Forecasting the 2021 German Election: A Win for Armin Laschet?

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We have been offering *ex ante* forecasts of German national elections since 1998, with articles initially appearing in *Le Figaro* (Jérôme, Jérôme-Speziari, and Lewis-Beck 1998, 2002) and then in other outlets (Jérôme-Speziari 2005; Jérôme, Jérôme-Speziari, and Lewis-Beck 2009). This work, novel for its time, enjoyed some success, encouraging us to continue our focus on the demanding German case, including pre-election publications in this journal (Jérôme, Jérôme-Speziari, and Lewis-Beck 2013, 2017). In the 2013 and 2017 elections, our political-economy model accurately foretold that Angela Merkel would rule in coalition with the Social Democratic Party (SPD). Those predictions followed our previous forecasts from 1998 to 2009, which also were correct except in 2002, when our single-equation vote function did not foresee the narrow Green Party victory over the Free Democratic Party (FDP).

During this period of almost 25 years, we did some strategic tinkering with our model, it was hoped, to improve precision. For 2013, we tried to better incorporate the institutional features of proportional representation (PR) and the multiparty system (in particular, the role of smaller, less-mainstream parties). To further that effort, we constructed a Seemingly Unrelated Regression (SUR) model that simultaneously could estimate vote shares in a system of equations, thereby adjusting the estimates in any one equation by the necessary connection to the other vote equations (Zellner 1962). This approach, which explicitly considered parties large and small, was especially beneficial in 2017, with the noteworthy rise in more extreme parties: the Alternative für Deutschland (AfD) and the Left Party. These two blocs garnered almost 22% of the vote share, thereby denying main parties a majority. This also resulted in the formation of a "grand coalition" between the Christian Democratic Union/Christian Social Union (CDU/CSU) and the SPD, which—over time—has damaged their mainstream effort.

As we face the 2021 contest, this AfD threat remains, along with a Green Party threat aimed especially at the SPD. Moreover, with Merkel no longer a contender, there are serious leadership issues that the parties must confront. The CDU ultimately selected Armin Laschet, even though polling indicates that voters favored Bavarian Minister President Markus Söder. As for the Green Party, there also has been a leadership struggle, with Annalena Baerbock chosen over Robert Habeck—despite the fact that polls showed them to be equal contenders. Thus, to the extent possible, we have adjusted our model to accommodate these uncertainties under this PR system.

A final important measurement change was made regarding the conception of the dependent variable. We want to simulate the seats of the different parties as well as the coalitions that plausibly could form an absolute majority in the Bundestag. With this in mind, we abandoned the strategy of first predicting vote share using a voting function, then predicting seat share, in a swing ratio relying on the prior vote-share predictions. Instead, seat-share percentages are explained directly by economic and political determinants. This direct procedure allows us to significantly minimize the size of cumulative errors.

THE POLITICAL-ECONOMY MODEL: THEORY AND MEASUREMENT

The underlying theory of our model contends that the incumbent government gains voters from good performance and loses voters from bad performance. The performance involves economic and political issues, for which the government reasonably can be held accountable. The modeling of the chancellor party and the opponent party most clearly fits this retrospective reward–punishment idea, as first articulated by Key (1966). Conceptually, the specification of our equations aligns with standard vote functions containing macroeconomic data and executive-popularity survey measures (Stegmaier and Lewis-Beck 2013). For the German case, the main incumbent coalition party (i.e., the INC-MAIN) dependent variable measures the party-seats share for the CDU/CSU or the SPD chancellor (or the designated candidate of his or her camp). Likewise, the main opposition (OPP-MAIN) dependent variable measures the party-seats share for the main opponent of the outgoing chancellor. Although the CDU/CSU and the SPD are nominal opponents, the grand-coalition strategy sometimes forces them to work together; however, the chancellor would be from only one of those parties. It is noteworthy for this election that the chancellor is not running for reelection.

With respect to the independent economic variable, we use prior unemployment level (i.e., U_{Q-2}, measured two quarters before the election); as it increases, we hypothesize that it harms the main incumbent party and helps the main opponent

(following the Clarity of Responsibility theory; see Powell and Whitten 1993). Similarly, as in Norpoth and Gschwend (2010), the popularity independent variable is voter preference (i.e., one quarter before the election) for the chancellor ($KANZ_{Q-1}^{INC}$) or the opponent ($KANZ_{Q-1}^{OPP}$).

