Research Note

Challenging the Manifesto Project Data Monopoly: Estimating parties' policy position time-series using expert and mass survey data

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Abstract

In this research note we propose a novel approach for generating time-series for party positions as an alternative to the estimates provided by the Manifesto Project. Our approach combines multiple expert surveys from different years, filling up the missing data using a multiple imputation algorithm that uses additional information from mass surveys. We illustrate this approach by estimating time-series for eight European countries for periods up to 50 years and show that our estimates are comparable, if not superior, in richness and face validity to those of the Manifesto Project. We conclude that our approach can easily generate data that can be used to explore the robustness of empirical analyses using party position data and serve as valid benchmarks for computational text scaling and crowd-sourced manual coding of party manifestos.

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1 Introduction

It is not controversial to argue that the research into some of the most important questions in political science requires information about the location of political parties in terms of their policy preferences. Irrespective of whether one seeks to explain the formation of government coalitions or variation in government spending, to measure ideological polarization or policy representation, or to test spatial models of party competition and voting, an indispensable piece of information is required: the location of political parties on some ideological continuum. Indeed, without such information, we would find it hard to make meaningful statements about the political system of any democratic country.

For the past 40 years, the entire field that uses parties' policy positions has been dominated by the estimates provided by the Manifesto Project, which cover more than 1,000 parties in over 50 countries on five continents in competitive elections since 1945. Yet, as Gabel and Huber (2000, p. 620) remarked already 20 years ago, the Manifesto Project acquired this monopoly status simply because no other team was willing to undertake such a large project. Despite the efforts of the Chapel Hill Expert Survey (CHES) team, there has been no other collective effort to estimate the party positions at such a large scale. Given that the Manifesto Project has received continuous criticism over the past 20 years, we propose a challenge to the data monopoly and illustrate an alternative approach to obtain rich time-series of parties' positions.

Our approach is based on combining multiple expert surveys from different years, filling up the missing data using a multiple imputation algorithm that uses additional information from mass surveys. The advantage of our approach is that we are able to draw upon a long history of available studies, and generate data for years that have until now not been observed, establishing therefore rich time-series of party positions. The data that we generate are comparable, if not superior, in richness to those of the Manifesto Project as we are able to position more parties and in-between election years. More importantly, we illustrate that our estimates are often superior in terms of face validity, directly comparable between countries, and generally free from the random leapfrogging and inexplicable shifts that are often observed in the Manifesto Project data.

2 Competing approaches for estimating party positions

Generally speaking, the methods used to estimate parties' policy positions can be classified as behavioural, based on text, or surveys (Laver, 2014; Mair, 2001; Volkens, 2007). Behavioural approaches include the scaling roll-call votes in legislatures where individual legislators (and by aggregation their parties) are placed on latent ideological dimensions. For the most part, this approach has been criticised for the strategic nature of requesting roll-call voting (Carrubba et al., 2006), but more importantly because it often fails to uncover meaningful dimensions of political conflict. In many countries, the scaling of roll-call votes uncovers primarily a dimension reflecting government-opposition dynamics rather than ideological positions (see Hix & Noury, 2016).

The limitations of behavioural methods in establishing cross-national comparisons prompted researchers to turn to the analysis of political text and, in particular, election manifestos that are seen as 'authoritative statements' of preferences that represent the party as a whole (Budge, Klingemann, Volkens, Bara, & Tanenbaum, 2001). By the late 1990s, the estimates provided by the Manifesto Project have emerged as the most popular source of estimates for parties' policy positions. Hailed as a project with an unparalleled range and scope (Budge et al., 2001, p. viii), the Manifesto Project has been collecting the documents considered to represent the policy preferences of parties, painstakingly unitizing the text into 'quasi-sentences' that reflect distinct political arguments, assigning these 'quasi-sentences' into the categories of a coding scheme, and combining the frequencies of some of these categories into a Left-Right (L-R) scale. These L-R estimates (aka 'RILE' in the dataset) which the project considers as their 'crowning achievement' (Budge & Klingemann, 2001, p. 19), have become the project's most popular offering.

Far from being a 'gold standard', however, the approach of the Manifesto Project has been criticised on all of its theoretical and methodological choices. For instance, data analyses have shown that the coding scheme is based on theoretically debatable assumptions (Dolezal, Ennser-Jedenastik, Müller, & Winkler, 2014; Gemenis, 2013), that the coded documents are not always comparable in terms of their policy coverage (Gemenis, 2012; Hansen, 2008; Merz & Regel, 2013), that the hand-coding method is extremely time-consuming, costly (Volkens, 2007), and unreliable (Lacewell & Werner, 2013; Mikhaylov, Laver, & Benoit, 2012), and that most of the documents have been coded by coders who performed poorly on the project's own coder reliability training test (Gemenis, 2013, pp.

10–11). Moreover, the scaling method for L-R proposed by the Manifesto Project performs poorly in terms of reliability and validity and researchers have proposed at least 11 different scaling methods as alternatives (for critical comparisons of these methods see: Dinas & Gemenis, 2010; Franzmann, 2015; Gemenis, 2013).

Considering that the horse race among different scaling methods of the Manifesto Project data might be futile given the pervasive criticism, researchers have turned to computer-assisted analyses of party manifestos where the text of party manifestos is taken as a 'bag of words' and scaled into ideological dimensions using algorithms such as Wordscores (Laver, Benoit, & Garry, 2003) and Wordfish (Slapin & Proksch, 2008). Despite the automation provided by computers, researchers often need to preprocess and parse the text of the documents, with the performance of computer estimates of party positions being highly variant to context (Grimmer & Stewart, 2013). For instance, a comprehensive cross-national validation of Wordscores showed poor performance compared to other approaches (Bruinsma & Gemenis, 2019). Computer-assisted methods using dictionaries and supervised machine learning have also been shown to perform poorly in terms of validity (Pennings, 2011; Wiedemann, 2019). While the hand-coding manifestos by crowd-workers (Benoit, Conway, Lauderdale, Laver, & Mikhaylov, 2016) performs better in terms of validity, it comes at the expense of increasing costs in terms of resources given that the end product (L-R positions) do not differ much from expert surveys. Considering these challenges, it is not surprising that no one has attempted to put together a times-series cross-section dataset using any of these methods.

Text-based approaches can be contrasted to survey-based approaches, that include elite, mass, and expert surveys. Elite surveys of legislators (Whitaker, Hix, & Zapryanova, 2017) or the parties themselves (Trechsel & Mair, 2011) present unique approaches for tapping directly into parties' policy preferences, but the impossibility of retrospective estimation and the low response rates in many countries make elite surveys an improbable candidate for establishing cross-national time-series comparable to the Manifesto Project. Mass surveys of citizens, although generally available for advanced democracies since the end of the 1960s, have low reliability in terms of estimating parties' positions due to the presence of uninformed respondents who are known to provide erroneous judgements of party placements (Tilley & Wlezien, 2008). Moreover, the validity of mass surveys is rendered problematic by the tendency of respondents to project their sympathy for

parties into the estimates (Merrill, Grofman, & Adams, 2001).

These limitations have prompted political scientists to turn to their peers to estimate party policy positions using the so-called expert surveys. While expert surveys have their own shortcomings, most notably expert uncertainty and disagreement especially when it comes to more specific policy issues (see Gemenis, 2015; Lindstädt, Proksch, & Slapin, 2018; Marquardt & Pemstein, 2018; Steenbergen & Marks, 2007) and the experts' own ideological biases (Curini, 2010), they have been often the preferred data source for empirical analyses. Moreover, researchers routinely use expert surveys as benchmarks to evaluate computational text analyses methods (e.g., Laver et al., 2003) and crowd-sourced manual coding (e.g., Benoit et al., 2016). Despite the uncertainty on what the experts actually judge in expert surveys (Budge, 2000), the understanding of the L-R scale presented in expert surveys is not generally affected by cross-cultural differences (Bakker et al., 2014).

Drawing on the advantages of expert surveys, the Chapel Hill Expert Survey (CHES) team has established a cross-national time-series dataset covering most European countries since 1999 (Bakker et al., 2015). However, the estimates do not always cover national election years in which researchers are often most interested, and the spatial and temporal coverage of expert surveys before 1999 is rather sparse. Since retrospective estimation in the expert surveys is not generally advisable considering the measurement error due to telescoping effects (Steenbergen & Marks, 2007, p. 349), it becomes evident that the problem of establishing a time series of estimates comparable in richness to the Manifesto Project is not one of cost, validity, or cross-national comparability, but one of data *availability*. In the following section, we describe our proposed solution to this problem.

3 An imputation approach to expert surveys

Our approach can be summarized as follows. As a first step, we collect all data on parties' L-R positions from all available expert surveys since the 1970s in a single file for each country. Whenever there were multiple surveys within a single year, we select the survey which contained the most information. Moreover, we focus only on parties that appear in at least two surveys from different years. The full list of parties used in our empirical illustration is given in Appendix A. Since surveys often use different scales to assess

parties' L-R position, we re-scale all estimates to range from 0 (left) to 1 (right). For expert surveys we primarily use the data by CHES (Bakker et al., 2015; Polk et al., 2017) and EPAC (Szöcsik & Zuber, 2015; Zuber & Szöcsik, 2019), but also the data from several other national and cross-national surveys including those conducted by Morgan (1976), Castles and Mair (1984), Huber and Inglehart (1995), Lubbers (2000), Warwick (2006), Benoit and Laver (2006), Vowles, Xezonakis, Hellwig, and Coffey (2010), Kitschelt (2013), and Rohrschneider and Whitefield (2019). The full list of sources is given in Appendix B.

This first step leaves us with a data file with many missing values for years which there was no expert survey data. To estimate these missing values using a multiple imputation algorithm, we include in the data file, as a second step, additional information that can serve as predictors of parties' L-R placements. This information includes parties' positions on the socio-economic and socio-cultural scales drawn from expert surveys (e.g., Laver & Hunt, 1992), as well as parties' positions on the L-R, socio-economic and socio-cultural scales drawn from mass surveys such as the Mannheim Eurobarometer Trend File (Schmitt, Scholz, Leim, & Moschner, 2008) and various national election studies. We place this additional information in different variables that the ones containing the L-R expert survey information described in the first step. Imputation algorithms can use the information from these additional variables to obtain better estimates of the missing data in the variable containing the L-R expert survey data. The result of the two steps described above is that each country data file in which rows represent years by parties and columns represent the variables with the information described above. The data can then be missing either fully per row (when no data for that year could be found) or partially (when no data could be found for a certain variable).

The type of missing data this approach generates is known as data that is *missing at random* (MAR). This type of missingness means that the missingness itself is related to the observed values, but not to non-observed ones. In other words: we know why the data is missing (there has been no study done that year), and can, therefore, predict missing values using the information from the observed values. Here, we deem data to be MAR as we know the reason for missingness and because the missingness is not dependent on the missing data itself (that is, the reason a party's position is missing for a year is not because of the position of the party but because there was no survey for that year).

