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Political conflict in Bismarck's Germany: An analysis of parliamentary voting, 1867-1890

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Abstract

Imperial Germany is a prominent historical case in the study of Western Europe's political development. This paper investigates the number and content of political conflict dimensions from the foundation of the modern German state in 1866 to the end of Bismarck's reign as Chancellor in 1890. Methodologically, it applies dimension-reducing statistical methods to a novel dataset of content-coded parliamentary roll call votes. The analysis suggests that the emergence of the Catholic Centre Party in 1871 permanently transformed the conflict space from a single liberal-conservative divide to a two-dimensional space that distinguished positions on socio-economic issues and regime matters, respectively. The fact that positions on redistributive and regime issues were not aligned implies that theories stressing economic inequality as a driver for regime change are of limited applicability. Instead, the case of Imperial Germany highlights the importance of cross-cutting non-economic societal cleavages and the role of societal and political organisations in drawing attention to and perpetuating these divisions.

Keywords

Dimensionality, political space, roll call votes, Reichstag, Imperial Germany

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Political conflict dimensions in Bismarck's Germany

Germany's political development before World War I forms the backdrop for a number of influential theories of democratization (Moore 1966), party development (Michels 1911), as well as party system creation and change (Lipset and Rokkan 1967). Representing the paradigmatic case of the 'late democratizer' in Western Europe, even contemporary scholars of democratization feel compelled to demonstrate that their theories can provide an explanation for the longevity of the Kaiser's regime (e.g., Acemoglu and Robinson 2006: 67, 200–201; Ansell and Samuels 2014: 28–29, 52–54). This study contributes to our knowledge about German political development by identifying the dimensionality and content of the political conflict space during the founding years of the modern German state. It does so by analysing a novel data set of roll call votes taken in the Reichstag of the North German Confederation (1867-1871) and during the first seven legislative terms of the Reichstag of the German Empire (1871-1890). The study period covers Bismarck's entire term as Chancellor, which is often seen as a distinct era in the history of Imperial Germany (e.g., Biefang 2012: 17–18). The study complements the early dimensional analysis by Smith and Turner (1981) of parliamentary voting in Wilhelmine Germany as well as more recent studies by Debus and Hansen (2010; Hansen and Debus 2012) on parliamentary voting in the Weimar Republic.

However, the study does not only increase our descriptive knowledge about the nature of political competition in an important historical case, it also contributes to the methodological debate about the interpretation of roll call analyses and the theoretical discussion about the causes of regime stability and change. Methodologically, the analysis illustrates the importance of taking the policy agenda into account when interpreting the results of a statistical scaling analysis. Apparent changes in the number of dimensions can be due to the genuine appearance or disappearance of particular conflict constellations as a result of the entrance or exit of actors or issues, or artificially induced by the legislative agenda restraining votes to policy issues related to only a subset of the dimensions. In practice, only substantive knowledge about the content of votes and the historical context of the case can help distinguish between these two scenarios. This is a particularly important issue when analysing parliamentary voting in historical cases with comparatively low levels of legislative productivity and a small number of associated roll call votes. In such circumstances, the results of scaling analyses are particularly sensitive to agenda effects.

Theoretically, the study results inform the debate on economic inequality as a cause of democratization (e.g., Acemoglu and Robinson 2006; Ansell and Samuels 2014; Boix 2003).

A shared assumption of these political economy approaches to democratisation is that regime preferences are induced by economic interests. If that was the case, political conflict dimensions should be aligned with and reducible to divergent socio-economic cleavages. However, the findings of the scaling analysis show that such an alignment did not generally exist in 19th century Germany. For most of the time period studied, positions of party groups varied along two separate dimensions, one relating to socio-economic issues and one to regime matters. This separation was mainly due to the emergence of the Centre Party in 1871, which can ultimately be traced back to a religious cleavage between the Catholic minority and the Protestant majority in Germany. Given the significant influence of this non-economic factor in structuring political competition, theories based on economic inequality as primary causal variable for democratization cannot provide convincing explanations for the longevity of this authoritarian regime.¹

The political system of Imperial Germany

The North German Confederation was established under Prussian leadership in 1867, after Prussia had defeated Austria in the ‘German War’ of 1866. A few years later, another victorious war of Prussia, this time against France, paved the way for the accession of the South German states to the Confederation and for the foundation of the German Empire. The constitution of the German Empire of 1871 was largely inherited from the North German Confederation. One of the constitution’s most progressive features was the provision of equal suffrage for all male citizens of 25 years’ age or older. However, as an intentional ‘corrective’, the constitution banned the payment of allowances to deputies in an effort to restrict the passive suffrage (Butzer 1999: 29). It also established a strict separation-of-power system, consciously designed to prevent a parliamentarization of the regime (Rauh 1973: 48). The Kaiser remained in full control of the military, and the Reichstag’s yearly budget approval right did not extend to the military budget. The Reichstag shared legislative powers with the Bundesrat, which represented the governments of the kingdoms and principalities in this federal monarchy. Contrary to a common misperception, the Reichstag was able to initiate legislation (Anderson 2000: 10); and in practice, the approval of bills involved reaching compromises between the Reichstag and the Bundesrat, similar to bicameral bargaining in current-day legislatures.²

¹ For a similar conclusion regarding the value of theories of economic inequality for explaining Argentina’s democratic breakdown in the 1920s, based on a similar methodological approach, see Alemán and Saiegh’s (2014).

² For case study examples, see the descriptions of legislative decision-making in Rauh (1973) or Butzer (1999).

By occupying several important posts between 1867 and 1890, Bismarck held a particularly elevated position in this system. As Chancellor, Bismarck chaired the Bundesrat and was the only politically responsible member of the imperial government (Reichsleitung). Government departments were not led by ministers but state secretaries, who were subordinate to the Chancellor. At the same time, Bismarck was the prime minister and foreign secretary of Prussia. In this latter function, he commanded Prussia's votes in the Bundesrat. Prussia's votes were sufficient to veto any constitutional change and, together with the votes of various micro-state enclaves that were completely dependent on Prussia (Rauh 1973: 60–61), could determine legislative decisions in this body. Although Bismarck enjoyed strong public support, his power and influence was ultimately dependent on the trust and backing by the Kaiser and King of Prussia, who could unilaterally appoint and dismiss the Chancellor or members of the Prussian government.

At the national level, the parties that competed for seats in the Reichstag can be divided into four broad camps. The liberal camp consisted of the left-leaning German Progress Party (Deutsche Fortschrittspartei), renamed to German Liberal Party (Deutsch-Freisinnige Partei) in 1884, and the right-leaning National Liberal Party (Nationalliberale Partei). In contrast to the Left Liberals, the National Liberals were willing to compromise their political liberal principles as long as progress was made on establishing a liberal economic order in a unified nation state. During the first ten years of Bismarck's reign as Chancellor, the National Liberals were his primary partner in the Reichstag. The conservative camp consisted of the Free Conservative Party (Freikonservative Partei) and the German Conservative Party (Deutsch-Konservative Partei).³ The Free Conservatives, mostly high aristocracy and senior bureaucrats, were ardent supporters of Bismarck's policies throughout his term of office (Stalman 2000). The German Conservatives, which included more members of the landed Prussian aristocracy, the infamous Junkers, were more critical of Bismarck's early policies regarding national unification and the implementation of largely liberal economic ideas. The Catholic camp consisted of the Centre Party (Zentrum), often supported by representatives of regional and national minority groups (i.e. Poles, French, and Guelphs). Some of its leaders had already been members of the diverse Particularist party group in the Reichstag of the North German Confederation, but the Centre Party was only formed in 1870. It entered the Reichstag after the foundation of the German Empire in 1871. Finally, the Socialists

³ The latter adopted the adjective 'German' only in 1876, but to avoid confusion with the Free Conservatives and references to the broader conservative camp encompassing both party groups, the term is also used to refer to the Conservative Party pre-1876.

constitute the last camp. Before their merger in 1875 under the label of Socialist Worker's Party (Sozialistische Arbeiterpartei), this camp was composed of two small factions, which sometimes fiercely opposed each other, the General German Workers' Association (Allgemeiner Deutscher Arbeiterverein) and the Social Democratic Worker's Party (Sozialdemokratische Arbeiterpartei).

Figure 1 shows the share of Reichstag seats of these party groups over time. Party groups are roughly ordered along their position on a general liberal-conservative dimension. Conservative party groups are at the top of the figure, and liberal ones at the bottom. Cells are shaded according to the share of seats a party group held during a legislative term. Although the table indicates considerable fractionalization, it also shows that five groups dominated the Reichstag for most of the period: the two conservative and the two liberal parties, and since 1871, the Centre Party. The table also shows that the Socialists were a fringe group that played no decisive role in the Reichstag during that period of time.⁴

At this point, it should be noted that the fragmented multiparty nature of legislative competition in Germany's national parliament differed from electoral competition at the district level. Partly due to Germany's electoral system with run-off elections in single-member districts, party political competition at the local level was often limited to two or three parties; and the identity of these parties often depended on local socio-economic, ethnic, or religious cleavages. In the most extreme cases, party competition was not only more limited but almost completely absent, with the election of the candidate of a particular party being virtually a certainty. The Centre Party was particularly successful in that respect, but a sizeable number of Polish and German Conservative seats were similarly secure (Schauff 1973: 307). Thus, the analysis presented here describes party political competition at the national level, resulting from the electoral aggregation of quite disparate political conflict constellations in electoral districts at the local level.

Figure 1 allows us to make some inferences about the potential influence of different groups and possible majority constellations at the national level in the Reichstag. First, the government could never rely on an exclusively conservative majority. The two conservative party groups reached their highest combined seat share of 34.6% in the Reichstag of the North German Confederation of 1867. Second, the North German Confederation was essentially a bipolar system, separating the conservative from the liberal camp, but neither camp commanded a clear majority on its own. Third, the newly formed Centre Party entered

⁴ A partial exception is the sixth term of the Reichstag, in which the Socialists held 6 per cent of the mandates.

the first Reichstag of the German Empire immediately as the second largest party and from 1874 continuously won about a quarter of the seats. Considering that the minority groups usually supported the Centre Party, the effective share of Reichstag votes commanded by this party group was probably closer to one-third. Fourth, the National Liberals were the dominant party group until 1878. They reached the peak of their parliamentary representation of 38% during the second Reichstag term, after the Prussian government had thrown its support behind National Liberal rather than German Conservative candidates during the election of 1874.

