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Party-System Polarization, Legislative Institutions and Cabinet Survival in 28 Parliamentary Democracies, 1945–2019

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### Party-System Polarization, Legislative Institutions and Cabinet Survival in 28 Parliamentary Democracies, 1945–2019

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#### Abstract

The resurgence of radical and populist parties of the left and right have stimulated renewed discussions about the resilience of parliamentary government in Europe. We contribute to this debate by focusing on the conditions for particular institutional arrangements to serve as 'shock absorbers' protecting cabinet survival in the face of polarized parliamentary politics. Data on 752 cabinets formed in 28 parliamentary democracies in post-World-War-II Europe are used to evaluate relevant arguments. A competing-risks framework is employed to estimate the effects of ideological polarization and the interaction of polarization and institutional rules on the risk of discretionary cabinet terminations through non-electoral replacement and early elections. We find that parliamentary polarization in itself has little impact on cabinet survival, whereas some interactions between polarization and institutional rules have a strong impact, showing that some legislative institutions, such as the constructive vote of no confidence, often mitigate the destabilizing effect of polarization.

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Keywords

Polarization, cabinet survival, legislative institutions, coalition government

#### Introduction

The recent rise of ideologically extreme parties and candidates in Europe raises questions about the impact of polarization and the growing salience of new dimensions of partisan conflict on the performance of political regimes. Not only have such debates been prominent for countries experiencing transitions to democracy in recent decades (Savage 2013; Enyedi 2016), but also for a number of established democracies in Europe (Bornschier 2015; Bermeo and Pontusson 2012; Indridason 2011; Spoon and Klüver 2015; Akkerman and de Lange 2012; Hobolt 2016) and North America (Binder 2017; Mettler and Leavitt 2019; McCarty 2019). For parliamentary and semi-presidential systems of government with a confidence relationship between the legislative majority and the government, the effect of legislative polarization on cabinet formation and survival is an important concern (Sartori 1976; Warwick 1994; Savage 2014; Saalfeld 2010; Savage 2013). With the chronic instability and ineffectiveness of the French Third Republic, the German Weimar Republic, or cabinet instability in Italian politics after the Second World War in mind, discussions of the theoretical mechanisms linking ideological polarization in legislatures, cabinet survival and the effect of institutions have a long tradition (Zimmermann and Saalfeld 1988; Zimmermann 1987; Sartori 1976). Despite undeniable advances in the empirical study of the effect of polarization on cabinet duration (Saalfeld 2006; Warwick 1994; Saalfeld 2010; Zimmermann 1987), some puzzles remain to be solved:

Firstly, polarization in European democratic legislatures is not a new phenomenon (Saalfeld *et al.* 2019). However, there is a claim in the literature on party systems that politics in many countries is now affected by the increased salience of a 'cultural' dimension of partisan conflict where more polarization can be observed (Bornschier 2015). While political parties may have grown used to manage inter-party and intra-party conflicts on socio-economic issues, conflict along this new dimension is harder to manage. Secondly, we know that political actors themselves believe institutions to matter for cabinet survival. Following the experience of the inter-war period, for example, several European constitutions were changed to strengthen cabinet stability. Measures ranged from the introduction of the 'constructive' vote of no confidence in Germany (1949). Nevertheless, purely institutionalist reasoning fails to explain variations in behavioral outcomes. Why, for example, was France's move from parliamentarism to semi-presidentialism in 1958 associated with increasing

cabinet stability, while the same effect has been attributed to Germany's move from semipresidentialism to parliamentarism (Skach 2005)? Thirdly, formal scholarship has identified two potential causal mechanisms linking the polarization in the party system to cabinet duration: On the one hand, it has been argued that the presence of strong extremist parties may require pro-system parties to form coalitions that are ideologically heterogeneous. These types of cabinets may agree on the need to defend democratic practices but could be more vulnerable to exogenous shocks when they need to decide on policy. Empirically this perspective has found support through Warwick's (1994) findings. On the other hand, some authors have argued that polarization may lead to a general 'distribution of bargaining power' in the legislature 'that is far more susceptible to slight perturbations' (Laver and Schofield 1990: 157). Some empirical studies support this claim and find that the polarization of the party system overall reduced the duration of cabinets in post-war Europe (Saalfeld 2010).

In this empirical paper, we evaluate arguments about the interactive effect of polarization in the legislature and legislative institutions on cabinet duration in Europe. We are using a novel dataset that updates previous collections of data on coalitions in Europe (Andersson *et al.* 2014) to cover the entire period 1945-2019, capturing recent increases in polarization. We construct several measures of polarization disaggregating polarization to four potential dimensions of partisan conflict: economic policies, socio-cultural issues, social liberalism and fundamental democratic values. In particular, we investigate whether some institutional features moderate the impact of polarization, looking for example at the vote of confidence. We fit several survival models to test our hypotheses.

Our results show that legislative polarization in itself is a poor predictor of cabinet duration. However, some institutional variables clearly interact with polarization and seem to shape the parties' strategic expectations about the transaction costs of governing. This finding emerges from our analysis of competing risks and is in line with other formal and empirical work on the electoral (Becher and Christiansen 2013, 2015; Becher 2019; Schleiter and Tavits 2016; Smith 2003; Kayser 2005) and reputational costs of governing in parliamentary systems (Ganghof and Bräuninger 2006). Our results on the moderated impact of polarization and institutions on cabinet duration are strongest when analyzing cabinet replacements rather than early elections. Hence, we contribute to the general literature on cabinet duration by better explaining an outcome which the previous literature has had a hard time explaining (see e.g. Saalfeld 2008).

