Valence attacks in multi-party elections[*]

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Abstract

When do political parties attack each other in multi-party systems? While prior research has shown that voters in these systems respond to attacks on the honesty, integrity, and competence of political actors, there is no conclusive research examining whether and how parties attack each other in elections across different countries. I argue that valence attacks are more likely to occur in multi-party systems when they appear legitimate to voters. I connect the vast literature on spatial party competition with the one on valence attacks to argue that incumbency and issue ownership increase the public perception of attack legitimacy, making attacks more likely and frequent. Using data from 18 recent elections in ten European countries, I show that valence attacks in multi-party systems focus on incumbents and are predominantly connected to substantive issues. Incumbents are 63% more likely to be the target of an attack and also receive significantly more attacks over the course of an election. This has important implications for our understanding of how parties compete against each other in elections.

Keywords: valence, attacks, parties, elections, incumbency, campaigns

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Introduction

In the final hours of the 2013 election campaign, a sitting member of the German Bundestag from the far-left party *Die Linke* insisted that there were so few character-based attacks in German elections because "in post-reunification German culture, the attacker would always turn out to be the loser" (Khazan, 2013). At their 2017 election convention, the leader of the German Social Democratic Party (SPD), Martin Schulz, proved this point. In an attempt to revitalize his failing campaign he directly attacked the character of chancellor Merkel, calling her governing style an assault on democracy. The resulting backlash in the media drowned out any policy impulse that could have come from the release of the party's manifesto. The SPD had hoped to set the agenda of the election with its policy proposals, but suddenly found itself on the back foot defending the attack on Merkel (Feldenkirchen, 2018).

One would expect such valence attacks – defined in this article, similar to Stone and Simas (2010) and Abney et al. (2013), as character-based attacks on the issue- or nonissue-related honesty, integrity or competence of parties – to be rare events in German elections. After all, Schulz himself went back and forth about attacking Merkel and voiced concerns regarding potential backlash to his campaign staff just minutes before he took the stage (Feldenkirchen, 2018). However, the opposite is true. For the 2009 and 2013 elections in Germany, the *Comparative Campaign Dynamics Project* (CCDP) (Debus, Somer-Topcu and Tavits, 2018) coded 157 and 159 valence attacks by German political parties, respectively. This means German newspapers reported, on average, five attacks per day for these two campaign periods. Other multi-party systems in Europe record even higher numbers.[1] This leaves us with conflicting information. On the one hand, we have common knowledge among candidates and journalists (e.g. Blake, 2012) and anecdotal evidence from campaigns that valence attacks in multi-party systems do not work and are risky for political parties (e.g. Campbell, 2015). On the other hand, we have the empirical reality that newspapers across

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[1]The total number of valence attack for every one month election campaign period in the CCDP data set ranges from 136 to 499, between 4.5 and 16.6 attacks per day. The mean is 268 which equals nine attacks per day in a given election.

countries and elections regularly document valence attacks by parties and candidates. This apparent contradiction between common knowledge and empirical reality raises the question of how political parties in multi-party systems engage in these attacks. Under what conditions do political parties use valence attacks in multi-party systems?

Valence attacks can give political parties a substantial electoral advantage (Abney et al., 2013), but they are also associated with substantial risks, such as backlash and spoiler effects,[2] that can negatively affect their public perception (Clark, 2009; Clark and Leiter, 2013). Extant research has focused on valence attacks in the two-party case of the U.S. but we know very little about valence attacks in multi-party systems (see Lau, Sigelman and Rovner (2007) and Nai and Walter (2016) for an assessment of the research gap). Studies in multi-party settings are less common and focus almost exclusively on case studies (e.g. Dolezal, Ennser-Jedenastik and Müller, 2016b). The predominance of single-country and election studies can explain the lack of consistent findings about valence in multi-party competition so far. For example, two key findings from the U.S., the role of incumbency and partisanship in attacks, have not been tested conclusively in multi-party systems (Djupe and Peterson, 2002; Lau and Pomper, 2004). Studies found that opposition parties are more likely to use valence attacks in Denmark (Hansen and Pedersen, 2008) and the Netherlands (Walter and van der Brug, 2013) but found the opposite in the United Kingdom (Walter, van der Brug and van Praag, 2013). While Abney et al. (2013) examine the electoral consequences of attacks on incumbents they never test whether those are actually more or less likely to be attacked. Similarly, research examining the attack behavior of European parties has found that the party family matters sometimes (Elmelund-Præstekær, 2010) but not always (Scammell and Langer, 2006). Conclusions from existing research may be an artifact of specific elections, countries, or conceptualizations of valence attacks. It may also be product of assumptions about the generalizability of findings from the U.S. to contexts that go beyond a candidate-

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[2]Backlash effects are negative consequences of an attack that hurt the attacking party, such as moral outrage among the voters. Spoiler effects are caused by third parties, that are uninvolved in an attack exchange, profiting from the benefits of the attack. The latter are unique to multi-party systems and illustrate why research from the two-party case cannot be easily transferred to the multi-party case.

centric two-party system.

I build on this literature and develop a theory about the strategic use of valence attacks in multi-party systems. The large number of parties and the post-election bargaining process of coalition government formation in multi-party systems increase the electoral uncertainty in these systems. This makes it difficult for parties to assess the consequences of their strategic campaign behavior in advance and increases the risk of unintended electoral consequences (Budge, 1994). Since parties need to weigh the costs and benefits of valence attacks, they will only use attacks in situations that minimize unintended consequences (Downs, 1957; Skaperdas and Grofman, 1995). I argue that this risk is minimized through attacks that appear *legitimate* to voters. Legitimate attacks are attacks that correspond to or are within the bounds of normal electoral behavior of political parties. Voters are used to this type of behavior and might even come to expect it from parties. This reduces the potential of electoral penalties.

I introduce three factors that are likely to increase the perceived legitimacy of valence attacks in multi-party systems: First, the target should be an incumbent. Incumbents implemented policies and set the government's priorities over the legislative period. A discussion of their record in office is arguably what elections are about. Voters read and hear critical assessments of incumbents all the time and hence valence attacks on them are more likely to appear legitimate. Second, the valence image of the target should be attacked in relation to an issue. Elections in multi-party systems is historically centered around spatial competition about ideology and issues. Issue-related valence attacks that follow this logic of electoral competition are more likely to be perceived as legitimate than nonissue-related valence attacks that focus only on the character and personality of candidates or parties. Third, the attacking party should use issue-related valence attacks that are associated with issues that *it owns.* Parties can strategically leverage their track record of attention to that issue. This issue attention makes them a credible advocate for it and can increase the perceived legitimacy of attacks.

Using a new dataset covering valence discussions of parties in 18 elections in ten European countries (Debus, Somer-Topcu and Tavits, 2018) I find that parties do in fact frequently attack each other in multi-party systems and that incumbents are roughly 63% more likely to receive attacks than opposition parties. I also demonstrate that the attack behavior of parties is concentrated on valence characteristics related to issues and not the nonissue-related valence image of incumbents. This evidence suggests that attack behavior in Europe is not separate from the programmatic electoral competition but conducted in close connection with the spatial position taking (Downs, 1957; Clark, 2009).

This study advances our understanding of election campaigns by establishing conditions under which parties are more or less likely to attack each other. It contributes to the growing literature examining strategic attack behavior by parties in multi-party systems. Previous research has mostly focused on the consequences of valence attacks, not on their causes (Lau, Sigelman and Rovner, 2007; Abney et al., 2013). A systematic examination of the dynamic determinants of valence attacks across a variety of multi-party systems and over time is lacking. Furthermore, it adds to the emerging literature on strategic intra-election party behavior (Jung and Tavits, 2018; Pereira, 2019; Somer-Topcu and Weitzel, 2020). As Abney et al. (2013) have highlighted, voters are substantially more likely to notice and respond to valence attacks during an election than before an election. How parties strategically use valence in elections has, however, not been examined comparatively. Lastly, this article also connects the large and well-developed literature on strategic ideological and issue competition of political parties with the literature on valence attacks. In two- and multi-party competition, the study of valence attacks has been detached from the rest of the electoral competition, without connections between issue positions and attack behavior (but see Clark and Leiter, 2013). I identify a link between policies and issues, which have been shown to be central in party competition, and the strategic use of valence attacks by parties.