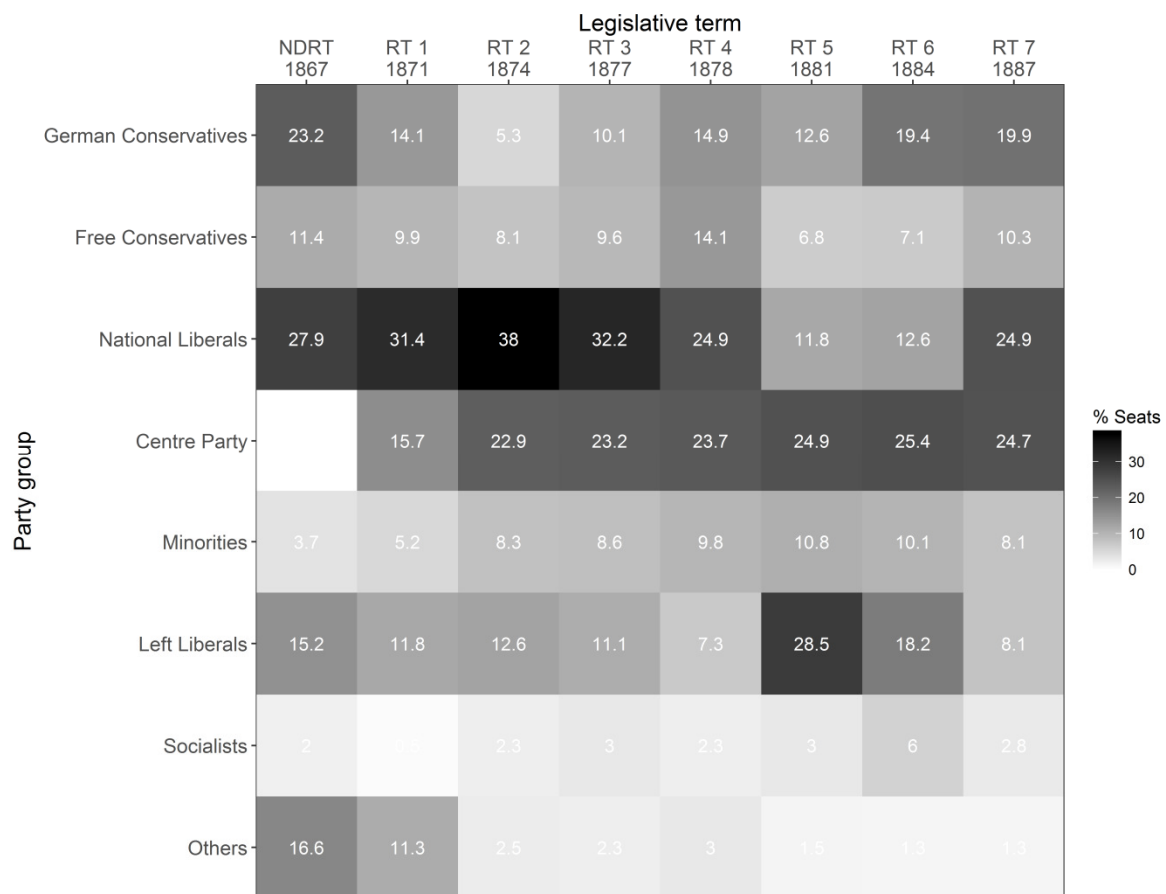


Figure 1 Share of Reichstag seats of party groups by legislative term

Notes: Minorities include French, Polish, and Guelphs. Besides the German Progress Party/German Liberal Party (Deutsche Fortschrittspartei/Deutsch-Freisinnige Partei), Left Liberals include the Free Association (Freie Vereinigung, 1867-1871), the German People’s Party (Deutsche Volkspartei, 1871-1890), and the Liberal Association (Liberale Vereinigung, 1881-1884). Before 1877, Socialists include the General German Workers’ Association (Allgemeiner Deutscher Arbeiterverein) and the Social Democratic Workers’ Party (Sozialdemokratische Arbeiterpartei). These two groups merged in 1875 to form the Socialist Workers’ Party (Sozialistische Arbeiterpartei). NDRT = Reichstag of the North German Confederation; RT = Reichstag of the German Empire. See Table A1 in the online appendix for a more detailed numerical breakdown.

However, in 1878, Bismarck dissolved the Reichstag prematurely, blaming the liberal party groups for the rejection of his first anti-socialist law bill. As a consequence, public support for liberals of all strands dropped. Furthermore, during the fourth term, the left wing of the National Liberals seceded from the party group over disagreements regarding the support of Bismarck's protectionist and repressive policies. The fifth and sixth Reichstag had the most left-leaning and oppositional composition. The National Liberals only made significant gains again in the elections of 1887, after another premature dissolution of the Reichstag by the government. This time, Bismarck had blamed the Centre Party, the Left Liberals, and Socialists for rejecting his proposal for another seven-year military budget, claiming that increases in military spending were necessary to avert an allegedly imminent attack by France. Forming the so-called 'Kartell' electoral coalition with Free and German Conservatives, National Liberal election candidates enjoyed the support of a united right as well as the Prussian bureaucracy. However, even this government-friendly alliance broke apart in 1890 because of its members' refusal to compromise over the renewed extension of the anti-socialist law.

Based on the historical record, it is difficult to develop firm expectations about the dimensionality of the party system's conflict space or the content of its dimensions, especially as both might also have changed over time. With respect to its dimensionality, contemporaries and historians referred to the Centre Party and the National Liberals often as the 'middle parties' (e.g., Nipperdey 2013: 513), implying that they occupied ground in-between ideological poles. At the same time, they also suggest that Bismarck was able to govern with varying majorities (e.g., Pflanze 1982: 572), which indicates the existence of a multi-dimensional conflict space. In general, given the high fragmentation of the party system and the variety of underlying cleavages, it seems likely that the conflict space was multidimensional, but expectations about the exact number of dimensions and their content are hard to discern a priori.

Collection and coding of Reichstag roll call votes

To identify the number and the content of political conflict dimensions in Bismarck's Reich, the study conducts a scaling analysis of roll call votes taken in the Reichstag between 1867 and 1890. In the Reichstag, the standard way of voting was to stand up or remain seated. A proposal for a vote by roll call required the support of at least 50 deputies, which constituted

quite a large threshold.⁵ Before the introduction of voting by division through an amendment of the rules of procedure in 1874, votes that were too close to call also immediately triggered a roll call.⁶ In practice, these thresholds ensured that recorded votes were called on important and divisive topics that engaged a substantial number of legislators. Possible selection biases are a fundamental concern for studies of roll call voting (e.g. Carrubba *et al.* 2006). However, to the extent that the probability of calling a roll call vote is positively associated with political conflict, the selective nature of roll call votes actually results in a more informative sample for the purposes of identifying conflict lines in the legislature; and given the distribution of mandates across party groups, none of the three main camps (conservatives, liberals, Catholics) in the Reichstag were prevented from requesting a roll call vote during any of the legislative terms.

The source for the voting information is the overview of roll call votes in Appendix A of the ‘General Register for the Stenographical Reports of all Reichstag Sessions from 1867 to 1895’ (Reichstagsbureau 1896). After downloading the digitized version of the General Register from the website of the Bavarian State Library, optical character recognition (OCR) software was used to convert the PDF images of the roll call vote appendix into machine-readable text. To identify the full population of legislators and disambiguate their party group affiliation and electoral district at the time of a vote, the vote data was linked to biographical information from the online database Biorab-Kaiserreich, which is hosted by the Centre for Historical Social Research at the GESIS Leibniz Institute for the Social Sciences. Before combining the two datasets through a custom-made record linkage algorithm, information from both sources was extracted through computer scripts developed in Python. Several steps in the data collection process required extensive manual review and corrections based on the consultation of historical primary and secondary sources.⁷

To assess possible agenda changes in the roll call data over time, the policy area of each roll call was coded from its brief description in the General Register. The description is sufficient to identify the general policy area of a proposal, but not for identifying the specific rationale behind amendments to articles or paragraphs within a proposal. To reliably code policy content at the level of individual amendments, detailed case knowledge about the context of hundreds of individual votes would have been required. Absent such knowledge,

⁵ The total number of Reichstag members was 297 in the North German Confederation (1867-1871), 382 in the first term of the Reichstag of the German Empire (1871-1874), and 397 in the remaining legislative terms, after 15 new members had joined in 1874 to represent districts of newly annexed Alsace-Lorraine.

⁶ Stenographische Berichte des Reichstags 1874 II/1, vol. 2 [27], 680ff., 9 April 1874.

⁷ Further source information, the details of the data extraction and coding process, as well as a description and discussion of the distribution of votes across types of decisions are given in the online appendix.

the coding takes the stated policy goals of the proposal as a whole at face value. However, it needs to be acknowledged that this coding procedure is likely to understate somewhat the number of votes that had implications for civil rights and liberties, the relative power of the Reichstag vis-à-vis other institutions, or the relative power of the Reich vis-à-vis its component states. In terms of policy categories, the topic coding scheme of the Comparative Agendas Project was used.⁸ Despite being widely used in the study of comparative policy-making, this seems to be the first time that the scheme is applied to a historical case.

In general, the roll call votes in the dataset are mostly about the operation and organisation of the state (19 per cent), foreign trade regulation (16 per cent), military organisation and defence spending (13 per cent), law and crime (12 per cent), the regulation of domestic commerce (11 per cent), civil rights and liberties (10 per cent), macroeconomic policy (6 per cent), and social welfare (5 per cent). The fact that roll call votes are concentrated in 8 out of 20 possible policy categories shows how limited the agenda diversity of the Reichstag was compared to current-day legislatures. The Reichstag was in session only about 3 to 6 months a year; and the involvement of the state in social and economic matters only started to build up in the 1880s. Thus, both the capacity and demand for legislative productivity was comparatively low.

