Party Conflict and Coalition Control in Parliament

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Abstract

Conflict in parliament between opposition and government is a well-known phenomenon. But a large part of the literature on individual and party behavior in parliaments measure conflict with the underlying assumption that engaging in parliamentary activities in itself is a sign of conflict. In this paper, we illustrate how this might not necessarily be the case by analyzing the sentiment in written parliamentary questions and how the institutional role of MPs affect this sentiment. We do this in three steps. First, we find no relationship between conflict and institutional role when using a traditional sentiment dictionary approach for estimating conflict in the questions. Second, we amend our sentiment measure by taking the specialized language in our corpus into account, and, surprisingly find that conflict is strongest between MPs and their coalition partners and ministers of their own party. Third, we show how controlling for the topical content of the question also returns no relationship between the institutional role of the MP and the sentiment of the question. In sum, we argue that our analyses show little to no signs that conflict is strong in written parliamentary questions.

Introduction

A common conception about politicians is that they bicker over meaningless issues or only discuss politics as opposed to policy. Conflict between politicians and, especially, political parties is a cornerstone in parliamentary democracies; opinions are divided, and the electorate gets to choose the parties or politicians they sympathize with the most in elections. In proportional electoral systems, however, elections often do not result in clear winners; the resulting government might be reliant or consist of several parties in order to secure majority in parliament. This gives room for more dimensions of conflict: between the opposition and government, within parties, and between coalition partners. Studies have shown that politicians respond strategically to these conflicts dynamics. It is well-established that the opposition use the various institutional tools of parliament to keep tabs on the government, but these tools can also be used by coalition partner MPs, or even within party monitoring of the government. Further, the opposition has been shown to strategically use some parliamentary arenas to pressure coalitions on issues the parties within the coalition is divided on (Whitaker and Martin, 2021). A growing body within this field use parliamentary questions to explore dynamics between government and opposition, coalition partners, and within parties. Generally, however, these studies ignore the content of the questions, and instead analyze the number of questions (Martin, 2011*b*,*a*; Rasch, 2011; Russo, 2011; Whitaker and Martin, 2021; Bailer, 2011; Borghetto et al., 2020). Though this has lead to a large amount of interesting findings on MP behavior in non-legislative activities, we can supplement and test some of these findings by looking at the content of the questions.

In this paper, we try to append to this literature by studying the conflict between opposition, government, and coalition partners in the content of written parliamentary questions. We do this by mapping question sentiment (positive/negative) with the MP to minister relation (opposition/coalition partner/same party). We hypothesize that MPs from the opposition will be more negative in their questions than MPs asking questions to ministers of their own party. Coalition partners, however, is a harder case; extrapolating the arguments of Whitaker and Martin (2021), we hypothesize that MPs will be more negative towards their coalition partners than their own party, but that they will focus their questioning on topics where the coalition is at its frailest.

Our analysis is done in three steps. First, we regress MP minister relations on sentiment estimated from a Norwegian sentiment dictionary. Here, we find that, contrary to our initial beliefs, the role of the MP is not a driver for sentiment in the written questions. Indeed, if anything, MPs are more negative when asking ministers of their own party questions. Second, we adjust our sentiment scores by accounting for word

sentiment in the vector space a word occupies (word2vec). Here, we find even clearer signs of MPs from the opposition being more positive in questions than MPs from coalition partners or ones own party. Last, we show that a lot of the variation in sentiment is driven by the topic under debate – for example, a lot of the questions from MPs of the same party as the minister is about crime, where the topical content of the question is clearly negative, but not the question in itself. Controlling for the topical content of the questions, we show that there is no effect of MP to minister relation on question sentiment.

In sum, our findings show little or no evidence of more conflict between coalition partners and between government and opposition in written questions. This opens up a set of questions to further analyze: first, contrasting our findings with studies of other electoral systems – both party and candidate centered – can unveil whether this is a general trend or an artifact of the consensual Norwegian system. Second, we concur with Rice and Zorn (2021) that the use of sentiment dictionaries on corpora with specialized language is a daunting task. But we also argue that we need to be careful with what kind of sentiment we actually pick up, as shown by how the sentiment dictionary we use pick up topical sentiment instead of relational sentiment. Finally, we speculate that the intent[1] behind questions vary more than previously assumed in the literature. That is, within the prospect of controlling the executive, the intent behind a question will vary between both parties and individual MPs within parties.

The paper is structured as followed. First, we discuss the institutional role of parliamentary questions in general and give an overview of some previous studies utilizing parliamentary questions for empirical analyses. We proceed by giving a brief overview of studies of written parliamentary questions and discuss some of the historical developments in the usage of question types within the Norwegian case, and outline the detailed set of rules for written questions specifically. Next, we describe the core of our data, outline the various sentiment scoring methods used for our dependent variable, and give an account of the operationalization of our main independent variable and control variables. In our analysis section, we discuss the findings over the different configurations showing that sentiment does not differ between the various MP to minister relations. Finally, we discuss the implications of our results and provide a couple of avenues for further research.

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[1] We have started a project on mapping question intent.

The institutional role of parliamentary questions

Executive constraints in parliamentary systems are vital for a well-functioning and safe democracies (Reiter and Tillman, 2002; Boese et al., 2021; Fish, 2006). How control mechanisms are set up, however, varies widely over different regimes, electoral systems, and countries in general. Ultimately, these constraints and controls aim at reducing agency loss between the legislature and the executive Strøm et al. (2003).

Parliamentary questions provide one type of institutional arrangement with the objective of holding tabs on the executive. Most parliamentary systems have a set of different types of parliamentary question types that vary in legal framework (preparation, time frame, whether questions are asked and answered in the plenary, and so on), historical development, institutional setting, and established norms within the institution (Wiberg, 1994; Martin, 2020). In this sense, parliamentary questions provide an important arena for studies of executive-legislative relationships and a large body of theoretical and empirical research has been accumulated on the functioning of parliamentary questions.

