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Abstract

When do parties use emotive rhetoric to appeal to voters? In this article, we argue that politicians are more likely to employ positive affect (valence) in their rhetoric to appeal to voters when parties are not ideologically distinct and when there is uncertainty about public preferences. To test these propositions, our paper uses well-established psycholinguistic affect dictionaries to generate scores from three time-series of political text: British party manifestos (1900-2015) and annual party leaders' speeches (1977-2014) as well as US Presidents' State of the Union addresses (1880-2016). Our findings corroborate our expectations and have important implications for the study of party competition by illuminating the role of valence in way politicians communicate their policies.

Keywords: *Positive affect; Valence; Rhetoric; Polarization; Party competition; Speeches; Manifestos; Policy Pledges*

Introduction

How do parties use emotive rhetoric to appeal to voters? There is an extensive literature on how politicians use their policy positions strategically to maximize their electoral prospects (see e.g. Downs 1957). More recent work has also considered the importance of politicians' non-policy, or valence, attributes (see Clark et al. 2004; 2009; Schofield, 2003; Adams, 1999; Ezrow, 2007; Adams et al., 2004; 2006). These non-policy characteristics, including candidate competence, campaigning skill and character traits, have been shown to matter to voters. One aspect of party competition, however, that has been largely ignored is the emotive content of politicians' messages. Yet, scholars as early as Aristotle have recognized the importance of emotions (*pathos*) in rhetoric alongside logic (*logos*) and credibility (*ethos*) (Aristotle, 1991). Indeed, research on emotions and cognition has shown that when individuals make decisions, they are influenced by affective appeals both in the way they process information and in the way they decide (Lazarus, 1991; Feldman, 1995; Damasio, 1994; Petty and Cacciopo, 1986; Lang, 1994; Bradley and Lang, 1999; Mondak and Huckfelt, 2006; Petty and Briñol, 2014; Marcus et al., 2000; Brader, 2006). However, we only have a very limited understanding of how and when parties use positive affect in their rhetoric. If emotive language has the potential to influence political attitudes and behavior, then we should expect political actors to be strategic about its use.

To further our understanding of the use of emotive language in party competition, we develop and test arguments about when politicians have strategic incentives to make use of positive affect (valence) to communicate their policy proposals.[1] Empirically, we investigate this by analyzing prominent programmatic speeches from the UK and the US and we estimate the emotional tone of policy pledges or initiatives. Emotive rhetoric or valence is captured by measuring how positive, or pleasant, language is in high-profile

[1] We use the terms positive affect, positivity, and valence interchangeably.

political texts and speeches. We employ the *Affective Norms of English Words* (hereafter ANEW) psycholinguistic dictionary (Bradley and Lang, 1999), which has been widely applied in other disciplines, to construct a measure that ranges from negative to positive. Using a dictionary-based approach has the distinct advantage of replicability. On top of that, the ANEW is a free-to-use and validated lexicon of emotive language that has been used in other disciplines. We apply this technique to different types of high-profile political texts: UK party election programs (manifestos) from 1900 to 2015, UK party leaders' speeches from 1977 to 2014 and the American Presidents' *State of the Union* (SOTU) addresses from 1880 to 2015. As a robustness check, we successfully replicate our findings using the more commonly used *Linguistic Inquirer and Word Count* dictionary (LIWC).

We consider two factors that are likely to influence valence in party rhetoric. First, we argue that political actors have greater incentives to use positive emotive language to make their policy proposals more appealing to voters when parties' policy positions are less distinct, i.e. when there is limited ideological polarization. Building on spatial theories of party competition and empirical research on dynamic policy shifts (e.g. Ezrow, 2007; Adams et al., 2004; 2006), we argue that when parties become less distinguishable in terms of their policy offerings, they utilize emotive rhetoric in order to differentiate themselves from their opponents on non-policy grounds (see Stokes 1963; Adams and Merrill, 2009; Adams, Merrill and Grofman, 2005; Bruter, Erikson and Strauss, 2010; Curini and Martelli, 2013). According to our theory, political actors increase the valence in their policy pledges to enhance the credibility of their commitment. Our second expectation relates to uncertainty about voter preferences. In line with formal models of party competition (e.g. Robertson, 1976; Calvert, 1985; Budge, 1994; Wittman, 1977) we argue that party uncertainty regarding voter preferences can matter to the use of emotive language, since political parties are more likely to use affective language to present their policy offerings when more voters are undecided. In both cases, we consider positive emotive rhetoric as a tool to enhance the

appeal of policy pledges. We also have expectations about the economic and political context and we anticipate a healthier economy and incumbency to produce more positive rhetoric.

Many studies have examined strategic campaigning in terms of negativity and mudslinging in the context of TV ads, prime time TV debates and even campaign leaflets (Ansolabehere and Iyengar, 1995; Lau and Pomper, 2002; Mutz, 2015; Milazzo, 2016; Hammond and Millazzo, 2017). This is, to our knowledge, one of the few studies that have attempted to measure strategic use of emotional appeals and, in particular, positive affect in political rhetoric. Although some research has focused on cross-national accounts of valence (in terms of elite scandals) (Abney et al., 2013; Clark, 2009; 2014; Clark and Leiter, 2014), this is the first study to examine the link between the use of valence in political rhetoric and the political context. Our analysis thus contributes to the literature on party competition and valence by demonstrating that emotive rhetoric is one of the tools parties use to differentiate themselves from other parties on a non-policy dimension (e.g. Adams and Merrill III, 2009) and by providing a more nuanced understanding of how politicians communicate with voters to enhance the credibility of their policy pledges. It also speaks to an emerging literature that considers sentiment in public speaking as a central feature of modern politics.

The paper proceeds in the following way. We first motivate the importance of affect in the study of party competition and the theoretical underpinnings of our hypotheses. We then present our method of measuring positive affect in political rhetoric and visualize the data used in the paper. Thereafter, we present the empirical tests of our propositions that are accompanied with a series of robustness checks. The final section discusses the implications of our findings.

