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Norwegian Parliamentary Elections, 1906-2013: Representation and Turnout Across Four Electoral Systems

Jon H. Fiva* Daniel M. Smith†

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Abstract

Since gaining full independence in 1905, Norway has experienced more than a century of democratic elections, and has reformed its electoral system three times, most notably with the switch from a two-round runoff system to proportional representation in 1919. This article introduces a new data set featuring all candidates running for parliamentary (Storting) elections from 1906 to 2013, and document patterns over time and across electoral systems in the development of the party system; candidates' gender, age, occupation, and geographic ties; and voter turnout. Scholars interested in using the data set can gain access to it through the Norwegian Centre for Research Data (NSD).

*BI Norwegian Business School. E-mail: jon.h.fiva@bi.no

†Harvard University, E-mail: danielmsmith@fas.harvard.edu

Norway is one of the world's oldest and most stable democracies. Officially, the starting point of modern Norwegian democracy is May 17, 1814, when the Constitution was adopted. The Constitution of 1814 is the now the oldest codified constitution in Europe, and is second globally only to that of the United States (Narud and Strøm 2011). Although formally in a union with Sweden from 1814, Norway enjoyed over a hundred years of quasi-independent growth and political development before full independence was declared in 1905. The separation was peaceful, and subsequently approved by a national referendum. A second referendum in 1905 established Norway as a constitutional monarchy.

The first electoral system used for the Norwegian Storting (parliament), introduced by the 1814 Constitution, was based on indirect elections with plurality rule. A limited number of eligible male voters elected delegates to electoral colleges, and these delegates then selected the members of parliament (MPs) (Aardal 2002; Helland and Saglie 2003). This system governed 31 elections from 1815 until 1903. A parliamentary system was adopted in 1884, with the King of Sweden losing control over the executive and designation of advisers. Direct electoral contestation for parliamentary seats began in 1906 after the formal separation from Sweden. Since then, Norway has experienced more than a century of democratic elections.

We introduce a new data set of Norwegian parliamentary elections from 1906 to 2013, which we use to document several patterns in the development of democratic representation and voter behavior. The data set is distinctive in three ways. First, it contains candidate-level observations for all candidates from all parties since the 1906 election, making it a rare resource for candidate-level research on elections. Second, it spans one major electoral system reform and two minor reforms. The major reform was the change from a single-member district (SMD) system using a two-round plurality runoff (1906-1918) to a closed-list proportional representation (PR) system in multi-member districts with the D'Hondt method for allocating seats (1921-1949). In the post-World War II period, the seat allocation method was switched to Modified Sainte-Laguë (1953-1985),

and later, adjustment seats were also added (1989-2013). Finally, the data set contains information on candidates' gender, age, occupation, and hometown, which provides an opportunity to study the nature and development of democratic representation over time and across the electoral system environments. In what follows, we briefly describe the context and chronology of Norway's four electoral systems, and then use this new data resource to illustrate patterns and changes over time in the party system, candidate and MP characteristics, and voter turnout.

Chronology of the Electoral System, 1906-2013

Aardal (2002) gives a thorough account of the different electoral systems experienced by Norway, as well as the rationales and political debates behind the adoption of each. Here we only briefly describe the most important features of the four electoral systems used in Norway over the 1906-2013 period, summarized in Table 1.

Norway is rare among parliamentary democracies in that elections are held at regular intervals, without the possibility of early elections. From 1906 to 1936, elections were held every three years. The inter-electoral period was extended to four years in 1938, but the next election was not held until 1945, after the end of World War II. The Storting is a unicameral parliament with all members elected simultaneously.¹ Until 2002, parties were required to use a decentralized candidate selection process based on local nominating conventions in order to receive public financial support for nomination meetings (Valen, Narud and Skare 2002; Aardal 2011). Elected MPs who are appointed to cabinet must resign their seats in the Storting, and are replaced by deputy MPs who are either designated on the ballot as such (during the two-round system period) or are the next in line on the party's list (under the PR system). In our presentations of the data, we focus on the MPs who were initially elected, without including deputies who were promoted

¹Until 2009, MPs divided themselves post-election into two chambers for legislative processes. One quarter of MPs served in the *Lagting*, which functioned like a pseudo upper house, while the other three-fourths served in the *Odelsting*.

into permanent seats after the election.

Table 1: The Electoral Systems of Norway, 1906-2013

Electoral System	I	II	III	IV
Years used	1906-1918 (5 elections)	1921-1949 (8 elections)	1953-1985 (9 elections)	1989-2013 (7 elections)
Electoral formula	Two-round majority runoff	PR D'Hondt	PR Modified Sainte Laguë	PR Modified Sainte Laguë w/ adj. seats
Number of seats	123 to 126	150	150 to 157	165 to 169
District magnitude				
- Minimum	1	3	4	3
- Median	1	5	7	7
- Maximum	1	8	15	18
Adjustment seats	-	-	-	8 to 19

Note: Adjustment seats are awarded only to parties that reach an electoral threshold of 4% of the national vote count. District magnitude does not include adjustment seats. All PR systems are effectively closed-list (see footnote 4).

Two-Round System: 1906-1918

The two-round runoff system that governed the five elections from 1906 to 1918 worked as follows. In the first round, a candidate was elected if he or she received an absolute majority of votes cast in the district. If a majority was not achieved in the first round, a second round of elections was held within a few weeks.² The candidate that obtained a plurality of the votes in the runoff election won the race. In contrast to most other two-round systems, competition in the second round was not limited to a fixed number of candidates, nor was entry in the second round restricted to candidates who ran in the first round. All coordination was thus elite-driven rather than resulting mechanically

²All first-round elections in 1918, for example, were held on October 21 and all second-round elections on November 11.

from the electoral rules (Fiva and Smith 2017).

There were a few restrictions. A residency requirement ensured that only candidates living in the electoral district could run for office in the district. This rule did not apply to former (from 1884) or current (from 1913) cabinet ministers (Andenæs and Wilberg 1983). In practice, however, few individuals exercised this right.³ The residency requirement was abolished in 1952. Male suffrage for citizens aged 25 years and above was implemented in 1898. Female suffrage was gradually extended during the first decade of the 20th century, first in 1907 to women who owned property and had a certain level of income. Universal suffrage was finally implemented in 1913.