Our SUR model, estimated on the elections from 1961 to 2017, is constructed of a set of equations[1] beginning with

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these two dependent variables. They constitute the two "standard" equations: to explain the seats won by the lead incumbent party and to explain the lead opposition party. The remaining equations explain seat shares for the FDP (Liberal Democrats), the Green Party (Grune), the Left Party (Linke, formerly the Party of Democratic Socialism), and other parties (Others, including the AfD). The smaller parties should be held less responsible for government performance (Powell and Whitten 1993). Therefore, the vote for the FDP (for example) should be less retrospective and more prospective, expressing the hope that it will be included in a new coalition. (Perhaps surprisingly, this variable has been measured by German pollsters for 50 years.) Thus, for this variable, we distinguish between when the FDP is incumbent with the CDU/CSU ($CO_{INC}^{FDP/CDU}$) or with the SPD ($CO_{INC}^{FDP/SPD}$) as opposed to its being an opponent of the CDU/CSU ($CO_{OPP}^{FDP/CDU}$).

What about the equations for the other smaller parties? Green Party seat share, we assume, is driven mostly by the strength of its opposition ($PGRUNE_{OPP}$), as measured in the polls (IFD Allensbach and ZDF–*Politbarometer*). To clarify, we noted "preferred coalitions" in which the Green Party is incumbent with the SPD ($CO_{INC}^{SPD/GRUNE}$) or an opponent ($CO_{OPP}^{SPD/GRUNE}$). (Evidently, when the Green Party is included in a preferred coalition with the SPD while it is in opposition yields it no electoral benefit.) For the Left Party (PLINKE), we recorded the strength of its vote intention in the polls (IFD Allensbach and ZDF-*Politbarometer*). Finally, other seat-party share (Others) also appears accounted for by strength in the vote-intention polls for the other parties (POTHERS)—specifically, the AfD (IFD Allensbach and ZDF-*Politbarometer*), which comprises two thirds of the vote intentions in this category.

In addition to these theoretical specifications for the equations, we consider certain relevant electoral-rule changes over the period under study. One consideration is the 5% threshold. At different times in German history, small splinter parties[2] have achieved marks of between 2% and 5%; an obvious consequence is the reduction this causes in the marks of the large parties. Furthermore, since 2013 and 2017, these splinter parties have been increasingly heard—for example, the anti-Euro German party AfD's threat to CDU/CSU voting. (Regarding our current coding of the AfD in the Others category, if none of the

other small parties exceed 5% of the vote, all of the seats predicted in the Others equation might attach to the AfD.)

In general, German parties that do not exceed the 5% vote threshold cannot win seats. In addition to the AfD, this has affected the FDP and the Left Party. To incorporate this information into our model, we used different dummy variables (i.e., GRUINF5, FDPINF5, AFDINF5, and LINKINF5).

Additionally, other dummies were used if the Green Party or the Left Party did not contest the election (i.e., NOGRUNE from 1961 to 1976 and NOLINKE from 1961 to 1987). Relatedly, dummy variable DUM83 codes the SPD's split from the FDP; DUM6180 marks the period 1961–1980 when the SPD and the FDP were allied in "social-liberal" coalitions.

Along with consequences from electoral rules, there have been major political–institutional shifts that altered outcomes at the ballot box. First, the grand coalitions CDU/CSU/SPD ($GCOAL^{09/17}$) adversely affect the vote shares of the CDU/CSU and the SPD even more; however, they have had a positive "opportunism effect" on the other parties (Others) such as the AfD. Moreover, when the SPD was incumbent (from 1961 to 2017), it had greater losses compared to the CDU/CSU when it was incumbent. The theoretical rationale for this is party identification, which—in the aggregate for the SPD—is decreasing over time; with fewer individual identifiers, it has fewer voters. Accounting for this differential effect, we included the partisan dummy SPDINC. Finally, a major political change occurred with reunification (REUNIF) in 1990, which ushered in the Green Party—an ongoing presence since then.