Emotive Rhetoric and Party Competition

Party behavior has traditionally been analyzed using the Downsian model of party competition (Downs, 1957; Black, 1958). According to Downs (1957), political actors are office seeking and they occupy policy positions close to the median voter to win elections. Yet, Stokes (1963) in his subsequent critique of this exclusive emphasis on positional issues, proposed a model in which voters have preferences over non-policy characteristics, or valence issues, that are orthogonal to the policy dimension. Specifically, he defined valence issues as ''those that merely involve the linking of the parties with some condition that is positively or negatively valued by the electorate'' (Stokes, 1963: 373). In the existing literature, such non-policy valence issues have included candidate character traits (e.g. honesty and integrity) (Mondak, 1995; Stone and Simas, 2010, Abney et al., 2013; Clark, 2014; Clark and Leiter, 2014; Adams et al., 2011), competence (Clarke et al., 2004; 2009), and name recognition (Adams et al., 2011). Our work adds positive emotive rhetoric to this list of non-policy valence attributes.

While we know very little about the use of emotive rhetoric by parties, there is an emerging literature on the link between emotional cues and political persuasion that suggests that such rhetoric may alter the way citizens understand and evaluate (political) arguments. For instance, cognitive theories of emotion, which focus on the micro-foundations of persuasion, suggest that two conditions increase persuasiveness; the strength of the argument and the emotional state of the decision maker (Petty and Cacciopo, 1986; Chaiken, 1987; Petty and Briñol, 2014). The key finding of this line of research is that individuals in a happy/pleasant state (as induced by experimental manipulation) are more likely to be persuaded independent of the strength of the argument (see e.g. Bless, Mackie and Schwarz, 1992; Sinclair, Mark and Clore, 1994; for a good overview see Griskevicius, Shiota and Neufeld, 2010). An important aspect of this literature is the fact that positive

emotion broadens cognitive processes for individuals (Strauss and Allen, 2006; 2008). According to other research, individuals exposed to positive stimuli should be expected to rely on prior dispositions (see Marcus et al., 2000). Nevertheless, the above literature only relates to individuals and how they receive persuasive messages. The primary focus of this article is the *sender* of the political message.

How do political parties and candidates use positive affect in their policy pledges? We argue that positive affect is one tool that parties can employ to increase the appeal of their political message. Political speeches and manifestos are means of setting out a policy program that will appeal to voters (Fernadez-Vasquez, 2015; Becher, 2016). The emotive weight politicians attach to a policy is likely to increase the costs of not delivering it if they win office, since voters should consider the additional weight as a credible signal that this policy will be eventually implemented. It follows, therefore, that political parties will wish to portray these policies positively. By using a higher degree of positive affect in their rhetoric politicians can signal to voters that these policies are priority for their party. Studies have shown the relevance of emotions in human interactions. Frank (1988), for example, argues that in many social settings, expressing emotions can increase the persuasiveness and credibility of a given course of action.[2] Kopelman, Rosette and Thompson (2006), experimentally show that negotiators who showed positive emotions were more likely to incorporate a future business deal in a negotiated contract and that, in an ultimatum setting, managers who expressed positive (as opposed to neutral or negative) emotions were more

[2] Note that Frank (1989) discusses emotions that are considered negative (like e.g. anger), but he examines cooperative behavior in the context of credible threats. It follows that credible promises come with positive emotion. Perhaps, the only positive emotion analyzed in his thesis relates to love and how it is the prerequisite for marital contract.

likely to close a deal. By demonstrating these emotions, actors lend credibility to their promises and make them more persuasive. In the context of policy pledges, we thus argue that by increasing the affective tone of their policy pledges, politicians signal to voters that they will commit to their promises.

The question is under what conditions that politicians are compelled to make greater use of positive affect. While political elites have general incentives to use emotive language to promote their policies, we argue that there are conditions under which they have greater reasons to do so. Following the literature on valence politics and polarization, we expect that the use of emotive rhetoric will be influenced by the distribution of political parties along the ideological continuum, i.e. the degree of ideological polarization (e.g. Adams, 1998; Adams, Merrill III and Grofman, 2005; Green and Hobolt, 2008; Bruter, Erikson and Strauss, 2010). More specifically, we argue that parties will use positive emotive language to induce more enthusiasm for their platforms, especially when their policy offerings are very similar to their opponents. Although they promise similar policies, politicians may seek to portray themselves as the most credible and committed actor to deliver it by using more affective language. Consider, for example, a scenario where two parties are located in the center of the policy space. In this example, voters cannot meaningfully differentiate between the parties on policy grounds. Instead parties will use more positive emotive language to enhance the appeal of their commitment to deliver the policy.

Formal models investigating the interaction between ideological polarization and the non-policy dimension have arrived at similar expectations. In a model with endogenous non-policy attributes, Asworth and De Mesquita (2009) demonstrate that when policy

pledges converge, parties tend to invest on non-policy factors.[3] Schofield (2003) also predicts that in the absence of policy differentiation, parties will rely on non-policy competition to win the election. In the empirical literature, Green and Hobolt (2008) have found that British voters rely more on evaluation of non-policy characteristics of parties, such as issue competence, when parties have converged ideologically (see also Bartle et al., 2011). Hence, building on both formal and empirical literature, we expect that an increase in party system polarization will bring about a decline in the need for parties to make emotional appeals. Conversely, party efforts to increase their positive affect in their manifestos will increase when the policy positions of the competing parties are close to one another. Hence, this leads to our first hypothesis:

H1: *When political parties offer less distinctive policy positions, they are more likely to use more positive emotive rhetoric than when their policy positions are more distinct.*

Our first hypothesis thus concerns the effect of the distribution of party positions on emotive rhetoric, but the distribution of voter preferences also matters. For vote-seeking parties, uncertainty about voters' party choices is relevant to the content of their political messages. We would expect that parties are more incentivized to signal commitment to their

[3] The spatial modeling literature produces mixed results, often due to the assumptions made about office or policy-seeking parties. In a model with policy-seeking parties and with endogenous valence being determined before choosing policy location, Serra (2010) shows that high valence comes with low polarization. In general the sequence of the game and the motivations of the party change the empirical predictions of the formal models. In addition to Serra (2010), Grosclose (2001) and Zakharov (2009) also start with parties deciding on the valence dimension and then choosing their policy platform. Schofield (2003) and Asworth and De Mesquita's models begin with parties choosing their policies and then manipulating their valences.

