Online Appendix

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Appendix A

Data

A.1 Data

The cross–sectional pooled data set on European democracies combines estimates from Eurobarometer (1973–2002),[1] the European Social Survey (2002–2018),[2], and the European Election Survey (1979–2019).[3]

Eurobarometer (EB) surveys are conducted twice a year in the member states of the European Union, so the country sample expands from nine (1973–1979), to ten (1980–1984), to twelve (1985–1994), and fifteen (1995–2002). Norway is polled in some years (1990–1995). We combine surveys conducted in the same year to minimize the likelihood of bias due to sample size. The series ceases to be useful for our purposes from 2003 when Eurobarometer stopped polling vote intention.

The European Election Survey (EES) is conducted every five years after the European Parliamentary elections. Like Eurobarometer, country coverage broadly shadows EU enlargement. Since the first two waves (1979, 1984, 1989) were run as part of a Eurobarometer survey, only the last six waves (1994, 1999, 2004, 2009, 2014, 2019) provide independent information. The European Social Survey (ESS) is conducted bi–annually and covers up to 39 European democracies and non–democracies. Country inclusion varies from wave to wave. Our analysis uses information on the 28 EU member states plus Norway and Switzerland to minimize the unbalanced nature of the panel and maximize comparability. At the time of analysis, the 2018 wave was only partially released.

To plot change in structuration over time, Figures 1 and 2 draw on Eurobarometer data for eight countries that were members of the European Union since 1975 through 2019 (Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, and the United Kingdom).[4] We combine EB data with ESS data for twenty coun-

[1] Available from the Data Archive of GESIS—Leibniz Institute for the Social Sciences.

[2] Available from the European Social Survey.

[3] See European Election Study . Data available through the Mannheim Data Archive of GESIS—Leibniz Institute for the Social Sciences, except for the 1979–2004 combined file which was downloaded from the website of Michael Marsh and Slava Mikhaylov at Trinity College Dublin.

[4] Luxembourg is excluded because it was only sporadically polled by EB or ESS.

Table A.1: Data Sources and Sample Sizes by Analysis

		Figures 1 & 2	Figure 4 & Models
Eurobarometer	Number of respondents*	23248	—
	Number of party observations**	100	—
	Number of countries	8	—
	Years	1975, 1985	—
ESS	Number of respondents*	44239	199613
	Number of party observations**	239	1064
	Number of countries	20	25
	Years	2002, 2018	2002-2018 (biannual)
EES	Number of respondents*	—	67817
	Number of party observations**	—	527
	Number of countries	—	28
	Years	—	2004, 2009, 2014, 2019

Notes: * respondents who are at least 21 years old and voted in previous election. ** a political party is included as an observation if at least 30 respondents say they voted for this party in the previous election.

tries surveyed in both 2002 and 2018, or the nearest wave.

Figure 4 in the paper employs pooled data from the ESS and EES: 23 EU member states plus Norway and Switzerland for nine ESS waves, and data for all 28 EU–members from four EES waves (2004, 2009, 2014, and 2019). Table A.1 breaks this down for each analysis.

A.2 Unit of Analysis

The unit of analysis is the individual political party with 30 or more voters in an EB/ESS/EES survey–year. Respondent information from EB/ESS/EES is aggregated to the individual political party. We impose a minimum number of respondents per party to reduce the possibility of drawing a biased sample of voters. Respondents are included if they declare their vote choice[5] and are at least 21 years old to avoid the confounding effect of respondents with incomplete education.

A.3 Social Characteristics

The key variables are three social characteristics hypothesized to structure cleavage politics in postwar European politics. Occupational structuration, religious structuration, and education structuration is estimated in two steps. At the level of the respondent, the social characteristic is dichotomized to test for the sharp distinctions hypothesized by cleavage theory. Dichotomization makes the analysis more directly interpretable, though results are robust when using more refined categorizations.

Occupation takes a value of 1 if a respondent is an industrial worker, and zero otherwise. We follow the OESCH–8 classification schema to identify industrial

[5]We use *vote in the last election* for ESS, and *vote intention* for Eurobarometer and EES data (except for wave 2019, which has past vote choice) due to survey question constraints.

Table A.2: Operationalization of Occupation

Source	Operationalization
EB	**Q occup:** "What is your current occupation?" This variable refined from a 10–category to 18–category variable. "Manual worker" was a single undivided category until 1988. Later surveys break this down into skilled manual worker, supervisor, other (unskilled) manual worker. EB has a separate category for service workers, including employees "working mainly at desk" such as white collar-office worker, shop assistants, salesmen, nurses, restaurant workers, police etc. Hence, EB's manual worker category can be plausibly interpreted as composed primarily of industrial workers.
ESS	We adopt the Oesch (2006a) classification schema that employs detailed occupational information from the ISCO classification that is extracted from multiple questions in the survey. Occupation takes on the value of 1 if class8_r is the value of 4 ("production workers"), the closest equivalent to industrial worker.
EES	EES taps employment status, sector of work, or social class, which is hard to reconcile with occupational coding in EB and ESS.

workers (Oesch, 2006a). **Religion** takes a value of 1 if a respondent attends service at least once a week and zero otherwise. **Education** takes a value of 1 if a respondent has completed post-secondary or tertiary education. In operationalizing these variables, we seek to maximize construct validity under slight variation in question wording across data sources and over time. Tables A.2-A.4 provide more details on coding decisions.

A.4 Party Family

Political parties are classified according to their worldview in six party families: TAN (or radical-right), Conservative, Christian Democratic, Social Democratic, Liberal, and GAL. We allocate parties to party families on the basis of their ideology, European and international party memberships, and self-description (Kitschelt, 2018; Marks & Wilson, 2000), and in dialogue with existing categorizations, including Beyme (1985), Caramani (2015), Hix and Lord (1997), the CHES expert data set (Polk et al., 2017; Steenbergen & Marks, 2007), the Comparative Manifesto Project (CMP-MARPOR Budge et al., 2001; Klingemann et al., 2006; Volkens et al., 2020), the Eurobarometer trend file (Schmitt et al., 2005), Knutsen (2017), and ParlGov (Döring & Manow, 2021).

We implement three nuances. Traditional radical left (or communist) parties are merged with the social-democratic party family to better encompass the conventional political base of the working class. Christian-confessional and Christian-democratic parties are combined into a single Christian-democratic family. And finally, the GAL party family consists of Green or Ecological parties, Social Liberal

Table A.3: Operationalization of Religion

Source	Operationalization
EB	**Q churchat:** "Do you attend religious services several times a week, once a week, a few times during the year, once a year or less, or never?" Question wording varies across the surveys. For some surveys, missing values indicate "secular/never." Spotty coverage: this question was not included in some survey–years, or not fielded in some countries.
ESS	**Q rlgatnd:** "How often do you attend religious services apart from special occasions: every day, more than once a week, once a week, at least once a month, only on special holy days, less often, never."
EES	**Q t_var230, q118:** "[Apart from weddings or funerals,] How often do you attend religious services: several times a week, once a week, a few times a year, once year or less, or never?" Later waves use slightly varying wording, e.g. (2019): "Apart from weddings or funerals, about how often do you attend religious services: more than once a week, once a week, once a month, about each 2–3 months, only on special holy days, about once a year, less often, never."

parties, and New Left parties.[6] Table A.5 breaks down political party observations by party family and data source. Only parties that have 30 respondents in a survey–year are included.

A.5 Controls

Turnout: Country-level voter turnout statistics from the Institute for Democracy and Electoral Assistance (IDEA).

ENEP: Effective number of parties at the electoral level, a measure of party system fragmentation that is calculated using Rae's fractionalisation index (Gallagher & Mitchell, 2005; Laakso & Taagepera, 1979). The data and formula are available from Gallagher's website.

Vote: share of votes (percent) won by a political party in a national parliamentary election. We use first–round votes in countries with a two-round system. Source:

[6] We evaluate ideology (cultural and economic) and international party affiliations to assess whether a liberal party is Social Liberal and whether a radical left party is New Left. This is corroborated with scholarly sources, including Bomberg (1998), Close and Van Haute (2021), Chiocchetti (2020), Hloušek and Kopeček (2010), Hombach (2000), Jacobs (1989), Katsambekis and Kioupkiolis (2019), Keman (2017), Kirchner (2009), March (2011), and Müller-Rommel and Poguntke (2002). Of 643 GAL parties, 54 percent are Green, 32 percent Social Liberal, and 14 percent New Left.

