Abstract

We study the private gains to top bureaucrats from their political alignment with elected politicians. Whereas existing studies rely on proxies for politician-bureaucrat political alignment, a rare feature of our data allows measuring it directly since 27% of bureaucrats ran for political office. Using close elections for inference, we find that politician-bureaucrat alignment significantly increases top bureaucrats' wage in the Norwegian civil service system. Our results go against predictions from models with policy-motivated bureaucrats, but are consistent with politically aligned principal-agent matches being more productive.

Keywords: Bureaucracy; civil service; remuneration; principal-agent; ally principle.

JEL Classification: D73; H70; J41.
1 Introduction

A well-functioning bureaucracy is a key prerequisite for efficient policy making. The complexity and range of policy issues facing political decision-makers indeed requires the delegation of tasks and responsibilities to the civil service. In a Weberian perspective, civil servants are viewed as neutral agents performing tasks set by their political leadership independent of any personal interests (Finer 1941; Weber 1978). This normative ideal is rarely achieved in reality, where substantial principal-agent problems may arise (Besley and Ghatak 2005; Alesina and Tabellini 2007; Ujhelyi 2014). As a result, politicians have incentives for selecting/retaining top civil servants better matching their own policy preferences to improve on inefficiencies related to task delegation. The resulting notion that “a boss prefers subordinates who resemble herself ideologically” is commonly referred to as the ally principle (Bendor, Glazer and Hammond 2001, p. 259; see also Huber and Shipan 2008; Dahlström and Holmgren 2018).

Such ideological influences on bureaucratic selection are central to the politicization of bureaucracy, and its potential implications have attracted substantial academic research in recent years (e.g. Gallo and Lewis 2012; Iyer and Mani 2012; Akhtari, Moreira and Truzzo 2017; Bach and Veit 2018; Colonnelli, Teso and Prem 2019). This developing literature focuses nearly exclusively on bureaucratic turnover as the outcome variable. In contrast, we shift attention to the private financial implications for bureaucrats by analyzing whether and how partisan patronage – and its resulting impact on politician-bureaucrat political (mis)alignment – influences bureaucratic pay. From theory, the effect of political alignment on bureaucratic pay is ambiguous. On the one hand, theories of motivated agents suggests that bureaucrats should obtain less generous pay when preferences are aligned. In the canonical Besley and Ghatak (2005) model, bureaucrats care about policy outcomes and are therefore willing to put in more costly effort to achieve these outcomes. On the other hand, politician-bureaucrat preference alignment may streamline

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1 Closely related, Bertrand, Burgess and Xu (2018) argue that bureaucratic selection might also be influenced by individuals’ origin from particular localities. The social proximity arising from bureaucrats’ work placement in their home district is thereby shown to have important performance implications.
communication and facilitate cooperation since people generally prefer to work with others similar to themselves (McPherson, Smith-Lovin and Cook 2001; Akerlof and Kranton 2005; Huber and Malhotra 2005). This suggests that preference alignment can increase the productivity of the politician-bureaucrat match, which would lead such bureaucrats to receive more generous pay. We are the first to test these opposing theoretical predictions. We thereby also reassess other conventional ideas on the consequences of preference (mis)alignment in terms of bureaucratic turnover and task delegation.

Reliable empirical estimates of the implications of ideological influences on bureaucratic selection are generally hard to achieve because agency preferences are extremely difficult to measure. Existing work therefore relies on highly imperfect proxies such as the presence or absence of divided government (e.g. Volden 2002; Wood and Bohte 2004; Huber and Shipan 2008). Some recent contributions instead exploit partisan shifts in government as a source of variation in politician-bureaucrat preference (mis)alignment (Boyne et al. 2010; Iyer and Mani 2012; Christensen, Klemmensen and Opstrup 2014; Akhtari, Moreira and Trucco 2017; Dahlström and Holmgren 2019). Yet, this approach still lacks direct measurement of bureaucrats’ preferences, and rests on the dubious assumption that politician-bureaucrat preference alignment falls with a shift in government (as acknowledged by Christensen, Klemmensen and Opstrup 2014; Dahlström and Holmgren 2019). As such, it may lead to biased inferences.

In this paper, we rely on rich administrative data to develop a direct measure for the political leaning of top bureaucrats in Norwegian local politics. The key political decision-making body in Norwegian local governments is a directly elected municipal council, which has the mayor formally at its head. The implementation of public policies adopted by the council and conformity to legal requirements imposed by higher levels of government is, however, the responsibility of the ‘Chief Municipal Officer’ (the top

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2Lowande (2018, p. 874) employs a similar strategy to study how “ideological disagreement with agencies drives the oversight behavior of legislators”, while Bolton, de Figueiredo and Lewis (2016) and Doherty, Lewis and Limbocker (2017) use it to study the role of elections on career civil servants’ turnover decisions.

3Doherty, Lewis and Limbocker (2017) recently took a first step towards accommodating this issue by using surveys to collect information about top civil servants’ policy views.
administrative position in Norwegian local government; henceforth CMO). While the political leaning of the council and mayor is reflected in their partisan attachment, we match the names of all individuals serving as CMO between 1991 and 2015 to candidate lists presented in local elections since 2003, regional elections since 1975 and national elections since 1961. Roughly 27% of CMOs ran for political office, often in low-ranked positions on local or regional election lists. This clearly signposts their political color and provides a direct measure for their partisan identity – as well as its possible (mis)alignment with the political leaning of the ruling government(s) during the CMO’s time in office. Our direct measurement offers a clear improvement compared to the imperfect proxies of earlier studies, and allows analyzing the private financial implications of politician-bureaucrat preference (mis)alignment.

For causal inference, we implement two regression discontinuity (RD) designs. The first RD design isolates the consequences of a shift in the council majority (see also Iyer and Mani 2012; Akhtari, Moreira and Trucco 2017), while the second RD design isolates the (theoretically most important) consequences of council-bureaucrat preference alignment. Both RD designs exploit that – within Norway’s two-bloc party system – the local council seat majority is as-good-as-randomly assigned for municipalities where the left-wing bloc receives around 50% of the seats (Fiva, Folke and Sørensen 2018).

In the first RD analysis, we find no evidence that changing the council majority per se matters for bureaucratic pay or turnover. The second RD analysis likewise provides no clear evidence that turnover of top bureaucrats decreases with political alignment. However, it shows a substantively meaningful and statistically significant positive effect on wage growth, which appears to increase throughout the legislative period. Over the four-year election period when the majority of the municipal council and the CMO are politically aligned, CMO wages increase with approximately four percentage points (relative to unaligned CMOs and a baseline wage growth of 12%). The result is robust across different specifications of the model as well as for distinct delineations of the estimation sample. This finding goes against the conventional wisdom from principal-agent models.
with policy-motivated agents, but is consistent with politically aligned matches being more productive. Furthermore, we find some evidence that more (budgetary) decision-making powers are delegated to CMO’s who are politically aligned with the council majority. Although less precisely estimated, these effects consistently go in the expected direction and likewise increase throughout the legislative period (similar to the effect on wages). The wage growth we uncover thus appears linked to increased productivity and workload, rather than cronyism, in politically aligned matches.

The remainder of the paper is structured as follows. In the next section, we set out the theoretical framework for our analysis and derive a number of hypotheses concerning the role and impact of preference-matching between politicians and bureaucrats. Then, we discuss the Norwegian institutional setting and the data available for our analysis, before turning to our empirical strategy and main findings. Next we analyze delegation and performance, before the final section provides a concluding discussion.

2 Theory

In classic Weberian models of public administration, civil servants are viewed above all as professionals. They are career administrators with an ethos emphasizing political neutrality and technical expertise, who offer advice and implement policies without any presumption of influence on the political aspects of the decision-making process (Finer 1941; Weber 1978; Boyne et al. 2010). Should these administrators have specific political or ideological dispositions, then the (in)formal design of bureaucratic organizations will provide appropriate incentives – through the availability of permanent positions as well as promotions that depend on competence and performance at the lower levels – for employees nonetheless to serve their ‘political master’ (Weber 1978; Geys, Heggedal and Sørensen 2017; Rasul and Rogger 2017; Bertrand et al. 2019). It is clear that within such ideal-type bureaucracies, politician-bureaucrat preference alignment is irrelevant. As a direct consequence, political shifts in elected assemblies resulting in changes to
the politician-bureaucrat alignment status would not be expected to affect bureaucratic turnover, pay or discretion. This prediction acts as our null hypothesis.