policy pledges when voters are more undecided about who to vote for. The formal literature on party competition has shown that the non-policy dimension becomes more significant when there is uncertainty about where voters stand (see Adams et al. 2005). Building on this, and in line with what is known about the cognitive value of positive affect discussed above, we argue that if a significant proportion of voters are undecided about how they are going to vote, parties have a clear incentive to engage in positive emotive appeals since their policy pledges alone are insufficient to sway those voters (see Kosmidis and Xezonakis, 2010; Orriols and Martínez, 2014; Kosmidis, 2014; Box-Steffensmeier et al., 2015). Parties, in effect, will be motivated to increase their non-policy (affective) appeals to enhance their chances of winning over these undecided votes (see Griskevicius, Shiota and Neufeld, 2010). In contrast, if parties are certain about the distribution of preferences in the electorate, then they can focus instead on appealing to the voters that would maximize their electoral performance by pledging their preferred policy. This leads us to our second hypothesis:

H2: *When a greater proportion of voters is undecided about which party to vote for, political parties are more likely to use positive emotive rhetoric.*

The proportion of undecided voters varies significantly across countries and over time. In our study, we examine our hypotheses using data from both Britain and the US, since these provide considerable variation in party polarization and voter uncertainty. We discuss the data and methods used to test our hypotheses in the ensuing section.

Measurement

Dependent variable

As we noted in the introductory section, we apply the *Affective Norms of English Words* dictionary (Bradley and Lang, 1999) to measure the positive affective tone in party rhetoric.

This dictionary offers the unique opportunity to produce an exogenous measure of emotionality that is not contaminated by partisan attitudes and political predispositions.[4] This measure is based on psycholinguistics and produces affect scores based on individual word scores for 2,500 unique English words that have been identified as having meaningful emotional content (Mehrabian and Russell, 1974; Russell, 1980; 1989; 1990; Belleza et al., 1986; Bradley and Lang 1994). Participants of the ANEW study graded their reactions on a 1-9 point scale along two semantic differentials that range from bad-good (Pleasure) and were given words as anchors to facilitate their scoring of different samples of words. For instance, the highest score of the Pleasure (or valence) dimension denoted feelings such as happiness, pleasure, satisfaction, contention and hope while at the other extreme words like unhappy, annoyed, dissatisfied, melancholic, despaired, or bored. The ANEW has the advantage of offering a continuous measure of affect, whereas other sentiment dictionaries like the *LIWC* opt for discrete operationalizations of affect.[5] Moreover, the ANEW dictionary has been widely used in the study of emotion in language, as evidenced by the hundreds of citations of the original study.[6] Dodds and Danforth (2010) have confirmed the validity of the aggregate affective scores produced by ANEW by comparing different types of text including songs by genre and the presidential State of the Union address. They conducted their analyses by using random subsamples of the ANEW dictionary and demonstrated the robustness of the method and the face validity of the scores. Despite the advantages, the ANEW dictionary has been rarely used in political science.[7]

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[4] ANEW is currently being validated in other languages (e.g. Redondo et al., 2007; Soares et al., 2012).

[5] As we show in the section on sensitivity analyses below, our findings are robust if we apply the LIWC dictionary instead.

[6] A Google Scholar search on the ANEW database returns more than 1500 citations.

[7] One exception is a study by Gonzalez-Bailon et al. (2012) who scored blog discussions and examined their correlation with tracking polls. Note also that Young and Soroka (2009) examined the relationship between a variety of sentiment dictionaries.

The primary objective of this paper is to describe and explain variation in the level of valence in party political texts and speeches. To examine the strategic use of emotive rhetoric by politicians, we examine time-series of some of the most high-profile and studied political texts in the English language: British party manifestos and party leader speeches as well as US Presidents' State of the Union (SOTU) addresses. To provide a better understanding of our empirical strategy to examine differences in positivity in political speeches and text, we can use the example of a speech delivered by Senator Barack Obama in the 2004 Democratic Convention in Chicago. We use an excerpt from this speech to demonstrate how we derive our final text scores:

Tonight, we gather to affirm the greatness of our nation not because of the height of our skyscrapers, or the power [6.54] of our military [5.54], or the size of our economy; our pride [7.0] is based on a very simple premise, summed up in a declaration made over two hundred years ago: "We hold these truths [7.8] to be self-evident, that all men are created equal that they are endowed by their Creator with certain inalienable rights, that among these are life [7.27], liberty [7.98] and the pursuit of happiness[7.96]." That is the true [7.8] genius [7.39] of America, a faith in simple dreams [7.14], an insistence on small miracles [8.6]

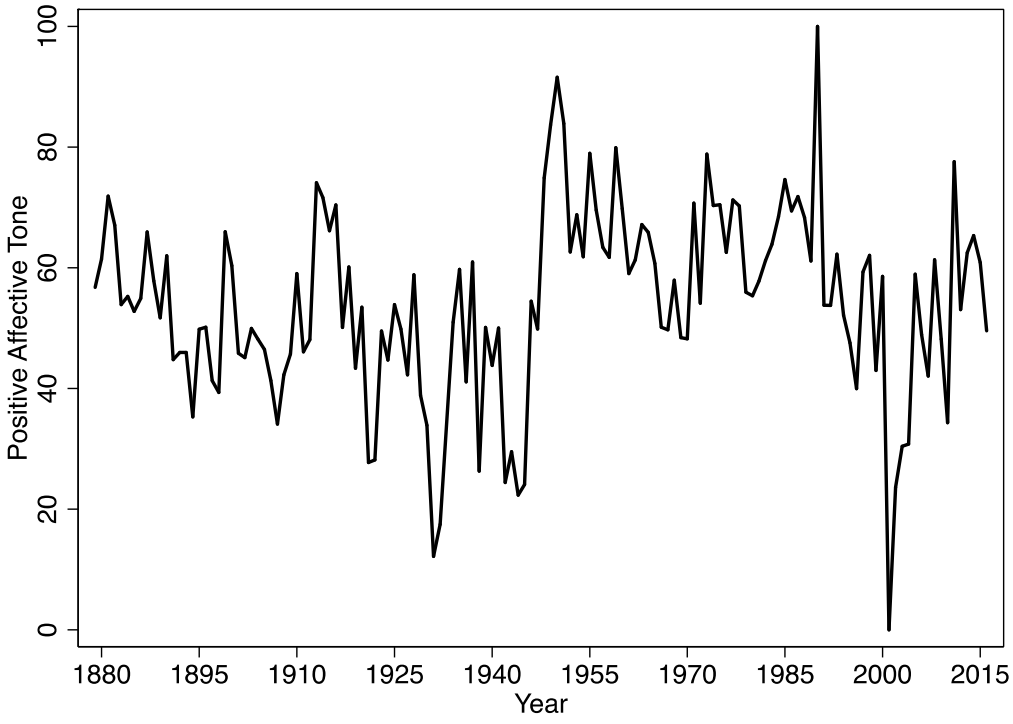
Final Score= Sum[ANEWScore]/Number of ANEW Words=80.95/11, Final Score= 7.36

