Electoral Cleavages and Socioeconomic Inequality in Germany 1949-2017

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Abstract

This paper explores the changing relationships between party support, electoral cleavages and socioeconomic inequality in Germany since 1949. We analyze the link between voting behaviors and socioeconomic characteristics of voters. In the 1950s-1970s, the vote for left parties was strongly associated with lower education and lower income voters. Since the 1980s voting for left parties has become associated with higher education voters. In effect, intellectual and economic elites seem to have drifted apart, with high-education elites voting for the left and high-income elites voting for the right. We analyze how this process is related to the occurrence of new parties since 1980 and the recent rise of populism.

For comments and discussions, we are grateful to Amory Gethin, Julian Heid, and Clara Martínez-Toledano, We thank Clara Bohle, Larissa Fuchs, and Severin Süß for outstanding research assistance.
Introduction

This paper draws on political attitudes surveys to study the changing relationships between party support, electoral cleavages and socioeconomic inequality in Germany. The development of political cleavages in Germany is a particularly interesting case. On the one hand, the political system shows a high degree of stability and is strongly shaped by the interplay of two parties, which have led all federal governments since 1949. On the other hand, the relation between left voting and socio-economic characteristics has partly changed by leaps and bounds, driven by the occurrence and establishment of new parties since 1980.

Our main finding is that the general evolution observed in Germany shares many similarities with the rise of the “multiple-elite” cleavage structure (Brahmin Left vs Merchant Right) that was documented for the case of France, the United States and the United Kingdom (Piketty, 2018). We also stress a number of specificities related to the German trajectory and discuss future prospects for party realignments.

From the Weimar Republic to the Kanzlerdemokratie

We seek to analyze the electoral attitudes of voters in the Bundesrepublik Deutschland (Federal Republic of Germany) from 1949 to 2017. For the period from 1949 to 1989 we analyze data of “West Germany” and from 1990 onwards we analyze data of the unified Federal Republic of Germany. Regarding the political system, the united Germany is considered to be the enlarged continuation of West Germany and most former East German parties were absorbed by their West German counterparts (Winkel, 1997). Therefore, the West German political system experienced relatively little changes following reunification.
Resulting from the past experiences of a democracy's fragility, the political system of Germany is characterized by an institutional design aiming to avoid the systemic shortcomings the Weimar Republic suffered from. Among other factors, this shaped an electoral system combining the systems of majority voting and proportional representation (mixed-member proportional representation). While allowing smaller parties to retain their political influence, it reduces the risk of a parliamentary fragmentation (Schmidt, 2016). The fear of instable majorities is mirrored in the implementation of a 5 percent electoral threshold to limit the number of small parties included in the Bundestag (federal parliament). Compared to the Weimar Republic, the role of the president within the political system has been significantly weakened. Instead, there is a strong focus on the Bundeskanzler (Federal Chancellor) and the Bundestag. The Bundeskanzler plays a central role in steering everyday politics, which has led some observers to describe Germany’s political system as “Kanzlerdemokratie” (Schmidt, 2016; Niclauß, 2015). The Bundestag elects the Bundeskanzler and is the leading legislative organ. Together with a strongly federal political system, power in the parliamentary democracy of Germany is much more decentralized than in presidential democracies such as the US or France. Given the decisive role of the Bundestag, we focus our empirical analysis on voting behavior in federal elections, which determine the composition of the Bundestag and are regularly held every four years.