Table A.4: Operationalization of Education

Source	Operationalization
EB	**Q educ:** "How old were you when you finished/stopped your full–time education?" (Or a cruder four–category variable for EB43–EB44 combined with age). A respondent is assumed to have completed post-secondary education if older than 20 years when completing education or still studying at that age.
ESS	**Q EDULVLA, EISCED:** "What is the highest level of education you have achieved?" Country–specific categorizations recoded into a harmonized ESS variable using the five–point ES–ISCED–97 scale and, phased in from 2010, the seven–point ES–ISCED scale. Our analysis employs the five–point scale to minimize the loss of respondents due to incommensurate coding. Education takes on a value of 1 if edulvla=4 (Post–secondary non–tertiary education completed) or 5 (tertiary education completed) or eisced=5, 6, or 7.
EES	**Q t_var216a:** "How old were you when you stopped full–time education?" A respondent is assumed to have completed post-secondary education if older than 20 years when completing education or still studying at that age.

Nohlen and Stoever (2010), Döring and Manow (2019), and national election commissions.

Other Controls: All models include fixed effects for country, year, and survey source (EB, ESS, EES).

Table A.5: Descriptives on Party Family

Party Family	EB (1975-2002)	ESS (2002-2018)	EES (1994-2019)	All Sources
TAN Parties	101	113	71	290
Conservatives	187	147	109	450
Liberals	291	107	64	475
Christian Democrats	306	124	67	508
Social Democrats	604	263	180	1070
GAL Parties	283	209	133	643
Other	117	102	54	277
All Families	1889	1065	678	3713

Appendix B

The Party Structuration Index

B.1 The Index

Consider two random variables, P and S. P takes on the value i if a voter voted for party i and some other value if another party received the vote. S takes on the value j if a voter possesses a social characteristic of interest to the researcher (e.g., being working class) and a different value if another characteristic applies. We now define two probabilities. First,

$$\pi_{j|i} = \Pr(S = j|P = i) \tag{B.1}$$

is the probability that a voter for party i possesses characteristic j. Second,

$$\pi_{.j} = \Pr(S = j) \tag{B.2}$$

is the probability that a voter possesses characteristic j.

If there were no relationship between P and S, then mathematically,

$$\pi_{j|i} = \pi_{.j} \tag{B.3}$$

We can thus think of $\pi_{.j}$ as the chance that a voter for i has characteristic j if there is no association between vote choice and the social characteristic. We now define

$$\pi_{j|i} - \pi_{.s} \tag{B.4}$$

as the deviation from chance. This indicates how much more or how much less S structures vote choice than we would expect by chance. The party structuration index is a rescaled version of the deviation from chance:

$$P_{ij} = 100 \cdot \left(\pi_{j|i} - \pi_{.j}\right) \tag{B.5}$$

Note that, in theory, $\pi_{ij} \in [-100, 100)$. In practice, the bounds depend on $\pi_{.j}$. This is a desirable property because $\pi_{.j}$ captures the availability of a specific group (e.g., working class) in society and we want our measure to be responsive to this.

Table B.1: Generic Data Matrix for the Party Structuration Index

	j	$\bar{j}$	
i	y_{11}	y_{12}	$y_{1.}$
$\bar{i}$	y_{21}	y_{22}	$y_{2.}$
	$y_{.1}$	$y_{.2}$	n

We interpret the party structuration index in terms of the whole of the social characteristic, i.e., all of its levels. However, in the computation we focus on only one level. Is this legitimate? Imagine, we contrast level j with all other levels of the characteristic. Let us call this $\bar{j}$. We could compute $P_{i\bar{j}}$, but this provides no new information about the way the characteristic structures the vote. The reason is that P_{ij} and $P_{i\bar{j}}$ of necessity sum to zero:

$$\begin{aligned} P_{ij} - P_{i\bar{j}} &= 100\left(\pi_{j|i} - \pi_{.j}\right) + 100\left(\pi_{\bar{j}|i} - \pi_{.\bar{j}}\right) \\ &= 100\left(\pi_{j|i} + \pi_{\bar{j}|i}\right) - 100\left(\pi_{.j} + \pi_{.\bar{j}}\right) \\ &= 100 \cdot 1 - 100 \cdot 1 \\ &= 0 \end{aligned}$$

Hence it suffices to consider only P_{ij}, since $P_{i\bar{j}} = -P_{ij}$. In more fine-grained analyses, this will no longer be true. We take up this issue elsewhere in this appendix.

B.2 Data Structure

Consider a 2×2 frequency table with columns indicating the presence or absence of a social characteristic S and rows indicating whether or not a person voted for party P (see Table B.1). In this table, n denotes the sample size, y_{ij} $(i = 1, 2,\ j = 1, 2)$ is a cell frequency, $y_{i.}$ is the marginal row frequency, and $y_{.j}$ is the marginal column frequency. The 2×2 table is the most basic data structure needed to compute the party structuration index. Extensions are possible, however.

B.3 Estimation

Imagine that in the survey design, only the sample size, n, is fixed. This is a reasonable assumption as the EB, ESS, and EES surveys do not fix other elements of the table such as the marginal distribution over S or P. Let $\boldsymbol{y} = (y_{11}, y_{12}, y_{21}, y_{22})$ be the vector of observed cell frequencies. Under the assumption that n is fixed, $\boldsymbol{y}$ follows the multinomial distribution:

$$p(\boldsymbol{y}) = \frac{n!}{y_{11}!y_{12}!y_{21}!y_{22}!}\pi_{11}^{y_{11}}\pi_{12}^{y_{12}}\pi_{21}^{y_{21}}\pi_{22}^{y_{22}} \quad \text{(B.6)}$$

The kernel of the log-likelihood function is now

$$\ell = y_{11}\ln\pi_{11} + y_{12}\ln\pi_{12} + y_{21}\ln\pi_{21} + y_{22}\ln\pi_{22} \quad \text{(B.7)}$$

subject to the constraint $\pi_{11}+\pi_{12}+\pi_{21}+\pi_{22}=1$. Constrained maximization of the log-likelihood yields the following maximum likelihood estimators: (1) $\hat{\pi}_{ij}=y_{ij}/n$; (2) $\hat{\pi}_{i.}=y_{i.}/n$; and (3) $\hat{\pi}_{.j}=y_{.j}/n$. Noting that $\pi_{j|i}=\pi_{ij}/\pi_{i.}$, the maximum likelihood estimator of P_{ij} is

$$\hat{P}_{ij}=100\cdot\left(.\frac{\hat{\pi}_{11}}{\hat{\pi}_{1.}}-\hat{\pi}_{.1}\right)=100\cdot\left(\frac{y_{11}}{y_{1.}}-\frac{y_{.1}}{n}\right) \quad \text{(B.8)}$$

One could make a different assumption about the sampling as well. If we ignore non-voters and define n as the number of people who voted, then it is unreasonable to assume n as fixed because surveys cannot anticipate how many voters will appear in their samples. In this case, it is customary to assume that the cell frequencies are independent draws from Poisson distributions, so that

$$p(\boldsymbol{y})=\prod_{i=1}^{2}\prod_{j=1}^{2}\frac{\mu_{ij}^{y_{ij}}\exp(-\mu_{ij})}{y_{ij}!} \quad \text{(B.9)}$$

where $\mu_{ij}>0$ is the population mean. The kernel of the log-likelihood is given by

$$\ell=\sum_{i=1}^{2}\sum_{j=1}^{2}(y_{ij}\ln\mu_{ij}-\mu_{ij}) \quad \text{(B.10)}$$

The maximum likelihood estimators is $\hat{\mu}_{ij}=y_{ij}$. This means that: (1) $\sum_{j=1}^{2}y_{ij}=\hat{\mu}_{i.}$; (2) $\sum_{i=1}^{2}y_{ij}=\hat{\mu}_{.j}$; and (3) $\sum_{i=1}^{2}\sum_{j=1}^{2}y_{ij}=n=\hat{\mu}_{..}$. Further, $\hat{\pi}_{1|1}=\hat{\mu}_{11}/\hat{\mu}_{1.}=y_{11}/y_{1.}$ and $\hat{\pi}_{.j}=\hat{\mu}_{.j}/\hat{\mu}_{..}=y_{.1}/n$. Substitution of these expressions again yields the estimator in B.8.