The numbers in brackets represent the ANEW score for the particular word that appears in the dictionary. Following Dodds and Danforth (2010), we have weighed the text scores by the total number of ANEW words appearing in each text. The 7.36 score corresponds to the final score for this particular text. Compared to our other political texts this is an extremely positive document with many words that score high in affect (e.g. "miracles", "happiness"). Obama's speech in 2004 would be the highest in terms of positivity and Bush's 1990 SOTU

speech that marked the end of the Cold War would follow (6.57 on the original scale). But there is substantial variation across different speeches.

Figure 1 plots the valence score from 1880 until 2015. For analytical purposes we have rescaled the scores to vary from 0 to 100. The figure shows clearly that the speech delivered shortly after the *9/11* terrorist attacks in New York unsurprisingly exhibit the lowest levels of positive affect (5.27 in the original scale). The speech delivered after the Fall of the Berlin Wall scores the highest (Bush Senior in 1990 with a score of 6.27). This coupled with the low and high levels of positive affect during and after the Second World War shows the general face validity of our measure and similar patterns are confirmed in our empirical analysis.[8]

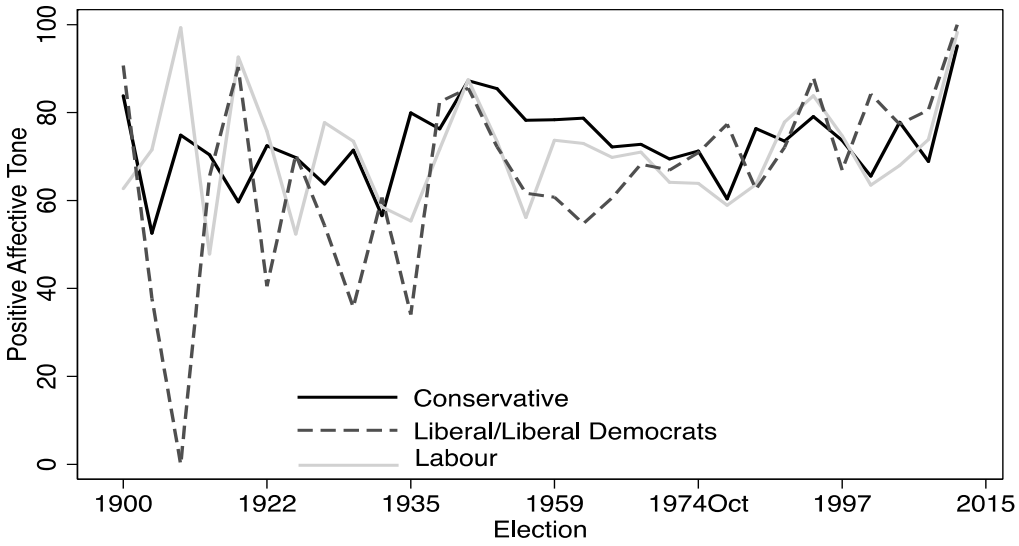
FIGURE 1: *Positive emotion in US Presidential SOTUs, 1880-2015*



[8] The SOTU speeches were collected from http://www.presidency.ucsb.edu/

We employ the same strategy for the British texts, only this time the texts we use are election programs (manifestos) and speeches. Manifestos are structured documents with specific goals and research has shown that they do set the tone of the election campaign (see Hoffenbert and Budge, 1992; Bara and Budge, 2001). However, the analysis of rhetoric through policy platforms is a rather conservative way to assess how parties induce positive affect during election campaigns. Although it is entirely plausible that manifestos give the affective tone that is maintained throughout the campaign, we also analyze speeches delivered annually by all party leaders during Party Conferences,[9]as these are prominent speeches that outlines the party platform and which attract a great deal of media attention.

