

# Relaxing the Constant Economic Vote Restriction: Economic evaluations and party support in Germany

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## Abstract

The popularity function literature has traditionally focused on incumbent government support, even under coalition governments. Here, we shift the focus from the government to the parties. To what extent are German parties held accountable for economic conditions when they hold the Chancellorship, serve in coalition, or sit in opposition? Using Seemingly Unrelated Regression to relax the Constant Economic Vote Restriction, we simultaneously model separate monthly party support functions for the Christian Democrats (CDU/CSU), Social Democrats (SPD), Liberals (FDP), and Greens over the post-unification period. After controlling for temporal dynamics and political factors, we find that economic evaluations have the strongest effect on support for the SPD and CDU/CSU when they hold the Chancellorship, and both of these parties are strongly affected when in opposition. The FDP remains insulated from economic perceptions, despite the party's emphasis on economic policy. Additionally, economic evaluations do not significantly change support for the Greens as an issue party.

## Keywords

economic issues, electoral strength, Germany, party allegiance, vote choice

## Introduction

A fundamental characteristic of modern democracies is that citizens hold their elected officials responsible for the record they accomplished during a legislative term (e.g. Müller, 2000; Powell, 2004). Theories of voting behavior, in particular of retrospective voting, assert that voters support incumbent parties and their candidates when they are satisfied with economic conditions, thereby rewarding the leadership for steering the economy in the right direction. However, if voters consider the economic situation as poor, then the opposition parties should benefit at the polls as voters punish the current government for its inability to improve the economy (for overviews, see Duch, 2007; Duch and Stevenson, 2008; Lewis-Beck and Stegmaier, 2000, 2007, 2015).

This straightforward and intuitively logical perspective on the decision-making process of voters has found strong empirical support in political systems where single-party governments set the governmental agenda and implement policies. In the case of cabinets controlled by one party, voters can easily identify which party or leader is responsible for the country's economic situation. If, however, more than one party composes the cabinet (a

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coalition government), as is the case in most modern democracies (e.g. Clark et al., 2012 for an overview), it is more complex for voters to identify which party to hold accountable (Lewis-Beck, 1988; Powell and Whitten, 1993; Whitten and Palmer, 1999). While there have been attempts to incorporate the institutional structure and the specifics of governing in multi-party cabinets into the analysis of voting behavior, studies of the ‘Vote and Popularity’ (VP) function have traditionally focused on support for the incumbent government as a whole (Lewis-Beck and Stegmaier, 2013).

Empirical tests that focus on the overall support for the coalition government parties impose an unrealistic restriction. These models assume that economic evaluations influence support in an identical fashion for the prime minister’s party and the other coalition parties. Further, by not distinguishing between governing parties over time, such models assume that all parties holding the prime ministership and serving in the coalition, regardless of economic priorities, are alike. Because these models assume uniformity in economic influences on support, we call this restriction the ‘Constant Economic Vote Restriction’.

Drawing from theories of electoral accountability, we argue that this constant economic vote restriction is inconsistent with how voters hold parties accountable. Indeed, popularity functions should relax this restriction and model support for separate parties in multiparty systems where coalition governments are the norm. Modeling support for parties, both in the coalition and opposition, helps to answer the question of whether all parties from the government and/or the opposition benefit similarly from public assessments of the economy. Furthermore, this party-specific perspective allows us to test if the relative salience of economic policy, which differs across parties, conditions how economic evaluations affect party support.

To answer these questions, we use monthly data to model support for each party that has participated in the government formation process in post-unification Germany. After properly modeling the temporal dynamics and controlling for political factors such as party identification and party evaluations, we find that economic perceptions have – in the time period under study, i.e. between 1993 and 2011 – the strongest effect in explaining support for the Social Democrats (SPD) and the Christian Democrats (CDU/CSU),<sup>1</sup> and both of these parties are strongly affected when in opposition. The Free Democrats (FDP) are not affected by economic perceptions, despite the party’s strong emphasis on economic policy in its manifestos and that it has controlled key economic ministries when part of the coalition. Under grand coalitions, which have always been led by the CDU/CSU on the federal level, the Christian Democrats benefit from positive economic evaluations while the cumulative effect on the SPD is slightly negative. The CDU/CSU essentially gets all the credit as the party of the chancellor. Finally, economic

evaluations do not significantly change support for the Greens as an issue party.

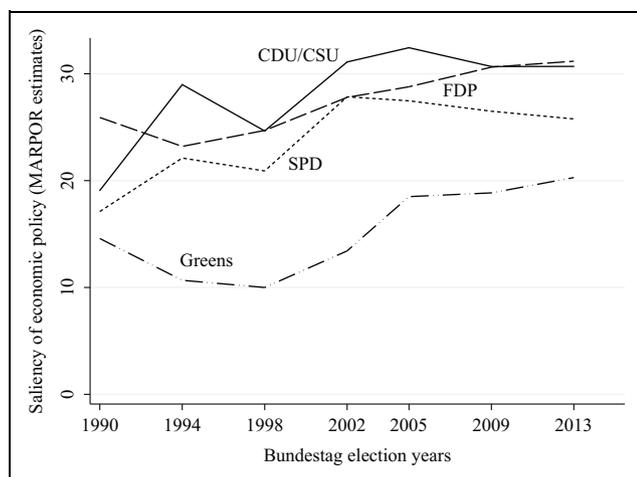
In addition to revealing how the state of the economy and other control variables impact support for the parties depending on their position in or out of power, we test whether the effects are immediate and short-lived, or if they linger. By properly modeling the stickiness of these series, we reveal the various dynamic processes of party support in Germany.