THE POLITICAL-ECONOMY MODEL: SUR ESTIMATES

Using these equation specifications and measures, we estimated the SUR model for each seats-share equation. These estimates serve as the basis for making our forecasts for the party seats in the 2021 election. The SUR model reads as follows in table 1: Goodness-of-fit statistics indicate the performance potential of the equations. For the two initial equations predicting support or opposition for the main parties (i.e., INC^{main} and OPP^{main}), the Adjusted R^2, respectively, is 0.73 and 0.92. Also, the standard errors of the regression (SER) are encouragingly low, at 2.37 and 2.17 points, respectively. For the smaller parties, these statistics also are encouraging, with the Adjusted R^2 ranging from 0.97 to 0.69 and the SER from 0.71 to 1.86. As shown, it is the other parties (Others) that appear least predictable.

Could the model have correctly predicted past elections? The out-of-sample forecasts conducted from 1990 to 2017 for the parties seem to show in table 2 that it could. In each case, the winning chancellor was well predicted, including for the year 2002. (At that time, our single-equation model could not

Table 1

SUR Estimates Seats Share (%)

(1) $INC^{MAIN} = 43.79 - 0.88. U_{Q-2} - 5.06. SPD^{INC} - 5.06. GCOAL^{09/17} + 0.16.KANZ_{Q-1}{}^{INC}$

   (20.81) (-7.48)   (-5.47)   (-3.33)   (3.83)

Adj R² = 0.73; SER = 2.37; N = 16 (1961–2017)

(2) $OPP^{MAIN} = 15.93 + 1.25. U_{Q-2} - 8.26. GCOAL^{09/17} + 0.24.KANZ_{Q-1}{}^{OPP} + 20.47. DUM^{6180}$

   (5.55) (5.18)   (-5.45)   (4.63)   (10.31)

   $+ 13.06. DUM^{83}$

   (8.30)

Adj R² = 0.92; SER = 2.17; N = 16 (1961–2017)

(3) $FDP = 4.93 + 0.13. CO_{INC}{}^{FDP/CDU} + 0.08. CO_{INC}{}^{FDP/SPD} + 0.21. CO_{OPP}{}^{FDP/CDU} -7.09.FDPINF5$

   (6.88) (6.01)   (3.91)   (7.37)   (-5.94)

Adj R² = 0.81; SER = 1.47; N = 16 (1961–2017)

(4) $GRUNE = 6.54 - 6.56. NOGRUNE + 0.53. PGRUNE^{OPP} -7.80.REUNIF -0.17. CO_{OPP}{}^{SPD/GRUNE}$

   (7.43) (-7.21)   (6.83)   (-13.68)   (-5.70)

   $+0.11. CO_{INC}{}^{SPD/GRUNE}$

   (2.18)   (-5.77)

Adj R² = 0.97; SER = 0.71; N = 16 (1961–2017)

(5) $LINKE = 1.44 +1.09. PLINKE -1.54. NOLINKE -8.25. LINKINF5$

   (1.92) (9.12)   (-1.92)   (-9.60)

Adj R² = 0.94; SER = 1.09; N = 16 (1961–2017)

(6) $OTHERS = -1.49 +0.65. POTHERS + 3.66. GCOAL^{09/17} -4.66. AFDINF5$

   (-2.71) (4.48)   (2.61)   (-2.62)

Adj R² = 0.69; SER = 1.86; N = 16 (1961–2017)

T-stats between brackets (two-tailed).

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anticipate the victory of Gerhard Schröder over Edmund Stoiber.)

FORECASTS FOR 2021

To carry out seats-share forecasts for the parties,[3] we inserted into the equations the following current values:

$U_{Q-2} = 6.2$ (June 2021); $KANZ_{Q-1}{}^{INC} = 16\%$ (May 28, 2021) (A.Laschet); $KANZ_{Q-1}{}^{OPP} = 18\%$ (May 28, 2021) (O.Scholz); $SPDINC = 1$; $GCOAL^{09/17} = 1$; $CO_{OPP}{}^{FDP/CDU} = 11\%$; $PGRUNE^{OPP} = 24\%$; $CO_{OPP}{}^{SPD/GRUNE} = 13$; $PLINKE = 6.5\%$; $OTHERS = 16\%$ (wherein non–AfD = 6%)

