Playing to the Gallery: How Politicians Use Emotive Rhetoric in Parliament

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Abstract

When and why do politicians use emotive rhetoric in parliamentary speeches? Research has shown that emotions matter in political campaigns, but we know less about their effect on legislative behavior. In this paper, we argue that politicians use emotive rhetoric to primarily appeal to voters. We thus expect that politicians are more likely to use emotive rhetoric in parliamentary speeches, the larger the general audience. Our analysis covers nearly one million parliamentary speeches held in the British parliament, the House of Commons, in the period from 2001 until 2018. We use a dictionary-based method to measure emotive rhetoric, combining the Affective Norms for English Words dictionary with word embeddings techniques to create a domain-specific dictionary. Our analysis reveals that the level of emotive rhetoric has increased since 2015 with the start of the Brexit debate. Importantly, we also show that emotive rhetoric is more pronounced in high-profile legislative debates, such as Prime Minister's Questions Time, and in speeches by politicians in prominent roles. These findings suggest that politicians use emotive rhetoric strategically to appeal to a wider audience.

Keywords: Emotive rhetoric, parliamentary speeches, House of Commons, word embeddings, dictionary-based methods

1 Introduction

When and why do legislators use emotive rhetoric? There is a growing literature on how politicians use emotions in political campaigns (Crabtree et al., 2019; Kosmidis et al., 2019) and studies showing that voters respond to such emotional appeals (Brader, 2005). In today's political landscape many prominent politicians, notably Donald Trump, are seen to rely heavily on emotional appeals, both positive ('Make American Great Again') and fear-inducing ('They're bringing drugs. They're bringing crime. They're rapists') (Nai and Maier, 2018). However, we know less about whether emotions are used strategically in parliamentary speeches. Legislatures are at the heart of representative democracy and participation in legislative debates is among the most visible activities of members of parliament (MPs). Hence, understanding the role of emotions in these debates is important. Legislative debates serve a number of different purposes, including MPs seeking to persuade colleagues of the superiority of their position or convince senior colleagues of their competence and suitability for promotion. Importantly, parliamentary debates also serve as a forum for politicians to publicly express their views and communicate with voters (Victor, 2011; Proksch and Slapin, 2012).

Studies have shown that the political ambition of legislators affect the way they behave in parliament. Politicians who seek higher office have electoral incentives to act in ways that appeal to a larger electorate (Hibbing, 1986) and to be more responsive to public opinion (Victor, 2011; Høyland, Hobolt and Hix, 2019). Such attempts to appeal to the electorate are evidenced in patterns of legislative voting. This paper shifts the focus on parliamentary speeches, as a primary tool of communication with voters for legislators. While there is a growing interest in parliamentary speeches (Proksch and Slapin, 2015; Spirling, 2016; Blumenau, 2019), little attention has been paid to the emotional content of the speeches. An important exception is Rheault et al. (2016) who study whether parliamentarians use positive or negative sentiment in their speeches.

We argue that MPs use parliamentary speeches not only to communicate their posi-

tions, but also to appeal to voters' emotions. Research has shown that emotional appeals can be an effective persuasive tool for politicians to influence how voters process information and respond to their messages (Bless, Mackie and Schwarz, 1992; Brader, 2005; Weeks, 2015). We thus expect politicians to use emotive rhetoric in their parliamentary speeches, but primarily when such speeches reach a large public audience. In low-profile legislative debates, we expect the focus is on persuading colleagues in the legislator and consequently emotional rhetoric will be less pronounced. In contrast, in speeches that are likely to reach a large public audience, we expect to see much greater use of emotional appeals.

We test this argument in one of the first systematic studies of emotive rhetoric in parliamentary speeches. We focus on speeches in the British House of Commons, covering nearly one million parliamentary speeches between 2001 and 2018. We measure emotive rhetoric in an innovative manner by combining the Affective Norms for English Words (ANEW) dictionary with word embeddings techniques to create a domain-specific dictionary (Mikolov et al., 2013; Bradley and Lang, 2017; Jurafsky and Martin, 2018). Existing dictionaries typically include a limited set of emotive and unemotive words that were identified in a different context. Hence, the main advantage of our methodological approach is that it creates a domain-specific dictionary of emotive and unemotive words for our data on parliamentary speeches in the House of Commons.