#### **Theoretical framework and hypotheses**

In its simplest form, cabinet termination can be modelled as the outcome of three fundamental choices the leaders of cabinet parties make: (i) maintaining the *status quo* of an existing cabinet, (ii) replacing the current cabinet mid-term without an election or (iii) calling an early election. Replacements can take the shape of a mere change in government personnel. Alternatively, it may be more fundamental and involve the replacement of the head of government or a change in the parties included in the government (Fernandes and Magalhães 2016; Lupia and Strøm 2008, 1995; Diermeier and Stevenson 1999).

Once a government has been formed in a given legislature, parties are either 'in-parties' included in the cabinet or 'out-parties'. If the 'in-parties' control a legislative majority, all of them assess continuously whether it is still in their interest to support the current government. If the cabinet is in a minority position, the 'out-parties' may have the power to bring down the cabinet at any time. If any of the parties in the cabinet decides to terminate the government, they may choose to trigger dissolution of parliament and early elections.



Figure 1. Cabinet termination in European parliamentary democracies (adapted from Fernandes and Magalhães 2016: 66)

Alternatively, they may seek a change to the government's composition. This may, for example, involve the replacement of the *status-quo* cabinet either by a cabinet supported by the same parties or by a different set of parties. It may also involve a change in the identity of the Prime Minister (PM) who may be from the same party as the previous PM or from a different party. This distinction is particularly relevant for semi-presidential systems of government where elected presidents might appoint a new PM without changing the partisan composition of the cabinet. In this case Fernandes and Magalhães (2016) speak of a 'continuity replacement', whereas the choice of a different prime minister from a different party could be termed 'change replacement'.<sup>i</sup>

Why should polarization affect the equilibrium that led to the formation of a cabinet during coalition bargaining? Various studies observe that the ideological properties of the party system have a statistically significant impact on cabinet survival. In particular, the number of cleavages structuring the party system, its ideological range and the share of seats controlled by parties on the extreme ends of the ideological spectrum (especially parties considered to be illegitimate by other actors in the system) have been shown to reduce cabinet duration

(Saalfeld 2008; Warwick 1994). Saalfeld (2008) analyzes the impact of several features related to party system polarization on cabinet duration in the Western European countries (1945–1999) and finds that the risk of discretionary cabinet terminations increases as legislatures get more polarized and, in particular, as the share of seats held by ideologically extreme parties increases.

Several causal mechanisms have been offered to explain the correlation between partysystem features and cabinet duration: Laver and Schofield (1990: 157) argue that party system polarization captures a crucial dimension of the cabinet parties' 'bargaining environment' and has a causal effect on cabinet durability. They argue that a complex bargaining environment with many 'out-parties' in Lupia and Strøm's terms is likely to generate a 'distribution of bargaining power that is far more susceptible to slight perturbations' contributing to coalitions that are less stable than those in less fractionalized and polarized party systems (Laver and Schofield 1990: 157). Savage (2013), by contrast, suggests in his study of party-system polarization in Eastern Europe that a high level of ideological polarization in a parliament may reduce the risk of discretionary cabinet terminations, if the party system is characterized by a two-bloc structure and a high level of polarization between (rather than within) those blocs. In his view, 'more polarized party systems produce more durable governments ... by limiting the options available to coalition members who may seek to defect from the cabinet' (Savage 2013: 1033). While he finds support for this claim in a sample of five Central and Eastern European countries, the mechanism he specifies is general and could potentially hold elsewhere as well.

Advancing a more indirect mechanism, Warwick (1994: 53) argues that with growing polarization and increasing seat shares for extremist parties in parliament, 'coalitions must form around the political center, uniting often amorphous and diverse collections of parties and ideologies to amass majority support' (see Warwick 1994: 65–7; for empirical evidence Saalfeld 2008: 348). In other words, a polarized parliament increases the probability of ideologically more heterogeneous cabinets to be formed, which in turn increases the policy costs of coalitions and the risk of coalition failure. This mechanism could also work in conjunction with Laver and Schofield's claim that polarized settings create more volatile distributions of bargaining power and our argument is that especially cabinet replacements (as opposed to early elections) will be more likely when some junior partners in a non-

cohesive government are unhappy with the current distribution of spoils, and are tempted by some opposition parties to form a new cabinet. Regardless of the specific mechanism, party system polarization is likely to affect cabinet duration in the following way:

 $H_1$ : The higher the level of polarization in legislatures, the higher the risk of discretionary cabinet terminations (both non-electoral replacements and early elections).

Of key interest to this paper is the *interaction* between polarization and institutional features. Are certain institutional characteristics of a legislature likely to exacerbate or mitigate the effect of polarization? Previous research suggests that such interaction effects may be at work in the case of cabinet survival (e.g. Becher 2019). This would be modelled statistically in such a way that institutional features are hypothesized to moderate the relationship between polarization and cabinet survival. Given the contradictory theoretical models and empirical evidence, the basic idea is that in some institutional settings cabinets are more vulnerable to the destructive dynamics of polarization than others.