Valence Attacks in Multi-Party Competition: A Question Of Legitimacy

According to spatial models, parties compete for votes, office, and influence over policy (Strøm and Müller, 1999) based on their ideological positions and specific issue emphasis (Downs, 1957; Adams, Merrill III and Grofman, 2005; Adams and Somer-Topcu, 2009; Pereira, 2019). However, a continued criticism of these models is that they neglect a second dimension of voter evaluations that goes beyond programmatic politics and focuses on valence traits (e.g. Stokes, 1992; Clark, 2009). This second dimension is concerned with voters perception of a party's or candidate's relationship to universally desirable traits, such as honesty, integrity, and competence. When casting her ballot a voter does not only think about the left-right or issue position of a party but also takes the valence image of the candidate into account and evaluates how close it comes to the ideal of an honest or competent politician (Stokes, 1992).

Research, predominantly focusing on the U.S., has shown that these public perceptions of the so-called valence image of political parties and candidates can be central for turnout (Ansolabehere, Iyengar and Simon, 1999; Brooks, 2006), voters' perception of their own efficacy (Ansolabehere and Iyengar, 1995) and even affect how much they trust political parties (Brader, 2005; Whiteley et al., 2015) or the political system (Leiter, Clark and Clark, 2019). All this influences the evaluation of parties and candidates and thereby their electoral performance (Adams et al., 2011; Abney et al., 2013; Green and Jennings, 2017; Johns and Kölln, 2019; Jung and Tavits, 2018).

Parties accordingly have an incentive to not only appeal to the voters with their ideology and policy proposals but also try to shape the public perception of their own and their competitors valence image. Findings from cognitive psychology show that negative messages are especially strong in their impact on individuals. They are more likely than positive messages to be noticed, elicit cognitive responses, be stored in memory, and affect behavior

(Rozin, Berman and Royzman, 2010; Soroka and McAdams, 2010). Parties hence have a strong incentive to attack the valence image of competitors with negative messages.

In this article, I follow Stokes (1992) in his conception of a party's valence image but differentiate between *nonissue-* and *issue-related* valence traits. Parties and candidates can be perceived, as Stokes (1992) argues, to have integrity, honesty or competence more generally. This I call the nonissue-related valence image of the party, such as "party i is dishonest". However, parties can also be perceived to be competent or honest with regard to a specific issue. This is what I call issue-related valence image, such as "party i is dishonest about its pension plans". I introduce this differentiation not because I believe that these two measures are not related. The issue-related and the nonissue-related valence image of a party are very likely strongly dependent. What a voter thinks about the overall valence image of a party or candidate likely affects what she thinks about the issue-related valence of the party and vice versa. The distinction is made in order to test whether parties use selective strategies to shape the overall valence image of their competitors. Do they try to change the public perception through attacks on the nonissue- or the issue-related valence image of a party or both?

This differentiation might be important for parties because valence attacks, while likely influential (Abney et al., 2013), can be a risky strategy in multi-party systems. A higher number of parties compete for votes and seats and this offers voters electoral options (Dalton and Flanagan, 2017; Polk and Kölln, 2017). Voters do not have to abstain from voting if they get alienated from their preferred party because it is actively or passively involved in valence attacks. Instead of not voting in the election they can support a viable third party that also is ideologically proximate to their own ideological position but not involved in the attacks. These third parties can benefit from attacks between two parties without ever paying the potential costs that are associated with them (Lau, Sigelman and Rovner, 2007; Nai and Walter, 2016). Attacking parties in two-party competition can accept alienating some of their own voters by using attacks as long as they push more supporters away from their

competitor. In multi-party competition, this tactic does not work and can inadvertently strengthen another competitor at the expense of the attacked as well as the attacking party.

Political parties, therefore, take a calculated risk when they attack each other in multi-party systems. Due to the strategic complexity and high uncertainty of elections with more than two competitors it is difficult to assess the costs and benefits of valence attacks in advance. However, parties can make use of valence attacks that systematically minimize the potential costs. This is the case when an attack is perceived by voters and the media to be legitimate and hence backlash and spoiler effects are less likely to occur.[3] *Legitimate attacks* are within the bounds of normal electoral behavior of political parties. Voters are used to this type of behavior and might even come to expect it from parties. This reduces the potential of unintended consequences and electoral penalties.

I argue that three factors increase the perceived legitimacy of a valence attack: first, the target should be an incumbent. Incumbents implemented policies and set the government's priorities over the last legislative period. Incumbents need to justify to voters why they deserve another term in office and will do so by outlining their vision for the next term, but also by highlighting their track record in office. A substantial literature on retrospective voting puts these evaluations of incumbent performance at the center of voter considerations when it comes to casting their ballot (e.g. Dassonneville and Lewis-Beck, 2013; Healy and Malhotra, 2013). An incumbent will therefore campaign on her achievements, stressing the obstacles she overcame and the goals she reached over the last term. Dutch prime minister Mark Rutte's 2017 re-election campaign, for example, was decidedly build around his ability to steer the country out of the financial crisis and reduce the Dutch unemployment rate (Serhan, 2017). The incumbents performance in office is, however, subject to debate. Voters constantly witness a public discourse about the state of the economy, public policy, and the

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[3]Valence attacks on parties or leaders that are engulfed in a scandal can also be perceived as legitimate and credible. However, scandals during elections are an exception and not the norm. For example, Hirano (2012) found that only 2.8% of all congressional incumbents between 1978 and 2008 were involved in scandals. Scandals are hence not a regular and strategic element of party competition and hence not the focus of this paper.

incumbent's performance in government from a variety of different actors (Seeberg, 2018). For example, in 2017 England's National Audit Office publicly criticized the state of the education system. A critique that was echoed by the school governors, who described the most recent education budget as "diabolic" and "catastrophic" (BBC, 2017).

Voters are used to these critical assessments of the policies and performance of incumbents and hence valence attacks on them are more likely to appear legitimate. A discussion and evaluation of the incumbents track record in office is fundamentally what elections in democratic systems are about (Powell, 2000). Attacks on the incumbent party are more likely to appear legitimate than attacks on non-incumbents. This leads to the first hypothesis that in multi-party competition incumbent parties should receive more valence attacks than non-incumbents.[4]

H1: *Incumbents are more likely to receive valence attacks than opposition parties.*

Second, the valence image of the target should be attacked in relation to an issue. In the example in the introduction from the 2017 German federal elections Schulz attacked Merkel, who was the incumbent chancellor at that time, but received an enormous wave of backlash. I argue that this was because it was not an attack on her governing record or specific policies she implemented while in office. Schulz's attack was ad hominem, he publicly questioned her character. The immediate backlash in the media shows that not every attack on an incumbent is perceived as legitimate. Attacks that solely focus on character attributes of the target are not well received in multi-party competition and carry the possibility of unintended consequences.

The multi-party systems of Europe are characterized by electoral competition that has predominantly focused on ideology, issues, and policy (Downs, 1957; Adams, Merrill III and Grofman, 2005). While elections in these party-focused systems are also experiencing a tendency to presidentialize, individuals and their personal traits are still not as central

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[4]This hypothesis has, as I have argued before, not been tested comparatively over multiple countries and years and existing research has produced conflicting findings (see Hansen and Pedersen, 2008; Walter and van der Brug, 2013).

(Samuels and Shugart, 2010). The ideological positions and policies parties emphasize remain at the core of elections and parties have an incentive to campaign on them. The historical focus of elections on ideology and policy makes discussions of individual valence traits less common and hence increases the risks of unintended consequences and electoral penalties. The public expectation of campaigns is one of policy discourse (Green, 2007).

While I hypothesize that incumbents get attacked more, parties are aware of the consequences they face when attacking only the person and not the person in connection with the content. Specifically, this means that issue-related valence attacks – that is attacks on an actors valence characteristics related to a specific issue or policy – appear more legitimate than nonissue-related valence attacks that solely focus on the individual valence traits of the party or candidate. This also ties together the opening quote that valence attacks are so rare in Germany with the empirical reality of frequent attacks. They are clearly not rare. Attacks are just rarely issued on individual candidates or parties alone but mostly connected with issues or policy and thereby appear as legitimate conduct in electoral competition. When politicians, the media, or the public condone valence attacks, as the member of *Die Linke* did, they condone nonissue-related valence attacks on individuals. It is not all attack behavior that is risky for political parties, it is attack behavior that is not connected to issues and thereby lacks legitimacy. Hence, my second hypothesis is that incumbents get attacked more on issue-related valence and not on nonissue-related valence.