The 1814 Norwegian Constitution stipulated that 1/3 of MPs should be elected from towns and 2/3 from rural districts. This component of the electoral system was known as the “Peasant Clause,” and historically led to the overrepresentation of urban—rather than rural—districts. In the 1906-1915 period, 123 MPs were elected in 82 rural and 41 urban districts. Most districts comprised several neighboring municipalities. However, *Kristiania* (the capital, now called Oslo), and some other large cities, were split into multiple districts, and a few other districts, such as *Bodø og Narvik*, were made up of two or more non-contiguous municipalities. In 1918, three additional districts were established.

PR (D’Hondt): 1921-1949

With the expansion of the franchise, support for the socialist Labor Party (*Det Norske Arbeiderparti*) increased. In part as a strategy of socialist “containment” similar to the pattern in many other European democracies in the early 20th century (Rokkan 1970; Boix 1999; Blais, Dobrzynska and Indridason 2005), the non-socialist parties conceded in 1919 to change the electoral system to a PR system. The old single-member districts were grouped into 29 multi-member districts with a median magnitude of 5 seats, and

³Some non-minister candidates did, however, run outside of their hometown district—albeit within the same county—indicating that the residency requirement was not strictly enforced.

the total number of seats in the Storting increased from 126 to 150. The voting age was also reduced in 1921 to 23 years (from 25).

The seat allocation method chosen was the D'Hondt formula, which tends to be favorable to large parties in smaller-magnitude districts. In the 1930 to 1945 period, smaller parties could improve their chances of winning a seat by joining forces in electoral cartels (*listeforbund*). Votes were cast for the individual party lists, but the allocation of seats was based on the total sum of votes cast for the participating parties in each list.⁴

PR (Modified Sainte-Laguë): 1953-1985

In 1953, the D'Hondt method was replaced by a Modified Sainte-Laguë seat allocation formula, a change that also occurred in Denmark and Sweden around the same time (Elklit 1999). The Modified Sainte-Laguë method uses larger divisors (1.4, 3, 5, 7, ...) compared to the D'Hondt method (1, 2, 3, 4, ...), which mechanically produces a more proportional outcome (Fiva and Folke 2016). The 1953 electoral reform also abolished the Peasant Clause, such that districts since 1953 correspond to the borders of Norway's 19 counties (*fylker*).⁵ District magnitude was increased to between 4 and 15 seats, with the median district returning 7 MPs. The size of the parliament was later increased from 150 to 155 seats (in 1973) and then to 157 seats (in 1985).⁶

PR (Modified Sainte-Laguë) with Adjustment Seats: 1989-2013

Adjustment seats were introduced in 1989, contributing further to increasing the proportionality of the system. Under this system, seats are allocated in two rounds: first-tier

⁴Voters are allowed to change the rank order of the candidates on the party list and to strike out names of candidates they do not want elected. However, for a list to be changed through this process, a majority of a party's voters must alter the list in the exact same way. This has never happened, so the system is effectively a closed-list system.

⁵Bergen was a separate district until 1973. Since 2005, district magnitude is determined through a process that takes into account the population *and* geographical area of each county. As such, sparsely populated but geographically large counties are currently somewhat overrepresented in parliament. Before 2005, there was no direct link between the geographic distribution of seats and district population size (Aardal 2011).

⁶The ability for parties to form electoral cartels was re-introduced in 1985, but abolished before the next election.

seats are allocated at the district level, as before, using the Modified Sainte-Laguë method; then, second-tier adjustment seats are given to parties that are underrepresented nationally after the first-tier seats have been allocated, provided that those parties reach an electoral threshold of 4% of the national vote count. From 1989-2001, eight second-tier seats could be allocated to parties in any district. Since 2005, one party in each district is allocated a second-tier seat (hence, 19 adjustment seats in total), and the number of first-tier seats has been reduced to 150. In what follows, we designate each electoral system period by Roman numerals: (I) Two-Round Runoff; (II) PR with D'Hondt; (III) PR with Modified Sainte-Laguë; (IV) PR with Modified Sainte-Laguë and Adjustment Seats.

Data Sources and Variables

The level of observation in the data set is each individual candidacy in each election year, for a total of 60,744 candidate-year observations. The data were hand-collected from various volumes of *Stortingsvalget* (Parliamentary Elections) published by Statistics Norway. These documents only list the full names of all candidates from 1961 onwards. Prior to the 1961 election, only the initial of the first name is provided for male candidates, while the full name is provided for female candidates. We manually supplemented male first names for many of the candidates in the 1906 to 1957 period using biographical information from the *Archive of Politicians* (elected MPs) provided by the *Norwegian Centre for Research Data (NSD)*, later electoral lists, and other sources, and then standardized the format and spelling of individuals' names across observations. We classified candidates' gender based on first names. Year of birth for elected MPs also comes from the *Archive of Politicians*.

For the two-round runoff period, the data set includes both rounds, so the variable structure is somewhat different from the PR period. For the PR period, candidate observations are hierarchically grouped into their respective parties for each district in each

election. In the two-round runoff period, a ballot would typically include the name of the Storting candidate, the name of his deputy candidate, and both of their occupations.⁷ After PR was introduced, ballots displayed the party label and the ranking of candidates, and typically also included candidates' occupation and hometown.

We classify candidates' first and second (if applicable) occupations based on two-digit ISCO-08 codes (International Standard Classification of Occupations).⁸ In addition, we establish seven codes for occupations that do not fit into the ISCO framework (owners, pensioners, housewives, students, self-employed, unemployed, and other dependents). The practice of listing occupations has become less common over time. In the 2013 election, only 9.5% of our observations include the candidate's occupation.⁹

Information on each candidate's municipality of residence allows us to identify his or her geographic ties to the constituency. The data set includes a municipality identifier that corresponds to the municipality codes (*kommunennummer*) used in official government statistics; hence, it is straightforward to merge our candidate-level data set with any municipality-level data set from, for example, Statistics Norway.

