How Does Party Discipline Affect Legislative Behavior? Evidence from Within-Term Variation in Lame-Duck Status[*]

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June 16, 2023

Abstract

How important are political parties in motivating and disciplining elected officials? Using a difference-in-differences design, we study how shocks to incumbents' reelection probabilities affect legislative behavior in a setting where parties fully control candidate selection. We find that within-term variation in lame-duck status has a strong negative effect on legislative effort. There is, however, no clear evidence that lame-duck status affects the extent to which legislators deviate from the party line. Our findings align well with the citizen-candidate framework, where candidates have fixed ideological positions that do not vary based on electoral incentives.

Keywords: Political parties, party discipline, roll-call votes, legislative speech

The modern state has the ability to greatly affect the economic and social well-being of its citizens through the actions of elected officials. A crucial issue in institutional design is finding ways to discipline these officials and ensure that they act in the interest of the public (Besley, 2006). Canonical political economy models focus on elections as the key politician control device (Barro, 1973; Ferejohn, 1986). Voters are, however, not the only principal that discipline elected officials. In all modern democracies, political parties have a crucial responsibility for selecting and incentivizing politicians. To succeed, a political party needs a disciplined organization that allows them to build a cohesive brand name, commit to policy platforms, and facilitate efforts to negotiate coalition governments (Cox and McCubbins, 2007; Sieberer, 2006; Snyder Jr and Ting, 2002).[1] Several scholars have convincingly documented that politician behavior and effort respond to electoral incentives (e.g., Dal Bó and Rossi, 2011; Ferraz and Finan, 2008; Titiunik, 2016). Less is known about the role of parties as disciplinarians in various electoral settings (Hollyer, Klašnja and Titiunik, 2022; Jenkins and Nokken, 2008). We aim to contribute to filling this gap in the literature.

We consider an empirical setting – Norway – where party leaders draw up lists of candidates that cannot be altered by voters (*closed-list elections*).[2] In such a setting the responsiveness of legislators to party leaders' carrots and sticks is expected to be particularly strong (Carey, 2007).[3] Norway is ideal for our purposes because the absence of the personal vote, strong party brands, and low levels of private campaign financing create a setting where the party organizations fully orchestrate political selection. We study how the behavior of legislators changes when they suddenly learn that they will not get renominated by the party (*lame ducks*). By minimizing the number of competing

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[1]In his seminal contribution, Anthony Downs conceptualized political parties as teams of candidates "seeking to control the governing apparatus by gaining office in a duly constituted election" (Downs, 1957, p. 25).

[2]Closed-list elections are also used in many other Western European countries, e.g., Portugal and Spain, and many Latin American countries, e.g., Argentina and Uruguay.

[3]Party leaders can enforce rank-and-file's cooperation in contributing to the collective legislative good in a number of ways, e.g. by promises of future safe nominations (Cirone, Cox and Fiva, 2021), by assignment to key policy committees (Cox and McCubbins, 2007), and by controlling the legislative agenda (Carey, 2007).

principals (Carey and Shugart, 1995; Buisseret and Prato, 2022), the Norwegian case allows us to rule out changes in legislative behavior that are triggered by incumbents trying to mobilize voters. In addition, strong seniority rules within parties and no new party entry entail that legislators who fail to be renominated by the party are out of politics. Our case hence allows us to quantify how legislators react to one key principal: their legislative party leadership.

When incumbents become lame ducks, the principal-agent relationship between legislators and party leadership changes dramatically. The party leadership lose their grip around the future careers of their rank-and-file members and can no longer discipline them by making promises of future appointment to coveted positions (e.g., as committee chair). In other words, we expect party leaders to be less able to "turn the screws" on lame ducks, as they are no longer beholden to the party (Jenkins and Nokken, 2008; Kam, 2009). We hence ask two related research questions. First, how does lame-duck status affect legislative effort? Second, how does lame-duck status affect legislative dissent?

In the political agency framework with incomplete information outlined by Besley (2006), the possibility of reelection improves legislative performance, because corrupt politicians have incentives to mimic the behavior of non-corrupt ones. By improving legislative efforts, corrupt incumbents can obscure their true type and convince voters to reelect them. In contrast, in a one-period model politicians have no incentives to obscure their type, as there are no incentives to trade off rent extraction in t for $t+1$. In such a world, strategic politicians who become lame ducks should reduce their legislative effort and advocate for policies closer to their own preferences (e.g., Smart and Sturm (2013)). In contrast, in the citizen-candidate framework of (Besley and Coate, 1997; Osborne and Slivinski, 1996), legislators have fixed ideological positions that do not vary based on electoral incentives. If this is a reasonable description of the world, legislators will advocate for their preferred policies both before and after they become lame ducks (Fouirnaies and Hall, 2022). Our empirical investigation sheds light on these competing theoretical frameworks.

We use data from seven election terms in the Norwegian Parliament (1993–2021), where general elections are held every fourth year. Our empirical strategy takes advantage of the fact that about 10 months before the next general election, regional party organizations hold their nomination meetings. At these meetings, most incumbents tend to be renominated in safe spots without any competition (Cirone, Cox and Fiva, 2021). However, about 10 percent of incumbents are involved in fights over nomination spots. These fights are typically decided by a handful of votes from dues-paying party members. Incumbents that lose these renomination battles exit politics and never return to the national political arena (in our sample period).

The gist of our research design is as follows: We compare changes in the behavior of incumbents that lose nomination fights (*losers*), to changes in the behavior of other incumbents. Leveraging fine-grained data varying at the politician-day level, we study both the quantitative and qualitative aspects of legislative behavior using roll-call votes, legislative speech, and information about bill sponsorship. To study ideological deviations vis-à-vis the party leadership we propose a novel measure that allows us to identify ideological positioning in the speech space using a recently-developed semi-supervised word embedding technique (Watanabe, 2021).[4]

Our main results can be summarized as follows: We find that *losers*, relative to other incumbents, are about five percentage points less likely to show up in Parliament to vote and about two percentage points less likely to give a speech, after the nomination meeting. This suggests that legislators put in less legislative effort when they know they cannot be reelected. We find, however, no evidence that *losers* shift their ideological platforms following the nomination meeting. We observe no clear changes in legislative dissent using either roll-call votes or the content of legislative speech.

Our paper is closely related to the literature that uses term limits to measure the effects of electoral incentives (e.g., Alt, Bueno De Mesquita and Rose, 2011; Besley and

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[4]Legislative debates are less constrained by agenda-setting and party leadership discipline and are likely to be more informative about legislators' policy positions than legislative votes (Back, Debus and Fernandes, 2021; Herzog and Benoit, 2015; Proksch and Slapin, 2012; Schwarz, Traber and Benoit, 2017).

Case, 1995; Ferraz and Finan, 2011; Lopes da Fonseca, 2020). Most of these studies compare incumbents who are allowed to run for reelection to incumbents who are termed out and thus face lower electoral incentives (i.e., cross-individual research designs). Fouirnaies and Hall (2022), however, compare the final-term behavior of termed-out legislators *to their behavior in previous terms*, relative to counterfactual trends among other legislators in the same legislature (i.e. a within-individual across-terms research design).[5] The research design that we propose compares individuals to their *own behavior in the same term* before they receive the negative reelection shock (i.e. a within-individual within-term research design).