> **H2:** *Incumbents are more likely than opposition parties to get attacked on issue-related than on nonissue-related valence.*

Third, the attacking party should use issue-related valence attacks that are associated with issues that *it owns*. Parties can leverage the credibility they have with issues that they own to make an issue-related valence attack appear more legitimate. A party owns an issue when voters consistently establish a connection between that issue and the political party (Petrocik, 1996; Riker, 1996). This can be done through a long-standing history of policy initiative, interest, and innovation by that party with respect to that issue. It is a connection

that is developed over time and does not just depend on the position a political party takes on that issue. Issue ownership stems from a party's track record of focus and attention to the issue. If a party owns an issue it can take advantage of its higher credibility with this issue in the election. A party's past commitments, policies, and priorities with respect to a given issue make it a legitimate and trusted advocate for that issue (Budge and Farlie, 1983). Research has shown that issue ownership can have a significant impact on voter behavior (Bellucci, 2006; Nyhuis, 2016) and associative issue ownership is stable and not easily stolen or transferred by other parties (Tresch, Lefevere and Walgrave, 2013; Seeberg, 2017). Research has also shown that voters do not readily follow parties accommodation strategies when it comes to valence attacks (Sio and Weber, 2014; Seeberg, 2020)

The attacking party can use its credibility and trust with respect to the issues that it owns to legitimize issue-related valence attacks on the opponent and reduce the risk of backlash or spoiler effects. The issue-related valence attack statement is backed up and supported by years of expertise and voters will hence be more likely to trust and believe the attacking party. Valence attacks related to issues that the opponent owns are riskier because the attacking party does not have the history of expertise and problem solving that may enhance the credibility and legitimacy of statements that it is making. Furthermore, these valence attacks not only lack the expertise that provides legitimacy, they are also a message that is unfamiliar to voters and that can contradict the behavioral expectations they have for the parties (Tresch, Lefevere and Walgrave, 2013). As soon as voters encounter messages that do not match their preconceived expectations they are more likely to question and reject them (Holian, 2004; Franchino and Zucchini, 2014). This can fundamentally increase the likelihood of unintended consequences and end up costing a political party support. My third hypothesis is that political parties are more likely to use issue-related valence attack against incumbents on issues that they own themselves.

> **H3:** *Incumbents are more likely than opposition parties to get attacked with issue-related valence attacks on issues that the attacking party owns.*

Empirical Analysis

I test my three hypotheses about the determinants of valence attacks in multi-party systems in two stages. First, I examine what explains variation in whether a political party attacks another party. Second, I focus on parties that received attacks and model variation in attack intensity. This analysis is done with data about electorally relevant valence discussions by political parties in 18 elections in ten countries.

Data

These data come from the *Comparative Campaign Dynamics Project* (CCDP) (Debus, Somer-Topcu and Tavits, 2018) and include valence statements from 60 parties in elections between 2005 and 2015. The CCDP is a new dataset with a comprehensive collection of party valence discussions in the one month period before election day for 21 election campaigns in 10 advanced industrialized multi-party democracies.[5] In this paper I use data from 18 of these 21 elections to test my hypotheses. The country-elections included in the analysis and the total number of attacks in every election are listed in Table 1.[6] For every one of the campaigns, research assistants code between 60-100 election-related articles each from the highest circulating center-left and center-right broadsheet newspaper. The data consist of all election relevant front page articles as well as a 5% random sample of all other election relevant articles from the newspaper.[7] A key feature of the data set is that it includes elections before and after the currency and fiscal crisis. The relevant observations in the CCDP are not articles or sentences, but valence statements made by political actors. The collection of daily newspaper articles is broken down to valence statement instances (did party i make a valence statement about party j). The coders evaluated each article by determining the sender (that is, the party that is speaking) and the receiver (that is, the party being

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[5]Country experts in Portugal recommended that the campaign period in Portugal is reduced to two weeks.

[6]Differences between the 21 available country-elections in the CCDP are due to the availability of polling data. Missing are Hungary 2010, Netherlands 2010, and Poland 2007.

[7]The newspapers the CCDP collected the articles from are listed in Table A2 in the Appendix and the survey used by the CCDP can be found in Section A3.

addressed) of all valence statements in a single article and coded whether the sender talked about the receiver in a positive or negative way.

Table 1 – Valence Attacks Totals in the Campaign Periods Coded by the CCDP

Election	Attacks	Election	Attacks	Election	Attacks
CZ 2010	166	ES 2008	283	PO 2011	499
CZ 2013	141	ES 2011	211	SV 2010	474
DE 2009	157	HU 2006	412	SV 2014	484
DE 2013	159	NL 2012	191	UK 2005	299
DK 2007	167	PL 2011	237	UK 2010	318
DK 2011	136	PO 2009	353	UK 2015	366

Newspaper articles are the ideal data to assess the content and tone of electoral campaigns. First, newspapers shape public perceptions about parties, candidates and elections and they report about relevant campaign events. Using them as the data source we get a collection of meaningful data points that we know are being noticed by voters. A data set focusing on direct campaign communication by parties through, for example tweets, campaign speeches, or press releases, would heavily oversample statements that do not feature prominently (or at all) in the decision-calculus of voters and other parties. More likely than not, the average voter only takes note of direct party communication when it features in the mainstream media and is reported about in the evening news or newspaper articles. Second, a data set based on newspapers articles not only measure events but also event intensity. Severe attacks or attacks that are very effective are likely to be reported multiple times and hence more likely to enter the data set than insignificant electoral events. Newspaper articles hence provide us with a data set of meaningful campaign communication data points that more likely than not reflect the subset of statements that is relevant for the decision-making processes of voters. Identifying sender and receiver of valence attacks in newspaper articles is computationally complex and the target of a specific attack can frequently only be deduced from the context of the overall article. Human coders perform superior to algorithms in determining sender-receiver relationships in these situations. The use of human coders is therefore currently superior to machine learning approaches. The data structure of the

CCDP follows predominant attack patterns and is inherently dyadic (Poast, 2016).

These data are combined with data on the ideological positions and electoral performance of political parties from the *Comparative Manifesto Project* (CMP) (Volkens et al., 2019) and data on party government participation from the *Parliaments and Governments Database* (ParlGov) (Döring and Manow, 2019). Due to the availability of polling data the unit of analysis in the resulting dataset is a *weekly* directed party dyad for the one month period before election day. Abney et al. (2013) have shown that valence statements before the campaign period have no impact on voter's evaluation of political parties but that valence statement within the intra-party period can have substantial effects on the electoral performance of parties. The one month period covered in the analysis covers this crucial intra-election period.

Table 2 illustrates the structure of the resulting data set for two parties in two election weeks. In this case, both versions of the directed dyad between Labour and the Conservatives in the 2015 British General Election (BGE) are shown for the second and the third week of the campaign. It includes monadic attributes of both sender and receiver (whether or not they were the incumbent party before the election) as well as dyadic attributes describing their relationship. All of the dyadic variables presented in Table 2 are measuring valence attacks, the dependent variables explained in the next section. The binary variable indicates whether the sender attacked the receiver at all in this week. The aggregated count version represents a total of all valence attacks, which can be further separated into issue- and nonissue-related valence attacks. In this example, the Labour Party attacked the Tories 25 times in week two of the 2015 British general election. Of those 25 attacks, 12 were issue related and 13 were non-issue related attacks. In this election, Labour was an opposition party and the Tories were the governing incumbent.

Table 2 – Dataset structure

Election	Week	Sender	Receiver	Valence Attacks (DV)				Incumbent	
				Binary	Agg.	Issue Related	Nonissue Related	Sender	Receiver
UK 2015	2	Labour	Tories	1	25	12	13	0	1
UK 2015	3	Labour	Tories	1	16	3	13	0	1
UK 2015	2	Tories	Labour	1	30	12	18	1	0
UK 2015	3	Tories	Labour	1	28	12	16	1	0

Note: Data structure for two election weeks in the 2015 BGE. Shown are monadic and dyadic attributes of the directed dyad pair between Labour and Conservatives.

Dependent Variable

Based on this dataset structure, the generalized linear models used in my empirical analysis can more formally be represented as:

$$y_{ijct} = \alpha + \beta \boldsymbol{Z}_{jct} + \gamma \boldsymbol{V}_{ict} + \delta \boldsymbol{X}_{ijct} + \epsilon_{ijct} \tag{1}$$

where y_{ijct}, the dependent variable, is a vector of dyadic outcomes. Since I examine directional party-dyads in election weeks, this variable consists of the valence attacks party i (the sender) used against party j (the receiver) in country c at week t in a given election. I conduct my analysis with six models that differ in how y_{ijct} is constructed.