FIGURE 2: *Positive affective tone in UK Party Manifestos, 1900-2015*



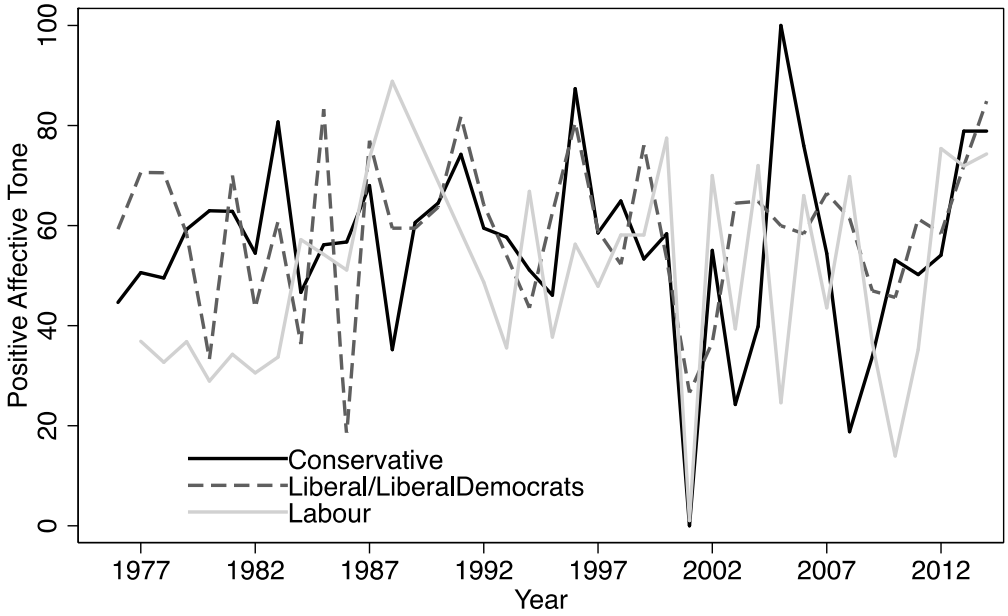
In Figure 2 the x-axis represents election years and the y-axis the score of Positive Affective tone across all manifestos drafted from 1900 to 2015.[10] Our measure is again rescaled to vary from 0 to 100 and varies both across time, parties and elections. The equivalent plot for the

[9] They take place in September and October of every year.

[10] The plots are based on the ANEW dictionary. As we discuss below, the correlations of these scores with the equivalent measures from LIWC are very high.

leadership speeches can be found in Figure 3. With the exception of three speeches by the Liberals (late 1980s), we plot all the available leadership speeches as they were delivered in the annual party conferences. Unsurprisingly, the leadership speeches delivered immediately after 9/11 were the most negative speeches.

FIGURE 3: *Positive affective tone in UK Leaders' speeches in annual Party Conferences, 1977-2015*



Independent variables

Next we turn to the explanatory variables used in the analysis of party rhetoric. To measure polarization, we first need a measure of party policy positions. We derive these using Wordscores (see Laver, Benoit and Garry, 2003; Lowe, 2008), which is a scaling technique that extracts policy positions using benchmark documents.[11] Most of the existing empirical work on party competition relies on party positions estimated by the Comparative Manifesto Project (CMP) (see Budge et al., 2001; Klingemann et al., 2006). However, the CMP started the manifesto analyses for elections that took place only after the Second World War. Relying on the CMP positional measure would mean that we would be unable to analyze more than 15 publicly available manifestos from the first half of the 20th century.[12] The distinct advantage of the Wordscores approach is that it allows us to make use of a much longer time-series of manifestos and also enables us to compare the results from the manifestos to those from the leadership speeches. As reference documents in Wordscores model, we use the 1945 election for the 1900 to 2015 data set and the most recent election (2010) for our leadership speeches. Our robustness checks show that the choice of the reference text has minimal consequences for our *Polarization* measure and the inferences drawn from our statistical models.

[11] We use the CMP as the anchors for our Wordscores policy positions.

[12] Although *Wordscores* is a useful tool to extract policy positions, it comes with several caveats regarding both the assumptions of the algorithm (see Lowe, 2008) as well as the content and face validity of the estimates (see Bruinsma and Gemenis, 2017). However, as we explain in text, it is not possible to use the Comparative Manifesto Project or expert surveys for the full data of our Manifestos. The problem is bigger when we have to deal with annual leadership speeches that have never been scored by experts. In the Appendix we show that a CMP based measure of polarization produces similar results for the subset of the data.

To capture polarization in the party system, we use a weighted measure of party system dispersion that is based on Ezrow's work on the topic (see Ezrow, 2007; Ezrow and Xezonakis, 2011). The variable is computed in the following way:

Weighted Party System Dispersion = $\sqrt{\sum_{j=1}^{k}(P_j - \overline{P_k})^2}$

where,

$\overline{P_k}$ = the weighted mean of all the parties' Left-Right ideological positions

P_j = the ideological position of party j.

This specification of the polarization variable (the weighted mean portion of the equation) eliminates the bias that might be caused by positions taken by smaller parties (e.g. Labour party in the early 1900s and the Liberal party after the Second World War). For the American series we use a widely used measure of polarization that is based on DWNominate Scores of the American House and Senate that are based on roll-call voting (McCarty, Poole and Rosenthal, 2006). The *Polarization* measure in this case is the ideological difference between Democrats and Republicans across Congresses.

To measure uncertainty over party preferences we rely on measures of voting indecision. For the manifesto data we use all the available Gallup measures from 1959 until 1997 and we complement it with IPSOS MORI for the remaining elections. We use the proportion of undecided respondents (*Don't Know*) a month before the election as recorded in response to the typical vote intention question "*If there was a general election tomorrow, how would you vote?"* item. We follow the same strategy for the Conference speeches[13]. Since

[13] We use the measure as it is recorded in September of each year (i.e. a month before the Party Conference takes place).

vote intentions measures are not common in US polls, we use the proportion of respondents who are unsure about how well the President is doing his job, as collected by Gallup every month.[14]

Model Specification and Analyses of Positive Affect

Our main propositions on party system polarization is that a reduction in the distinctiveness of party policy positions from one election to another will bring about an increase in the positivity score, and vice versa. We also include a set of control variables. We control for the *Party of the Prime Minister* to account for the anticipated higher level of positive emotion in incumbent parties. We do so, because we expect that incumbent political actors will have to use more positive language to showcase their record in office. We also add economic controls to capture the economic context (Growth), since we would expect that better economic conditions will lead to greater use of positive affect. Finally, we include a lagged dependent variable to take dynamics into account.

Table 1 reports regression coefficients for three models. The first model is a regression model testing the Polarization hypothesis using the election-year data (1900-2015). In the second column, we replicate this model with the annual leaders' speeches and in the third one we move beyond the British context and we analyze the same hypothesis using the annual State of the Union Addresses. To facilitate interpretation, we have rescaled the dependent variable to vary from 0-100 and the polarization measure to vary from 0 to 10. The results show that the *Polarization* predictor exerts a significant negative effect on the level of emotive language, in line with our first hypothesis, and this is the case across the three models. In substantive terms the coefficients in both models suggest that, holding everything constant, a standard deviation increase in *Polarization* ($SD_{Manifestos}$=2.5,

[14] We use the January reading of the survey question.

