

Estimating the Representativeness of German Parties in the 2013 Bundestag Election

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Abstract—The positions of German parties on 36 policy issues are compared with the results of public opinion polls, and the parties’ indices of popularity (the average percentage of the population represented) and universality (frequency in representing a majority) are constructed. The 2013 federal election winner, the CDU/CSU, is shown to be the least representative among the 28 parties considered. The most representative among the four parties in the Bundestag (with >5% of the votes) is DIE LINKE, which received only 8.6% of the votes. It is concluded that voters are inconsistent with their own political profiles, disregard party manifestos, and are likely driven by political traditions, even if outdated, or by personal images of politicians.

Keywords—Mathematical theory of democracy; German parties; Bundestag election 2013; indices of representativeness.

I. INTRODUCTION

Table I shows the four German parties which, having received > 5% of the votes in the 2013 federal election, are eligible for the Bundestag seats. The goal of the paper is estimating the representativeness of these and other German parties participating in the 2013 Bundestag election from the viewpoint of direct democracy. For this purpose, we compare the parties’ positions on topical policy issues with the outcomes of public opinion polls and construct the parties’ indices of popularity (the average percentage of the population represented) and universality (frequency in representing a majority), according the methodology described in [5].

The party positions are taken from the Wahl-O-Mat — an internet site of the Bundeszentrale für politische Bildung (German Federal Agency for Civic Education) [2]. Recall that the Wahl-O-Mat (an invented word composed from the German *Wahl* = election and *Automat*) is the German version of the Dutch Internet site *StemWijzer* (‘VoteMatch’) [3], which was originally developed in the 1990s to involve young people in political participation. Both websites help the users locate themselves on the political landscape by testing how well their opinions fit with party positions. Before an election (local, regional, federal, and even European), a special governmental supervising committee compiles a list of questions on topical policy issues (‘Introduce minimum wage?’—Yes/No, ‘Introduce a general speed limit on motorways?’—Yes/No, etc.) and asks the parties participating in the election for their answers. A user of the site

Table I
RESULTS OF 2013 GERMAN BUNDESTAG ELECTION

	CDU/CSU	SPD	DIE LINKE	GRÜNE	25 parties ineligible for Bundestag seats ($< 5\%$ of the votes)
Votes (%)	41.6	25.8	8.6	8.4	15.7
Bundestag seats (%)	49.3	30.6	10.1	10.0	

CDU/CSU Union of Germany’s two main conservative parties, Christlich Demokratische Union Deutschlands (Christian Democratic Union of Germany) and Christlich-Soziale Union in Bayern (Christian Social Union of Bavaria)

SPD Sozialdemokratische Partei Deutschlands (Social Democratic Party of Germany)

DIE LINKE (The Left) the 1997 merger of East German communists and the Electoral Alternative for Labour and Social Justice (WASG), a left-wing breakaway from the SPD

GRÜNE (The Green) BÜNDNIS 90/DIE GRÜNEN (Alliance 90/The Greens) the merger of two ecologically-focused parties, DIE GRÜNEN (West Germany) and BÜNDNIS 90 (East Germany), both with a social-democratic background

Source: [1], [2]

answers the same questions, eventually attributing weights to reflect their importance, and then the program compares his or her political profile with that of the parties and finds the best-fitting party, the next best-fitting party, etc. No statistical data are available from the Wahl-O-Mat, and if any were available, they would be biased toward internet users. Therefore, by any reason, the balance of public opinion is better reflected by relevant public opinion polls.

For the given model, we consider the Wahl-O-Mat answers of 28 German parties participating in the 2013 Bundestag election and the results of 36 public opinion polls relevant to 36 out of 38 Wahl-O-Mat questions. The full information on the party answers with their comments on them as well as on the public opinion polls with all the references is given in the report [4].

II. CONSTRUCTION OF INDICES

Figure 1 shows the balance of public and Bundestag opinions on 38 topical policy issues, as well as the position of the DGB (Confederation of German trade unions).