In the same line, Martin (2011*a*) argues that parliamentary questions are a unique resource for identifying individual MP's behavior; parliamentary questions, Martin (2011*a*) argues, are useful in that they contain both information on the policy preferences of individuals and the representative focus of individual MPs. Indeed, several empirical studies corroborate these claims. Rasch (2011), for instance, show that the small formal and informal institutional variations between Question Time and Question Hour in the Norwegian *Storting* create different incentives for front- and backbenchers. More specifically, the stricter constraints on the Question Hour has made it easier for the party leadership to control, whereas Question Time is harder to control given its more lenient structure. Further, Bailer (2011), examining Question Hour in the Swiss parliament by combining question data with a survey of the MPs, show that less experienced and ambitious MPs utilize this arena for promoting their own career and their party's policy agenda. Additionally, the study does not find a link between MP's questioning behavior and their voters, but rather that the questions are used to retrieve information from the executive (Bailer, 2011, 311). Focusing on oral questions in Belgium, Soontjens (2021) builds upon the notion that questions can be used by MPs to signal responsiveness and reveals a related insight; MPs have a tendency to severely overestimate public awareness of parliamentary questions. They attribute this to MPs extrapolating interactions with the most political enthusiastic voters to the general public and that they overestimate how intermediaries, such as news media, inform citizens about their activities (Soontjens, 2021, 89).

In sum, the selection and formulation of questions in parliamentary settings are purposeful and strategic, driven by various factors such as political considerations, policy goals, and the dynamics of the specific context (Rozenberg and Martin, 2011). For the purpose of our paper, there has also been an increasingly large amount of studies on written parliamentary questions over recent years. In contrast to the data sources used in the above mentioned studies, written questions are quite unconstrained in most systems (also in *Stortinget*; see below), making them an interesting case for analyzing individual behavior. In the following, we will discuss some of the empirical contributions utilizing written questions, and highlight some key characteristics for the Norwegian case.

Written questions

Most parliamentary systems have a form of written questions, where MPs can ask ministers about issues they are concerned about. A large body of literature use various forms empirical analysis methods to test theories about political behavior within the institutional frames of written questions.

Studying written questions also have several advantages over other types of parliamentary activities in studies of MP behavior. First, written questions "enables individual [MPs] to become active without constraints from the political group" (Proksch and Slapin, 2010, 59). Second, written questions are quite unrestricted (see below) in the amount of questions MPs can ask. Third, the short format of written questions often makes the topic of the question quite easy to identify as the question has to be concise enough for the minister to also answer concisely. Various studies have, therefore, used written questions as a data source for unveiling important insights about MP behavior.

For instance, Kellermann (2016), analyzing written questions in the British House of Commons, show that MPs from more competitive electoral districts ask more questions about constituency specific issues than those from less contested districts. Consequently, Kellermann (2016) argue, this is a product of MPs from more unsafe districts having stronger re-election incentives to engage with and advocate for their voters' concerns. These findings are in line with our expectations in a candidate centered electoral system, such as in the UK. However and similarly, Russo (2011) find that in the Italian closed-list proportional representation electoral system, MPs also prioritize their geographical constituencies in their formulation of written questions. Further, Martin (2011*b*) show that Irish MPs also emphasize their constituencies in written questions. Interestingly, Martin (2011*b*) also find that the center-periphery cleavage is at play in the Irish case by highlighting that questions from periphery MPs are more prone to include constituency signals. Taking this insight one

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step further, Borghetto et al. (2020) show that MPs in Portugal perform substantive representation of their constituency in written questions whenever problem pressure within their constituency is stronger. In that sense, MPs are found to be strategically responsive to their electorate. And, Søyland (2022) demonstrate how this constituency signaling is much stronger in less formally restricted question types, such as written questions, by extracting MPs mentions of their own constituencies in the Norwegian case. In essence then, an overwhelming body of research have shown that, even in settings not traditionally believed to facilitate constituency signalling, written parliamentary questions are used as an instrument for responsiveness.

More to the core of our paper, another collection of studies have examined how the institutional roles – typically opposition versus government – affects the usage of written parliamentary questions. As a case in point, Proksch and Slapin (2010) illustrate how Members of the European Parliament (MEPs) from national opposition parties ask more written questions to the European Commission. They ascribe this to the fact that only governing parties have direct access to institutional mechanisms such as the Council. Therefore, opposition parties rely on written questions as a means to engage with the EU policy-making process. Moreover, putting written question in Germany under scrutiny, Höhmann and Sieberer (2020) show that cabinet parties ask substantially more questions to ministries held by their coalition partners on issues where the parties are bot salient and ideologically divisive. This shows that MPs use written questions as a form of coalition control. Whitaker and Martin (2021) append this insight by looking at the impact of written questions in the context of Britain. They show how these questions are not only used by the opposition to exert control over the executive, but also that the opposition strategically ask more questions to ministries responsible for issue spaces where coalition partners are further apart. To put it briefly, written parliamentary questions have been shown to be an instrument for MPs to use both as an oversight tool of the executive from coalition partners and the opposition and as a strategic tool for pressuring the executive on contentious issues.

Written questions in *Stortinget*

Although our study will exclusively treat written questions, it is worth noting there are four types of question types in the Norwegian parliament: Question Hour, Question Time, interpellations, and written questions. These four types of questions have slightly different rules with regard to time frames, openness, and functions (see Søyland (2022) for a more detailed description). The traditional question hour, with no preparation time for ministers, is the parliamentary activity that gets the most attention from the public and the media. Here, quick fire questions and open debates make it an arena for party leaders and other frontbenchers to highlight

issues salient to their respective parties (Rasch, 2011). Question time differ in that it is has a less strict time frame and ministers come prepared. Thus, question time has traditionally been utilized by the backbenchers to ask questions for self-serving purposes (Rasch, 2011). Interpellations tend to be more technical and drawn out, but also limited in that current legislation is not allowed to be discussed in this arena. Consequently, interpellations are often used for agenda-setting.

Finally, written questions were introduced in the 1996-1997 session of *Stortinget* as a way to decrease the time pressure on the ever expanding use of question time. This also worked as intended, although the usage of written questions exploded following the initial years (Rasch, 2014). The formal limitation of written questions in the Norwegian case is that MPs can ask two written questions per week. This is a fairly lenient rule, in comparison to the other question types, where the amount of questions is limited by the available time in the plenary. Written questions are a short-form question type, where MPs can include an optional justification for the question of maximum one A4 page. The Presidency can reject questions that fall outside of the government's jurisdiction, or do not comply with the general rules of parliamentary language (Stortingets forretningsorden, 2018, 45-46). Written questions have a deadline of six workdays for the minister to answer in written form (also maximum one A4 page). However, the minister can refuse to answer the question, if an explanation is provided.