Our results reveal an increase in emotive rhetoric since the beginning of the Brexit debate in 2015–which brought about much greater public attention to parliamentary debates. More importantly, we show that debates with larger public audiences –Prime Minister's Question Time (PMQ) and Queen's Speech debates– are characterized by more emotive rhetoric, as are the speeches by more prominent politicians. These findings thus lend support to the argument that politicians use emotive rhetoric in parliamentary debates strategically to appeal to a wider audience.

2 Emotive Political Rhetoric

Speeches represent a crucial tool to express a political message. Most political ideas are transmitted through speeches, generally via different media outlets, from TV to social media platforms (Aalberg and Curran, 2012; Ponder and Haridakis, 2015). Any political message includes two important components: First, the 'focus' or the content through which the speaker targets his/her audience. Second, the 'tone' or the sentiment expressed in the message (Ridout and Franz, 2011). Most research in political science has focused on the first part (Lau and Rovner, 2009), for instance by showing whether partisan messages mobilize voters (Panagopoulos, 2011) or whether putting forward proposals, instead of attacking your opponent, during electoral campaigns motivate participation and activate existing loyalties (Brader, 2005), mobilize populist support (Wirz, 2018), affect the way information is interpreted (Weeks, 2015), and change public opinion (Kuhne et al., 2011).

2.1 Emotions and Political Persuasion

The study of the consequences of the 'tone' of the message has been less common. Despite acknowledging the importance of how messages are transmitted to the public ('tone'), most scholars instead examine whether the content of the message drives people's opinion or behavior ('focus'). The most common approach in studying the relationship between the 'content' of the message and the audience is the rational voter calculus approach (Downs, 1957), broadly based on the idea that vote-seeking politicians will adapt their content to that of their potential audience. Over the last two decades, however, the tide has begun to turn and the focus has also been placed on analyzing whether, and under what conditions, the 'tone' matters. In particular, previous works have put a special emphasis on how certain candidate personality traits, such as honesty and integrity have an effect on vote choice (Mondak, 1995; Olivola and Todorov, 2010; Stone and Simas, 2010; Adams et al., 2011; Abney et al., 2013; Clark, 2014; Clark and Leiter, 2014; Klingler, Hollibaugh and Ramey, 2019). The point of departure of this literature is that the way in

which the content of a message is transmitted can have a crucial effect on an individual's attitudes or behavior.

This article precisely extends this literature by examining the role of emotions. Emotive or "loaded language" generally refers to a style of communication that elicits an emotional response from the listener, i.e. voters, whereby evoking positive or negative reactions far beyond the specific meaning of the word or sentence that are listed in the dictionary. Linguists have identified that emotions and their expressive forms are built-in devices of humans' expressiveness (Damasio, 2000; Macagno and Walton, 2014) and that the expression of verbal emotions allows listeners to get information about the speakers' interpretation of her message (Lewis, Ramsay and Kawakami, 1993). In other words, some prosodic cues–certain words, stress, etc–inform individuals that speakers are using emotive language, which they will subsequently use to interpret the content of the message (Bull, 2014; Gerholm, 2018). Overall, the use of symbolic behavior, such as emotive language, may strengthen the representational linkage between voters and representatives (Hill and Hurley, 2002; Dewan and Myatt, 2012).

Ultimately, emotive language can be a powerful tool to persuade people of the validity of a particular message. For instance, experimental research has shown that individuals who feel happy are more likely to be persuaded independent of the strength of the argument (Bless, Mackie and Schwarz, 1992; Sinclair, Mark and Clore, 1994; Griskevicius, Shiota and Neufeld, 2010). The effect of emotive language appears to be present even when the speech is solely transmitted in a written format (Heath, 2017; Yeung, 2007). Formally, some scholars argue that emotions appear to motivate citizens to at times break out of the individual rational utility calculation and engage in politics (Groenendyk, 2011).[1]