We draw on the previous cabinet duration literature which has stressed the direct effects of political institutions, which may act as shock absorbers, moderating the influence of polarization (Saalfeld 2008). The most obvious institutional variable is the requirement of an investiture vote to be passed before a cabinet can take office ('positive parliamentarism'). If there is a mandatory investiture vote, there is an increased probability of a cabinet to fail before it can take office in a formal sense. Note that in our measurement of the 'birth' of a cabinet, the investiture is often taken as the starting date (see below). Nevertheless, a cabinet recorded in our data will have overcome this constitutional hurdle (where it exists) already and may thus be relatively durable as the coalition parties and their supporters in the legislatures have already publicly committed to the government and defection would involve reputational costs. More indirectly, potential coalition partners may have already ruled out implausible coalitions in anticipation of a difficult or unsuccessful investiture vote in the pre-formation bargaining. Once confirmed by the legislature, party leaders in the coalition know that alternative cabinets with 'out-parties' may be more likely to fail at this constitutional hurdle in a polarized legislature with - ceteris paribus - more costly alternatives in policy terms and risky ones in electoral terms. We thus hypothesize that:

*H*<sub>2</sub>: *The effect of increasing polarization on non-electoral cabinet replacements and early elections declines, if a cabinet has already survived an investiture vote.*<sup>*ii*</sup>

Another feature that may influence cabinet duration is the prime minister's power to dissolve the legislature unilaterally. This institutional resource is one of the most important means of agenda control in systems with a confidence relationship between government and parliamentary majority. If this possibility is available to prime ministers and they make use of it, the risk of early elections should increase overall. However, there may also be more subtle effects. Prime ministers do not necessarily have to use of their powers of dissolution. The mere possibility may serve as a deterrent against indiscipline. Moreover, prime-ministerial parties may be able to convert this constitutional advantage into policy concessions from those coalition partners that expect an unfavorable outcome from early elections. As Becher and Christiansen (2015) show, the prime minister's power to terminate an intra-coalition conflict in cabinet 'in the shadow of an early dissolution' depends on the context, especially voter support for the prime minister's party and the length of the remainder of the legislative term, which would have to be sacrificed through an early election. As in the case of positive parliamentarism, selection effects may contribute to the stabilizing effect of this institutional device as potential coalition partners may anticipate conflicts before entering negotiations and decide not even to consider a coalition where a powerful prime minister is able, or likely, to use his or her dissolution powers at the expense of coalition partners. We thus hypothesize that:

## $H_3$ : The effect of increasing polarization on non-electoral replacements decreases as the prime minister's unilateral dissolution powers increase.

Another important institutional device that is likely to influence cabinet duration is the ease at which the *opposition can remove a government using a vote of no confidence*. If a relative majority is sufficient to force the resignation of a cabinet, the legislature's powers are strong – as are the powers of any dissenting groups within the government. These powers are more restricted, if an absolute majority of the votes is needed to force a resignation. At the other end of the spectrum, the prime minister and government are in a very strong position, if they can only be removed through a constructive vote of no confidence, that is, if a legislative majority expresses its lack of confidence *and* simultaneously elects a replacement government with an absolute majority. Hence, we hypothesize that:

*H<sub>4</sub>*: *The effect of increasing polarization on non-electoral replacements decreases as the protections against votes of no confidence increase.* 

Our proposed mechanism is here that polarized parliaments are likely to result in both cabinets that are non-cohesive and legislative bargaining settings that are easily 'perturbed', where opposition parties can offer smaller coalition partners a deal that seems to be better than the one they have in the current government. Hence, polarization may lead to cabinet replacements, but only in certain settings, in those where the power to overthrow a government lies at the hands of the parliament rather than the prime minister. In situations where the opposition can easily remove a government, they are likely to use a polarized setting to their advantage. In situations where they do not enjoy this power, for example in cases where a constructive vote of no confidence is needed, a polarized parliament may not result in more replacements.

A final relevant institutional rule with a direct effect on cabinet survival is the extent to which a government is able to attach a *vote of confidence* to a substantive motion. If these powers are strong, the cabinet (especially the prime minister) is likely to be in a strong bargaining position vis-à-vis the legislature overall. This depends on specific rules, especially where the right to initiate a vote of confidence is located, the majority requirement needed for the government to succeed in a vote of confidence and the consequences of the vote (Evans and Schleiter 2019). The sheer institutional possibility for governments to call such a vote is likely to increase the overall risk of an early election but decrease the risk of non-electoral replacements, even in a polarized setting where opposition parties may try to tempt smaller governing parties with better deals in a new government. Hence, our argument is that this institutional feature should have a shock absorbing effect since the prime minister has the ability to impose the cost and uncertainty of an early election on the coalition partners, which is likely to have a disciplining effect especially on junior members of the government.

 $H_5$ : The effect of increasing polarization on non-electoral replacements decreases as the government's bargaining power increase.

#### **Data and methods**

#### Data on cabinet duration in 28 European democracies

The bulk of the data on cabinet duration used in this paper originate from the European Representative Democracy Data Archive (Andersson *et al.* 2014). The Archive includes the 'ERD dataset' with detailed information about 640 cabinets in 29 European democracies. Cabinet-level data in this dataset start at the end of the Second World War (1945), or the first competitive elections after the respective democratic transition. As the information ends at the end of 2013, we collected additional data for all recent cabinets in the parliamentary democracies covered until August 2019. For the purposes of this paper, data for 28 parliamentary democracies with a confidence relationship between parliament and the government were used (a total of 752 cabinets).<sup>iii</sup>

The calculation of cabinet duration in the ERD dataset is based on the following definition of the 'birth' and 'death of a cabinet, which is established as a standard (Saalfeld 2008): A new cabinet is considered as being formed when the prime minister or cabinet is appointed by the head of state. If the constitution requires a formal vote of investiture, the date of the investiture was used. If none of these two events constitute the beginning of a cabinet under a country's constitution, the date of the general election was used. A cabinet was considered to be terminated, when the PM or the cabinet resigned formally (voluntarily or involuntarily) or when a (regular or early) general election was held. In some cases, the constitution requires the cabinet to resign on the date of a presidential election, which was also taken to be an event ending a cabinet. Further terminating events include a change in party composition or a change of prime minister. This corresponds to the definition of terminal events in Figure 1 (above).