For implementing multiple imputation we use the Amelia II algorithm (Honaker, King, & Blackwell, 2011) which allows us to flexibly impute the data and insert different time-effects. The Amelia II package for R implements multiple imputation using a bootstrapping-based Expectation-Maximization (EM) algorithm (Horton & Kleinman, 2007). As such, the method can generate fast and independent imputations even with small samples and a large number of parameters (King, Honaker, Joseph, & Scheve, 2001). Apart from assuming MAR, Amelia II also assumes that the complete set of observed and unobserved data is multivariate normal. When we denote the dataset itself as D (with rows and columns $n \times k$), then the multivariate normal assumption is:

$$D \sim \mathcal{N}_k(\mu, \Sigma) \tag{1}$$

showing that D has a multivariate normal distribution with mean μ and covariance matrix Σ. While the multivariate assumption is rarely entirely correct, Honaker and King (2010) argue that ample evidence suggests that the model works as well as more complicated models. For the MAR assumption, if we have M denote the matrix that indicates whether or not data is missing, this assumption is:

$$p(M|D) \;=\; p(M|D^{obs}) \tag{2}$$

This means that the pattern of missingness depends on the observed, and not on the missing data. To impute the missing values, we need to gain an understanding of what the complete-data looks like. This complete data has the parameters $\theta = (\mu, \Sigma)$. As the observed data (that is, the data we actually know) is the observed data itself (D^{obs}) and our knowledge of the missing values (M), the likelihood of our data is $p(D^{obs}, M|\theta)$. Using the MAR assumption, this becomes:

$$p(D^{obs}, M|\theta) \;=\; p(M|D^{obs})p(D^{obs}|\theta) \tag{3}$$

As we carry out the inference on the complete data parameters, the likelihood becomes

$$L(\theta|D^{obs}) \propto p(D^{obs}|\theta) \tag{4}$$

which can be rewritten as

$$p(D^{obs}|\theta) \;=\; \int p(D|\theta)dD^{mis} \tag{5}$$

Giving us, with a flat prior on θ, the following posterior:

$$p(\theta|D^{obs}) \propto p(D^{obs}|\theta) \;=\; \int p(D|\theta)dD^{mis} \tag{6}$$

The algorithm (Honaker & King, 2010) then bootstraps the data to simulate the estimation uncertainty and subsequently runs the EM algorithm to find the mode of the posterior for the bootstrapped data. Then, Amelia II draws values of D^{mis} from the distribution based on the complete-data parameters, which are conditional on D^{obs} and the draws of θ. This generates a specific number of imputed data sets, which can be analyzed separately using similar methods as those that assume complete data. The results of these separate analyses can then be combined using the rules set out by Rubin (1987), or using the Zelig package for R (Imai, King, & Lau, 2008).

While we advocate using Amelia II for purposes of multiple imputation, we argue that our findings are not dependent on our choice of imputation method. In Appendix C we compare Amelia II to the MICE algorithm that uses multiple imputation combined with chained equations (van Buuren & Groothuis-Oudshoorn, 2011), and the missForest algorithm that fits a random forest for each of the variables in the dataset to find missing values (Stekhoven & Bühlmann, 2012). The results show that there is little difference between the algorithms. The ordering of the parties is similar and the changes in position for all the parties are both similar and as expected. Any differences that can be found in the missForest algorithm are due to the decreased, overall, variability that keeps the positions stable as long as there is no additional new information. Finally, for computational purposes, we found that the Amelia II algorithm runs faster and is less likely to crash or cause any computational problems when run multiple times.[1]

We also validate our approach by checking whether the imputation algorithm correctly predicts values that we know of. In this overimputation process, we remove a value, run

[1]Our imputations were run on a laptop using an Intel Core i7-6700HQ Processor (8 x 2.60GHz) and 7,6 GB RAM using R version 3.6.1. To run the imputations for the Netherlands, Amelia (version 1.7.6) with 80 imputations and cubic time-effects required 159.69 seconds, MICE (version 3.7.0) using 80 imputations with 50 iterations 349.28 seconds and missForest (version 1.4), with a maximum of 10 iterations with 100 trees 1.35 seconds.

the algorithm as usual, and compare the value given by the algorithm with the value we removed. The more similar both values, the better the algorithm. In Appendix D we show the results for this overimputation for the Amelia II algorithm for each of the countries. We find that, for a few countries only, there are is only a small number of values that could not be successfully recovered. For all the other countries, all of the means with their 90% confidence interval were close to the $y = x$ line of perfect concordance even at high degrees of missingness (upwards of 60%).

4 Results

To illustrate that our approach can be applied to any country where a reasonable amount of expert (and mass) survey data exists, we generate time-series of party positions in eight different countries. These include, Germany and Great Britain used often as a proof-of-concept in text-based approaches (Benoit et al., 2016; Budge & Klingemann, 2001; Laver et al., 2003; Slapin & Proksch, 2008), the multiparty systems of Norway and the Netherlands which present more challenging settings for estimating parties' positions, Denmark and Greece, two countries for which the document sources employed by the Manifesto Project are considered problematic (see Gemenis, 2012; Hansen, 2008), and Czechia and Spain that have been less covered by expert surveys. For each of these countries, we set up Amelia II to compute 80 imputations using cubic time-effects that varied over the different parties and used a ridge prior of 0.5%. This prior shrinks the covariances of the data while keeping means and variances equal, thus allowing the algorithm to deal with some of the high degrees of missingness.

In each of the following figures, the panel on the left illustrates the time-series of party positions according to our approach, where party points represents the mean of the imputations with the error bar representing their 95% confidence interval. For comparison, the panel on the right maps the time-series of party positions given by the Manifesto Project, though here the confidence intervals were constructed by the bootstrapping method proposed by Benoit, Laver, and Mikhaylov (2009). In the case of the Amelia II data, the value of 0.5 represents a centrist (neither left nor right) position, while for the case of the Manifesto Project data, the value of 0 was chosen as a reference point, even though there is no reason to assume this is indeed the neutral value. In both panels, the graphs run

from left to right bottom to top. To avoid clutter in the figures, we only present the data for five, six, and nine parties in Greece, Denmark, and the Netherlands, although our in our replication materials we provide estimates for up to 14 parties in these countries.

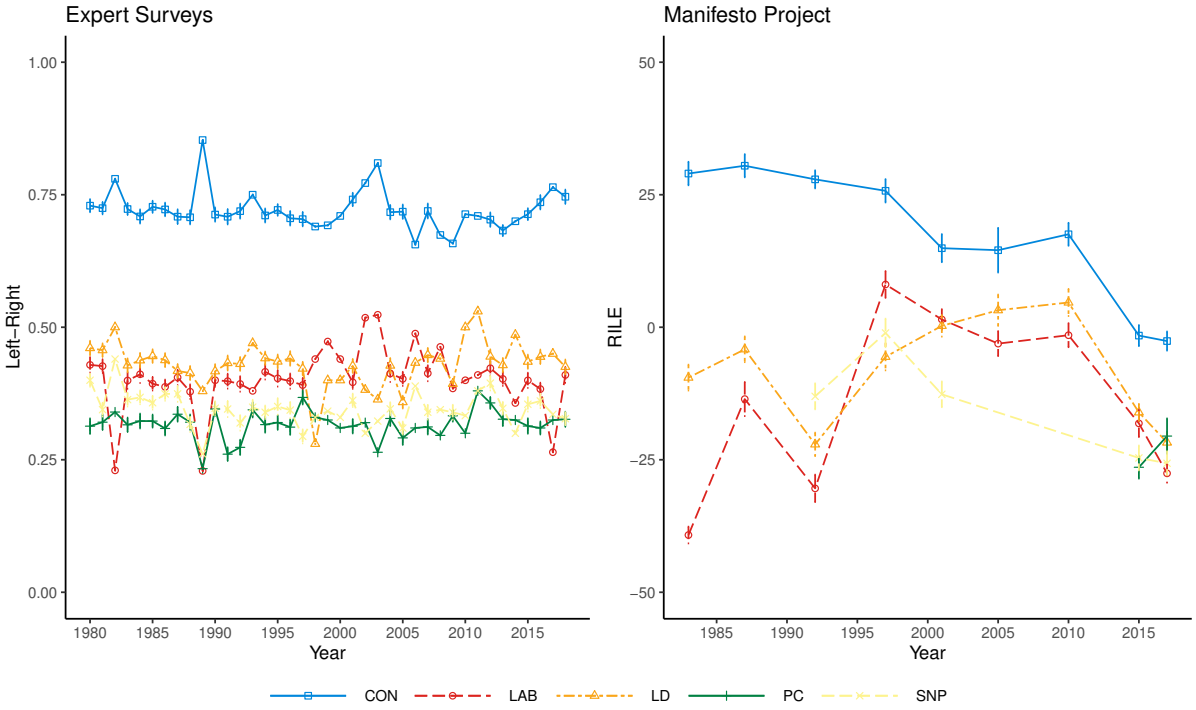

Figure 1: Great Britain: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

Figure 1 shows the results for Great Britain. While both approaches agree in their placement of the Conservatives (CON) on the right and all other parties on the left of centre, there are some notable differences. Our imputed expert survey estimates present a rather stable trajectory of the Conservatives, save a few spikes that can be attributed to the difference between expert survey estimates and imputed values. The Manifesto Project data, however, show a Conservative trajectory towards the left after 1997, eventually reaching the centre of the L-R scale in 2015 and 2017. We consider this implausible given the policy content of the Conservative manifestos. Similarly, the Liberal Democrats (LD) seem to be turning rightwards in 2001, although their manifesto for that election is widely acknowledged to have signalled a shift to the left.[2] Overall though, both approaches provide an accurate overview of the positions of the other parties uncovering some well-known trajectories of the period, such as Labour's (LAB) moving to the right after 1997 and then its move towards the left again after 2010.

[2]See, for instance: 'Lib Dem manifesto changes the spectrum,' *The Guardian*, 16 May 2001.

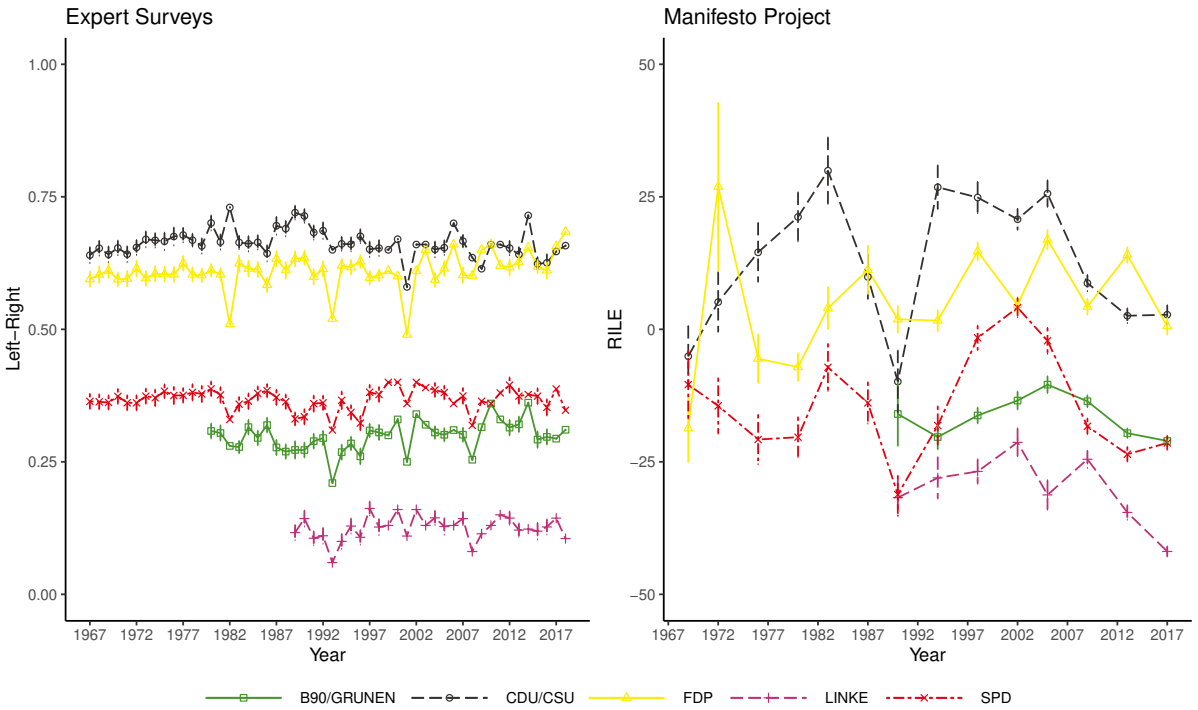

Figure 2: Germany: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

Figure 2 shows the results for Germany. Here, while the ordering of the parties on the L-R scale is largely similar between the two approaches, the trajectories of the parties across time are markedly different. While the expert surveys data present a stable trajectory, the Manifesto Project data show dramatic swings for nearly all of the parties. A closer inspection, however, reveals that most of these swings are either random (FDP), or simply inexplicable. For instance, it does not follow from the historical record that the 1990 position of the CDU/CSU was identical to that of the Greens (as the Manifesto Project data show), or why SPD moves to the left after 2005 when it was actually in a grand coalition with CDU/CSU.

