of interest

### C.1.12 Results when using municipality of residence the year prior to child birth to account for selective migration

	He	ours	Lead	der
	(1) <i>t</i> +1	(2) <i>t</i> +5	(3) <i>t</i> +1	(4) <i>t</i> +5
IV				
Daycare	2.5	5.3**	.04**	.08**
	(1.5)	(2.2)	(.02)	(.04)
First stage				
Coverage, age 1	.23***	.22***	.23***	.22***
	(.02)	(.02)	(.02)	(.02)
Coverage, age 2	.05***	.01	.05***	.01
	(.02)	(.02)	(.02)	(.02)
Reduced form				
Coverage, age 1	.25	.68	.00	.01
	(.44)	(.66)	(.01)	(.01)
Coverage, age 2	.50	.62	.01	.01
	(.36)	(.49)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	22.7 (12.8)	22.7 (12.8)	.05 (.22)	.05 (.22)
Mean (SD) daycare	.49 (.43)	.4 (.42)	.49 (.43)	.4 (.42)
<i>F</i> -test ( <i>p</i> -value)	1.96 (.14)	3.82 (.02)	2.11 (.12)	2.93 (.05)
Kleibergen-Paap F	77.7	74.2	77.6	74.5
Hansen J (p-value)	1.18 (.28)	1.28 (.26)	.61 (.44)	1.49 (.22)
Observations	256,780	147,870	257,233	147,970
Municipalities	395	395	395	395

### TABLE C.1.8. Regression results reporting the association between daycare usage and the outcomes of interest

#### C.1.13 Placebo analyses

	Hours		Leader	
	(1)	(2)	(3)	(4)
	<i>t</i> +1	<i>t</i> +5	<i>t</i> +1	<i>t</i> +5
Reduced form				
Coverage, age 1	34	.07	.01	.00
	(.47)	(.70)	(.01)	(.01)
Coverage, age 2	.17	07	00	00
	(.33)	(.54)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	18.8 (14)	17.5 (14)	.04 (.20)	.04 (.19)
<i>F</i> -test ( <i>p</i> -value)	.60 (.55)	.01 (.99)	.53 (.59)	.07 (.93)
Observations	180,245	104,213	180,436	104,256
Municipalities	395	395	395	395

 TABLE C.1.9. Regression results reporting the association between our instruments and the outcomes for 55 year old women.

### C.1.14 Results when excluding those without an occupation

	Hours		Leader	
	(1) <i>t</i> +1	(2) <i>t</i> +5	(3) <i>t</i> +1	(4) <i>t</i> +5
IV				
Daycare	1.6***	1.5**	.06**	.08**
	(.4)	(.7)	(.02)	(.04)
First stage				
Coverage, age 1	.30***	.29***	.30***	.30***
	(.03)	(.03)	(.03)	(.03)
Coverage, age 2	.05**	.02	.05**	.02
	(.02)	(.02)	(.02)	(.02)
Reduced form				
Coverage, age 1	.38**	·45 <sup>*</sup>	.01	.01
	(.16)	(.26)	(.01)	(.01)
Coverage, age 2	.20	.02	.01*	.02
	(.15)	(.20)	(.01)	(.01)
Muni. & year FEs	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Controls	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Mean (SD) outcome	25.9 (10.4)	29.1 (4.6)	.06 (.24)	.06 (.25)
Mean (SD) daycare	.54 (.42)	.43 (.42)	.54 (.42)	.43 (.42)
<i>F</i> -test ( <i>p</i> -value)	6.41 (0)	2.43 (.09)	3.3 (.04)	3.84 (.02)
Kleibergen-Paap F	83.5	89.5	83.8	89.7
Hansen J (p-value)	.77 (.38)	o (.95)	2.26 (.13)	1.7 (.19)
Observations	188,838	117,847	189,303	117,955
Municipalities	395	395	395	395

# TABLE C.1.10. Regression results reporting the association between daycare usage and the outcomes of interest

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