Empirical case: Norway 1993-2021

A party-centered electoral environment

Elections for the Norwegian Parliament (*Storting*) are held every fourth year in September. Votes are allocated to parties in each electoral district using closed-list proportional representation.[6] This implies that citizens vote for parties rather than candidates, and candidates are elected in the order in which parties have decided. This electoral rule, which was adopted more than a century ago (in 1919), gives political parties the upper hand in Norwegian politics. This manifests itself in strong party discipline in Parliament and a substantial incumbency advantage for Members of Parliament (MPs), who tend to get renominated in safe spots on the lists.

Norway is carved into 19 electoral districts, with district magnitudes ranging from 3 to 18 seats, depending on population size.[7] Seats are allocated in two tiers. In the first tier,

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[5]Geys and Mause (2016) also rely on a within-individual across-terms research design using data from the United Kingdom (which does not have term limits). They find that legislators who decide to retreat from politics have higher absenteeism rates during Parliamentary votes, pose fewer written questions, and participate less often in Parliamentary debates during their last term. Concurrently, they seem to increase their extra-Parliamentary efforts.

[6]Voters are technically allowed to make changes to party lists, but such changes only matter if the majority of a party's voters alter the list in exactly the same way. This has never happened, so the system is effectively a closed-list system.

[7]In our sample period, the Parliament consisted of 165-169 seats. It is the duty (*ombudsplikt*) of

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seats are allocated proportionally to parties within each electoral district based on party vote shares in the district (*Modified Sainte-Laguë method*). In the second tier, adjustment seats are given to parties that are under-represented at the national level once the first-tier seats have been allocated, provided that those parties reach an electoral threshold of four percent of the national vote.

We limit our analysis to the seven main parties that dominate Norwegian politics in our sample period. Ordered from "left" to "right", these are the Socialist Left Party, Labor Party, Center Party, Liberal Party, Christian Democrats, Conservative Party, and Progress Party.[8]

Roll-call votes

In Norway, like in most other parliamentary systems, intraparty cohesiveness in roll-call voting is extremely high (Willumsen, 2017). Political parties typically decide in advance of Parliamentary meetings how individual legislators should vote. Generally, parties only allow legislators to break the party line on issues of strong constituency interest (e.g., infrastructure investments) or moral beliefs (e.g., abortion), and only when they do not threaten the standing of the government (Rasch, 1999).

Appendix Figure A.3 plots the fraction of legislators breaking the party-line by party and Parliamentary session.[9] On average, the fraction of legislators that break with the party line when the party is in government is extremely low, around 3 percent. It is somewhat higher when the party is not part of government, around 6 percent, on average.[10]

The party whips (*innpisker*) play a central role in orchestrating roll-call votes using the so-called *exchange system* (*utbyttingssystemet*). In this trust-based system, where all parties participate, whips coordinate across party lines to make sure that the strength of

anyone elected as a Member of Parliament to accept such election (The Norwegian Constitution §63). Incumbents are not allowed to resign their seats in Parliament, but it has happened that incumbents have been granted a leave of absence. For example, previous prime minister Jens Stoltenberg was granted a leave of absence to serve as the secretary general of NATO in 2014.

[8]In the 1993–2021 period, only 8 out of 1171 seats were held by other lists (0.6 percent).

[9]Appendix Table A.1 gives an overview of Norway's government in our sample period.

[10]Our data includes roll call votes recorded by the electronic voting device of the *Storting*, and therefore excludes unanimous and some near-unanimous decisions.

the political parties is maintained even when turnout is well below 100 percent. Typically, turnout is around 50–70 percent (see Appendix Figure A.1).[11]

Legislative speech

Legislative speech is restricted by the Parliamentary rules of the *Storting*: All speeches must be addressed to the Parliamentary president, the tone should be formal, and speech length is strictly regulated. Although some types of speeches will be prepared well in advance (e.g., the first speech of an ordinary debate (*Debattinnlegg*)), other speeches are more spontaneous. In the *Oral Question Hour* (*Muntlig spørretime*), for example, legislators may pose short oral questions for cabinet members to answer on the fly. Legislators tend to participate more actively in the debate when they are in the opposition (see Appendix Figure A.2).

Despite the closed list system creating strong incentives to follow the party line (Proksch and Slapin, 2015), Parliamentary speeches are habitually used to signal disagreement with bargaining outcomes and voice individual policy concerns.[12] Fiva, Nedregård and Øien (2023) demonstrate how politicians with different background characteristics speak differently in the Norwegian Parliament, even when controlling for political bloc and policy committee. This suggests that, compared to roll call votes, legislators have substantial discretion in floor speeches. There is, however, no clear evidence that legislators deviate more (or less) from the party line depending on the government status of their party (see Appendix Figure A.4).

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[11]By law, 50 percent of all legislators are required to be present at ordinary roll-call votes. Constitutional amendments require that two-thirds of all legislators are present. We drop votations with a turnout above 100 percent (1.2 percent of the sample) and below 50 percent (0.04 percent of the sample) to eliminate clear error registrations.

[12]One example is a speech by Heidi Nordby Lunde (Conservative MP) on February 27th, 2014. After the ruling coalition having agreed to put forward a bill that would secure medical doctors the right to reserve themselves against referring women to abortions, Lunde signaled her disagreement with her party's position by stating: *"Our collaborators should know that when we have entered an agreement, we stand by it, even when it is hard. Even when it is desperately hard."*

Nomination meetings and the classifications of incumbents

In all main parties, nominations and list order are determined by local conventions attended by party delegates. Prior to the local convention, a local nomination committee announces a proposal for the party lists. At the local convention, individual candidates can "fight" for spots on the list. If a challenger successfully defeats a person suggested by the nomination committee, this only has a direct consequence for that spot on the list (lower-ranked candidates are not pushed down). A candidate can, however, be involved in multiple fights.

Cirone, Cox and Fiva (2021) have collected data on the competition for nomination spots in the 2017 Norwegian election. They document that when a fight over a spot occurs, it typically involves two contestants who have similar experiences with holding elective office. All in all, 15 percent of winnable spots were contested in the 2017 election. Using newspaper coverage of the nomination meetings and information from local party organizations, we extend this data set to cover seven election terms (1993–2021). To be able to study how shocks to MPs' renomination probabilities affect legislative behavior, we include detailed information about the date of the nomination meetings and the votes that determined an intra-party fight. For the most recent election, we also collect information about the dates when the local nomination committees announced their proposal. Figure 1 illustrates the timeline of the 2021 nomination process.[13]

We divide incumbents into four categories:

1. "Losers" lost a renomination fight for a winnable spot on the list

2. "Winners" won a renomination fight for a winnable spot on the list

3. "Uncontested incumbents" did not face any competition at the nomination meeting

4. "Retiring incumbents" are not running again in the next election

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[13]In our full sample, the median nomination meeting is held 9 months before the next election (see Appendix Figure A.6). Based on data for the 2021 election, the nomination committees typically announce their proposals one to three months before the convention (the average time gap is 47 days; the standard deviation is 25 days). Prior to the 2021 election, the maximum number of days between the announcement by the committee and the local party convention is 102 days.