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1 The term Weimar Republic refers to the period between 1918 to 1933 in which Germany’s first parliamentary democracy was in place. It started with the proclamation of the republic and ended with Hitler's Machtergreifung (seizure of power).
Classifying the Parties

In order to classify the parties within the German political system into a left-right schema we mostly rely on the expert survey conducted by Benoit and Laver (2007). Academics specializing in political parties and electoral politics rated all major parties’ location on the left-right dimension on a scale ranging from 1 to 20, where 1 stands for the hypothetical case of an ideal left and 20 for the ideal right party.\(^3\) Assuming the left-right dimension to be symmetric on both ends, parties with attributed values lower than 10 are categorized as left, while those with values higher than 10 are categorized as right. As the expert survey was conducted in 2003, a categorization based on these ratings assumes a relative stability of parties’ positions in the party system. The literature indicates this assumption of stability across time to be plausible for the German context (Franzmann and Kaiser, 2006). This holds especially in the case of a comparatively coarse left-right distinction. While a shift of a party’s position within its assigned category is plausible, shifts across the left-right distinction appear to be unlikely. Only the FDP appears to be potentially problematic due to the varying influence of social- and left-liberal groups over time. For convenience, we constantly categorize the FDP as right party, as suggested by the results shown in Benoit and Laver.

A categorization of (almost)\(^4\) all parties who have been in the Bundestag (1949-2017) is displayed in Table 1. Below the respective name of the party, we indicate in brackets how often

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\(^3\) To categorize parties on the left-right dimension, experts were asked to « locate each party on a general left-right dimension, taking all aspects of party policy into account ».

\(^4\) We did not categorize the SSW (South Schleswig Voters' Association) which is a minority and regional party. The SSW gained one mandate in 1949. We also did not categorize the Zentrum (Centre Party) for which the left-right categorization is ambiguous. The Zentrum gained a few mandates in 1949 (3.1 percent) and 1953 (0.8 percent).
and when the respective party has been elected into the Bundestag. A star behind the bracket indicates that the party is part of the Bundestag in the current period (2017-2021). Since the expert survey from 2003 did not cover parties which previously lost their relevance (KPD, DP, GB/BHE, BP, WAV, DRP) or have emerged since then (AfD), we updated the list according to their categorization in the literature. Parties which never gained a mandate for the Bundestag are not considered for this classification and the following analyses.

Table 1: Right/left Scheme Party Classification.

<table>
<thead>
<tr>
<th>Left parties</th>
<th>Right parties</th>
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<tr>
<td>SPD <em>(Social Democratic Party)</em> [periods in parliament: 19, ever since 1949]*</td>
<td>CDU/CSU <em>(Christian Democratic/Social Union)</em> [19, ever since 1949]*</td>
</tr>
<tr>
<td>B90/Grüne <em>(Green Party)</em> [10, ever since 1983]*</td>
<td>FDP <em>(Free Democratic Party)</em> [18, ever since 1949 except for 2013]*</td>
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<tr>
<td>Die Linke <em>(The left)</em> [8, ever since 1990]*</td>
<td>AfD <em>(Alternative for Germany)</em> [1, in 2017]*</td>
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<tr>
<td></td>
<td>GB/BHE <em>(All-German Bloc/League of Expellees and Deprived of Rights)</em> [1, 1953]</td>
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<td></td>
<td>BP <em>(Bavarian Party)</em> [1, in 1949]</td>
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<tr>
<td></td>
<td>WAV <em>(Economic Reconstruction Union)</em> [1, in 1949]</td>
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<tr>
<td></td>
<td>DRP <em>(German Right Party)</em> [1, in 1949]</td>
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</table>

5 AfD (Däubler, 2017); GB/BHE (von Alemann, Erbentraut and Walther, 2018.); BP (Massetti and Schakel, 2015; DP (von Alemann, Erbentraut and Walther, 2018); DRP (ibid.); KPD (ibid.); WAV (ibid.)
National Election Results

As already indicated by Table 1, the German political system shows a high level of stability regarding the parties that are represented in the Bundestag. While CDU/CSU, SPD and FDP have (almost)\(^6\) always been represented in the Bundestag, B90/Grüne and Die Linke have continuously been represented since first gaining seats in 1983 and 1990. Only the results of the first two elections, 1949 and 1953, slightly differ from this pattern of persistence of parties. In these elections, several exceptions allowed for a circumvention of the 5 percent electoral threshold, resulting in some mandates for several smaller parties.\(^7\) As shown in Table 1, most of these parties were attributed to the conservative and right spectrum. Besides the SPD, the KPD was the only other left party to be elected in the Bundestag in the Bundesrepublik’s early years. In 1949, the KPD gained 5.7 percent of votes but failed to reach the 5 percent electoral threshold in 1953 and was banned in 1956.