For the Netherlands (shown in Figure 3), we find that the expert survey time-series is consistent with what one would expect from the political situation in the country. Starting from the right, both datasets agree that the most right-wing party is the Christian-conservative SGP until surpassed in the late 2000s by the right-wing populist PVV. Both datasets also capture a right-wing shift of many parties after 2003 when immigration became a highly salient issue after the assassination of Pim Fortuyn, as well as a long-term shift towards the centre by the small Christian party CU. The Manifesto Project estimates, become more and more indistinguishable positions to parties after 2003, with

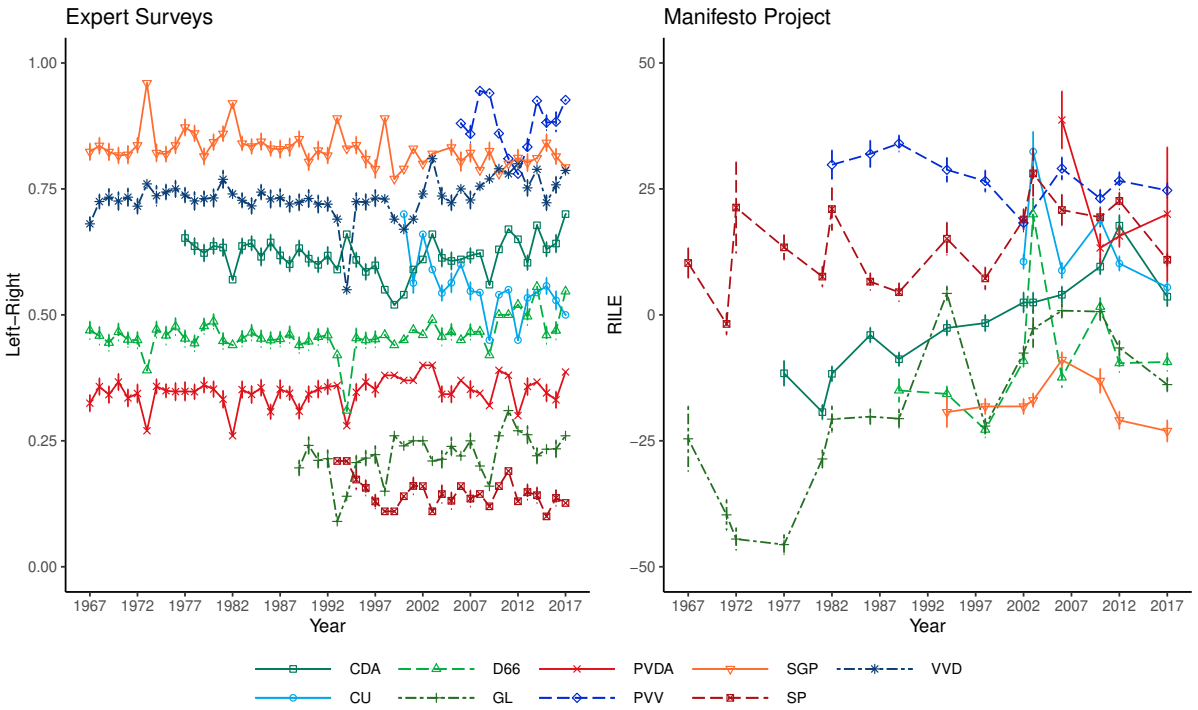

Figure 3: The Netherlands: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

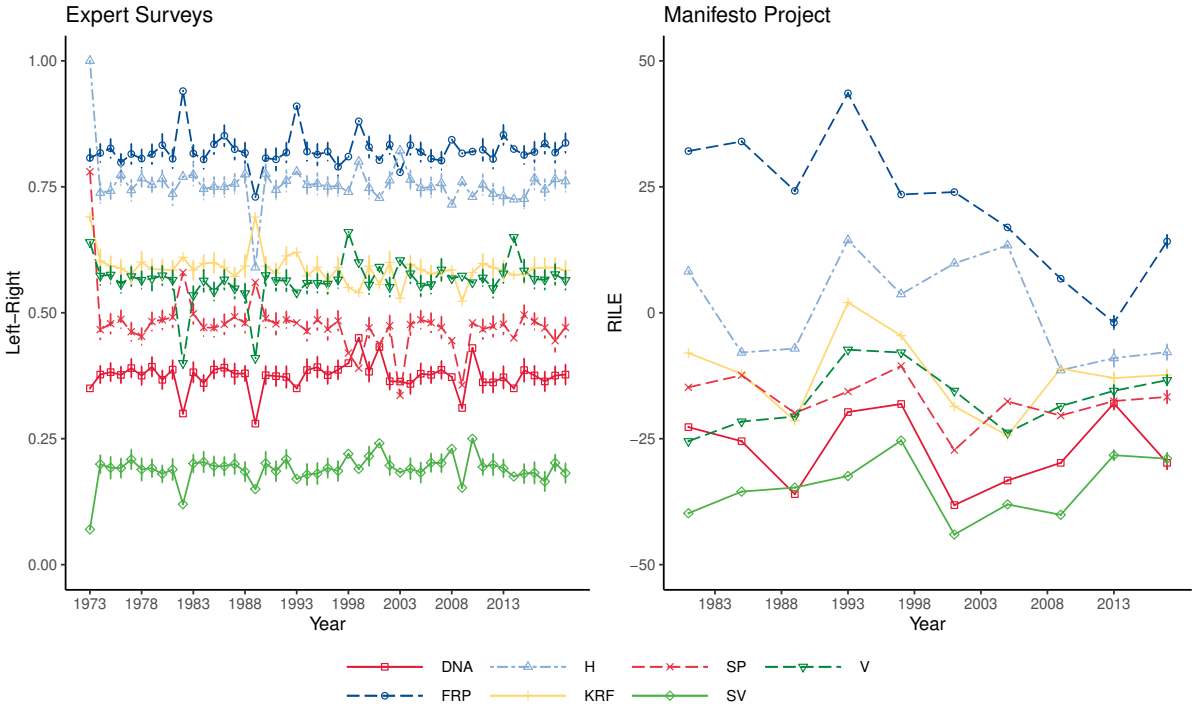

Figure 4: Norway: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

a cluster of D66 and GL with SP on the left, and all other parties on the right. Moreover, the position of PVV is estimated with a large degree of uncertainty since the party is

notorious for publishing manifestos that are often just one page long.

For Norway (Figure 4), we find that experts surveys' placement of parties shows little movement on the left-right, while the Manifesto Project dataset is characterised by a long-term shift to the left for all parties. According to the Manifesto Project, the conservatives (H) moved rightwards in 1998 and again leftwards in 2005, while the labour party (DNA) moved leftwards in 2001 and rightwards in 2005. These shifts, however, are the opposite of what has been observed in the literature, which argues that DNA shifted to the right in 2001 and to the left in 2005 (Sitter, 2006, p. 577). Besides, the right-wing Progress Party (FRP) gradually moves towards the left after 1993 in the Manifesto Project data, only to rebound to the right again after 2013. Yet, after the 1994 Progress Party national convention, the party adopted a more populist right-wing stance and is most often labelled as an extreme/radical right party over the period covered in the figure (Allern, 2010, p. 26).

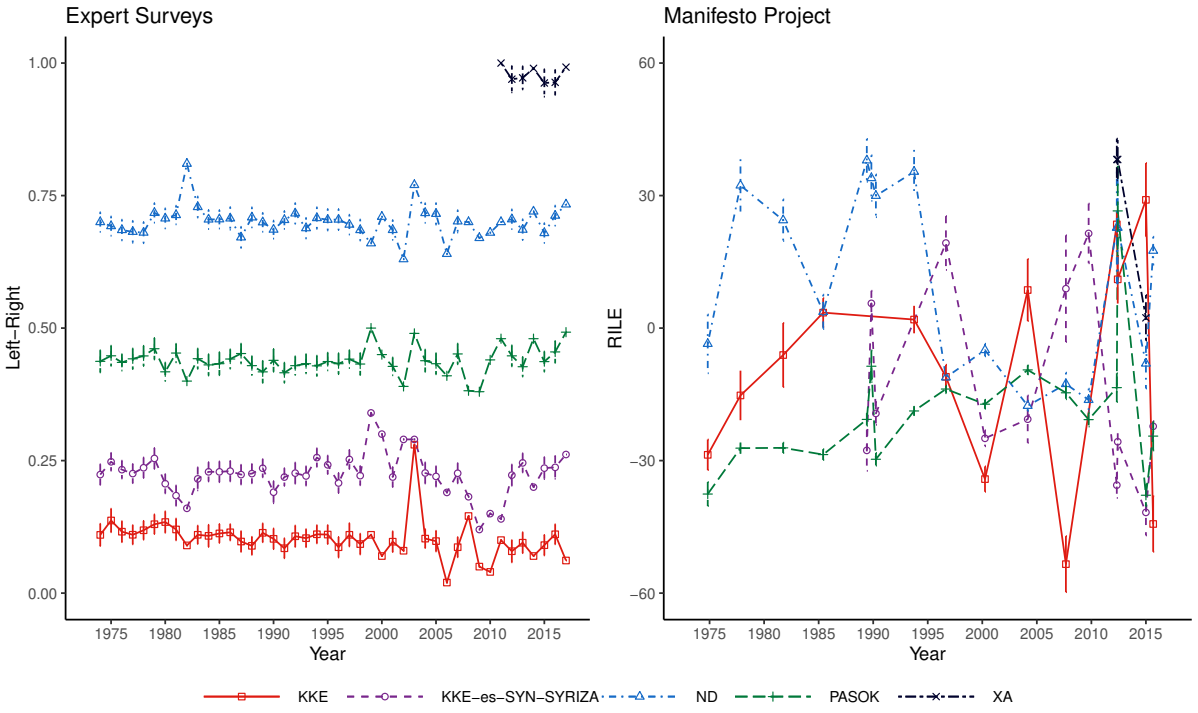

Figure 5: Greece: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

Figure 5 shows the time-series for Greece. Here, we see the benefit of our approach even more clear than in the previous cases. While the imputed expert survey data present stable trajectories and consistent ordering of parties from left to right, the Manifesto Project data imply that there is considerable movement in party positions. As argued