From an electoral point of view, there is evidence linking emotion-eliciting appeals with the electoral success of certain political formations, such as populist parties (Wirz, 2018). Emotion leads citizens to consider misinformation in a partisan or open-minded

[1]According to the standard and influential Downsian model (Downs, 1957), one vote is unlikely to impact the outcome of an election, which implies that the cost of voting is likely to be higher than the benefit. However, this literature argues that factoring emotion into the equation makes people realize that voting has more benefits than costs, which helps solving the paradox of voting (Groenendyk, 2011).

fashion (Weeks, 2015) and represent an important component in understanding campaign effects (Weber, 2013). Even though the debate on whether emotions increase or decrease political mobilization is still vivid (Brader, 2005; Valentino et al., 2008; Ryan, 2012), the key aspect for our argument is once again that emotions can affect an individual's political attitudes and political behavior (Renshon, Lee and Tingley, 2015). To mention a few examples, when politicians use emotive language, an individual's party identification increases (Groenendyk and Banks, 2014), individuals are more likely to be persuadfed (Arceneaux, 2012) and they are more likely to resort to affective heuristics to take a decision (Kuhne et al., 2011).

2.2 Strategic Incentives and Audience Exposure

In this article we argue that the use of emotive language in legislative speeches represents an important component of politicians' toolkit that politicians will strategically employ when seeking to appeal to voters. Politicians are strategic agents that seek to maximize their electoral appeal when certain conditions are met. Thus, we contend that they will be more likely to resort to emotive language when they think they can obtain positive electoral rewards. And it is precisely when politicians have a larger (electoral) audience that their message can have a larger impact. In other words, they will be more likely to use emotive language in their legislative speeches as a way to appeal to their constituents when the size of the audience is larger. Conversely, when the audience is smaller, politicians will have less incentives to use loaded language as a strategic electoral tool and, as a consequence, emotive rhetoric will be less prevalent.

Our core idea is that political elites will strategically employ emotive language to convey their message or appeal to voters and, as such, they will be more likely to do so when citizens are more likely to follow the speech. This argument builds upon recent research, which shows that elites' rhetoric strategically changes when a set of conditions arise. Politicians adapt the comprehensibility of their speeches to their constituents' linguistic skills to facilitate effective communication (Spirling, 2016; Lin and Osnabrügge,

2018). For example, British ministers became significantly easier to understand, relative to backbenchers, immediately after the 1868 election, when the electorate doubled with the incorporation of mostly poorer and less educated voters (Spirling, 2016). Hager and Hilbig (2019) find that sudden exposure to public opinion leads elites to align their language–the type and the content of their discourse–to that of the public opinion. Politicians also appear to adapt their language when they want to distinguish themselves from their party (Slapin and Kirkland, 2019). Bryan and Ringsmuth (2016) show that dissenting judges in the Supreme Court use more emotive language in order to attract the public's attention, influence the public debate on the issue and provoke further litigation.

In most parliaments or chambers, such as the House of Commons, the *audience argument* is first and foremost materialized as a function of the hierarchy of the debate MPs participate. While some debates are highly technical and specific, others cover broader areas or are framed in a general way that appeals to all the publics. For instance, the PMQ is a constitutional convention during which the Prime Minister answers questions from MPs, particularly from the leader of the opposition. It is the most prominent parliamentary moment of the week, broadcast live and extensively covered by the media. The PMQ is arguably the debate citizens are more likely to follow, providing incentives to MPs to use emotive language. Following this line of reasoning, we expect legislators that are more exposed to the electorate in high-profile debates to be more likely to use emotive language. Once again, high-profile debates receive greater attention by both voters and the media, whereby increasing the potential audience whom the message is transmitted to, and ultimately represent an important opportunity for politicians to appeal to voters by using emotive language. Similarly, we also expect legislators in high-profile positions to make greater use of emotive language than low-profile positions, as the former are more likely to be exposed to the public than the latter.

Finally, our article also complements the literature in an additional important way. Most previous research on emotions generally employ party manifestos or speeches during electoral campaigns. These speeches are arguably different than those given during other

less salient political events, such as debates in parliament. During campaigns or other highly relevant political situations, the audience is likely to be different and, in fact, there will be less variation in emotive language as most speeches are likely to be followed by the media and the citizens. Thus, focusing on legislative debates has the advantage of examining a unique setting with a rich variation in legislative speeches, both in terms of content and exposure to a larger or smaller audience.