Figure 2 shows that the policy area concentration of roll call votes is even more pronounced within individual legislative terms. This concentration of the agenda is not a methodological artefact but reflects a real focus of the Reichstag's limited attention on a single or a small number of particularly important and comprehensive pieces of legislation. These prominent pieces of legislation often involved a large number of amendments decided through roll call votes. As long as there is a sizable share of roll call votes in policy areas relating to other conflict dimensions, a strong concentration of attention on a single policy area is not problematic for identifying the dimensionality of the conflict space or the content of conflict dimensions. For the purposes of this study, selection effects of the agenda are only consequential when they focus the attention of the Reichstag on policy areas that relate exclusively to a subset of the dimensions structuring the conflict space. For example, the analysis below shows that the scaling results for the second legislative term of the Reichstag suffer from the effects of a selective agenda; not because its agenda was focused on any

⁸ For the project, see <http://www.comparativeagendas.info>; for a list of all topic codes, see <https://dl.dropboxusercontent.com/u/552280/CAPMasterCodebook/MasterCodebookTopics.csv> (both last accessed 11 April 2016).

single policy area, but because its agenda was focused on a set of policy areas that all relate to a single dimension of a multidimensional conflict space.

From a historical perspective, it is interesting that Figure 2 shows a clear pattern in attention to different policy areas over time. During the so-called ‘liberal era’ of the North German Confederation (NDRT) and the first three legislative terms of the Reichstag (RT 1 to RT 3), roll call votes focused to a large extent on measures aimed at clarifying the role and operation of government institutions, as well as the establishment of a functioning federal administration. Attention was also devoted to developing a penal code (Law, Crime, and Family Issues in NDRT and RT 2) and a harmonised court system (RT 2). In contrast, after what some historians have called the ‘second founding’ of the Reich in 1878 (Barkin 1987; Gerschenkron 1943), the focus switched from state-building measures to economic and social policies. In particular, trade tariffs (Foreign Trade in RT 4, 6, and 7), domestic taxes (Macroeconomic Issues in RT 4, 5, 6, 7), and a new system of social welfare insurance (Social Welfare in RT 4, 5, and 7) were high on the agenda. Finally, three policy areas were the subject of roll call votes throughout the period studied here: civil rights and liberties (especially repressive measures against the Catholic Church during the Culture War and against Social Democrats after the anti-socialist law was first introduced in 1878), the organisation and financing of the military, and the regulation of domestic commerce. The fact that much of the regulation of domestic commerce in the 1880s (RT 5 and 7) was about ‘correcting’ the liberal policies adopted in the North German Confederation in the late 1860s (NDRT) is another telling sign of the programmatic reorientation of German economic policy after 1878.

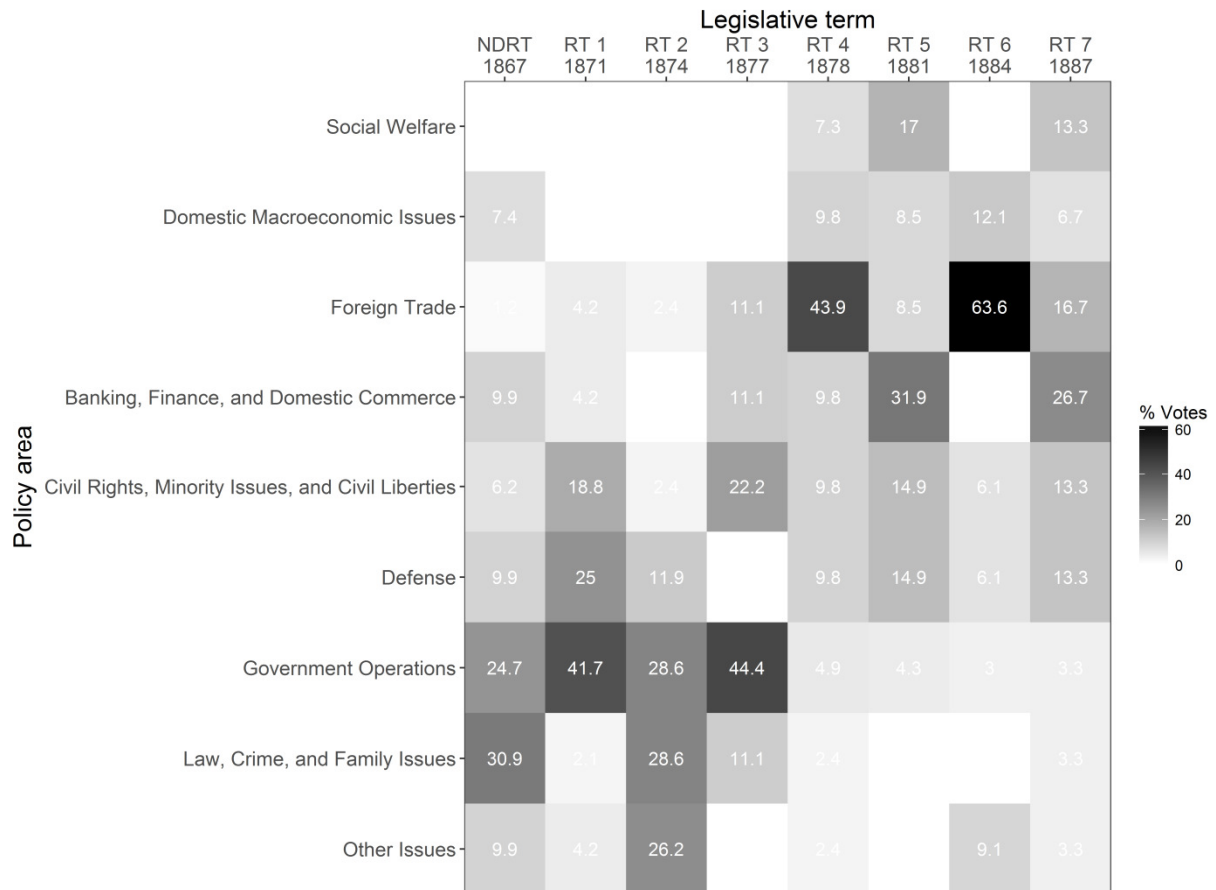


Figure 2 Share of roll call votes in different policy areas by legislative term

Notes: Policies were classified according to the classification scheme of the Comparative Agendas Project (<http://www.comparativeagendas.info>). NDRT = Reichstag of the North German Confederation; RT = Reichstag of the German Empire. See Table A2 in the online appendix for a full numerical breakdown.

In total, the data consists of 129,579 potential vote choices. These vote choices relate to 322 roll call votes in seven legislative terms by a total of 2884 members of the Reichstag. Because the third Reichstag was dissolved prematurely, only nine roll call votes were taken during that term. This low number of votes precludes a separate scaling analysis. Hence, this legislative term had to be omitted from the sample. Table 1 shows that, in most other terms, the number of roll call votes ranged between 30 and 50. Only the Reichstag of the North German Confederation (NDRT) stands out for its exceptionally large number of roll call votes (i.e., 81). The large number of roll calls in the NDRT is at least partly a result of the high legislative productivity of this parliament (Pollmann 1985: 433, 451). It is also noteworthy that the number of legislators per term is usually substantially higher than the number of constituent members at the time, indicating substantial turnover of members within a term.

Table 1 Roll call vote characteristics by legislative term

	NDRT	RT 1	RT 2	RT 4	RT 5	RT 6	RT 7
Yeah or nay vote	15710 0.57	12286 0.62	12383 0.70	11343 0.62	13020 0.65	9454 0.69	8114 0.63
Treated as missing	11668 0.43	7442 0.38	5299 0.30	6861 0.38	7002 0.35	4241 0.31	4756 0.37
<i>Of which:</i>							
Abstained	20 0.00	37 0.00	49 0.00	30 0.00	52 0.00	118 0.01	352 0.03
Absent	11578 0.42	7360 0.37	5238 0.30	6797 0.37	6924 0.35	4121 0.30	4400 0.34
Not a member at time of vote	70 0.00	45 0.00	12 0.00	34 0.00	26 0.00	2 0.00	4 0.00
Total (Proportion)	27378 1.00	19728 1.00	17682 1.00	18204 1.00	20022 1.00	13695 1.00	12870 1.00
Number of roll calls	81	48	42	41	47	33	30
Number of legislators	338	411	421	444	426	415	429
Average turnout (Standard deviation)	0.58 0.06	0.63 0.09	0.70 0.07	0.63 0.10	0.65 0.09	0.70 0.10	0.66 0.12
Average vote margin (Standard deviation)	0.19 0.23	0.22 0.18	0.26 0.20	0.22 0.16	0.2 0.19	0.21 0.22	0.29 0.23

Notes: NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire

Table 1 also provides further information about the voting data that actually entered the scaling analysis. In total, the scaling analysis is based on 82,310 substantive individual vote choices (i.e. yeah or nay votes). As is standard in the literature, abstentions, absent members, or instances where a legislator was not a member (yet or anymore) at the time of the roll call are treated as missing values. In general, abstentions were extremely rare. They increased somewhat towards the end of the study period, but still constituted only 1 and 4 per cent of the substantive vote choices in the sixth and seventh legislative term of the Reichstag (RT), respectively. Absenteeism was generally rather high. Average turnout ranged between 58 per cent in the NDRT and 70 per cent in RT 2 and RT 6. Given the lack of parliamentary allowances and the long distances to be travelled by legislators, low attendance rates were a permanent problem in the Reichstag (Butzer 1999: 147). Although the number of roll calls in each term is relatively small compared to many contemporary legislatures, they are generally very informative. The average margin between yeah and nay votes ranged between 19 percentage points in the NDRT and 29 percentage points in RT 7. Thus, almost all roll calls meet the minimum vote margin requirement for the scaling analysis.