The full set of variables in the data set includes standard electoral variables such as year, district, region, magnitude, electorate, party, total votes, valid votes, turnout, size of parliament, seat outcomes, and electoral pacts, as well as candidate-level variables for vote share or list rank, gender, age (for MPs only), hometown, and occupation.

Evolution of Representation and Turnout

In the remainder of this article, we survey the development of the Norwegian party system, candidates' demographic, occupational, and geographic backgrounds, and voter turnout

⁷Our data do not include information on the deputy candidates for this period. In the PR period, all deputies were also candidates on the party list, and are thus included in the data. The 1906 election law prohibited the use of party names on the actual ballot for the two-round system (Mjeldheim 1978, p. 15); however, the data set does include information on the party affiliation of candidates.

⁸http://www.ssb.no/a/publikasjoner/pdf/notat_201117/notat_201117.pdf

⁹We are able to identify ISCO categories for 99.7%, 99.6%, 94.3%, and 42.9% of observations in electoral system period (I), (II), (III), and (IV), respectively. In cases where occupation is missing, but is listed in a previous election for the same candidate, we use the previous occupation.

across the four electoral systems covered by the data set. In so doing, we paint a broad picture of how Norwegian democracy has developed over time, and how changes in the electoral system are reflected in our data.

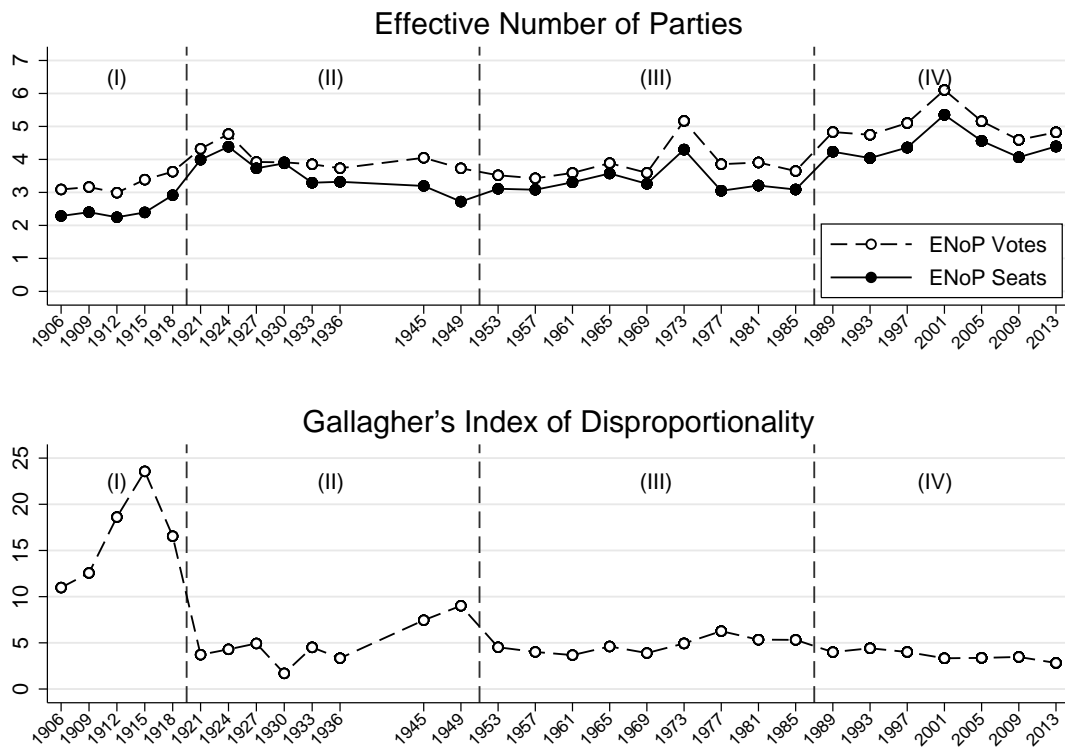
The Party System

The first formal parties were established in 1884 (Aardal 2002). At the time our data set commences in 1906, the party system was still in a state of flux following the dissolution of the union with Sweden (Helland and Saglie 2003, p. 585). However, for the remainder of the runoff period, elections were dominated by three party blocs: **(1)** the Labor Party (*Sosialdemokratene*, later *Arbeiderpartiet*), **(2)** the Liberals (*Venstre*) and the Labor Democrats (*Arbeiderdemokratene*), and **(3)** the Conservatives (*Høyre*) and the Progressive Liberals (*Frisinnede Venstre*). A smattering of other minor parties also fielded candidates in this period.

Figure 1 illustrates the longitudinal patterns in the *Effective Number of Parties* (*ENoP*) (Laakso and Taagepera 1979) and the *Index of Disproportionality* proposed by Gallagher (1991). Prior to the introduction of PR, the Labor Party received about 30% of the votes, but only about 15% of Storting seats. The disproportionality of the seat allocation outcome, documented in the bottom panel of Figure 1, came mostly to the advantage of the Liberals. The Labor Party was therefore naturally the strongest advocate for electoral reform. However, the Labor Party’s main opponents also acknowledged the need for reform. In the 1918 manifestos of both the Liberals and Conservatives, the parties stated that they would work for a “more just electoral system.” The debate over electoral reform also took place outside of the main party organizations. For example, the conservative newspaper *Aftenposten* wrote 157 articles in the 1918-1919 period that included the word “*valgordning*” (electoral rule).

The effective number of parliamentary parties (ENoP seats) increased from about three to about four with the introduction of PR. This partially reflects the mechanics of the electoral system, but also reflects strategic responses of voters and politicians in antic-

Figure 1: Effective Number of Parties and Gallagher's Index of Disproportionality



Note: This figure shows the development of the Effective Number of Parties and Gallagher's Index of Disproportionality over the 1906 to 2013 period. Roman numerals indicate electoral system eras (see Table 1).