Consequently, written questions are less controlled by the party organizations than the other types of questions, which makes them highly suitable arena for studying the relationship between MP to minister relations and sentiment (discussed below).

Conflict in MP to minister relations

In multi-party parliamentary systems, coalition governments are a common phenomenon. This gives rise to some dynamics not present in majoritarian electoral systems, as shown by Höhmann and Sieberer (2020), where we usually see two main parties. In addition to the usual government versus opposition dynamic, coalition governments also have the dynamic between coalition partners. A myriad of studies have analyzed various types of coalition dynamics, from cabinet seat allocation (Browne and Franklin, 1973; Bäck et al., 2009; Bäck et al., 2011; Bucur, 2018), oversight mechanisms (Strøm et al., 2010; Bäck et al., 2022), the effect of coalition governments on the structures of the electoral system (Brockington, 2004; André et al., 2016), and many more.

Most relevant for this paper, several studies have seen on the effects of the existence of coalition governments on parliamentary questions. As discussed above, Höhmann and Sieberer (2020) show that, when there is large ideological distances and gaps in issue salience between coalition partners, German MPs ask a lot more questions to their coalition partners than when the distances are small. They argue that this indicates an additional monitor instrument for government parties in order to avoid agency loss; parliamentary questions can be an important arena for keeping tabs on coalition partners. In the same line, Martin and Whitaker (2019) show that divisive policies lead to more questions in the British case. Whereas, Whitaker and Martin (2021) appends this by exploring how the opposition strategically exploit policy gaps within coalitions to apply more pressure on those issues: opposition MPs ask a significant higher amount of questions on policy dimensions where there is tensions between coalition partners. in addition to the classic government to opposition oversight mechanism of parliamentary questions.

It is a well-known and well-tested theory that all politicians have different preferences over all issues, even within parties (see Giannetti et al. (2009) for an overview). However, we often assume party unity; a useful, but strong, assumption to make. This is an issue in many studies of various parliamentary activities. For example, all studies mentioned in this section use some form of number of questions as their dependent variable; a proxy for conflict between MPs and ministers. This is implicitly assumes that all written questions bring conflict to the table, where the degree of conflict is determined by the amount of issue tension between parties as measured by manifesto policy positions (Volkens et al., 2016). Again, a useful, but strong assumption, which ignores individual MP policy position differences within parties.

Based on the discussion above, we aim at expanding the current literature on conflict between opposition and coalition partners by digging deeper in the actual content of the questions. Our main hypothesis is that the conflict levels in questions are higher between opposition and government, than between coalition partners or politicians of the same party. And, instead of counting questions, we estimate the positive and negative sentiment of the questions as our dependent variable; if sentiment is positive, we assume this indicate less conflict; if sentiment is negative, we assume this indicate more conflict.

Data and methods

Our analyses draw on a self-constructed data set of written questions from MPs to ministers in Norway between 1998 and 2021, combined with meta data on the MPs and ministers, and automatically tagged

question texts. The majority of the data was gathered with the *stortingscrape* package for R (Søyland, 2021). The data consist of 36532 written questions with meta data and their corresponding Oslo-Bergen-Tagger (OBT) tagged texts. We also supplement our data with meta data on governments from Rasch (2004) and Søyland (2017).

The descriptive statistics for the data used in our analysis is shown in Table 1. Note that there is a large difference in how many questions are asked by the opposition, compared to coalition partner and within party questions. Indeed, about 95% of the written questions are asked by the opposition.

Our main way of text preprocessing is running the the texts in our data through the Oslo-Bergen-tagger (OBT) – a language tagger for Norwegian texts (Johannessen et al., 2011). The OBT splits the a given text into a feature-by-feature list (.xml), enhancing the text with parts of speech (PoS), morphosyntactic disambiguation, tokenized, and lemmatized features. For our purpose, the lemmatized tokens are used to cross-reference with the sentiment dictionary described below.

Sentiment analysis

Our dependent variable is various methods for scoring the sentiments in individual questions. Sentiment analysis has been widely used in NLP over the last few decades (see Pang et al. (2008) for an overview). Sentiment is a powerful feature of language, where we look at the emotions expressed in text. For our application, we draw on the difference between positive and negative sentiment. This is, of course, a coarse categorization of emotions, but serves our application well. We want to tap into the concept of conflict between MP and minister, and thus assume that negative sentiment will be associated with more conflict. Further, we use the only available sentiment dictionary for Norwegian (that also has a satisfying level of

Table 1: Descriptive stats for variables used in the analyses

	Min	Mean	Max	Sd
π_i **(Grimmer et.al (2022))**	-0.24	0.02	0.19	0.04
π_i **(Lowe et al. (2011))**	-3.14	0.50	4.11	0.84
π_i **word2vec**	-0.23	-0.01	0.23	0.03
Opposition	0.00	0.95	1.00	
Same party	0.00	0.02	1.00	
Coalition partner	0.00	0.03	1.00	
Questioner gender (male)	0.00	0.61	1.00	
Answer gender (male)	0.00	0.57	1.00	
Age	20.83	46.67	77.81	10.66

precision) provided through the Barnes et al. (2019) study. The underlying method for producing the sentiment dictionary by Barnes et al. (2019) is based on a semi-automatically created lexicon of customer reviews in English (Hu and Liu, 2004), translated to Norwegian, and corrected manually for the Norwegian context. The resulting dictionary is binary in nature; tokens are either categorized as negative or positive (with no scaling between more or less negative or positive tokens).[2]

There are some drawbacks with this approach. First, the sentiment dictionary being translated from English can in itself lead to misclassifications. Second, seeing as the dictionary is based on customer reviews, the context in which the data was generated is very different from parliamentary questions (see Rice and Zorn (2021) and Abercrombie and Batista-Navarro (2020)).[3]. Consequently, there might be some instances where positive words in customer reviews is negative in parliamentary questions or vice versa.