To explain the figure, consider the top question: ‘1. Introduce a nationwide minimum wage’. The question number

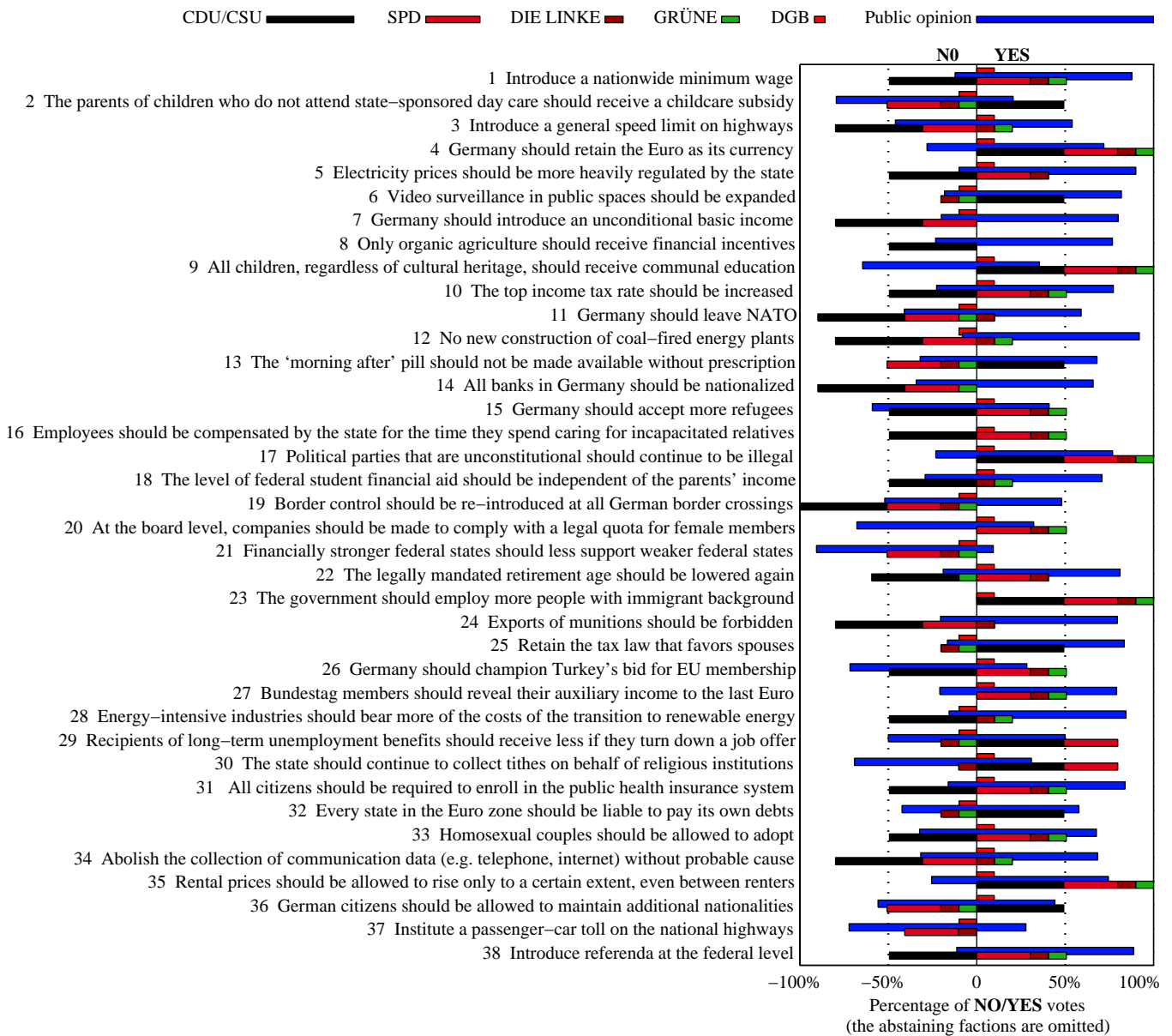


Figure 1. Public opinion and representation thereof by the 2013 Bundestag and the DGB

'1' is as in the 'official' *Wahl-O-Mat* questionnaire filled by the parties shortly before the Bundestag elections 2013.

The small red rectangle above the blue bar shows the Yes/No position of the DGB, which does not participate in the election but nevertheless has a position on the issue.