The variance of $\hat{P}_{ij}$ cannot be derived analytically, due to the ratio $y_{11}/y_{.1}$. However, it can be obtained through bootstrapping and, given a sufficiently large n, through simulation. In simulation, we take advantage of the fact that maximum likelihood estimators are normally distributed. For instance, using the multinomial distribution,

$$\hat{\pi}_{ij}\sim\mathcal{N}(\pi_{ij},\pi_{ij}/n) \quad \text{(B.11)}$$

We can make R draws from the normal distribution and then compute P_{ij} based on each set of draws. This allows for the computation of confidence intervals and tests of $H_0: P_{ij}=0$.

B.4 Relationship to the Raw Residuals

Under statistical independence between S and P, the joint probability is given by $\pi_{i.}\pi_{.j}$. We can define the discrepancy between the joint probability and independence as $\pi_{ij}-\pi_{i.}\pi_{.j}$. Mathematically, $\pi_{ij}=\pi_{j|i}\pi_{i.}$, so that the discrepancy can also be written as $(\pi_{j|i}-\pi_{.j})\pi_{i.}$. The raw residual that enters the Pearson χ^2-test of statistical independence is n times the discrepancy: $r_{ij}=n\pi_{i.}(\pi_{j|i}-\pi_{.j})=y_{i.}(\pi_{j|i}-\pi_{.j})$. Hence,

$$r_{ij}=\frac{y_{i.}}{100}P_{ij} \quad \text{(B.12)}$$

Thus, the party structuration index is a rescaled version of the raw residual.

This insight reinforces the earlier claim that we can capture the full extent of structuration by a social characteristic from considering only one level. In a 2×2 table, there is one degree of freedom, meaning there is only one unique residual, Since P_{ij} and r_{ij} are linked, there is also only one unique index, which we define in terms of i and j rather than i and $\bar{j}$.

B.5 Alternative Formulation

The party structuration index looks at the contribution of j to party i's vote. This fits the index's focus on the party. However, in political behavior it is more common to ask what the likelihood is that a voter with characteristic j votes for party i. This would require us to think about $\pi_{i|j}$ rather than $\pi_{j|i}$.

It is easy to re-parameterize the party structuration index in terms of $\pi_{i|j}$. Consider equation B.5. In a first step, we recognize that $\pi_{j|i} = \pi_{ij}/\pi_{i.}$. Next, the multiplicative theorem of probability implies $\pi_{ij} = \pi_{i|j}\pi_{.j}$. Thus, we can write the party structuration index as

$$P_{ij} = 100 \cdot \left(\frac{\pi_{i|j}\pi_{.j}}{\pi_{i.}} - \pi_{.j} \right) \tag{B.13}$$

From a Bayesian perspective, the first term in parentheses can be thought of as the posterior probability that a voter belongs to j given that she voted for party i. The expression can be written more elegantly as

$$P_{ij} = \left(\pi_{i|j} - \pi_{i.} \right) \frac{\pi_{.j}}{\pi_{i.}} \tag{B.14}$$

This shows how behavior, in the more traditional sense of that term, affects the index.

B.6 Extensions to Larger Tables

Our focus in the paper is on 2×2 contingency tables. However, this is not an inherent limitation of our approach, as variants of the index can be defined for larger tables, including multi-way tables. Here, we show three possible extensions.

B.6.1 A Two-Way Table with Extended Vote

In our analysis, we have lumped together votes, for example, for radical left and social-democratic parties. While this is defensible for our purposes, there may be circumstances under which splitting the vote may be useful. Table B.2 shows an example of this.

For this kind of a table, it is best to compute separate indices for each party, since there must be a reason why we chose to distinguish between the two types of left-party in the first place. Eighty percent of the communist vote stems from working

Table B.2: Class and Detailed Vote Choice

	Social Class		
	Working	Other	
Communist	8	2	10
Social Democrat	15	15	30
Other	17	43	60
	40	60	100

Notes: Hypothetical data.

Table B.3: Vote Choice and Detailed Class Over Time

	1980			2010		
	PW*	SCP**	Other	PW*	SCP**	Other
Left	24	2	4	5	14	1
Other	16	3	51	10	6	64

Notes: * production worker; ** social-cultural professional. All data are hypothetical.

class voters, who make up 40 percent of society. Hence the party structuration for the communists due to class is 40. Half of the social democratic vote stems from working class voters. Hence, the party structuration for that party computes as 10.

Had we grouped the two left-parties together, then their total electorate would have been 40 voters in the sample. Twenty-three of those voters, or 57.5 percent, are working class voters. Thus, the party structuration index for the left is 17.5. We now observe an interesting property of the aggregated index: it is identical to the weighted sum of the indices for communists and social democrats, where the weights correspond to the relative size of each party's electorate in the total left electorate. In Table B.2, the left electorate consists of 40 sample units. Of those, 25 percent voted communist and 75 percent voted social democrat. Consequently, $17.5 = .25 \times 40 + .75 \times 10$.

B.6.2 A Two-Way Table with Extended Structure

In Table B.2, we added rows to the table. We can also add columns. This is tantamount to introducing a more fine-grained measure of a social characteristic. For instance, instead of distinguishing between working class and other voters, one might want to distinguish between production workers, social-cultural professionals, and other classes. This can be quite useful if one hypothesizes that, over time, the structural foundation of the left-vote has shifted from manual labor to social-cultural professionals. A hypothetical example can be found in Table B.3.

For each sub-table, we can develop a combined party structuration index. One option would be to take a subset of two columns. Call this subset $\mathcal{C}$, then we could compute $P_{i\mathcal{C}} = 100 \sum_{j \in \mathcal{C}} (\pi_{j|i} - \pi_{.j})$. For this measure, we should consider only two columns because $100\sum_{j=1}^{3}(\pi_{j|i} - \pi_{.j}) \equiv 0$. The problem is that it makes a lot of difference which columns are considered. For example, the 1980 data in Table B.3 yield $P = 41.67$ when we select PW and SCP, $P = -1.67$ when we select PW and Other, and $P = -40.0$ when we select SCP and other. These values show quite different, though complementary pictures, of structuration.

We bypass the problem of selecting columns by taking the absolute value of the deviations $\pi_{j|i} - \pi_{.j}$. Hence,

$$P_i^* = \frac{100}{C}\sum_{j=1}^{C}\left|\pi_{j|i} - \pi_{.j}\right|, \tag{B.15}$$

where C denotes the number of columns in the table, i.e., the number of distinct categories of the social characteristic. We call P_i^* the average absolute party structuration index. It shows the structuration of party i's vote through the social characteristic. The measure registers deviations from the social composition of i's vote we would expect to observe by chance. The measure does not have a direction like P_{ij} but it is still possible to compute all of the directions $\pi_{j|i} - \pi_{.j}$ to aid with interpretation.

For Table B.3, the average absolute structuration index due to class is 27.78 in 1980. In 2010, it is 40.00 so that overall structuration by class has increased. In 1980, the structuration components are 40.00 for PW, 1.67 for SCP, and -41.67 for other classes. In 2010, the corresponding figures are 10.00, 50.00, and -60.00. These figures reveal how the left has lost among working and other classes and gained among social-cultural professionals.

We can capture the contribution of each category to the overall degree of absolute party structuration:

$$R_{ij} = 100\frac{\left|\pi_{j|i} - \pi_{.j}\right|}{\sum_{j=1}^{C}\left|\pi_{j|i} - \pi_{.j}\right|} \tag{B.16}$$

In 1980, 48 percent of the absolute class structuration of the left vote came from production workers. By 2010, this was about 8.33 percent. In 2010, 2 percent of the absolute class structuration of the left vote emanated from social-cultural professionals; by 2010, this had increased to 41.67 percent.