## **Economic voting and party support in the context of the German political system**

Since German reunification in 1990, a variety of economic issues have influenced the behavior of voters, the structure of the party system, and patterns of government formation (see, e.g. Pappi and Brandenburg, 2012). In particular, unemployment, budget deficits, and welfare state reforms have dominated the domestic political agenda. The particular economic policy emphases of the SPD, CDU/CSU, FDP, and Greens vary based on party ideology and issue orientation, but here we are concerned with the saliency of economic issues on the parties’ agendas. Voters, in their overall assessment of the economy, will hold only those parties accountable that highlight economic matters in their political messaging. For parties that stress other issues, such as the Greens, economic changes should have less impact on their support levels.

One way to assess the importance of the economy to a party is to look at which portfolios they compete for during coalition negotiations. Party positions on policies have been shown to affect coalition formation (Bräuninger and Debus, 2008, 2012; Debus, 2009; Pappi, 2009) and, in the negotiation process, parties seek to control the key ministries in their high-priority policy fields (Raabe and Linhart, 2015). Linhart and Windwehr (2012) demonstrate, on the basis of a party elite survey, that Social Democrats and Socialists consider cabinet posts that deal with “Labor and Social Affairs” as highly important, while Christian Democrats as well as Liberals seek offices related to economic and finance policy. Ministries related to environmental and agricultural policies are of high salience to the Green Party. Given the parties we focus on in this study, we can identify the SPD, CDU/CSU, and FDP as paying strong attention to economic, employment, and fiscal policy and to cabinet offices related to these policy areas, while the Green Party does not.

A look at the party manifestos reinforces the distinction between the Green Party and the others. Figure 1, based on Comparative Manifesto Project data (MRG/CMP/MARPOR; see Volkens et al., 2014), depicts the share of quasi-sentences in the Bundestag election manifestos of the CDU/CSU, SPD, FDP, and Greens between 1990 and 2013 that refers to the economic policy domain.<sup>2</sup> We observe



**Figure 1.** Economic policy saliency for German parties, based on election manifestos, 1990–2013.

that the Christian Democrats, Free Democrats, and Social Democrats consistently emphasize economic policy issues to a stronger degree than the Green Party. If voters are rewarding/punishing parties for economic conditions, we expect they will target parties that care more about economic issues. Thus, we hypothesize:

**H1:** Economic evaluations will have a stronger impact on support for those parties that emphasize the economy (CDU/CSU, SPD, and FDP) than on parties that place less emphasis on economic matters (the Greens).

We expect that economic evaluations will affect support for the three parties that place high priority on the economy, but what direction will the effect be, and will the effect be similar for these parties? Comparative research on economic voting informs our hypotheses on these questions (Anderson, 2000; Armingeon and Giger, 2008; Giger and Nelson, 2011; Lewis-Beck, 1988; Stegmaier and Lewis-Beck, 2013). It is well established that voters who hold positive evaluations of the national economy are more likely to vote for the incumbent than those who perceive national economic decline. However, the strength of this relationship varies due to differences in political and institutional contexts. In systems where one party typically secures a majority, voters can easily identify which party is responsible for the country's situation and assign credit or blame accordingly (Goodhart and Bhansali, 1970; Monroe, 1978; Norpoth, 1992; Tufte, 1978). However, when applied to multiparty parliamentary systems, where coalition governments are the norm, the economy's impact on the vote is weakened (Anderson, 2000; Duch, 2007; Lewis-Beck, 1988; Powell and Whitten, 1993; Whitten and Palmer, 1999).

While coalition governments can make it more difficult for voters to assign credit or blame, thereby dampening the

economic vote, voters could also shift support from one coalition party to another. Indeed, Anderson's (1995: ch. 6) study of aggregate support across parties within coalitions shows that voters transfer support between coalition members in a manner that reflects party issue priorities. In a more recent examination, Fisher and Hobolt (2010: 365) find that among coalition parties, the head-of-government is most strongly held responsible for past performance, a finding that is consistent with Duch and Stevenson (2008). In a study focused exclusively on Germany, Debus et al. (2014) analysed six election studies between 1987 and 2009 and found that voters who perceived a positive economic situation rewarded the chancellor's party. There was, however, no evidence that the junior coalition party, even if it controlled key cabinet posts like the finance or economics ministry, benefited from positive economic evaluations. Thus, it appears that the public focuses in on the leader and his/her party as the primary locus of responsibility. Based on these findings, we formulate the following hypothesis:

**H2a:** The more positively the public evaluates the national economy, the more popular the chancellor's party will be.

**H2b:** Evaluations of the economy will have less impact on the popularity of the junior coalition partner compared to the chancellor's party.