The first version of y_{ijct} is a binary variable measuring whether or not a party received at least one valence attack from its dyad partner in a given week or not. As Figure 1a shows, the dependent variable in this case is 1 if an attack happened in an election week and 0 otherwise. The other five dependent variables are valence attack count variables used to test whether the attacked incumbents also receive more attacks (Figure 1b through f). These variables aggregate all valence attacks from party i used against party j in a given campaign week for instances where attacks actually occurred. Figure 1b shows the distribution of the counts of all valence attacks in the data set. In the second row are versions of y_{ijct} that differentiate the attacks party i used into issue-related (Figure 1c) and nonissue-related (Figure 1d) valence attacks. The CCDP provides this classification in its dataset. When the

coders enter a valence discussion into the coding questionnaire they also indicate whether this specific discussion was associated with an issue or not and classify it according to the CCDP issue categories.[8] In both cases the dependent variable is a count of the types of attacks. Finally, both panels in the third row show a subset of issue-related valence attacks. I separated the issue-related attacks into variables that count the valence attacks related to issues that the sender owns (Figure 1e) and related to issues that the receiver owns (Figure 1f). I follow Seeberg (2017) and adopt a weak version of issue ownership that does not assign issues to parties specifically but separates them across the ideological spectrum as issues that more closely belong to political parties on the left or on the right.[9] The dependent variables in Figure 1b through Figure 1f are subsets of the entire dataset. They only include counts when attacks actually occurred. It is important to note that the count variables are a weekly aggregate count of specific attack types in a dyad. They represent, for example, overall issue-related and nonissue-related counts that a party received by a specific competitor, in order to measure the determinants of overall valence attack occurrence and intensity.

Predictor Variables

Equation 1 shows that three sets of predictor variables are included in the model. $\boldsymbol{Z}_{jct}$ is a matrix of characteristics of the receiving party. Hypothesis 1 formulates expectations about the role of incumbency and party's attack behavior, which hypotheses 2 and 3 build on. In order to test these three hypotheses, the main predictor variable in all of my models is *Target is Incumbent*. It is a binary variable indicating whether the political party receiving the valence attacks in the dyad was in government right before the election or not. Since almost every country in the data had coalition governments during the time under study I code all parties in a coalition as incumbent parties.

An additional characteristic of the receiving party that can influence the attack behavior

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[8]A list of issue categories and images of the coding questionnaire used by the CCDP can be found in the Section A2 of the Appendix.

[9]The mapping of CCDP issues listed in Section A4 of the Appendix to Seeberg (2017) ownership classification is shown in Section A5.
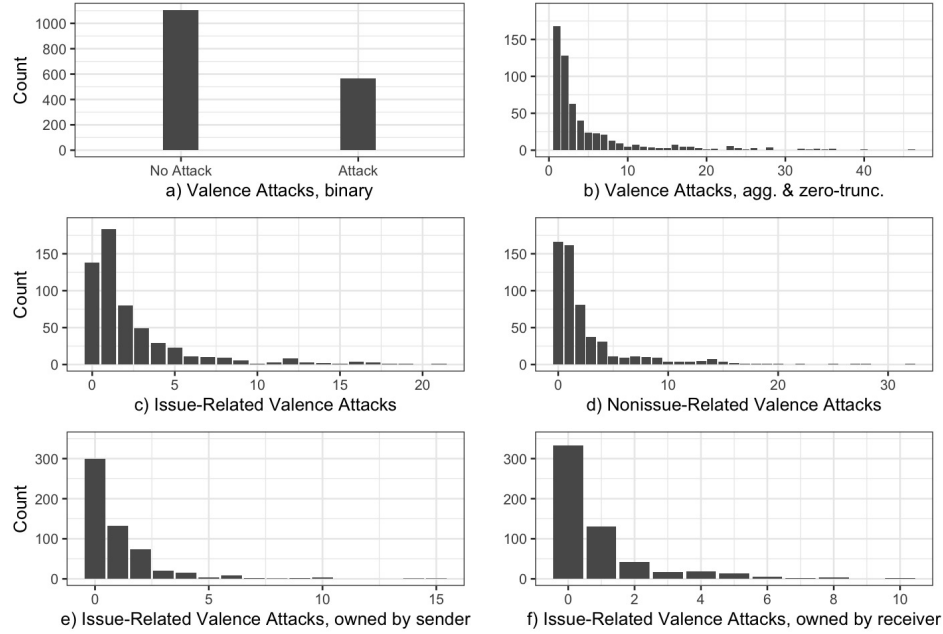
Figure 1 – Distributions of the Valence Attacks Dependent Variables

Note: Figure 1 depicts the six dependent variables in the analysis. Panel a) is a dummy indicating that there was a valence attacks in a directed party-dyad in a given week. Panels b) through f) show the distribution of counts in instances where valence attacks actually occurred in the weekly party-dyad. In this case, all variables are aggregated weekly valence attack counts. Panels e) and f) are subsets of c).

is its party type. It is possible that mainstream and niche parties experience different levels of attack behavior. Mainstream parties are usually larger parties, both with regard to their vote share and the issues or ideological space they cover (e.g. Somer-Topcu, 2014; Abou-Chadi and Orlowski, 2016). This makes them more central actors in the electoral competition. Research has shown that there exists significant variation in electoral strategies and behavior between mainstream and niche parties (Meguid, 2005; Meyer and Wagner, 2013). In order to control for this variation I include *Target is Niche*, a dummy indicating whether the receiver of attacks is a niche party.

The second set of predictor variables with controls is V_{ict}, a matrix of characteristics of the sender or attacking party. First, following Jung and Tavits (2018), who show that voters on the left are more likely to respond to valence attacks than voters on the right, I control for the ideological position of the attacking party in the current election, *Ideology of Sender*. The variable is based on the CMP ideology scores of the attacking party in the given election.

Second, a valence attack is most likely not an isolated campaign event, but embedded in a history of reciprocity (Dolezal, Ennser-Jedenastik and Müller, 2016*a*). I control for this potentially interactive nature by including a lagged version of the number of attacks the attacking party received from the dyad partner in the week before, *Attacks received$_{t-1}$*.

Finally, $\boldsymbol{X}_{ijct}$ is a matrix with dyad specific characteristics. The advantage of a research design with directed dyads is the ability to model dynamics between and characteristics of the relationship of the sender and receiver in the dyad. While this approach is frequently used in the study of inter-state conflict (for example Danilovic and Clare, 2007) inter-party conflict, such as valence attacks in campaigns, has so far not been studied comparatively in this way (but see Dolezal, Ennser-Jedenastik and Müller, 2016*b*). I use the dataset structure to measure expected electoral performance and ideological differences between parties in a dyad. $\Delta Poll$, *dyad* measures the difference in the expected electoral performance between the attacking and the attacked party in the current week. $\Delta Poll\ change$, *dyad* measures the change in the difference between the two parties since the last week. The polling data come from Jennings and Wlezien (2015) and Pereira (2019). $\Delta Ideology$, *dyad*, measures the ideological distance between the attacking and the attacked party. The variable is based on the CMP ideology scores of each party for this election.

Lastly, coalition governments are the norm in almost all multi-party systems. Parties know going into elections that they will have to rely on the electoral performance and willingness of other parties to form a government. I include *Coalition Potential*, a dummy variable taking the value 1 if voters in that election could have reasonably expected that the two parties form a government and 0 otherwise.[10]

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[10]Country experts were given a list of all party dyads in each elections and coded whether it was reasonable for voters to expect that the pair would prefer to form a government after the given election. For example, even though the Conservatives and the Liberals were in a coalition government in the UK from 2010-15 this was not a coalition voters would have expected prior to the negotiations. Hence the parties were coded as 0.

Estimation Strategy

Hypothesis 1 is tested using the two-step logic of the hurdle model (Mullahy, 1986). In the first step, event occurrence – whether or not an incumbent is getting attacked – is modeled with logistic regression. In the second step, a negative binomial count model is used to model event intensity in case of event occurrence. Hurdle models are particularly useful in situations with excess zeros and overdispersion (Ridout, Demétrio and Hinde, 1998). As Figure A6 in the Appendix shows this is the case with the valence attack data collected.[11] Hypotheses 2 and 3 are then tested with four more count models, depending on the distribution of the dependent variable negative binomial or poisson models are used.

To control for country and party system specific variation in the propensity to use valence attacks, I include country fixed effects in all models. Since I am using panel data for the four weeks of campaigning prior to election day, I include a variable controlling for the current campaign week. This variable also has an additional theoretical motivation. If risk assessment factors into a party's decision to go negative, then proximity to election day should increase the likelihood that parties in trouble resort to attacks to turn around their failing election campaign. As other, less risky campaign efforts bring no results, parties become more willing to accept the potential risks of a valence attack (Damore, 2002; Ridout and Holland, 2010).

Since I am using directed dyadic data, I need to control for the dependency structure between party observations. I follow Aronow, Samii and Assenova (2015) and apply a nonparametric sandwich estimator for dyadic clustering in generalized linear models. Lastly, I model directed dyad specific characteristics with several temporally stable variables in $\boldsymbol{X}_{ijct}$ that are theoretically motivated. In this case, the inclusion of dyad fixed effects in addition to country fixed effects and the weeks to election control is not necessary and would introduce multi-collinearity problems (Beck and Katz, 2001; King, 2001; Gilardi and Füglister, 2008).