The number and content of political conflict dimensions

To estimate legislators' policy positions from the observed vote choices, I employ Poole's non-parametric Optimal Classification (OC) algorithm (Poole 2000; Poole 2005). Similar to parametric alternatives, like Nominat (Poole and Rosenthal 2007) or Bayesian Item Response Theory models (Clinton *et al.* 2004), OC assumes that the policy space is Euclidean and that legislators vote sincerely based on single-peaked and symmetric utility functions. In contrast to other methods, OC does not require specific assumptions about the functional form of legislators' utility functions or their distribution of voting errors (Armstrong *et al.* 2014: 249). In fact, when minimizing the total number of errors in its classification of vote choices, OC treats all voting errors equally. In situations where the error rate is low or the distribution of errors is unknown, OC has thus clear advantages (Armstrong *et al.* 2014: 265–266).

At least two characteristics of voting in the Reichstag make the application of OC preferable to parametric methods. Firstly, voting cohesion varies considerably across party groups. If some legislators are more likely to toe the party group line than others, the assumption that errors are identically and independently distributed is likely to be violated (Rosenthal and Voeten 2004). More importantly, as will be shown below, a two-dimensional spatial model fits the observed vote choices almost perfectly. When error rates are so low, parametric methods push ideal points to the edge of the policy space to maximize the log-likelihood (Armstrong *et al.* 2014: 266; Rosenthal and Voeten 2004). As a result, distances between ideal points do not only reflect differences in policy positions, but also differences in the number of voting errors. This 'sag' problem exaggerates distances of legislators with extreme and interior policy positions (Armstrong *et al.* 2014: 269). One cost of a non-parametric method like OC is that the ideal point scaling results do not come with estimates of the associated uncertainty, but its benefits in terms of more valid ideal point estimates outweigh this shortcoming.

To investigate possible changes in the number and content of conflict dimensions over time, I apply the OC algorithm separately to each legislative term. Table 2 provides an overview of the input data and various model fit statistics. The analysis is limited to legislators who voted in at least 15 roll calls in a legislative term and excludes extremely lopsided votes where the minority consisted of less than 2.5 per cent of voters. Unfortunately, these restrictions are necessary to yield meaningful estimates. As the top part of Table 2 shows, the consequences of the application of these criteria are more pronounced for

legislators than for roll calls. The roll call vote criterion results in a ‘loss’ of only a single vote in the sixth legislative term. Yet, a considerable number of legislators are dropped in each term because they have not taken part in the minimal number of roll call votes.⁹

Dimensionality of the conflict space

The first step of the analysis examines the dimensionality of the political space separately for each legislative term. Unfortunately, no single best method exists to determine the ‘correct’ number of conflict dimensions. To make sure the selection of dimensions is robust and provides substantively meaningful results, several statistical criteria were combined. First, as recommended by Poole (2005: 144), scree plots of the eigenvalues of the double-centred agreement score matrix were examined. Table 2 provides the number of eigenvalues after which the plot flattens out.¹⁰ None of the scree plots indicates a dimensionality larger than three. Thus, in a second step, one, two, and three-dimensional scaling solutions were generated with the OC algorithm. The fit statistics for these solutions in the lower part of Table 2 provide further information about the number of dimensions underlying legislative voting in the Reichstag. To judge the model fit of OC, we can look at the percentage of vote choices that were correctly classified (PCC) and the aggregate proportional reduction in error (APRE) across all roll calls. The latter measure has the advantage that it takes into account the distribution of vote margins (Poole 2005: 129). APRE provides an indication of the extent to which the OC solution reduces the classification error vis-à-vis a theory-free baseline model that assumes that all legislators vote with the majority.

⁹ A replication using a threshold of 10 roll call votes does not yield meaningful results. The results regarding dimensionality and the relative location of party groups in the political space are similar when a threshold of 20 or 25 roll call votes is used.

¹⁰ See Figure A1 in the online appendix for the actual plots.

Table 2 Fit of one- to three-dimensional Optimal Classification models by legislative term

	NDRT	RT 1	RT 2	RT 4	RT 5	RT 6	RT 7
Total no. of roll calls	81	48	42	41	47	33	30
No. of scaled roll calls	81	48	42	41	47	32	30
Total no. of legislators	338	411	421	444	426	415	429
No. of scaled legislators	290	356	370	357	371	352	312
No. of eigenvalues (scree plots)	1	2	1	2	2	3	3
<i>One dimension</i>							
Percentage correctly classified	94.9	87.8	95.6	89.9	93.3	93.4	92.1
Aggregate PRE	87.4	68.1	88.1	73.9	83.3	84	76.7
<i>Two dimensions</i>							
Percentage correctly classified	96.6	93.5	97.6	96.7	98.7	98.5	99
Aggregate PRE	91.7	83.1	93.6	91.6	96.8	96.4	96.9
Difference correct classification	1.7	5.7	2	6.8	5.4	5.1	6.9
Difference aggregate PRE	4.3	15	5.5	17.7	13.5	12.4	20.2
No. roll calls PRE diff. > 0.20	4	16	3	8	11	6	11
% roll calls PRE diff. > 0.20	4.9	33.3	7.1	19.5	23.4	18.2	36.7
<i>Three dimensions</i>							
Percentage correctly classified	97.6	95.8	98.2	98.3	99.1	99	99.5
Aggregate PRE	94.1	88.9	95	95.6	97.9	97.6	98.4
Difference correct classification	1	2.3	0.6	1.6	0.4	0.5	0.5
Difference aggregate PRE	2.4	5.8	1.4	4	1.1	1.2	1.5
No. roll calls PRE diff. > 0.20	2	5	0	2	0	0	0
% roll calls PRE diff. > 0.20	2.5	10.4	0	4.9	0	0	0
Conclusion (no. of dimensions)	1+	2+	1+	2+	2	2	2

Notes: NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire, PRE=Proportional Reduction in Error

The first thing to notice about the model fit statistics is that the correct classification rates for all legislative terms are very high. For one-dimensional models, they range between 87.8 per cent in RT 1 and 95.6 in RT 2. Yet for most terms, adding a second dimension still improves the classification rate considerably. For the two-dimensional solutions, the rates vary from 93.5 per cent in RT 1 to 99 per cent in RT 7. Classification rates as high as these leave little room for further model fit improvements as a result of the introduction of a third dimension. In fact, we can be quite certain that political conflict in the NDRT, RT 2, as well as RT 5 to 7 can be represented in fewer than three dimensions. For these terms, the difference in the rate of correct classification between a three- and two-dimensional solution is one percentage point or lower, and the difference in APRE is less than 5 percentage points. Except for a couple of roll calls in the NDRT, none of the proportional reduction in error (PRE) values for

individual roll calls improves by more than 20 per cent when introducing a third dimension. The model fit improvements for RT 1 and 4 are somewhat larger but still rather marginal.

Using a 5-percentage point increase in the rate of correct classification, a 10-percentage point increase in APRE, and a PRE increase of more than 20 per cent for at least 10 per cent of the roll calls as a combined threshold for judging the gain in predictive power of adding a second dimension, we can conclude that political conflict in RT 1 and RT 4 to 7 was at least two-dimensional. The NDRT and RT 2 show some gain in predictive power when estimating a second dimension as well, but compared to the other terms, it is rather negligible. In summary, the results suggest that political conflict in RT 5, 6, and 7 was almost certainly two-dimensional. Taking into account the number of dimensions indicated by the scree plots, the balance of evidence suggests that political conflict in RT 1 and 4 was also two-dimensional, but political conflict in the NDRT and RT 2 was one-dimensional.

Nature of conflict

The content of conflict dimensions is determined by substantive knowledge rather than statistical methods. Such knowledge about the content of votes also helps to further interpret the dimensionality of the conflict space. Figure 3 plots the OC solutions for all legislative terms. Depending on the number of dimensions selected based on the statistical criteria outlined in the previous section, the panels show either the estimated legislator ideal points of the one- (NDRT and RT 2) or two-dimensional OC solution (all other terms). The interpretation of the content of the political conflict space of some of the legislative terms is somewhat complicated by the fact that the mathematical dimensions do not align with the substantive dimensions (for a similar result in the case of the National Assembly of the French Fourth Republic, see Poole 2005: 152; Rosenthal and Voeten 2004). For ease of comparison and interpretation, the two-dimensional solutions were rotated to ensure that the centroid of the German Conservative legislators' ideal points aligned with the diagonal in the top-right quadrant of the plot. Little doubt exists that the German Conservatives held conservative positions on both socio-economic and regime issues. To learn about the content of issue dimensions, we can examine by how much the PRE value for a roll call increases as a result of the estimation of an additional dimension.