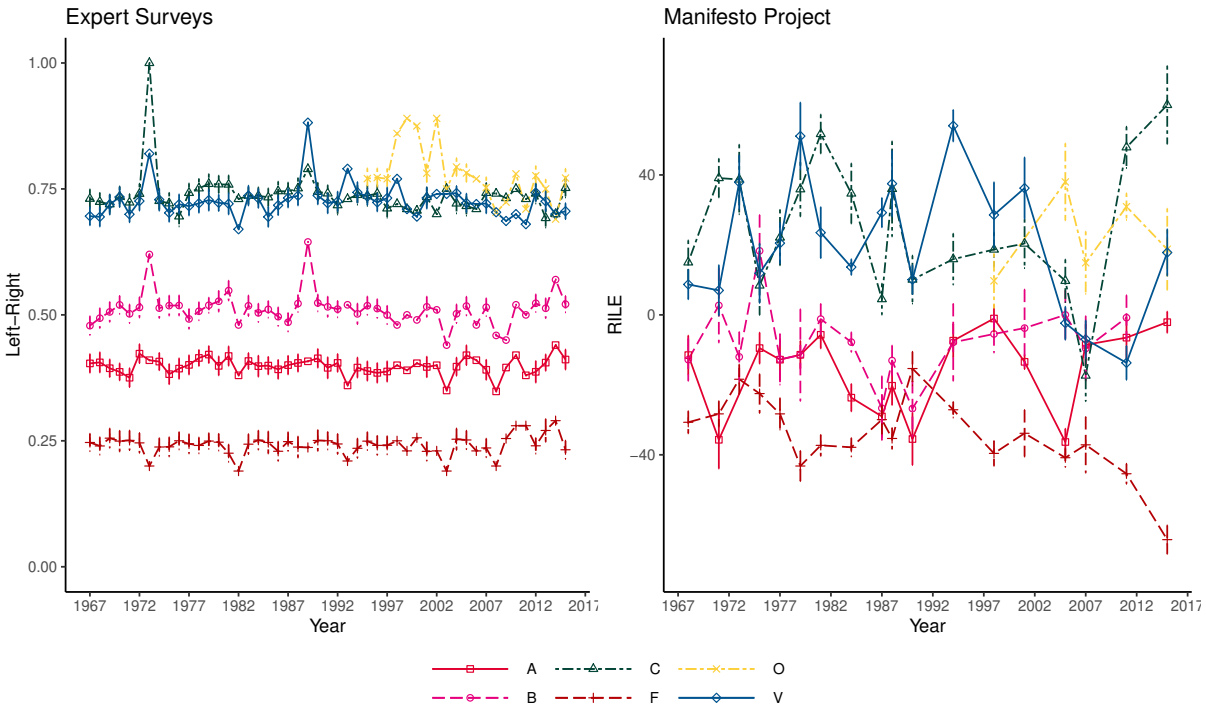

Figure 6: Denmark: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

before (Dinas & Gemenis, 2010), such 'leap-frogging' seems highly implausible if one considers the actual content of the manifestos, but it is particularly evident after 2004 where the positions do not make sense at all, as admitted by the Manifesto Project as well.[3] For instance, the Communist Party of Greece (KKE) moves from the extreme left in 2007, to the extreme right in 2009 and to the centre-right in 2012, while the neo-Nazi Golden Dawn (XA) moves from the extreme right towards the centre. Moreover, the social-democratic PASOK is on the left of the radical left SYRIZA (and its predecessors) for the entire period since 1974. Since each and every party is misplaced by the Manifesto Project, our data can be viewed as the only legitimate source for L-R time-series on party positions in Greece.

Figure 6 shows the results for Denmark. Here both the imputed expert surveys imputation approach and the Manifesto Project agree that the Liberal Party (V) and the Conservatives (C) have overlapping positions during the period plotted in the figure. However, the Manifesto Project presents a picture of extreme discontinuity and 'leapfrogging' in party positions that cannot always be documented considering the content of their

[3]See the May 2015 release notes: `https://manifesto-project.wzb.eu/down/data/2019b/codebooks/release_notes_MPDS2019b.pdf`

manifestos. For instance, Hansen (2008, pp. 211–213) in criticising many of the Manifesto Project estimates in Denmark as implausible, references the example of the Radical Liberals (B) as the most left-wing party in 1990 as unjustifiable considering the positions of the Socialist People's Party (F) and the fact that the Radical Liberals were part of a mainstream coalition government.

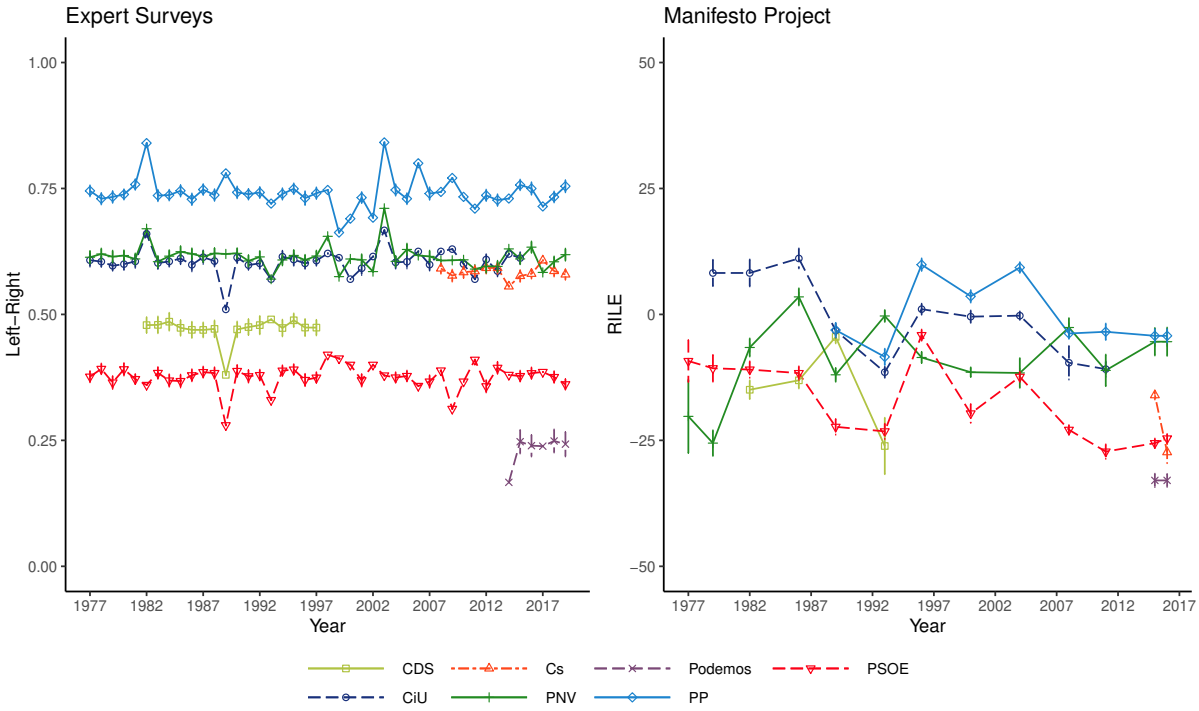

Figure 7: Spain: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

Figure 7 shows the results for Spain. Again, the time-series based on imputed expert surveys present a more stable picture, although the shifts in the Manifesto Project data are not as drastic as in other countries. Some of these shifts are well documented, such as the PNV move to the right after 1979 (Ugarte & Pérez-Nievas, 1998, p. 91), and the shifting position around the centre of the PP (Magone, 2004, p. 92) but others are less plausible. For instance, the gradual leftwards movement of the CiU since 1987 cannot be explained given the party's policy track record (Dowling, 2009, pp. 187–189), while it is implausible to see *Ciudadanos* (Cs) at the extreme left and close to *Podemos* (Orriols & Cordero, 2016, p. 472).

Finally, Figure 8 shows the results for Czechia. Here again, the imputed expert survey estimates present a relatively stable trajectory for Czech parties. The Manifesto Project data, however, indicate that the entire party system has been shifting to the left since the

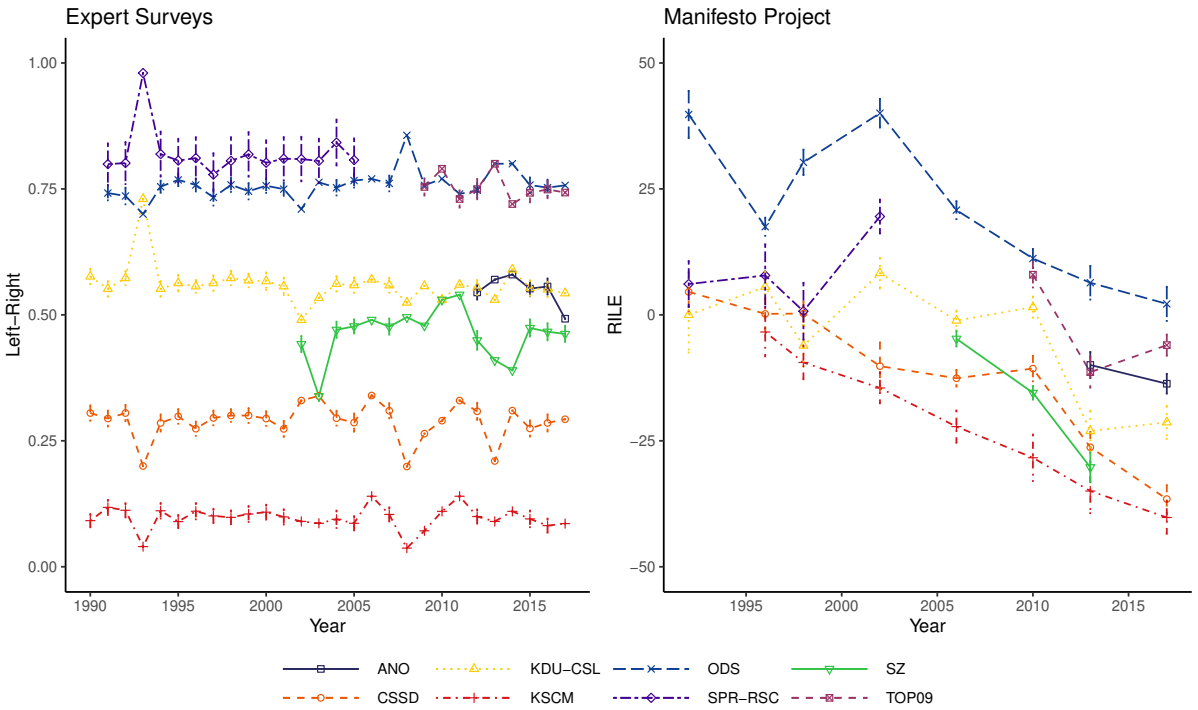

Figure 8: Czechia: Time-series comparison between the imputed expert surveys and Manifesto Project left-right positions.

early 1990s, save for a brief rightwards movement of ODS between 1996 and 2006. Overall, it seems implausible that the entire party system has shifted and that the conservative ODS took the same position in 2017 that the communists (KSCM) had in 1990.

5 Conclusions

In this research note, we illustrated that it is possible to estimate rich time-series of party positions on the L-R scale as an alternative to the ones provided by the Manifesto Project. Combining multiple expert surveys from different years and filling up the missing data using a multiple imputation algorithm proved to be a viable approach, and the results showed that the approach produced reasonable estimates in terms of face validity.