#### Measuring polarization and other independent variables

One set of crucial independent variables in our analysis relates to the polarization in the respective parliaments as a potential cause for cabinet termination. Although there are a number of sources of information on the overall ideological spread of the party system, only one data set currently offers validated information on the overall left-right polarization across a sufficiently long period of time: the data provided by the Manifesto Project Database (MARPOR; Volkens et al. 2019), based on a hand coding of election manifestos.

Despite the conceptual and methodological discussion around these data, they are unique in allowing us comparisons across time.

Our variable 'RILE polarization' captures differences between the overall left-right score of the parties furthest to the left and right in the parliament at the beginning of a given legislative term. We rely on the overall left-right dimension provided by MARPOR. We do not use the absolute values (or 'ranges') but modify the data in two steps. First, we apply a scaling method based on log odds-ratios which has been suggested by Lowe et al. (2011). Their approach takes proportions, not absolute quantities of manifesto text into account, and is based on a logarithmic scaling. Thus, the left (L) and right (R) MARPOR categories are transformed in the following way:  $\theta^{(L)} = \log(R+.5) - \log(L+.5)$ . Second, the variable is weighted by the respective parties' seat share to account for the size and legislative strength of the respective parties (Dodd 1976; Warwick 1998).

Analogously, we calculated three policy-specific dimensions of polarization to capture potential ideological heterogeneity in a more finely granulated way for the respective parliaments. First, we generated a logged polarization measure on the *'economic left-right' dimension* ([per403+per404+per412]-[per401+per414]). This measure maps differences in the parties' manifestos regarding the regulation of the economy (planned vs. free market). Second, a logged *'socio-cultural' dimension* ([per602+per604+per607+per705+per706]– [per601+per603+per608]) was added to capture differences in 'cultural' aspects such as the national way of life, traditional morality, multiculturalism and references towards certain demographic and minority groups. Third, we added logged variables measuring the *range of 'anti-system attitudes'* ([per201+per202+per203]-[per204+per305]) in the respective parliaments. This operationalization includes (un)favorable mentions of freedom and democracy and the political system.

We also used an alternative measure for this third dimension of polarization, namely the seat share of so-called 'extreme' parties. In addition to anti-democratic ideologies captured by the range of anti-system attitudes referred to above, information on the sheer legislative strength of left and right extreme parties (rather than their ideological positions weighted by strength as above) adds information on the electoral threat these parties pose and also their impact on legislative bargaining. The relevant information stems from the Parliaments and Governments (ParlGov) database (Döring and Manow 2019). For the purposes of this paper,

we define Communist/Socialist (family-id 14) and right-wing (id 40) parties as extreme parties.

In addition to the ideological variables, we seek to account for cross-country variation in the institutional context. Binary variables indicate if a government needs an investiture vote to be appointed ('positive parliamentarism') and if it operates in a semi-presidential system. The information for these variables stems from the ERD dataset. The variable 'restrictions on vote of no-confidence' indicates if a relative majority, an absolute majority, or a constructive vote is required by a country's constitution. Furthermore, we include Evans and Schleiter's (2019) novel index measuring the executive bargaining powers. The final institutional variable was taken from Goplerud and Schleiter (2016) and indicates the magnitude of constitutional dissolution powers given to the PM in the respective countries. We interact this variable with the cabinet duration to account for its time-varying impact.

We also include several control variables in our models, which have usually been shown to have an impact on cabinet duration. The baseline model includes four controls that relate to characteristics of the cabinet itself. First, we include a dichotomous variable if the cabinet commands a parliamentary majority. Second, we control for the number of parties in the cabinet. Third, we include a variable describing if it is a cabinet formed after an election ('post-election cabinet'). Table A.1 in the appendix provides a summary of the variables used.

#### **Empirical analysis**

#### Descriptive statistics - and why a competing-risks design is appropriate

Figure 2 shows the average polarization (weighted and log-scaled, see above) of the policy dimensions of interest across time. Overall, when combining all three dimensions (top black line), European legislatures became more polarized from the 1940s to the 1970s, followed by a decrease until the 1990s, and a repolarization to the 2010s, which also marks the decade with the highest level of polarization. The dimension-specific lines in grey (below the black line) show that the economic dimension was mainly responsible for the overall polarization from the 1940s to the 1980s. In the more recent decades, all three dimensions contributed more or less equally to the overall level of polarization. It noteworthy that polarization on the socio-cultural ('fabric of society') dimension reached its peak during the

2010s – a finding in line with many empirical studies on a new dimension of conflict in European party politics (Bornschier 2015).



Figure 2. Average polarization of policy dimensions across decades (own calculation)

Turning to the parliamentary representation of extreme parties (Figure 3), we find the largest increase (by 52 per cent) from the 2000s, when 7.5 percent of the aggregate seats were held by communist and right-extreme parties, to the 2010s, when such parties held 11.4 per cent of the seats in our 28 countries. Another remarkable increase (by 50 per cent) can be detected from the 1960s (8.6 per cent seat share) to the 1970s (12.9 per cent). In all remaining decades the seat shares of extreme parties declined. A disaggregation of the party families shows that, overall, the parliamentary representation of communist parties was strong in the post WWII era until the 1980s. Some country-specific experiences notwithstanding, Extreme right-wing parties, by contrast, did generally not play a substantial role in the post-war era if we take all European democracies together, but increased their parliamentary impact substantially from the 1990s onwards.