Between 1949 and 1963 Konrad Adenauer (CDU/CSU), the first Bundeskanzler of the Bundesrepublik Deutschland, led conservative and right governing coalitions formed by the CDU/CSU, the FDP and/or smaller right-wing parties. Figure 1 indicates that during the 1950s the smaller mostly right-wing parties lost votes and the CDU/CSU established itself as the

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\(^6\) The FDP was not represented in the Bundestag from 2013 to 2017, as they closely failed to reach the 5 percent threshold in the 2013 election.

\(^7\) In 1949 and in 1953, the 5 percent threshold was waived for parties, which won at least one district. Since 1957 parties have needed to win at least 3 districts to waive the 5 percent threshold. Moreover, in 1949, the 5 percent threshold did not hold on the national level but only on the state level. In 1990 it was sufficient to reach 5 percent either in the parts of former East Germany or former West Germany.
leading party of the right spectrum of the political party system in Germany. In 1957, CDU/CSU won the first and, to date, only absolute majority for a single German parliamentary group in a free election.

Adenauer’s successor, Ludwig Erhard (CDU/CSU), led a right governing coalition with the FDP from 1963 until 1966. One year after the election in 1965, the FDP left the coalition due to conflicts about economic policies. In the following years, from 1966 to 1969, CDU/CSU and SPD formed the first “grand coalition” led by Kurt Georg Kiesinger (CDU/CSU).

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8 In Figure 1 and all other analyses, we consider the shares of votes, which determine the number of seats in the Bundestag. Since 1953 this is the ‘Zweitstimme’. In 1949, there was only one vote.
In the late 1950’s the SPD developed towards a mainstream party and gave a commitment to reform capitalism rather than to fight it (Godesberg Program 1959). In the following, the SPD gained votes and in 1969, Willy Brandt became the first Bundeskanzler of the SPD. In the 1972 election the SPD gained its best-ever federal election result and, for the first time, won more seats than the CDU/CSU. Willy Brandt led a coalition with the FDP from 1969 until 1974, when he resigned after a member of his staff was exposed as an agent of the East German secret service. Brandt’s successor was Helmut Schmidt (SPD) who also led a coalition with the FDP. In 1982, the FDP left the coalition due to conflicts about economic and social policies and joined a coalition with CDU/CSU. The new coalition was led by Bundeskanzler Helmut Kohl and persisted until 1998.

The federal election in 1983 marks the emergence of Die Grünen (later B90/Grüne). It was the first time since 1957 that any other party than CDU/CSU, SPD or FDP secured representation in the parliament and only the second time ever that a left party other than the SPD was part of the Bundestag. In the following elections, B90/Grüne were repeatedly elected into the Bundestag and established themselves at the federal level. As indicated in Figure 1, the early rise in votes received by the B90/Grüne was accompanied by a decline in votes received by the SPD.

The first election after the reunification was held in December 1990 and resulted in the appearance of a fifth party in the Bundestag, the PDS (Party of Democratic Socialism), which was the legal successor of the SED (Socialist Unity Party of Germany), the governing party of the German Democratic Republic (“East Germany”). In the 1990s, the PDS gained most of their
votes in the eastern parts of Germany and struggled to establish themselves at the federal level. The PDS was part of the merger that formed Die Linke in 2007.