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[11]This is similar to zero-inflated negative binomial model, which is reported in Table A16 in the Appendix.

Results

To reiterate the expectations formulated in the theory section, incumbents should be more likely to receive valence attacks. Specifically, they should be attacked with issue-related valence statements and be more likely to receive valence attacks related to issues that the attacking party owns.

Table 3 presents the results of two models testing hypothesis 1 about the effect of incumbency on valence attacks a party receives. Model 1 uses logistic regression for a more general examination of this relationship. The dependent variable is binary and indicates whether a party attacked another party in a given election week. The variable takes the value 1 if an attack happened and is 0 otherwise. The coefficients reported are log-odds. Should incumbency have an effect on a party's likelihood of receiving an attack in an election, we would observe coefficients greater than zero. Model 1 finds preliminary support for hypothesis 1. The incumbency status of the target does indeed have a substantively and statistically significant effect on attacks received. Exponentiating the coefficient we find that the odds of getting attacked are 63% higher for incumbents than opposition parties. Parties that are in government are significantly more likely to get attacked during an election than their counterparts.

Model 2 in Table 3 builds on this and tests hypothesis 1 with regard to the intensity of attacks for the subset of instances where attacks happened. The dependent variable counts the weekly valence attacks in directed party dyads given that attacks occurred and excludes all observations were no attacks happened between parties. Since this variable is a count with unequal mean and variance that excludes zeros I am estimating a zero-truncated negative binomial model. Model 2 finds further support for hypothesis 1: The expected log count of incumbency is 0.279. Exponentiating the coefficient, we find that the incumbents that were attacked receive 32% more valence attacks than opposition parties. The effects of incumbency in models 1 and 2 are statistically and substantively meaningful. Incumbents are more likely to be attacked and, conditional on being attacked, the intensity of attacks is

also higher.

Table 3 – Valence Attacks and Incumbency

	(1)	(2)
	Attacks (1 = yes)	Attacks, number of
	Logit	*Neg. Bin., trunc.*
Target is Incumbent	0.487*	0.279*
	(0.227)	(0.132)
ΔPoll, dyad	−0.005	−0.012*
	(0.007)	(0.004)
ΔPoll change, dyad	0.007	−0.031
	(0.054)	(0.017)
Ideology of Sender	0.007	−0.005
	(0.006)	(0.007)
ΔIdeology, dyad	0.008	−0.000
	(0.007)	(0.003)
Target is Niche	−1.155*	−0.704*
	(0.267)	(0.119)
Coalition Potential	−0.965*	−0.582*
	(0.397)	(0.196)
Weeks to Election	0.012	−0.063
	(0.071)	(0.058)
Attacks received$_{t-1}$	0.325*	0.070*
	(0.093)	(0.016)
Constant	1.090	1.402*
	(0.717)	(0.311)
Country Fixed Effects	Yes	Yes
Dyad Robust SE	Yes	Yes
N	1,672	566
Log Likelihood	−822.267	−1,183.354
AIC	1,682.533	2,404.708

Note: *$p < .05$, Reported are log odds for model 1 and expected log counts for model 2. The unit of observation are directed party dyads in campaign weeks.

The models in Table 4 test the second and third hypotheses. All four models have count dependent variables and the same general specification as the models in Table 3. The variance of the dependent variable in the first two models is in both cases substantially larger

than their means and I estimate negative binomial regression models. For models 5 and 6 the mean and the variance are roughly equal and I use poisson regression.

Models 3 and 4 compare the role of issue- and nonissue-related valence attacks and provide evidence in support of hypothesis 2. The dependent variable for model 3 are all issue-related valence attacks a political party used against a competitor. The coefficient for the key independent variable, *Target is Incumbent* shows that parties are significantly more likely to attack incumbents with valence statements they connected to issues. The expected log count of issue related valence attacks for incumbents is 0.316, which means that incumbents receive 37% more issue-related valence attacks than opposition parties. However, when it comes to non-issue related attacks there is no difference between incumbents and opposition parties. Model 4 shows that the coefficient for attacks is substantively very small and statistically not significant at any of the conventional levels. Parties attack incumbents more frequently and they do so with issue-related valence attacks.

Finally, models 5 and 6 test hypothesis 3 about the role of issue ownership in attack behavior. I find support for my expectations that parties attack their opponents with valence statements they connected to issues that they themselves own. The effect of incumbency in model 5, the model using sender-owned issues, is statistically and substantively significant. The expected log count for attacks on incumbents with sender-owned issue-related valence attacks is 0.539. Incumbents receive 71% more sender-owned issue-related valence attacks than opposition parties. For attacks with receiver-owned issues, model 6 in Table 4, no differences between incumbents and opposition parties emerge. The effect is neither statistically nor substantively significant.

Table 3 and Table 4 also present further insight into the dynamics of valence attacks in multi-party systems. Niche parties and parties with future coalition potential are substantially less likely to receive attacks. It seems to be the case that political parties keep coalition bargaining costs in mind during their campaigns. There is also a strong component of reciprocity to attack behavior in all models. Parties that were attacked in one week are

more likely to retaliate in the next week. Surprisingly, both performance variables as well as proximity to elections and ideology appear to have no consistent significant impact on a party's decision to attack a competitor with valence statements or not.

To conclude, I have found empirical support for all three of my hypotheses. The first two models showed that incumbents are more likely to be attacked and to receive a higher volume of attacks. The last four models demonstrated that these attacks are designed with a purpose. Political parties concentrate their attacks on incumbents with statements related to issues. More specifically, parties attack the governing parties on issues that they themselves own.[12]

Robustness Checks

I run several models to test the robustness of my findings to alternative specifications of key independent variables and the estimation strategy. In the models in Table 3 and 4 I code incumbency for all members of the government for coalition governments. In Tables A9 and A10 in the Appendix I use a stricter measure of incumbency and code only the party with the prime minister or chancellor as the incumbent party. The results remain the same. The issue ownership coding in this article is based on Seeberg (2017) and the mapping of the CCDP issues to Seeberg's issue ownership is explained in Section A4 of the Appendix. In Table A11 of the Appendix I use an alternative coding of the issues that changes the

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[12]The mechanism underlying the theoretical argument is legitimacy. In Table A8 in the Appendix I present the results of linear regression models testing the effect of different types of attacks on the polling performance of the attacking political party. If legitimacy is a concern of political parties we should observe positive effects of valence attacks that are more likely to be perceived legitimate on the party's polling performance in the second week. We should also observe negative effects on polling performance for attacks that are less likely to be perceived legitimate. The results show that issue-related valence attacks are associated with an increase in polling performance in the next week. The same goes for issue-related valence attacks that are owned by the sender, albeit the effect is not statistically significant in this model. Nonissue-related attacks and attacks on issues that the receiver owns (attacks that have lower levels of legitimacy) have no statistical effect on the future polling performance of a party. Given that Jung and Tavits (2018) and Somer-Topcu and Weitzel (2020) have demonstrated that the effects of valence attacks on vote choice are highly conditional on partisanship and ideology, this is strong evidence in support of the legitimacy argument.

Table 4 – Valence Attacks and Issue Ownership

	(3)	(4)	(5)	(6)
	Issue-Related	Nonissue Related	Sender Owned	Receiver Owned
	Neg. Bin.	*Neg. Bin.*	*Poisson*	*Poisson*
Target is Incumbent	0.316*	0.049	0.539*	0.178
	(0.118)	(0.128)	(0.054)	(0.218)
ΔPoll, dyad	−0.015*	−0.006	−0.017*	−0.015
	(0.005)	(0.004)	(0.006)	(0.009)
ΔPoll change, dyad	−0.033*	−0.021	−0.005	−0.016
	(0.012)	(0.021)	(0.020)	(0.030)
Ideology of Sender	−0.002	−0.008	−0.0004	0.011
	(0.004)	(0.008)	(0.006)	(0.009)
ΔIdeology, dyad	0.002	−0.005	0.005	0.009
	(0.002)	(0.004)	(0.003)	(0.006)
Target is Niche	−0.704*	−0.633*	−0.589*	−0.793*
	(0.181)	(0.163)	(0.121)	(0.243)
Coalition Potential	−0.329*	−0.359*	−0.065	0.039
	(0.158)	(0.158)	(0.300)	(0.211)
Weeks to Election	−0.004	−0.071	−0.224*	0.178*
	(0.036)	(0.061)	(0.045)	(0.080)
Attacks received$_{t-1}$	0.105*	0.103*	0.089*	0.121*
	(0.024)	(0.018)	(0.016)	(0.029)
Constant	0.099	1.319*	−1.195*	−1.716*
	(0.308)	(0.348)	(0.561)	(0.297)
Country Fixed Effects	Yes	Yes	Yes	Yes
Dyad Robust SE	Yes	Yes	Yes	Yes
N	566	566	566	566
Log Likelihood	−1,008.337	−996.001	−737.371	−650.140
AIC	2,054.673	2,030.002	1,512.741	1,338.280