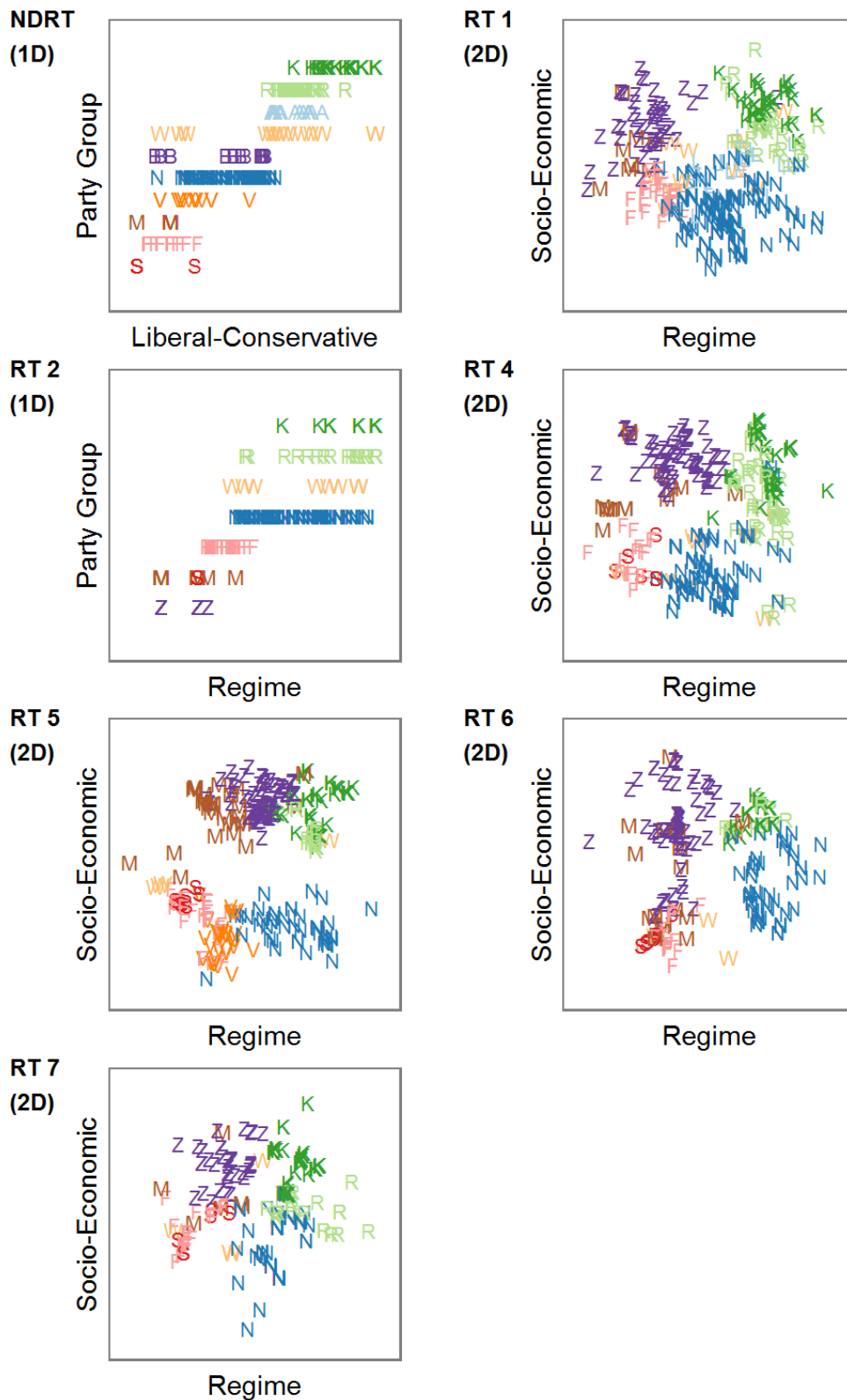


Figure 3 Legislator ideal point estimates by legislative terms

Notes: NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire, 1D=one-dimensional solution, 2D=two-dimensional solution, rotated to fix centroid of German Conservatives to diagonal line in upper right quadrant. Z=Centre Party, K=German Conservatives, R=Free Conservatives, N=National Liberals, F=Left Liberals, S=Socialists, M=Minorities, W=Independents, B=Particularists (NDRT only), A=Liberal Centre (NDRT only), L=Liberal Empire Party (RT 1 only), V=Liberal Association (RT 5 only).

In the NDRT, the few roll calls whose PRE value increases substantively after allowing for the estimation of a second dimension are quite diverse and cover similar topics to those whose PRE values do not increase substantively. Thus, in isolation, the approach does not provide insights for the interpretation of the substance of the one-dimensional conflict space of this term. In the case of RT 1, comparing roll calls with a small increase in PRE values (< 5 per cent) with roll calls with a large increase (> 20 per cent) indicates that the first dimension captures differences in views about civil rights and liberties as well as the powers of parliament, especially its control over the military budget, whereas the second dimension captures differences in views about the relation between the state and the church, the distribution of competences of regional states vice-a-vis the federal government, and the setting of tariffs. In short, the first dimension bundles ‘regime’ matters, while the second dimension covers ‘economic and social policy’. With respect to the latter, the term ‘social’ refers to ideas about the (federal) state’s role in society, rather than exclusively redistributive policies.

As the panel for RT 1 in Figure 3 shows, the regime dimension pits left liberals (F), the Centre Party (Z), and various regional and ethnic minorities (M), who champion civil rights and liberties and demand increased parliamentary powers and control over the military, against the conservative camp (K, F), which defends the current regime. National Liberals (N) and members of the Liberal Empire Party (L, which existed as a party group only in RT 1) take somewhat intermediate positions. In contrast, the economic and social policy dimension differentiates the conservative parties, the Centre Party, and the minorities on the one side from the three liberal party groups on the other side. The former defend traditional economic structures, protectionist trade policies, existing social hierarchies, as well as the independence of the Reich’s component states, while the latter are proponents of deregulated markets, free trade, the abolishment of established feudal prerogatives, and a strong nation state.

This pattern of positions is relatively consistent throughout all legislative terms with two-dimensional solutions presented in Figure 3 (i.e. RT 1 and RT 4 to 7). On one dimension, the positions of members of the conservative groups and the Centre Party are aligned with each other against the positions of members of the liberal and socialist groups; on the other dimension, the positions of members of the conservative groups and the National Liberals are aligned with each other against the positions of members of the Centre Party, Socialists, and Left Liberal groups. Of course, the locations of ideal points and the distances between them are not comparable across legislative terms, and, although reasonable, the rotation of the plots

is somewhat arbitrary. Yet, all two-dimensional solutions show the same broad constellation of party group members' ideal points. Starting with the German Conservatives in the upper right quadrant and moving in clock-wise direction, the Free Conservatives are the closest, followed by the National Liberals, the Left Liberals, and Socialists. Finally, the minority groups and the Centre Party members complete the circle.

In terms of face validity, the scaling results are in line with a number of stylized historical facts about coalition and voting patterns in the Bismarck era: The Free Conservatives formed a bridge between National Liberals and German Conservatives, the minority groups tended to align with the Centre Party, and the left wing of the National Liberals, which seceded in 1880 and formed the Liberal Association in RT 5, held intermediate positions between the left liberal Progressive Party and the remaining members of the National Liberal Party. Furthermore, Figure A2 in the online appendix shows that this division within the National Liberal Party is visible in earlier legislative terms as well. Left-wing National Liberals, who would later secede from the party, tended to hold positions closer to those of left liberals than the bulk of their fellow group members.

Even the apparently one-dimensional conflict space of RT 2 can be interpreted in that vein. In RT 2, the first dimension plotted in Figure 3 represents different views on regime matters, with the Centre Party, the minority groups, the Socialists, and the Left Liberals favouring democratic reforms, while the National Liberals, the Free Conservatives and the German Conservatives are protecting the status quo. The second, socio-economic policy dimension does not add much to the statistical model fit (and thus only the one-dimensional solution is shown in Figure 3). Still, some indications exist that the second dimension is based on the same type of divisions as in the clearly two-dimensional legislative terms. The few roll calls with a considerably improved PRE value relate to tariffs and the building of a new plenary building for the Reichstag (i.e. trade policy and powers of the federal state). However, most other roll calls in this term were about matters relating to the regulation of the press, the military, the organisation of Courts, and the proceedings in criminal trials. In other words, with matters relating to the regime dimension. Thus, the apparent reversal to a single dimension in RT 2 is an artefact of a legislative agenda dominated by regime matters rather than real changes in the underlying conflict space. Disagreements over socio-economic issues did not disappear in RT 2, they were just hardly visible in parliamentary activities.

Unlike in RT 1 and 2, the statistically dominant dimension of conflict in RT 4 was the socio-economic dimension, and the regime dimension became secondary. This signifies another but less consequential agenda effect: the change in emphasis in law-making from

state-building to policy-making after 1878. In RT 4, the socio-economic dimension captures disagreements about the tariff law, workers' accident insurance, trade and industry regulations, and taxes. The regime dimension reflects mainly divisions about the adoption of the anti-socialist law and the military law. The regime dimension in RT 5 represents disagreements about matters like the renewal of the anti-socialist law, the abolition of the clergy expatriation law, and the official language of the state assembly of Alsace-Lorraine. The socio-economic dimension is dominated by disagreements about the tariff law, the domestic commerce regulation, the workers' health insurance law, and the accident insurance law.

In the political conflict space of RT 6, the socio-economic dimension is again dominated by disagreements about the tariff law. It also captures different views about an amendment of an international trade treaty with Spain, as well as the establishment of a state spirits monopoly. Next to divisions on the clergy expatriation law, the extension of the anti-socialist law, and the size of the military, the regime dimension also reflects disagreement about the country's new colonial ambitions. Finally, disagreements about tariffs still factored into the socio-economic dimension of RT 7, but the dimension also reflects divergent views on domestic commerce and bank regulation. The regime dimension is formed by divisions about the size of the military, the length of the parliamentary term, the renewed extension of the anti-socialist law, and the publicity of Court proceedings. Statistically, the regime dimension was the dominant one again in RT 7, which might reflect the partly reactionary agenda of the Kartell coalition that dominated the Reichstag during that term. Somewhat inconsistently, the regime dimension also reflects disagreement about the old age and disability insurance bill. All previous votes on Bismarck's social insurance bills were related to the socio-economic dimension. However, this is the only instance of a roll call vote clearly not conforming to the general pattern.

After having seen how different subject matters relate to distinct dimensions in other legislative terms, we can also revisit the content of the dominant dimension in the NDRT. In contrast to the one-dimensional solution found for RT 2, which results mainly from the selective agenda voted upon during that term, the single dominant dimension of the NDRT included votes on both regime and socio-economic issues. Thus, legislators' positions on these two issue bundles were tightly aligned in the NDRT, but diverged throughout all later legislative terms of the Reichstag.