An obvious criticism of our proposed approach is that the imputed expert survey time-series look rather flat compared to the considerable movement of parties evidenced by the Manifesto Project (see McDonald, Mendes, & Kim, 2007). We accept the importance of this criticism, but we counter-argue that the movement of parties illustrated by the Manifesto Project estimates often appears to be implausible and nonsensical if one considers what is actually being argued in the coded manifestos. According to an

analysis among 81 parties from 14 countries by a prominent supporter of the Manifesto Project estimates (McDonald, 2006, p. 89), only 19.5% of the observed position shifts in the Manifesto Project data reflects reliable variation and the majority of the variance in party positions reflects stability, with the remaining variance being random noise. Independent investigations have also confirmed this assessment. When it comes to position shifts, noise is greater than the signal in the Manifesto Project data (see Benoit et al., 2009; Meyer & Jenny, 2013).

The question, therefore, boils down to whether one should prefer the (often implausible and noisy) variability of the Manifesto Project data over the (perhaps too much) stability of the imputed expert surveys approach presented here. We believe that the answer to this question lies with individual researchers. When it comes to time-series of party positions, however, the Manifesto Project data have been an effective data monopoly for over 40 years. Following recent calls for scholars to 'explore the robustness of their findings using alternative measures of party position shifts' (Adams et al., 2019, p. 1241), we illustrated a viable alternative to this data monopoly. Not only the data presented here can be used by those who are interested in cross-validating empirical analyses that include party policy positions (e.g. Dalton & McAllister, 2015), they can also serve as valid benchmarks for new approaches employing computational text scaling (e.g. Laver et al., 2003; Slapin & Proksch, 2008), or crowd-sourced manual coding (e.g. Benoit et al., 2016). In this respect, we are making all the time-series data, which we will periodically update and extend to include additional countries, available for download. Moreover, we are making available all the replication material for third party users to assess, modify, and further extend our proposed approach.

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Appendix A - Parties

Country	Party Name	Initials	Years	Note
Czech Republic	Akce nespokojených občanů	ANO	2012–2017	
	Ceská strana sociálne demokratická	CSSD	1990–2017	
	Krestanská a demokratická unie—Ceskoslovenská strana lidová	KDU-CSL	1990–2017	
	Komunistická strana Cech a Moravy	KSCM	1990–2017	
	Obcanská demokraticktá strana	ODS	1991–2017	
	Sdružení pro republiku – Republikánská strana Československa	SPR-RSC	1991–2005	
	Strana zelených	SZ	2002–2017	
	Tradice Odpovědnost Prosperita 09	TOP09	2009–2017	
Denmark	Socialdemokraterne	A	1967–2015	
	Det Radikale Venstre	B	1967–2015	
	Det Konservative Folkeparti	C	1967–2015	
	Centrum-Demokraterne	D	1973–2008	
	Retsforbundet	E	1967–1990	
	Socialistisk Folkeparti	F	1967–2015	
	Liberal Alliance	I	2007–2015	
	Enhedslisten – De Rød-Grønne	Ø	1989–2017	
	Kristeligt Folkeparti	K	1970–2015	
	Danmarks Kommunistiske Parti	KD	1967–1989	
	Dansk Folkeparti	O	1995–2015	

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Table 1 continued from previous page

Country	Party Name	Initials	Years	Note
	Venstre	V	1967–2015	
	Venstresocialisterne	Y	1967–1989	
	Fremskridtspartiet	Z	1972–2004	
Germany	Bündnis 90/Die Grünen	B90GRUNEN	1980–2018	Before 1989: Die Grünen
	Christlich Demokratische Union Deutschlands/ Christlich-Soziale Union in Bayern	CDUCSU	1967–2018	
	Freie Demokratische Partei	FDP	1967–2018	
	Die Linke	LINKE	1989-2018	Before 2005: PDS
	Sozialdemokratische Partei Deutschlands	SPD	1967–2018	
Great Britain	Conservative Party	CON	1980–2018	
	Labour Party	LAB	1980–2018	
	Liberal Democrats	LD	1980–2018	Before 1988: Liberal Party
	Plaid Cymru—Party of Wales	PC	1980–2018	
	Scottish National Party	SNP	1980–2018	
Greece	Ανεξάρτητοι Έλληνες	ANEL	2012–2017	
	Δημοκρατικό Κοινωνικό Κίνημα	DIKKI	1995–2004	
	Δημοκρατική Αριστερά	DIMAR	2010–2017	
	Κομμουνιστικό Κόμμα Ελλάδας	KKE	1974–2017	
	Λαϊκός Ορθόδοξος Συναγερμός	LAOS	2000–2012	
	Νέα Δημοκρατία	ND	1974–2017	

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Table 1 continued from previous page

Country	Party Name	Initials	Years	Note
	Πανελλήνιο Σοσιαλιστικό Κίνημα	PASOK	1974–2017	
	Πολιτική Άνοιξη	POLAN	1993–2004	
	Το Ποτάμι	POTAMI	2014–2017	
	Συνασπισμός Ριζοσπαστικής Αριστεράς	SYRIZA	1980–2017	Before 1991: KKE Interior, Before 2004: Synaspismós
	Λαϊκός Σύνδεσμος—Χρυσή Αυγή	XA	2011–2017	
The Netherlands	Anti-Revolutionaire Partij	ARP	1967–1976	
	Christen-Democratisch Appèl	CDA	1977–2017	
	Christelijk-Historische Unie	CHU	1967–1976	
	Christenunie	CU	2000–2017	
	Democraten '66	D66	1967–2017	
	Groenlinks	GL	1989–2017	
	Katholieke Volkspartij	KVP	1967–1976	
	Partij Politieke Radicalen	PPR	1968–1989	
	Partij van de Arbeid	PVDA	1967–2017	
	Partij voor de Dieren	PVDD	2006–2017	
	Partij voor de Vrijheid	PVV	2006–2017	
	Staatskundig Gereformeerde Partij	SGP	1967–2017	
	Socialistische Partij	SP	1993–2017	
	Volkspartij voor Vrijheid en Democratie	VVD	1967–2017	
Norway	Arbeiderpartiet	DNA	1973–2019	Also: Det norske Arbeiderparti

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Table 1 continued from previous page

Country	Party Name	Initials	Years	Note
	Fremskrittspartiet	FRP	1973–2019	
	Høyre	H	1973–2019	
	Kristelig Folkeparti	KRF	1973–2019	
	Senterpartiet	SP	1973–2019	
	Sosialistisk Venstreparti	SV	1973–2019	
	Venstre	V	1973–2019	
Spain	Centro Democrático y Social	CDS	1982–1997	
	Convergència i Unió	CiU	1977–2015	
	Ciudadanos	Cs	2008–2019	
	Partido Nacionalista Vasco	PNV	1977–2019	
	Unidas Podemos	Podemos	2014–2019	
	Partido Popular	PP	1977–2019	Before 1989: Alianza Popular
	Partido Socialista Obrero Español	PSOE	1977–2019	

Appendix B - Data Sources

Czechia

	Type	Period
Huber and Inglehart (1995)	Expert	1993
Benoit and Laver (2006)	Expert	2002
Rohrschneider and Whitefield (2019)	Expert	2007
Kitschelt (2013)	Expert	2008
Vowles, Xezonakis, Hellwig, and Coffey (2010)	Expert	2009
Immerzeel, Lubbers, and Coffé (2010)	Expert	2011
Research on Czech Political Parties (Institute of Sociology (Academy of Sciences of the Czech Republic), 2017)	Expert	2013
CHES (Bakker et al., 2015; Polk et al., 2017)	Expert	1999, 2002 2006, 2010 2014, 2017
IVVM Post-Election Survey (Institute for Public Opinion Research, 2003)	Mass	1998
Economic Expectations and Attitudes (Institute of Sociology (Academy of Sciences of the Czech Republic), 2005a, 2005b, 2005c, 2005d)	Mass	1990, 1993 1994, 1996 1997
European Election Study (Schmitt et al., 2009; Schmitt, Hobolt, Popa, Teperoglou, & European Parliament, Directorate-General for Communication, Public Monitoring Unit, 2016; van Egmond, van der Brug, Hobolt, Franklin, & Sapir, n.d.)	Mass	2004, 2009 2014

Table 1: Overview of the data employed for Czechia.

Denmark

	Type	Period
Janda (1980)	Expert	1967
Morgan (1976)	Expert	1973
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Lubbers (2000)	Expert	1998
Warwick (2006)[1]	Expert	2001
Benoit and Laver (2006)	Expert	2003
Rohrschneider and Whitefield (2019)	Expert	2013
Kitschelt (2013)	Expert	2008
Vowles et al. (2010)	Expert	2007
Immerzeel et al. (2010)	Expert	2011
CHES	Expert	1999, 2002
(Bakker et al., 2015; Polk et al., 2017)		2006, 2010
		2014
Eurobarometer (Schmitt, Scholz, Leim, & Moschner, 2008)	Mass	1973–1994
		1997
Danish National Election Study	Mass	1971–2015
(Department of Political Science, University of Aarhus, 2011)		

Table 2: Overview of the data employed for Denmark.

Germany

	Type	Period
Janda (1980)	Expert	1967
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Lubbers (2000)	Expert	2000
Warwick (2006)	Expert	2001
Benoit and Laver (2006)	Expert	2003
Kitschelt (2013)	Expert	2008
Rohrschneider and Whitefield (2019)	Expert	2013
Vowles et al. (2010)	Expert	2009
Immerzeel et al. (2010)	Expert	2011
Hohner, Geese, and Saalfeld (2018)	Expert	2017
CHES	Expert	1999, 2002
(Bakker et al., 2015; Polk et al., 2017)		2006, 2010
		2014, 2017
GLES (Falter, Gabriel, Rattinger, & Schmitt, 2012)	Mass	1994, 1998
(Rattinger et al., 2016; Roßteutscher et al., 2019)		2002, 2005
		2009, 2013
		2017
Politbarometer	Mass	1980-2017
(Forschungsgruppe Wahlen, Mannheim, 2017a, 2017b, 2018)		
Eurobarometer (Schmitt et al., 2008)	Mass	1973–1999
(European Commission, 2013)		1999-2000
		2002, 2008

Table 3: Overview of the data employed for Germany.

Great Britain

	Type	Period
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Laver and Mair (1999)	Expert	1998
Lubbers (2000)	Expert	2000
Benoit and Laver (2006)	Expert	2003
Benoit, Conway, Lauderdale, Laver, and Mikhaylov (2016)	Expert	2005
Vowles et al. (2010)	Expert	2008
Kitschelt (2013)	Expert	2009
Immerzeel et al. (2010)	Expert	2011
Rohrschneider and Whitefield (2019)	Expert	2013
EPAC		
Szöcsik and Zuber (2015); Zuber and Szöcsik (2019)		
CHES (Bakker et al., 2015; Polk et al., 2017)	Expert	1999, 2002
		2006, 2010
		2014, 2017
Eurobarometer (Schmitt et al., 2008)	Mass	1980–1997
(European Commission, 2013)		2000, 2008

Table 4: Overview of the data employed for Great Britain.

Greece

	Type	Period
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Lubbers (2000)	Expert	2000
Benoit and Laver (2006)	Expert	2003
Vowles et al. (2010)	Expert	2008
Kitschelt (2013)	Expert	2009
Gemenis and Nezi (2012)	Expert	2011
Rohrschneider and Whitefield (2019)	Expert	2013
CHES	Expert	1999, 2002
(Bakker et al., 2015; Polk et al., 2017)		2006, 2010
		2014, 2017
Eurobarometer (Schmitt et al., 2008)	Mass	1980–2002
(European Commission, 2013)		2004, 2008
EKKE (Mavrogordatos & Nikolakopoulos, 2017)	Mass	1985, 1989
(Nikolakopoulos, 2017a, 2017b, 2017c, 2017d, 2017e; Nikolakopoulos & Pantelidou Malouta, 2017)		1996

Table 5: Overview of the data employed for Greece.