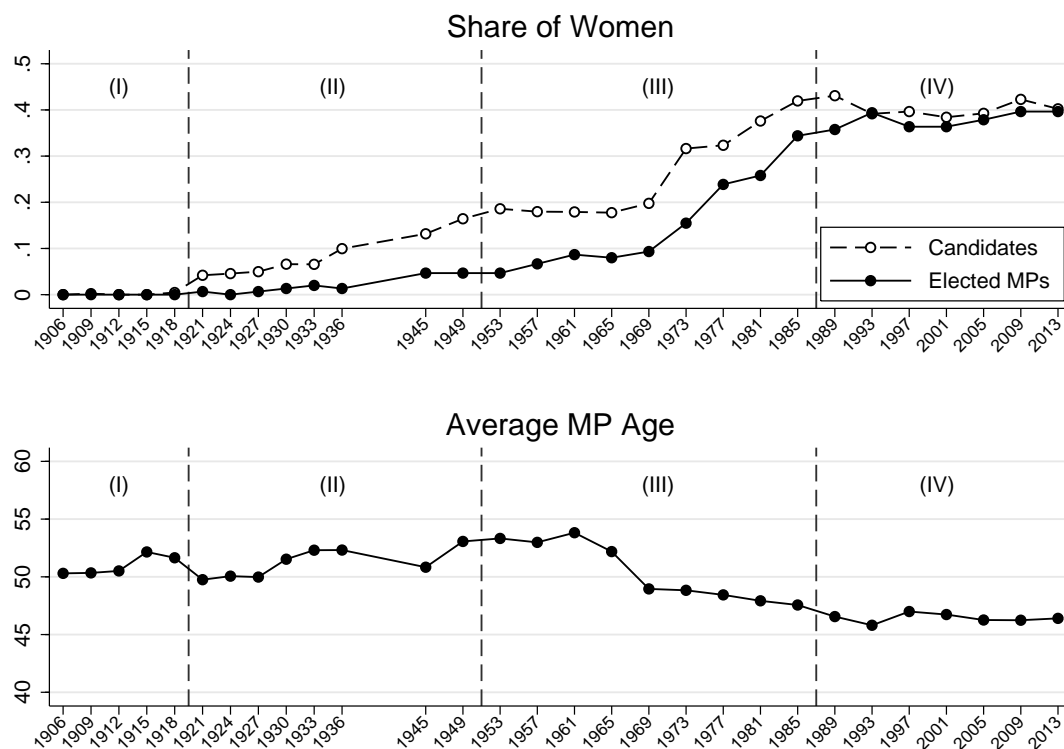
ipation of the electoral system’s mechanical constraints (Duverger 1954; Cox 1997; Fiva and Folke 2016). For example, the Farmer’s Party (*Landsmannsforbundet/Bondepartiet*, later *Senterpartiet*) fielded a candidate in about 20% of single-member districts in 1918 and won 3 seats. In 1921, they presented a list in about 80% of the multi-member districts and won 17 seats. Other important parties in Norwegian politics only later entered the electoral arena: the Communist Party (*Norges Kommunistiske Parti*) in 1924, the Christian Democrats (*Kristelig Folkeparti*) in 1933 (but without gaining substantial support until 1945), the Socialist Left Party (*Sosialistisk Folkeparti/Venstreparti*) in 1961, and the Progress Party (*Fremskrittspartiet*) in 1973.

The Labor Party continued to grow in the decades following the switch to PR. The “big party bonus” in the D’Hondt system resulted in a seat majority for the Labor Party following both the 1945 and 1949 elections, even though the party received only 42% and 46%, respectively, of votes cast. The index of disproportionality was about 9 in 1949. This pattern of Labor Party advantage eventually led to the 1953 electoral reform where Modified Sainte-Laguë replaced the D’Hondt seat allocation formula (something the Labor Party opposed). After the introduction of PR, the index of disproportionality dropped to about 5 and stayed at that level in the entire electoral system period (III). After adjustment seats were introduced in 1989, the effective number of parties increased and the disproportionality of the seat allocation fell slightly. In the most recent election in 2013, the index of disproportionality was 2.8.

Demographic Backgrounds of Candidates and MPs

The representation of women has increased dramatically in the past few decades, and Norway is not an exception. For scholars of representation, the share of women among candidates and MPs represents an important factor in assessing the nature of representation in any democracy. One of the most significant and consistent findings in the comparative empirical literature is that women’s descriptive representation tends to be higher under PR systems, and when gender quotas are used (e.g., Rule 1987; Krook 2006;

Figure 2: Gender and Age over Time



Note: The top-panel figure shows the fraction of female candidates (white) and elected MPs (black), by election year. The bottom-panel displays the average age (in years) of elected MPs, by election year. The vertical dashed lines indicate electoral reforms. Roman numerals indicate electoral system eras (see Table 1).

The top panel of Figure 2 shows how the gender composition of the Storting has changed over time. The solid black line gives the proportion of female MPs, the dashed line gives the proportion of female candidates. Before the introduction of PR, regular MPs were all male. A few deputy MPs were, however, female. Anna Rogstad, elected as a deputy MP in 1909, became the first woman to sit in the Storting in 1911. With the introduction of PR, the total number of candidates increased almost three-fold, from 433 in 1918 to 1,264 in 1921. With more opportunities and incentives for parties to diversify their candidate lists, the proportion of female candidates increased from effectively zero

¹⁰The within-country analysis of Roberts, Seawright and Cyr (2013) suggests, however, that the effect of electoral rules on women’s representation may be weaker than previously thought.

to about 4%. The first woman to be elected outright to the Storting was Karen Platou. She won the fifth (and final) seat for the Conservative/Progressive Liberals joint list in Oslo (Kristiania) in 1921.