B.6.3 Multi-Way Tables

In some cases, it may be useful to consider multiple social characteristics at a time. This is relevant when multiple social cleavages dominate a party system or when the possibility of cross-pressures needs to be considered. In these situations, we need to analyze a multi-way table such as Table B.4.

For the computation of party structuration in multi-way tables, we have to choose a particular concept of statistical independence that serves as the baseline. One option is to assume complete independence. Let π_{ijk} denote the probability of voting for party i for a voter who belongs to group j on social characteristic S_1 and to group k on characteristic S_2. Under complete independence, $\pi_{ijk} = \pi_{i..}\pi_{.j.}\pi_{..k}$.

Table B.4: Class, Religion, and Vote Choice

	Religious		Not Religious	
	Working Class	Other Class	Working Class	Other Class
Left Party	5	0	20	15
Other Party	10	20	5	25

Notes: Hypothetical data.

This means that we assume S_2 and S_1 to be statistically independent from each other and from vote choice.

The requirement that the social characteristics are independent is not very attractive. Hence, it is generally more useful to assume a model of block independence, where

$$\pi_{ijk} = \pi_{i..}\pi_{.jk} \tag{B.17}$$

Under this assumption, the two social characteristics may be associated, However, they are jointly independent from vote choice. In a $2 \times 2 \times 2$ table such as Table B.4, the degrees of freedom associated with an independence test are $2 \times 2 \times 2 - 2 \times 2 - 2 + 1 = 3$ (Everitt, 1977).

Based on block independence, we can formulate party structuration in terms of the discrepancy $\pi_{jk|i} - \pi_{.jk}$. There are three unique discrepancies because of the degrees of freedom. We again face the problem of selecting which three discrepancies to choose in computing the party structuration index. As before, our solution is to focus on the absolute discrepancies. For Table B.4 this results in

$$P_i^* = \frac{100}{4} \sum_{j=1}^{2} \sum_{k=1}^{2} \left| \pi_{jk|i} - \pi_{.jk} \right| \tag{B.18}$$

For the data at hand, $\hat{P}_i^* = 12.5$. This measures the absolute structuration of the left party vote by social class and religion jointly. The component discrepancies $\pi_{jk|i} - \pi_{.jk}$ are -2.5 for working class religious voters, -20.0 for non-working class religious voters, 25.0 for working class non-religious voters, and -2.5 for voters who are neither religious nor working class.

We can compute the absolute component contributions analogous to equation B.16. This shows that non-religious working class voters contribute 50 percent to the summed absolute components. As such, the combination of these attributes is particularly important for understanding the left-party vote.

Appendix C

Descriptives

The tables below report key descriptives for P by party family. Table C.1 does this cross-sectionally for all countries (2002-2019) combining ESS and EES. Table C.2 provides descriptives for P for the eight countries for which we can trace structuration since 1975, broken down by decade.

Table C.1: P-Scores by Party Family for 2002-2019

		Occupation	Religion	Education
TAN	Mean	9.42	-1.55	-10.93
	p50	9.04	-2.92	-10.70
	SD	8.32	8.03	10.72
	N	113	167	174
Conservatives	Mean	-4.51	4.97	3.17
	p50	-4.55	2.25	1.58
	SD	7.70	10.38	9.70
	N	147	234	237
Liberals	Mean	-5.51	-1.45	5.18
	p50	-5.59	-1.18	5.35
	SD	5.21	6.85	8.76
	N	107	158	158
Christian Democrats	Mean	-2.40	20.63	1.55
	p50	-2.64	14.56	0.27
	SD	6.34	21.46	7.86
	N	124	172	172
Social Democrats	Mean	4.27	-5.28	-1.99
	p50	3.86	-3.37	-3.11
	SD	8.00	6.24	8.00
	N	263	386	398
GAL	Mean	-7.19	-5.51	15.68
	p50	-7.61	-4.18	16.66
	SD	6.16	6.74	10.06
	N	209	293	307

Notes: Combining available waves and countries from the European Social Surveys (2002-2018) and the European election studies surveys (2004-2019). EES and ESS measures of occupation are too different to combine, and we report ESS data.

Table C.2: P-Score Trajectories for Eight EU Member States

		1970s		1980s		1990s		2000s		2010s	
Characteristic	Family	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Occupation	TAN	-5.72	10	0.81	25	12.83	46	12.35	25	11.76	25
	Conservatives	-12.92	20	-9.53	40	-7.03	44	-5.21	26	-2.38	20
	Liberals	-13.65	46	-13.52	90	-9.92	63	-8.07	31	-5.57	24
	Christian Democrats	-8.28	50	-6.40	86	-4.32	85	-2.31	34	-0.37	30
	Social Democrats	10.25	84	9.99	172	7.79	136	4.75	75	3.88	56
	GAL	-11.06	18	-6.29	84	-7.50	101	-7.47	61	-6.44	56
Religion	TAN	-4.70	10	-5.65	17	-4.14	32	-4.96	25	-3.93	37
	Conservatives	4.22	22	3.63	24	3.36	33	4.10	27	4.98	28
	Liberals	-6.93	59	-0.49	54	-4.17	48	-0.32	30	-1.81	33
	Christian Democrats	18.02	65	20.78	50	22.90	58	20.85	33	19.95	41
	Social Democrats	-15.27	86	-11.68	95	-9.86	103	-8.26	70	-3.97	82
	GAL	-6.70	18	-8.21	58	-6.48	82	-5.26	60	-3.33	78
Education	TAN	-1.69	13	-3.65	29	10.01	55	14.09	34	-15.00	39
	Conservatives	0.63	28	-0.33	44	-0.35	55	-0.08	36	-1.06	30
	Liberals	6.29	59	7.63	99	8.39	73	6.61	41	7.88	33
	Christian Democrats	0.71	68	-0.36	94	–0.52	100	–0.55	45	–1.90	41
	Social Democrats	2.93	109	0.53	186	–1.46	166	–1.19	97	–1.72	82
	GAL	9.48	23	16.28	99	14.66	128	16.77	80	15.31	80

Notes: Eurobarometer data and, from the 2000s, European Social Survey (2002-2018) and European election studies (2004-2019). EES and ESS measures of occupation are too different to combine, and we report ESS data.

Appendix D

Analyses for Figure 4: Party Family by Party Size

Tables D.1-D.3 report seven robustness analyses alongside the chief model that informs Figure 4.[1] Model (1) assesses how well P is predicted by party family for smaller and larger parties, under full controls. In this interaction model, vote share is a dichotomous variable that takes a value of 0 if a party obtains 10 percent or less of the vote and 1 if it obtains more than 10 percent. This model constitutes the basis for Figure 4 in the paper.

Model (2) repeats the interaction with party size as a continuous variable. Model (3) drops the interactions, as well as all control variables. As a result, P is modeled as a function of only party family. Model (4) adds country, year, and survey fixed effects and model (5) controls also for effective number of parties (ENEP), voter turnout, and party vote share. Models (6) and (7) report bootstrapping (drawing 50 random samples from the data) and jackknifing (sequentially dropping a country) procedures. The standard errors in all models are clustered by political parties.

Table D.1 reports how party family predicts over- or under-representation of industrial workers among party supporters compared to their presence in society.[2] The reference category is the social-democratic party family. The results can be summarized in four observations. First, party family explains a sizable share of the variance: 0.39 in the model without controls (3) and 0.45 in the full model (1). Second, the party family most skewed towards industrial workers is the TAN family, and not the social-democratic family. This difference is statistically significant in all models. Third, TAN and GAL parties are at opposite ends of occupational structura-

[1] Analyses draw on the nine waves of the European Social Survey (2002-2018) and four waves of the European Election Survey (2004-2019). This has the advantage of increasing the data points while diversifying data sources, which reduces the possibility that our findings are a function of a particular data source. Since pooling data sources may increase random noise, our results are likely conservative. Analyses with ESS data or EES data separately produce similar findings, and typically with smaller confidence intervals. Full analyses are available from the authors.

[2] We repeated all analyses including non-voters. This did not affect the P-values very much. Results are available from the authors.