The Netherlands

	Type	Period
Janda (1980)	Expert	1967
Morgan (1976)	Expert	1973
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Laver (1995)	Expert	1994
Laver and Mair (1999)	Expert	1998
Lubbers (2000)	Expert	2000
Warwick (2006)	Expert	2001
Benoit and Laver (2006)	Expert	2003
Vowles et al. (2010)	Expert	2008
Kitschelt (2013)	Expert	2009
Immerzeel et al. (2010)	Expert	2011
Gemenis and van Ham (2014)	Expert	2012
Rohrschneider and Whitefield (2019)	Expert	2013
CHES	Expert	1999, 2002
(Bakker et al., 2015; Polk et al., 2017)		2006, 2010
		2014, 2017
Eurobarometer (Schmitt et al., 2008)	Mass	1973–1997
(European Commission, 2013)		2000, 2008
Dutch Parliamentary Election Survey	Mass	1977–2012
(Aarts & Todosijevic, 2009; Stichting Kiezersonderzoek Nederland, Centraal Bureau voor de Statistiek, van der Kolk, Aarts, & Tillie, 2012; Stichting Kiezersonderzoek Nederland, Centraal Bureau voor de Statistiek, van der Kolk, Tillie, et al., 2012)		

Table 6: Overview of the data employed for the Netherlands.

Norway

	Type	Period
Morgan (1976)	Expert	1973
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Lubbers (2000)	Expert	1998
Ray and Narud (2000)	Expert	1999
Warwick (2006)	Expert	2001
Benoit and Laver (2006)	Expert	2003
Vowles et al. (2010)	Expert	2008
Kitschelt (2013)	Expert	2009
Immerzeel et al. (2010)	Expert	2010
CHES (Polk et al., 2017)	Expert	2014
Norwegian Election Survey	Mass	1981, 1985
(Statistics Norway, 2008, 2009, 2011, 2012a, 2012b, 2012c,		1989, 1993
2012d, 2015; Valen & Aardal, 2003)		1997, 2001,
		2005, 2009,
		2013

Table 7: Overview of the data employed for Norway.

Spain

	Type	Period
Castles and Mair (1984)	Expert	1982
Laver and Hunt (1992)	Expert	1989
Huber and Inglehart (1995)	Expert	1993
Ramiro Fernández (1999)	Expert	1998
Lubbers (2000)	Expert	2000
Benoit and Laver (2006)	Expert	2003
Vowles et al. (2010)	Expert	2008
Kitschelt (2013)	Expert	2009
Immerzeel et al. (2010)	Expert	2011
Rohrschneider and Whitefield (2019)	Expert	2013
Expert Survey on Ethnonationalism in Party Competition	Expert	2012, 2016
Szöcsik and Zuber (2015); Zuber and Szöcsik (2019)		
CHES	Expert	1999, 2002
(Bakker et al., 2015; Polk et al., 2017)		2006, 2010
		2014
Eurobarometer (Schmitt et al., 2008)	Mass	1985–1997
(European Commission, 2013)		2000, 2008

Table 8: Overview of the data employed for Spain.

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Appendix C - Algorithm Robustness

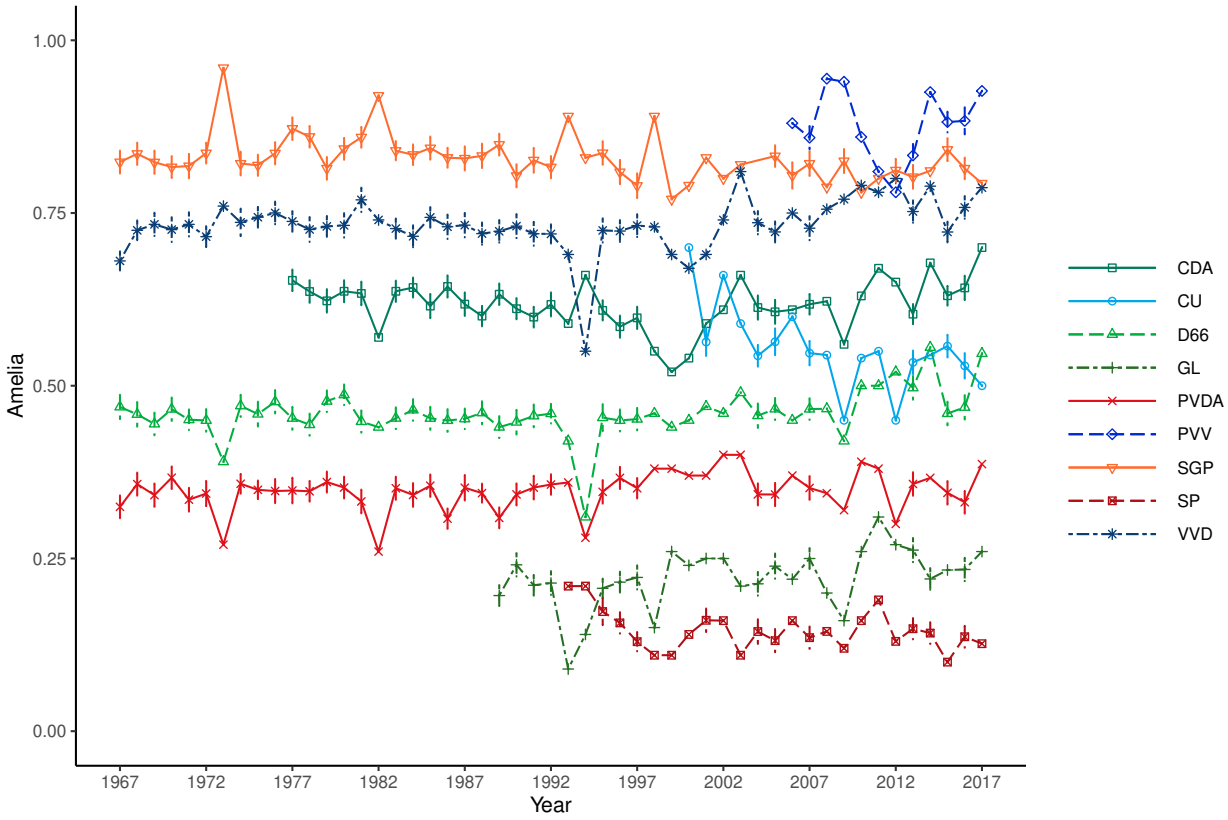

Figure 1: Imputation values for the Netherlands, 1967-2017, using the Amelia algorithm

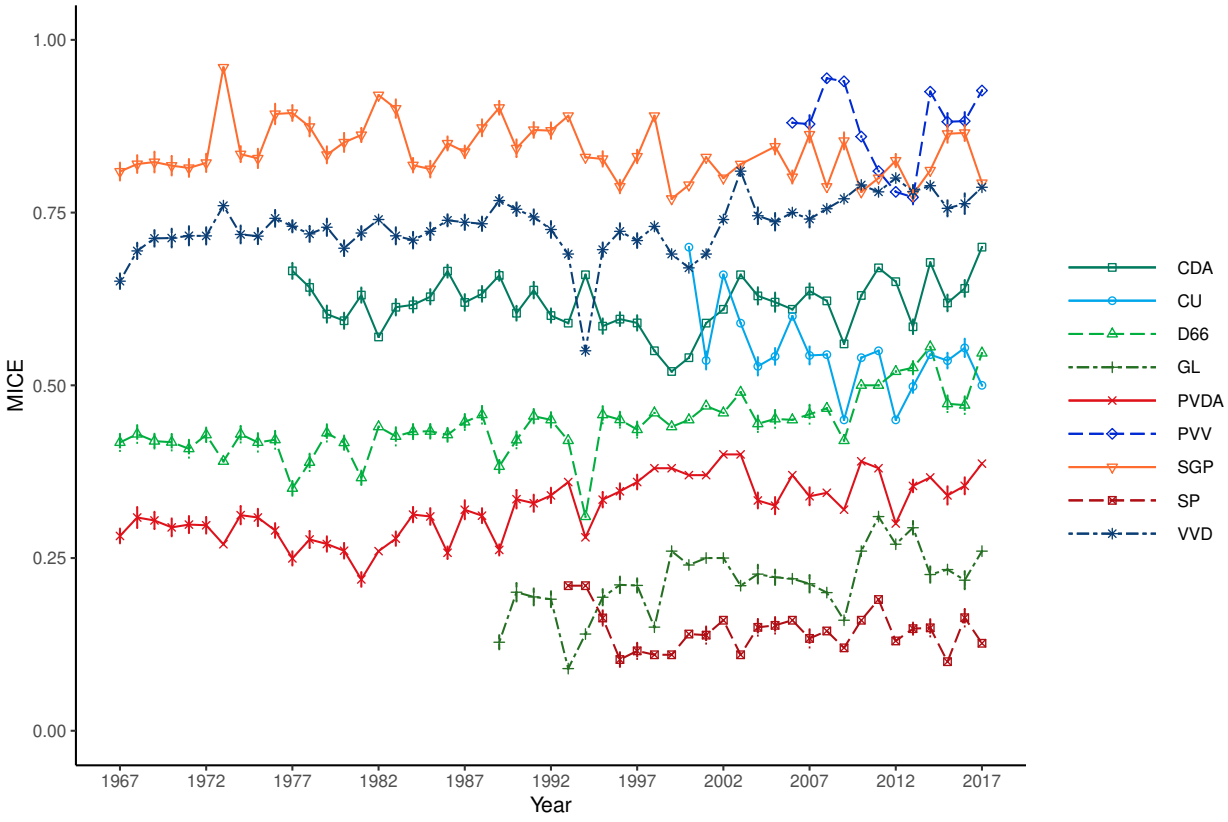

Figure 2: Imputation values for the Netherlands, 1967-2017, using the MICE algorithm