If the election had taken place as of this writing (June 2021), (see figure 1) the forecast would be 228 seats (i.e., 32.1% of the seat share) for Armin Laschet and he would more likely than not be chosen as the next chancellor, according to our calculations in figure 2.[4] Nevertheless, that would mean attaining fewer seats for the party than in 2017 (i.e., 246 seats). This result supports the notion of a continued decline for the CDU/CSU; concurrently, the AfD is expected to take a firmer hold, with 93 seats. Laschet's popularity as "favorite chancellor," initially low at about 16%, suggests a weakness at the ballot box. However, by coincidence, he stands to benefit from a similarly deficient popularity for his SPD competitor, Olaf Scholz (18%). Furthermore, the Green Party appears poised for a breakthrough, which would put it in an approximate tie with the SPD, which would come in second —although still at a considerable distance from the CDU/CSU (i.e., a gap of 82 seats).

DISCUSSION

Looking at various hypothetical coalitions (figure 3), at least three combinations might achieve an absolute major-

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ity, each troublesome for Laschet. First, a "Jamaican" CDU/CSU–Green Party–FDP coalition could reach 408 seats: working against this hypothesis is the fact that the FDP has become more right-wing, a frightening

Table 2

Out-of-sample predictions Seats share (%)

		CDU CSU	SPD	FDP	GRUNE	LINKE	OTHERS (AFD included)	Incumbent Chancellor	Winner	Correct prediction
2017	Forecast	39.8	21.1	8.2	9.6	9.7	11.5			
	Actual	*34.7*	*21.5*	*11.3*	*9.4*	*9.7*	*13.3*	CDU/CSU	CDU/CSU	Yes
	Error	5.1	−0.4	−3.1	0.2	0.0	−1.7			
2013	Forecast	45.6	30.9	7.1	9.3	7.2	0.0			
	Actual	*49.3*	*30.5*	*0.0*	*10.0*	*10.1*	*0.0*	CDU/CSU	CDU/CSU	Yes
	Error	−3.7	0.4	7.1	−0.7	−2.9	0.0			
2009	Forecast	39.5	31.5	10.7	5.5	12.8	0.0			
	Actual	*38.4*	*23.5*	*15.0*	*10.9*	*12.2*	*0.0*	CDU/CSU	CDU/CSU	Yes
	Error	1.1	8.0	−4.2	−5.5	0.6	0.0			
2005	Forecast	44.4	38.9	8.2	3.0	5.5	0.0			
	Actual	*36.8*	*36.2*	*9.9*	*8.3*	*8.8*	*0.0*	SPD	CDU/CSU	Yes
	Error	7.6	2.7	−1.8	−5.3	−3.2	0.0			
2002	Forecast	36.6	41.1	8.5	6.8	6.9	0.0			
	Actual	*41.1*	*41.6*	*7.8*	*9.1*	*0.3*	*0.0*	SPD	SPD	Yes
	Error	−4.5	−0.5	0.7	−2.3	6.6	0.0			
1998	Forecast	41.0	41.4	5.4	6.2	5.9	0.0			
	Actual	*36.6*	*44.5*	*6.4*	*7.0*	*5.4*	*0.0*	CDU/CSU	SPD	Yes
	Error	4.4	−3.1	−1.0	−0.8	0.5	0.0			
1994	Forecast	43.4	34.3	8.0	7.4	6.9	0.0			
	Actual	*43.7*	*37.5*	*7.0*	*7.3*	*4.5*	*0.0*	CDU/CSU	CDU/CSU	Yes
	Error	−0.3	−3.2	1.0	0.1	2.4	0.0			
1990	Forecast	44.9	34.6	10.1	10.4	0.0	0.0			
	Actual	*48.2*	*36.1*	*11.9*	*1.2*	*2.6*	*0.0*	CDU/CSU	CDU/CSU	Yes
	Error	−3.3	−1.5	−1.8	9.2	−2.6	0.0			

prospect for the Green Party. Second, a "blue" right-wing CDU/CSU–FDP–AfD coalition would cross the majority threshold (374 seats); however, this seems impossible at the moment, given that the positions on Europe and immigration are so far apart among the CDU/CSU, the FDP, and the AfD. Third, a CDU/CSU–SPD grand coalition certainly would attain an absolute majority (374 seats), but that solution appears no longer desired by either the SPD or the voters. These signs point to the coalition desired by many voters in the polls: the CDU/CSU–Green Party coalition. Nevertheless, our forecast indicates that a coalition would fall exactly on the absolute majority line—a precarious position and one that could tip either way, given the error margins of the Green Party model (+/-0.71% of the seats share) and the incumbent-party model (+/-2.37% of the seats share).