Table D.1: Explaining P for Occupation—Industrial Workers: Alternative Models

	Model[a]													
	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]
TAN[c]	7.18	1.45**	8.46	2.99*	5.15	1.69*	5.91	1.45**	6.22	1.53**	6.22	1.91*	6.22	1.87*
Conservative	-8.95	1.92**	-9.03	3.48°	-8.78	1.60**	-8.52	1.77**	-8.74	1.74**	-8.74	1.84**	-8.74	2.21**
Liberal	-8.38	1.47**	-10.37	2.53**	-9.78	1.36**	-9.67	1.35**	-9.56	1.36**	-9.56	1.54**	-9.56	1.73**
Chr. Dem.	-5.71	1.54**	-5.87	2.73*	-6.67	1.41**	-6.64	1.40**	-6.44	1.43**	-6.44	1.70**	-6.44	1.77**
GAL	-9.90	1.40**	-10.81	2.15**	-11.46	1.21**	-11.71	1.09**	-11.00	1.26**	-11.00	1.56**	-11.00	1.56**
TAN × Vote[d]	-3.86	2.65	-0.16	0.14										
Cons × Vote[d]	2.68	3.23	0.01	0.12										
Lib × Vote[d]	-3.60	1.99	0.05	0.11										
Chr. Dem. × Vote[d]	-2.34	2.65	-0.04	0.11										
GAL × Vote[d]	-3.02	2.01	-0.01	0.10										
Vote[d]	1.32	1.67	0.07	0.08					0.06	0.04	0.06	0.05	0.06	0.05
ENEP	-0.62	0.34	-0.45	0.36					-0.46	0.35	-0.46	0.28	-0.46	0.37
Turnout	-0.03	0.08	-0.04	0.08					-0.05	0.07	-0.05	0.,08	-0.05	0.08
Constant	13.37	8.74	12.05	9.24	4.27	1.03**	5.06	1.68**	13.22	8.73	13.22	8.89	13.22	8.89
Country Effects	YES		YES		NO		YES		YES		YES		YES	
Year Effects	YES		YES		NO		YES		YES		YES		YES	
R-squared	0.44		0.44		0.39		0.43		0.44		0.44		0.44	

Notes: [a] (1) party family interacted with dichotomized vote share; (2) party family interacted with continuous vote share, full controls; (3) no controls or interactions; (4) no interactions with fixed effects as controls; (5) no interactions with full controls; (6) bootstrap; and (7) jackknife. [b] Standard errors clustered by party. [c] Reference = social democratic parties. [d] In model (1) vote is a dichotomy with 1 indicating a vote share greater than 10 percent and 0 indicating a smaller vote share. Here, the reference is vote $> 10\%$. In model (2) vote share is a continuous variable. $N = 963$. Significance levels: $^{\circ} < .05$; $^{*} < .01$; $^{**} < .001$.

tion. Finally, party size does not affect a party's occupational composition. Larger parties are no less socially distinct on occupation than smaller parties. Whether one measures vote share dichotomously or continuously, it alone or interacted with party family does not reach conventional levels of statistical significance.

Table D.2 reports on how party family predicts over- or under-representation of weekly churchgoers among party supporters compared to the country country mean. Once again, social democrats are the reference group. The power of party family in explaining variance ranges from 0.40 in the model without controls (3) to 0.57 in the full model (1). Religious distinctiveness separates Christian democratic parties and to a lesser extent, Conservative parties, from everyone else: note the consistently significant positive coefficients in Models (1)-(7) for these two families. In Europe, religion does not drive a wedge between TAN and GAL parties; on the contrary, these party families tend to share a secular support base, though GAL parties are more consistently secular than TAN parties.

Party size is double-edged on religion. Overall, party size is insignificant (Models (1)-(7): coefficient for party size), but the Christian democratic party family deviates. In particular, small Christian parties in Europe resemble prickly hedgehogs for weekly churchgoers, while larger Christian parties are less distinctive. In today's Europe, the Christian-democratic party family is markedly diverse on its defining social marker. For small Christian-democratic parties ($<=$10% of the vote) P is, on average, $+38$ percent against just $+9$ percent for larger Christian-democratic parties. These patterns are consistent and powerful across a variety of controls.

Table D.3 summarizes education structuration by modeling how party family predicts over- or under-representation of people with post–secondary non–tertiary education or tertiary education completed among a party's supporters compared to the country mean. We make three observations. First, the predictive power of party family for structuration on education is higher than for occupation or religion. Explained variance ranges from a high threshold of 0.44 in the model without controls to 0.52 under full controls. Second, TAN and GAL parties are at opposite ends of P. In each model, TAN parties have the greatest under-representation of highly educated voters and GAL parties the greatest over-representation. The social-structural gap between GAL and TAN parties, 27 percent (Table D.3, Model (5), under full controls), is sharper on education than on occupation, where it was "only" 17.2 percent (Table D.1, Model (5)). GAL and TAN are also significantly more structured on education than the party family closest to them, liberal and social-democratic parties respectively. In contrast, conservative, Christian-democratic, and social-democratic parties echo the educational distribution in the electorate. Finally, the effect of party size is double-edged. While, in general, larger parties lose some distinctiveness on education, not so for TAN parties. The larger the TAN party, the less appealing it is to highly educated. The negative P for larger TAN parties is nearly double that for small TAN parties: –13.8 against –6.7 (Model (1), interaction, controls).

Table D.2: Explaining P for Religion—Weekly Churchgoers: Alternative Models

	Model[a]													
	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]
TAN[c]	2.74	2.25	0.44	3.05	3.72	1.79°	3.65	1.95	3.20	2.23	3.20	2.64	3.20	2.88
Conservative	7.92	1.82**	13.12	4.57**	10.25	2.02**	9.61	2.29**	9.78	2.35**	9.78	2.74**	9.78	3.03*
Liberal	2.12	1.94	4.17	2.84	3.82	1.51°	3.06	1.60	2.95	1.68	2.95	2.05	2.95	2.16
Chr. Dem.	12.07	3.09**	45.98	6.85**	25.90	5.18**	26.56	4.64**	26.35	4.49**	26.35	4.94**	26.35	5.64**
GAL	-1.72	1.30	2.35	1.97	-0.23	1.25	-0.58	1.18	-1.36	1.71	-1.36	1.81	-1.36	2.16
TAN × Vote[d]	2.36	2.94	0.32	0.24										
Cons × Vote[d]	8.93	6.29	-0.16	0.14										
Lib × Vote[d]	4.17	2.87	-0.01	0.16										
Chr. Dem. × Vote[d]	31.70	7.28**	-1.22	0.26**										
GAL × Vote[d]	3.93	1.86°	-0.10	0.11										
Vote[d]	-3.75	1.45°	0.16	0,.06*					-0.06	0.09	-0.06	0.09	-0.06	0.11
ENEP	0.08	0.33	-0.07	0.34					-0.11	0.33	-0.11	0.32	-0.11	0.37
Turnout	-3.75	1.45°	0.16	0.06*					-0.06	0.09	-0.06	0.09	-0.06	0.11
Constant	7.02	7.74	-1.56	7.34	-5.28	0.85**	-5.73	2.15*	7.02	7.86	7.02	9.32	7.02	8.83
Country Effects	YES		YES		NO		YES		YES		YES		YES	
Year Effects	YES		YES		NO		YES		YES		YES		YES	
Survey Effects	YES		YES		NO		YES		YES		YES		YES	
R-squared	0.57		0.56		0.40		0.44		0.44		0.44		0.44	

Notes: [a] (1) party family interacted with dichotomized vote share; (2) party family interacted with continuous vote share, full controls; (3) no controls or interactions; (4) no interactions with fixed effects as controls; (5) no interactions with full controls; (6) bootstrap; and (7) jackknife. [b] Standard errors clustered by party. [c] Reference = social democratic parties. [d] In model (1) vote is a dichotomy with 1 indicating a vote share greater than 10 percent and 0 indicating a smaller vote share. Here, the reference is vote $> 10\%$. In model (2) vote share is a continuous variable. $N = 1410$. Significance levels: $^{\circ} < .05$; $^{*} < .01$; $^{**} < .001$.