Weber himself was well aware of the real-world limitations of this ideal bureaucratic model. In fact, he famously noted:

“Under normal circumstances, the power position of a fully developed bureaucracy is always overthrowing. The ‘political master’ finds himself in the position of the ‘dilettante’ who stands opposite the ‘expert’, facing the trained official who stands within the management of administration.” (cited in Ostrom 2008, p. 28)

This argument typifies the central tension between politicians as principals and bureaucrats as agents in the development and implementation of public policies, which lies at the heart of a modern agency-theoretical perspective on public bureaucracies. Agency theory is principally concerned with the problems and inefficiencies related to task delegation (Holmström 1979; Holmström and Milgrom 1987), and suggests that preference alignment between politician-principals and bureaucrat-agents often improves on such inefficiencies (Lazear 2000; Bendor, Glazer and Hammond 2001).

Importantly, politician-bureaucrat preference alignment can also be expected to have implications for CMOs’ pay. How preference alignment affects the optimal wage in a principal-agent relationship depends on the relative role and importance of three potential underlying mechanisms. First, CMOs in politically aligned matches may become so-called motivated agents (in the sense of Besley and Ghatak 2005). Such motivated agents sharing the ideology of the ruling politicians have a stake in the policy outcomes of the jurisdiction. This strengthens their intrinsic policy motivation compared to other, non-aligned bureaucrats. Consequently, this mechanism will work to pull down aligned bureaucrats’ pay as they in equilibrium exert greater work effort for a given incentive structure to realize political goals (Bénabou and Tirole 2003; 2006; Gailmard and Patty 2007; Ellingsen and Johannesson 2008).

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4In Appendix B we develop a principal-agent model to analyze more formally how different mechanisms of political preference alignment affects the optimal wage contract.
Second, politician-bureaucrat preference alignment may improve the productivity of a match. This could stem from the fact that people generally prefer to associate – both inside and outside the work environment – with others similar to themselves (McPherson, Smith-Lovin and Cook 2001; Akerlof and Kranton 2005; Huber and Malhotra 2005). That is, politician-bureaucrat preference alignment may improve on productivity by streamlining communication and facilitating cooperation. Consequently, this mechanism will work to push up CMOs’ pay because the principal wants to more strongly incentivize these bureaucrats, which are more productive than other non-aligned bureaucrats.

Finally, favoritism and cronyism may also be a reason to expect CMOs’ pay to increase in politically aligned matches. That is, elected politicians may have incentives to reward fellow party members for past services or extend favors to fellow partisans to be paid back another time. It should be noted that such favoritism implies awarding rents to aligned CMO regardless of their skills and/or qualifications in implementing policy. This stands in sharp contrast to the situation where alignment improves CMO productivity and aligned CMOs become better at implementing policy. Whereas politicians thus obtain incentives to delegate more decision-making powers to aligned CMOs when the underlying mechanism is productivity (Lazear 2000; Bendor, Glazer and Hammond 2001), this would not be true when the underlying mechanism is favoritism (rather the reverse might be expected). Assessing how much decision-making power is delegated to aligned versus unaligned CMOs thus can be informative to separate between the favoritism and productivity mechanisms.

Whatever the underlying mechanism, the discussion above highlights that elected politicians are likely to have a clear incentive to select and/or retain top civil servants aligned with their own policy preferences. Under sufficiently permissive institutional arrangements (Hollibaugh 2015; Dahlström and Lapuente 2017), politician-bureaucrat misalignment – for instance, due to elections – will increase the chances of bureaucratic turnover (see also Boyne et al. 2010; Iyer and Mani 2012; Christensen, Klemmensen and Opstrup 2014; Akhtari, Moreira and Truco 2017; Dahlström and Holmgren 2019).
3 Institutional setting and data

3.1 Norwegian local governments

Norway has three levels of government: the local level with currently 428 municipalities, the regional level with 19 counties and the national level. Our analysis deals exclusively with the municipal level of government. Municipalities have extensive regulatory responsibilities, and are also central to the implementation of a range of social welfare services (including primary and lower secondary education, primary health care, elderly care and several infrastructure services) (Geys and Sørensen 2018). Overall, Norwegian municipalities are an important part of the economy as they take spending decisions that account for roughly 15% of GDP, with employment in the local government sector comprising about 19% of total employment.

Local elections (for county and municipal governments) are held every fourth year in September using an open-list proportional representation (PR) system. The local council is the main political body of the municipal government with full responsibility for all aspects of the municipality’s activity, and consists of 11 to 85 members depending on the size of the municipal population (the median is 25). It elects both a mayor (who chairs council meetings) and an executive board of minimum five members (which is responsible for the day-to-day running of the municipality). Unlike in a parliamentary system, the council – and not the executive board – is the key decision-making body, and councillors thus hold significant decision-making authority (Fiva, Folke and Sørensen 2018). As a result, holding a majority position in the municipal council is crucial for parties’ ability to determine local public policies (which we exploit in our empirical analysis below). The central political cleavage in Norwegian politics – at the local as well as at the national level – thereby lies between a left-leaning socialist bloc and a right-leaning conservative camp. The partisan composition of these two blocs is detailed in the bottom section of Table 1 below, and has been stable for several decades.
3.2 The chief municipal officer

The CMO constitutes the top administrative position in Norwegian municipalities. The position is regulated by the Norwegian Local Government Act (Kommuneloven), which specifies that CMOs are responsible for 

i) the implementation of all public policies adopted by the municipal council, 

ii) ensuring that the municipality conforms to legal requirements imposed by higher levels of government, and 

iii) preparing the budget proposal together with the municipality’s executive board. CMOs are thereby often delegated considerable decision-making powers, especially with respect to the budgetary process, the organization of the local administration and local wage negotiations. In the execution of her tasks, the CMO is also entitled to be present and speak in all local elected bodies, with the sole exception of the municipal control committee. As such, the CMO is comparable to the ‘Permanent Secretary’ at the head of each ministry in the UK civil service, or the ‘Deputy Secretary’ in the US. These positions represent the most senior civil servant in a given ministry, which holds key responsibility for putting government policy into practice.

Importantly, the law specifies that CMOs are hired by the municipal council following a public hiring process. This means that the local council (not the mayor) is responsible for appointing and dismissing the CMO. Legislation allows local governments to offer fixed-term positions with a duration of at least six years, but in about 80% of the municipalities CMOs in practice work under labor contracts with permanent positions. It is common for local governments to set up leadership contracts with their CMO, which in broad terms describe the key objectives of the local authority. A special committee appointed by the executive board assesses CMO performance on either an annual or biennial basis, and economic results act as a major evaluation criterion in these assessments (Geys, Heggedal and Sørensen 2017). Although the results of these assessments are not

5Maintaining desirable budgetary outcomes is particularly important in CMOs’ evaluation, since municipalities are by law required to keep the books balanced (failing to do so can invoke central-government control over the municipality’s major fiscal decisions). Other assessment criteria typically include the exercise of leadership and implementation of government goals, the development of the municipal organization, as well as user and employee satisfaction – as measured via local surveys.
made public, they are used to determine salary increases as well as the continuation of
the CMOs’ employment relation. Local governments thereby enjoy substantial discretion to regulate CMO compensation. The collective wage agreement from the Norwegian Association of Local and Regional Authorities, for instance, explicitly states that the wages for CMOs and other municipal leaders are set locally (Kommunesektoren 2018). Formally, the municipal council (again not the mayor) decides the wage contract for the CMO at the time of hiring as well as any subsequent revisions. Although the council can legally delegate this task to the executive board or a specific committee, formal approval of the final wage agreement remains with the council. This local-level autonomy and wage flexibility leads to considerable variation in CMOs’ compensation packages across municipalities (see below).