Discussion

This study examined political conflict dimensions in Imperial Germany during Chancellor Bismarck's term of office. Based on an analysis of roll call votes taken in the Reichstag between 1867 and 1890, the dimensional scaling analysis suggests that throughout the period considered, two bundles of issues can be distinguished. The first bundle relates to socio-economic issues, including the role of the federal state and the Church in governing society, the regulation of economic activities, tax and redistributive policies. The second bundle refers to regime matters, including the relative power and resources of parliament, civil rights and liberties, electoral provisions, and the organisation of justice. In the North German Confederation, political views of legislators along both issue bundles were largely aligned and thus collapsed into a single liberal-conservative dimension. However, the appearance of the Catholic Centre Party after the foundation of the German Empire in 1871 reshaped the political conflict space. In terms of social and economic issues, the Centre Party supported conservative solutions. Yet, in light of the minority status of Catholics in Germany and the repressive policies pursued against the Catholic Church during the so-called 'Culture War' in the early 1870s, it defended liberal positions with respect to civil rights and liberties as well as the powers of parliament. The emergence of the Centre Party, together with a move of parts of the National Liberals towards more conservative positions on regime issues, created a two-dimensional space that characterized political conflict throughout the remainder of the study period. Interestingly, these two issue bundles, socio-economic policies and regime matters, continued to play a major role in structuring political conflict in Germany, not only during the Wilhelmine era of the Kaiserreich (Smith and Turner 1981), but also in the Weimar Republic (Debus and Hansen 2010; Hansen and Debus 2012).

Methodologically, the study illustrates the importance of taking changes in the agenda into account when using roll call votes to assess the dimensionality of a political conflict space. Based on purely statistical criteria for the selection of dimensions, we would have concluded that opinions on socio-economic issues did not divide legislators in the second legislative term of the Reichstag from 1874 to 1877. However, a closer look at the substance of legislation voted upon during that term revealed that this finding was a result of the very small number of votes taken on these types of issues. Opposing positions on socio-economic issues had not suddenly converged; they just had little opportunity to manifest themselves in parliamentary activities. In the second Reichstag term, these activities focused on issues related to the regime dimension. Especially in historical cases with comparatively modest

legislative productivity, changes in the legislative agenda can have undue effects on the results of a roll call analyses; their interpretation needs to be supported by information about the policy content of votes.

The Centre Party's electoral success in 1871 was based on the activation of a religious cleavage dividing the Protestant majority and the Catholic minority in Germany. At least in Prussia, Catholics were generally economically disadvantaged compared to Protestants. However, economic inequality did not play a primary role in the mobilisation of Catholic voters. Centre voters came from all economic strata (Nipperdey 2013: 344). Partly as a result of this economic diversity in the support base, especially the Centre Party's early electoral announcements were vague on socio-economic issues, highlighting the defence of Church prerogatives and the federal nature of the Reich (Lepper 1998). The latter implied maintaining limits on the power of Protestant-dominated Prussia. In short, the Centre Party's continuing electoral success was based on a genuinely religious divide that cut across economic sectors and social strata. However, its sudden appearance in 1870/71 also demonstrates that the political entrepreneurship of Catholic politicians and indeed the mobilization of Catholic voters by the clergy were instrumental for activating this cleavage (Anderson 1988: 134–136; Anderson 2000: 69–105). Once the Centre Party had been established as an important electoral and parliamentary force, it played a major role in perpetuating this division.

Thus, in the case of Imperial Germany, an exclusive focus on the role of economic inequality as a factor influencing regime stability and change (Acemoglu and Robinson 2006; Ansell and Samuels 2014; Boix and Svobik 2013) misses an important part of the country's political history. Before the emergence of the Centre Party, the actor and interest constellation in the German party system resembled quite closely the elite-competition interaction theorised by Ansell and Samuels (2014). An economically rising group, represented by the liberals, demanded more democratic participation and rights, possibly to protect their newly gained wealth from expropriation by the incumbent elite, represented by the government and the conservatives. However, the emergence of the Centre Party at the beginning of the 1870s does not fit this narrative.

The Centre Party defended existing democratic achievements and promoted progressive reforms to defend the prerogatives of the Catholic Church and the Catholic 'way of life' against the Protestant-dominated governments of the Reich and Prussia. The fact that the Centre Party regularly supported the same socio-economic policies as the conservatives provides clear evidence that its regime preferences, which ran counter to those of

conservatives, cannot be reduced to economic considerations; and given its electoral strength and often pivotal position in the Reichstag, the Centre Party played a major role in determining the political development of Germany. In fact, when Bismarck decided to reverse course in the second half of the 1870s to pursue more protectionist economic policies that favoured agricultural landholders and large industrialists, the Centre Party provided the required support in the Reichstag when the National Liberals refused. Indeed, Bismarck's ability to govern with varying majorities because of the Centre Party's parliamentary strength and position in the political space may have bolstered the stability of the regime by avoiding legislative gridlock and a direct bipolar confrontation between the liberal and conservative camp. However, a more thorough investigation of this possibility is a topic for future research. As a more immediate conclusion, the study points to the need to delineate clearly the temporal and geographical scope conditions of theories of regime stability and change. When theoretical arguments presume a particular actor and interest constellation, it is difficult to see how they can provide adequate explanations for cases where these constellations were only partially present, only present during a particular period of time, or indeed not present at all.

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Political conflict in Bismarck's Germany: An analysis of parliamentary voting, 1867-1890

Supplementary information

Appendix 1 Additional tables and figure

- Table A1: Share of Reichstag seats of party groups by legislative term
- Table A2: Policy area of roll call vote by legislative term
- Table A3: Type of subject matter of roll call vote by legislative term
- Figure A1: Eigenvalue scree plots by legislative term

Appendix 2 Detailed description of data sources, collection, and coding

Appendix 3 Face validity check: Intra-group divisions in the National Liberal Party

Appendix 1 Additional tables and figure

Table A1 Share of Reichstag seats of party groups by legislative term

	NDRT 1867- 1871	RT 1 1871- 1874	RT 2 1874- 1877	RT 3 1877- 1878	RT 4 1878- 1881	RT 5 1881- 1884	RT 6 1884- 1887	RT 7 1887- 1890	Total
(German) Conservatives	69 0.23	54 0.14	21 0.05	40 0.10	59 0.15	50 0.13	77 0.19	79 0.20	449 0.15
Free Conservatives	34 0.11	38 0.10	32 0.08	38 0.10	56 0.14	27 0.07	28 0.07	41 0.10	294 0.10
French minority			15 0.04	15 0.04	15 0.04	15 0.04	15 0.04	15 0.04	90 0.03
Guelphs		7 0.02	4 0.01	5 0.01	10 0.03	10 0.03	9 0.02	4 0.01	49 0.02
Polish minority	11 0.04	13 0.03	14 0.04	14 0.04	14 0.04	18 0.05	16 0.04	13 0.03	113 0.04
Centre Party		60 0.16	91 0.23	92 0.23	94 0.24	99 0.25	101 0.25	98 0.25	635 0.21
Federalist-Constitutionalist Association	18 0.06								18 0.01
Liberal Centre Party	13 0.04								13 0.00
Liberal Empire Party		30 0.08							30 0.01
National Liberals	83 0.28	120 0.31	151 0.38	128 0.32	99 0.25	47 0.12	50 0.13	99 0.25	777 0.25
Independents	18 0.06	13 0.03	10 0.03	9 0.02	12 0.03	6 0.02	5 0.01	5 0.01	78 0.03
Free Association	15 0.05								15 0.00
Liberal Association						46 0.12			46 0.02
Progress Party / German Liberal Party	30 0.10	44 0.12	49 0.12	41 0.10	26 0.07	59 0.15	65 0.16	32 0.08	346 0.11
German People's Party		1 0.00	1 0.00	3 0.01	3 0.01	8 0.02	7 0.02	0 0.00	23 0.01
Socialist Workers' Party	6 0.02	2 0.01	9 0.02	12 0.03	9 0.02	12 0.03	24 0.06	11 0.03	85 0.03
Total members	297 1.00	382 1.00	397 1.00	397 1.00	397 1.00	397 1.00	397 1.00	397 1.00	3061 1.00

Notes: Cells are shaded according to relative frequency. NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire. Socialist Workers' Party refers to seats of the General German Workers' Association and the Social Democratic Workers' Party before RT 3.

Table A2 Policy area of roll call vote by legislative term

Policy area	NDRT	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	Total
Social Welfare	0 0.00	0 0.00	0 0.00	0 0.00	3 0.07	8 0.17	0 0.00	4 0.13	15 0.05
Domestic Macroeconomic Issues	6 0.07	0 0.00	0 0.00	0 0.00	4 0.10	4 0.09	4 0.12	2 0.07	20 0.06
Foreign Trade	1 0.01	2 0.04	1 0.02	1 0.11	18 0.44	4 0.09	21 0.64	5 0.17	53 0.16
Banking, Finance, and Domestic Commerce	8 0.10	2 0.04	0 0.00	1 0.11	4 0.10	15 0.32	0 0.00	8 0.27	38 0.11
Civil Rights, Minority Issues, and Civil Liberties	5 0.06	9 0.19	1 0.02	2 0.22	4 0.10	7 0.15	2 0.06	4 0.13	34 0.10
Defence	8 0.10	12 0.25	5 0.12	0 0.00	4 0.10	7 0.15	2 0.06	4 0.13	42 0.13
Law, Crime, and Family Issues	25 0.31	1 0.02	12 0.29	1 0.11	1 0.02	0 0.00	0 0.00	1 0.03	41 0.12
Government Operations	20 0.25	20 0.42	12 0.29	4 0.44	2 0.05	2 0.04	1 0.03	1 0.03	62 0.19
Other Issues	8 0.10	2 0.04	11 0.26	0 0.00	1 0.02	0 0.00	3 0.09	1 0.03	26 0.08
Total	81 0.24	48 0.15	42 0.13	9 0.03	41 0.12	47 0.14	33 0.10	30 0.09	331

Notes: Cells are shaded according to relative frequency. NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire. Policies classified according to the classification scheme of the Comparative Agendas Project (<http://www.comparativeagendas.info>).