This leads to the following hypotheses:

H1a: Rhetoric in high-profile legislative debates is characterized more emotive rhetoric than lower profile debates.

H1b: Legislators in high-profile positions make greater use of emotive rhetoric than those in lower profile positions.

We examine these hypotheses by analyzing the House of Commons debates between 2001 and 2018.

3 Exposure in the House of Commons

The House of Commons is the lower house of the Parliament of the United Kingdom and has 650 MPs, who represent the 650 constituencies in England, Scotland, Wales, and Northern Ireland. MPs meet in the Palace of Westminster and they attend debates, vote on new laws and raise issue that affect their constituents or the whole country. Most MPs are also members of committees, which look at issues in detail, from government policy and new laws, to wider topics like international security.

Besides the government MPs and the Leader of the Opposition, the Speaker of the House occupies a pivotal role in the chamber, as he/she keeps order and calls MPs to speak during the debates. Despite the fact that the Speaker deals with their constituents' problems like a normal MP, Speakers are required to be politically impartial. Typical debates take place after an MP puts forward a proposal for debate by moving a motion. The Chair then puts the question to the House and the motion is debated with MPs taking

turns to speak on the subject being debated. At the end of the debate, MPs decide, commonly through a vote (divison). Debates are formally regulated by the Standing Orders, a series of written rules that regulate the proceedings of the House, and also by various customs and traditions. The rules differ across the type of motion or debate, but there are some commonalities. The Speaker, or a Deputy Speaker, chairs the debate, assigning speaking turns to the MPs. Then MPs address their speeches to the Speaker or Deputy Speaker, using notes only. They also have the right to reply if they introduced the subject of debate. Time limits on backbench speeches in debate are the norm, but they vary substantially: even though the norm is five minutes, an MP can also be allowed ten minutes or more.[2] In some occasions, MPs can also make use of the 'injury time' and speak a few more minutes.

A typical day for an MP may take different formats, but it generally includes meetings or discussions on private bills, oral questions to government officials, presentation and discussion of petitions, reports or other publications and voting on drafts, bills or other pieces of legislation. Thus, debates in the House of Commons typically occur every day, except Fridays, and are chaired by the Speaker, who has full authority to make sure MPs follow the rules. Every day, excluding Fridays, MP can ask oral questions during Question Time with the answering department changing according to a rota. MPs must send their questions three days in advance, and these are then asked during the relevant Question Time, with the questioner allowed to follow up with one supplementary question.

MPs wishing to reply to a question or intervene do not have an automatic right to speak during debates and it is the Speaker's job to balance MPs' participation in them. Those wishing to speak rise from their seats once the previous MP has finished their contribution, a practise known as 'catch the Speaker's eye'. MPs usually speak only once in a debate, although they may intervene with a brief comment on another MP's speech. MPs who introduced the subject of debate ('tabling a motion') have the right to reply to

[2]A backbencher is an MP who is not in government and is not a frontbench spokesman in the Opposition. See '7th Report - Time limits on speeches in the Chamber', House of Commons, https://publications.parliament.uk/pa/cm201719/cmselect/cmproced/1157/115702.htm.

speeches.

The most important debate of an ordinary week in the House of Commons is the widely known as PMQs. Instituted in June 1961, it constitutes a weekly session at noon on Wednesdays and represents the set-piece of the parliamentary week.[3] During the PMQs, the Prime Minister answers questions from opposition leaders and backbenchers. The PM has no foreknowledge of what is to be asked, although questions tend to be based on that week's news agenda. The most important moment of the PMQs is the head-to-head between the Prime Minister and the Leader of the Opposition, who is permitted six questions and may ask two sets of three questions on any subject, with a gap in between, or use all six in one go.