Figure 3. Parliamentary representation of extreme parties across decades (own calculation)

Table 1 lists the countries included in the analyses, their mean cabinet duration relative to the potential cabinet life to the end of the CIEP and the distribution of terminations across the two competing risks we are capturing (non-electoral replacements and early elections). On average, Europe's most durable cabinets can be found in Hungary, Luxembourg and Sweden. In all three countries the mean cabinet lasted more than 80 per cent of its maximum possible tenure. In Italy, by contrast, the mean cabinet (based on 59 cabinets) lasted less than 36 per cent of its maximum time. Belgian, Latvian, Polish and Romanian cabinets also survived for less than half of their maximum possible tenure in office. The average relative cabinet duration across all countries is slightly over 60 percent. More than 59 per cent (429 out of total of 723) of cabinets were terminated due to choices made by the political actors rather than for technical reasons such as a regular early election or the death of a prime minister. While 152 cabinets were terminated prematurely by early elections, the number of non-electoral cabinet replacements is almost twice as high (277 cases). The explanation of such non-technical terminations will be addressed in the following chapter by applying survival analysis.

Country	Period	Number of	Relative	Discretionary	Non-electoral	Early
	covered	cabinets	duration	terminations	replacements	elections
Austria	1945-2019	28	0.697	18	6	12
Belgium	1946-2019	42	0.474	31	19	12
Bulgaria	1990-2019	10	0.611	6	4	2
Czech Republic	1992-2019	13	0.576	8	7	1
Denmark	1945-2019	40	0.562	31	8	23
Estonia	1992-2019	17	0.632	10	9	1
Finland	1945-2019	50	0.561	27	26	1
France	1959-2019	37	0.597	20	16	4
Germany	1949-2019	31	0.670	15	12	3
Greece	1977-2019	20	0.615	15	4	11
Hungary	1990-2019	12	0.857	3	3	0
Iceland	1944-2019	36	0.615	18	10	8
Ireland	1944-2019	28	0.594	22	5	17
Italy	1946-2019	59	0.358	50	44	6
Latvia	1993-2019	24	0.470	16	15	1
Lithuania	1992-2019	14	0.641	6	6	0
Luxembourg	1945-2019	21	0.868	5	2	3
Malta	1987-2019	9	0.791	4	3	1
Netherlands	1946-2019	30	0.659	17	9	8
Norway	1945-2019	33	0.759	10	10	0
Poland	1991-2019	20	0.495	14	11	3
Portugal	1976-2019	19	0.539	11	4	7
Romania	1990-2019	25	0.491	18	18	0
Slovakia	1992-2019	14	0.542	9	7	2
Slovenia	1990-2019	18	0.608	13	9	4
Spain	1977-2019	14	0.776	10	2	8
Sweden	1945-2019	31	0.829	5	4	1
UK	1945-2019	28	0.635	17	4	13
TOTAL		723	0.601	429	277	152

## Table 1. Countries, government duration and termination (29 non-partisan and caretaker governments are excluded)

Figure 4 suggests that it is appropriate to estimate the risks of non-electoral replacements and early elections separately in a competing risks design as pioneered by Diermeier and Stevenson (1999) and adopted by many scholars subsequently. We show non-parametric Kaplan-Meier estimates for the survivor functions of the 723 regular European cabinets between 1945 and 2019. The curves present the baseline survivor functions without including any covariates.

An eyeball inspection of the two survivor functions suggests that the two risks of termination are almost identical during the first six months after the cabinet takes office. From that point, the two curves diverge. The survivor function for replaced cabinets continues to decline at a similar rate as during the first six months until it slows down after approximately 800 or 900 days. The survivor function for early elections is 'flatter' but declines more strongly after 1,250 to 1,300 days. A log-rank test also indicates significant differences between both functions. This supports the observation of rising early-election hazards in the final months of a four- or five-year CIEP (Warwick 1992; King *et al.* 1990; Diermeier and Stevenson 1999).



Figure 4. Survivor functions for non-electoral cabinet replacements and early elections in 723 European cabinets, 1945-2019 (own calculation)

#### Modeling the effect of polarization on cabinet duration

In the following section, we fit several multivariate survival models to test the hypotheses formulated above. In each model, the dependent variable is the conditional probability for a discretionary cabinet termination (rather than a technical termination, for example, due to a regular election) to occur at any point in time during the (potential) life course of a cabinet, given that the cabinet has survived up to that point ('hazard rate'). Changes in hazard rates are taken to indicate the presence of causal effects. The models presented in this paper are specified as semi-parametric Cox proportional hazard models, which assume the existence of a baseline hazard rate [ $\lambda$ 0(ti)]. This baseline hazard indicates the underlying probability of cabinet termination over time when the vector of all covariates is zero. However, no assumptions are made about the distribution of probabilities of the occurrence of such 'failures' over time except that the hazards are proportional. Covariates may lead to shifts in the hazard rate from this baseline, assuming that the impact of the covariates is the same across the life-course of a cabinet (proportionality assumption). A key issue in our eventhistory models is the 'theoretical censoring' of certain records. For the purposes of this paper, the records of all cabinets terminated for technical reasons (e.g., termination due to a regular election) were 'right-censored'. All models presented are Cox proportional hazard models with shared country-based frailties. In specifying the survival models, we adopt a latent approach assuming independence of the two risks estimated, namely the risk of nonelectoral cabinet replacements and early elections.