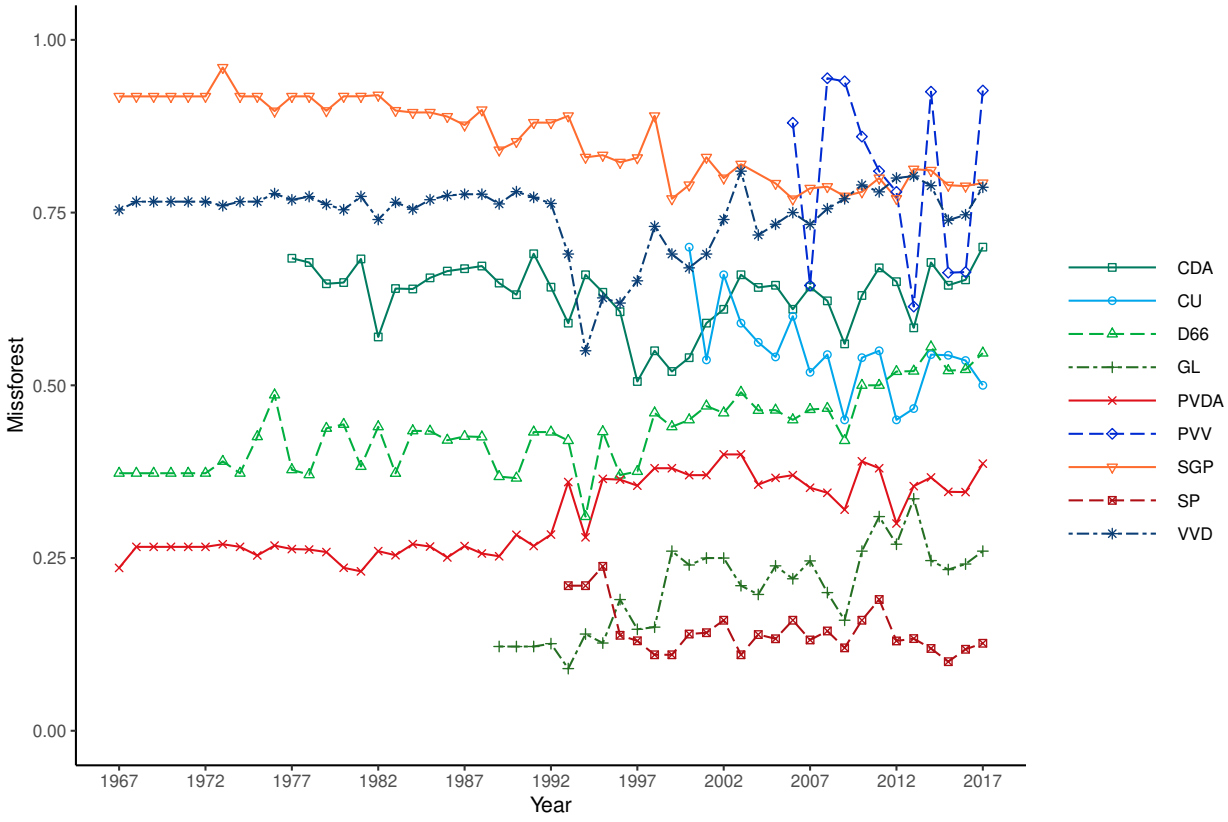

Figure 3: Imputation values for the Netherlands, 1967-2017, using the Missforest algorithm

Appendix D - Overimputation of Algorithms

The idea of overimputation is to judge whether the current imputation model (that is, the settings we give to Amelia, such as time-effects and number of imputations) fits the data. Ideally, we would do so by comparing the actual missing data with the data the model generates. Yet, given the nature of missing data, this is not possible. Instead, we can see whether the model would be able to correctly infer from the model a value we actually know (and which is not missing). In Amelia this is incorporated in the *overimpute* function. This function takes the output of a regular Amelia run and in turn treats each observed value as missing, and generates a large number of observations for it. The latter is done to allow the generation of confidence intervals. Amelia than generates a plot that shows the imputed values with their confidence intervals against the actual values. If all the imputations would be perfect, they would all fall on the diagonal $y = x$ line. In addition, the colours of the points and the vertical bars shows the fraction of missing observations for that observation. From the figures, we can see that only for a few values (in case of Great Britain, Denmark and Norway), there are a small number of values that could not be successfully recovered. For all the other countries, all of the means with their 90% confidence interval were close to the $y = x$ line, even at high degrees of missingness (upwards of 60%).

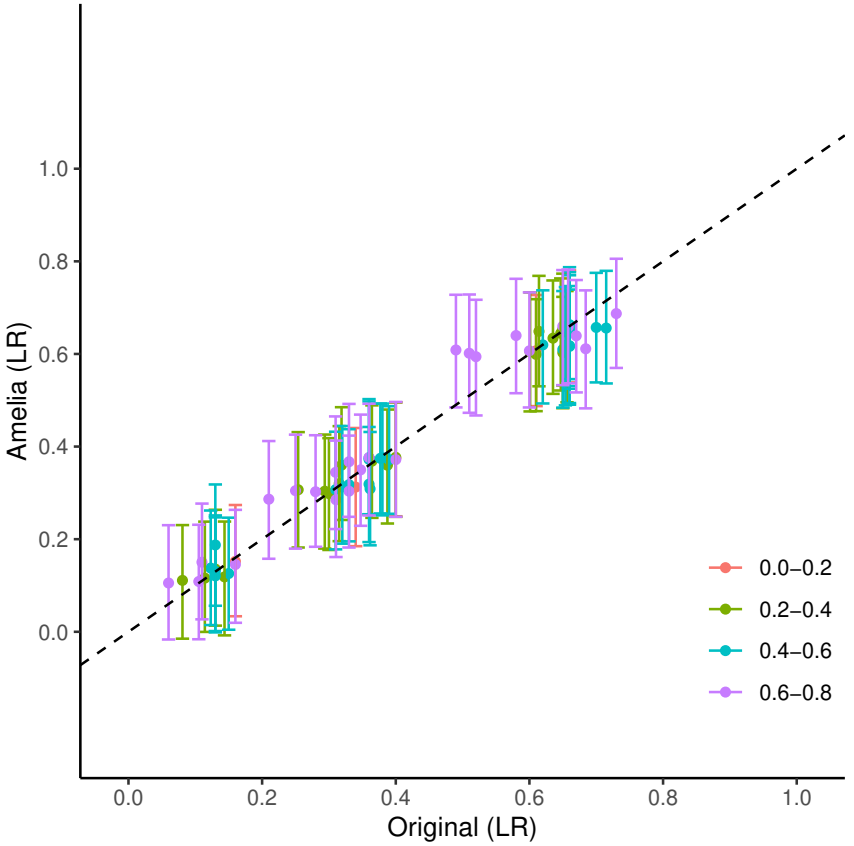

Figure 1: Overimputation for Germany. Colours of bars and points show the degree of missingness for the Left-Right variable

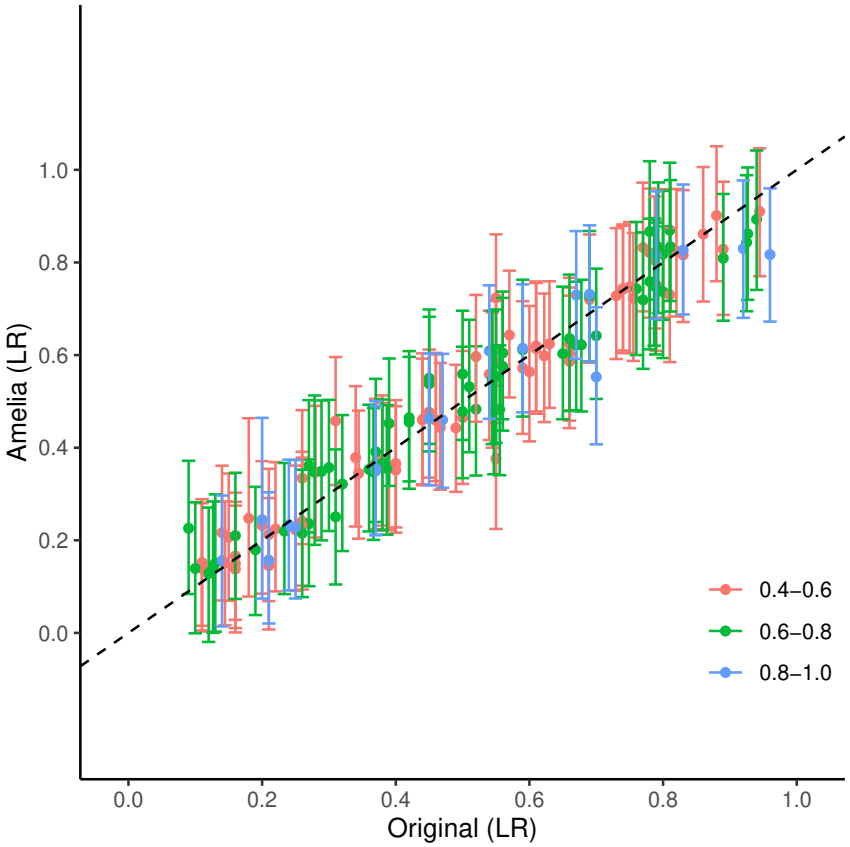

Figure 2: Overimputation for the Netherlands. Colours of bars and points show the degree of missingness for the Left-Right variable

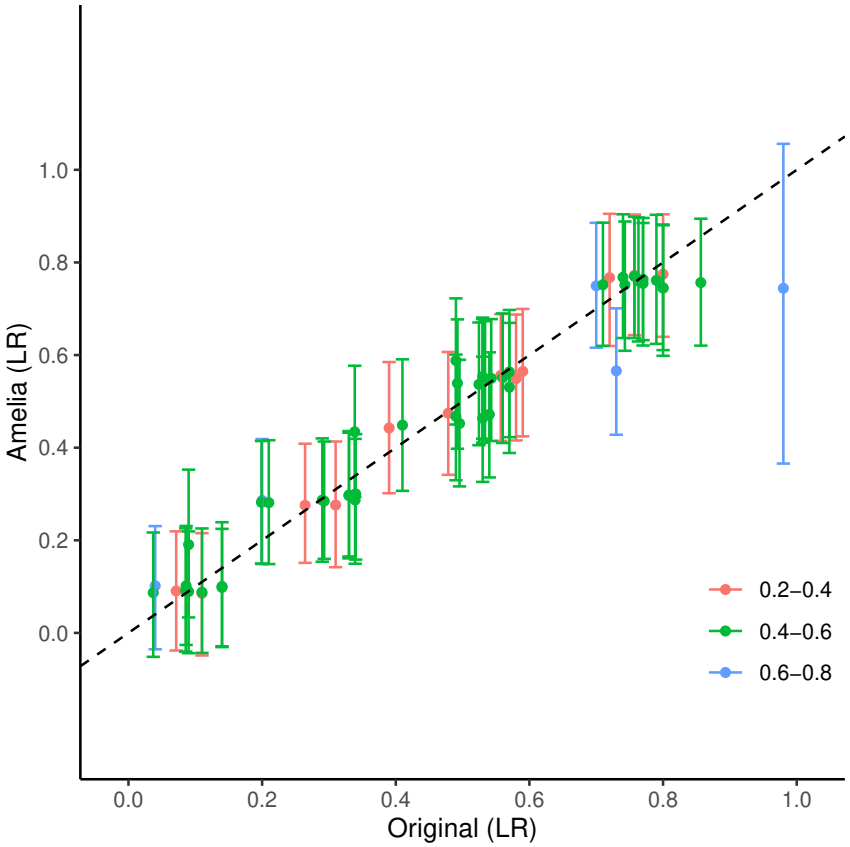

Figure 3: Overimputation for the Czech Republic. Colours of bars and points show the degree of missingness for the Left-Right variable