After the federal election in 1998, the SPD and, for the first time, B90/Grüne formed the governing coalition led by Bundeskanzler Gerhard Schröder. While the coalition was confirmed in the 2002 election, parts of the SPD and the trade unions were dissatisfied with the government’s social policies, especially the labor market reforms. In 2004, several left-wing protest movements against the policies of SPD-B90/Grüne merged and formed the WASG (Labour and Social Justice – The Electoral Alternative), which collaborated with the PDS from early on and formally merged into Die Linke in 2007. As displayed in Figure 1, the merged party nearly doubled the vote share of the PDS, which again was accompanied by a decline in votes received by the SPD.

Since 2005, Bundeskanzlerin Angela Merkel (CDU/CSU) has led coalitions with the SPD (2005-2009, 2013-2017, 2017-2021) and the FDP (2009-2013). Figure 1 displays the phenomena that the SPD (in 2009 and 2017), as well as the FDP (2013) lost a significant share of votes in elections following governing coalitions led by Bundeskanzlerin Merkel.

In 2013, the AfD narrowly missed the 5 percent electoral threshold but gained 12.6 percent of votes in 2017 and, thereby, for the first time since 1953, a new right party entered the Bundestag. Initially, the AfD was predominantly seen as a Eurosceptic and national-liberal party, but it later moved to the far-right as a result of intra-party conflicts. In March 2020, Germany’s
domestic security agency classified parts of the AfD as “verifiable right-wing extremist” and therefore, placed them under intelligence surveillance.⁹

With the appearance of the AfD, for the first time since 1953, six parliamentary groups were represented in parliament. Figure 1 indicates that CDU/CSU and SPD have lost significant vote shares since the times of a three-party parliament in the 1960s and 1970s. The first grand coalition of CDU/CSU and SPD in 1966 represented 86.9 percent of voters, while the current grand coalition of 2017 represents only 53.4 percent of voters.

Figure 2 shows the respective joint shares of left and right parties over time. The patterns indicate an upward trend for the group of left parties and a downward trend for the group of right parties. This trend peaked in the late 90s and early 2000s and seemed to have reversed since then. Looking at the SPD specifically indicates that the increase in the vote shares received by left parties in the 1960s and 1970s was entirely driven by the outreach of the SPD (the only left party in parliament). However, since the emergence of Die Grünen (later B90/Grüne) in the 1980s and Die Linke in the 1990s the SPD nearly constantly lost votes while the joint share of left parties increased slightly.

Figure A1 indicates that the (inverse) U-shaped pattern since 1990 is much more pronounced in the regions of former East Germany, while the different parts of Germany did not differ regarding the respective joint shares of left and right in 1990 and 2017.

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Figure 2 - Federal election results in Germany, 1949-2017

Source: author's computations using official election results.
Note: the figure shows the share of votes ("Zweitstimme") in the federal elections 1949 to 2017 by left- and right-wing parties as categorized in Table 1.
Analysis of Political Cleavages

In order to explore individual-level determinants of voting behavior, we rely on a series of post-election surveys. To do so, we built on the work of Arndt and Gattig (2007) who collected a list of post-election surveys for the years 1949 to 2005 and we extended this list using the German Longitudinal Election Study (GLES), which covers the years 2009-2017. An overview of these data sources is provided in Table A1. Given varying definitions and quality of available socio-demographic variables, we focus on a restricted set of individual characteristics which could be harmonized across surveys.

In the first step of our analysis, we look at the relation between left voting and education. To account for the structural change in the distribution of educational attainment, we estimated the evolution of the difference between the fraction of left vote within top 10 percent education voters and the fraction of left vote within bottom 90 percent education voters (education deciles are defined within a given year, and average decile-level vote shares are computed assuming a constant left score within each education-year cell, see Piketty (2018). Figure 3 plots the difference in voting left between the top 10% educated voters and the rest, and documents the same reversal of the education cleavage as found in France, Britain and the US (Piketty, 2018). A special feature of the German political system seems to be that much of this development is driven by a jump in the 1980s. Figure A2 displays the same relation but controls for age, gender, religion, and income. The inclusion of control variables moderately affects the levels of the

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10 In all analyses we use inverse probability weighting to re-weight the post-election survey data to match the actual election outcomes.
11 For the definition of controls see Arndt and Gattig (2007). Controls are included as dummies for each category.
education-gradient indicator but does not affect the trend. Controlling for gender and age moves the education gradient downwards (young cohorts tend to be both more educated and more likely to vote left, see below), while including income moves it upwards (individuals with higher income tend to be both more educated and more likely to vote right, see below).