Female representation continued to increase gradually over the 20th century, particularly in the 1970s and 1980s. The reason for the steep increase in women's representation after 1969 had more to do with parties than the electoral system. Many parties during this period introduced quotas requiring that all ballots should feature at least 40% women.¹¹ Figure 2 shows that the fraction of female MPs continued to lag behind the fraction of female candidates over our sample period. However, since the 1990s the gap has diminished, and in the most recent election the two lines have converged. Women are still underrepresented in Norwegian politics, with 40% of the seats in the parliament, but the gender imbalance is worse in many other countries in Western Europe. In 2015, for example, the average proportion of women in the single or lower houses of the parliaments of the European Union member states was just 28%.¹²

The bottom panel of Figure 2 shows the development in average MP age over time.¹³ For the first half of our sample period, the average age fluctuated around 52 years. However, there has been a downward trend from the 1969 election and onwards. In the 2013 election the average MP age was 46 years. The three youngest MPs in the data set were 21 years old at the time of their first elections: Trond Jensrud (1989), Tomas Norvoll (1993), and Anna Ljunggren (2005)—all from the Labor Party (Jensrud was the youngest overall). The oldest MP was Erik Mathiassen Enge, leader of the Centre Party, who was 75 years old at the time of his final election in 1927.

¹¹The Liberals introduced such a requirement in 1974, the Socialist Left Party in 1975, the Labor Party in 1983, the Centre Party in 1989, and the Christian Democratic Party in 1993.

¹²http://ec.europa.eu/justice/gender-equality/gender-decision-making/index_en.htm.

¹³We do not have non-elected candidates' age because this information is not listed on the ballot. MPs' age is collected from the *Archive of Politicians* data set at NSD.

Occupational Backgrounds of Candidates and MPs

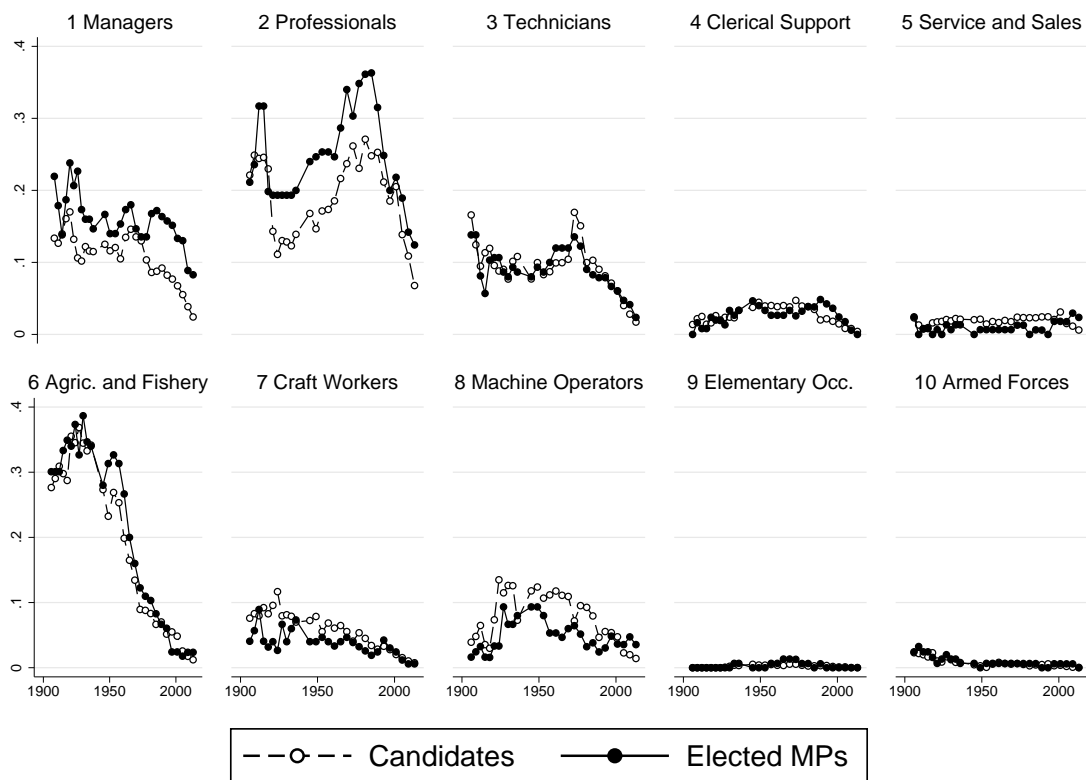
With our data, we are also able to explore the development of candidates' occupations over time, which provides some insight into the parties' personnel strategies and bases of support. Existing research suggests that electoral rules might also influence the nature of representation through the selection of candidates of different occupational and class backgrounds. For example, Becher (2016) suggests that leftist parties have more incentives to nominate less extreme candidates in majoritarian compared to proportional electoral systems—as a result, one might expect to find more candidates selected from traditional support organizations, such as labor unions, in leftist parties under PR.

Figure 3 illustrates how occupational representation changes across one-digit ISCO-08 codes over our sample period. For this figure, we use the primary occupation listed on the ballot the *first time* the candidate ran for office, since elected MPs in subsequent elections often list occupation as *stortingsrepresentant* (member of the Storting). Candidates without any occupation listed in the first year they run are excluded. Most notably, the data show a steady increase in professionals (e.g., lawyers, doctors, teachers) and a decrease in agricultural and fishery workers (in most cases, this occupational category captures candidates whose occupation is “farmer”); however, it is important to remember that the availability of the occupation information drops off precipitously in electoral system era (IV).

Figure 4 illustrates the same development, but with four broad categories: white-collar workers (ISCO codes 1-5; i.e., top five panels of Figure 3), farmers (ISCO code 6; i.e., bottom left panel of Figure 3), blue-collar workers (ISCO codes 7-9; i.e., bottom middle panels of Figure 3) and a residual other category. One of the “other occupations” that has varied over time is *husmor* (housewife). Many early female candidates listed this as their occupation. Later generations of women had professional careers outside the home before running for office.