Figure 1: Timeline for the nomination process

Proposals from nomination committees	Local convention with party delegates	Formal deadline for party lists	Election day
August 20, 2020 – January 20, 2021	September 26, 2020 – March 13, 2021	March 31, 2021	September 13, 2021

Note: This figure illustrates the timeline of the nomination process. The dates below the timeline refers to the 2021 election, but the nomination process occurs on similar dates in other election terms. The deadline for finalizing electoral lists are always March 31 of the election year. The election is always held on the second Monday of September.

Table 1 provides descriptive statistics for these four categories by election term. In addition, we include a residual category *unclear*, which captures incumbents that are involved in multiple fights, a category for minor party MPs, and a category for MPs that serve as cabinet members during an election term.[14] These three categories are excluded from our analyses.[15]

Table 1 shows that most incumbents tend to get renominated without any competition. In this group, 74 percent ultimately get reelected.[16] Table 1 shows that many incumbents leave politics without any outright fight at the nomination meeting.

When incumbents are involved in fights for renomination they often win or lose by a narrow margin.[17] Our research design exploits within-term variation in reelection probabilities, where MPs involved in nomination fights only learn about their reelection probabilities after the nomination meetings. Our study focuses on the *losers* (3 percent of the total sample) of these nomination fights. These lame ducks have an observationally zero

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[14]Kari Kjønaas Kjos (Progress Party) is an example of an incumbent that we classify as *unclear* for the 2017 election. At the nomination meeting, she first lost a battle over the second-ranked position on the list (losing 33–56 to Himanshu Gulati), but continued to fight over the third-ranked position on the list. She won this position on the list with a single vote (45–44 against Ib Thomson), and ultimately got reelected.

[15]Right-wing incumbents are somewhat overrepresented among *losers*. They are also more likely to be male and to come from white-collar origins. However, they are otherwise comparable to *winners*, *uncontested*, and *retirees* when it comes to the number of terms served, age, and urbanicity (Appendix Table A.2).

[16]The vast majority of uncontested incumbents are renominated in winnable or safe positions on the lists, but there are a few exceptions. For example, Ketil Solvik-Olsen, top-ranked in 2009, featured only in the ninth spot on the list of the Progress Party in Rogaland district in 2013 when deciding to take a break from politics in the 2013-2017 Parliamentary term.

[17]The median win margin is 15 votes, and the median turnout is 82 (Appendix Figure A.7).

probability of being reelected into Parliament; all the lame ducks exit the Parliament after the following election (although two of them serve as deputies). Some of the losing incumbents feature on future local or national election lists, but with one exception, they never return as full-time politicians on any governmental tier.[18]

Table 1: Number of observations by year and incumbent type

Upcoming election year	Losers	Winners	Uncontested	Retirees	Unclear	Minor party MPs	Cabinet	Total
1997	5	5	92	34	12	2	15	165
2001	2	13	89	34	1	1	25	165
2005	6	6	96	32	2	4	19	165
2009	4	6	96	39	1	0	23	169
2013	3	11	89	42	2	2	20	169
2017	6	10	93	43	3	1	13	169
2021	10	8	83	42	4	2	20	169
Total	36	59	638	266	25	12	135	1171

Note: This table shows the number of MPs in our sample by renomination type and upcoming election. Before 2013 there were 165 MPs elected in the Storting, but this was increased to 169 in the subsequent election terms. Losers are MPs who lost a renomination fight, while winners won a fight. Uncontested incumbents were renominated without any competition. Retiring incumbents are legislators who do not run again in the following election. Unclear MPs are MPs that are involved in both losing and winning nomination fights. Minor party MPs represent parties who fail to meet the national electoral threshold of four percent to qualify for adjustment seats in the relevant election term. The cabinet category includes MPs who served as cabinet members during an election term.

Research design and outcome variables

We study whether legislators who lost party-renomination fights (*losers*), behave differently in Parliament (as measured by roll-call votes, Parliamentary speeches and bill sponsorship) relative to other legislators (*uncontested, winners* and *retirees*).[19] The idea is that when legislators lose their renominations, the party effectively has no remaining power over the legislator's career and can no longer incentivize them to exert effort and to toe the party line. Comparing legislators' behavior before and after the shock (as well as with legislators who face no negative shocks) can reveal the extent to which

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[18]The exception is former MP Espen Johnsen, who became a mayor in Lillehammer, a municipality with about 27,000 inhabitants.

[19]The inclusion or exclusion of *winners*, who get a moderate positive reelection shock at the nomination meeting, and *retirees* from the comparison group do not meaningfully affect our main results.

Parliamentary behavior is influenced by these career incentives.[20]

As explained above, we consider an empirical setting where the party organizations fully orchestrate political selection. Under closed-list proportional representation, list placement – not individual campaigning – is the most important factor determining election outcomes for individual politicians. This institutional feature is useful because it allows us to quantify how legislators react to one key principal: their legislative party leadership. A negative renomination shock is unlikely to substantially change legislative behavior because incumbents worry about pleasing voters. A complication with our empirical setting is, however, that party whips have considerable influence over who appears on the floor. This means that we cannot fully separate between legislator "supply" and party "demand". Our estimates should be interpreted as the equilibrium effect of these forces.

Empirical specification

Using fine-grained data varying at the daily level, we estimate two-way fixed effects models of the form:

$$Y_{iet} = \alpha_{ie} + \delta_t + \beta LameDuck_{iet} + \xi_{iet}, \tag{1}$$

where Y_{iet} represents different outcome variables (explained below) for legislator i in election term e at date t. $LameDuck_{iet}$ is a dummy variable indicating whether legislator i has lost their renomination contest at date t, i.e., the legislator is a lame duck (an absorbing state). The inclusion of legislator-term fixed effects (α_{ie}) ensures that all inference for the parameter of interest, β, is drawn from within-legislator within-term variation in lame-duck status. In our baseline specification, we control flexibly for time trends by including date fixed effects (δ_t). ξ_{iet} is an error term. We cluster standard errors at the legislator level.[21]

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[20]An alternative research design would be to compare *losers* with *winners* using the votes from dues-paying party members in a regression discontinuity design. Unfortunately, we don't have statistical power to detect meaningful effects with such a design.

[21]Using simulations where we randomly select lame duck politicians, we verify the reliability of the

In the two-way fixed effect model, the parameter of interest is identified under a parallel trend assumption: in the absence of losing renomination, *losers* would behave similar to *other* incumbents.[22] Because legislators that belong to the same political party ($p[i]$) can be particularly useful for predicting counterfactual trends, we also present results where we replace δ_t with party-date fixed effects ($\delta_{p[i]t}$). We also consider a third way to create counterfactual trends. By including district-date fixed effects ($\delta_{d[i]t}$) we compare only legislators elected from the same multi-member district ($d[i]$).[23] Finally, as a sensitivity check, we include legislator-specific time trends in Equation (1). In an extension, we estimate a fully dynamic version of 1 which serves two purposes: (i) to assess whether pre-trends between *losers* and *other* incumbents are similar (they are) and (ii) to check whether any lame-duck effects persist throughout the lame duck period.

Outcome measures I: Legislative effort

Following the literature (e.g., Dal Bó and Rossi, 2011; Fouirnaies and Hall, 2022; Geys and Mause, 2016), we measure legislative effort in different ways. We focus on three key Parliamentary activities: roll-call vote attendance, legislative speech, and bill sponsorship.[24] We let Y_{iet} be a dummy variable equal to one if incumbent i undertakes the relevant activity in Parliament on date t of election term e (zero otherwise). For roll-call vote attendance, we limit the sample to dates where any roll-call votes were held. For legislative speech and bill sponsorship, we limit the sample to dates where at least one speech was held (i.e. the Parliament was open).