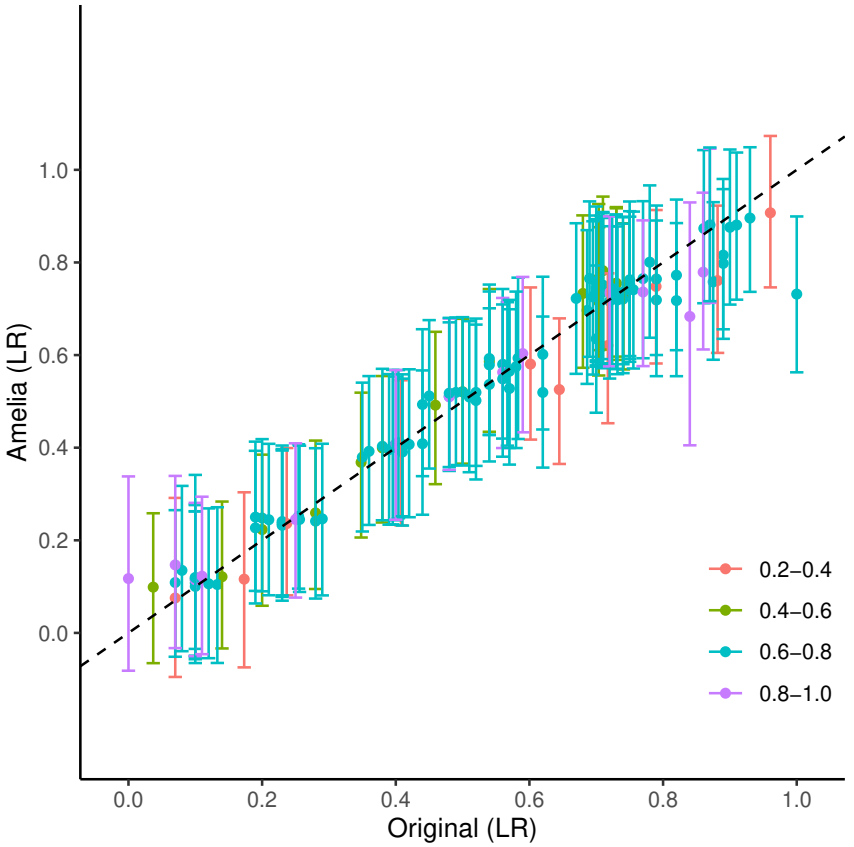

Figure 4: Overimputation for Denmark. Colours of bars and points show the degree of missingness for the Left-Right variable

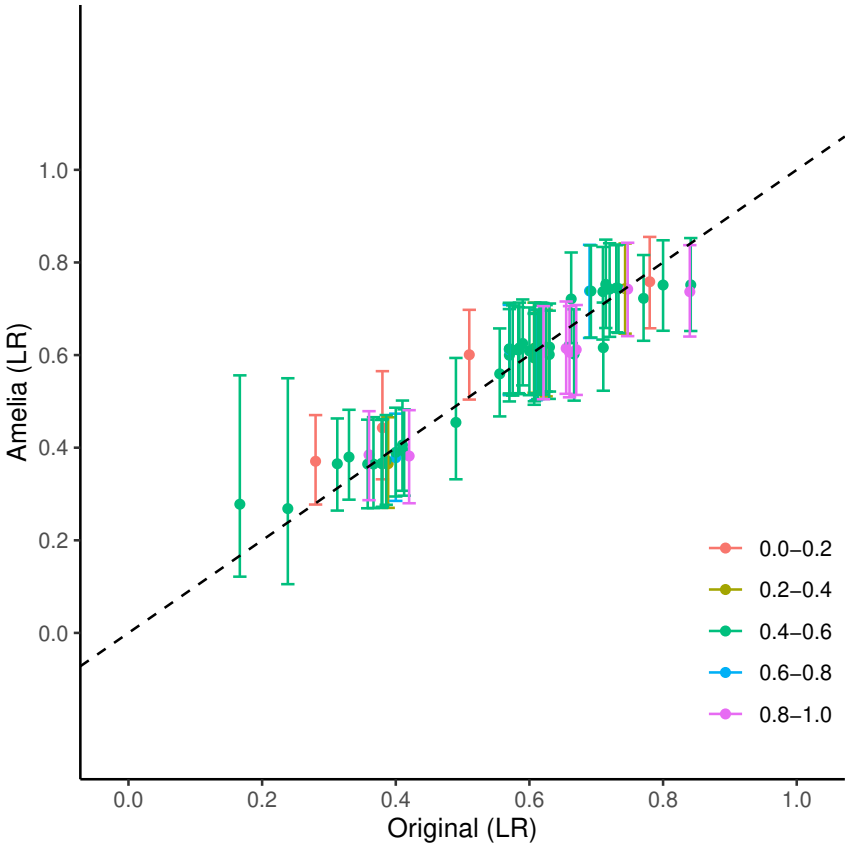

Figure 5: Overimputation for Spain. Colours of bars and points show the degree of missingness for the Left-Right variable

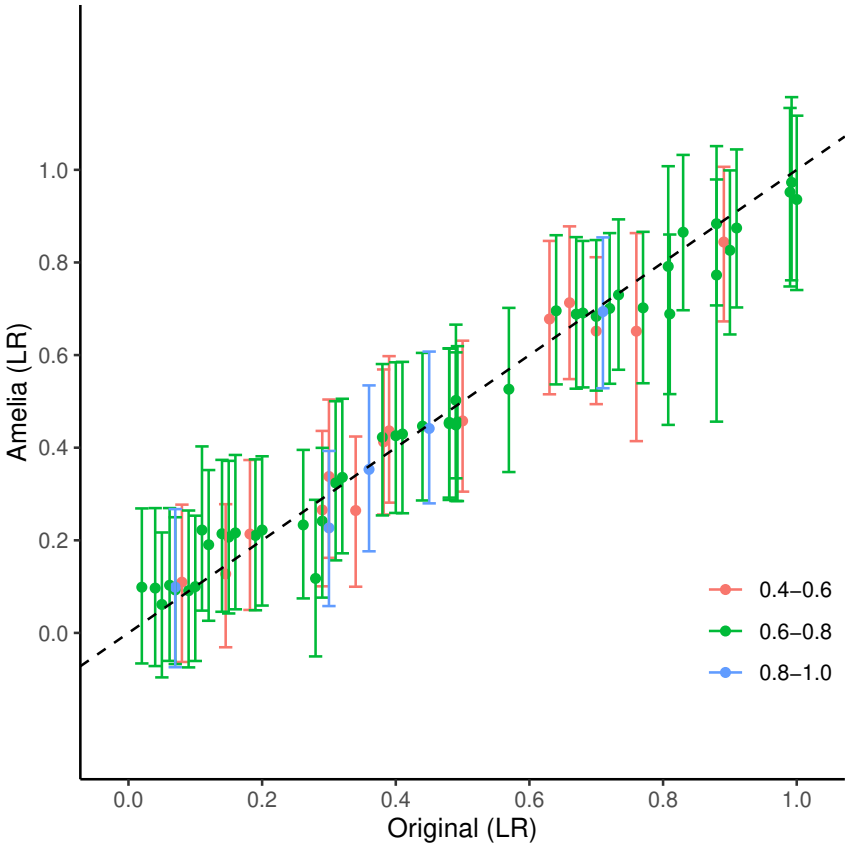

Figure 6: Overimputation for Greece. Colours of bars and points show the degree of missingness for the Left-Right variable

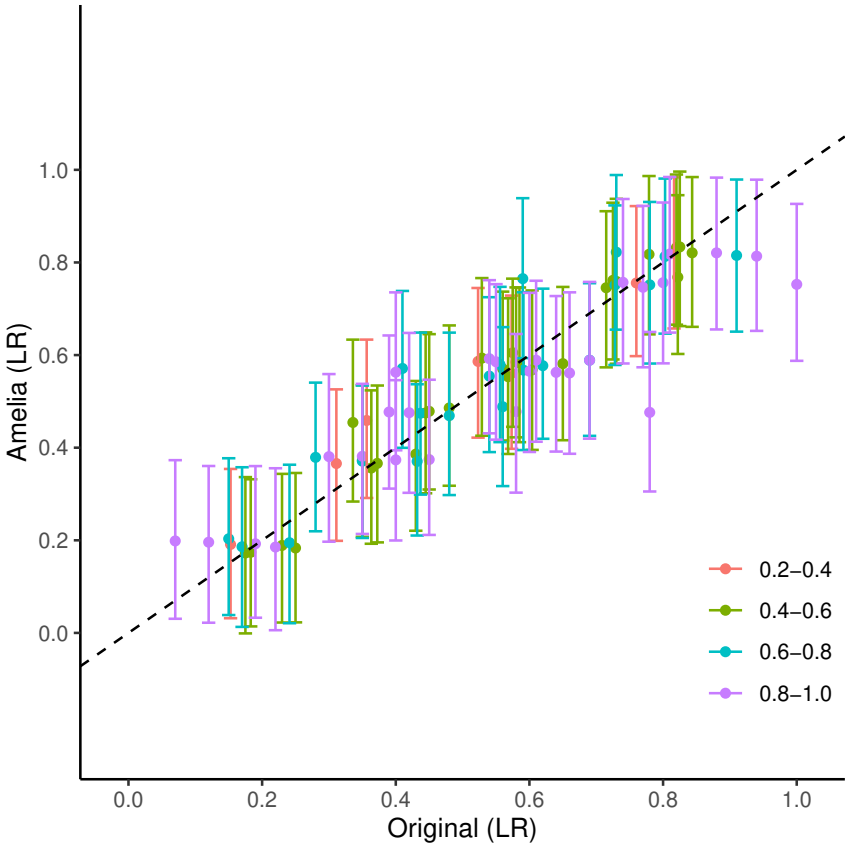

Figure 7: Overimputation for Norway. Colours of bars and points show the degree of missingness for the Left-Right variable

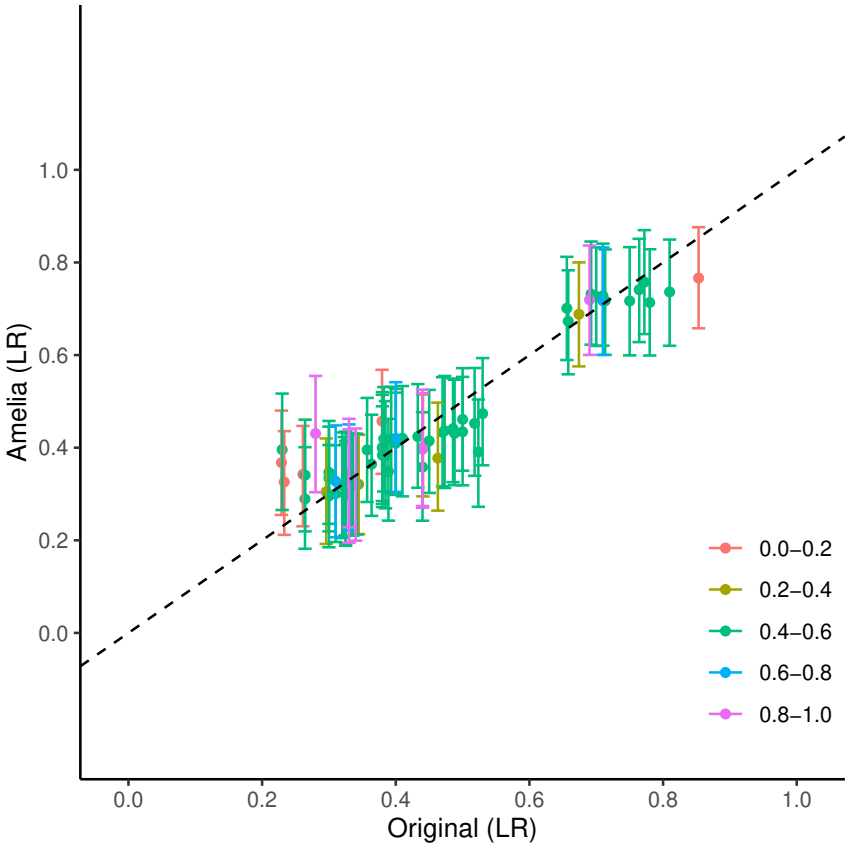

Figure 8: Overimputation for Great Britain. Colours of bars and points show the degree of missingness for the Left-Right variable