Figure 4 indicates that the introduction of PR led to an increase in blue-collar candidates, which suggests that the Labor Party may have recruited more heavily from labor

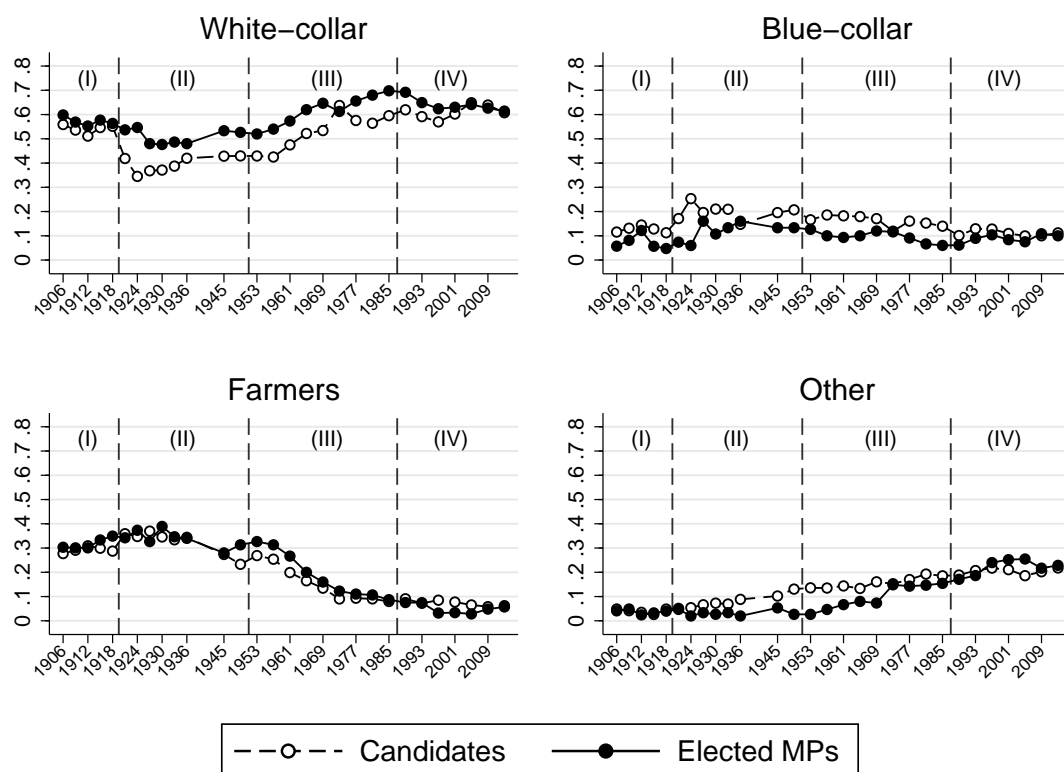
Figure 3: Occupational Backgrounds over Time



Note: The figure shows the fraction of candidates (white) and elected MPs (black) belonging to each occupation category. We create the occupation dummies by using candidates' first listed occupation (if more than one occupation is listed) in the first year the candidate is running. Candidates with no occupation listed on the ballot in the first election are excluded.

unions after the reform. However, the descriptive representation of such occupations did not increase, which suggests that many of these candidates were low on the party list. Future research might look into parties' candidate selection strategies in more detail under the different electoral rules.

Figure 4: Occupational Backgrounds over Time: White Collar vs. Blue Collar vs. Farmers vs. Others



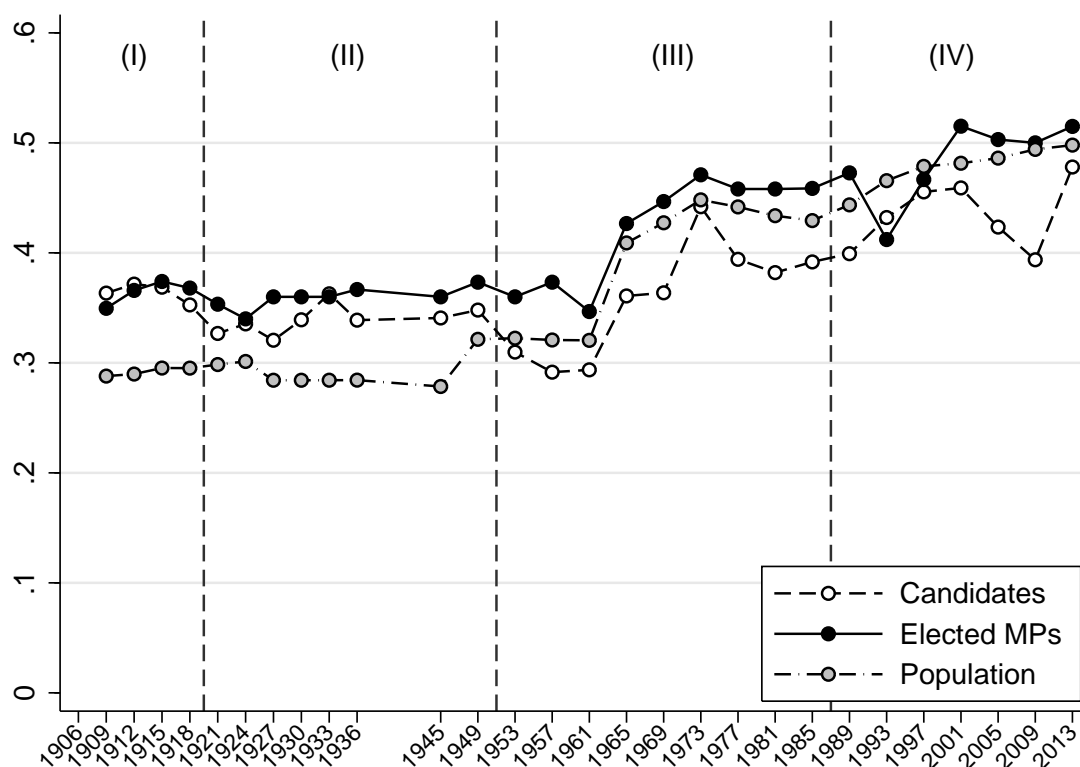
Note: The figure shows the fraction of candidates (white) and elected MPs (black) belonging to four different occupation categories: white-collar workers (ISCO codes 1, 2, 3, 4, and 5); farmers (ISCO code 6); blue-collar workers (ISCO codes 7, 8, and 9); and a residual “other” category (including armed forces [ISCO code 10], housewives, students, and pensioners). We use candidates’ first-listed occupation (if more than one occupation is listed) in the first year the candidate runs. Candidates with no occupation listed on the ballot in the first election are excluded. Roman numerals indicate electoral system eras (see Table 1).