Table A3 Type of subject matter of roll call vote by legislative term

Type	NDRT	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	Total
Legislation	54 0.67	30 0.62	33 0.79	9 1.00	35 0.85	38 0.81	28 0.85	29 0.97	256 0.77
Constitutional amendment	5 0.06	8 0.17	5 0.12	0 0.00	1 0.02	0 0.00	1 0.03	1 0.03	21 0.06
Budget	5 0.06	1 0.02	1 0.02	0 0.00	3 0.07	7 0.15	3 0.09	0 0.00	20 0.06
Request to government	8 0.10	5 0.10	1 0.02	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	14 0.04
Validity of mandate	3 0.04	2 0.04	0 0.00	0 0.00	1 0.02	1 0.02	0 0.00	0 0.00	7 0.02
Parliamentary resolution	2 0.02	1 0.02	2 0.05	0 0.00	0 0.00	1 0.02	0 0.00	0 0.00	6 0.02
International treaty	2 0.02	0 0.00	0 0.00	0 0.00	1 0.02	0 0.00	1 0.03	0 0.00	4 0.01
Address to Kaiser	2 0.02	1 0.02	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	3 0.01
Total	81 0.24	48 0.15	42 0.13	9 0.03	41 0.12	47 0.14	33 0.10	30 0.09	331
Of which:									
Procedural	2 0.02	5 0.10	2 0.05	0 0.00	1 0.02	5 0.11	5 0.15	2 0.07	22 0.07
Final passage	2 0.02	2 0.04	5 0.12	2 0.22	6 0.15	2 0.04	4 0.12	7 0.23	30 0.09

Notes: Cells are shaded according to relative frequency. NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire.

Table A3 shows that the roll call data are dominated by votes on substantively important and legally consequential matters. Overall, almost 8 in 10 roll call votes (77 per cent) took place in the context of a legislative procedure, and another 6 per cent each referred to constitutional amendments and budget matters. The combined proportion of these three types of subject matters was somewhat lower during the NDRT and RT 1. The possibility that this difference is due to the lack of an alternative procedure to count votes when they were too close to call before the introduction of voting by division in 1874 cannot be ruled out. Still, even in these two terms, votes on the three types of subject matters dominated the roll call data (79 per cent in the NDRT, and 81 per cent in RT 1). In general, the overwhelming majority of roll call votes (93 per cent) has been called on substantive, not procedural matters. Finally, most roll call votes (91 per cent) are on specific parliamentary decisions or bill amendments rather than final passage votes of legislation. This is not a problem for scaling policy positions of legislators, as votes on amendments are more informative than final passage votes if the latter are based on logrolls or package deals.

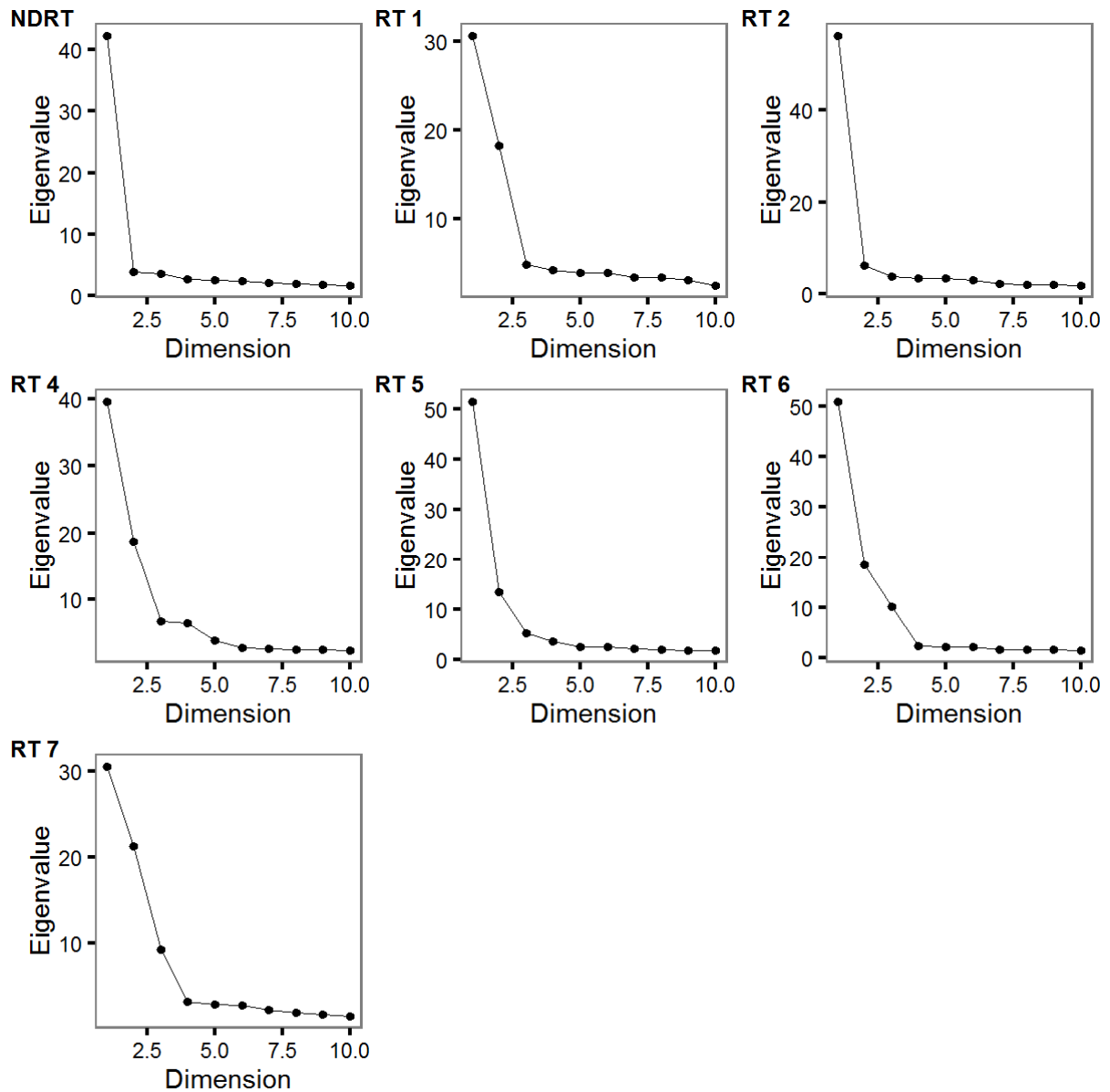


Figure A1 Eigenvalue scree plots by legislative terms

Notes: Eigenvalues of the double-centred agreement score matrix. The number of dimensions before the ‘elbow’ in the number of eigenvalues indicates the dimensionality of the data. NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire.

Appendix 2 Detailed description of data sources, collection and coding

The source of the voting information is the overview of roll call votes in Appendix A of the ‘General Register for the Stenographical Reports of all Reichstag Sessions from 1867 to 1895’ (Reichstagsbureau 1896). After downloading the digitized version of the General Register from the website of the Bavarian State Library, optical character recognition (OCR) software was used to convert the PDF images of the roll call vote appendix into machine-readable text.¹² To identify the full population of legislators and disambiguate their party group affiliation and electoral district at the time of a particular vote, the vote data was linked to biographical information from the online database Biorab-Kaiserreich, which is hosted by the Centre for Historical Social Research at the GESIS Leibniz Institute for the Social Sciences.¹³ Before combining the two datasets through a custom-made record linkage algorithm, information from both sources was extracted through computer scripts developed in Python. Several steps in the data collection process required extensive manual review and corrections based on the consultation of historical primary and secondary sources.

The roll call vote appendix of the General Register consists of two parts, which were processed separately. The first part provides a chronologically numbered list of all roll call votes, distinguishing votes by successive legislative terms and sessions. Each entry includes a short description of the subject of the vote, when the vote was taken, and what the aggregate outcome of the vote was. Where appropriate, it also includes a reference to the official Reichstag document related to the vote. The second part provides an alphabetically numbered list of Reichstag members, indicating, for each roll call vote they took part in, whether they voted yeah, nay, or abstained. For each legislator, occupation, party group membership, and electoral district are also recorded. Several party group affiliations are indicated if a legislator changed his party group over time. The same is true for electoral districts. Unfortunately, no information is provided about the timing of these changes.

Before further automated processing of the two lists, the results of the optical character recognition (OCR) conversion were reviewed and spelling, punctuation, and formatting errors

¹² For the download link, see http://www.reichstagsprotokolle.de/en_Band3_so_bsb00018728.html (last accessed 9 April 2016). Because most free optical character recognition software does not have the capability to recognize Fraktur font, the commercial software ABBYY Recognition Server with Gothic/Fraktur was used (see http://www.frakturschrift.com/en:products:recognition_server [last accessed 9 April 2016]).

¹³ See the database description at <http://zhsf.gesis.org/ParlamentarierPortal/biorabkr.htm>. Biographical information about individual MdRs can be browsed at http://zhsf.gesis.org/ParlamentarierPortal/biorabkr_db/biorabkr_db.php (both last accessed 11 April 2016)

were corrected.¹⁴ Python computer scripts were then used to extract the relevant information from each of the lists and to reorganise it in the form of data matrices. From the list of roll call votes, the scripts extracted information about the legislative term and session number in which the vote took place, the number of yeah and nay votes, the name(s) of the sponsor(s) of the bill or amendment, whether the vote was about a committee text, the date of the vote, the reading in which the vote took place, the page numbers of the relevant session report, and the number of associated session report appendix documents. Furthermore, the script identified the type of issue under consideration, distinguishing between votes on laws (except constitutional amendments and budget laws), constitutional amendments, budget matters, requests to the Government (i.e. to the Bundesrat or Chancellor), the validity of mandates, parliamentary resolutions, international treaty ratifications, and addresses to the Kaiser. Again, the automated coding was manually checked and, if necessary, corrected.

The extraction of the voting information from the second part of the Appendix of the General Register resulted in a dataset containing variables for the roll call number, vote choice, first and last name of legislator, party group affiliation(s), electoral district(s), and occupation. Once in machine-readable form, further consistency checks of the data were conducted to ensure the OCR results were error-free. In particular, for each individual Member of the Reichstag (MdR), it was confirmed that roll call numbers always appeared in sequence and that they did not include duplicates. Another check made sure that vote choices only included the possible options. Again, several corrections had to be made to the raw ORC results to pass these consistency checks. The General Register and its appendices are obviously based on the information in the official session reports. However, errors by the Reichstagsbuero in collecting and processing that information cannot be ruled out. It is also not clear whether the roll call vote appendix includes all MdRs, especially those that never took part in a vote.