Although most CMOs have permanent contracts, in reality they enjoy less dismissal protection than provided by standard legal entitlements in the Working Environment Act (Arbeidsmiljøloven). This limited protection has been justified by their position as a role model for other employees and the need for trust in these executives. In practice, it implies that the municipal council is free to initiate measures to oust the CMO from office. Such conflicts involving the CMO are not uncommon. For example, municipal councils have been found to adopt no-confidence motions against the CMO, even though no such procedure is formally described in the Local Government Act. These clashes often culminate in the CMO leaving her position – either more or less voluntarily – with a compensation package. Furthermore, a provision from 2004 in the Working Environment Act states that senior executives with a severance pay agreement – such as CMOs – are exempt from the employment protection rules, which made it even easier for the local political elite to oust CMOs from their position. By signing a contract including provisions for severance pay, CMOs thus formally renounce the standard legal entitlements to dismissal protection.
3.3 Data

Our analysis covers all 1632 CMOs active in all Norwegian municipalities over a period of 25 years (1991-2015), and relies on bringing together information from three main data sources. We discuss the key information and variables extracted from each of these in turn (further details are provided in Appendix C).

First, the Norwegian Association of Local and Regional Authorities registers the name and wages (among other things) of the CMO employed in each municipality on December 1st of every year. This annual information allows us to characterize the complete set and length of employment spells for all CMOs over time, as well as how their wage develops over time (see Online Appendix C.1). These data provide the building blocks for two of our central dependent variables – CMO wage and CMO turnover.

Second, data on the political composition of the municipal council as well as the party of the mayor are obtained from the Norwegian Centre for Research Data (NSD), as organized by Fiva, Halse and Natvik (2017). To measure CMOs’ political leaning, we match their full names, birth years and residential municipalities to candidate lists presented in local elections 2003-2019 (mayors 1971-2019), regional elections 1975-2019 and national elections 1961-2017 (see Online Appendix C.2). This exploits the idea that running for office on a specific party list clearly signposts one’s political color and partisan identity. Approximately 27% of all CMOs in our sample (i.e. 446 out of 1632) have run for political office, most often in local or regional elections (see Appendix Figure A.1). This is consistent with data from the Norwegian Local Election Survey showing that 20-25% of individuals in the general population aged around 50 years have stood for local office (Appendix Figure A.2). About half of the CMOs with electoral histories do not win political office (244 out of 446), and most of them run for office prior to becoming CMO (254 out of 446). The latter is a lower bound since we lack data on local election lists prior to 2003, and may thus characterize some CMOs running after their first spell in office even though they already stood in local elections during the 1970s, 1980s or 1990s. For our central explanatory variable, we create simple dichotomous operationalization of
council-bureaucrat ideological alignment – *Aligned* – equal to 1 when the CMO and the council majority belong to the same political bloc, and 0 otherwise.\(^6\)

Third, data on the delegation of budgetary powers and responsibilities to CMOs over time is extracted from the Norwegian government’s “Local government organizational database”. The data were originally collected using surveys sent to local authorities, which included a question addressing the three-fold typology of budgetary delegation by Hagen and Vabo (2005): i.e. budget process controlled by the executive board, budget process controlled by the CMO, and the ‘bottom up’ procedure (which involves a strong role for the CMO as well as municipal agencies and political committees) (see Online Appendix C.3).

### 3.4 Descriptives

Table 1 presents descriptive statistics for all CMOs active between 1991 and 2015.\(^7\) We separate between the 446 CMOs for whom we could establish their partisan identity (column (1)) and the 1186 CMOs for whom we lack partisan information (column (2)). Column (3) assesses the representativeness of the former subset. The table indicates that during their first spell CMOs are on average in office for just under five years (and most complete just one spell in office). They are predominantly male (81%), highly educated (16 years of education), tend to obtain their first CMO position aged 47-48 years, and earn an annual gross base salary of roughly 560,000 NOK during their first year in office (in real terms with base year 2011; circa $100,000 at December 2011 exchange rates).

As can be seen in Figure 1, there is substantial variation across CMOs in this annual gross base salary. This reflects the extensive flexibility of the municipalities in setting

\(^6\)We include in our sample all CMOs with an identified political leaning as described in section 3.3. Still, some of these only run for election after their CMO spell, and one might worry that exposure to particular types of politicians (i.e. working with a left-leaning council majority) may affect CMOs’ future political leaning. In practice, this does not seem to be a major problem. Of the CMOs whose party affiliation we observe both before and after their CMO spell (N=56), 95% keep their partisan bloc affiliation over time (excluding transitions to local parties).

\(^7\)Municipalities that have implemented parliamentarism are excluded after they implemented this system (Oslo in all years, Bergen from 2000, and Tromsø from 2011).
these wages. The figure provides no clear evidence that the wage distributions differ across CMOs with/without observed party affiliation as well as CMOs (un)aligned with the municipal council.

Interestingly, CMOs with an observable political leaning are equally likely to be aligned with the council majority at the onset and end of their first spell in office (62%). Overall, 44% of CMOs are aligned with the left-wing bloc (most often with the Labor Party). Finally, Column (3) indicates that CMOs with an observable political leaning tend to be slightly older and less educated when receiving their first CMO appointment, and are marginally less likely to complete multiple CMO spells. They are also more likely to work in smaller municipalities located further north within Norway with a (marginally) higher share of elderly. Still, all other background characteristics of CMOs and the municipalities employing them – including the partisan affiliation of the mayor and council majority bloc in the CMOs’ municipality – are balanced. This provides support for the representative nature of the subset of CMOs (and CMO spells) with observable partisan identities.

4 Close elections for inference

Our identification strategy builds on the idea that, conditional on agents’ actions and characteristics as of election day, the winner of a closely contested election would be determined as if by the flip of a coin if there exists a random chance element in elections (Lee 2008). In PR systems, where seats are allocated to parties based on their individual vote shares, it is not obvious how one should measure electoral closeness, nor how electoral RD designs should be implemented. One possibility would be to construct forcing variables based on party bloc seat shares. However, this introduces a number of pitfalls, which are discussed in detail by Fiva, Folke and Sørensen (2018). Most importantly, the density of observations mechanically falls as we approach the threshold for a council majority change. In the top-left panel of Figure 2, we illustrate this point by plotting
Table 1: Summary statistics on CMO background (first spell)

<table>
<thead>
<tr>
<th></th>
<th>(1) With party affiliation</th>
<th>(2) No party affiliation</th>
<th>(3) Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>CMO-specific variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First year as CMO</td>
<td>2000.854</td>
<td>(8.371)</td>
<td>2000.391</td>
</tr>
<tr>
<td>Age first year</td>
<td>48.137</td>
<td>(8.224)</td>
<td>46.559</td>
</tr>
<tr>
<td>Female CMO share</td>
<td>0.177</td>
<td>(0.382)</td>
<td>0.193</td>
</tr>
<tr>
<td>Years of education</td>
<td>16.171</td>
<td>(2.009)</td>
<td>16.418</td>
</tr>
<tr>
<td>Wage (in 1000 NOK)</td>
<td>549.770</td>
<td>(158.443)</td>
<td>566.172</td>
</tr>
<tr>
<td>Spell duration</td>
<td>4.664</td>
<td>(4.952)</td>
<td>4.938</td>
</tr>
<tr>
<td>Total number of spells</td>
<td>1.168</td>
<td>(0.475)</td>
<td>1.247</td>
</tr>
<tr>
<td>Aligned at start of spell</td>
<td>0.626</td>
<td>(0.485)</td>
<td>—</td>
</tr>
<tr>
<td>Aligned at end of spell</td>
<td>0.620</td>
<td>(0.486)</td>
<td>—</td>
</tr>
<tr>
<td>Left-wing CMO</td>
<td>0.433</td>
<td>(0.496)</td>
<td>—</td>
</tr>
<tr>
<td>Municipal-specific variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left-wing mayor</td>
<td>0.385</td>
<td>(0.487)</td>
<td>0.416</td>
</tr>
<tr>
<td>Left-wing seat share</td>
<td>0.385</td>
<td>(0.158)</td>
<td>0.383</td>
</tr>
<tr>
<td>Election year</td>
<td>1998.058</td>
<td>(8.789)</td>
<td>1997.506</td>
</tr>
<tr>
<td>Population (log)</td>
<td>8.157</td>
<td>(1.059)</td>
<td>8.434</td>
</tr>
<tr>
<td>Share of children</td>
<td>0.078</td>
<td>(0.016)</td>
<td>0.079</td>
</tr>
<tr>
<td>Share of young</td>
<td>0.122</td>
<td>(0.019)</td>
<td>0.123</td>
</tr>
<tr>
<td>Share of elderly</td>
<td>0.174</td>
<td>(0.036)</td>
<td>0.168</td>
</tr>
<tr>
<td>Share of women</td>
<td>0.495</td>
<td>(0.012)</td>
<td>0.495</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>0.028</td>
<td>(0.014)</td>
<td>0.027</td>
</tr>
<tr>
<td>Latitude</td>
<td>63.283</td>
<td>(3.824)</td>
<td>62.549</td>
</tr>
<tr>
<td>Longitude</td>
<td>11.418</td>
<td>(5.390)</td>
<td>10.933</td>
</tr>
</tbody>
</table>