From an MP's point of view, parliamentary speeches serve different strategic objectives. Thus, previous literature has shown that office-seeking politicians are more likely to appeal to a larger electorate (Hibbing, 1986) and to be responsive to public opinion (Victor, 2011; Høyland, Hobolt and Hix, 2019). Parliamentary speeches, besides representing an opportunity for politicians to communicate with voters (Victor, 2011; Proksch and Slapin, 2012), also serve other purposes: MPs use legislative speeches to persuade colleagues of an MP's competence or suitability for promotion.

Most importantly for our argument, there are some debates that represent a unique opportunity for MPs to speak to a broader audience, most notably the PMQs. In the UK, PMQs are broadcast live on several TV channels and radios. Once finished, they receive extensive media coverage: TV snippets of the debate are featured in the media, usually during the daily news telecasts or other popular shows. Overall, the British public is very familiar with PMQs, its famous disorderly behavior of MPs and the head-to-head debate between the PM and the Leader of the Opposition. According to the polling company YouGov, PMQs represents the 233rd most popular and the 123rd most famous contemporary TV programme in the UK.[4] Indeed, PMQs attract the public's attention:

[3]Since the sixties, the PMQs were a twice-weekly session of 15-minute. In 1997, the PM Tony Blair replaced them to a single 30-minute session. In addition, the allocated number of questions in each session for the Leader of the Opposition was doubled from three to six.

[4]YouGov data was collected between June 2018 and June 2019. Source: Yougov [last accessed: 27

Data from Yougov/The Hansard Society Survey Results shows that almost 70% of the population either regularly watches the PMQs or has seen it.[5]

4 Data

We use data on parliamentary speeches held in the House of Commons in the period from 2001 until 2018. We use the data from Rheault et al. (2016) for the period from 2001 until 2014 and extend this dataset until 2018 using information from TheyWorkForYou[6]. In addition, we collect detailed meta-data on the speakers and the type of speech. More precisely, we add data on the stage of the debate (e.g., PMQs) the committee chairmanship and party leaders. We drop speeches with less than 40 characters and speeches held by the Speaker or the Deputy Speakers of the House of Commons.

We test the hypotheses using the following explanatory variables. The variables on PMQs and Queen's Speech debates are indicator variables that are equal to one if the speech was held in one of these debates, and zero otherwise. The seniority variable is equal to one if the speech was held by the Prime Minister, the Minister of Foreign Affairs, the Minister of Financial Affairs or the Minister of Home Affairs, and zero otherwise.

Table 1 summarizes our data on parliamentary speeches, which encompasses 905,657 speeches from five electoral periods. 31,933 speeches were held in the PMQs and 14,680 in the Queen's Speech debates. In our period of analysis, senior ministers gave 51,801 parliamentary speeches.

5 Measuring Emotive Rhetoric

We measure emotive rhetoric using a dictionary-based approach. We use the Affective Norms of English Words (ANEW) dictionary to identify emotive and unemotive words. Then we use word embeddings techniques to create a domain-specific dictionary. More

August 2019].

[5]Data was collected in September 2015. Source: Yougov [last accessed: 27 August 2019].

[6]Source: TheyWorkForYou [last accessed: 22 July 2019].

Table 1: Data on Parliamentary Speeches.

Period	Number of Speeches	PMQs	Queen's Speech debates	Senior Minister
2001-2005	171,917	6,409	3,168	9,744
2005-2010	227,800	8,345	4,305	11,624
2010-2015	286,217	9,742	3,920	17,169
2015-2017	119,116	3,826	1,991	6,934
2017-2018	100,607	3,611	1,296	6,330
Total	905,657	31,933	14,680	51,801

specifically, we identify words that are semantically similar to the emotive and unemotive words of the ANEW dictionary and add these words to our dictionary (Mikolov et al., 2013; Jurafsky and Martin, 2018). Our measure of emotive rhetoric is equal to the share of emotive minus the share of unemotive words in a speech. In the following, we provide the details of the method.

We start with the ANEW dictionary. The ANEW dictionary rates 3,188 words on three dimensions on a scale from one to nine (Bradley and Lang, 2017). We use the ANEW dictionary for three main reasons. First, the dictionary has been carefully developed and is well-established in the social sciences. Second, the ANEW dictionary is publicly available without restrictions. Third, the ANEW dictionary not only rates emotive words, but also covers nonemotive words.