$SD_{Leaders}$=2.7, SD_{SOTUs}=2.4) brings about a decrease in positive emotion of around 3, 4 and 6 points on the 100 point scale, respectively.[15]

The coefficients for our controls show that incumbency has a strong and significant influence on positive emotion with incumbent parties being on average more positive in their rhetoric. Looking at Columns 1 and 2, incumbents draft more positive manifestos by approximately 7 points. This is an anticipated finding that lends credibility to our outcome measure. Equally convincing is the positive effect of *Economic Growth* across the three models. This suggests that, on average, in good economic times politicians use more positive language to communicate their policies. The model specification in Column 3 warrants further discussion because it is essentially a time series regression model. From the lagged variable, it is clear that the outcome does not contain a unit root. Breusch-Godfrey tests across several lag levels of the residuals suggest autocorrelation is not a concern and we can thus be confident in our inferences.

TABLE 1: *Models predicting Positive Affect from Polarization across Political Texts*

	UK Party Manifestos	UK Party Leaders	US SOTUs

[15] Although it is not straightforward to evaluate how strong an effect is in substantive terms (that is how different is rhetoric once positivity decreases by, say, 6%) it is crucial to compare this finding with results reported in papers of party competition using content analysis. In some key studies in the literature, the shifts in ideology are half of what we report here (see e.g. Adams and Topcu, 2009; Topcu, 2009).

	(1)	(2)	(3)
Positive Affect$_{t-1}$	0.096	-0.051	0.208
	(0.112)	(0.100)	(0.156)
Polarization	-1.282*	-1.368**	-2.482**
	(0.716)	(0.614)	(1.177)
Econ. Growth	0.726*	1.356*	0.936***
	(0.429)	(-0.813)	(0.329)
Incumbency	6.484*	7.287**	-
	(3.441)	(3.663)	-
Constant	64.083***	58.892***	58.319***
	(8.439)	(6.572)	(13.184)
N	87	106	35
R^2	0.107	0.102	0.606

Note: Standard Errors in Parentheses, *** p<0.01, ** p<0.05, * p<0.1,
The dependent variable ranges from 0 to 100 and measures positive affect in each text. The polarization measure ranges from 0 to 10 and it is measured using Wordscores for columns 1 and 2 and DWNominate for column 3. For columns 1 and 2 we employ a random effects estimator. In the Appendix (Table A.1) we report results from a fixed effects estimator. In the same table we show the results without the lagged dependent variable. The model in Column 3 includes dummies for elections and second presidential terms. Because our *Polarization* measure is by Congress we only have recorded measures every second year of our dataset.

In Table 2, we test our hypothesis about the effect of uncertainty about voter preferences. Our expectation is that greater uncertainty encourages politicians to use more emotive language. In these models, we include a public opinion measure of the aggregate level of voter uncertainty, that is the percentage of voters being undecided about which party to vote for (we can only include elections from 1959 onwards). We replicate this model specification for the Leaders' Speeches specification (presented in column 2) where we use the percent 'undecided' as recorded by IPSOS-MORI during the pre-conference period from 1977 to 2014, whereas in Column 3 of Table 2 we test this hypothesis using the SOTU data. Our model in Column 3 also includes dummy for the *War on Terror* SOTU Address and dummies for election years and presidential second terms. As with the UK models, we also control for economic conditions.

Starting with the effects of public opinion, we find a significant effect for the *%Undecided* measure, which suggests that valence increases with more undecided voters in the electorate. The coefficients ($\beta_{Undecided}$=0.670/$\beta_{Undecided}$=0.493) for both series are statistically significant. Note, however, that the model using manifestos is only based on 14 observations per party and when including the covariates the degrees of freedom are much lower. For this reason, we do not include a lagged dependent variable and we keep it the same with the other two models.[16] As in Table 1 our controls remain statistically significant and they are correctly signed. However, we fail to find an effect when using the American SOTUs. Across these models our measure of *Polarization* exerts a negative and statistically significant effect on *Positive emotion*. The more distant the Democrats and the Republicans are in terms of ideology the lesser the volume of *Positive Affect* in the President's SOTU speech. More generally, this represents a conservative test of our theory because the institutional characteristics of the US system (fixed terms, separation of powers) discourage presidents from focusing on partisan interests in their SOTU addresses.

The findings from columns 1 and 2 of Table 2 suggest that when parties cannot convince voters purely on the basis of ideology and policy proposals, they will invest greater effort in highlighting their non-policy characteristics and, in line with Hypothesis 2, they will seek to highlight their commitment to the policy proposal by using more positive language. Across those models, the impact of *Polarization* is still strong, significant and robust.

An alternative explanation of the results reported on Table 2 is that because the proportion of undecideds plausibly increases in times of ideological convergence the effects we observe can be related to *Polarization* rather than valence. This is the primary reason why we include the independent effect of Polarization in Table 2, yet testing the exact causal

[16] The results are identical for columns 2 and 3 when we include the lagged dependent variable. The same applies for Table 1; the results are robust when we don't include the lagged dependent variable.

chain is rather difficult with the data at hand. To be sure the correlations between indecision and polarization are very close to zero for all three datasets we examine. Overall, the results broadly support our theoretical propositions. In the next section, we show that these findings are robust to alternative measurements and model specifications.

TABLE 2: *Models predicting Positive Affect from Polarization and %Undecideds*

	UK Party Manifestos (1)	UK Party Leaders (2)	US SOTUs (3)
Polarization	-2.550**	-1.036***	-2.637**
	(1.167)	(0.370)	(1.225)
Econ.Growth	1.482*	1.350*	0.952***
	(0.862)	(0.777)	(0.334)
%Undecided	0.670*	0.493***	-0.163
	(0.349)	(0.191)	(0.298)
Incumbency	5.257*	7.546*	-
	(3.009)	(4.435)	-
Constant	63.072***	45.926***	60.339***
	(6.604)	(7.831)	(13.849)
N	45	109	35
R^2	0.186	0.116	0.61

Note: Standard Errors in Parentheses, *** p<0.01, ** p<0.05, * p<0.1,

The dependent variable ranges from 0 to 100 and measures positive affect in each text. The polarization measure ranges from 0 to 10 and it is measured using Wordscores for columns 1 and 2 and DWNominate for column 3. The %Undecided measure corresponds to the IPSOS MORI/Gallup vote intention question. For Column 3 the %Undecided corresponds to the presidential approval item as measured by Gallup.