In Table 2 we show hazard ratios for four different Cox proportional hazard models. All four models include the control variables mentioned above. The models are based on the full set of all 697 cabinets for which we have valid data.<sup>iv</sup> Models (1) and (2) present a test of Hypothesis 1: The higher the level of polarization in the legislature, the higher the risk of the discretionary termination of a cabinet (both non-electoral replacement and early elections). Controlling for the three covariates entered as controls (see above), we see that none of the variables capturing legislative polarization as such has any significant impact on the risks of early elections or non-electoral replacements. This includes all operationalizations of legislative polarization we proposed: the seat share of communist and radical right-wing parties; the logged and weighted overall left-right range in the legislature (i.e., the range between the RILE value of the most left-wing and the most right-wing party based on the data of the MARPOR dataset); the ideological range in the legislature for economic policy, socio-cultural issues and positions *vis-à-vis* a pluralist, liberal democracy. Hence Hypothesis 1 does not receive much support.

	(1) Early Elections	(2) Non-electoral Replacements	(3) Early Elections	(4) Non-electoral Replacements
RILE polarization	0.810	0.738	0.520	1.068
(weighted, logged)	(0.228)	(0.162)	(0.296)	(0.381)
Economic polarization	0.995	0.960	1.090	0.926
(weighted, logged)	(0.183)	(0.123)	(0.216)	(0.121)

Socio-cultural polarization (weighted, logged)	0.887 (0.160)	1.079 (0.148)	0.874 (0.160)	1.090 (0.152)
Anti-system polarization (weighted, logged)	0.812 (0.158)	1.272 (0.167)	0.783 (0.162)	1.299 (0.176)
Seat share of extreme parties	1.014 (0.0122)	1.008 (0.00725)	1.041 (0.0257)	1.005 (0.0165)
Majority cabinet	0.265*** (0.0655)	0.408*** (0.0723)	0.258*** (0.0670)	0.393*** (0.0678)
Number of cabinet parties	0.947 (0.0933)	1.302*** (0.0785)	0.946 (0.0963)	1.297*** (0.0775)
Post-election cabinet	0.168*** (0.0354)	0.862 (0.123)	0.197*** (0.0409)	0.938 (0.133)
Positive parliamentarism			0.957 (0.615)	1.094 (0.444)
Positive parliamentarism X Seat share of extreme parties			0.959 (0.0266)	1.035* (0.0180)
PM dissolution powers			1.305** (0.106)	1.381*** (0.101)
Restrictions on vote of no-confidence			0.883 (0.379)	1.260 (0.300)
Restr. on vote of no-conf. X Seat share of extreme parties			1.015 (0.0219)	0.974* (0.0114)
Executive bargaining powers			1.011 (0.0952)	1.143 (0.0791)
Semi-presidentialism			1.213 (0.634)	1.857* (0.469)
PM dissolution powers X Cabinet duration			0.939*** (0.0134)	0.856*** (0.0206)
Further interactions of institutions and polarization			Included, see appendix A.2	
Decade dummies	Included. se	e appendix A.2	Included see annendix 4.2	

Decade dummies	Included, see appendix A.2		Included, see appendix A.2	
Observations	697	697	697	697
Failures	149	272	149	272

Hazard ratios (Standard errors in parentheses), \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

## Table 2. Determinants of cabinet survival: Cox proportional hazard models with shared frailties

Models (3) and (4) test the idea that institutional rules may serve as 'shock absorbers' moderating the effect of ideological polarization. Hypothesis 2 posits that the effect of increasing parliamentary polarization on non-electoral cabinet replacements and early elections declines, if a cabinet has already survived an investiture vote. Hypotheses 3, 4 and 5 are supported, if the effect of increasing parliamentary polarization on non-electoral replacements decreases as the prime minister's unilateral dissolution powers, the PM's dissolution powers and the protections against votes of no confidence increase. For ease of

interpretation we report statistically significant interaction effects only in Table 2. The full results including all interactions are shown in appendix A.2 of this article.<sup>v</sup>

We can offer two observations about how the interplay of institutions and legislative polarization affect the survival of European cabinets. First, the existence of positive parliamentarism increases the risk of non-electoral replacements in interaction with the seat share of extreme parties. Second, there is a significant negative effect of the interaction of seat share of extreme parties and restrictions on the right of oppositions to table a vote of no confidence on non-electoral replacements. We will investigate the effects of the interaction, applying the simPH package (Gandrud 2015). This R package allows the simulation and visualization of quantities of interest from Cox Proportional Hazards models. Interaction effects can be modeled using simPH's simulation function *cossimInteract*.



Figure 5. The risk of calling a non-electoral replacement as a function of the interaction between the seat share of extreme parties and positive parliamentarism

Figure 5 suggests that the risk of non-electoral replacements increases with a growing seat share of extreme parties, if a cabinet had to pass an investiture vote. It decreases slightly, if it did not have to do so. This finding is intriguing. The confidence intervals (95 per cent level) that are represented by the darker-shaded ribbons closer to the predicted hazard functions

suggest that the significant overall effect of this interaction is driven by the differences at the high end of the distribution of seat shares. Against our initial expectations in Hypothesis 2, the evidence presented here suggests that having survived an investiture vote leaves cabinets vulnerable to non-electoral replacements, if the seat share of ideologically extreme parties is relatively high. In terms of numbers, the risk is about 1.5 times higher when extreme parties reach about 15 per cent of the seats compared to a seat share distribution that is close to zero. The relative hazard of a non-electoral replacement slightly declines, however, with growing seat shares of extreme parties, if the subsequent replacement cabinet does not to have to survive an investiture vote. Without wishing to over-interpret this finding, relatively low bargaining and transaction costs of a non-electoral replacement (i.e., not having to secure a majority for a successful investiture vote in advance) seem to stabilize - rather than destabilize - incumbent cabinets. When withdrawing from an incumbent cabinet, coalition parties arguably anticipate the degree of difficulty for the existing prime minister – or an alternative coalition to form a replacement cabinet. The easier they believe such a replacement to be in the presence of strong ideologically extreme parties, the more likely are they to stick to the existing cabinet.