We focus on the valence dimension of the ANEW dictionary, which ranges from positive/pleasant to negative/unpleasant. Previous theoretical and empirical work outlines that positive and negative valence are key elements of political campaigning and rhetoric (e.g., Skaperdas and Grofman, 1995; Lau and Pomper, 2002; Gerholm, 2018; Utych, 2018; Kosmidis et al., 2019; Crabtree et al., 2019). We analyze how far politicians use positive and negative emotions versus no emotions.

We use the ANEW valence scores to create a list of 630 emotive and unemotive words (Bradley and Lang, 2017). In other words, we select 630 words that are either very positive or negative and 630 words that not emotive. We denote these words as our seed words.

Then we estimate the word vectors on the basis of our corpus of parliamentary speeches using the continuous bag of words algorithm (CBOW) as implemented in the *gensim*

python module (Řehůřek and Sojka, 2010; Mikolov et al., 2013). For the computation of word vectors, we prepare the data as follows (Mikolov et al., 2013; Rheault and Cochrane, 2019). We remove stopwords and two-letter words and focus on all words that appear at least 20 times in the corpus. We do not lemmatize nor stem the words. Our data includes 6,595,244 sentences, which we order randomly. In our main analysis, we use word embeddings calculated based on a window of 12 words and a vector dimensionality of 2000. We also examine the robustness by running the analysis with 8- and 20-words windows and a dimensionality of 2500 or 3000.

Similar to previous research we compute an emotive score for each word using the following formula (e.g. Turney and Littman, 2003; Rheault et al., 2016). For each word in the vocabulary we add the cosine similarities between the word and the positive seed words and then subtract the cosine similarities between the word and the negative seed words. The cosine similarity approximates the semantic similarity of two words. The main assumption behind using the cosine similarity is that the meaning can be studied by examining the words that appear in the same context.

$$s_i = \sum_{p=1}^{P} \frac{\mathbf{v}_i \cdot \mathbf{v}_p}{||\mathbf{v}_i||\ ||\mathbf{v}_p||} - \sum_{q=1}^{Q} \frac{\mathbf{v}_i \cdot \mathbf{v}_q}{||\mathbf{v}_i||\ ||\mathbf{v}_q||} \tag{1}$$

The words in our vocabulary, which are not seed words, are indexed i, the emotive and unemotive phrases are indexed p=1,...,P and q=1,...,Q. We rescale this score to the interval [-1,1].

We then identify for each pole the 1,800 words with the highest and the lowest score and thus, add these words to the dictionary. This procedure leads to a vocabulary of 2,430 emotive and unemotive words. To compute the level of emotive rhetoric of a speech, we calculate the share of emotive words and subtract the share of unemotive words.

Figure 1 illustrates emotive words of our dictionary. Figure 1a shows the words that have the highest emotive loading in the ANEW dictionary. These words include joy, triumphant, suicide, rejected and funeral. As described, we use these words as seed words.

(a) Emotive (ANEW)

(b) Emotive (extended)

Figure 1: Wordclouds of Emotive Words.

Figure 1b shows the words that have the highest emotive score following formula (1). These words are not in the ANEW dictionary, but our word embeddings suggest that these words are highly related to our emotive seed words. We add these words to our dictionary of emotive words. A standard dictionary approach based on the ANEW dictionary would not take into account the emotive words in Figure 1b. The wordcloud includes words such as traumatised, abhorrence, revulsion, selfless, heartbreaking and admiration.

The median level of emotive rhetoric is 0.000 and the mean is 0.011. We plan to further extend our dictionary in the next version of the paper. Table 2 illustrates a sample of two emotive and two unemotive speeches. Speeches with a high level of emotive rhetoric tend to include emotive words such as evil, infiltrating, good and vital. Unemotive speeches usually include few or no emotive words and technical words such as infrastructure or wires.

6 Results

We start examining the results graphically. Then we implement linear regression models to analyze the level of emotiveness at the speech-level.