Since the German chancellor has always come from the largest party in the coalition, we are unable to distinguish whether the chancellor's party is credited or blamed because it is the party of the chancellor or because it is the largest party in the government (Anderson, 1995, 2000). However, since our methodology also allows us to model party support when parties are in opposition, we can test whether certain types of opposition parties gain when the economy sours. If the public is dissatisfied with the performance of the government, they will look for viable alternatives (Anderson, 2000; Lewis-Beck, 1988), and are likely to turn their support to the largest opposition party. The SPD and CDU/CSU are the dominant left and right 'catch all-parties' in Germany,<sup>3</sup> and thus, when one of them is in opposition, the party is likely to be the beneficiary of public disenchantment.<sup>4</sup> Therefore, we expect that:

**H3a:** The more negatively the public evaluates the national economy, the more support the CDU/CSU or SPD will receive when in opposition.

**H3b:** Negative evaluations of the economy will have a smaller impact on support for the FDP or the Greens when in opposition, compared to the CDU/CSU or SPD.

In evaluating these hypotheses altogether, we expect strong economic effects for the SPD and CDU/CSU, and weaker effects for the FDP and Greens. The SPD and CDU/CSU will benefit from positive economic evaluations

when they hold the chancellorship, due to the leadership position and because their platforms focus on economic issues. When in opposition, they will benefit from negative evaluations as a viable alternative to the party of the chancellor. The cumulative assessment of these hypotheses for the FDP differs from the two dominant parties. While the FDP prioritizes economic matters, the impact of economic evaluations will be dampened because the FDP has not held the chancellorship and the party's small size means it is not perceived to be a viable alternative to the government when in opposition. Finally, the Greens should be impacted by economic evaluations the least of the four parties because they place less emphasis on the economy, have not held the chancellorship, and are not perceived as a viable alternative when in opposition.

## Data and methods

Two-party coalitions have governed in Germany since 1961. In estimating German government vote or popularity, previous studies have taken different approaches. For example, some have modeled the vote of the governing parties collectively (Goergen and Norpoth, 1991; Norpoth and Gschwend, 2010, 2013), while others have modeled support for specific governing parties just during their coalition tenure (Anderson, 1995; Steiner and Steinbrecher, 2012) or for the government versus opposition (Feld and Kirchgässner, 2000). In contrast to these approaches, we estimate popularity functions for each party that has served in a German coalition government between 1993 and 2011. These party support models are estimated simultaneously using Seemingly Unrelated Regression (SUR) analysis. This approach, as we will see, allows us to identify which parties reap rewards (or punishment) for the public's economic evaluations when holding the chancellorship, serving as a junior coalition member, or when in opposition.

The Politbarometer surveys offer a perfect opportunity to test our hypotheses with nationally-representative samples from 1977 until 2012. Since our focus is on the post-unification period, we aggregate weighted<sup>5</sup> monthly support from January 1993 until December 2011 for the four parties that were a part of coalitions on the federal level in this time period: CDU/CSU, SPD, FDP, and the Greens.<sup>6</sup>

We begin our estimation procedure with an autoregressive distributed lag (ADL) model, which includes the concurrent value and one- and two-month lagged values of each variable in the model. This extremely flexible model allows us to explore the size of the effects and the manner in which the series reverts back to its pre-shock values (deBoef and Keele, 2008), two patterns that are central to theories of party competition (McDonald and Best, 2006). We then pare down the model by performing a series of *t*-tests of various restrictions. The result is that we estimate

the following empirical model for each party  $j$ , ( $j = \text{CDU/CSU, SPD, FDP, Greens}$ ):

$$S_{jt} = f(S_{jt-k} + E_t + G_{jt} + E_t \times G_{jt} + V_{jt} + H_{jt})$$

$S_{jt-k}$  represents party  $j$ 's previous level of weighted support. We measure party support with the traditional vote intention question: "If there was a general election this Sunday, which party would you vote for?" Although we are confident that we have presented a full model specification, there are a number of un-modeled influences that might cause each party's support bases to vary in meaningful ways. The SUR estimation technique allows us to characterize this variation through the party-specific coefficients for the lagged party support variables. We should expect these coefficients to be statistically significant, positive, and sum to less than 1.<sup>7</sup> It is worth noting that this expectation requires careful interpretation of the effects of the other variables, which we explore in the *Analysis* section.

$E_t$  represents the weighted average of national retrospective economic evaluations, which is derived from asking respondents to assess the current general economic situation. This variable has a theoretical range of 1 (representing worse) to 5 (representing improve), although the actual range is much smaller (2.4 to 3.7), since we are using the weighted average.  $G_{jt}$  measures whether we expect party  $j$  to be held accountable for economic evaluations. To assess accountability, we create dummy variables representing instances where party  $j$  controls the chancellorship or is a junior coalition partner. With the various interaction variables ( $E_t \times G_{jt}$ ), we can test our hypotheses regarding whether the government accountability variables moderate how evaluations influence party support.