Note: *p < .05, Reported are expected log counts. The unit of observation are directed party dyads in campaign weeks.

coding for Internationalism and Foreign Intervention. Changing the coding of these issues that might not be clearly assigned to parties across all party systems does not change the results. The models in this manuscript are estimated with country/political system fixed effects. It is possible that the relevant unobserved heterogeneity is not necessarily at the system- but at the campaign-level. Tables A12 and A13 show that replacing the country fixed effects with campaign fixed effects yields identical results. It is also possible that attack behavior is driven by the ideology of the receiver and not the sender. Tables A14 and A15 in the Appendix replace the ideology control variable and show that this is not the case. An alternative approach to a hurdle model for Models 1 and 2 in in Table 3 is a single zero-inflated negative binomial regression models. Table A16 in the Appendix shows the results using this approach remain similar. I use the hurdle model due to its ease of presentation and discussion of the two stages. Lastly, the dependency structure in directed dyadic data can also be taken into account with hierarchical models (e.g. Gelman and Hill, 2012). Tables A17 and A18 replicate the six models in this article as hierarchical models using the dyad ID as grouping variable. Once more, the results remain robust.

Conclusion

When Martin Schulz took the stage in 2017 to issue the attack on Merkel described in the introduction, he knew that he was playing with fire. On his way to the podium he discussed, once more, with his staff whether the attack was a good idea (Feldenkirchen, 2018). The SPD's campaign needed a boost and was hoping that a valence attack would give them just that. However, at that point in the campaign Schulz was too focused on Merkel and launched an attack too much out of the ordinary. It was a nonissue-related valence attack on Merkel as a person, uncommon in the multi-party systems of Europe and not perceived to be legitimate conduct by parties in an election. The concerns Schulz had about the attack make clear that he was aware of this and anticipated possible backlash.

Parties, candidates, and pundits might claim that attacks like that are a rare occurrence in multi-party systems and fundamentally frowned upon. However, my results show that attacks are used frequently and systematically in a broad variety of different electoral and party systems across Europe. While pure ad hominem attacks are indeed rare, parties frequently attack the valence image of their competitors in connection with issue discussions. Using data about valence attacks in 18 campaigns, I demonstrate how parties attack each other: in Europe they are likely to use valence attacks when these attacks are more likely to appear legitimate. Valence Attacks focused on incumbents and related to issues, especially to issues that the attacking party owns, resemble the predominant style of programmatic electoral competition in these systems and are less likely to face unintended consequences. For example, Schulz not only attacked Merkel personally but also issued several attacks against the policy proposals of the CDU, FDP, and AfD during his speech. At no point in the election campaign did these types of attacks spark outrage, because they were issue-related. These attacks were not perceived to be out of the ordinary and accepted by competitors, journalists, and voters as normal conduct in an election. Parties appear to know this and issue far more valence attacks that are linked to issue discussions than pure character-based attacks.

My findings contribute to the growing literature on valence attacks in multi-party competition (e.g. Nai and Walter, 2016). Furthermore, I connect this literature with the extensive literature on spatial and issue competition by highlighting that parties can not only attack each other on issues or valence but also use valence attacks that are explicitly connected with issue discussions. Defining valence attacks in a way that only includes incivility, profanity, or ad hominem attacks might miss key elements of strategic party behavior in multi-party competition. With up to 16 valence attacks per day parties incorporate valence attacks into their electoral strategies regularly. This article demonstrates how political parties are doing it. Lastly, this article adds to the literature focusing on intra-election and not inter-election behavior of political parties by examining valence attack patterns during 18 campaigns (Abney

et al., 2013; Jung and Tavits, 2018; Pereira, 2019; Somer-Topcu and Weitzel, 2020).

A natural extension of this research is an examination of the electoral consequences of valence attacks within campaigns. Both Jung and Tavits (2018) as well as Somer-Topcu and Weitzel (2020) use the *CCDP* data to examine the conditional responsiveness of voters to valence attacks, finding that voter behavior is conditional on ideology (Jung and Tavits, 2018) or co-partisanship Somer-Topcu and Weitzel (2020). Still, my differentiation between issue- and nonissue-related attacks is novel, and voter responsiveness to attacks might also be conditional on attack legitimacy. Several of my results demand further attention. The strong element of reciprocity in attack behavior is an interesting dynamic. Social Relations Models could determine if this reciprocity is sender- or receiver-initiated. Another consistent relationship that was established in this analysis is the difference in attacks received between niche and mainstream parties. Research has shown that niche and mainstream parties differ in how they compete spatially (Meguid, 2005; Adams et al., 2006). My results suggest that they also differ systematically in their attack behavior. Key predictors of valence attacks in the two-party case of the United States, such as ideology and polling performance, appear to have no consistent effect on attack behavior. This raises questions about system-specific variation in valence attacks and the applicability of findings from the U.S. research to multi-party systems.

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1   Appendix

A1   Summary Statistics

Table A1 – Summary Statistics

Statistic	N	Mean	Median	St. Dev.	Min	Max
Valence attack, binary	1,672	0.339	0	0.473	0	1
Valence attack, aggregated	1,672	1.721	0	4.632	0	46
Valence attack, nonzero	566	5.085	2	6.806	1	46
Issue valence attacks	566	2.433	1	3.349	0	21
Nonissue valence attacks	566	2.652	1	4.197	0	32
Sender-owned issue attacks	566	1.037	0	1.797	0	15
Receiver-owned issue attacks	566	0.876	0	1.537	0	10
Valence attacks, received	1,672	1.717	0	4.632	0	46
Issue valence attacks, received	1,672	0.821	0	2.262	0	21
Nonissue valence attacks, received	1,672	0.895	0	2.744	0	32
Target is Incumbent	1,672	0.325	0	0.468	0	1
Target is PM	1,672	0.120	0	0.325	0	1
Target is Niche	1,672	0.678	1	0.468	0	1
Dyad Poll, dist.	1,672	0.053	0	16.826	−45.418	45.418
Dyad Poll, change	1,672	−0.002	−0	1.651	−12.444	12.444
Ideology of Sender	1,672	−7.800	−7.789	18.265	−52.670	51.724
Ideological dist., dyad	1,672	−0.014	−0.254	25.039	−97.142	97.142
Coalition Potential	1,672	0.250	0	0.433	0	1
Weeks to Election	1,672	2.481	2	1.059	1	4

A2   Newspapers in the CCDP

Table **A2** – Newspapers in the CCDP

Country	Years	Left-Leaning Daily	Right-Leaning Daily
Czech Republic	2010, 2013	Právo	Mladá fronta Dnes
Denmark	2007, 2011	Politiken	Jyllands-Posten
Germany	2009, 2013	Süddeutsche Zeitung	Frankfurter Allgemeine
Hungary	2006, 2010	Népszabadság	Magyar Nemze
Netherlands	2010, 2012	de Volkskrant	De Telegraaf
Poland	2007, 2011	Gazeta Wyborcza	Rzeczpospolita
Portugal	2009, 2011	Público	Jornal de Notícias
Spain	2008, 2011	El País	El Mundo
Sweden	2010, 2014	Dagens Nyheter	Aftonbladet
UK	2005, 2010, 2015	The Guardian	The Daily Telegraph

A3   The Comparative Campaign Dynamics Survey

The following three images show the survey used by the CCDP. Coders indicated party, issue, issue type, issue direction, and issue- and nonissue-related valence.

Figure A1 – CCDP Survey Image 1

Figure A2 – CCDP Survey Image 2

Figure A3 – CCDP Survey Image 3

A4   CCDP Issue Categories

The two figures below show the issue classifications from the *Comparative Campaign Dynamics Project*. The classification is taken from Debus, Somer-Topcu and Tavits (2018).