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cluster-robust standard errors.

[22]The dates where legislators potentially become lame ducks vary across parties and districts, i.e., there is a "staggered rollout" of treatment. Borusyak, Jaravel and Spiess (2022) show that in such cases, two-way fixed effects model partly leverages "forbidden comparisons" between groups that got treated over a period of time and reference groups that had been treated *earlier*. In our case, this is not a concern because we have a large number of never-treated units and a large number of periods before any unit is treated (relative to other units and periods) (Borusyak, Jaravel and Spiess, 2022, p. 15).

[23]One might even consider changing the time-fixed effect structure such that one only compares legislators that belong to the same party and district ($\delta_{p[i]d[i]t}$). However, with seven main parties and a median district magnitude of eight, this specification becomes too demanding (many *losers* do not have a within-party-district peer whom he/she can be compared).

[24]Appendix Figure A.5 plots the fraction of legislators putting forward a bill by party and Parliamentary session.

Outcome measures II: Legislative dissent

We examine to what extent parliamentarians toe the party line using two different measures. The first measure, based on roll-call votes, is straightforward. We let Y_{iet} be a dummy variable equal to one if incumbent i votes against the majority of his/her party in any vote at date d in election term e. This variable is equal to zero if incumbent i votes with the majority of his/her party or if he/she abstains.

The second measure, based on legislative speech, is more advanced. We rely on a recently developed semi-supervised text analysis technique known as Latent Semantic Scaling (LSS) (Watanabe, 2021). LSS is natural language processing method based on word embeddings, which has been found to perform at a level close to, and sometimes outperforming, human coders (Rodriguez and Spirling, 2022).[25] This method allows us to identify dimensions in the speech space using word embeddings (word vectors) using a small number of seed words. The seed words are treated as polarities in the speech space, and by calculating distances between the words in the vocabulary and the seed words we can scale text documents on a political left-right scale.

LSS is useful for our purposes for several reasons. First, since the method relies on word vectors, it allows us to identify polarities without having to specify an exhaustive list of words. Second, the semi-supervised nature of LSS allows us to pin down interpretable dimensions in the speech space, without having to manually code documents. Third, since there are two spoken, but linguistically similar, languages in the Norwegian Parliament, we need a method that enables us to analyze documents in different languages in parallel. The LSS algorithm enables us to do so as long as the semantic structure of the speech space is comparable across the languages (which they are).

To identify seed words, we use penalized logistic regression (Gentzkow, Shapiro and Taddy, 2019) to single out the 100 most predictive words of MPs' bloc affiliation (200 in

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[25]Nedregård (2023) uses LSS to study whether Norwegian MPs deviate from the party line during times of local economic distress. Similar methods are used in a rapidly increasing number of empirical investigations of political texts, e.g., Gennaro and Ash (2022) who demonstrate divergence in the emotive strategies used by minorities, genders, and parties in the U.S. Congress.

total, reported in Appendix Table A.3).[26]

To identify the left-right polarity scores of legislators' speeches we lemmatize speeches using the Oslo-Bergen tagger (Johannessen et al., 2012) and then apply the LSS algorithm to create word vectors in the vocabulary, where each word is weighted based on their semantic proximity to the seed words, which define the poles of the left-right dimension $D \in [-1, 1]$.[27]

As a validity check, we verify that the words with the highest (lowest) polarity scores are words that we tend to associate with the two political poles. Figure 2 shows that this is indeed the case. The most characterizing non-seed words on the left include *climate crisis*, *inequality politics* and *workers*, while the corresponding right-leaning words include *profit margin*, *innovation*, and *savings*.[28]

We measure legislative dissent for legislator i in election term e at date t using the following equation:

$$Y_{iet} = \mid LSS_{iet} - \overline{LSS_{p[i]e}^{Leader}} \mid \tag{2}$$

where LSS_{iet} represents the left-right polarity score of speech by legislator i on date t of election term e. $\overline{LSS_{p[i]e}^{Leader}}$ is the term-average position of the Parliamentary leader

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[26]The same method has been used in the Norwegian context by Fiva, Nedregård and Øien (2023). While Fiva, Nedregård and Øien (2023) control for parliamentary session and committee, we only include session fixed effects as our focus is on overall differences between political blocs. Consequently, the ranking of the seed words we use differs somewhat from what is reported in Fiva, Nedregård and Øien (2023) (our sample period is also shorter). We remove speeches that consist of less than 20 characters, and eliminate words consisting of less than three characters and exclude words that occur less than ten times in the corpus. We also remove stop words, procedural words (see Appendix Table A.4 − A.6), and names of MPs. To avoid that our seed words capture geographical affiliation, we exclude MPs speaking the minority language 'nynorsk'. We also exclude Centre party MPs when identifying seed words, since the Centre party has switched blocs during the period we are studying. Nynorsk speakers and MPs representing the Centre party are, however, included in the main estimation sample.

[27]Appendix Table A.7 summarizes standard evaluation metrics when varying the number of seed words. We find that even a model based on two seed words on each pole (*people* and *woman* versus *Norwegian* and *representative*) is substantially better at classifying MPs based on their speeches than a random draw.

[28]We also examine how the average left-right polarity scores obtained using LSS correspond with parties' left-right position as measured in surveys of local politicians (Appendix Figure A.8). The strong positive correlation of 0.997 shows that the polarity scores are valid measures of party positions. Appendix Figure A.9 shows the density of term averages of LSS estimates at the *individual* level. As one should expect, we observe that Parliamentary leaders are located close to the center of the distribution.

