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

Supplementary information

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Appendix 1 Additional tables and figure

Table 1A 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 1B 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 1C 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 1C 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.

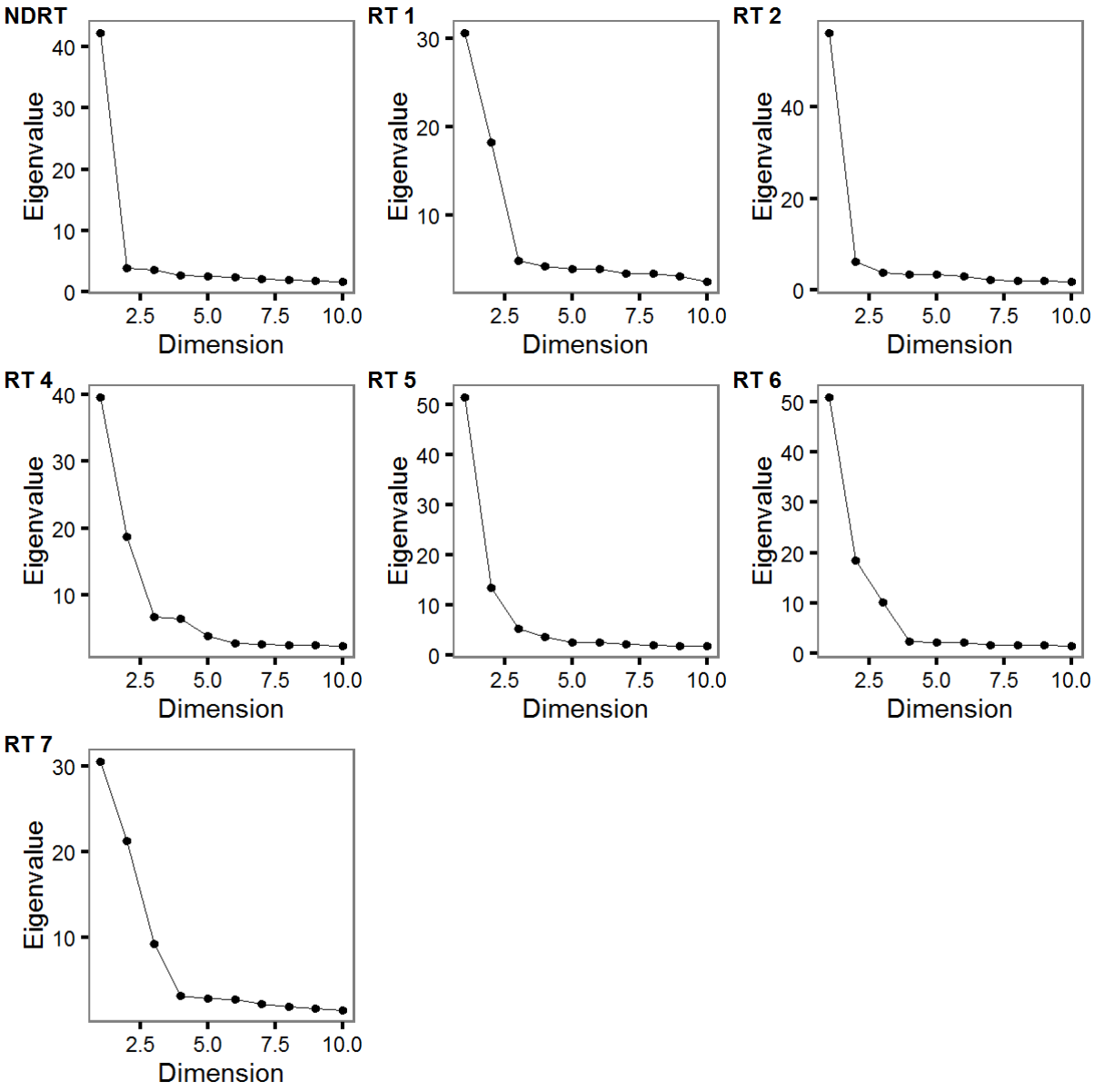

Figure 1A Eigenvalue scree plots by legislative terms

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.[1] 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 Leibnitz Institute for the Social Sciences.[2] 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

[1] 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 Fractur font, the commercial software ABBYY Recognition Server with Gothic/Fractur was used (see http://www.frakturschrift.com/en:products:recognition_server [last accessed 9 April 2016).

[2] 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.[3] 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

[3] 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.

Social Research at the GESIS Leibnitz Institute for the Social Sciences.[4] 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.[5] 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.

[4] 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).

[5] 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.[6] 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.

[6] 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_rtbhzu.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 3A 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 *X*s. 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.