Table D.3: Explaining P for Education – Higher Educated: Alternative Models

Model[a]	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]	Coef.	SE[b]
TAN[c]	-11.81	(2.01)***	-10.17	(2.66)***	-8.94	(1.88)***	-9.80	(1.68)***	-11.39	(1.64)***	-11.39	(1.78)***	-11.39	(1.99)***
Cons	5.13	(2.10)*	9.59	(3.13)**	5.16	(1.76)**	5.00	(1.90)**	5.80	(1.72)***	5.80	(1.75)***	5.80	(2.16)**
Liberals	6.21	(2.02)**	10.01	(2.54)***	7.17	(1.88)***	7.57	(1.82)***	7.17	(1.63)***	7.17	(2.03)***	7.17	(2.03)***
Chr. Dem	2.63	(1.93)	2.59	(2.39)	3.54	(1.66)*	3.42	(1.54)*	2.65	(1.46)	2.65	(2.28)	2.65	(1.82)
GAL	15.52	(2.33)***	18.63	(2.12)***	17.67	(1.40)***	18.50	(1.34)***	15.53	(1.42)***	15.53	(1.46)***	15.53	(1.70)***
TAN × Vote[d]	5.13	(2.76)	-0.05	(0.15)										
Cons × Vote[d]	0.97	(3.22)	-0.18	(0.09)										
Liberals × Vote[d]	3.82	(2.55)	-0.16	(0.11)										
Chr. Dem × Vote[d]	0.92	(2.68)	0.03	(0.10)										
GAL × Vote[d]	2.25	(2.59)	-0.29	(0.14)*										
ENEP	0.04	(0.35)	-0.24	(0.35)					-0.34	(0.35)	-0.34	(0.28)	-0.34	(0.37)
Turnout	-0.00	(0.07)	0.02	(0.07)					0.04	(0.07)	0.04	(0.06)	0.04	(0.07)
Vote[d]	2.05	(1.54)	-0.17	(0.06)**					-0.25	(0.04)***	-0.25	(0.05)***	-0.25	(0.05)***
Constant	-4.17	(7.39)	0.10	(7.48)	-1.99	(0.95)*	-2.61	(2.35)	0.77	(7.23)	0.77	(5.96)	0.77	(7.69)
Country Effects	YES		YES		NO		YES		YES		YES		YES	
Year Effects	YES		YES		NO		YES		YES		YES		YES	
Survey Effects	YES		YES		NO		YES		YES		YES		YES	
R^2	0.50		0.52		0.44		0.48		0.52		0.52		0.52	

Notes: [a] (1) party family interacted with dichotomized vote share; (2) party family interacted with continuous vote share, full controls; (3) no controls or interactions; (4) no interactions with fixed effects as controls; (5) no interactions with full controls; (6) bootstrap; and (7) jackknife. [b] Standard errors clustered by party. [c] Reference = social democratic parties. [d] In model (1) vote is a dichotomy with 1 indicating a vote share greater than 10 percent and 0 indicating a smaller vote share. Here, the reference is vote > 10%. In model (2) vote share is a continuous variable. N = 1446. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix E

Robustness Checks

E.1 Refining Party Family

The patterns are robust when party family is disaggregated into finer-grained families. We disaggregate the social-democratic family into social democrats and traditional radical (or communist) left parties, the GAL family into greens, social liberals, and the New Left, and the Christian-democratic family into Christian Democrats and Christian confessional parties.

Figure E.1 visualizes the effect of party family on P for small parties and for large parties. The models control for country, year, and survey fixed effects, effective number of parties, and voter turnout in the nearest national election (Table E.1).

A finer-grained party family categorization broadly confirms our prior findings. At the same time, disaggregation reveals some interesting nuances:

1. In the GAL party family, green parties are most distinctive on occupation and education.

2. In the social-democratic party family, traditional radical left parties (e.g., *Die Linke* in Germany or *La France Insoumise*) have maintained a stronger industrial worker base. However, the traditional radical left is not as firmly rooted in industrial workerism as TAN parties. The TAN party family is also more cohesive than the traditional radical left, which is surprising since the TAN family stretches across 23 European countries while all but one traditional radical left party come from Western Europe.

3. The extreme structuration on the part of Christian-confessional parties is driven by Dutch particularism. In a country where, on average, just 14 percent goes to church weekly or more often, 86 percent of these parties' adherents are weekly churchgoers.

Table E.1: Explaining P Using Finer-Grained Party Family Categories

	Occupation		Religion		Education	
	Coef.	SE[a]	Coef.	SE	Coef.	SE
TAN[b]	7.33	1.47**	3.05	2.20	-11.85	2.07**
Conservative[b]	-8.50	1.87**	7.29	1.82**	4.99	2.16*
Liberal[b]	-8.04	1.44**	2.37	1.47	6.03	1.99*
Christian-Democratic[b]	-5.49	1.54	12.75	3.16**	2.61	1.96
Christian-Confessional[b]	-1.86	3.01	75.69	3.02**	-4.83	2.48
Traditional Left[b]	5.53	3.77	-2.57	1.82	-1.60	2.99
Green[b]	-12.57	1.65((	-0.99	1.30	19.32	3.33**
Social Liberal[b]	-8.62	1.76**	-0.63	2.01	13.84	3.02**
New Left[b]	-7.69	2.05**	-7.55	2.62*	10.95	2.70**
TAN × Vote[c]	0.72	3.30	-0.12	3.02	3.46	2.87
Conservative × Vote[c]	6.92	3.66	7.19	6.22	-0.57	3.43
Liberal × Vote[c]	0.80	2.78	1.41	2.76	2.37	2.65
Christian × Vote[c]	1.92	3.40	21.80	5.32**	0.53	2.76
Confessional × Vote[d]	—	—	—	—	—	—
Trad. Left × Vote[c]	1.27	4.24	-0.82	2.94	-1.15	3.33
Green × Vote	4.44	2.96	2.62	2..20	-3.18	3.72
Soc. Lib. × Vote	-1.22	3.12	2.44	2.55	3.21	3.40
New Left × Vote	2.23	3.77	-0.46	2.51	2.84	3.51
Vote[c]	-3.16	2.49	-1.49	1.78	3.70	1.72°
ENEP	-0.63	0.34	0.15	0.32	0.05	0.35
Turnout	-0.05	0.08	-0.12	0.06°	-0.01	0.07
Constant	15.12	8.73	4.52	7.06	-3.92	7.39
Country Effects	YES		YES		YES	
Year Effects	YES		YES		YES	
Survey Effects	NO		YES		YES	
N	963		1410		1446	
R-squared	0.46		0.65		0.51	

Notes: [a] Standard errors clustered by political party. [b] Reference = social-democratic parties in the narrow sense. [c] Vote is 1 if a party receives more than 10 percent of the vote and 0 otherwise. [d] No confessional party met the threshold of 10 percent, so that the interactions drop out. Significance levels: $^{\circ} < .05$; $^{*} < .01$; $^{**} < .001$.

E.2 Alternative Dichotomizations

Alternative dichotomizations of P-scores are consistent with those we report in the Letter. Table E.2 models P-scores for: (1) a broader definition of the working class, encompassing service workers alongside industrial workers (classes 4 and 8 in the Oesch-schema), as well as for socio-professionals (classes 1 and 7 Oesch, 2006a, 2006b); (b) for monthly churchgoers (i.e., those who attend religious services at least once a month), as well as secular voters (i.e., those who report they never go to church); and (c) for less educated voters, operationalized as those who have completed lower secondary education or less. Because the EES and ESS measure secular practice and lower levels of education differently, we confine these analyses to ESS data.

Our conclusions are robust across these alternative operationalizations, as is shown visually. Figure E.2 compares industrial workers with industrial and service workers and with socio-professionals respectively. P-scores vary by party family in similar ways irrespective of operationalization. The P-scores of TAN and GAL parties always lie at the extreme ends of the occupational divide, and TAN and GAL families are more homogeneously structured on occupation than other party families. If anything, our preferred operationalization as industrial workers appears more conservative than the other two. The sharpest divide comes into view when one focuses on socio-professionals, which pits GAL parties and TAN parties against each other.