Bag of words sentiment scoring Our first sentiment scoring scheme is quite simple. We use two different methods for calculating sentiment scores. First, we follow Lowe et al. (2011) by calculating the log of the ratio between positive and negative sentiment counts for each text:

$$\pi_i = \log \frac{pos + 0.5}{neg + 0.5}$$

Second, we use the formula from Grimmer et al. (2022, 181), where we cross-reference each individual token W_{ij} in our documents with the positive and negative tokens in our lemma sentiment dictionary, and summarize scores for positive (+1) and negative (-1) tokens μ_j within each document. Then, we divide the sum by the total amount of tokens in the document M_i:

$$\pi_i = \sum_{j=1}^{J} \frac{\mu_j W_{ij}}{M_i}$$

Both methods give us a sentiment score for each document π_i where negative scores indicate more negative sentiment and positive scores more positive sentiments, whereas a score of 0 is neutral. Figure 1 shows a map of both sentiment scores on our data. As is evident, most parliamentary questions are grouped slightly above zero on both axes, but also that there is a great deal of variation in both measures. The Lowe et al. (2011) way of measuring sentiment is, however, a bit more crude in that a lot of questions get the same score when we do not weigh the measure on number of tokens.

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[2]This is, to our knowledge, the best and only reliable sentiment dictionary for Norwegian.
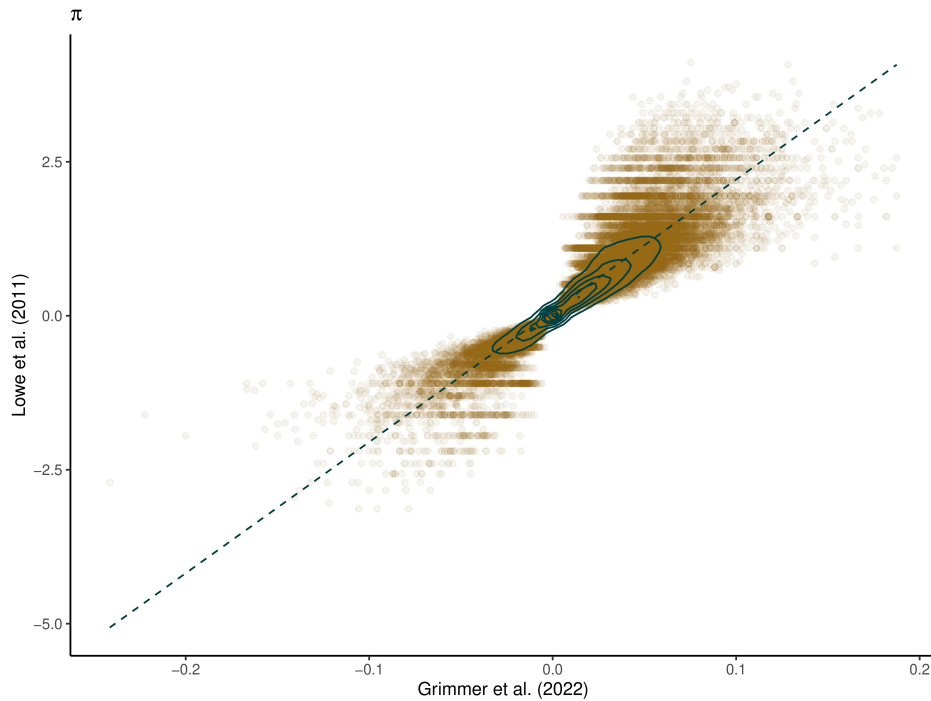[3]We also try to tackle this problem with word embeddings below

Figure 1: 2D density plot of sentiment scores. Points indicate individual written questions, and the dashed line the linear fit between the two scores

Because some documents might have a lot of sentiment in general – both positive and negative – these scoring methods can be somewhat misleading in certain contexts. Further, matching lemma tokens completely disregards the context of a token. Consider, for example, the sentences "It was a very bad dialogue" and "It was a very good dialogue":

The token very (*veldig* in our Norwegian dictionary) will count as a positive context together with "good" (*bra* in Norwegian), whereas "bad" (*dårlig*) is scored as negative. The summarized sentiment sum and π will therefore be 0 (neutral) for the first sentence and 2 (positive) and π of 1.61 (Lowe et al., 2011) and 0.33 (Grimmer et al., 2022) for the second. The observant reader will notice that "very" is a modifier for the following adjective ("good"/"bad"); it is more good or bad than just good or bad. The correct score for document 1 should therefore be -2, instead of 0. To remedy this, we supplement our analysis with some contextual rules based on the OBT-tagged versions of our documents [this is work in progress]. Nevertheless, the correlation between negative and positive token counts is quite strong and negative (-0.62); the more positive tokens a question has, the less negative tokens it also has.

Word embeddings sentiment scoring   Our second measure of sentiment as a proxy for question conflict tries to take into account the difference in our corpus and the sentiment dictionary. This measure is constructed in three steps: First, we estimate a *word2vec* model on the lemmas in our written question corpus.[4] Second, we train the model using the "word2vec" package for R (Wijffels, 2021). Here, we use the skip-gram algorithm (Mikolov et al., 2013), a window of 10 words and 100 dimensions.[5] Finally, we use the resulting embeddings to extract the 10 closest lemmas for each lemma in a given written question, map these 10 lemmas to our sentiment dictionary, and multiply the sentiment (1, 0, or -1) of each lemma with the corresponding cosine similarity to the lemma in question. As a minimal example, take the word "fare" (Norwegian) / "danger" (English), as an example:

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$fare (danger)

  term1     term2               similarity sentiment

1  fare  risikere (risk)         0.7982638 -1

2  fare    frykte (fear)         0.7809396 -1

3  fare forsvinne (disappear) 0.7560800 -1

4  fare     miste (loose)        0.7463096 -1

5  fare      vond (hurtful)      0.7362744 -1

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mean                              -0.7635735
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The resulting sentiment for each question is, then, the average cosine similarity sentiment over all lemmas in the given question. The aim of this measure is two-fold. First, we want to distinguish between somewhat positive/negative words and very positive/negative words. Second, we want to adjust the positivity/negativity of the words in accordance to our corpus; as noted by Abercrombie and Batista-Navarro (2020), "the words 'honourable' 'gentleman' are likely to be positive [...] while in the House of Commons 'the Honourable Gentleman' is an obligatory and therefore neutral—procedural honorific".