Figure 2: Frequency of features by polarity score
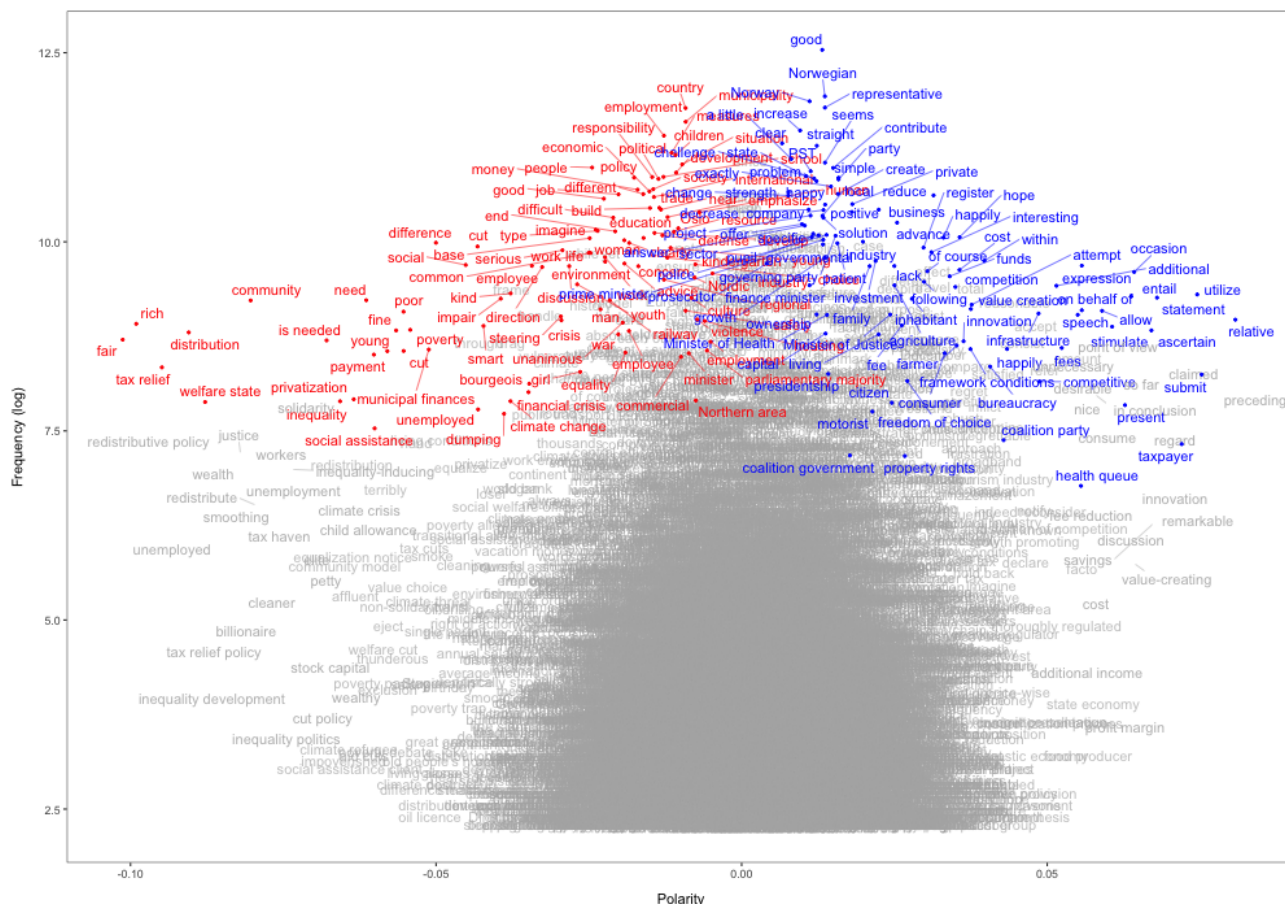
Note: This figure shows the frequency of words in our sample by their estimated left-right polarity scores as identified by the LSS algorithm. To identify the linguistic dimension, we use penalized logistic regression (Gentzkow, Shapiro and Taddy, 2019) to single out the hundred most polarizing words for each political bloc and use these as seed words. The seeds for the left-wing bloc are in red, while the seeds for the right-wing bloc are in blue.

from the party where i belongs $p[i]$.[29] To facilitate interpretation, we standardize Y_{iet} to have a mean of zero and a standard deviation of one. A higher score represents stronger legislative dissent.

As with the other outcome measures, we keep only days when the Parliament is open. In addition, we drop speeches by Parliamentary leaders and speeches shorter than twenty words (the median speech has 544 words). Appendix Figure A.10 shows that, according to our proposed measure, the tendency to deviate from the party line is quite stable for a given MP. When aggregating Y_{iet} to the quarterly (Parliamentary session) level the within-MP time series correlation is 0.32 (0.60).

Results

In this section, we present our main results. For each outcome measure, we first present graphical evidence separately for *losers* and *others* before we present the regression estimates of β from Equation 1. In all of the following figures, we plot local averages of the outcome variables by the number of quarters to the nomination meeting. Because nomination meetings typically are held in the fall of the third year of the current election term, we have 12 quarters before and 3 quarters after each nomination meeting.[30]

Legislative effort

Panel A of Figure 3 plots the fraction of *losers* (left) and *other* incumbents (right) that show up to vote in Parliament over time.[31] For *losers*, the probability of attending roll-call votes appears to drop substantially after the nomination meeting (from about 65% to about 55%). The upward trend for *losers'* attendance after the nomination meeting

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[29]The party leader is usually also the Parliamentary leader. The exception is if the party leader is in government – then a new Parliamentary leader is appointed as a substitute.

[30]We bin all observations from -12 (+2) quarters from the nomination meeting together, as only a limited number of MPs have meeting dates at a time which makes them show up in our data at -13 and +3 quarters from the nomination meeting.

[31]The bin-to-bin variation is smaller in the plot to the right than in the plot to the left. This reflects that we have many more *other* than *losing* incumbents in our sample (see Table 1).

indicates that renomination failures have particularly strong effects immediately after the nomination meeting. For *other* incumbents, there is no clear evidence that their behavior changes over time.

For our second measure of legislative effort, Parliamentary speech, the pattern is similar. Panel B of Figure 3 indicates that for *losers* the probability of speaking falls after the nomination meeting, while this is not the case for *other* incumbents. The pre-trends for the two types of incumbents are similar. For example, both groups of incumbents appear to be participating actively in the legislative process in quarters -9 and -5.

For bill sponsorship, which serves as the outcome variable in Panel C of Figure 3, we observe that the probability of sponsoring a bill moves in tandem for the two types of incumbents before the nomination meeting. There is, however, no graphical evidence suggesting that *losers* reduce their legislative effort after they become lame ducks according to this outcome measure.

Table 2 provides the regression results. In column (1), we present the results from our baseline empirical specification (Equation 1). In line with the graphical evidence, we find a substantial negative lame-duck effect on two out of three effort measures.