With  $V_{jt}$ , we control for those characteristics that connect party evaluations and party identification to electoral support (e.g. Campbell et al., 1960; Clarke et al., 2009; Stokes, 1963). If our goal is to isolate how economic evaluations influence party support, we need to control for how feelings toward the party or identifying with a particular party might color how one retrospectively evaluates the economy (Evans and Andersen, 2006; see also Lewis-Beck et al., 2008). We include separate variables measuring the weighted average of thermometer ratings of party  $j$  (theoretically ranging from  $-5$  to  $+5$ , with  $+5$  representing warm) and the weighted percentage of respondents identifying themselves as members of party  $j$ . We provide the summary statistics for these key variables, by party, in Table 1.

Finally, we include a number of control variables to account for fluctuations in party support that are unrelated to our theoretical expectations ( $H_{jt}$ ) yet might possibly confound the relationships of interest. We use Bytzek's (2011) criteria to select the most important political events with high levels of media coverage over the period of our study: 'Schubladen' affair (March–May 1993), Kosovo

**Table 1.** Summary statistics by party.

	Mean	Std. Dev.	Minimum	Maximum
Retrospective Evaluations	2.90	0.27	2.36	3.36
<i>CDU/CSU</i>				
Support <sub>t</sub>	36.14	6.09	25.20	52.51
Thermometer	0.89	0.52	-1.06	2.98
Party ID (%)	45.20	3.38	37.62	55.52
<i>SPD</i>				
Support <sub>t</sub>	29.84	6.75	19.12	46.69
Thermometer	0.91	0.67	-0.84	2.77
Party ID (%)	38.56	4.09	29.35	48.13
<i>FDP</i>				
Support <sub>t</sub>	5.56	2.52	1.75	13.34
Thermometer	-0.14	0.69	-1.72	2.81
Party ID (%)	4.19	1.47	1.54	10.02
<i>Greens</i>				
Support <sub>t</sub>	9.68	3.52	4.21	23.55
Thermometer	0.16	0.59	-1.33	2.57
Party ID (%)	2.90	0.27	2.36	3.36

War (April–June 1999), CDU donations scandal (December 1999–February 2000), Fischer scandal (January–February 2001), RWE affair (November–December 2004), VW corruption (July 2005), Guttenberg plagiarism (February–March 2011), Fukushima disaster (March–June 2011), Stuttgart 21 (September–November 2011), and the Wulff scandal (December 2011) that eventually led to the resignation of Christian Wulff as President. We also include three-month honeymoon periods for each party as it assumes a role in government (either as chancellor or as the coalition partner).

One benefit to our approach is that we empirically model the support of all four major parties with separate, but related, models. This is in contrast to alternative estimation techniques that model either the support for only the chancellor's party or the government parties collectively. The advantage of our approach is easy to discern by way of an example. Consider how two estimation techniques model the simple relationship between retrospective national economic evaluations and support. In the first estimation technique, one would estimate the model across all chancellors over some period, and therefore derive one estimate of the effects of economic evaluation on chancellor support ( $E_t$ ). Thus, estimates would be identical for all chancellors, regardless of party (note the lack of party subscript on  $E_t$ ) or conditioning factors (such as  $G_{jt}$ ). In the second estimation technique, one would get an estimate of the effects of economic evaluations on the collective support for the two coalition parties. Of course, one would not be able to differentiate the effects of evaluations on the chancellor's party from the coalition partner. Both techniques are unsatisfactory. Scholars impose a restriction on their empirical model so that the effects of retrospective evaluations are constrained to be equal across chancellors

controlled by different parties (first technique) and across parties within the coalition (second technique). We call this the Constant Economic Vote Restriction.<sup>8</sup>

Imposing this restriction is inconsistent with our knowledge of electoral accountability for four reasons. First, Anderson (1995; see also Narud, 1996) demonstrates that the connections between economic conditions and government support depend on perceptions of competence across various parties. Second, accountability will be higher for those parties that have a greater role in economic policy-making by controlling key cabinet posts, such as the chancellor or finance minister (Debus et al., 2014). Third, it is unreasonable for parties that campaign primarily on single issues (such as environmental parties) to be held accountable in the same fashion as mainstream parties (Adams et al., 2006). Finally, the connections between economic conditions and perceptions of the best party to manage the economy vary based on the party's ideological makeup (Palmer et al., 2013). As we will demonstrate later, the Constant Economic Vote Restriction has no empirical justification either.

Empirically modeling support levels for these four parties requires some special consideration in terms of estimation techniques. First, support levels for these four parties are interdependent, which implies that the four outcomes will be correlated. Downsian notions of party competition suggest that the strategies and ideologies of the four parties will be highly dependent on those of the others (Downs, 1957), and the extent to which parties' electoral fortunes are correlated depend on their relative ideological proximity (Williams and Whitten, 2015). Second, mathematically, increasing party support for the CDU/CSU implies that there are fewer potential supporters for the other three parties. Regardless of how popular one party gets, the sum of the four totals must not exceed 100%, and regardless of how unpopular one party gets, its support is bounded by 0%.