The balance of public opinion 86% : 12% on the issue is shown by the blue bar whose length is normalized to 100% (abstaining respondents are ignored). The size of the bar to the left side and to the right side of the central axis correspond to the percentage of antagonists and protagonists in the society, respectively. The blue bar's bias from the

center indicates at the prevailing public opinion.

A Bundestag faction is depicted by a rectangle with the 'official' party color. Its length is proportional to the number of the party seats in the Bundestag. The 'No/Yes' party opinion on the question is reflected by the location of the rectangle to the left side or to the right side from the central vertical axis, respectively. A Bundestag majority is attained if the cumulative length of party rectangles surpasses the 50%-threshold (marked with dotted lines).

If the position of DGB, public, or party is unknown, the corresponding rectangle is missing.

Table II
CORRELATION BETWEEN THE PARTY RANKS WITH RESPECT TO THE INDICES (RANK CORRELATIONS)

		Votes	Popularity				Universality			
			unweighted	Google	Brigitte Unger	Anne Graef	unweighted	Google	Brigitte Unger	Anne Graef
Votes		1.00	-0.29	-0.27	-0.30	-0.26	-0.34	-0.33	-0.31	-0.29
Popularity	unweighted	-0.29	1.00	0.99	0.98	0.94	0.98	0.98	0.98	0.94
	Google	-0.27	0.99	1.00	0.98	0.95	0.96	0.98	0.98	0.95
	Brigitte Unger	-0.30	0.98	0.98	1.00	0.96	0.95	0.96	0.99	0.95
	Anne Graef	-0.26	0.94	0.95	0.96	1.00	0.92	0.94	0.95	0.97
Universality	unweighted	-0.34	0.98	0.96	0.95	0.92	1.00	0.99	0.98	0.96
	Google	-0.33	0.98	0.98	0.96	0.94	0.99	1.00	0.98	0.96
	Brigitte Unger	-0.31	0.98	0.98	0.99	0.95	0.98	0.98	1.00	0.96
	Anne Graef	-0.29	0.94	0.95	0.95	0.97	0.96	0.96	0.96	1.00

Let us show how these data are used to construct the party indices of representativeness. For every question, a given party represents a certain fraction of the population (identified with the fraction in the opinion polls). For instance, the CDU/CSU with their ‘No’ answer to the first question ‘1 Introduce nation wide minimum wage’ represents the opinion of 12% of the population versus 86%. After removal of abstaining respondents and normalization, we obtain the CDU/CSU *representativeness* for Question 1:

$$r_{\text{CDU/CSU},1} = \frac{12}{12 + 86} \times 100\% \approx 12.2\% .$$

Similarly, with the ‘Yes’ answer to the next question ‘2 The parents of children who do not attend day care should receive a childcare subsidy’, the CDU/CSU expresses the opinion of 20% of the population versus 77%. After removal of abstaining respondents and normalization we obtain the CDU/CSU representativeness for Question 2:

$$r_{\text{CDU/CSU},2} = \frac{20}{20 + 77} \times 100\% \approx 20.6\% ,$$

and so on. Taking the average representativeness of the CDU/CSU over the questions with known results of public opinion polls and definitive party responses (there are 36 such questions), we obtain the party’s unweighted *popularity* index

$$P_{\text{CDU/CSU}} = \frac{12.2 + 20.6 + \dots}{32} \times 100\% \approx 40\% .$$

A higher popularity means that, on average, a larger fraction of the electorate is represented. Taking the average with the weights, we obtain weighted versions of popularity. (For every party, the questions with missing opinion polls or party positions are removed from consideration, and the question weights are proportionally adjusted to the total of 100%.)

The frequency in representing a majority ($\geq 50\%$) is defined to be the unweighted *universality* of the party. The CDU/CSU represents a (non-strict) majority on 11 out of 32 questions that are backed up by public opinion polls and the CDU/CSU positions. Hence, the frequency in representing a majority is

$$U_{\text{CDU/CSU}} = \frac{11}{32} \times 100\% \approx 34\% .$$

A higher universality means that a majority is represented more frequently. If the questions are counted with weights, we obtain the weighted versions of the universality index.