Figure A4 – CCDP Issue categories

Variable	Identification
subject	Party making statements on its issue positions, issue-related valence, and general valence (country-specific party code, see Appendix, Table A1)
statement_type	Type of statement made - *SelfIssue* (purely issue-related standpoint) - *SelfIssueVal* (issue-related valence) - *SelfVal* (general valence) - additional country-specific values (*see 6.3*)
var_value[8]	Content of statement, dependent on statement_type. For *statement_type*== - **(Self-/Other)Issue**: Policy area *1 – Taxes* *2 – Social Policy/Public Services* *3 – Inflation* *4 – Unemployment* *5 – Other Economic Performance* *6 – Centralization vs. Regional Autonomy* *7 – Environment* *8 – Immigration, Asylum* *9 – Justice System* *10 – Law and Order, Security, Terrorism* *11 – National Way of Life* *12 – Traditional Morality, Family Values, Religion* *13 – Europe/EU* *14 – Internationalism (not EU)* *15 – Foreign Intervention* *16 – Agriculture/Rural Affairs* *99 – Other Issue* *(for additional country-specific issue domains see Table 11)* - **IssueVal**: (issue-related) Valence category *1 – Party/government honesty/integrity* *2 – Party/govt (past, current, future) competence/performance* *3 – Party/government unity* *4 – Leader honesty/integrity/character* *5 – Leader (past, current, future) competence/performance* *6 – Leader charisma* *7 – Other* - **SelfVal**: Valence category *1 – Party/government honesty/integrity* *2 – Party/govt (past, current, future) competence/performance* *3 – Party/government unity* *4 – Leader honesty/integrity/character* *5 – Leader (past, current, future) competence/performance* *6 – Leader charisma* *7 – Other* - additional country-specific values (*see 6.3*)
direction	Direction of statement made *-1 – negative* *0 – neutral* *1 – positive* *99 – contradictory statement*
valen_issue	Issue/policy area related to issue valence statements: See codes for var_value if *statement_type* == *Issue* (only applicable for *statement_type* == *IssueVal*)

Figure A5 – CCDP Social Policy Issue categories

Variable	Identification
socialPol	Social policy issue/area sub-code (only applicable for statements on social policy, i.e., *issue area==2*) - 1 – Education - 2 – Health Care - 3 – Elderly care/pensioners - 4 – Public Housing - 5 – Public Transportation - 6 – Minimum Wage - 7 – Social Security - 8 – Childcare - 9 – Youth - 10 – Other family policies - 99 – Other social policy/public services (for country-specific issue domains see Table 11)
socialPol_spend_dir	Direction of social policy statement (only applicable for statements on social policy, i.e., *issue area==2*) - -1 – decrease spending - 0 – neutral - 1 – increase spending - 99 – contradictory statement
dominant_issue	Dominant issue in the article, i.e., the issue an article focuses on. The issue categories are identical to those of the parties' statements; *see above*
dominant_issue_social	Dominant issue in the article, in the case of a social policy issue being the main issue (*dominant_issue==2*); for issue categories, *see above*

A5   Matching CCDP and Seeberg Issue Categories

The following five tables categorize the issues and issue codes from the *Comparative Campaign Dynamics Project* into left- and right-wing issues based on Seeberg (2017). The tables show the issue codes used by the CCDP.

Table A3 – Left-wing CCDP Issues

| | Issue Code | | |
Issue Category	All Campaigns	UK0510	UK15
Social Policy/Public Services	2	2	2
Unemployment	4	4	4
Environment	7	6	7
Education	2	2	2
Health Care	2	2	2
Elderly care/pensioners	2	2	2
Public Housing	2	2	2
Public Transportation	2	2	2
Minimum Wage	2	2	2
Social Security	2	2	2
Childcare	2	2	2
Youth	2	2	2
Other family policies	2	2	2
Other social policy/public services	2	2	2
Gender Equality (Sweden only)	17	*NA*	*NA*

Table A4 – Left-wing CCDP Issues - Alternative Coding

| | Issue Code | | |
Issue Category	All Campaigns	UK0510	UK15
Social Policy/Public Services	2	2	2
Unemployment	4	4	4
Environment	7	6	7
Internationalism (not EU, not Intervention)	14	13	14
Education	2	2	2
Health Care	2	2	2
Elderly care/pensioners	2	2	2
Public Housing	2	2	2
Public Transportation	2	2	2
Minimum Wage	2	2	2
Social Security	2	2	2
Childcare	2	2	2
Youth	2	2	2
Other family policies	2	2	2
Other social policy/public services	2	2	2
Gender Equality (Sweden only)	17	*NA*	*NA*

Table A5 – Right-wing CCDP Issues

	Issue Codes		
Issue Categories	**All Campaigns**	**UK0510**	**UK15**
Taxes	1	3	1
Inflation	3	1	3
Immigration/Asylum	8	7	8
Justice System	9	8	9
Law and Order	10	9	10
National Way of Life	11	10	11
Traditional Morality	12	11	12
Europe/EU	13	12	13
Foreign Intervention	15	*NA*	*NA*
Agriculture/Rural Affairs	16	14	15

Table A6 – Right-wing CCDP Issues - Alternative Coding

	Issue Codes		
Issue Categories	**All Campaigns**	**UK0510**	**UK15**
Taxes	1	3	1
Inflation	3	1	3
Immigration/Asylum	8	7	8
Justice System	9	8	9
Law and Order	10	9	10
National Way of Life	11	10	11
Traditional Morality	12	11	12
Europe/EU	13	12	13
Agriculture/Rural Affairs	16	14	15

Table A7 – Issues in the CCDP that were not assigned left- or right-wing ownership

Issue Categorie	Issue Code		
	All Campaigns	UK0510	UK15
Other Econ. Performance	5	*NA*	5
Centralization/Regional Autonomy	6	*NA*	6
Other Issue	99	99	99
Corruption	CZ 17, PL 19, PT 17		

Several country-specific issues were not classified on the left-right dimension. They are listed with country and issue code: Hungarians outside the country (Hungary 18), Constitutional changes (Czech Republic 18), Communist Past (Poland 17), Smolensk Accident (Poland 18), Bailout/austerity measures (Portugal 18).

A6   Figures of the dependent variables including zeros

Figure A6 – Distribution of Valence Attacks with zeros
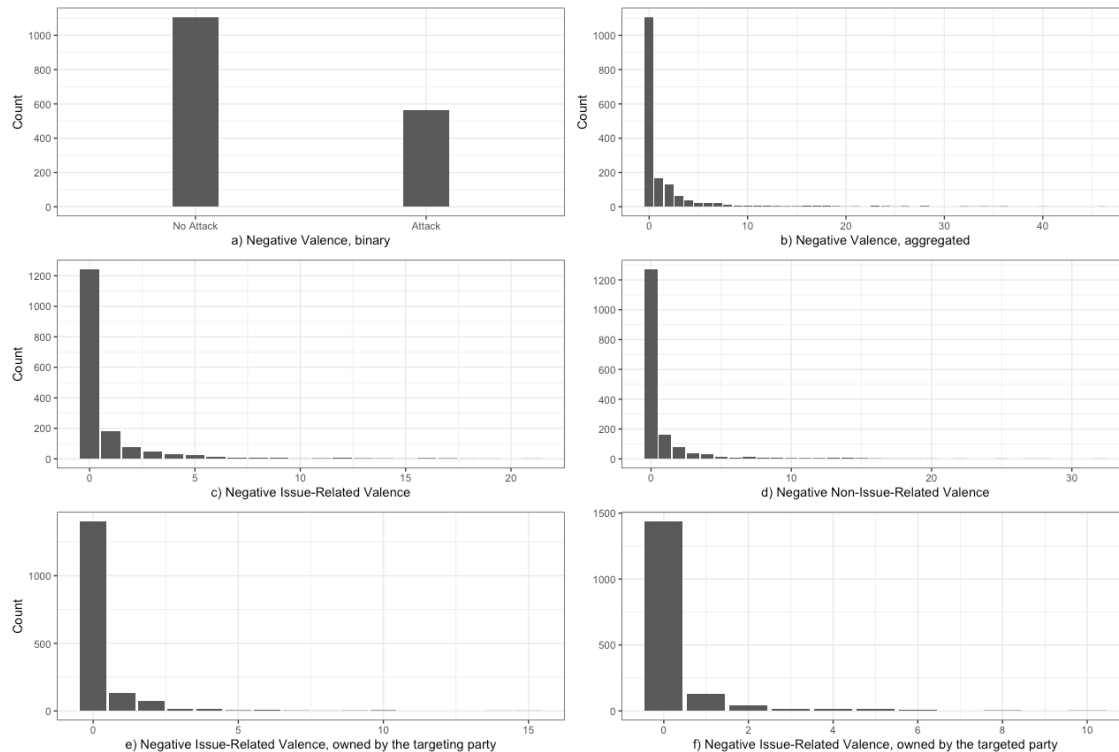
A7   Testing the mechanism

Table A8 presents a preliminary test of the mechanism of legitimacy. The dependent variable is polling performance of a political party and the key independent variable is the number of valence attacks issued by that political party in the week before. The standard errors are clustered at the party-level.