CMO party affiliation

Left-wing affiliation

- Red Electoral Alliance (RV): 0.016 (0.124)
- Socialist Left Party (SV): 0.078 (0.269)
- Labor Party (DNA): 0.332 (0.471)
- Other left-wing parties: 0.007 (0.082)

Right-wing affiliation

- Liberal Party (V): 0.094 (0.292)
- Center Party (SP): 0.121 (0.327)
- Christian Dem. Party (KrF): 0.045 (0.207)
- Conservative Party (H): 0.186 (0.390)
- Progress Party (FrP): 0.043 (0.202)
- Other right-wing parties: 0.078 (0.269)

N: 446 1186 1632

Notes: The table includes only one observation per CMO, with all variables evaluated at the first year of their first spell in office (except alignment status at the end of the CMO’s first spell). Spell duration is measured in years, while Wage is the real annual gross salary (in 2011 NOK). Aligned at start/end of a CMO spell is an indicator variable equal to 1 if the CMO’s political loyalty matches that of the council majority at start/end of his/her spell (0 otherwise). Left-wing CMO equals 1 if the CMO’s party affiliation corresponds to the left-wing bloc. Left-wing mayor is an indicator variable equal to 1 when the mayor is from a party in the left-wing bloc (0 otherwise), while Left-wing seat share is the combined seat share of left-wing parties in the municipal council. Finally, Election year is the year of the last municipal election. The bottom panel specifies the party affiliation of the CMO.
Note: This figure shows four different wage distributions based on real annual gross salary (in 2011 NOK) using an Epanechnikov kernel with optimal bandwidth. The top panel shows kernel density plots for wage levels of CMOs with party affiliation (thick line) and without party affiliation (thin line). The bottom panel shows kernel density plots for wage levels of CMOs aligned with council majority (thick line) and not aligned with council majority (thin line).
the frequency of observations as a function of the left-wing seat share. Naturally, with a median council size of about 25, few observations are less than one percentage point away from crossing the 50% threshold in seat shares.

To accommodate this concern, our RD analyses follow the simulation-based procedure proposed by Fiva, Folke and Sørensen (2018).\(^8\) For each municipality-year observation, this method identifies the expected minimum vote share change that would flip the seat majority from the left-wing bloc to the right-wing bloc. In the following, we refer to this variable as the \textit{left-wing win margin}.\(^9\) The top-right panel of Figure 2 plots the frequency of observations as a function of this variable. The density of observations is smooth across the cut-off for a majority change.

Before moving to a discussion of our main RD analyses, the left panel of Figure 3 highlights that crossing the threshold for winning a majority of seats (i.e. left-wing win margin > 0) by construction always leads to a change in majority. This buttresses our sharp RD design below. The right panel of Figure 3 furthermore verifies that when the left-wing bloc wins a majority (i.e. left-wing win margin > 0), the mayor is more likely to be from the left-wing bloc (and vice versa). This is indeed the case since probability of having a mayor from the left-wing bloc jumps with about 40 percentage points at the cut-off. Unreported results show a similar (and substantively stronger) effect for the deputy mayor, which further confirms the substantial shift in political power at the threshold.

We use the \textit{left-wing win margin} to define two new variables that will be employed as forcing variables in our RD analyses. First, we compute the win margin of the incumbent bloc (defined as the political bloc with a seat majority before the relevant election). The incumbent bloc win margin (Margin) equals the \textit{left-wing win margin} if the left-wing bloc

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\(^{8}\)This method has been subsequently adapted to other countries using proportional representation electoral systems, such as Germany (Baskaran and Hessami 2017), Sweden (Folke, Persson and Rickne 2017), and Spain (Curto-Grau, Solé-Ollé and Sorribas-Navarro 2018; Carozzi and Repetto 2019).

\(^{9}\)In the Norwegian electoral system, voters affect the election outcome by voting for a party list and by casting preferential votes for particular candidates. Preferential votes can be cast for candidates on any party list. If ballots include “side votes” for other parties, then party vote shares are transferred accordingly before seats are allocated (for more details, see Fiva and Rohr 2018). Ideally, for constructing the forcing variable, we would like to use party vote shares after such transfers have been taken into account. Unfortunately, we do not have such data available for all sample years. We therefore rely on party vote shares ignoring preferential votes ("partistemmer").
Figure 2: Frequency of observations by alternative forcing variables

![Frequency plots](image-url)

Note: The figure shows the number of observations by the left-wing seat share (top-left panel), the left-wing win margin (top-right panel), incumbent win margin (bottom-left panel), and CMO bloc win margin (bottom-right panel). Each bin is for an interval of one percentage point.

Figure 3: Bloc majority affect the choice of mayor

![Logistic regression plots](image-url)

Note: The vertical axis in the left-hand panel measures the probability of having a left-wing seat majority by the left-wing win margin. By construction, there is a jump from zero to one at the cut-off. The vertical axis in the right-hand panel measures the probability of having a left-wing mayor by the left-wing win margin. Norway’s multi-party system explains why we do not see “full compliance” in this panel, but rather a jump of about 0.4 at the cut-off.
holds a seat-majority prior to the election. If the right-wing bloc holds a seat majority, 
\[ \text{Margin} = (-1) \cdot \text{left-wing win margin}. \]
Naturally, this variable has most of its density to the right of zero, as displayed in the bottom-left panel of Figure 2. Second, we similarly compute the win margin of the political bloc that matches the political affiliation of the CMO in office before the relevant election. The CMO bloc win margin (\( \overline{\text{Margin}}_i \)), which is only defined for the sample of bureaucrats that have a background in politics, is displayed in the bottom-right panel of Figure 2.

Based on these forcing variables, we implement sharp RD designs that isolate (i) as-good-as-random variation in shifts in council majority, and (ii) as-good-as-random variation in council-CMO alignment. For the first RD design, which is similar to Akhtari, Moreira and Trucco (2017), the regression model takes the following form:

\[ Y_i^t = \alpha + \beta \text{IncumbentWin}_i + \gamma_1 \text{Margin}_i + \gamma_2 \text{Margin}_i \cdot \text{IncumbentWin}_i + \epsilon_i \quad (1) \]

where \( \text{IncumbentWin} \) is an indicator variable equal to 1 when the incumbent political bloc retains a council seat majority, and 0 otherwise. The key dependent variables \( Y_i^t \) are changes in bureaucratic pay (i.e. CMO gross salary of municipality \( i \) from the last year before the election to year \( t \)) and bureaucratic turnover (1 if the CMO of municipality \( i \) in place before the election is replaced by year \( t \), 0 otherwise). The coefficient of interest is \( \beta \), which reflects the causal effect of having the same bloc majority both before and after the election.

Our second RD design zooms more explicitly in on the causal effect of political alignment between politicians and bureaucrats, and thus assesses our main hypotheses derived in section 2. In this case, the forcing variable is the margin of victory for the bloc of the CMO in office before the election (\( \overline{\text{Margin}}_i \)). More specifically, this is the margin of victory of the left-wing (right-wing) bloc for CMO’s of left-wing (right-wing) partisan
leaning. More formally, we estimate:

\[ Y_i^t = \bar{\alpha} + \bar{\beta} \text{Aligned}_i + \bar{\gamma}_1 \text{Margin}_i + \bar{\gamma}_2 \text{Margin}_i \cdot \text{Aligned}_i + \bar{\epsilon}_i \]  

(2)

where \( \text{Aligned} \) is an indicator variable equal to 1 when the CMO is politically aligned with the council majority, and 0 otherwise. \( Y_i^t \) covers the same set of variables as in equation (1).