Seemingly unrelated regression (SUR) offers a potential solution to these two unique problems (Tomz et al., 2002; Zellner, 1962) by simultaneously estimating the four parties' support models described above. SUR models allow us to test a set of theoretically-sound hypotheses that other methods cannot; this includes whether the impact of evaluations on support varies across parties that control the chancellor and parties within the coalition. We relax the Constant Economic Vote Restriction by generating party-specific estimates of all the variables described above.

## Analysis

Table 2 provides the seemingly unrelated regression results for our pared-down models of support for the CDU/CSU, SPD, FDP, and Greens with the model specification determined by sequential t-tests.<sup>9</sup>

Based upon our hypotheses, we would expect that economic accountability depends on the party's issue

**Table 2.** Seemingly Unrelated Regression (SUR) results for the influence of retrospective national economic evaluations on party support, conditional on government participation.

	CDU/CSU		SPD		FDP		Greens	
Economic Evaluations <sub>t</sub>	-3.81	(3.05)	-11.20**	(3.66)	-0.05	(0.34)	1.70	(1.64)
Economic Evaluations <sub>t-1</sub>	-0.26	(3.11)	7.19*	(3.79)			-1.42	(1.63)
Chancellor <sub>t</sub>	-45.95***	(11.33)	-60.13***	(13.1)				
Chancellor <sub>t-1</sub>	30.11***	(11.53)	46.52***	(13.7)				
Coalition Partner <sub>t</sub>			-36.66**	(17.2)	-0.67	(2.15)	7.32	(5.83)
Coalition Partner <sub>t-1</sub>			24.62	(17.1)			-6.51	(5.82)
Chancellor <sub>t</sub> × Evals <sub>t</sub>	15.39***	(4.01)	20.35***	(4.47)				
Chancellor <sub>t-1</sub> × Evals <sub>t-1</sub>	-10.69***	(4.06)	-15.44***	(4.69)				
Coalition <sub>t</sub> × Evals <sub>t</sub>			14.01**	(6.16)	0.27	(0.75)	-2.65	(2.06)
Coalition <sub>t-1</sub> × Evals <sub>t-1</sub>			-10.81*	(6.15)			2.38	(2.06)
Thermometer <sub>t</sub>	2.27***	(0.36)	3.15***	(0.48)	0.65***	(0.23)	0.50**	(0.23)
Thermometer <sub>t-1</sub>			-0.81*	(0.49)	0.40*	(0.24)		
Party ID <sub>t</sub>	0.58***	(0.06)	0.54***	(0.05)	0.53***	(0.07)	0.76***	(0.05)
Party ID <sub>t-1</sub>			-0.15**	(0.06)			-0.21**	(0.07)
Party ID <sub>t-2</sub>							-0.31**	(0.07)
VW Affair <sub>t</sub>			-4.78***	(1.81)				
VW Affair <sub>t-1</sub>					1.81*	(1.04)		
VW Affair <sub>t-2</sub>	-4.85**	(2.08)						
RWE Affair <sub>t-2</sub>			1.30	(1.29)				
Plagiarism <sub>t</sub>			3.00**	(1.50)				
Plagiarism <sub>t-1</sub>			3.91*	(2.36)				
Fukushima <sub>t</sub>			-3.95**	(1.79)				
Fukushima <sub>t-1</sub>							4.10***	(0.85)
Fukushima <sub>t-2</sub>			4.68***	(1.43)			-3.01**	(0.88)
Support <sub>t-1</sub>	0.38***	(0.05)	0.35***	(0.06)	0.33***	(0.06)	0.41***	(0.07)
Support <sub>t-2</sub>	0.03	(0.05)	0.15***	(0.06)	0.13**	(0.06)	0.31***	(0.06)
Constant	5.88	(4.26)	9.79**	(4.66)	1.05	(1.07)	-0.58	(1.60)
N		192		192		192		192
RMSE		2.12		1.82		1.05		1.06
R <sup>2</sup>		0.88		0.93		0.83		0.91

Note: \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$  (two-tailed).

Inclusion of events variables is determined by sequential  $t$ -tests.