To shed light on the underlying dynamic and to explore the pronounced volatility in the 1980s, we plot the education gradient separately for all left parties in Figure 4. Focusing on the SPD indicates a continuous increase of the education gradient from the 1950s until today, although this trend is relatively flat and the education gradient was still slightly negative in the most recent elections. The figure indicates that the jump of the education gradient when considering
the joint set of left parties in the 1980s is strongly driven by the emergence of the B90/Grüne, as their education gradient has always been strongly positive. In contrast, the emergence of Die Linke in the 1990s had only little impact on the joint left education gradient as their specific gradient was constantly around zero. Figure A3 shows the same analysis but separated for former West Germany and East Germany. While the gradients are, except for B90/Grüne, a bit bigger in East Germany, the patterns are similar in both regions. Note that in former East Germany in the 1990s the PDS (later Die Linke) shows a pronounced positive education gradient which decreases in later elections. The literature suggests that many former East German elites supported the PDS in the 1990s, after they lost their privileges and positions following the German reunification (Niedermayer, 2006).

Figure 5 repeats the analysis of the development of the education gradient for the right parties jointly and separately. The development of the joint education gradient of the right parties mechanically mirrors the development of the left gradient: it is decreasing and shows a pronounced (downward) jump in the 1980s. The gradients of CDU/CSU and FDP show a similar decreasing trend. While the gradient of CDU/CSU switches signs in the 1980, the gradient of the FDP has always been higher and has remained positive until today. As the AfD only emerged in the 2010s, we cannot analyze the long-run development of their education gradient. However, comparing the 2013 and the 2017 elections indicates a strongly decreasing education gradient (about +1 percentage points in 2013 as compared to -7 percentage points in 2017). Figure A4 indicates similar gradients for former West Germany and East Germany.

12 For a detailed discussion about East-West-differences in voting behavior, see Arzheimer and Falter (2005).
In Figures 6 and 7, we analyze the gender and age cleavages in Germany. Figure 6 confirms the well-known results according to which female voters have become more left over time (see Piketty, 2018). Starting at a relatively low level in the 1950s, the female gradient strongly increased in the 1960s and 1970s and has constantly been close to zero since the 1980s. This development is not driven by the occurrence of B90/Grüne or Die Linke but is similar for all left parties.

Figure 4 - Education gradients of left parties (difference between vote share among top 10% and bottom 90% education voters), 1949-2017

Source: authors' computations using German post-electoral surveys 1946-2017 (see Table A1). The 1950s include 1949. Reading: in the 1950s, left parties (jointly) obtain a score that is 21 points lower among top 10% education voters; in the 2010s, their score is 6 points higher among top 10% education voters. The joint gradient refers to all left parties, see Table 1.
Figure 5 - Education gradients of right parties (difference between vote share among top 10% and bottom 90% education voters), 1949-2017

Source: authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949. Reading: in the 1950s, right parties (jointly) obtain a score that is 21 points higher among top 10% education voters; in the 2010s, their score is 6 points higher among top 10% education voters. The joint gradient refers to all right parties, see Table 1.

Figure 6 - Gender gradients of left parties (difference between vote share among female and male voters), 1949-2017

Source: authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949. Reading: in the 1950s, left parties (jointly) obtain a score that is 12 points lower among women than among men; in the 2010s, their score is 2 points higher than among men. The joint gradient refers to all left parties, see Table 1.
Figure 7 shows that younger voters are more prone to left wing voting than older voters (median split). The age gradient was largest in the 1990s and has decreased since then. The general pattern is in line with findings regarding other countries but seems to be more stable in Germany (Piketty, 2018). Looking at the party-specific age gradients reveals a stable strongly positive age gradient for the B90/Grüne and a pronounced drop in the gradient of the SPD in the 1980s when the B90/Grüne emerged, followed by a steady decline since then.