In the specific case of the Green Party, the margin of error of the forecast (+/-0.71%) suggests that it could place second if it is at the top of its uncertainty range at 18.61% of seats (17.9+0.71) and the SPD is at the bottom of its uncertainty range at 18.43% of seats (20.6–2.17). The Green Party seems to be in an outsider position, a result consistent with the polls trending at the end of May (i.e., 21.5% of voting intentions: 152 seats in the Bundestag compared to 132 in the high range of our forecast).

The Green Party cannot be held responsible for the COVID-19 crisis because it did not govern, unlike the CDU/CSU and the SPD. In this respect, the impact of the pandemic on the balance sheet of the incumbents is still unknown for political-economy models. We do know, however, that COVID-19 had an impact on the economy as an exogenous factor not controlled by the authorities; however, we do not yet know the magnitude of that impact over space and time.

If economic conditions do not improve significantly between now and the election, perhaps causing Laschet's weak popularity to stall, the German electorate well may face real political instability to a degree the country has not seen for decades. There remains the traditional solution—a grand coalition—but our model indicates that this solution would further weaken the two major German parties to the benefit of the populist parties, thereby reinforcing the risk of a split vote in 2025. ∎
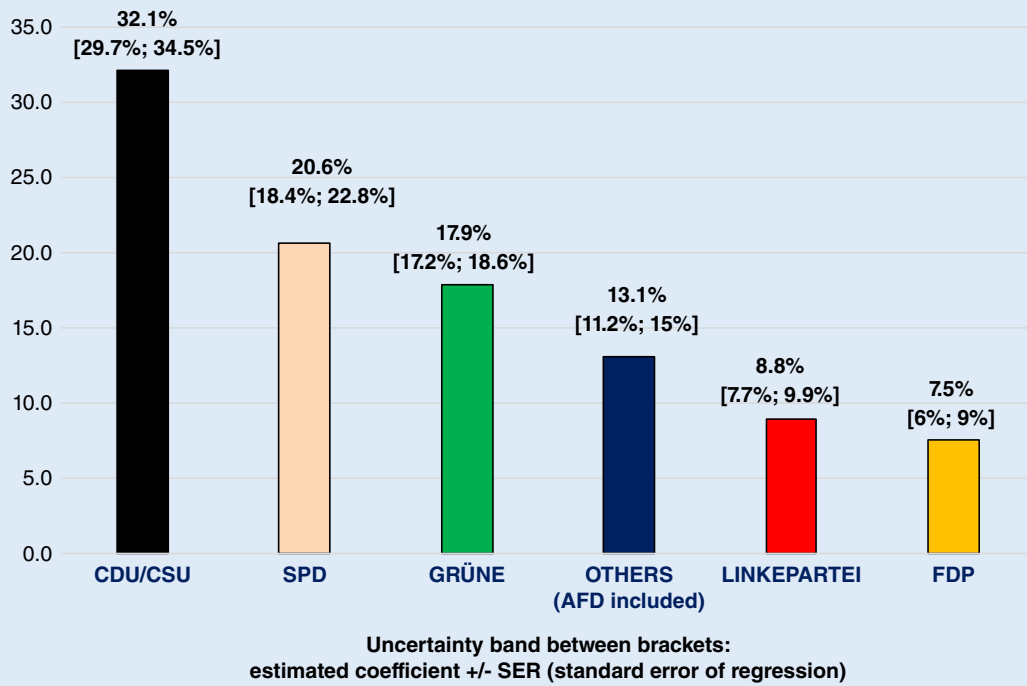
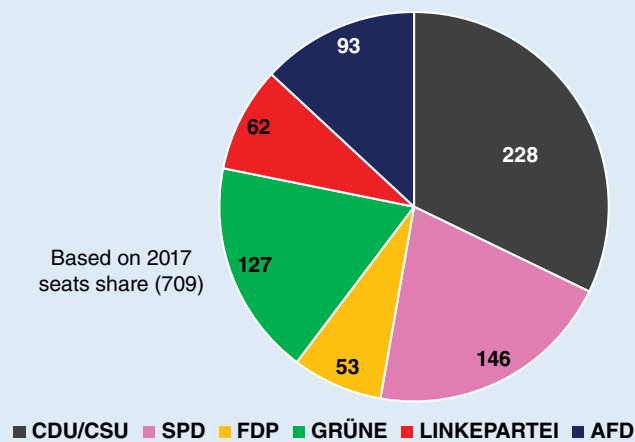## Figure 1
Seats share forecast (%) June 2021