Sensitivity Analyses

The previous analyses show that are results are fairly robust across contexts and type of political text (speeches and manifestos). Moreover, we find similar patterns regardless of the specific methods used to code of the main independent variable since both *Wordscore* estimates in the UK and DWNominate scores in the American case show similar results.[17] In

[17] In the Appendix (Table A.2) we present models that estimate the same relationships using entirely different measurement strategies for the key variables. For example, we present models of UK Party

this section we examine the sensitivity our findings to alternative measurements and model specifications.

Given the long period of investigation, one concern may be that there has been a change in the vocabulary that affects our measurements. Although the lexicon analyzes words we use every day and are present in political speeches, it might well be that emotive language was different in 1910 or 1920 compared to 2015. Alternatively, it might well be that different speechwriters or different party leaders have different baseline level of affect and this might drive some of the effects we observe. To test whether our hypothesis about Polarization holds, we incorporate time effects to entertain the possibility that different eras correspond to different meanings in the affective content of English words. We thus add time dummies in the right hand side of the equation. The model specification remains the same and the results are reported on Table 3. As it is clear from the entries in Table 3 the results are robust and *Polarization* exerts a negative and significant effect on valence.[18]

TABLE 3. *Party and Time Fixed Effects Predicting Positive Affective Tone from Polarization*

	UK Manifestos	UK Leaders
	(1)	(2)
Polarization	-2.685**	-4.529***
	(0.387)	(1.334)

manifestos that use an alternative coding of the outcome variable. Instead of weighting the scores by the number of ANEW words, it weighs by the total number of words. Rather than estimating Polarization using Wordscores it uses the relevant CMP scores for all post-WWII elections. It also uses the BES measure of %Undecided that corresponds to timing of voting decision ("When did you decide how to vote?"). Finally, rather than using economic growth, it estimates the estimates the economic effects using the rate of Unemployment. Both our hypotheses are confirmed and Unemployment exerts the expected – negative - influence.

[18] The inferences are the same with and without the lagged dependent variable. The choice of finally including it was guided by the literature that supports its inclusion when temporal dimension is much larger than the unit effects. The results are also similar when we use bootstrapped standard errors to test for internal validity.

Party Fixed Effects	Yes	Yes
Time Fixed Effects	Yes	Yes
Endogenous Lag	Yes	Yes
Controls	Yes	Yes
N	87	106
R^2	0.451	0.531

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Our next robustness check relates to the ANEW dictionary and how generalizable our affect scores are. As we explained in the Measurement section, we apply a measure of affect that is based on 2500 words and were measured using a continuous scale denoting pleasantness (Valence). Although prominent in the study of Affect, other sentiment dictionaries have also been used in the literature. To check whether our results are only evident with the ANEW measure, we replicate Table 1 with the equivalent aggregate measure of the *Linguistic Inquirer and Word Count* (LIWC) Sentiment dictionary. The LIWC has a very similar setup; 2500 words are scored and the software gives the proportion of positive and negative words in each document. Our score is then the natural logarithm of the ratio between positive and negative words. Higher values on this scale denote more positive affect in each text. Once again, the final measure is rescaled to run from 0 to 100. As it is evident in Figure 4 that visualizes the relationship by political party, the produced ANEW scores correlate highly with the LIWC. Moving to our replication, as the results in Table 4 show, the estimates are very similar to those in Table 1. Polarization has a negative and significant effect on positive affect as measured by LIWC.

FIGURE 4: Correlation between ANEW and LIWC by party

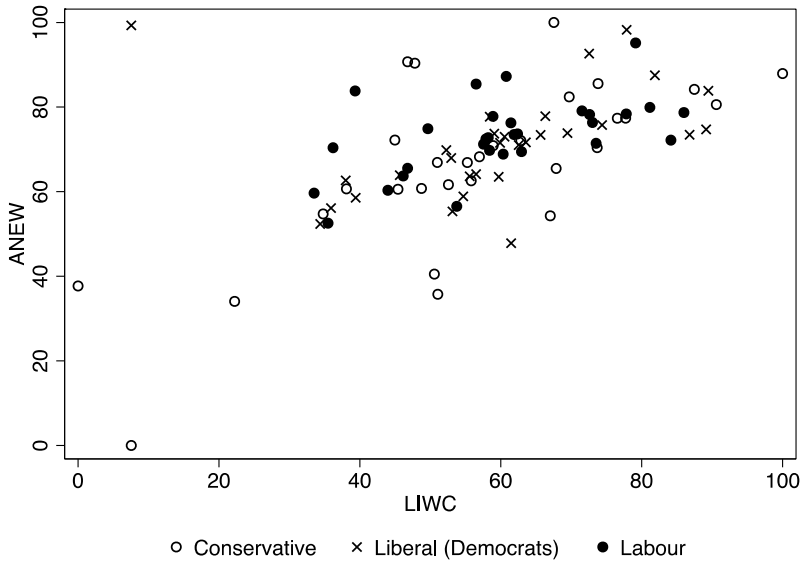


TABLE 4: *Models of Positive Affect across political texts using the LIWC Sentiment Dictionary*

	UK Party Manifestos	UK Party Leaders	US SOTUs
	(1)	(2)	(3)
Positive Affect$_{t-1}$	0.235**	0.106	0.121
	(0.107)	(0.144)	(0.171)
Polarization	-1.768**	-0.868*	-3.135**
	(0.870)	(0.510)	(1.369)
Econ. Growth	0.000	-0.031	1.055**
	(0.524)	(0.780)	(0.388)
Constant	49.010***	55.728***	68.357***
	(7.953)	(9.828)	(15.149)
N	87	106	35
R^2	0.203	0.041	0.390

Note: Standard Errors in Parentheses, *** p<0.01, ** p<0.05, * p<0.1,
The dependent variable ranges from 0 to 100 and measures positive affect in each text. The polarization measure ranges from 0 to 10 and it is measured using Wordscores for columns 1 and 2 and DWNominate for column 3.