Figure 3: Legislative effort

Panel A: Voted in Parliament

Panel B: Spoken in Parliament

Panel C: Sponsored bill
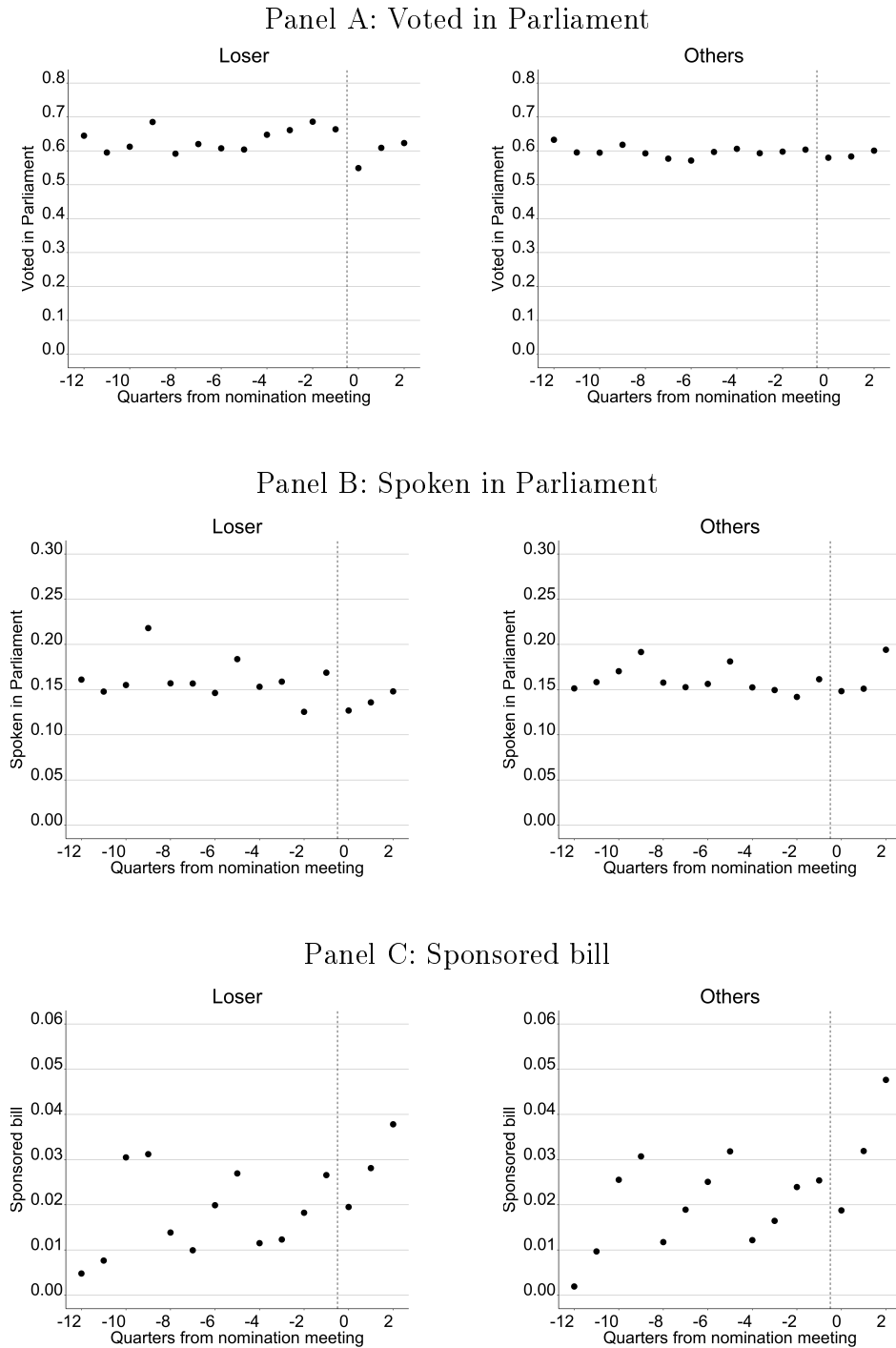
Note: The figures show the probability of showing up to vote in Parliament, delivering a speech, and sponsoring a bill on a given day by quarters from the nomination meeting. Panel A: Losers (n=9,155) and others (n=239,591). Panel B: Losers(n=15,054) and others (n=401,953). Panel C: Losers(n=15,417) and others (n=413,615). We bin observations earlier than -12 (from +2) quarters from the nomination meeting together due to small sample size.

Table 2: Legislative Efforts - Difference-in-differences estimates

Panel A: Voted in Parliament

	(1)	(2)	(3)	(4)
Lame Duck	−0.046	−0.041	−0.046	−0.048
	(0.021)	(0.023)	(0.022)	(0.023)
Mean dep.var	0.593	0.593	0.593	0.593
SD dep. var	0.491	0.491	0.491	0.491
Observations	248746	248746	248746	248746

Panel B: Spoken in Parliament

	(1)	(2)	(3)	(4)
Lame Duck	−0.022	−0.021	−0.025	−0.025
	(0.008)	(0.009)	(0.008)	(0.009)
Mean dep.var	0.157	0.157	0.157	0.157
SD dep. var	0.364	0.364	0.364	0.364
Observations	417007	417007	417007	417007

Panel C: Sponsored bill

	(1)	(2)	(3)	(4)
Lame Duck	−0.001	−0.000	0.000	0.001
	(0.006)	(0.003)	(0.005)	(0.005)
Mean dep.var	0.0207	0.0207	0.0207	0.0207
SD dep. var	0.1425	0.1425	0.1425	0.1425
Observations	429032	429032	429032	429032
MP x Term FE	YES	YES	YES	YES
Date FE	YES	NO	NO	YES
Date x Party FE	NO	YES	NO	NO
Date x District FE	NO	NO	YES	NO
MP trends	NO	NO	NO	YES
Cluster	MP	MP	MP	MP

Note: This table shows the difference-in-differences estimates for the probability of attending votations, speaking in Parliament, and sponsoring a bill on a given day. Standard errors clustered at the MP level are in parentheses.

The probability of attending roll-call votes falls by five percentage points for *losers* compared to *other* incumbents after the nomination meeting (Panel A). The estimate is statistically significant at the five percent level.[32] This result aligns well with existing evidence from both candidate-centered and party-centered environments. Fouirnaies and Hall (2022) finds that termed-out US legislators become three percentage points more likely to be absent on floor votes in their final term. In the United Kingdom, where the role of parties is much more important than in the United States, Besley and Larcinese (2011) find that retiring MPs are four percentage points less likely to vote in Parliament. Using a within-MP research design, Geys and Mause (2016) find somewhat stronger effects.

In Panel B, we see that lame duck legislators are about two percentage points less likely to speak in Parliament. The size of this effect is more than one-tenth of the mean of the dependent variable and is statistically significant at the five percent level. In the next sub-section we investigate if *losers* also adjust *how* they speak.

Fouirnaies and Hall (2022) find that termed-out legislators are about six percent less likely to sponsor bills in the United States. Panel C of Table 2 provides no clear evidence that lame-duck status impacts this effort measure in our context.

Column (2)-(3) of Table 2 tests the sensitivity of our baseline findings by changing the time-fixed effect structure. We find that our results are basically unaltered if we replace the date-fixed effects with party-date or district-date fixed effects. In other words, whatever group we use for predicting counterfactual trends, we find that the estimates are negative and statistically significant for roll-call votes and Parliamentary speech. For bill sponsorship, there are never any statistically significant effects. The results are similar if we introduce individual MP trends (Column (4)).

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[32]The reliability of the standard errors is verified in the placebo tests reported in Appendix Figure A.11.

Legislative dissent

Figure 4 displays how our two different measures of legislative dissent evolve over time for *losers* (left) and *others* (right). Panel A plots the fraction of *losers* and *others* that vote against the majority of his/her party by quarter from the nomination meeting. On average, only about three percent of legislators dissent in this way, and there is no indication that lame-duck status impacts this outcome.

Interestingly, there is an increase in the probability of voting against the party line towards the end of election terms for both incumbent types. This pattern could reflect that party elites schedule controversial votes closer to elections. The discourse surrounding such votes could attract attention to parties' policy positions and be used strategically to mobilize voters in the upcoming election.[33]

In Panel B of Figure 4 plots the polarity scores in Parliamentary speeches for different incumbent types over time. The vertical axes denote standardized absolute deviations from the party line. The higher the score, the more legislators are deviating from the party line. On average, *losers* tend to deviate somewhat *less* from the party line when compared to *other* incumbents. *Losers* have an average polarity score of about -0.13, while *other* incumbents have an average polarity score of 0.005. Also for this measure of legislative dissent, there is no clear graphical evidence that lame-duck status matters.

Table 3 shows the corresponding regression results. The difference-in-differences estimates in Panel A (voting against the party line) are close to zero in all specifications and never statistically significant at conventional levels. The same is observed for dissent in speeches in Panel B of Table 3. We conclude that there is no evidence that lame-duck status affects the extent to which legislators deviate from the party line.