Figure 2 illustrates the development of emotive rhetoric in the period 2001 until 2018. The scale is from -1 to 1. Each dot represents the average level of emotive rhetoric in a year by different type of debates. More precisely, we take into account speeches held in

Table 2: Examples: Emotive and Unemotive Speeches.

Emotive Score	**Text**
0.90	Evil happens when good people stand by and do nothing. There is evil running through and infiltrating the Labour party, but it is full of good people and they are trying to do something about it. I commend them, appreciate them and have nothing but respect for them.
0.53	My hon. Friend raises a really important point. We need many more people to come forward, particularly women, and to be compatible with good, solid family life, it is vital that we look at how we manage things in this House and improve on it.
-0.54	Single-use plastic bottles can be 100% recyclable but, unfortunately, those that we use do not contain anywhere near 100% recyclable material. How can we influence behavior in how we dispose of single-use plastic bottles to change that?
-0.86	When used with old-fashioned copper wires, megabits can become a lot less than that. We need a superfast fibre infrastructure instead of copper wires.

the PMQs, the Queen's Speech debates and other debates.

The figures show that the average level of emotive rhetoric does not vary along the entire scale, but changes within a limited range. This pattern occurs because of two main reasons. First, English sentences usually need to include both emotive and unemotive words, which are both included in our dictionary. In other words, it is usually not possible to give me speech by only using very emotive words such as "great". Second, a certain number of speeches given in parliament are not very emotive, which reduces the average level of emotive rhetoric.

Second, the figures illustrate that the level of emotive rhetoric is highest for the PMQs, which are very prominent in the British media and public debate. The debate with the second highest level of emotive rhetoric are Queen's Speech debates, which are followed by all other debates. The level of emotive rhetoric also varies over time. A first peak occurs in PMQs in 2007, when Gordon Brown replaced Tony Blair as Prime Minister. A second increase occurs in 2015 when the European Union Referendum Act was adopted. The level of emotive rhetoric stays at a high level since 2015.