The electoral RD designs set out in equations (1) and (2) are only effective when relevant actors do not have precise control over election results. To empirically assess this identifying assumption, we check whether municipality characteristics – such as population size and socio-economic composition, as well as municipalities’ geographical location – are balanced across the cut-off of the left-wing win margin. Figure 4 shows that this is indeed the case. Appendix Figures A.3 and A.4 illustrate that the same conclusion holds when we look at the forcing variables employed in our two RD designs.\(^{10}\)

---

\(^{10}\)In all RD analyses we drop municipalities with CMOs that sometime during the next election period reach retirement age (65 years).
Figure 4: Balance on covariates by left-wing win margin

Note: RD plots showing covariate balance for nine different variables (given in the title of each panel) by the left-wing
margin. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned
scatter points. Each scatter point includes about the same number of observations.
5 Main RD results: Wages and Turnover

5.1 RD 1: Changes in council majority

We begin the discussion of our empirical findings by looking at the impact of changing the council majority (Boyne et al. 2010; Iyer and Mani 2012; Christensen, Klemmensen and Opstrup 2014; Akhtari, Moreira and Trucco 2017; Dahlström and Holmgren 2019). The results are graphically presented in Figure 5. The top panel shows four RD plots relating contemporaneous shifts in council majorities (year $t = 0$) to changes in bureaucratic pay over the election period (year $t = 1, 2, 3$ or $4$). A longer time period under investigation allows sufficient time for any adjustments in the CMOs’ position, responsibilities and wage to become implemented. This may be necessary in our setting since CMOs tend to work under permanent contracts (which are difficult to cancel in the short run) and face performance evaluations either annually or bi-annually. The bottom panel of each figure plots the RD estimates with corresponding 95% confidence intervals.

The central observation in Figure 5 is that a change in the council majority in itself has no clear effect on bureaucrats’ wage in subsequent years. This null finding is independent of the number of years we allow to elapse in the election period. Furthermore, as reported in Table 2, it is equally persistent when changing the bandwidth and polynomial used for implementing the RD. The point estimates never approach statistical significance at conventional levels, and in effect are equally likely to be positive or negative. We also investigate whether a change in the council majority affects the probability that the CMO leaves her position in the years following an election. We find no evidence that this is the case (see Appendix Figure A.5). If anything, the results for years 1 and 2 suggest that a shift in council majority initially works to weakly reduce bureaucratic turnover. However, these effects are not statistically significant at conventional levels, and are quite imprecisely estimated.
Figure 5: Incumbent re-election and bureaucrat remuneration

Note: The top panel displays RD plots showing how changes in bureaucratic remuneration, from year 0 to year 1, 2, 3, and 4, depends on incumbent re-election. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
### Table 2: RD estimates of incumbent re-election on bureaucratic remuneration

#### Panel A: One year after the election

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#### Panel B: Two years after the election

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#### Panel C: Three years after the election

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#### Panel D: Four years after the election

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Note: The reported RD estimates in column (1) correspond to $\beta$ from Equation (1), which are shown in the bottom panel of Figure 5. In column (2), a second-order polynomial in the forcing variable is included on each side of the discontinuity. In column (3) we use a linear control function and apply the bandwidth suggested by the Calonico et al. (2017) method. In column (4) and (5), we drop the control function and compare differences in means close to the cut-off. Standard errors clustered at the CMO level in parentheses.
### 5.2 RD 2: Changes in council-bureaucrat alignment

Turning now to a more direct assessment of the effect of a shift in council-bureaucrat political alignment, we restrict the analysis to bureaucrats that have a background in politics. Although these, as a group, might differ from CMOs without an observable political affiliation, our sharp ID design nonetheless can identify the local average treatment effect of alignment, conditional on CMOs having a background in politics. Figure 6 shows that CMO’s wage growth over the election period increases with approximately four percentage points when the CMO is politically aligned with the council majority. This effect is statistically significant at conventional levels, seems to increase gradually over time, and is substantively meaningful given a baseline wage growth rate of approximately 12% over the four-year election term. Table 3 shows that these results are robust to different specifications of the control function (columns (1) and (2)), as well as to the exclusion of observations far away from the cut-off (columns (3) to (5)). Point estimates are highly consistent across specifications, even when we zoom in on observations in the immediate vicinity of the cutoff (columns (4) and (5)). Auxiliary analyses show that the treatment estimates are similar if we exclude observations where the CMO changed after the election (Appendix Figure A.7). Importantly, in placebo checks based on pre-election years (gray bars in the bottom panel of Figure 6), we do not see similar effects. This further strengthens the causal interpretation of our findings.\(^\text{11}\)

CMOs with a background in politics thus appear to benefit significantly in terms of their wage development from being politically aligned with the council: better-matched bureaucrats are compensated more generously. This result is at odds with theoretical predictions arising in a principal-agent model assuming policy-motivated agents (Besley and Ghatak 2005). However, it is consistent with preference alignment facilitating co-

\(^{11}\)The results from estimating equation (2) using bureaucrat turnover as the dependent variable are summarized in Appendix Figure A.6. This figure provides no clear evidence that CMO turnover is affected by alignment of the council majority and the CMO. Although legal and normative barriers in Norway might work to limit politicians’ potential for hiring/firing bureaucrats (see above) and thereby could mitigate potential turnover effects (Hollibaugh 2015; Dahlström and Lapuente 2017), the confidence intervals throughout these estimations are large such that we cannot rule out substantial effects.
Figure 6: Council-bureaucrat alignment and bureaucrat remuneration

Note: The top panel displays RD plots showing how changes in bureaucratic remuneration, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
Table 3: RD estimates of council-bureaucrat alignment on bureaucratic remuneration

Panel A: One year after the election

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Panel B: Two years after the election

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Panel C: Three years after the election

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Panel D: Four years after the election

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Note: The reported RD estimates in column (1) correspond to $\tilde{\beta}$ from Equation (2), which are shown in the bottom panel of Figure 6. In column (2), a second-order polynomial in the forcing variable is included on each side of the discontinuity. In column (3) we use a linear control function and apply the bandwidth suggested by the Calonico et al. (2017) method. In column (4) and (5), we drop the control function and compare differences in means close to the cut-off. Standard errors clustered at the CMO level in parentheses.
operation and agents’ productivity (or reducing their cost of effort), which would work to push up remuneration. It might also reflect principals’ increased willingness to pay more to prolong a beneficial match (in terms of a successful working relationship between politicians and bureaucrats), or result from partisan favoritism. The next section aims to gain more insights into these potential underlying mechanisms.

6 Delegation and performance

Figure 6 and Table 3 provide evidence that council-bureaucrat alignment matters for bureaucratic pay. In this section, we assess to what extent these results might be linked to the delegation of budgetary authority and decision-making powers to the CMO as well as municipality-level budgetary outcomes. While superior policy outcomes may be used by politicians to support wage increases even in the presence of favoritism, delegation allows separating the favoritism and productivity mechanisms. Indeed, as mentioned earlier, politicians obtain incentives to delegate more decision-making powers to aligned CMOs when alignment improves productivity, but not when the underlying mechanism is favoritism.

Figure 7 and Table 4 show that politician-bureaucrat alignment appears to play some role for the level of budgetary task delegation to the CMO. The point estimates are consistently in the same direction, and suggest that alignment leads to more extensive task delegation. The estimated effects also mimic our wage results in gradually increasing over time. However, the analysis suffers from low precision, partly because information on budgetary delegation derives from surveys with a substantial level of missing observations. The reason is that the survey was not fielded every year and not all municipalities always

---

12 We focus on the municipal budget in this part of the analysis for two reasons. First, as discussed in section 3.2, the municipal budget plays a key part in the performance evaluation for CMOs since maintaining desirable budgetary outcomes is critically important for the fiscal autonomy of Norwegian municipalities. As such, the budget constitutes a central variable in the relation between politicians and CMOs. Second, while budget-related information is easily accessible, data availability is unfortunately limited for the delegation of, and/or performance with respect to, other CMO tasks (including good leadership, successful implementation of government goals, or high user/employee satisfaction).
provided answers to the relevant question.\textsuperscript{13}

Even so, these findings suggest that increased productivity in aligned matches is more likely to be the mechanism underlying local councils’ wage contract decisions compared to favoritism and cronyism. Although our data do not enable us to rule out a potential role for cronyism, our Scandinavian setting – whose countries consistently rank among the highest quality of governance in the world – further mitigate opportunities for such behavior (see also Folke, Persson and Rickne 2017). For instance, the Tax Administration Act requires public authorities to make their annual tax returns available to the public, and they are posted online on the Tax Administration’s website. Moreover, the Norwegian Freedom of Information Act allows journalists and others access to detailed information about the gross payments to public employees (which in practice already led to several newspaper articles about CMOs on the basis of such information). Top administrators and elected politicians thus are subjected to intensive media scrutiny, which benefits political accountability (Snyder and Strömberg 2010).