These null findings could be interpreted in two complementary ways. First, it could be that party leaders make it difficult for potential rebels to cast dissenting votes or express their views on the floor (Proksch and Slapin, 2015). Second, it could be that candidates
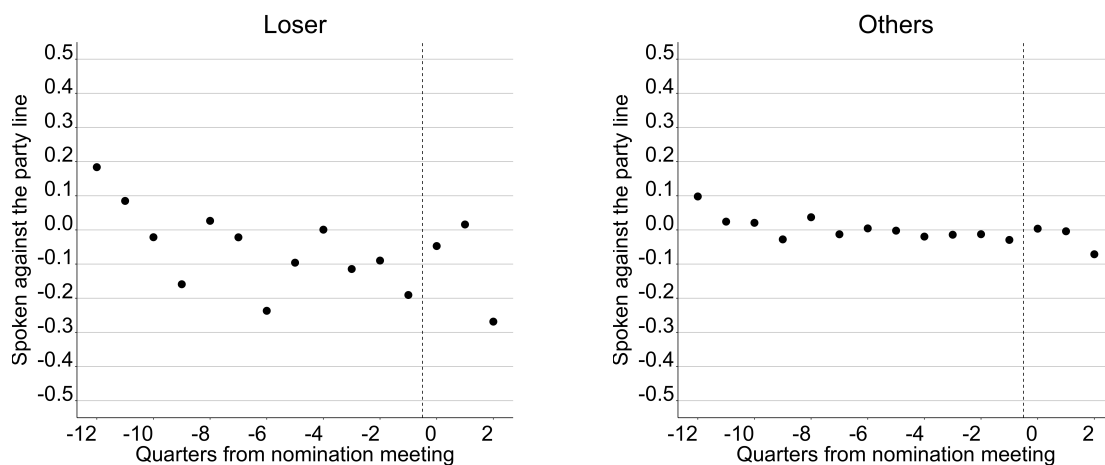
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[33]The notion that roll-call votes are characterized by a selection bias and may be used strategically is supported by Carrubba et al. (2006), who find that roll-call votes typically tend to be used for more controversial issues.

Figure 4: Legislative dissent

Panel A: Voted against the party line
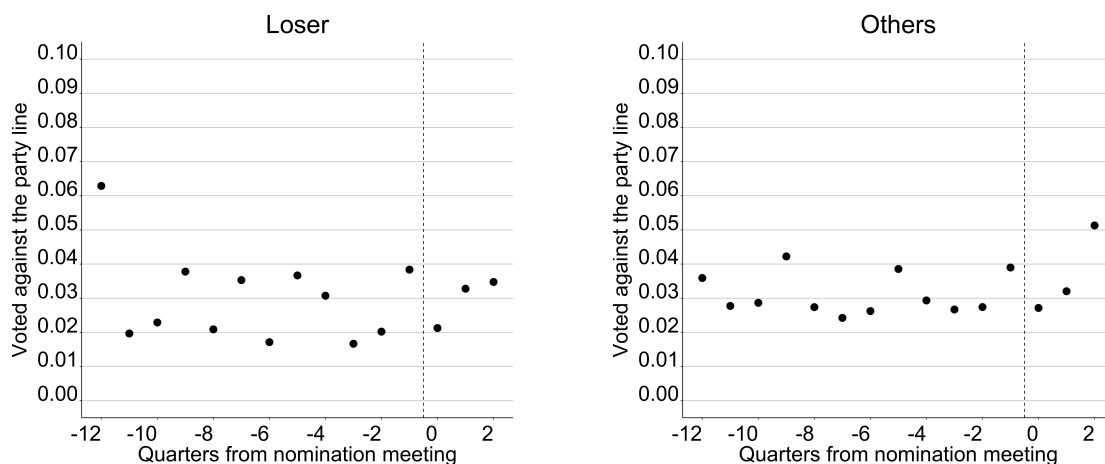
Panel B: Spoken against the party line

Note: The figures show the likelihood of voting against the party line, and speaking against the party line in legislative speeches on a given day by quarters from the nomination meeting. Voting against the party line (Panel A) is a dummy taking the value one if an MP has voted against the majority of their party on a day, and zero if they vote in line with the majority, or are absent. Dissent in speeches (Panel B) is conditional on having given a speech in Parliament, and measures the absolute deviation from the party line (within-term mean of party leader's speeches) along a left-right dimension in Parliamentary speeches. The speech measure is standardized to have a mean of zero and a standard deviation of one. The speech measure is standardized to have a mean of zero and a standard deviation of one. Panel A: Losers (n=9,155) and others (n=239,591). Panel B: Losers(n=2,182) and others (n=61,686). We bin observations earlier than -12 (from +2) quarters from the nomination meeting together due to small sample size.

have fixed ideological positions that do not vary based on electoral incentives. The second interpretation align well with existing evidence from candidate-centered electoral environments. In an influential study, Lee, Moretti and Butler (2004) document that the degree of electoral strength has no effect on a legislator's voting behavior in the United States Congress. This suggests that voters do not *affect* politicians' choices during elections; instead, they appear to merely *elect* policies through choosing a legislator.[34] Fouirnaies and Hall (2022) find that US state legislators who can no longer seek reelection tend to put in less legislative effort. Like us, they find no clear evidence that lame ducks systematically *shift* their ideological platforms.[35] Taken together with studies of the contemporary United States, our results suggest that electoral incentives are important for legislative effort but matter less for ideological positioning vis-à-vis principals.

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[34]Other empirical work from the United States also find that modern era legislators tend to adopt a consistent ideological position and maintain it over time (see, e.g., Fowler and Hall, 2017; Hall, 2019; Poole, 2007). Historically, US legislators appear to have been more ideologically flexible (Jenkins and Nokken, 2008).

[35]As mentioned above, lame ducks leave national politics after their election term has ended. However, it is likely that some of the exiting politicians are aiming for a future career outside politics (the average age when exiting is 52 years; see Appendix Table A.2). For these legislators, the post-politics labor market may also contribute to party discipline. Private firms may look for politicians who can be team players instead of those who promote dissent (Egerod and Tran, 2021).

Table 3: Legislative Dissent - Difference-in-differences estimates

Panel A: Voted against the party line

	(1)	(2)	(3)	(4)
Lame Duck	−0.001	0.001	0.004	0.005
	(0.004)	(0.004)	(0.004)	(0.004)
Mean dep.var	0.031	0.031	0.031	0.031
SD dep. var	0.172	0.172	0.172	0.172
Observations	248746	248746	248746	248746

Panel B: Spoken against the party line

	(1)	(2)	(3)	(4)
Lame Duck	0.025	0.087	0.055	0.050
	(0.063)	(0.067)	(0.104)	(0.073)
Mean dep.var	0	0	0	0
SD dep. var	1	1	1	1
Observations	63868	63868	63868	63868
MP x Term FE	YES	YES	YES	YES
Date FE	YES	NO	NO	YES
Date x Party FE	NO	YES	NO	NO
Date x District FE	NO	NO	YES	NO
MP trends	NO	NO	NO	YES
Cluster	MP	MP	MP	MP

Note: This table shows the difference-in-differences estimates for voting against the party line and speaking against the party line in legislative speeches. Voting against the party line (Panel A) is a dummy taking the value one if an MP has voted against the majority of their party on a day, and zero if they vote in line with the majority, or are absent. Voting against the party line (Panel A) is a dummy taking the value one if an MP has voted against the majority of their party on a day, and zero if they vote in line with the majority, or are absent. Dissent in speeches (Panel B) is conditional on having given a speech in Parliament, and measures the absolute deviation from the party line (within-term mean of party leader's speeches) along a left-right dimension in Parliamentary speeches. The speech measure is standardized to have a mean of zero and a standard deviation of one. Standard errors clustered at the MP level are in parentheses.