Table A8 – Testing the mechanism of legitimacy

	Change in polling performance			
	Issues	Nonissues	Sender Owned	Receiver Owned
Issue attacks	0.043*	0.011	0.044	−0.001
	(0.020)	(0.019)	(0.038)	(0.033)
Poll, lag	−0.023*	−0.017	−0.016	−0.015
	(0.010)	(0.009)	(0.010)	(0.009)
Delta Poll, lag	0.110	0.124	0.133*	0.126
	(0.065)	(0.065)	(0.066)	(0.065)
Attacks received	0.004	0.006	0.005	0.008
	(0.009)	(0.009)	(0.009)	(0.009)
Weeks to Election	0.038	0.033	0.036	0.027
	(0.091)	(0.092)	(0.096)	(0.091)
Constant	0.372	0.290	0.333	0.325
	(0.478)	(0.486)	(0.489)	(0.483)
N	228	228	221	228
R^2	0.054	0.036	0.040	0.034

*$p < .05$, The DV is change in polling performance and estimated with OLS.

A8   Replication with Prime Minister Coding

This section demonstrates that the results in the manuscript are robust to changing the definition of incumbency. In the manuscript all parties in a governing coalition were included in the incumbency coding. The two tables use a incumbency variable that only includes the prime minister or chancellor party as the incumbent. The results remain similar.

Table A9 – Valence Attacks and Incumbency with PM coding

	(1)	(2)
	Attacks (1 = yes)	Attacks, number of
	Logit	*Neg. Bin., trunc.*
Target is PM	0.647*	0.367*
	(0.281)	(0.151)
Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Dyad RSE	Yes	Yes
N	1,672	566
Log Likelihood	−823.171	−1,182.477
AIC	1,684.341	2,402.954

*p < .05, Reported are log odds for model 1 and expected log counts for model 2. All controls from main models included.

A9   Replication with different issue codings

The effect of alternative issue codings is tested in the table below. The table replicates models 5 and 6 in Table 4. Now issues that were included in the CCDP but are not listed in Seeberg (2017) classification are changed to alternative classifications. Coding Internationalism as a left-wing issue and dropping Foreign Intervention from the right-wing issues does not change the substantive conclusions of the models in the text.

Table A10 – Valence Attacks and Issue Ownership with PM coding

	(3)	(4)	(5)	(6)
	Issue Related	Nonissue Related	Sender Owned	Receiver Owned
	Neg. Bin.	*Neg. Bin.*	*Neg. Bin.*	*Neg. Bin.*
Target is PM	0.353*	0.208	0.527*	0.462
	(0.149)	(0.115)	(0.064)	(0.287)
Controls	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
Dyad RSE	Yes	Yes	Yes	Yes
N	566	566	566	566
Log Likelihood	−1,009.398	−994.308	−698.496	−647.368
AIC	2,056.796	2,026.615	1,434.992	1,332.736

$^*p < .05$, Reported are expected log counts. All controls from main models included.

Table A11 – Valence Attacks and Issue Ownership With Different Issue Classifications

	Version 2	
	Sender Owned	Receiver Owned
	(1)	(2)
Target is Incumbent	0.586*	0.120
	(0.061)	(0.214)
Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Dyad RSE	Yes	Yes
N	566	566
Log Likelihood	−732.896	−635.056
AIC	1,503.791	1,308.112

$^*p < .05$. Reported are expected log counts.

A10   Replication with Campaign-Fixed Effects

All models in the manuscript are estimated with country fixed effects that control for unobserved country or party system variation. The models can also be estimated with fixed effects that control for unobserved heterogeneity in elections. The results are presented below and the conclusions remain the same.

Table A12 – Valence Attacks and Incumbency with Campaign Fixed Effects

	(1) Attacks (1 = yes) *Logit*	(2) Attacks, number of *Neg. Bin., trunc.*
Target is Incumbent	0.539*	0.285*
	(0.221)	(0.137)
Controls	Yes	Yes
Campaign Fixed Effects	Yes	Yes
Dyad RSE	Yes	Yes
N	1,672	566
Log Likelihood	−809.788	−1,171.075
AIC	1,673.576	2,396.150

*p < .05, Reported are log odds for model 1 and expected log counts for model 2. All controls from main models included.

Table A13 – Valence Attacks and Issue Ownership with Campaign Fixed Effects

	(3)	(4)	(5)	(6)
	Issue Related	Nonissue Related	Sender Owned	Receiver Owned
	Neg. Bin.	*Neg. Bin.*	*Neg. Bin.*	*Poisson*
Target is Incumbent	0.306*	0.071	0.459*	0.117
	(0.126)	(0.129)	(0.080)	(0.233)
Controls	Yes	Yes	Yes	Yes
Campaign Fixed Effects	Yes	Yes	Yes	Yes
Dyad RSE	Yes	Yes	Yes	Yes
N	566	566	566	566
Log Likelihood	−1,000.527	−981.839	−676.635	−670.542
AIC	2,055.053	2,017.679	1,407.271	1,395.083

$^{*}p < .05$, Reported are expected log counts. All controls from main models included.

A11   Ideology of Receiver

The following two tables replicate Table 3 and Table 4 in the manuscript. They replace the variable controlling for the ideology of the sender of the valence attacks with the ideology of the receiver of the valence attack. The results remain similar and the substantive conclusions do not change. All controls from the initial model are included.

Table A14 – Valence Attacks and Incumbency with Receiver Ideology

	(1)	(2)
	Attacks (1 = yes)	Attacks, number of
	Logit	*Neg. Bin., trunc.*
Target is Incumbent	0.487*	0.279*
	(0.227)	(0.132)
Ideology of Receiver	0.007	−0.005
	(0.006)	(0.007)
Controls	Yes	Yes
Country Fixed Effects	Yes	Yes
Dyad RSE	Yes	Yes
N	1,672	1,672
Log Likelihood	−822.267	−1,183.354
AIC	1,682.533	2,404.708

*$p < .05$

Table A15 – Valence Attacks and Issue Ownership with Receiver Ideology

	(1)	(2)	(3)	(4)
	Issue Related	Nonissue Related	Sender Owned	Receiver Owned
	Neg. Bin.	*Neg. Bin.*	*Poisson*	*Neg. Bin.*
Target is Incumbent	0.316*	0.049	0.539*	0.178
	(0.118)	(0.128)	(0.054)	(0.218)
Ideology of Receiver	−0.002	−0.008	−0.0004	0.011
	(0.004)	(0.008)	(0.006)	(0.009)
Controls	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
Dyad RSE	Yes	Yes	Yes	Yes
N	566	566	566	566
Log Likelihood	−1,008.337	−996.001	−737.371	−650.140
AIC	2,054.673	2,030.002	1,512.741	1,338.280

*$p < .05$

A12   Zero-inflated negative binomial regression

Table 3 in the manuscript estimates a hurdle model with a logit and a zero-truncated negative binomial regression. Alternatively, it is possible to estimate the same model with a zero-inflated negative binomial model. The results remain similar.

Table A16 – Valence Attacks with zero-inflated negative binomial regression

	Attacks, number of
	(1)
Target is Incumbent	0.315*
	(0.101)
Country Fixed Effects	Yes
Dyad Robust SE	No
N	1,672
Log Likelihood	−1,983.567

*p < .05. Reported are expected log counts.

A13 Replication with Multi-level Models

The two tables below replicate the analysis in the manuscript with generalized linear multilevel models. In order to account for the dependency structure of the dyadic data I use the dyad indicator as the group-level variable. The results remain very similar and the conclusions from the analysis stay the same.

Table A17 – Valence Attacks and Incumbency in Multi-Level Models

	(1)	(2)
	Attacks (1 = yes)	Attacks, number of
	Logit	*Neg. Bin., trunc.*
Target is Incumbent	0.656*	0.231*
	(0.171)	(0.099)
N	1,672	566
Log Likelihood	−830.652	−1,038.395
AIC	1,683.303	2,100.790
BIC	1,742.943	2,152.853

*$p < .05$

Table A18 – Valence Attacks and Issue Ownership in Multi-Level Models

	(3)	(4)	(5)	(6)
	Issue Related	Nonissue Related	Sender Owned	Receiver Owned
	Neg. Bin.	*Neg. Bin.*	*Neg. Bin.*	*Neg. Bin.*
Target is Incumbent	0.317*	−0.021	0.610*	0.181
	(0.091)	(0.097)	(0.102)	(0.144)
N	566	566	566	566
Log Likelihood	−1,038.395	−1,033.118	−741.174	−654.401
AIC	2,100.790	2,090.237	1,504.347	1,332.803
BIC	2,152.853	2,142.300	1,552.072	1,384.866

*$p < .05$