Figure 2b shows the 20 most positive (panel 2a) and 20 most negative (panel 2b) tokens in our corpus based on the word embedding scoring method. At face value, these seem quite reasonable with words such as "happily" (*gjerne*), significant (*betydelig*), and "reasonable" (*fornuftig*) being the most positive words, whereas "worry" (*bekymring*), "insecurity" (*usikkerhet*), and "unreasonable" (*urimelig*) are the most negative.

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[4]In this process, we remove stop-words, punctuation, numbers, and one-letter words for more efficient computational time.
[5]We are working on looking at more and less dimensions for the estimation as a validity check.

(a) Positive   (b) Negative

Figure 2: The top 20 positive and negative words using the word2vec sentiment scheme. The words have been translated from Norwegian to English by the authors.

See figure 7 and 8 for the distribution of lemmas and a zoom-in on the lemmas around zero for this scoring method.

Topic analysis

As a further way of validating our findings, we also estimate a Structural Topic Model (STM) (Roberts et al., 2019) and run our regression on an interaction between the MP to minister relation and the load of each topic. The idea is to control whether the topic of the question is driving the sentiment (crime is more negative than kindergartens in itself, for instance).

Here, we used a combination of lemma unigrams and lemma bigrams, tagged with part of speech as our input data. The STM was estimated with the *spectral* initialization and $K = 0$, which means that the model estimates the amount of topics by itself.[6] The resulting model has 87 topics. We will discuss the results using the topics as independent variables in our models below.

MP to minister relations

As for our main independent variable, we operationalize the relation between MP and minister as being *opposition* whenever the party of the MP does not occupy cabinet seats, as *coalition partner* when the party of

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[6]This is, obviously, just a first stab at this approach. We will investigate varying Ks in further efforts to validate our results.

the MP asking the question has one or more seats in cabinet but the minister receiving the question is not part of the same party as that MP, and as *same party* when the MP asking and the minister receiving are part of the same party. This is intuitively a pretty straightforward operationalization, but it also has some limitations. For instance, parties that have formal or informal agreements with the current government are classified as *opposition*, although one could argue that these have different roles to true opposition parties.

As mentioned above, the variation in the MP to minister relation variable is not great. In table **??** in the appendix, we show results for our specification with an under-sampling technique, where we draw 28[7] random questions in each category for each parliamentary period and estimate our regression 1000 times. Figure 6 in the appendix shows that our results are stable also with this specification.

Control variables

In all our analyses, we include a set of controls that could open up backdoor paths to our relationship between MP to minister relation and sentiment. We also controls for age, the gender of the MP asking the question and the gender of the minister being questioned. Gender has been found to be a barrier of entry in various studies of parliamentary activities (see Bäck and Debus (2016) for instance), and generally, gender has been found to have an effect on sentiment, both across sender and receiver (Mohammad and Yang, 2011). Further, we use party fixed effects because there might be systematical differences between parties in how they communicate. Finally, we use weighted regressions to eliminate possible effects of skewed sample in our estimation.

Analysis

In the following, we present the results of our three approaches to estimating the effect of MP to minister relation on written question sentiment. Our results very consistently show that there is no relationship between these two variables, and if anything, that the MPs asking questions to a minister of their own party are the most negative. We also find that when the minister answering a question is male, the questions tend to be more negative. We proceed as follows: First, we present the results of our bag of sentiment. Second, we show that the results are stable with our word embedding approach. And, finally, we show that controlling for topical content also has no impact on our finding.

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[7]This is the smallest amount in the cross-tabulation of parliamentary period and MP to minister relations.

Bag of sentiment

We start by investigating out Bag of Words estimation of sentiment following the sentiment calculation methods of Lowe et al. (2011) and Grimmer et al. (2022).

Table 2: Linear regression with the "Bag of sentiment score" as dependent variable.

	π			
	Lowe et al. (2011)		Grimmer, et al. (2022)	
	(1)	(2)	(3)	(4)
Coalition partner	−0.004	−0.018	−0.0004	−0.001*
	(0.027)	(0.011)	(0.001)	(0.0005)
Same party	−0.045	−0.044***	−0.003*	−0.003***
	(0.031)	(0.012)	(0.001)	(0.0005)
Questioner gender (male)	−0.004	−0.014	−0.001	−0.002***
	(0.010)	(0.010)	(0.0004)	(0.0004)
Aswer gender (male)	−0.026**	−0.069***	−0.001***	−0.002***
	(0.009)	(0.010)	(0.0004)	(0.0004)
Age	−0.0003	−0.001	−0.00000	−0.00000
	(0.0004)	(0.0004)	(0.00002)	(0.00002)
FrP	−0.062***	0.006	−0.002**	0.001*
	(0.014)	(0.013)	(0.001)	(0.001)
H	0.009	0.161***	0.001	0.008***
	(0.016)	(0.015)	(0.001)	(0.001)
KrF	−0.069***	−0.038	−0.002**	−0.003**
	(0.019)	(0.022)	(0.001)	(0.001)
Sp	−0.025	0.035	−0.003***	−0.001
	(0.016)	(0.021)	(0.001)	(0.001)
SV	−0.158***	−0.034	−0.006***	−0.0003
	(0.016)	(0.018)	(0.001)	(0.001)
V	−0.007	0.072***	−0.001	0.004***
	(0.021)	(0.021)	(0.001)	(0.001)
Constant	0.574***	0.560***	0.022***	0.021***
	(0.024)	(0.024)	(0.001)	(0.001)
Weights	no	yes	no	yes
Observations	35,241	35,241	35,241	35,241
R^2	0.004	0.007	0.004	0.009

Note: *p<0.05; **p<0.01; ***p<0.001

Table 2 shows the results for the analyses. What sticks out from the results, is that there is little to no

effects from the party role of the MP asking a question across both measurement techniques and with/without weights. Indeed, if anything, being from the same party as the minister the question was answered by, increases negativity in the question. The effects are, however, very small and mostly insignificant at conventional levels.