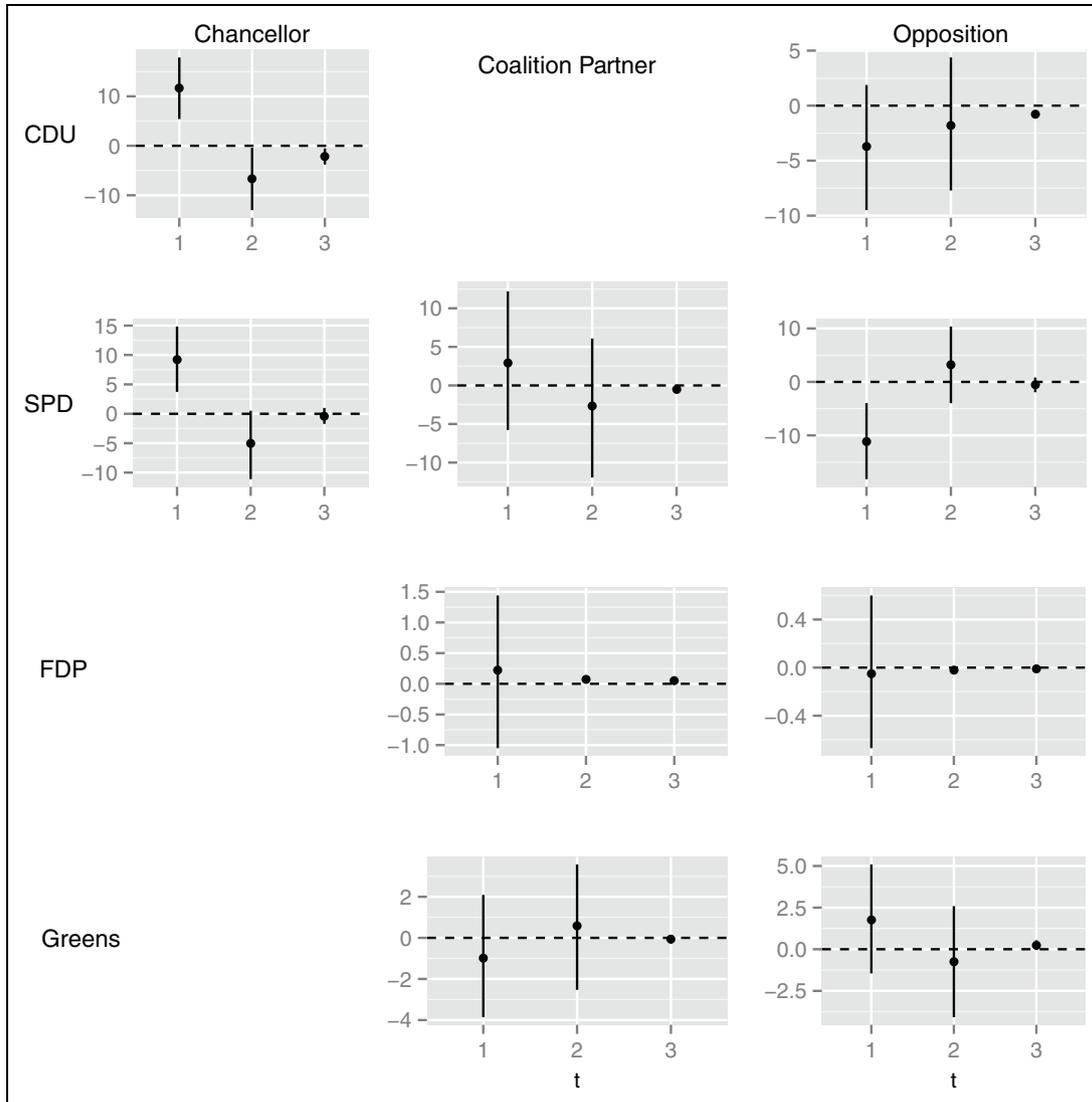
emphasis, its status in government, and whether it is a credible governing alternative. Based on a cursory glance at the coefficients, one can infer that the only party that is punished for improving evaluations when in opposition is the SPD (based on the coefficients for Evaluations at time  $t$ ). Those parties we would expect to benefit from improving expectations (i.e. those controlling the chancellorship) do so, but these effects immediately decrease in the next time period.

Since the theoretical expectations of evaluations are conditional on participation in government and control of the chancellorship, the appropriate manner to test these hypotheses is to show marginal effects (Brambor et al., 2006). Using marginal effects to interpret the effects is complicated somewhat by the dynamic nature of this model. In a static model—or one without a lagged dependent variable and only concurrent values of the variables—the effect of evaluations on party support (conditional on government status) would be reflected in the marginal effects. In reality, the inclusion of two lagged dependent variables ( $S_{jt-1}$  and  $S_{jt-2}$ ) and the lagged explanatory variables means

that these factors influence party support in future time periods as well. As expected, both coefficients for the previous months' levels of support have statistically significant and positive effects on current levels of support (except in the case of the CDU/CSU). A more complete interpretation, therefore, must include an analysis of these dynamics.

A recent trend in political science is to utilize simulation techniques to interpret models (King et al., 2000). One way to interpret the long-term effects of variables in highly autoregressive models, such as party support, is to produce dynamic simulations for particularly interesting scenarios of independent variables (Williams and Whitten, 2012). Though this technique was originally applied to OLS models, various efforts have expanded its breadth to seemingly unrelated regression (Palmer et al., 2013) and error correction models (Philips et al., 2015).

The intuition for dynamic simulations is to establish a theoretically-interesting scenario of independent variables (such as economic evaluations, partisan identification, and party evaluations), calculate the change in predicted level of party support at time  $t$ , and then update the scenario at



**Figure 2.** Dynamic simulation of how an increase (improvement) in economic evaluations at time  $t = 1$  influences party support across government arrangements over the next two months.

time  $t + 1$  so that the value of the lagged party support reflects the predicted value from  $t$ . This demonstrates the autoregressive nature of the series. A variety of inferences can be made, including whether the predicted values for two scenarios are different at one time period, whether the predicted values for one scenario change over time, the size of the short- and long-term effects, and the speed at which the series returns to its pre-shock level. These inferences are often fundamental to the theory, but simply interpreting the table of coefficients (such as those in Table 2) provides no insight.