![Figure 7 - Age gradients of left parties (difference between vote share among younger than median and older than median voters), 1949-2017](image)

Source: authors’ computations using German post-electoral surveys 1940-2017 (see Table A1). The 1950s include 1949. Reading: in the 1950s, left parties (jointly) obtain a score that is 5 points higher among younger than median voters; in the 2010s, their score is 4 points higher among younger than median voter. The joint gradient refers to all left parties, see Table 1.

Analyzing divisions between rich and poor in the German context is only possible to a limited extent, as surveys nearly never include information about wealth. In the 1980s, even net household income was not collected in the surveys. Nevertheless, we use the available information on income to explore the development of the income gradient in Germany. Figure
8 shows the evolution of the difference between the fraction of left vote within top 10 percent income voters and the fraction of left vote within bottom 90 percent income voters. As for most other countries, the income gradient has declined over time. This holds for the joint gradient of all left parties, as well as for the SPD specific gradient. However, as opposed to countries like France or the US and more in line with the UK, the joint gradient has always remained negative at a sizable level (see Piketty, 2018). Only the B90/Grüne specific gradient is constantly positive. Figure A5 shows the declining but always positive gradient for the right parties. A notable exception is the AfD, which shows a negative income gradient of 7 percentage points in 2017.

Figure 8 - Income gradients of left parties (difference between vote share among top 10% and bottom 90% income voters), 1949-2017

Source: authors' computations using German post-electoral surveys 1946-2017 (see Table A1). The 1950s include 1949. Reading: in the 1950s, left parties (jointly) obtain a score that is 20 points lower among top 10% income voters; in the 2010s, their score is 10 points higher among top 10% education voters. The joint gradient refers to all left parties, see Table 1.
Figure A5 shows the shares of left vote among different religious groups over time. Until 1990, almost all German voters were, with nearly equal shares, either Catholics or Protestants. The fraction of voters being member of another church was only about 1% and the fraction of voters not being member of a church was about 5%. Since the 1990s, the fraction of voters not being member of a church strongly increased (36% in the 2010s). This rise was partly driven by reunification, as only a much lower share of voters from former East Germany were members of a church. However, irrespectively of the relative size of the certain religious groups, the voting patterns remained relatively constant over time. The share of left vote was always smaller among Catholics than among Protestants and was the largest for voters of “other” or “none” religion. Only since 2017, the data contain explicit information about Muslim voters. While being only a small minority among voters (1-2%), Muslims are the group with the highest share of left vote (72%) in the 2017 election.

Concluding remarks

The development of the education cleavages in Germany seems to have followed similar patterns as in most Western democracies. A phenomenon strongly influencing the German party system was the emergence and establishment of a green party in the form of Die Grünen, later B90/Grüne. This broadening of the left spectrum was associated with a slight increase in the joint share of left votes and was accompanied by a pronounced shift of the education cleavages in the 1980s. In line with France, the US and the UK, intellectual and economic elites seem to have drifted apart in Germany, with high-education elites voting for the left and high-income elites voting for the right. As described in Piketty (2018), this pattern is in line with the
“multiple-elite” stabilization scenario and is mirrored by the rise of populism, as low education/low income voters might feel neglected. In the context of Germany, this phenomenon was accompanied by the emergence of the right-wing populist and partly extremist AfD which has been mostly supported by low-educated, low-income voters as indicated by its negative education and income gradients.