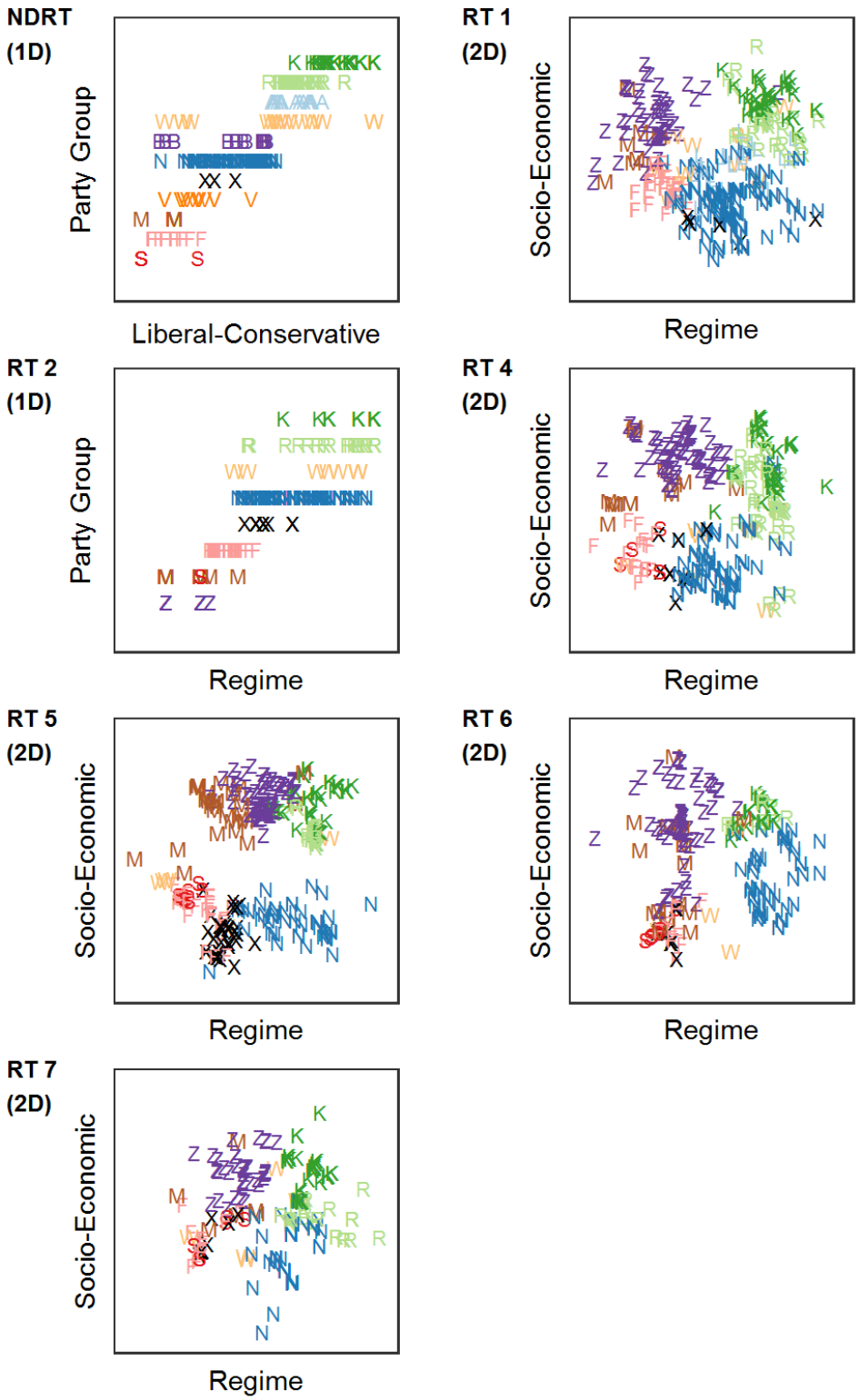

Figure 3A Legislator ideal point estimates by legislative terms

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

Phillips, A. (1883) *Die Reichstags-Wahlen von 1867 bis 1883: Statistik der Wahlen zum Konstituierenden und Norddeutschen Reichstage, zum Zollparlament, sowie zu den fünf ersten Legislatur-Perioden des Deutschen Reichstages*, Berlin: Louis Gerschel.

Reichstagsbureau (1896) *Generalregister zu den stenographischen Berichten über die Verhandlungen und den amtlichen Drucksachen des konstituirenden Reichstages, des Reichstages des Norddeutschen Bundes, des Deutschen Zollparlaments und des Deutschen Reichstages*, Berlin: Norddeutsche Buchdruckerei und Verlags-Anstalt.

Specht, F. and Schwabe, P. (1904) *Die Reichstags-Wahlen von 1867 bis 1903: Eine Statistik der Reichstagswahlen nebst den Programmen der Parteien un einem Verzeichnisse der gewählten Abgeordneten*, Berlin: Carl Heymanns.