Finally, we also evaluated the effect of politician-bureaucrat alignment on fiscal performance, operationalized as the net current budget balance: i.e. current revenues minus current expenditures and net interest and principal payments, measured as a percentage of current revenues. Appendix Figure A.9 shows inconclusive findings for the relation between alignment and fiscal performance. Although such effects might have been employed by the local council to justify more generous pay, budgetary performance consistently shows statistically insignificant results independent of the number of years we allow to elapse in the election period. Still, the large standard errors across all estimations imply that we cannot credibly rule out substantial effects. Clearly, however, aligned CMOs might document better achievements in other relevant dimensions beyond the municipal budget, which are unobserved by us.

\textsuperscript{13}As a robustness check, we replicated the analysis while interpolating the data to get a more complete time-series. The details of the interpolation process are presented in Appendix C. The results using the interpolated data are provided in Appendix Figure A.8, and are qualitatively similar to those provided in the main text. As expected, interpolation substantially narrows the confidence intervals, while also leading to slightly smaller point estimates.
Figure 7: Council-bureaucrat alignment and delegation

Note: The top panel displays RD plots showing how changes in delegation, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
Table 4: RD estimates of council-bureaucrat alignment on bureaucratic delegation

Panel A: One year after the election

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD Estimate</td>
<td>-0.000</td>
<td>-0.032</td>
<td>-0.050</td>
<td>-0.047</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(0.037)</td>
<td>(0.059)</td>
<td>(0.078)</td>
<td>(0.047)</td>
<td>(0.076)</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>0.500</td>
<td>0.500</td>
<td>0.126</td>
<td>0.050</td>
<td>0.025</td>
</tr>
<tr>
<td>Order of polynomial</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N left of cut-off</td>
<td>127</td>
<td>127</td>
<td>67</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td>N right of cut-off</td>
<td>204</td>
<td>204</td>
<td>104</td>
<td>43</td>
<td>19</td>
</tr>
</tbody>
</table>

Panel B: Two years after the election

<table>
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</thead>
<tbody>
<tr>
<td>RD Estimate</td>
<td>0.103</td>
<td>0.208</td>
<td>0.201</td>
<td>0.105</td>
<td>0.167</td>
</tr>
<tr>
<td></td>
<td>(0.114)</td>
<td>(0.161)</td>
<td>(0.187)</td>
<td>(0.131)</td>
<td>(0.176)</td>
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<tr>
<td>Bandwidth</td>
<td>0.500</td>
<td>0.500</td>
<td>0.111</td>
<td>0.050</td>
<td>0.025</td>
</tr>
<tr>
<td>Order of polynomial</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N left of cut-off</td>
<td>89</td>
<td>89</td>
<td>41</td>
<td>27</td>
<td>12</td>
</tr>
<tr>
<td>N right of cut-off</td>
<td>155</td>
<td>155</td>
<td>69</td>
<td>32</td>
<td>11</td>
</tr>
</tbody>
</table>

Panel C: Three years after the election

<table>
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<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
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</thead>
<tbody>
<tr>
<td>RD Estimate</td>
<td>0.129</td>
<td>0.236</td>
<td>0.181</td>
<td>0.147</td>
<td>0.076</td>
</tr>
<tr>
<td></td>
<td>(0.125)</td>
<td>(0.176)</td>
<td>(0.205)</td>
<td>(0.145)</td>
<td>(0.198)</td>
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<tr>
<td>Bandwidth</td>
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<td>0.500</td>
<td>0.121</td>
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<td>Order of polynomial</td>
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<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N left of cut-off</td>
<td>90</td>
<td>90</td>
<td>43</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>N right of cut-off</td>
<td>155</td>
<td>155</td>
<td>76</td>
<td>32</td>
<td>11</td>
</tr>
</tbody>
</table>

Panel D: Four years after the election

<table>
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<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD Estimate</td>
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<td>0.402</td>
<td>0.339</td>
<td>0.296</td>
<td>0.148</td>
</tr>
<tr>
<td></td>
<td>(0.132)</td>
<td>(0.196)</td>
<td>(0.242)</td>
<td>(0.157)</td>
<td>(0.267)</td>
</tr>
<tr>
<td>Bandwidth</td>
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<td>0.500</td>
<td>0.128</td>
<td>0.050</td>
<td>0.025</td>
</tr>
<tr>
<td>Order of polynomial</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N left of cut-off</td>
<td>88</td>
<td>88</td>
<td>48</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>N right of cut-off</td>
<td>143</td>
<td>143</td>
<td>70</td>
<td>29</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: The reported RD estimates in column (1) correspond to \( \tilde{\beta} \) from Equation (2), which are shown in the bottom panel of Figure 7. In column (2), a second-order polynomial in the forcing variable is included on each side of the discontinuity. In column (3) we use a linear control function and apply the bandwidth suggested by the Calonico et al. (2017) method. In column (4) and (5), we drop the control function and compare differences in means close to the cut-off. Standard errors clustered at the CMO level in parentheses.
7 Conclusion

In the classic Weberian view, bureaucrats are posited as neutral agents performing tasks and assignments set by their political leadership independent of any personal interests. In principal-agent theory, bureaucrats’ policy preferences may play a more prominent role. Since closer preference alignment with politicians can improve on inefficiencies related to task delegation, principals may prefer agents who resemble them ideologically – the so-called ally principle (Bendor, Glazer and Hammond 2001; Huber and Shipan 2008; Dahlström and Holmgren 2019). Addressing this theoretical disagreement on whether and how preference-alignment between politicians and bureaucrats matters has remained extremely challenging from an empirical perspective. A key reason is that bureaucrats’ political leaning is generally unobserved. Our first main contribution is to exploit top civil servants’ electoral history (which clearly signposts their partisan identity) to overcome this problem. This provides a critical opportunity to exploit the dyadic relationship between political and bureaucratic leaders. Our second contribution pushes the research frontier beyond bureaucratic turnover (e.g. Iyer and Mani 2012; Akhtari, Moreira and Trucco 2017; Bach and Veit 2018; Colonnelli, Teso and Prem 2019), and looks at potential personal financial implications of politician-bureaucrat preference (mis)alignment as well as decisions on task delegation.

Using close elections for inference, we find evidence that council-bureaucrat alignment substantially increases top bureaucrats’ wage growth, while leaving bureaucratic turnover largely unaffected. This finding goes against the conventional wisdom from principal-agent models with motivated agents, as such agents require less incentives (pay) to perform optimally. In contrast, our finding is consistent with a theoretical argument based on politically aligned matches being more productive, as this mechanism induces optimal contracts with higher financial compensation. Since we also uncover some evidence for a positive relation between political alignment and the level of task delegation, our results overall suggest that the superior wage growth in politically aligned matches
is more likely to be due to an underlying productivity mechanism rather than favoritism. Overall, our findings highlight another implication of partisan patronage. Existing work has provided evidence that political alignment between politicians strongly influences the allocation of intergovernmental grants (Larcinese, Rizzo and Testa 2006; Solé-Ollé and Sorribas-Navarro 2008; Brollo and Nannicini 2012; Fournaies and Mutlu-Eren 2015) and funding for local investments (Fiva and Halse 2016). Recent contributions to this literature have furthermore shown relevant impacts on other outcomes including economic performance (Asher and Novosad 2017) and the performance of bureaucrats (Velasco Rivera 2019). We do not examine political alignment between politicians, but rather between bureaucrats and politicians. Such alignment can directly result from political control over (key appointments in) the bureaucracy. The assessment of its implications is important because senior officials at the top of the administrative hierarchy generally maintain a pivotal position in the policy-making process (Gallo and Lewis 2012; Christensen, Klemmensen and Opstrup 2014; Bach and Veit 2018).