We continue the analysis using linear regression models. Table 3 summarizes our

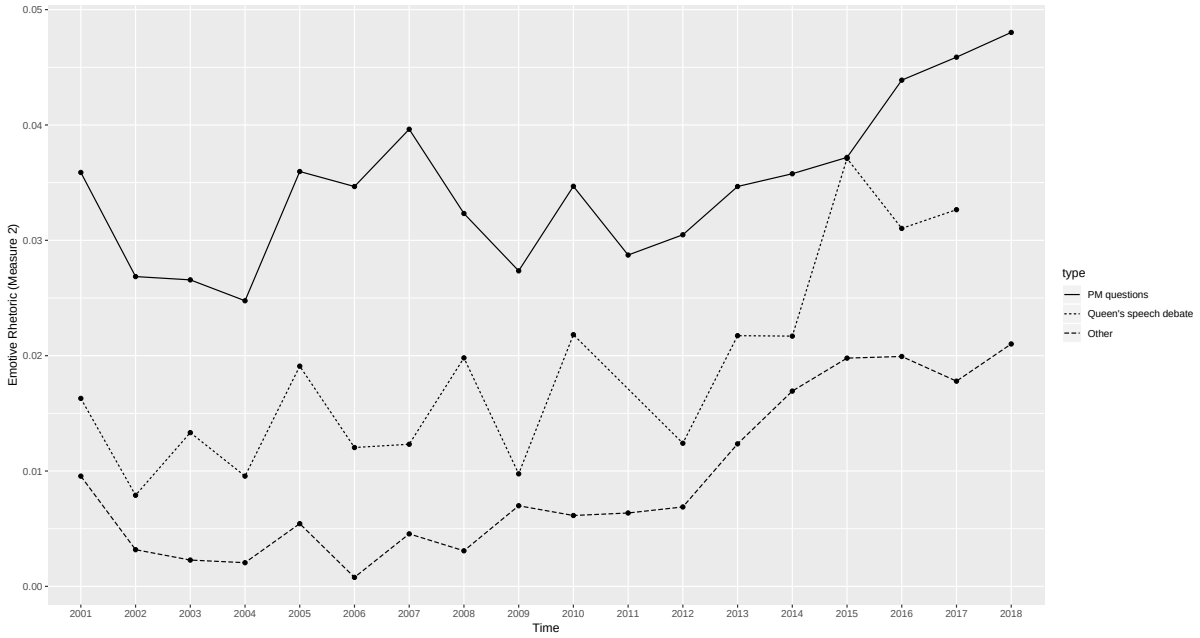

Figure 2: Emotive Rhetoric by Stage of Debate

results. The table takes into account our main explanatory variables on the electoral effects, the stage of the debate and the seniority of the speaker. The coefficients reflect the effect of the explanatory variables on the difference in shares of emotive and nonemotive words in a speech. We run five regression models with different specifications. In all models the standard errors are clustered at the parliamentarian level. The appendix includes the full regression output and analyses with alternative statistical models.

Model 1 is a baseline model, which includes our three explanatory variables. We find that the effects of the variables capturing PMQs, Queen's Speech debates and seniority are statistically significant at the 0.01 level. If a speech is held in a PMQ, the dependent variable increases by 0.021. The effect size of the PMQs is largest, followed by the effect of Queen's Speech debates and seniority.

Model 2 includes our explanatory variables, a quadratic time tend and speaker fixed effects. The effects are robust and the coefficient sizes are very similar as in Model 1. In Model 3, we include a quadratic time trend and control variables. We control for gender, experience, committee chairmanship, cabinet membership, party affiliation, electoral incentives and unemployment at the constituency level. We find that the effects have

a similar size and are robust. Inspecting the control variables, we find that women use more emotive rhetoric than men. This effect is strong and robust. In Model 4, we run our regression analysis with a quadratic time trend, speaker fixed effects and weighting by speech length. The effects are robust and similar to the other models.

In summary, our findings suggest that high-profile debates and politicians are positively related to emotive rhetoric, which confirms our theoretical expectations.

Table 3: OLS Regression Analysis

	(1)	(2)	(3)	(4)
PMQs	0.021***	0.021***	0.019***	0.020***
	(0.002)	(0.002)	(0.002)	(0.002)
Queen's Speech debate	0.008***	0.010***	0.009***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
Senior minister	0.010***	0.010***	0.013**	0.014***
	(0.003)	(0.003)	(0.005)	(0.003)
Quadratic Trend		X	X	X
Speaker Fixed Effects		X		X
Controls			X	
Weighting by Speech Length				X
N	905,657	905,657	905,657	905,657
R^2	0.003	0.007	0.041	0.012

Standard errors, clustered by speaker, in parentheses.
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

7 Concluding Remarks

This paper studies when and why parliamentarians use emotive rhetoric in parliamentary speeches. Previous research has largely focused on how parties use positive and negative emotions in political campaigns (Crabtree et al., 2019; Kosmidis et al., 2019), but we know less about the use of emotive rhetoric in parliaments (Rheault et al., 2016).

Our main argument is that politicians use emotive rhetoric to appeal to voters. We expect that the level of emotive rhetoric is especially high in high-profile debates, which have a large (electoral) audience. Furthermore, high-profile politicians are more likely to have a large audience because the TV, newspapers and social media are more likely to report on the speeches of these politicians.

We measure emotive rhetoric by combining the ANEW dictionary and word embed-

dings techniques. We identify emotive and unemotive words from the ANEW dictionary and identify additional emotive and unemotive words on the basis of the word vectors. We add the most emotive and unemotive words to the dictionary to create a domain-specific dictionary. The final dictionary includes 2,430 emotive and 2,430 unemotive words.

Our main finding is that emotive rhetoric increased since 2015, when the Brexit debate increased attention toward the debates in the House of Commons. We find a positive and statistically significant effect of PMQs and Queen's Speech debates on emotive rhetoric. Furthermore, senior ministers tend to use more emotive rhetoric than backbenchers.

Our findings suggest that the strategic incentives of politicians differ significantly across different parliamentary debates (e.g., Maltzman and Sigelman, 1996). Hence, we believe it would be promising to examine in more detail the role of different type of debates on speech-making behavior. Furthermore, we want to refine our measure of emotive rhetoric by adding words to the dictionary.

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