In order to identify the full population of MdRs over the 23 year period, to cross-validate the attribution of votes to MdR names, and to differentiate multiple party group affiliations and electoral districts over time, the data were merged with biographical information about MdRs from the online database Biorab-Kaiserreich, which is hosted by the Centre for Historical Social Research at the GESIS Leibniz Institute for the Social

¹⁴ The OCR software provides a feature that is useful for efficiently reviewing the result of the conversion: Elements of the converted text with a particularly low probability of having been recognized correctly are highlighted. However, the feature is not error-free and cannot replace a careful reading of the converted text.

Sciences.¹⁵ To link the records in the voting data with the records in the bibliographical data, a simple matching algorithm was developed. Both datasets include variables for the surname of MDRs and their electoral districts. The algorithm loops through all legislative terms and every member of the Reichstag during each term. Whereas the biographical data identifies a singly electoral district for each MDR in a legislative term, the voting data only includes variables indicating which electoral districts an MDR represented sometime during the study period. Thus, in the first step, the algorithm attempts a fuzzy surname match of the MDR. If the electoral district of the matched MDR from the biographical data matches one of the electoral districts of the MDR in the voting data, the match is retained. If not, another fuzzy surname match is attempted, but this time the biographical data is limited to only those MDRs that were representing one of the electoral districts recorded for the MDR in the voting data. In most instances, this algorithm resulted in an unambiguous and correct match. The exceptions concern cases where several MDRs with the same surname were representing the same district during the same legislative term. Another reason for incorrect merges were compound names that occur as such in only one of the data sets. Since the fuzzy matching is based on string distances of surnames, some long compound names have larger string distances to one of their component names than to other, completely unrelated names. The linkage algorithm does not take account of that possibility. These cases were manually corrected after reviewing the merge results.

Observations that were missing in one or the other of the datasets - and thus could not be merged - point to errors in one of them. Wherever such inconsistencies arose, third sources were consulted to identify which dataset contained the correct information.¹⁶ By matching the voting data with the biographical data, it was possible to add legislative term information for those MDRs in the voting data that never voted, and to add legislative term information for those that were members of several legislative terms, but only voted in some of them. MDRs that did not accept their mandate or whose mandate ended before the first legislative session of the term had started were dropped. Finally, it was possible to identify and correct ten errors in the attribution of votes to MDRs in the General Register, mainly caused by a confusion of identical surnames, and a couple of wrongly attributed electoral districts.

¹⁵ Again, computer scripts were developed in Python to automatically download the HTML pages of the database, extract its information, and save it in a CSV file. See the database description at <http://zhsf.gesis.org/ParlamentarierPortal/biorabkr.htm>. Biographical information about individual MDRs can be browsed at http://zhsf.gesis.org/ParlamentarierPortal/biorabkr_db/biorabkr_db.php (both last accessed 11 April 2016).

¹⁶ Particularly useful were the reference books of Reichstag election outcomes by Phillips (1883) and Specht and Schwabe (1904).

Like the electoral district information, membership in several party groups over time is only indicated as such in the voting data without a specification of when a party group switch occurred. Because the biographical data reports party group membership by legislative term, it was also useful in coding party group membership of individual MdRs over time. If the party group information in the two sources did not coincide, the party group information in contemporary Reichstag handbooks as well as reference books on Reichstag elections (Phillips 1883; Specht and Schwabe 1904) were consulted to identify the correct party group affiliation.¹⁷ The party group information in the handbook was also used to manually review the final party group coding of all MdRs.

Unfortunately, the biographical data does not provide the exact dates of Reichstag membership for individual MdRs, but only the month of the year. In order to identify the population of MdRs eligible to take part in a particular roll call vote, the precise dates of their membership in the Reichstag is required. Starting with the rough periods provided by the biographical data, membership start dates before the precise start date of the first legislative session were replaced with the start date of the first legislative session. Similarly, membership end dates after the precise end date of the last legislative session were replaced with the end date of that session. For membership changes between those dates, Specht and Schwabe (1904), Phillips (1883), and Reichstag session protocols and appendices were consulted to identify the precise day of the membership change.

¹⁷ The 16 volumes of Georg Hirth's semi-official 'Parlaments Almanach', published between 1867 and 1887, can be accessed online (http://www.reichstagsprotokolle.de/en_rtbfzu.html, last accessed 12 April 2016). The Reichstagsbuero started publishing an official handbook only in 1890.

Appendix 3 Face-validity check: Intra-group divisions in the National Liberal Party

As a further face validity check, Figure A2 replicates Figure 3 in the main text, but highlights the positions of members of the left wing of the National Liberal Party that seceded in 1880, formed the Liberal Association in 1881 (RT 5), and then formed a new party group with the left liberals from 1884 (RT 6 and RT 7). The positions of these left-wing National Liberals around Eduard Lasker, Ludwig Bamberger and Max von Forckenbeck are indicated by black Xs. In line with historical accounts, members of the Liberal Association in RT 5 took intermediate positions between the left liberal Progress Party and the National Liberals. With the possible exception of RT 1, ideal points of future secessionists are generally closer to the ideal points of left liberals than those of other National Liberals in earlier legislative terms as well. This consistent finding provides significant support for the face validity of the scaling results. Interestingly, once the secessionists had merged with the Progress Party, their voting behaviour in RT 6 and RT 7 became even more distinct from the National Liberals but indistinguishable to the voting behaviour of their new left liberal party group colleagues.

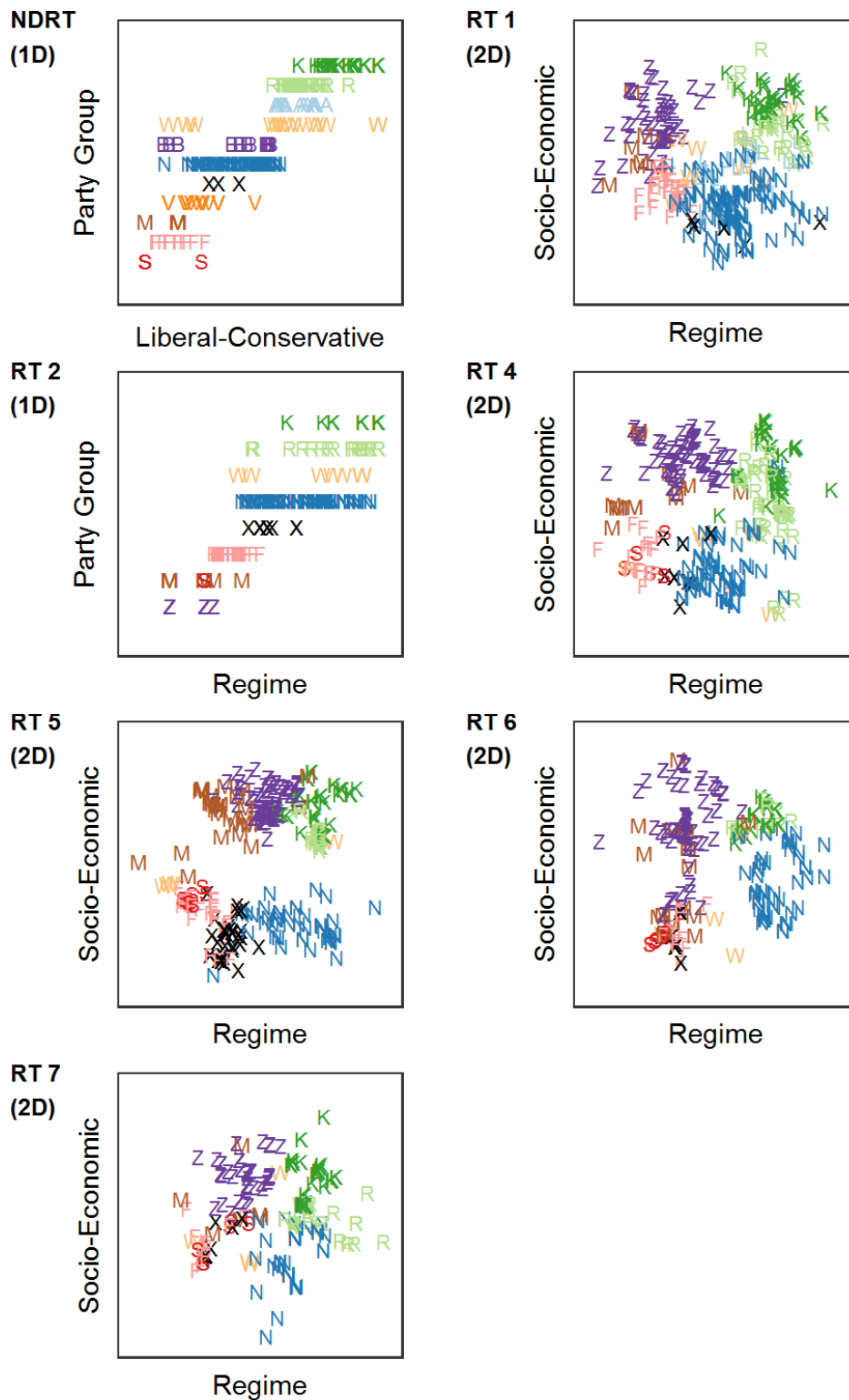


Figure A2 Legislator ideal point estimates by legislative terms

Notes: NDRT=Reichstag of North German Confederation, RT=Reichstag of German Empire, 1D=one-dimensional solution, 2D=two-dimensional solution, rotated to fix centroid of German Conservatives to diagonal line in upper right quadrant. Z=Centre Party, K=German Conservatives, R=Free Conservatives, N=National Liberals, F=Left Liberals, S=Socialists, M=Minorities, W=Independents, B=Particularists (NDRT only), A=Liberal Centre (NDRT only), L=Liberal Empire Party (RT 1 only), X=National Liberals, who seceded from the party in 1880, formed the Liberal Association in RT 5, and formed a new party group with the left liberals starting in RT 6.

References

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