Further, we see that question to male ministers are generally more negative than those asked to female ministers. The gender of the MP asking the question seems to have no effect. Age also has a very marginal and statistical non-significant effect on sentiment.

As for specific parties, the two wing parties – Socialist Left Party (SV) and Progress Party (FrP) – are, unsurprisingly the most negative question posers, together with (more surprisingly) the Christian Democrats (KrF). The two biggest parties – Labor (A, reference category) and Conservatives (H) – seems to be the most positive in question asking.

Embedded sentiment

As for our sentiment measure based on word embedding, the story is similar, but also that *coalition partners* and *same party* MPs tend to be more negative than the opposition, as shown by figure 3. the effect is still quite small at approximately one standard deviation of the sentiment variable. Consequently, we still argue that this
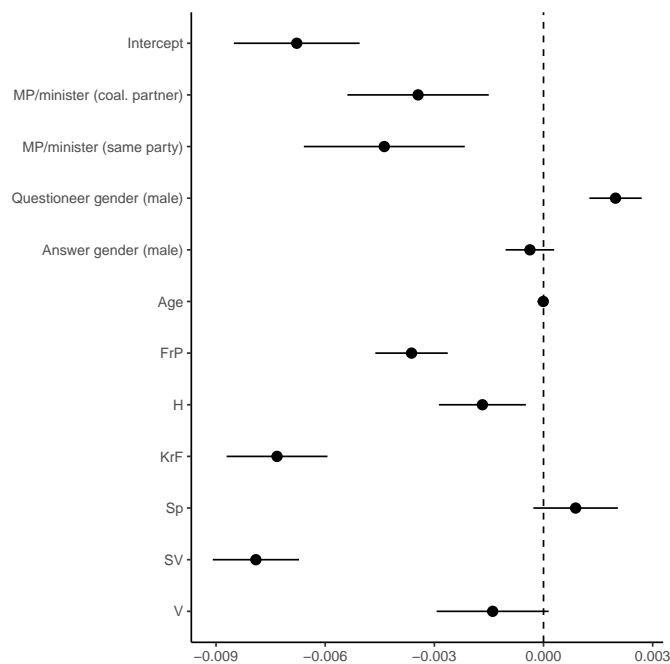

Figure 3: Word2vec regression coef plot.

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should be regarded as a null-finding in context of the two other approaches yielding more conservative results.

Note, however, that the gender of the minister receiving the question still generates negative questions, and that the party fixed effects are generally similar to the bag of words approach above.

Topical sentiment

Finally, we estimate our regression with an interaction between our MP to minister variable and all of the 87 topics from our STM model, described above. The thought behind doing this as an interaction term is to control out the effect of potential topics that are negative/positive by nature (crime, polution, etc). The results can be summarized as follows: over all topics, there is no effect of MP to minister relations on sentiment; there are tendencies towards coalition partners beeing more negative in topics about crime, as exemplified by figure 4.
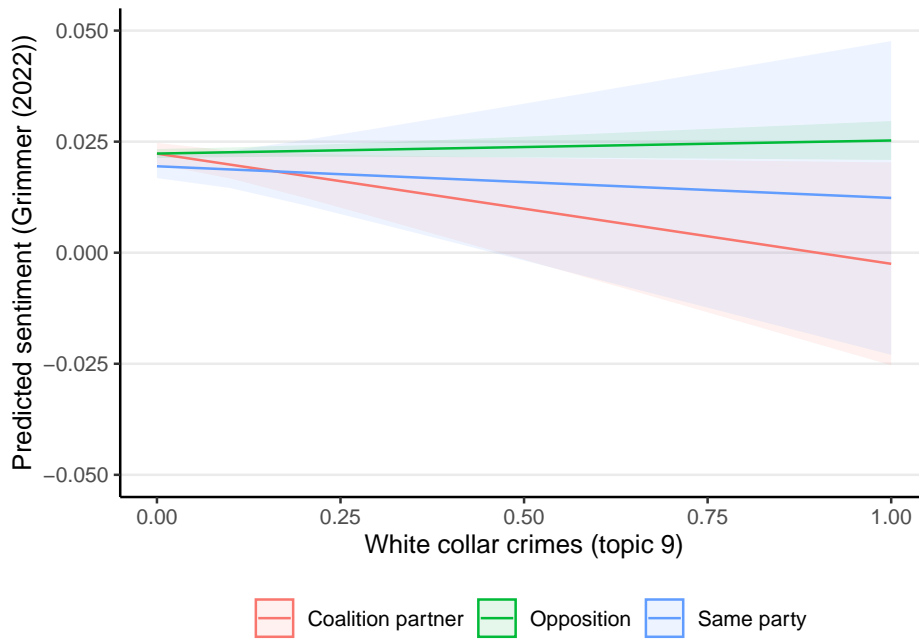

Figure 4: Predicted sentiment of questions across MP to minister relations and topic loads within the "White collar crime" topic.

Discussion

Different parliamentary arenas incentivize different behavioral patterns for MPs. A much used method for analyzing the strategic use of parliamentary questions have revolved around how much pressure the opposition or coalition partner puts on an executive. In this paper, we expanded on these approaches by empirically testing the conflict between opposition, government, and coalition partners in the content of written parliamentary questions in the Norwegian *Storting*.

By mapping question sentiment (positive/negative) with the MP to minister relation (opposition/coalition partner/same party), we have found no evidence of more conflict between coalition partners and between government and opposition in written questions in a three step analysis: first, utilizing a unique Norwegian sentiment dictionary (Barnes et al., 2019), we found no effect of MP to minister relations on the Bag of Words sentiment of written questions. Second, amending our sentiment measure with contextual word embeddings, we find that, surprisingly, coalition partners and same party MPs are more negative than opposition MPs in their questions. We are, however, cautious to put too much weight in this finding as our other attempts come up short of finding consistent and similar results. Third, we control for the topical sentiment of the questions in our regression, and consistently find no effect. In sum, our results show little to no sign of sentiment variation between questions being driven by the institutional role of the MP.