Figure 2 displays the indices of popularity P and universality U for 28 German parties parties, DGB and Bundestag in four versions each: unweighted questions (marked in the subsequent charts by ‘u’), weighted by the logarithm with base 2 of the number of Google hits for the questions’ keywords (marked by ‘g’), assuming that the number of relevant documents in the Internet reflects the importance of the question, and weighted by two experts — the director of the Institute for Economic and Social Research in the Hans-Böckler-Foundation, Professor Brigitte Unger, and the editor-in-chief of the DGB info-service *Einblick*, Anne Graef (marked by ‘b’ and ‘a’, respectively). The parties are sorted in the decreasing order of the mean of all the eight indices. The correlations between the party ranks with respect to the indices (rank correlations) are shown in Table II.

III. CONCLUSIONS

Inconsistency of election results with public opinion:

As one can see, the winner of the 2013 Bundestag election, the conservative party CDU/CSU with 41.6% of the votes, has the lowest ranking among all the 28 parties considered. Correspondingly, it also ranks lowest among the four eligible parties. The most representative among the eligible parties is DIE LINKE, which received only 8.6% of the votes. The negative correlations between the party ranks with respect to the votes received and the indices of representativeness show that most electors vote inconsistently with their own political profiles. A possible explanation of this inconsistency is the significant shift of the German (and world) political spectrum to the right after the 1990 German reunification and collapse of communism, although voters still believe that the parties represent the same values as a few decades ago.

Weak dependence between public opinion and the Bundestag position: Note that the Bundestag’s representative capacity is estimated at about 50%. It should be realized that 50% of representativeness is expected when, for every issue, a coin is tossed whose sides indicate the decisions in