The top two panels of Figure E.3 compare weekly churchgoers and secular people—the extremes on the religiosity scale. The panels are near-perfect mirrors. Christian-democratic parties stand out as structurally different from all other party families, with the partial exception of small Conservative parties with respect to weekly churchgoers. The results for monthly churchgoers (not shown) mirror those for weekly churchgoers, except that Christian-democratic parties stand out even more in distinctiveness.

The two panels in the bottom half of E.3 compare higher educated (post-secondary or tertiary) with those whose highest diploma is lower secondary school. The structuration by party family is similar across smaller and larger parties, though less sharp on the lower end of educational achievement. People with less formal education are heavily underrepresented in GAL parties, and to a lesser extent also in liberal parties, but other party families are less distinctive. Interestingly, it is the larger TAN parties—rather than the traditional people's parties of center-left or center-right signature—that provide the most natural home for the less educated voter.

Table E.2: Explaining P Using Alternative Operationalizations of Occupation, Religion, and Education

	Industrial & Service Workers		Socio-Professionals		Monthly Churchgoers		Secular Persons		Lower Educated	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
TAN[b]	9.91	1.95**	-14.08	1.58**	1.42	2.33	0.11	2.01	2.50	1.85
Conservative[b]	-12.69	2.63**	2.90	1.55	9.36	2.64**	-9.83	2.07**	-3.82	1.81°
Liberal[b]	-11.81	1.94**	0.91	1.67	3.42	2.51	-6.31	2.73°	-4.95	2.14°
Christian Democratic[b]	-7.46	2.08**	0.69	1.38	19.33	3.98**	-17.42	3.58**	-3.59	1.64°
GAL[b]	-13.87	2.14**	6.99	1.76**	-2.20	1.84	2.63	1.86	-10.88	1.61**
TAN × Vote[c]	-6.22	2.92°	7.16	2.25*	5.20	3.14	-7.95	2.98*	-0.32	3.29
Conservative × Vote[c]	0.95	4.32	-1.00	2.65	9.23	6.01	-8.11	3.70°	2.07	3.06
Liberal × Vote[c]	-5.47	2.51°	5.63	2.70°	4.59	3.62	-9.24	3.91°	-2.13	2.72
Chr. Dem × Vote[c]	-2.25	2.92	3.76	2.17	37.36	7.27**	-27.30	5.25**	3.16	2.25
GAL × Vote[c]	-3.39	2.54	3.26	2.04	3.29	2.38	-6.43	2.48°	-2.73	2.49
Vote[c]	2.45	1.80	-0.48	1.40	-4.58	1.68**	8.54	2.09**	-2.12	1.62
ENEP	-0.49	0.42	0.38	0.30	0.33	0.42	-0.40	0.39	-0.43	0.35
Turnout	0.05	0.09	-0.06	0.07	-0.18	0.10	0.16	0.08°	0.06	0.08
Constant	4.36	10.32	2.02	7.22	5.41	10.20	-4.89	8.00	2.05	7.75
Country Effects	YES		YES		YES		YES		YES	
Year Effects	YES		YES		YES		YES		YES	
R-squared	0.49		0.49		0.69		0.63		0.42	

Notes: [a] Standard errors clustered by party. [b] Reference = social-democratic family. [c] Vote takes on the value 1 if a party received more than 10% of the vote and 0 otherwise. Data from the European Social Survey, 2002-2018. $N = 963$. Significance levels: $^{\circ} < .05$; $^{*} < .01$; $^{**} < .001$.