Our study does, of course, have several limitations. First, we are at the mercy of our sentiment measures actually being measures of conflict. Indeed, the sentiment dictionary used might have a language specialization bias, as discussed by Rice and Zorn (2021), rendering our measure to pick up something entirely different that conflict between MP and minister. This is a potential avenue for further research. Second, we acknowledge that the *intent* behind questions may vary widely from MP to MP; there is no need to be negative if the objective of asking the question is purely for information retrieval, for instance. This is also an interesting avenue for further research. Finally, our results may also be an artifact of the consensual Norwegian system. Similar analyses on both different and similar electoral systems is yet another avenue for further research.

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Appendix

Number of questions over parliamentary periods

	A	FrP	H	KrF	Sp	SV	V	Sum
1997-2001	219	160	350	98	63	318	70	1278
2001-2005	948	640	0	0	415	1020	0	3023
2005-2009	3	2671	1422	763	0	2	677	5538
2009-2013	0	4250	1804	896	0	0	372	7322
2013-2017	2348	2	0	614	1288	679	561	5492
2017-2021	3439	1126	0	157	2718	1886	30	9356
2021-2025	0	701	357	76	3	244	191	1572
Sum	6957	9550	3933	2604	4487	4149	1901	33581

Table 3: Number of questions asked to a minister by an opposition MP

	A	FrP	H	KrF	Sp	SV	V	Sum
1997-2001	46	0	0	0	2	0	3	51
2001-2005	1	0	29	13	0	0	1	44
2005-2009	84	0	0	0	9	21	0	114
2009-2013	94	0	0	0	5	2	0	101
2013-2017	1	137	51	0	0	0	0	189
2017-2021	0	133	132	3	0	0	18	286
2021-2025	5	0	0	0	2	0	1	8
Sum	231	270	212	16	18	23	23	793

Table 4: Number of questions asked to a minister of the same party as the MP asking the question

	A	FrP	H	KrF	Sp	SV	V	Sum
1997-2001	0	0	0	3	15	0	10	28
2001-2005	0	0	38	52	0	0	11	101
2005-2009	73	0	0	0	23	114	0	210
2009-2013	63	0	0	0	10	32	0	105
2013-2017	0	145	90	0	0	0	0	235
2017-2021	0	150	90	20	0	0	90	350
2021-2025	0	0	0	0	1	0	1	2
Sum	136	295	218	75	49	146	112	1031

Table 5: Number of questions asked to a minister by an MP from a coalition partner party
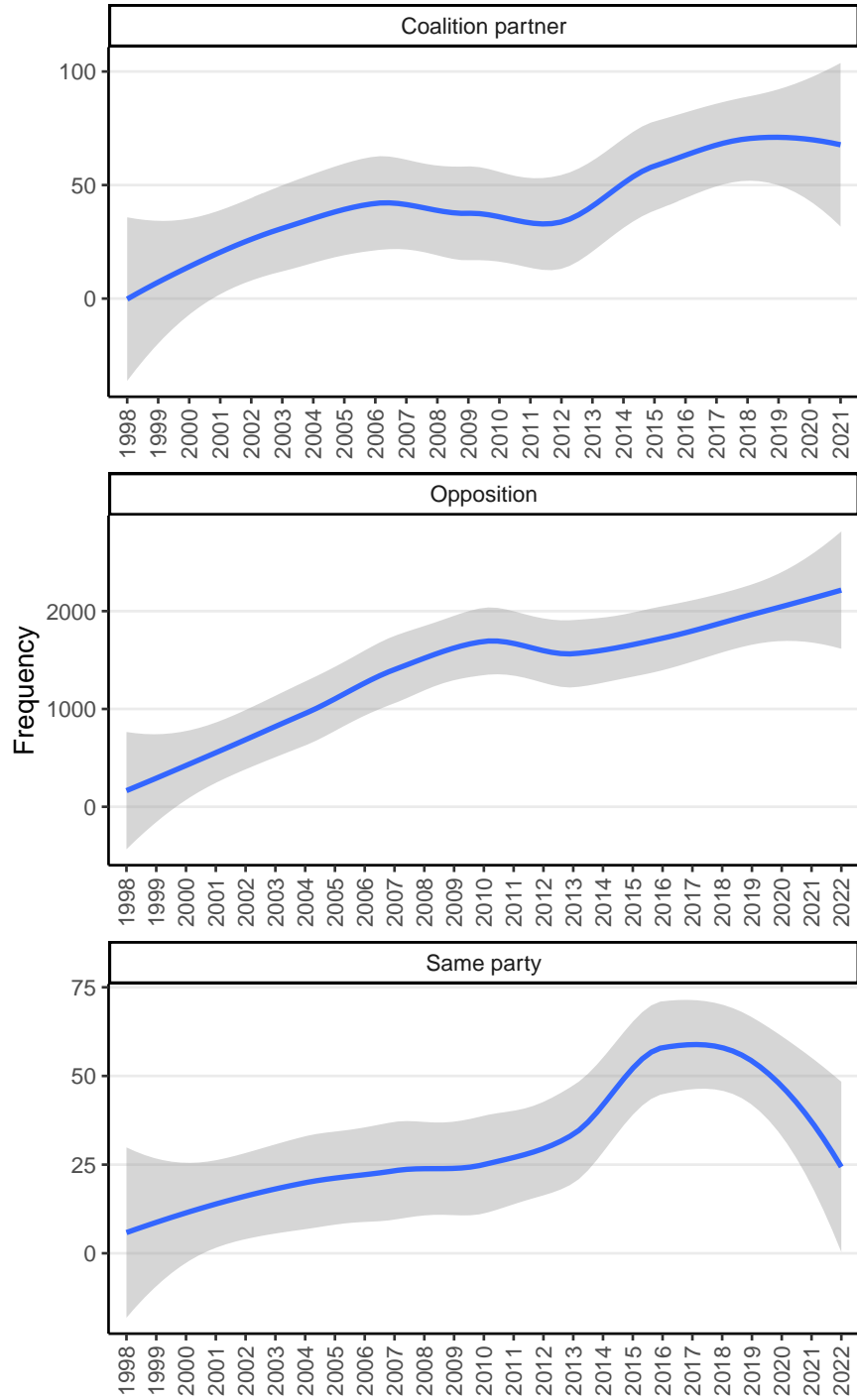
Figure 5: Trend in amount of questions over MP-minister relations.
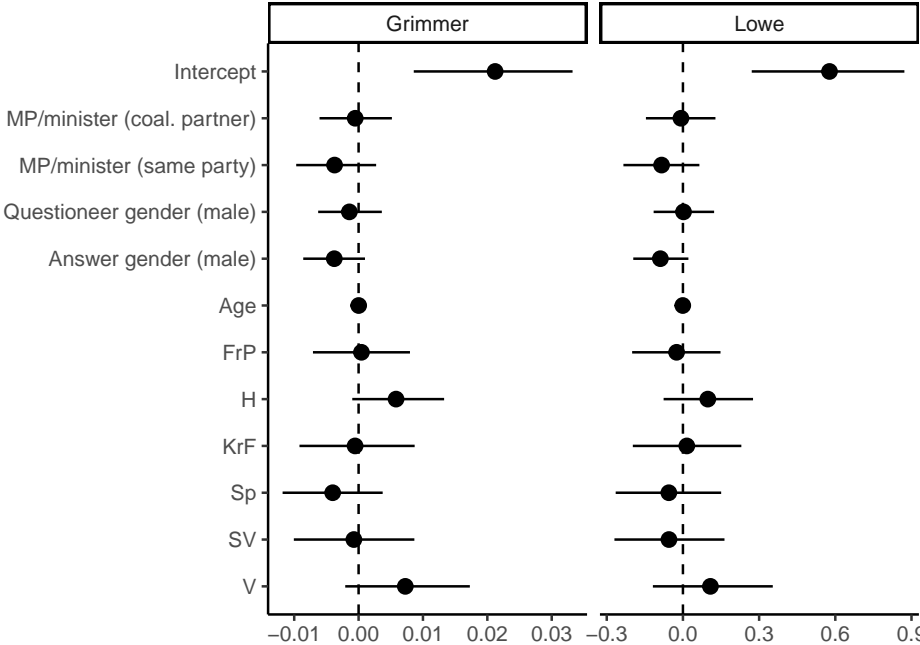
Balanced sample regression