Geographic Representation

The extent to which the geographic ties of candidates are important to voters may also vary depending on the electoral system (e.g., André, Depauw and Deschouwer 2014;

Latner and McGann 2005; Shugart, Valdini and Suominen 2005). However, as previously noted, until 1952 most Norwegian candidates were required to reside in the districts from which they ran. The other peculiarity of the 1814 Norwegian Constitution was the Peasant Clause mandating that 1/3 of MPs be elected from cities or towns and 2/3 from rural districts.

Figure 5: Urban Representation over Time

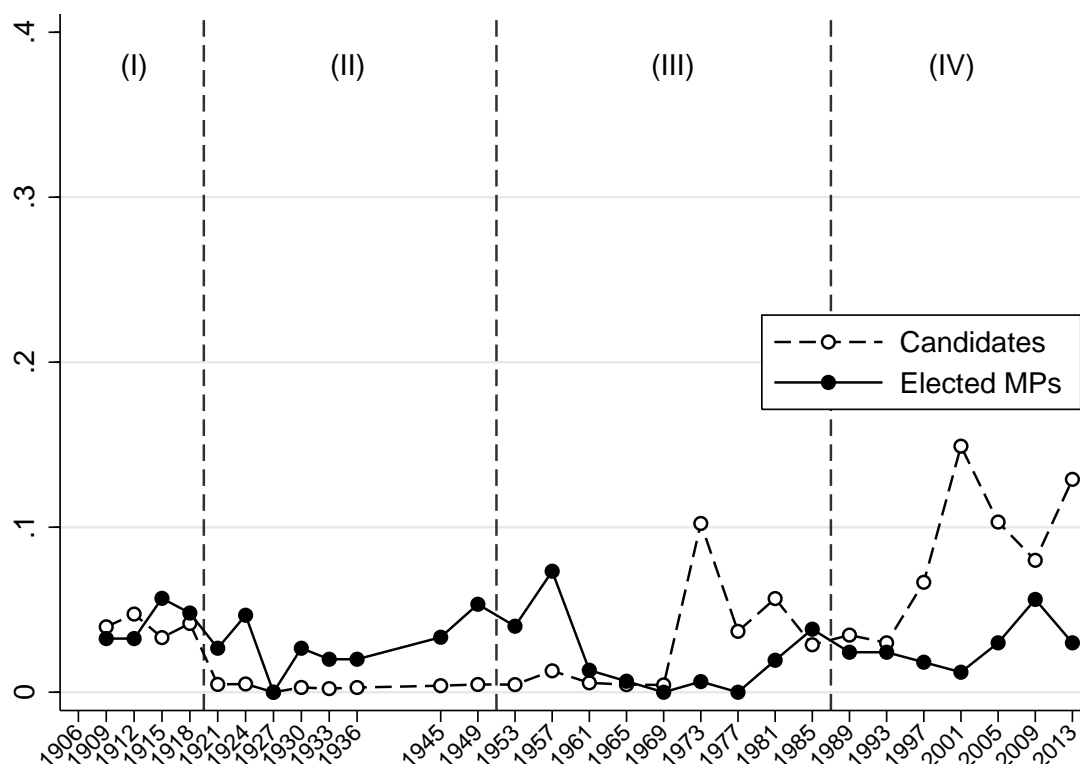


Note: The figure shows the fraction of candidates (white) and elected MPs (black) from municipalities with “town” status, by election year. The figure also plots the fraction of the population who lived in towns (grey). The vertical dashed lines indicate electoral reforms. Roman numerals indicate electoral system eras (see Table 1). Hometown information is not available for the 1906 election. For the remaining years we have hometown information for 98.3 percent of the observations.

Municipality identifiers based on the given hometowns of candidates allow us to pin down which municipalities over time would be designated by the government as being an urban “town.” Figure 5 illustrates the fraction of candidates (white) and elected MPs

(black) who came from urban electoral districts.¹⁴ The figure also plots the fraction of the population who lived in towns (grey). Although the fraction of urban citizens increased over time, in 1919 it was still below 1/3, and remained below 1/3 for all of the interwar period. The Peasant Clause was finally abolished in 1953. As demographic trends continued, the Peasant Clause would have begun to benefit rural areas by the 1960s.

Figure 6: Candidates Running Outside of Their Hometowns



Note: The figure shows the fraction of candidates (white) and elected MPs (black) running for office outside their home electoral district by election year. The vertical dashed lines indicate electoral reforms. Roman numerals indicate electoral system eras (see Table 1). Hometown information is not available for the 1906 election. For the remaining years we have hometown information for 98.3 percent of the observations.

Figure 6 shows the proportion of candidates (and elected MPs) who ran outside of the district containing their hometown—in other words, “parachute” candidates. As such candidacies were initially allowed only for current and former cabinet ministers,

¹⁴Parachute candidates explain why the black line does not fall exactly at 1/3.

the proportion is higher among elected MPs than candidates. Even after the residency requirement was dropped, however, parachute candidates have been relatively rare. The increase beginning in 1973 is due to very small fringe parties running the same list of candidates in multiple constituencies. Hence, most Norwegian candidates continue to have close local ties to the districts in which they run.