Although our analysis establishes important financial returns to politician-bureaucrat alignment for the bureaucrat, a natural next step would be to consider additional downstream consequences. For instance, given the observed wage effect during individuals’ spell as CMO, what is the impact on their future income/wealth? Our data unfortunately do not allow us to assess such effects (which requires following CMOs beyond their current position), and we view this as an important avenue for further research. Future research should also assess any returns to council-bureaucrat alignment for the political leadership (e.g., mayor) – not just in terms of their political career, but also their remuneration (which is set by the local council in Norway) and future income/wealth. Finally, extensions of our work towards the impact of (mis)alignment on bureaucratic autonomy, entrenchment and accountability would allow a more encompassing evaluation of the overall welfare implications of partisan patronage on bureaucratic selection.
References


Fiva, Jon H., Rune J. Sørensen and Reidar Vøllo. 2019. “Local Candidate Dataset.”.


Kommunesektoren. 2018. *Hovedtariffavtalen (Collective wage agreement)*. Kommuneforlaget AS.


For Online Publication

A Supplementary figures
Figure A.1: Fraction of CMOs with background in politics, 1991-2015.

Note: The top panel displays, for each year in the sample, the fraction of CMOs where we can establish the partisan leaning from electoral lists. The bottom panel plots, for each year in the sample, the share of CMOs that have won political office in the election data we have available.
Figure A.2: Fraction of survey respondents previously running for local office by respondents’ age

Note: This figure plots the fraction of survey respondents that have previously run for local office against the respondent’s age. Data from the 1999-2011 Local Election Surveys (N=10,319).
Figure A.3: Balance on covariates by incumbent bloc win margin

Note: RD plots showing covariate balance for nine different variables (given in the title of each panel) by the incumbent bloc win margin. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations.
Figure A.4: Balance on covariates by CMO bloc win margin

Note: RD plots showing covariate balance for nine different variables (given in the title of each panel) by the CMO bloc win margin. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations.
Figure A.5: Incumbent re-election and bureaucratic turnover

Note: The top panel displays RD plots showing how bureaucratic turnover, from year 0 to year 1, 2, 3, and 4, depends on incumbent re-election. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
Note: The top panel displays RD plots showing how changes in bureaucratic turnover, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
Figure A.7: Council-bureaucrat alignment and bureaucrat remuneration; Sample limited to municipalities without CMO turnover

Note: The top panel displays RD plots showing how changes in bureaucratic remuneration, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years. The sample is limited to municipalities without CMO turnover.
Figure A.8: Council-bureaucrat alignment and delegation (including interpolated delegation data)

Note: The top panel displays RD plots showing how changes in delegation, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years. Data on delegation have been interpolated to get a more complete time-series (see Appendix C for details on the interpolation process.)
Figure A.9: Council-bureaucrat alignment and budgetary performance

Note: The top panel displays RD plots showing how changes in budgetary performance, from year 0 to year 1, 2, 3, and 4, depends on council-bureaucratic alignment. Separate linear lines are estimated below and above the discontinuity using the underlying data, not the binned scatter points. Each scatter point includes about the same number of observations. The bottom panel shows RD estimates along with 95% confidence intervals using the full bandwidth and a triangular kernel. Gray bars are based on pre-election years, black bars are based on post-election years.
B  Principal-agent model

In this section, we formally analyze how political preference alignment between a principal (politician) and an agent (CMO) affects the optimal wage contract. We focus on two mechanisms. First, preference alignment gives policy-motivated agents a stake in public output (the political mission). Second, preference alignment improves the productivity of a match. The model highlights how these mechanisms push bureaucratic pay in opposite directions.

B.1 Technology and preferences

Let output be given by $f = ae + \varepsilon$ where $a \in \{a_L, a_H\}$ is the productivity-type parameter of the agent such that $0 < a_L < a_H$. The agent’s effort is denoted $e$, and $\varepsilon$ is a stochastic element (noise). Agents’ cost of effort is given by $c = \frac{e^2}{2}$.\(^{14}\)

An agent’s utility $U$ is increasing in the expected financial value of the contract $w$ (pay), and decreasing in cost $c$ as well as the risk associated with the contract $w$

$$U = E[w] - 0.5rVar[w] - c + \theta E[f],$$

where $r > 0$ measures the degree of risk aversion. The agent’s intrinsic motivation for achieving output $f$ is given by the type parameter $\theta \in \{\theta_L, \theta_H\}$, where $\theta_L = 0$ and $\theta_H \in (0, 1)$. That is, $\theta_L$-types are only motivated by financial rewards. We let all agents have the same outside option $u$.

There are no explicit policy preferences in the model. Rather, we compare outcomes between matches where different agent types are activated. That is, the default type parameters of an agent are $a_L$ and $\theta_L$. This corresponds to a situation where principal-agent policy preferences are misaligned. We then compare this to a situation where one of the agent’s type parameters are high ($a_H$ or $\theta_H$), depending on which of the two mechanisms we analyze.

The principal is risk neutral with utility

$$\pi = E[f] - E[w].$$

We assume that the principal can observe the agent’s type, as types are mapped by party affiliation in the empirical application. Last, we assume that the principal cannot observe effort and hence effort is not contractible.\(^{15}\)

\(^{14}\)Note that our results go through if we let alignment affect productivity in a match through the cost of effort. For instance, assuming cost of effort is given by $c = \frac{e^2}{2t}$, where the parameter $t \in (0, \infty)$ represents agents’ cost-type, provides similar inferences to those reported below.

\(^{15}\)Setting up the model without asymmetric information such that the principal observes effort – which is equivalent to a situation with deterministic output $f$ and non-observable effort – provides qualitatively similar implications.
B.2 Optimal performance contract

We solve for the optimal contract given exogenous principal-agent matching. Restricting
the analysis to linear contracts, let a contract $w$ be given by

$$w = \tau + kf,$$

where $\tau$ is a fixed transfer and $k$ is a fraction of output (the incentive part – or ‘power’ – of the contract).\(^{16}\) We analyze the optimal contract in two situations: i.e. one where agents are not motivated by policies ($\theta = \theta_L$) and one where agents are policy-motivated ($\theta = \theta_H$).

Looking first at agents without policy motivation, we can establish the effect of agents’ productivity types $a$. In this case, agents’ utility of a contract is given by

$$U = E[w] - 0.5rVar[w] - c.$$  

Inserting for $w$ and $f$ we get

$$U = \tau + kae - 0.5rk^2Var[\varepsilon] - c.$$  

The agent maximizes $U$ with respect to effort $e$. This gives rise to the incentive compatibility constraint facing the principal

$$ka = c'.$$

This equality implies that for a given $k$, the high productivity types will put in more effort than low productivity types (or, equivalently, these types need less incentives to perform a given task). However, it is not optimal for the principal to give the same incentives $k$ across types. In fact, it is straightforward to show that the incentive part of the optimal contract following from the principal’s maximization problem (taking the incentive compatibility and participation constraints as given) is\(^{17}\)

$$k = \frac{a^2}{a^2 + rVar(\varepsilon)}.$$  

The optimal output-related pay $k$ thus increases in agents’ productivity. The intuition is that the principal wants to incentivize these productive agents more than other agents, and these agents need to be compensated for taking on more risk (and suffering from the induced larger effort). Thus, these types demand higher expected pay to participate. \textit{This result implies that politician-bureaucrat preference alignment – when assumed to increase productivity – will work to push up bureaucrats’ pay.}

Now, what happens when we allow for policy-motivated agents? In this case, the

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\(^{16}\)A performance contract with an output-related bonus may equivalently be set up as a fixed wage contract with a dismissal probability related to output. By convention, we discuss mechanisms using the former, while appreciating that the latter may better fit with our empirical setting.

\(^{17}\)The participation constraint simply states that the value of the contract to the agent must satisfy $w - c(e) = u$. 