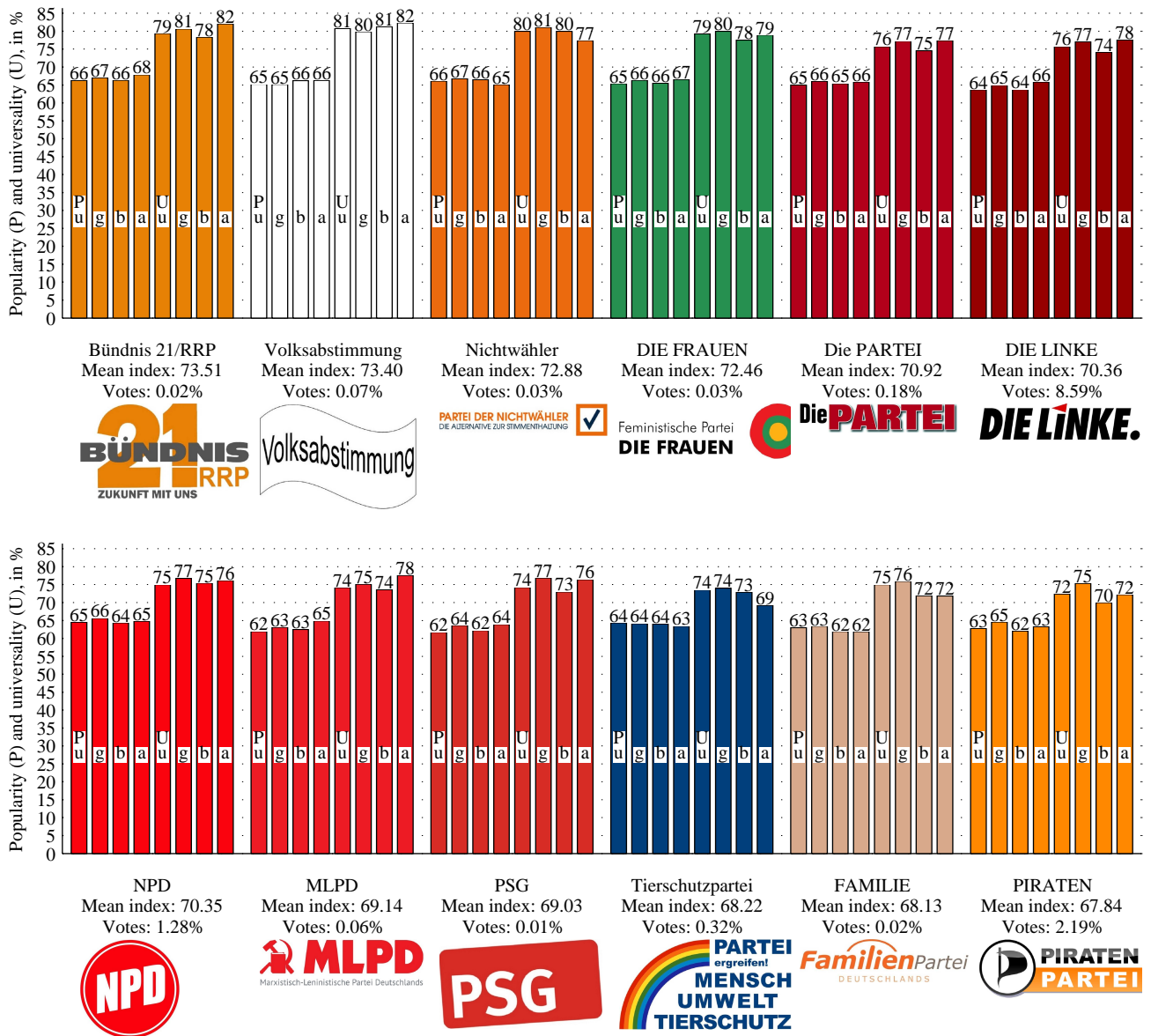


Figure 2. Indices of German parties and the DGB: P—popularity, U—universality, u—for unweighted questions, g—for questions weighted by the number of Google hits, b—for questions weighted by Brigitte Unger as the first expert, and a—for questions weighted by Anne Graef as the second expert

favor of either the majority or the minority in the society. Therefore, the index values of about 50% can be interpreted as the lack of dependence between public opinion and the Bundestag position.

Warning for policymakers: All of these constitute a serious warning against the use of traditional voting methods for selecting representatives of public opinion. Among other things, ‘wrong voting’ gives faulty feedback to policymakers about the policies they pursue. Already now, both extreme right and extreme left parties rank much higher than the moderate parties currently elected to the Bundestag. However, this cannot last forever, and if the discrepancy between

the population and the government becomes critical, an extremist government can be elected.

Secondary role of weighting: In Table II, all the rank correlations between the indices of representativeness are very close to one. Even the correlation between the unweighted and the Google-weighted indices — with the extremes in weight ranging from 42,900 (for Question 9 about separate school lessons for children with different cultural background) to 31,600,000 (for Question 31 about merging statutory and private health insurances) — is 0.99 or 0.98. This means that the party ranks are not very sensitive to the question weighting.