Dynamic effects

Above we have documented clear lame-duck effects on two measures of legislative effort –
roll-call vote attendance and legislative speech-making. We have attributed these effects
to electoral incentives, but it could possibly also have to do with the general consequences
of a major career disruption. To assess whether the negative effects of legislators' lame-
duck status persist, we estimate a *fully-dynamic* model which includes all available leads
and lags (Borusyak, Jaravel and Spiess, 2022). This model is useful for assessing dynamic
causal effects, but also for formally assessing differential pre-trends.

We have already noted that pre-treatment trends for *losers* and other incumbents look
similar in Figures 3 and 4. Figure 5 provides formal support for this argument. Relative
to the reference period -1, there are never any statistically significant differences between
losers and other incumbents for any outcome variable.

In the post-treatment period, *losers'* roll-call vote attendance is estimated to fall by
about 10 percentage points relative to the counterfactual trend based on other incumbents
in the first quarter after the nomination meeting (Panel A). The point estimates in the
subsequent two quarters are smaller in absolute value but remain negative throughout the
post-treatment period. For legislative speech, reported in Panel B, the point estimates
are negative and quite stable throughout the entire post-treatment period, even though
none of them are individually statistically distinguishable from zero. As expected, there
are no statistically significant effects for bill sponsorship (Panel C).

In Panel D, we provide results from an aggregate index constructed with the z-scores of
the individual measures of legislative effort. This aggregation is useful because it improves
statistical power to detect effects that go in the same direction within a domain, without
increasing the probability of false positives (Dal Bó and Rossi, 2011; Kling, Liebman and
Katz, 2007). The results reported in Panel D suggest that the lame-duck effect persist
for the entire lame duck period.[36] For the two measures of legislative dissent, reported
in Panel E-F, there are never any statistically significant effects.

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[36]Appendix Table A.8 replicates the regressions from Table 2 using the average z-score index.

Figure 5: Quarterly coefficients
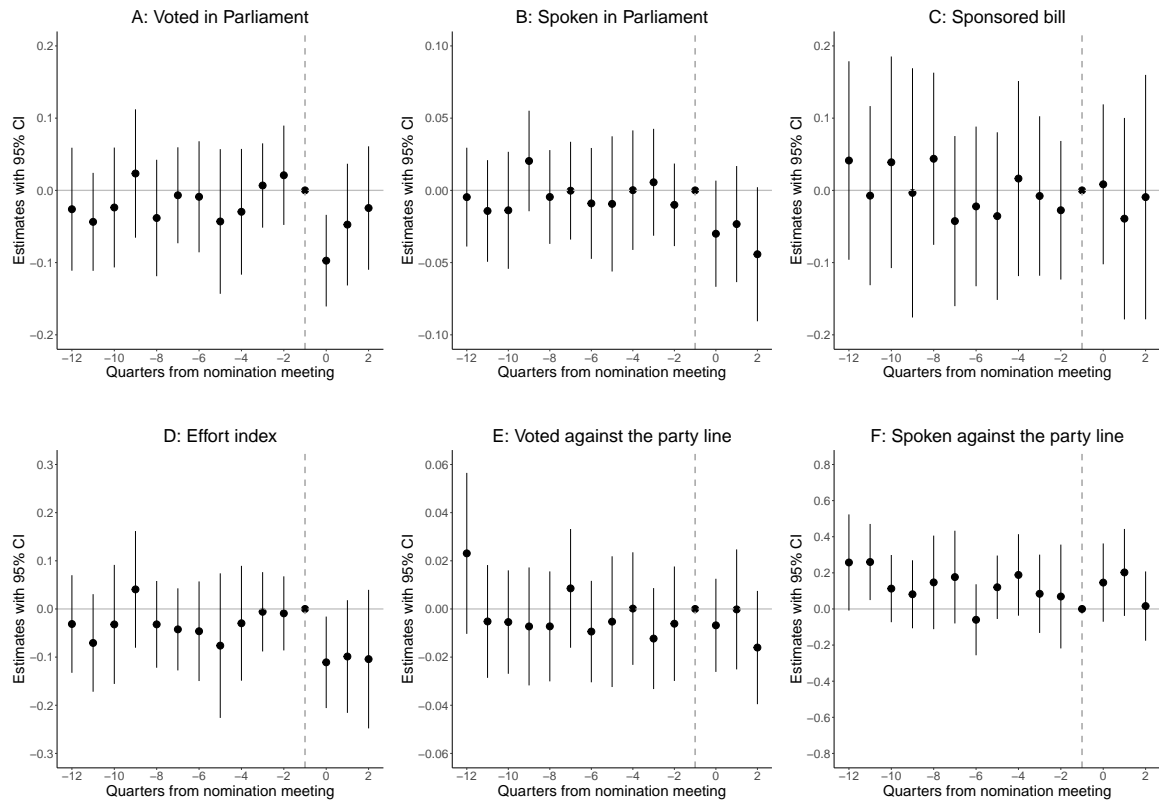
Note: The figures show parameter estimates and corresponding 95% confidence intervals from event studies that compare the difference between the treatment group (losers) and the comparison group (other incumbents) by quarters to the nomination meeting across different measures of legislative efforts and legislative dissent. All regressions include date FE and MP-term FE. Because of sample size, we bin together observations earlier than −11 and later than +1 quarters, respectively.

Conclusion

In representative democracies, the delegation from voters to legislators is almost always mediated by political parties. Legislators' responsiveness to different principals – voters versus party leaders – depends on the institutional context in which they operate. We study a closed-list setting, common in both Europe and Latin-America, where the responsiveness of rank-and-file members to party leaders is expected to be particularly strong. Indeed, several European countries adopted proportional representation about a century ago because it allowed party leaders' control over nominations, thereby enabling them to discipline their followers and build more cohesive parties (Cox, Fiva and Smith, 2019; Schröder and Manow, 2020).

Using a within-individual within-term research design, we study the extent to which rank-and-file members change their legislative behavior when they experience a dramatic negative reelection shock. Our difference-in-differences estimates show that attendance in roll-call voting drops substantially for incumbents who become lame ducks. Similarly, we find evidence that legislators are less likely to speak in Parliament, while bill sponsorship appears unaffected. However, for the outcome variables that reflect deviations from the party line, we have null-findings. There is no evidence that legislators who experience a negative shock are more likely to deviate from the party line in voting or legislative speech. These results indicate that the 'carrots and sticks' delegated by the party are important for legislative effort, but less so for motivating MPs to toe the party line. This aligns well with the citizen-candidate framework, where legislators have fixed ideological positions that do not vary based on electoral incentives.

The ideological permanence we identify stands in contrast to settings where parties' control over nominees is relatively weak. For example, Jenkins and Nokken (2008) find that exiting United States congress members historically exhibited greater movement away from the median party position during "lame duck sessions" than did returning legislators. Our study hence is an important piece of evidence demonstrating how institutional

context shapes legislative outcomes through political parties' legislative endowments. We hope that future studies will continue to investigate the role of parties as disciplinarians in different electoral settings.

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