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agent’s utility of a contract $w$ will be given by

$$U = \tau + (\theta + k)ae - 0.5rk^2\text{Var}[\varepsilon] - c.$$  

It follows that the agent’s first order condition is

$$(\theta + k)a = c'.$$

Thus, for a given $k$, the agent puts in more effort when $\theta = \theta_H$. Equivalently, the same level of effort can also be achieved with a lower $k$, although this does not constitute an optimal contract. In fact, it turns out that the optimal $k$ is the same for $\theta_L$-types as for $\theta_H$-types. This result stems from the fact that the change in effort induced by changing $k$ is the same for all effort levels when $c''$ is constant (i.e., $de/dk = a$ is invariant to $\theta$). The principal’s trade-off when increasing $k$ between the marginal gain in production (through effort) and the marginal cost of risk shifting, is then the same across agents with different $\theta$’s.

Turning to expected pay, note first that – for given transfer $\tau$ – the surplus is larger for the $\theta_H$-types. Both agent-types face the same risk and get the same performance pay for a given output level. However, the $\theta_H$-types also have a direct stake in output. Moreover, these types work harder creating additional surplus for themselves. This follows because these types could choose the same effort level as $\theta_L$-types, but optimally choose higher effort for given $k$. Next note that the participation constraint is given by

$$\tau + (\theta + k)ae - 0.5rk^2\text{Var}[\varepsilon] - c = u.$$  

The principal extracts the aforementioned surplus by lowering the fixed transfer $\tau$ for the $\theta_H$-types until the participation constraint binds. Thus, $\tau$ is lower for $\theta_H$-types than for $\theta_L$-types. It is straightforward to show that also total expected pay – i.e., $\tau + kae$ – is lower.\textsuperscript{18} That is, the reduction in $\tau$ is larger than the additional pay to the $\theta_H$-types through the performance part of the contract (due to higher effort). The intuition is that the cost accrued from working harder is more than covered by the benefit obtained from their stake in the output. The effect of being policy-motivated ($\theta = \theta_H$) thus is to lower agents’ pay. Politician-bureaucrat preference alignment – when assuming agents have a stake in output – thus will work to pull down bureaucrats’ pay.\textsuperscript{19}

\textsuperscript{18}For given $k$, a sufficient condition for the result is that $c''$ is non-decreasing.

\textsuperscript{19}The $\theta_H$-types are valuable for principals (as they put in more effort for lower expected pay). Competition among principals for these agents could then push up their outside options, which could countervail the downward pull on wages.
C Data sources and measurement

C.1 CMO compensation and turnover

The Norwegian Association of Local and Regional Authorities (KS) is the employers’ organization of local government authorities and operates a register of all these authorities’ employees (the PAI-register). We use data from this register covering the period 1991-2015. The register has information on the name, birthdate and wages of the CMOs employed in each municipality on December 1st of every year. The register provides information about both gross regular monthly salary as well as various supplementary compensations. The latter derive from, for instance, allowances for evening and night shifts or work on Saturdays and Sundays (accounting for approximately 1% of total wage level).

Access to the PAI-register allows us to characterize the complete set and length of employment spells (measured in years) for all CMOs. We have performed extensive quality checking on the data on CMO turnover, and excluded observations where substitute CMOs held temporary positions.

C.2 CMOs’ party affiliation

We establish CMOs’ party affiliation by searching for matches in data sets covering candidates running for local, regional and national office in Norway. For this purpose we rely on candidate names, birth years, and municipalities of residence. For candidate names we use a fuzzy-matching method to account for occasional spelling errors, typos or differences in the treatments of middle names. We subsequently do extensive quality checks of our resulting matches.

For the local and regional level of government, we rely on candidate data as organized by Fiva, Sørensen and Vøllo (2019). At the local government level, we have data on all candidates running in the last five municipal elections in, respectively, 419, 354, 228, 428 and 356 municipalities (in total 299,926 candidate-year observations). We supplement these data with additional information on mayors (3,553 mayor-year observations) from 1971-1999, obtained from the Norwegian Center for Research Data (NSD). At the regional government level, we collected data on all elected candidates in the 1975-2019 elections, all non-elected candidates in the 2003-2019 period, and about half of non-elected candidates in the 1975-1999 period (in total 75,756 candidate-year observations). For the national level, we rely on the Fiva and Smith (2017) data set which covers the universe of candidates running in the 1906-2017 period. In our search for the party affiliation of CMOs active in the 1991-2015 period, we rely on candidates running for national office in the 1961-2017 period (47,559 candidate-year observations).

These data allow us to establish CMOs’ party affiliation based on searches conducted in the following order (i) national elections (109 matches), (ii) regional elections (182 matches), and (iii) local elections (340 matches). If CMOs run in multiple years for the same office, we use the earliest entry. The CMO is classified as aligned if the CMO’s party affiliation matches that of the council majority. This means that the CMO is defined as aligned if (s)he is affiliated with the majority party bloc. Party blocs are defined as follows: Right-wing bloc: Progress Party, Conservative Party, Liberal Party, Christian

C.3 Delegation of budgetary powers

The Local Government Organizational Database provides extensive information about the internal organization of Norwegian local authorities, including the extent of budgetary delegation. The data has originally been collected by means of repeated survey questionnaires to local authorities. The complete database is through the Norwegian Center for Research Data (NSD).

The key variable of interest for our analysis relates to the delegation of budgetary powers to the CMO. In Norway, local governments have various ways to organize the preparatory stages of the budget process before the local executive board submits the final proposal to the local council for formal approval. Crucially, the budgetary preparations can thereby involve the CMO to different degrees. In effect, three main approaches are available:

- **A:** The bottom up process: The administrative agencies and standing political committees draft budget proposals, which are subsequently processed by the CMO. The CMO submits a revised budget proposal for the executive board.

- **B:** The centralized administrative process: The CMO presents a coherent budget proposal for treatment in the standing committees. The executive board prepares its proposal on basis of CMO and committee proposals.

- **C:** The centralized political process: The executive board initiates and controls the budgetary process, collecting information from the standing committees and the CMO. Using this information, the executive board submits its proposal to the local council.

Delegation to the CMO in our analysis is set to 1 when the municipality employs either the bottom up process (A) or the centralized administrative process (B), and zero otherwise.

Annual data on the budgetary process is available for the period 1991-2008, and subsequently also for the years 2012 and 2016. The aggregate statistics of our dataset correspond exactly to those in the documentation reports. This typology has been used in previous research, notably in Hagen and Vabo (2005).

Interpolation

The dataset on budgetary delegation has missing observations deriving both from years when no surveys were fielded to collect the data, and from some municipalities not answering the survey in certain years. While our main analysis relies only on the available

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20 The database is “Kommunal- og moderniseringsdepartementets Organisasjonsdatabase for kommuner og fylkeskommuner”. For detailed documentation, see https://nsd.no/nsddata/serier/kommunalorganisering.html.
data, we also engaged in robustness checks where we interpolated the data to get more complete time-series. In cases where we miss an observation for a particular local authority in a particular year, we interpolate by inserting the subsequent observation. For example, if data on delegation is missing for 1997, but not for 1996 or 1998, we replace the missing observation with the one from 1998.

Data collection did not include two three-year periods, i.e. 2009-2011 and 2013-2015. We use the Stata module nnipolate, and apply nearest neighbour interpolation for the delegation indicator. When we have municipality-level delegation data for the start- and end-points, we apply the procedure to fill in missing values using the previous or next known value of delegation, depending on which is closer in time. When the previous and next values are equally distant (i.e. in the years 2010 and 2014), we use the next observation (i.e. delegation observations for 2012 and 2016). Figure A.10 presents the original and interpolated delegation indicators for the 1991-2016 period.

Figure A.10: Delegation data with and without interpolation

![Delegation data with and without interpolation](image)

Note: The figure presents data on the share of Norwegian municipalities for which we have information about the level of delegation in the budget process. The dark grey dots cover only the raw data, while the light grey squares include interpolated data to correct for missing years.

C.4 Local government budgetary balance

The Norwegian Center for Research Data (NSD) offers access to a wide set on data on municipalities through its Regional Database. This database has information on a key
indicator of fiscal performance: namely, the net current budget balance. It is calculated as current revenues minus current expenditures and net interest and principal payments, and measured as a percentage of current revenues. Local governments are not allowed to prepare a budget with a negative operating balance, and a deficit must normally be covered within the next two years. Should a deficit appear, local government must reduce operating costs or postpone investments. Further details on the indicator is available in Geys et al. (2017).