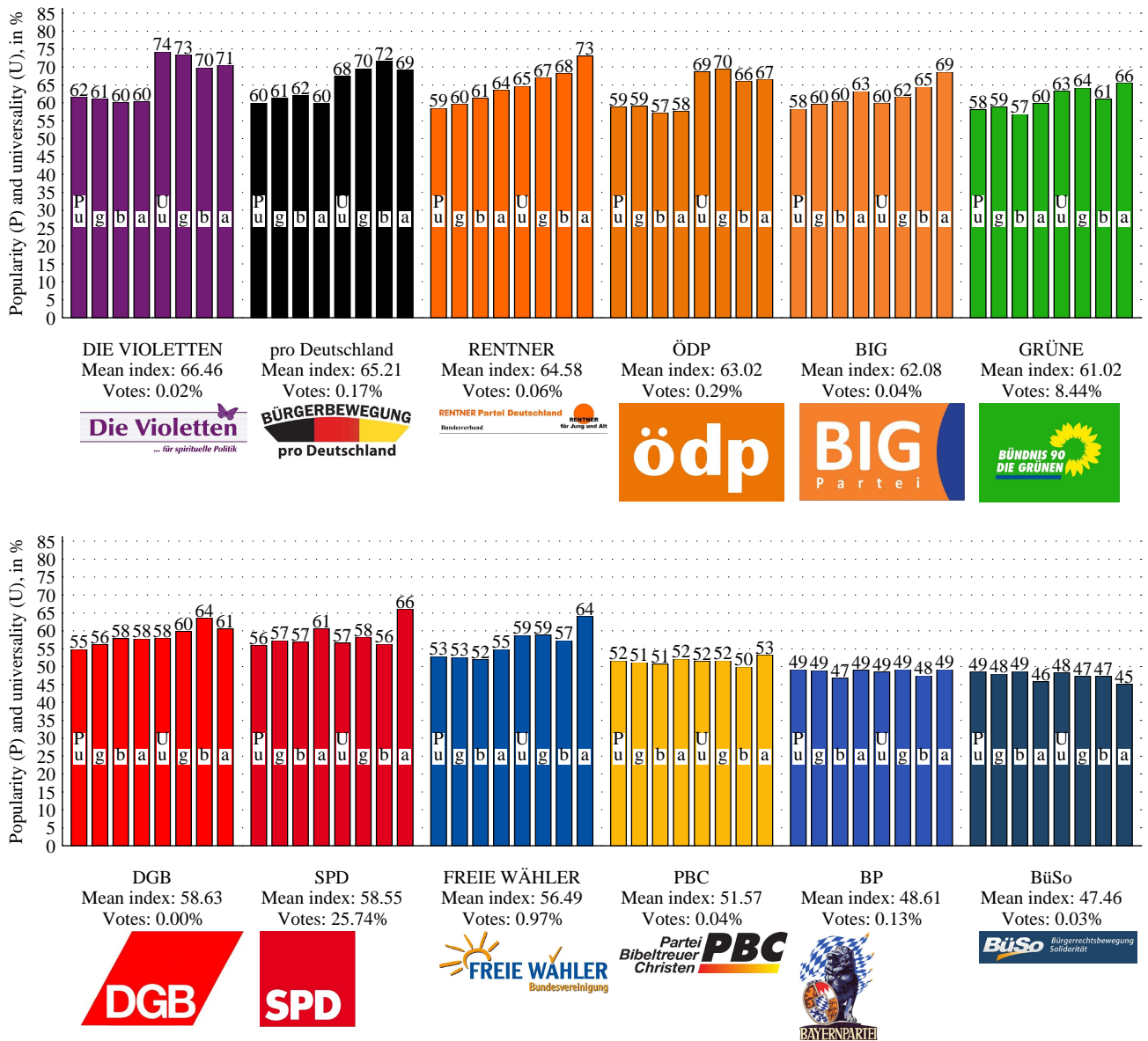


Figure 2. (continued) Indices of German parties and the DGB: P—popularity, U—universality, u—for unweighted questions, g—for questions weighted by the number of Google hits, b—for questions weighted by Brigitte Unger as the first expert, and a—for questions weighted by Anne Graef as the second expert

The similarity in index orders can be explained as follows. The responses of a given party are backed up by the party ‘ideology’, which determines the high intra-question correlations of party answers. Therefore, ‘erroneous’ weighting and even omission of some questions play a rather negligible role, because other questions carry superfluous information on the party political profile. Hence, we can evaluate the parties by the mean of its eight indices as done in Figure 2, or by the most ‘impartial’ unweighted indices.

Evaluation of representatives without election: The known DGB position on the given policy issues allows

us to evaluate its popularity and universality, although the DGB does not participate in elections. In the same way, the representativeness of any political body can be evaluated without elections, just by comparing its position with the results of public opinion polls.

IV. DISCUSSION: HOW TO IMPROVE ELECTION

The approach developed in this paper prompts a way to improve the election procedure. The aim is (a) to redirect the voters’ attention from candidate (party) images to their manifestos as political profiles, and (b) to base the election