Our analyses so far have shown the robustness of our findings using a variety of estimators, coding of the key variables but also alternative measurement techniques to capture valence. In the Online Appendix, we offer additional robustness checks related to alternative measures of Polarization (party ideology taken from the Comparative Manifesto Project), an alternative recoding of the dependent variable and alternative measures of economic conditions (i.e. Unemployment). The results we present lend credibility both to our theoretical expectations as well as the predictive validity of our valence measure.

Conclusion

In this paper, we have examined when politicians use valence or positive affect in their rhetoric. More specifically, we drawn upon recent work that examines the trade-offs between policy differentiation and endogenous party efforts to increase their valence (Serra, 2010; Meirowitz, 2008; Ashworth and De Mesquita, 2009) and the role of uncertainty in party decision-making (Robertson, 1976; Budge, 2001, Calvert, 1985; Adams, Merrill III and Grofman, 2005) to explain the conditions under which parties have greater incentives to employ positive affect in their rhetoric. The results favor our proposition that parties are less likely to engage in rhetorical *pathos* when they are politically distinct and when they are certain about voters' partisan preferences. In contrast, we show that when the party system offers similar policy offerings and when a large proportion of the electorate is undecided, party elites make greater use of valence to enhance the appeal of their pledges.

These findings are robust across political texts that vary both in scope and context. Our texts are scored using well known and widely validated psycholinguistic dictionaries (e.g. see Dodds and Danforth, 2010; Redondon et al., 2007; Soares et al., 2012). These dictionaries are context- independent and thus the subjects used to score the words do not

have politics in their mind when evaluating the ANEW sample of words or any other widely used affect lexicon. This makes our statistical tests a conservative test of our hypotheses. For this paper, we have shown that the replication with other widely used dictionaries (like the LIWC) lends additional credibility to our findings. Future work should explore the possible advantages of using crowd funded lexicons to measure sentiment in structured political texts. Also, supervised algorithms have shown promise in measuring sentiment in social media, political communications and micro-blogging. We do feel that this is a great avenue for the improvement of political communications measures and estimates.

There are some other caveats that warrant discussion; we have made a very important assumption throughout. We have considered political rhetoric at the macro level and have discounted different topics in each political text. Clearly, different parties own different issues and we might expect heterogeneous effects that are not possible to be captured with our analytical strategy. Moreover, our analysis has been limited to two English-speaking democracies. The ANEW dictionary is currently being validated in many other languages which may facilitate future large-N comparative analyses. Additional country cases can shed light to more mechanisms and allow to incorporate Comparative Manifesto Project data to measure party policy polarization. Moreover, by leveraging more countries we could also examine polarization at the voter level but also voter uncertainty regarding party positioning.

Our work has potentially broader implications for the study of party competition and democracy. There is a burgeoning literature that focuses not just on the policy positions of parties but also on non-policy attributes (see Grosclose, 2001; Serra, 2010; Adams and Merrill, 2009; Clark, 2014; Stone and Simas, 2010). One such attribute is the appeal to emotions. The way political parties present their policies matters. Political elites aim to convince voters and when they offer similar solutions to their problems, they pursue

strategies demonstrating that they are better able to deliver the proposed policy. As Aristotle argued, *pathos* is a necessary tool for effective persuasion.

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Appendix

TABLE A.1: *Regression models predicting Positive Affect from Polarization using random effects estimator without endogenous lag (Columns 1 and 4) and party fixed effects estimators with and without lags (Columns 2,3,5 and 6).*

	RE UK Party Manifestos	FE UK Party Manifestos	FE UK Party Manifestos	RE UK Party Leaders	FE UK Party Leaders	FE UK Party Leaders
Positive Affect$_{t-1}$	-	-	0.042	-	-	-0.087
	-	-	(0.113)	-	-	-0.102
Polarization	-1.349*	-1.347*	-1.314*	-1.166**	-1.176**	-1.366**
	(0.691)	(0.695)	(0.704)	(0.592)	(0.589)	(0.611)
Econ.Growth	0.736*	0.737*	0.733*	1.297	1.332*	1.436*
	(0.417)	(0.419)	(0.422)	(0.800)	(0.797)	(0.811)
Incumbency	7.370**	7.559**	7.464**	7.537**	5.560	5.359
	(3.504)	(3.569)	(3.598)	(3.555)	(4.104)	(4.187)
Constant	70.676***	70.609***	67.637***	54.793***	55.455***	61.356***
	(4.110)	(2.761)	(8.517)	(3.986)	(4.020)	(6.737)
N	90	90	87	109	109	106
R^2	0.0982	0.0981	0.103	0.0933	0.0910	0.0981

TABLE A.2: *Regression models predicting Positive Affect from Polarization and %Undecideds using alternative coding of the outcome variable and alternative measures of the key covariates.*

	UK Party Manifestos
PolarizationCMP	-0.102**
	(0.041)
%Undecided BES	0.519**
	(0.227)
Incumbency	-0.023
	(1.286)
Unemployment	-1.673*
	(0.981)
Constant	68.889***
	(2.848)
N	39
R^2	0.284

Note: Standard Errors in Parentheses, *** p<0.01, ** p<0.05, * p<0.1,

TABLE A.3: Descriptive Statistics for Model Specification appearing in main text

Manifesto Data	Mean	SD	Min	Max
Valence	70.02	15.13	0	100
Polarization	2.87	2.51	0	10
Growth	.087	4.10	-8.9	8.6
Undecided	22.68	7.26	11	34.16
Leadership Data				
Valence	55.02	18.24	0	100
Polarization	4.88	2.80	0	10
Growth	2.28	2.11	-5.2	5
Undecided	16.43	5.42	4	26
US SOTUs				
Valence	54.24	15.69	0	100
Polarization	4.73	2.44	0	10
Growth	.57	12.64	-4.19	5.08
Undecided	12.0	7.72	2	43