Figure 2 presents a three-month dynamic simulation of how predicted support levels (and 95% confidence intervals) for all four parties respond to a 1-unit improvement in national retrospective evaluations at time  $t$ , depending on whether the party controls the chancellorship

(first column), is a junior coalition partner (second column), or is in the opposition (third column). All four parties begin their simulations at their sample means (36% CDU/CSU, 30% SPD, 5% FDP, and 9% Greens). We can also get a sense of the autoregressive nature of the parties' bases of support. Recall that an increase at time  $t$  influences the predicted support level through two channels: first, by changing the value of economic evaluations at future time periods, and second, by influencing future values of the lagged support variables.

Figure 2 shows that in the short-term, support levels of the two major parties are substantially more dependent on economic evaluations than the two minor parties. Indeed, economic evaluations do not have a short-term statistically significant impact on support levels for the FDP or Greens, regardless of whether in the coalition or in opposition.

However, when in opposition, both the SPD and CDU/CSU lose greatly as evaluations improve (though not statistically significant for the CDU/CSU). Both major parties stand to gain in the short-term from improving evaluations when controlling the chancellorship.

Figure 2 also shows the folly of only examining the immediate impacts of shocks on party support. By only interpreting the short-term effects, one ignores the possibility that the change is fleeting, and is one that immediately regresses at future time periods. For example, the short-term boosts by the CDU/CSU and SPD (in the chancellorship) at time  $t$  are substantial (around 10% in both cases), but this effect becomes negative at time 2 and 3. The cumulative result is a much smaller—though still important—boost from improving conditions. Likewise, without presenting these dynamic simulations, one would wrongly infer that the SPD is not influenced by evaluations when in coalition as the junior partner. The dynamic simulation reveals that two time periods after the shock, the SPD actually loses half a point of support (significant at the 90% confidence level). Though it might seem counter-intuitive for a government party to lose support while overseeing economic growth, the only time the SPD is a coalition partner is during the Grand Coalition. The SUR model astutely demonstrates that the CDU/CSU (as chancellor) gains at the expense of the SPD (as partner). The long-term effect is also evident for the FDP, as they gain at time 2 and 3 while in government and lose while in opposition. It should be noted, however, that while these changes are statistically significant (at the 95% confidence level), they are substantively tiny (around +0.5% and -0.2%), even relative to the FDP's smaller support base.

A theoretically-interesting question that other empirical techniques have been unable to address is whether one major party is punished (rewarded) to a greater extent than the other for worsening (improving) economic evaluations. Since the SUR model simultaneously estimates the support levels for all parties, we can easily test the equality of the effects of evaluations. Figure 2 shows that both major parties benefit from improving economic evaluations (if they control the chancellorship) and benefit from deteriorating evaluations (if in opposition) to a similar extent. There is also no statistical difference in any of the pairwise combinations for the three coalition partners in this time frame. The biggest difference appears when we determine who benefits from poor economic performance. It is pretty clear that the CDU/CSU (at time 3) and SPD (at time 1)—though not statistically different from each other—benefit to a much greater degree from deteriorating evaluations when in opposition than do the smaller parties. Thus, when voters are dissatisfied with the state of the economy, they shift their support to whichever major party is in the opposition. Overall, Figure 2 demonstrates the considerable impact of evaluations on support for the two major German parties, as well as how those effects

change if the party is perceived as responsible for declining expectations.

The SUR results in Table 2 lend additional weight to the idea that valence party evaluations have substantial effects on party support, as the concurrent values for both the thermometer rating and party ID variables are positive and statistically significant for all four parties. Of course, since the coefficients in the table only reflect the short-term effect of party evaluations on party support (deBoef and Keele, 2008), a full examination requires that we also interpret the long-term effects. This makes sense theoretically as well, since it is perhaps asking too much for changes in evaluations or party identification to only have an immediate effect on party support. One-month lag variables are statistically significant and negative in the case of SPD and Greens, suggesting that the change at time  $t$  is short-lived and quickly reverts back to its pre-shock levels. Nevertheless, these long-term effects suggest that judging the substantive effects of a variable solely by interpreting the coefficients will drastically underestimate the overall effects.

The variables included to control for unexplained fluctuations in party support ( $H_{jt}$ ) are largely insignificant, except for the VW affair (CDU/CSU, SPD, and FDP), RWE affair (SPD), plagiarism scandal (SPD), and the Fukushima disaster (Greens). The fact that the other event variables are not statistically significant suggests that our model explains these typical fluctuations in support with theoretically-grounded variables (such as economic conditions or valence assessments), rather than variables intended to control for idiosyncratic fluctuations.