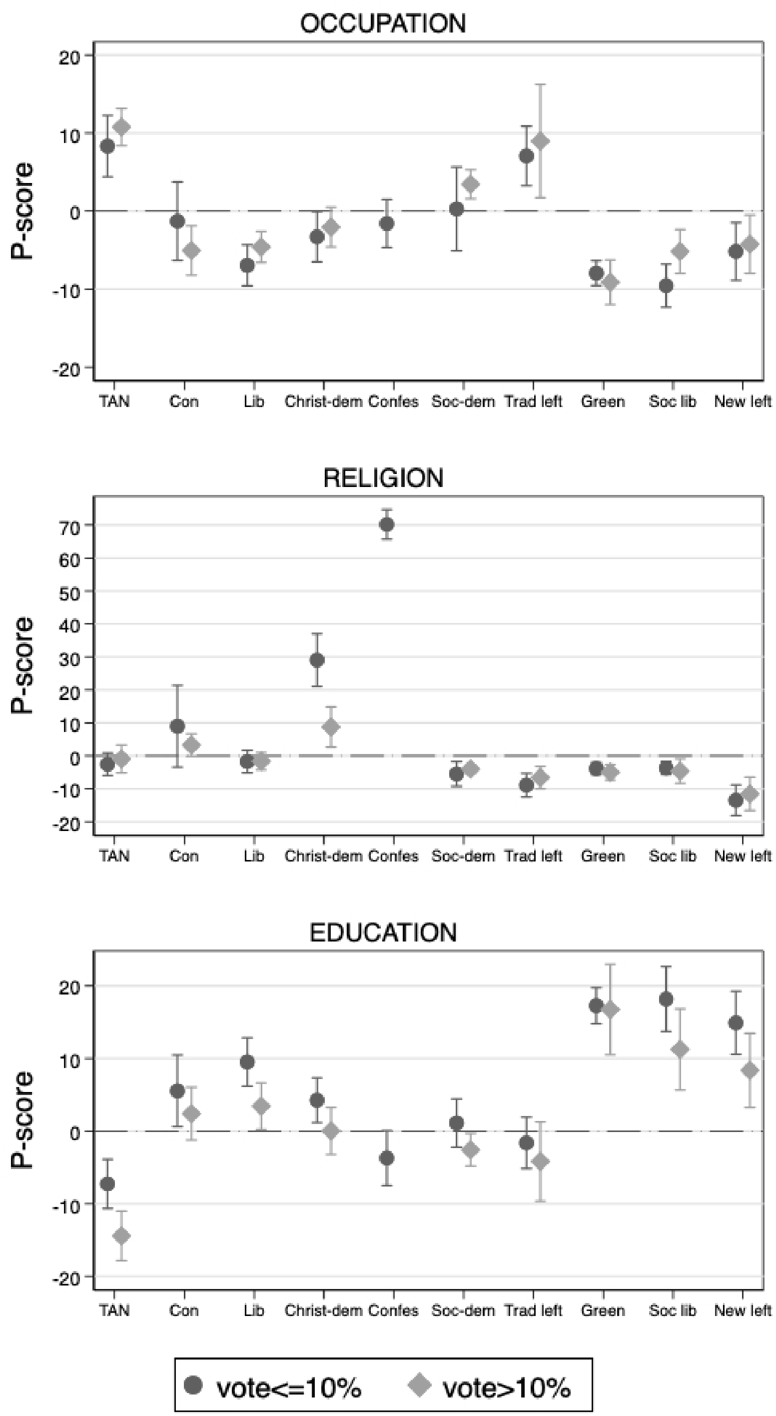

Figure E.1: Party Family Refined

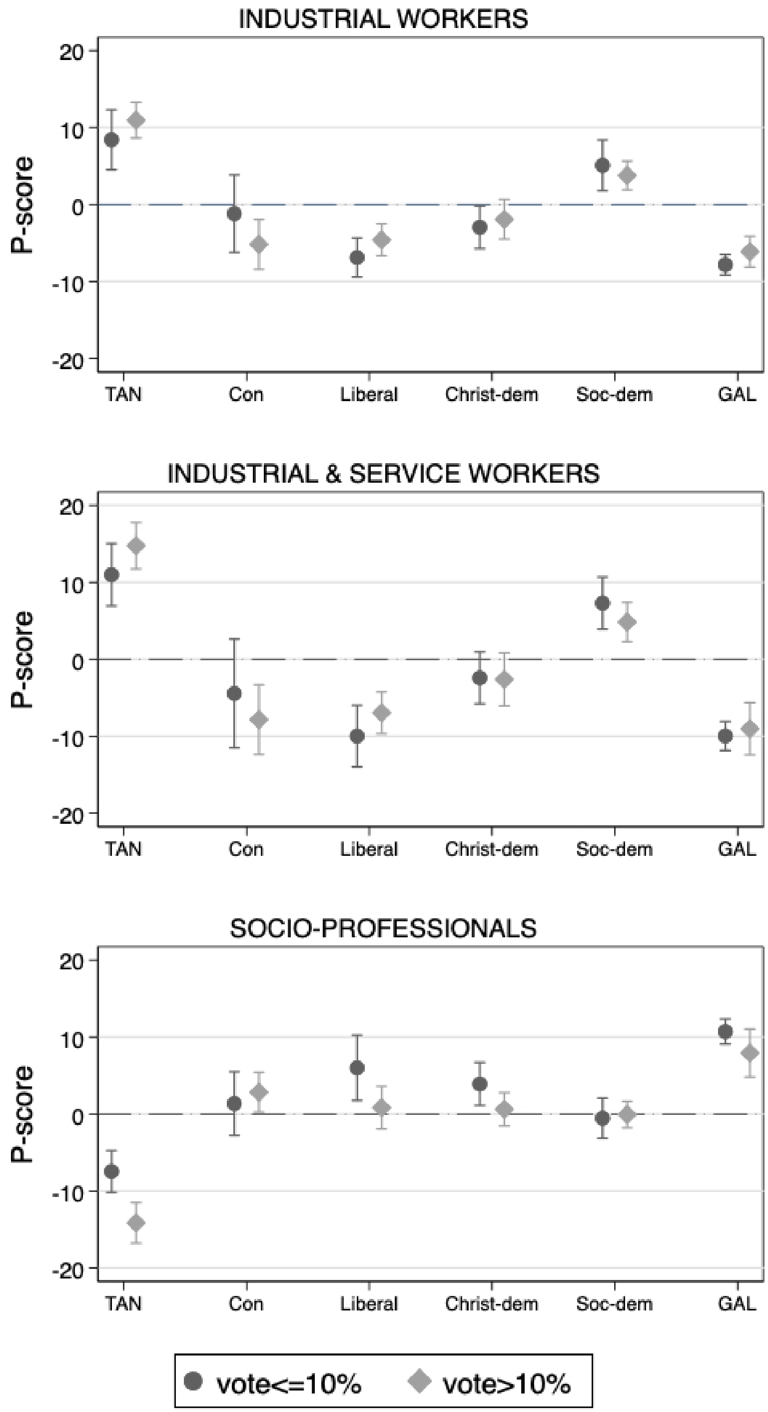

Figure E.2: Alternative Operationalizations of Occupation

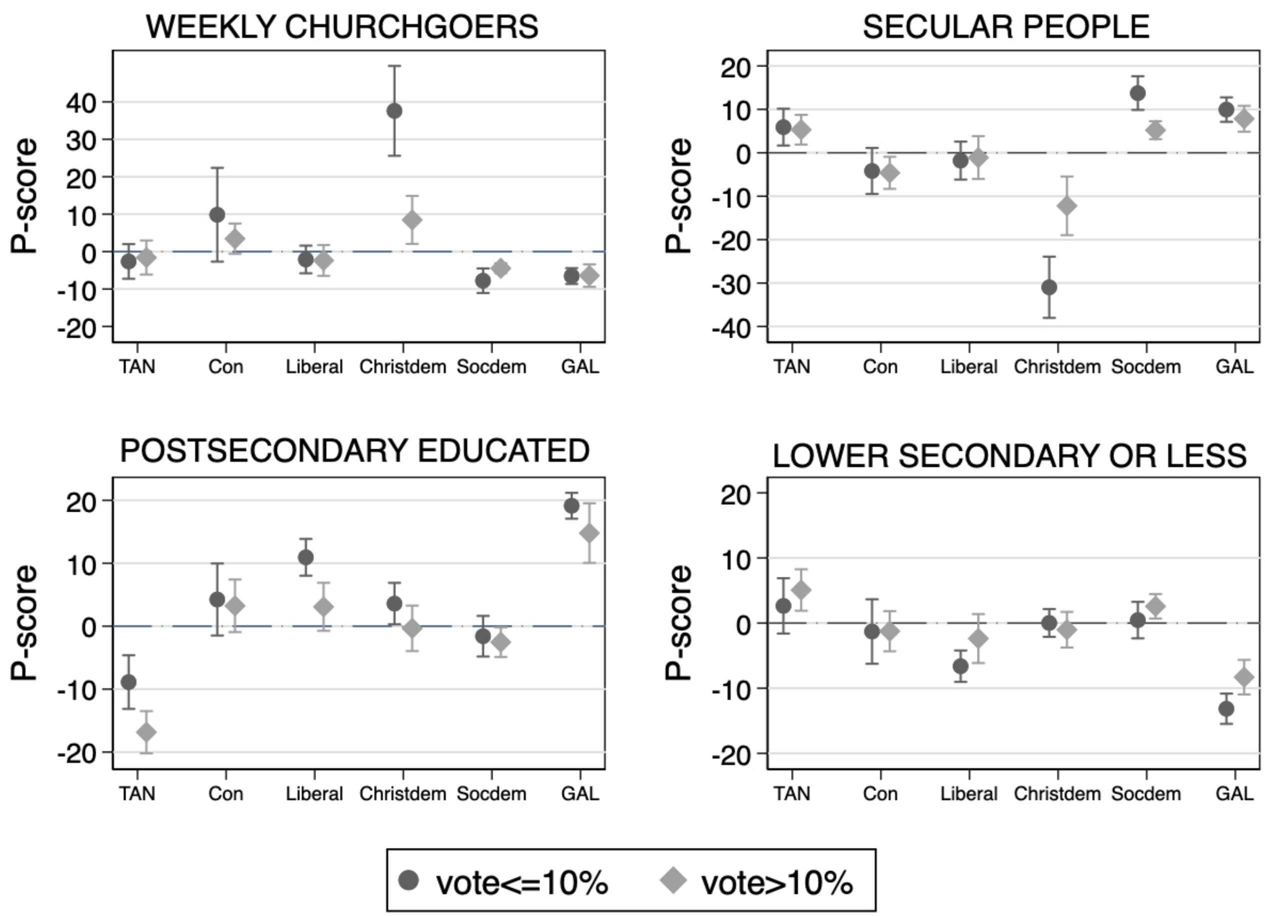

Figure E.3: Alternative Operationalizations of Religion and Education

Appendix F

Feature Importance

How important is party family for understanding P? Figure F.1 displays a variable importance analysis using a permutation-based approach inspired by machine learning (Breiman, 2001). If a variable is important, predictive performance should decline markedly if the values of that variable are permutated. The greater the drop in performance, the more important a variable is.

Performance is measured in terms of the root mean squared error loss, which for party family ranges from 11 (occupation) over (education) to 16.5 (religion). Hence for every social characteristic, party family is by far the most important predictor of P, well ahead of country or party size (vote).

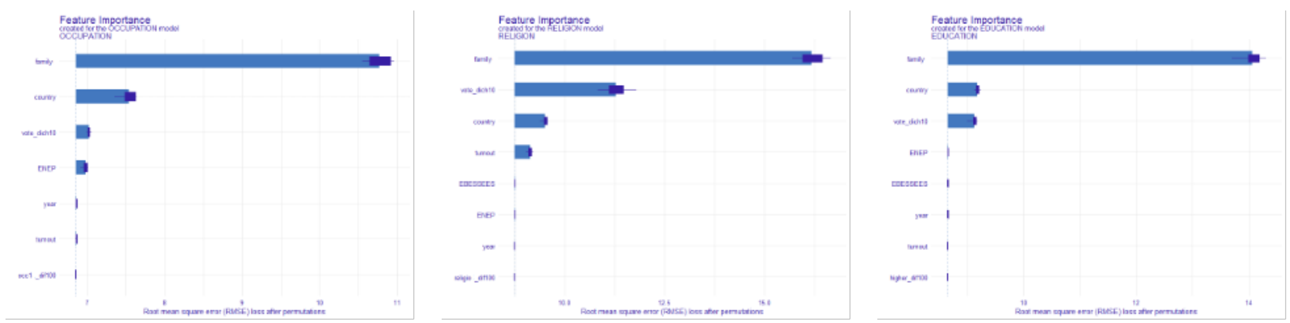

Figure F.1: Feature Importance

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