Figure 6. The risk of non-electoral cabinet replacement as a function of the interaction between the seat share of extreme parties and restrictions on votes of no confidence

Figure 6 shows that the risk of non-electoral replacements decreases slightly with an increasing seat share of extreme parties, if the constitutional conditions to carry a successful vote of no confidence are relatively low (a relative majority is sufficient), whereas it decreases sharply, if a constructive vote of no-confidence is required to replace the government. Note that this effect is after controls for the shared frailty (unobserved heterogeneity) for specific countries. In other words, the constructive vote of no confidence tends to protect cabinets from non-electoral replacements as the seat share of extreme parties increases. Given the strongly declining hazard rate for cabinets that can only be replaced with a constructive vote of no confidence, this overall effect is strongly driven by a mechanism affecting cabinets that are protected through highly restrictive rules for nonelectoral replacement. They seem to face quite an uncertain environment, if the seat share of extreme parties is below 5 per cent. However, the larger the challenge from the extremes, the more difficult it gets to replace a cabinet with a viable alternative commanding an absolute majority in an investiture vote. In other words, the constructive vote of no confidence seems to achieve precisely the purpose it was intended to serve when it was introduced in the 1949 German Basic Law. It is not overly restrictive when the extremes are weak, but it protects governments as the strength of extreme parties is growing.

Finally, the control variables have largely the expected effects. If a cabinet commands a legislative majority, the risk of early elections and non-electoral replacements is significantly reduced across all models. The number of cabinet parties increases the risk of non-electoral replacements significantly, but not the risk of early elections. Cabinets formed after general elections are significantly less likely to be terminated by an early election. In semi-presidential systems the risk of non-electoral replacement is significantly increased. In addition, we are controlling for the interaction of prime-ministerial dissolution powers with duration. This is necessary, because the former covariate is known to violate the proportionality assumption of Cox proportional hazard models. Both the dissolution powers index itself and its interaction with time are highly significant. Interestingly, extensive dissolution powers increase both termination risks (i.e., even the risk of non-electoral replacements) irrespective of polarization.

#### **Conclusions**

The resurgence of radical and populist parties across most European democracies in recent years has stimulated growing scholarly interest in the political and institutional sources and consequences of such developments (e.g., Levitsky and Ziblatt 2018; McCarty 2019). Ideological polarization, a traditional focus of scholarship on cabinet survival, has returned center-stage. However, scholars still disagree on the causal mechanisms at work if, and when, polarization puts cabinet survival at risk. Several decades of research have produced a number of theoretical models and a wealth of important empirical findings. Yet, theoretical accounts of the effect of polarization are contradictory, selection effects are difficult to deal with and empirical findings are inconclusive. Despite huge advances in data-collection in recent decades (especially Andersson *et al.* 2014; Döring and Manow 2019; Seki and Williams 2014), our data still lag behind the development of theoretical models. Hence, we still know surprisingly little about the effects of polarization affects the duration of cabinets (if it does so at all), and how institutions influence this relationship between polarization and cabinet survival.

In this paper, we set out to narrow these gaps at least somewhat by analyzing why some cabinets fall early as the result of ideological polarization in the legislature whereas others survive – and how institutional properties serve as moderators. We investigate the impact of polarization on cabinet survival using a data set covering 28 Western and Eastern European countries between 1945 and 2019. Two relatively basic findings stand out: First, we do not find any direct or indirect effects of ideological polarization based on spatial positions in the chamber (including polarization across a number of different issue dimensions). Moreover, we do not find an effect of a strong numerical presence of parties that have been be classified as ideologically 'extreme' (irrespective of their weighted spatial position).

Our analyses interact covariates measuring the polarization of legislatures with some institutional features that are constitutive for parliamentary systems of government. These analyses demonstrate that some institutional features do tend to moderate the effect of the seat share of extreme parties, whereas we did not find significant interactions between institutional covariates and the weighted ideological measures we developed (even if we break them down for different policy domains). Restrictions on the use of the vote of no confidence by the opposition reduce the risk of non-electoral replacements without significantly affecting the risk of early elections as the seat share of extreme parties (and hence their leverage in the legislature) increases. The very restrictive constructive vote of no confidence seems to have precisely the effect it was designed for, especially in the face of extreme challenger parties. More intriguing is the weak but noticeable interaction effect of a strong presence of extreme parties and the ease at which a replacement government can be elected by the chamber. With an increasing share of extreme parties in the legislature, the risk of non-electoral replacements declines, if the next cabinet does not have to survive an investiture vote. Our intuition here is that this effect may have its roots in the way positive parliamentarism assigns benefits, costs (including transaction costs) and risks in the process of bargaining prior to the formation of a replacement cabinet.