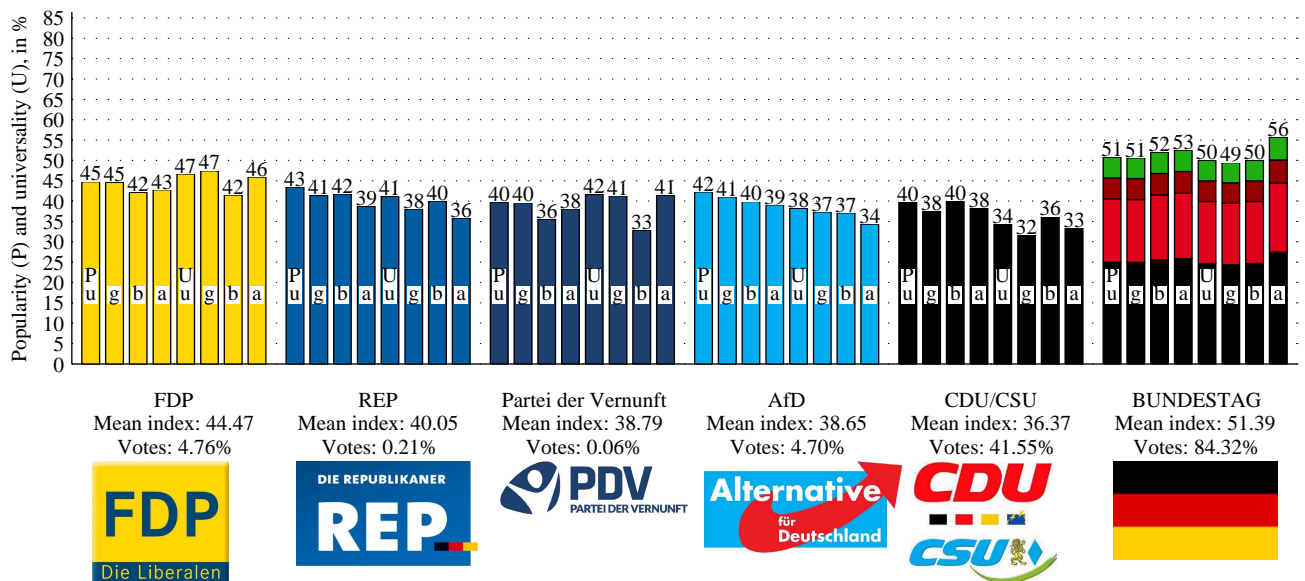


Figure 2. (continued) Indices of German parties and the DGB: P—popularity, U—universality, u—for unweighted questions, g—for questions weighted by the number of Google hits, b—for questions weighted by Brigitte Unger as the first expert, and a—for questions weighted by Anne Graef as the second expert

of candidates on matching their profiles to the majority will.

Currently the Bundestag is elected with two votes, the first (*Erststimme*) for a person and the second (*Zweitstimme*) for a party. The first 299 Bundestag members are representatives of local constituencies elected through the first vote. The next 299 Bundestag seats are distributed among the eligible parties (who have at least 5% of the second votes) to form their factions, including the party members. Thus, the second vote is decisive because it determines the size of Bundestag factions already elected by the first vote, in proportion to the second votes. Thereby, the partiality of the vote for a person is reduced by rearranging the Bundestag factions according to the more impersonal second vote for a party.

This logic of increasing impartiality of votes can be continued by introducing the absolutely impartial third vote (*Drittstimme*) asking for the elector’s political profile. It is imagined in the form of a survey on selected points of the party manifestos (Introduce nationwide minimum wage? Yes/No; etc.). As explained previously, the political profiles of the candidates (parties) are backed up by certain ideologies, making the answers to different questions strongly interdependent. Therefore, a few questions suffice to specify the political profiles of both candidates and voters.

In other words, we propose to combine elections with referenda revealing the public opinion on a sample of issues. The suggested approach envisages processing the totality of the ballots and evaluating candidates with respect to the fit of their manifestos to the public profile. It should be noted that in Switzerland, Canada and United States, referenda are often coupled with elections, however, not as criteria

to distribute parliament seats or public offices but rather for the convenience of the population.

Of course, a practical implementation should not exclude traditional ways of expressing opinions. In addition to questionnaires in the ballots, direct votes for a candidate and for a party should remain an option. Note that such a voting duality is already inherent in the German parliamentary election system with the first vote for a specific person, and the second vote for a party. In our consideration, the vote for a party is complemented with a vote for an even more impersonal party manifesto. Of course, one can also imagine a mixed procedure where the allocation of the Bundestag seats is derived from both the second votes and the party indices obtained through the third votes.

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