Voter Turnout

Finally, the data set can be used to evaluate district-level patterns in voter turnout over time and across electoral systems. Existing research has noted that mean turnout tends to be higher under PR systems, and cross-district variance tends to be lower (e.g., Cox 1999; Selb 2009; Herrera, Morelli and Palfrey 2014; Eggers 2015; Cox, Fiva and Smith 2016). Figure 7 illustrates the distribution of voter turnout in the 29 elections included in the data.¹⁵ In the beginning of the 20th century, the average cross-district turnout was about 60%. Average turnout increased with the introduction of PR, but the effect was modest. Figure 7 shows, however, a dramatic decrease in the cross-district variance of the voter turnout distribution that coincides with the introduction of PR. Using a panel based on the pre-reform district structure, Cox, Fiva and Smith (2016) document this “contraction effect” in more detail.¹⁶

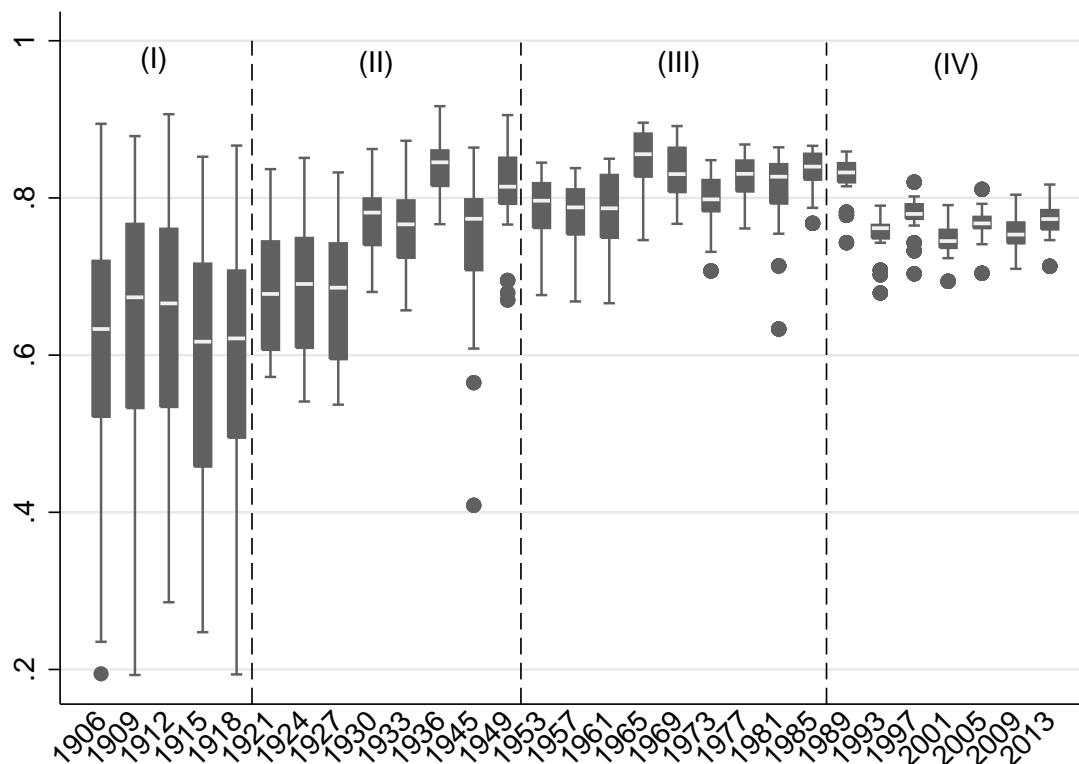
Voter turnout remained at a high level throughout the rest of the period covered by the data set. In electoral system era (III), turnout was consistently around or above 80%, while it has been somewhat lower in electoral system era (IV). It is unclear whether this decrease is related to the introduction of adjustment seats or whether it is symptomatic of a general pattern across many democracies. The variance of the voter turnout distribution

¹⁵We measure turnout as the number of approved (valid) votes cast over the number of voters in the electorate.

¹⁶The evidence presented in Cox, Fiva and Smith (2016) aligns with recent formal theories of elite mobilization (Cox 1999; Herrera, Morelli and Palfrey 2014) which predict that a transition from SMDs to multi-member districts with PR will produce two off-setting effects. In the most closely competitive pre-reform districts, the introduction of PR will result in a decrease in competitiveness and turnout; in the less competitive pre-reform districts, both will increase. Thus, the distribution of turnout will *contract* toward an intermediate level. Depending on how many pre-reform SMDs are closely contested, mean turnout may increase or decrease.

has been remarkably low since adjustment seats were introduced in 1989.

Figure 7: Electoral Participation over Time



Note: The figure shows box-and-whisker plots based on yearly district-level turnout. For the 1906-1918 period we report turnout using the final round. The vertical dashed lines indicate electoral reforms. Roman numerals indicate electoral system eras (see Table 1).

Summary and Opportunities for Future Research

Clearly, patterns in Norwegian representation and turnout have evolved over the past century of democratic experience, and appear to have developed in expected ways following electoral system reforms. The party system remained relatively stable across all four electoral system periods, with the effective number of parties increasing only modestly over time after an initial influx in new parties with the introduction of PR. However, the switch to PR and later reforms resulted in lower disproportionality between parties' vote

shares and seat shares. In terms of candidates and MPs, the pattern over time has been an increase in women, younger candidates, and professionals, even as close geographic ties have continued to be a feature of candidates' characteristics. Turnout increased dramatically with the introduction of PR, and has remained relatively high, with low variation across districts.

Beyond the general patterns presented here, the new data set introduced in this article opens up several avenues for future research. First, having data on all candidates running for office (not just winners) makes it possible to study the consequences of different types of candidates on political representation. Fiva and Smith (2016), for example, use a regression discontinuity design to pin down the causal effect of incumbency on the formation of dynasties in Norway, taking advantage of narrow electoral margins for specific candidates. Similar designs could be used to explore whether the election of specific types of candidates—such as women or those with local ties to an area—has any effect on voter behavior or policy outcomes.

Another useful feature of the data set is that it covers multiple electoral reforms, something which allows researchers to study the properties and consequences of different electoral systems in an otherwise stable (single-country) environment. But given that many other European democracies concurrently adopted PR in the early 1900s (Rokkan 1970; Boix 1999; Blais, Dobrzynska and Indridason 2005), and the other Scandinavian democracies also later made the switch to Modified Sainte-Laguë (Elklit 1999), the data set also presents promising opportunities for comparative research. Finally, the long time frame covered by the data set allows researchers to investigate the evolution of democratic representation during a dramatic period of growth in Norwegian history. While GDP per capita in the United States was 4.9 times larger in 2010 than in 1930, Norway's was 6.2 times the 1930 level (Barth, Moene and Willumsen 2014).

Scholars interested in using this new and remarkably detailed candidate-level data set can gain access to it through the *Norwegian Centre for Research Data (NSD)*: www.nsd.uib.no/english/.

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