**Uncertainty band between brackets:
estimated coefficient +/- SER (standard error of regression)**

Figure 2
Seats forecast June 2021

Based on 2017
seats share (709)

■ CDU/CSU ■ SPD ■ FDP ■ GRÜNE ■ LINKEPARTEI ■ AFD

Figure 3
Hypothetical coalitions June 2021

Coalition	Seats
CDU/CSU + FDP + GRÜNE	408
CDU/CSU + SPD	374
CDU/CSU + FDP + AFD	374
CDU/CSU + GRÜNE	355
SPD + GRÜNE + LINKEPARTEI	335
SPD + GRÜNE + FDP	326
CDU/CSU + FDP	281
SPD + GRÜNE	273

Absolute Majority 355 seats
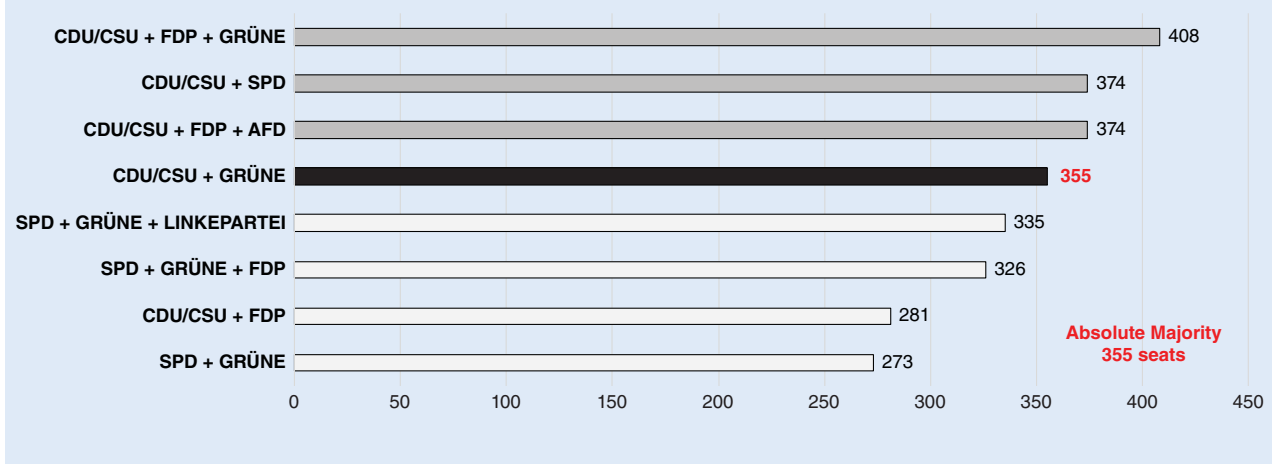
NOTES

1. SUR allows the equations in a system to have correlated errors across equations. This is more realistic than, for example, estimating each separately as an OLS equation. With SUR, moreover, the predictions are mathematically constrained—as they should be—to total 100% of the vote.

2. For instance, the German Communist Party in 1961 and 1965, the National Democratic Party in 1969, and the AfD in 2009 and 2017.

3. Sources of the economic and political data are as follows: *Arbeitsmarktstatistik der Bundesagentur für Arbeit,* Nürnberg; *Forschungsgruppe Wahlen,* Mannheim; *Zentralarchiv für empirische Sozialforschung* (1961–2002); ZDF *Politbarometer* (for *Koalitionspräferenz*); and IFD Allensbach. Referring to the data on "preferred chancellor," we used the latest data from the INSA institute (May 28, 2021), given the current lack of data from the *Politbarometer* that does not test the three potential chancellors all together (i.e., Laschet versus Scholtz versus Baerbock).

4. The raw findings for the forecast give a total amount share for the political parties slightly less than 100; therefore, we normalized the table 2 results.

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