## Conclusion

We present SUR as a more effective way to model the dynamic nature of German party support. In addition to providing a technique that addresses the unique nature of the data (i.e. bounded range of the dependent variable, interdependent outcomes, etc.), it allows us to derive a number of inferences that elude scholars who use other methods. The first primary inference is whether voters hold different parties accountable for economic conditions. By relaxing the Constant Economic Vote Restriction, we find that support for the two major parties is more strongly connected to economic evaluations than the two minor parties. Economic perceptions have the strongest effect in explaining support for the SPD when they hold the chancellorship, while both major parties, the SPD and CDU/CSU, are strongly affected when in opposition. In the face of worsening economic evaluations, it is clear that when one of the two major parties is in opposition, it stands to benefit the most from dissatisfied voters. However, under the CDU/CSU grand coalitions in the post-unification time period, the chancellor's party is the sole beneficiary of the rewards from positive economic evaluations. The SPD, as the

coalition partner, gets an initial small boost which rapidly deflates. This finding helps not only to explain why the Social Democrats were reluctant to form another ‘grand coalition’ with the Christian Democrats after the 2013 Bundestag election, but also why, according to recent polls projecting the outcome of the 2017 Bundestag election, only the CDU/CSU seems to be benefitting from improvements in the German economy.

Second, we can compare the magnitude of accountability across parties. For example, we conclude that not only are the minor parties not influenced by economic evaluations, but that the effects of evaluations for major parties are *statistically greater than* those of minor parties. While we had expected that the Greens would be insulated from economic evaluations due to their status as an ecological party, the finding for the FDP defies the initial expectation in Hypothesis 1. Since the FDP’s manifesto is economically-oriented and when serving in coalition they led the Economics Ministry, we might expect voters to hold the party accountable for the economy. However, since the FDP has never held the chancellorship, it has not been the primary target of credit or blame when serving in the coalition (H2b). Furthermore, as a small party, it does not benefit from negative economic evaluations when it is in opposition (H3b). Thus, FDP’s role in the party system seems to inhibit the connection between economic evaluations and party support. This might be one part of the puzzle as to why the Free Democrats failed to win parliamentary representation in the 2013 Bundestag election.

Finally, we paint a complete picture of the dynamic nature of German party popularity by showing the different levels of “stickiness” of support for various parties, as well as how long it takes for parties to return to their long-run equilibrium following a shock in evaluations. We demonstrate that these effects often linger longer than the standard one-month lag, and thus in modelling party support in Germany and elsewhere, including longer lag structures will enhance our understanding of the factors influencing party support.

The utility of SUR to assess the factors that shape party support in Germany suggests the usefulness of this methodology for other multiparty systems. By applying SUR in different settings, we might better understand how party characteristics (size, ideology, platform, etc.), their position in or out of government, and holding the prime ministership or serving as a coalition partner, affect the economic vote. Furthermore, while we have used SUR to test hypotheses relating economic assessments to party support, scholars could use this approach to examine whether voters target parties differently when evaluating other salient domestic or foreign policy issues.

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### Notes

1. The CDU and CSU are formally two separate parties, with the CSU acting in Bavaria only, while the CDU competes for votes in the remaining 15 German states. Since the CDU and CSU form a common parliamentary party group in the federal parliament (the *Bundestag*), we refer to CDU and CSU as a unitary actor.
2. We follow Williams et al. (forthcoming) and focus on all categories of the Comparative Manifesto Project coding scheme that belong to MARPOR domain 4 ‘Economy’ when measuring party-specific saliency of economic issues. Applying the coding scheme developed by Bäck et al. (2011) to analyze qualitative portfolio allocation results in very similar results.
3. In contrast to the Christian Democrats and Social Democrats, the smaller parties including the FDP, Greens, and the ‘Linke’ are not attractive for large segments of the electorate. They tend to be supported by specific social groups like the self-employed (Free Democrats), voters with a high degree of education (Greens), and voters socialized in Eastern Germany (‘Linke’) (see, e.g. Forschungsgruppe Wahlen, 2013; Hilmer and Merz, 2014).
4. There have been periods when the Social Democrats and Christian Democrats formed Grand Coalitions at the federal level (i.e. between 1966 and 1969, 2005 and 2009, and since 2013), so during these times, neither of the main parties was in opposition.
5. The survey was conducted via a random selection of registered voters who live in households with telephone access, and respondents are weighted by the size of municipality.
6. From 1993 to 1995 the Politbarometer asked the retrospective evaluations question once every few months, which means that there are only four observations for each of those years (missing data are listwise deleted). Starting in 1996, the evaluations question is asked every month, so there are few missing months until the end of 2011.
7. For all four party support variables, we can reject the null of a unit root (at the 99% confidence level) according to the Phillips-Perron and augmented Dickey-Fuller tests.
8. Note that this is related to Price and Sanders’ (1995: 452) criticism of the “uniformity assumption”, which is that “all individuals, regardless of the particular characteristics that they possess, respond identically to macroeconomic stimuli”.
9. We can reject the null hypothesis of independent equations with the Breusch-Pagan test at the 99% confidence level ( $\chi^2 = 19.5$ , p-value < 0.01), which supports our intuition that the four parties’ support levels are correlated, and justifies our use of SUR.

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