Our findings have some important empirical and normative implications for wider debates on political polarization. Polarization itself did generally not threaten cabinet survival in Europe's parliamentary democracies during our window of observation. We were able to produce some support for formal arguments about the effect of two institutional mechanisms typical for parliamentary systems of government – in interaction with the growing strength of extreme parties: positive parliamentarism (affecting the cost of replacing a cabinet) and the restrictiveness of the vote of no confidence. At least in these two cases we found some evidence for our intuition that institutions might serve as 'shock absorbers'. What remains intriguing is the lack of effect of positional measures of polarization, even if they are weighted by the numerical strength of the parties. The 'disruptive' effect of extreme parties seems to result from their numerical strength in the legislature rather than their ideological distance from the median.

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### Appendix

Table A.1: Summary statistics (caretaker governments were excluded).

	Ν	Mean	St.Dev	min	max
Majority cabinet	723	.672	.47	0	1
Number of cabinet parties	723	2.423	1.292	1	7
Post-election cabinet	723	.58	.494	0	1
Seat share of extreme parties	710	10.232	10.983	0	64.67
RILE polarization	701	.719	.419	0	2.67
Economic polarization	701	1.33	.629	0	3.35
Socio-cultural polarization	701	1.134	.521	0	2.93
Anti-system polarization	701	1.062	.527	0	3.61
Semi-presidentialism	723	.163	.37	0	1
Restrictions on vote of no-	723	.61	.727	0	2
confidence					
PM dissolution powers	723	1.856	3.55	0	10
Executive bargaining power	723	3.186	2.98	0	10
index					
Positive parliamentarism	723	.538	.499	0	1
Dec 1940s	723	.048	.215	0	1
Dec 1950s	723	.107	.309	0	1
Dec 1960s	723	.093	.29	0	1
Dec 1970s	723	.112	.316	0	1
Dec 1980s	723	.119	.324	0	1
Dec 1990s	723	.183	.387	0	1
Dec 2000s	723	.177	.382	0	1
Dec 2010s	723	.162	.369	0	1

	(3)	(4)
	Early elections	Non-electoral replacements
RILE polarization	0.520	1.068
(weighted, logged)	(0.296)	(0.381)
Economic polarization	1.090	0.926
(weighted, logged)	(0.216)	(0.121)
Socio-cultural polarization	0.874	1.090
(weighted, logged)	(0.160)	(0.152)
Anti-system polarization	0.783	1.299
(weighted, logged)	(0.162)	(0.176)
Seat share of extreme parties	1.041 (0.0257)	1.005 (0.0165)
Majority cabinet	0.258*** (0.0670)	0.393*** (0.0678)
Number of cabinet parties	0.946 (0.0963)	1.297*** (0.0775)
Post-election cabinet	0.197*** (0.0409)	0.938 (0.133)
Positive parliamentarism	0.957 (0.615)	1.094 (0.444)
Positive parliamentarism X	0.959	1.035*
Seat share of extreme parties	(0.0266)	(0.0180)
Positive parliamentarism X	2.160	1.406
RILE polarization	(1.113)	(0.609)
PM dissolution powers	1.305** (0.106)	1.381*** (0.101)
PM dissolution powers X	0.994	0.999
Seat share of extreme parties	(0.00358)	(0.00321)
PM dissolution powers X	1.009	0.928
RILE polarization	(0.0583)	(0.0521)
Restrictions on vote of	0.883	1.260
no-confidence	(0.379)	(0.300)
Restr. on vote of no-conf. X	1.015	0.974*
Seat share of extreme parties	(0.0219)	(0.0114)
Restr. on vote of no-conf. X	0.705	0.831
RILE polarization	(0.339)	(0.260)
Executive bargaining powers	1.011 (0.0952)	1.143 (0.0791)
Executive bargaining pow. X	1.004	0.997
Seat share of extreme parties	(0.00526)	(0.00270)
Executive bargaining power index X	1.029	0.950
RILE polarization	(0.0728)	(0.0710)
Semi-presidentialism	1.213 (0.634)	1.857* (0.469)
PM dissolution powers X	0.939***	0.856***

Table A.2: Full model showing all variables (Table 2).

Cabinet duration	(0.0134)	(0.0206)
Decade dummies		
1940s	2.408 (1.316)	1.645 (0.637)
1950s	1.437 (0.687)	1.252 (0.365)
1960s	1.782 (0.814)	0.798 (0.242)
1970s	2.633* (1.127)	1.194 (0.328)
1980s	3.489** (1.426)	0.816 (0.227)
1990s	1.338 (0.543)	0.812 (0.181)
2000s	1.375 (0.567)	0.809 (0.172)
2010s	Reference category	
Observations	697	697
Failures	149	272

Hazard ratios (Standard errors in parentheses), \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001.

<sup>&</sup>lt;sup>i</sup> Although we do not explicitly model the type of non-electoral replacement in this paper, the distinction does inform the empirical coding decisions when recording the termination of a government.

<sup>&</sup>lt;sup>ii</sup> The effect of prime-ministerial dissolution powers on, the second risk, early elections, depends on variables not observed in our dataset (e.g., the electoral prospects of the prime minister's party), see Becher (2019). We are modelling the potential selection effect, at the point of coalition bargaining, of the prime minister's ability unilaterally to decide on early dissolution.

<sup>&</sup>lt;sup>iii</sup> One presidential democracy, Cyprus, was excluded, because government duration is fixed in presidential systems. In addition, 29 caretaker governments were excluded from empirical analyses.

<sup>&</sup>lt;sup>iv</sup> The summary statistics (Appendix A.1) show that for a few (mostly very early and a few most recent) cabinets manifesto data and data on extremist parties' seat share is missing.

<sup>&</sup>lt;sup>v</sup> Interaction terms with the policy-specific dimensions were excluded from the model due to multicollinearity. Nevertheless, these dimensions do not show any significant effects when they are included.