Figure 6: Bootstrapped coefficient plot of the Lowe (2011) and Grimmer (2022) sentiment measures, with balanced data.
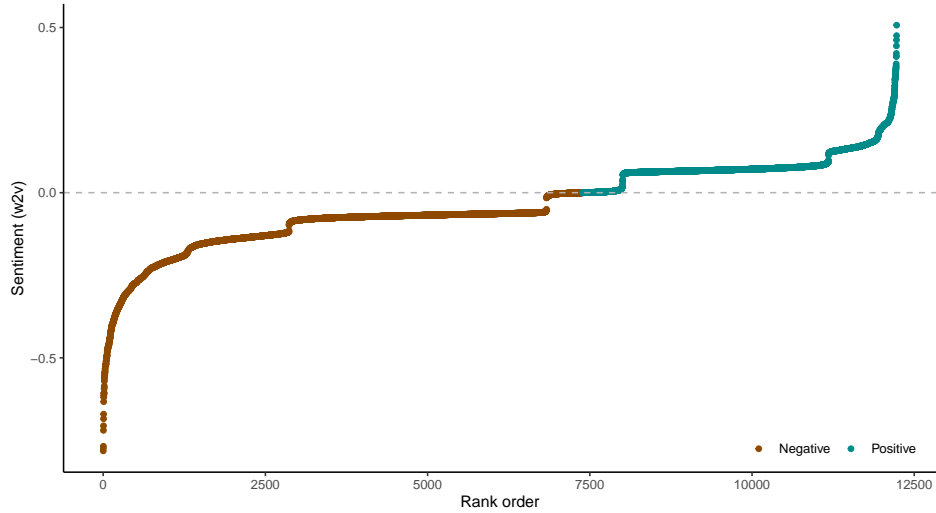
Word embeddings

Figure 7: Word2Vec sentiment dictionary ranks, excluding non-sentiment words (y = 0).
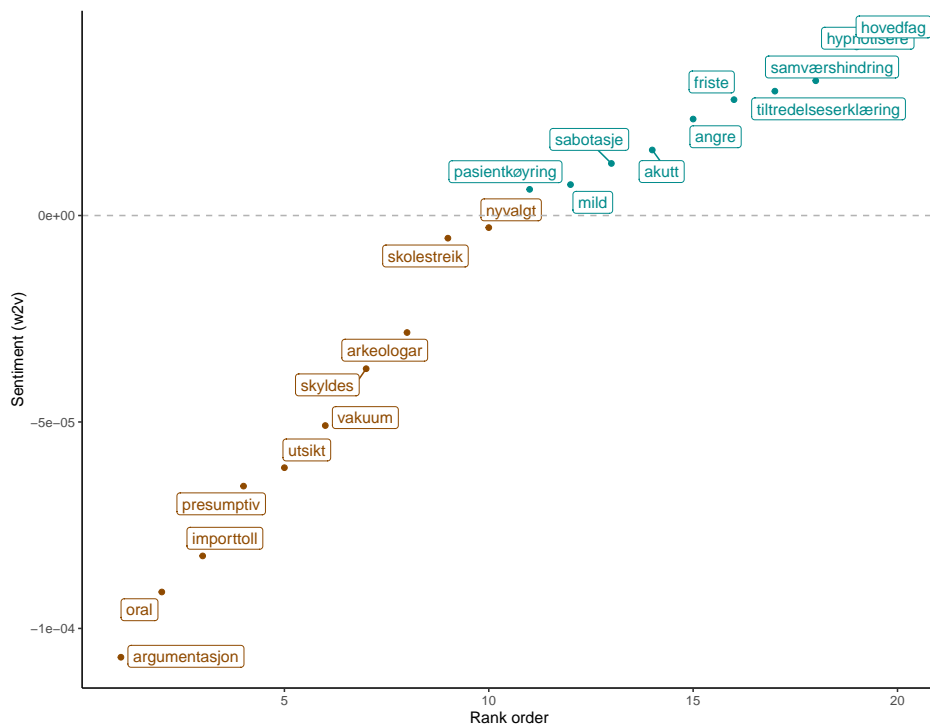

Figure 8: Word2vec sentiment dictionary ranks for the 20 tokens closest to zero (excluding tokens where sentiment equals zero).