To understand the coexistence of two parties from the opposed ends of the left-right spectrum – the SPD and the AfD - both indicating negative education and income gradients, requires explicit models of multi-issue party positioning, which are far beyond the scope of this paper. However, as a short outlook, in Table A2, we include political attitudes towards redistribution and openness (pro-migration) into the analyses for 2013 and 2017. The results indicate that in these domains the voters of the SPD (which are pro-redistribution and pro-openness) and the AfD (which are anti-redistribution and anti-openness) fundamentally differ, which suggests the disruption of previous class-based redistributive coalitions and the rise of new cleavages.

Finally, regarding the possibility of a unification of intellectual and economic elites within the same party in the future (similarly to what happened, to some extent, with the LRM vote in France and the Democratic vote in the US), the prospects look very uncertain at this stage. A possible government coalition between B90/Grüne and CDU/CSU could represent an evolution in this direction. But the possibility and sustainability of such a realignment remains to be demonstrated.
References


Additional Figures and Tables

**Figure A1 - Federal election results in Germany, 1949-2017**

- **Source:** author's computations using official election results.
- **Note:** the figure shows the share of votes ("Zweitstimme") in the federal elections 1949 to 2017 by left- and right-wing parties as categorized in Table 1.

**Figure A2 - Left voting in Germany, 1949-2017**

- **Source:** authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949.
- **Reading:** in the 1950s, left parties obtain a score that is 21 points lower among top 10% education voters; in the 2010s, their score is 6 points higher among top 10% education voters. Including control variables does not affect the trend.
**Figure A3** - Education gradients (East-West comparison) of left parties (difference between vote share among top 10% and bottom 90% education voters), 1949-2017

**Source**: authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949. **Reading**: in the 1950s, left parties (jointly, west) obtain a score that is 21 points lower among top 10% education voters; in the 2010s, their score is 2 points higher among top 10% education voters. The joint gradient refers to all left parties, see Table 1.

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**Figure A4** - Education gradients (East-West comparison) of right parties (difference between vote share among top 10% and bottom 90% education voters), 1949-2017

**Source**: authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949. **Reading**: in the 1950s, right parties (jointly, west) obtain a score that is 21 points higher among top 10% education voters; in the 2010s, their score is 2 points lower among top 10% education voters. The joint gradient refers to all right parties, see Table 1.
Figure A5 - Income gradients of right parties (difference between vote share among top 10% and bottom 90% income voters), 1949-2017

Source: authors' computations using German post-electoral surveys 1949-2017 (see Table A1). The 1950s include 1949.
Reading: in the 1950s, right parties (jointly) obtain a score that is 20 points lower among top 10% income voters; in the 2010s, their score is 10 points higher among top 10% education voters. The joint gradient refers to all left parties, see Table 1.
Figure A6: The category Protestant includes free churches. In the 1960s, the categories “Others” and “None” were pooled in one category at the data collection. In all cases except for 2017, Muslims are included in the category “Others.” The data from 2017 are also included for the 2010s period.
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<td>-0.025***</td>
<td>-0.012* (0.009)</td>
<td>-0.012* (0.007)</td>
<td></td>
</tr>
<tr>
<td>Education (standardized)</td>
<td>-0.024*** (0.009)</td>
<td>-0.015** (0.007)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pol. attitude: Redistribution (std.)</td>
<td>0.042*** (0.008)</td>
<td>-0.018*** (0.007)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political attitude: Openness (std.)</td>
<td>0.008** (0.003)</td>
<td>-0.028*** (0.003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>2,543</td>
<td>2,543</td>
<td>2,543</td>
<td>2,543</td>
</tr>
</tbody>
</table>

Table A2. Political attitudes towards redistribution are measured using the question “How is your position towards taxes and welfare benefits?” Answers were given on an 11-point scale (1 = lower taxes and duties, also if this means lower welfare benefits and 11 = higher welfare benefits, also if this means higher taxes and duties). Political attitudes towards openness are measures using the question (reversed) “How is your opinion towards migration opportunities of foreigners?” Answers were given on an 11-point scale (1 = Immigration opportunities for foreigners should be facilitated, 11 = Immigration opportunities for foreigners should be restricted). Data are collected in 2013 and 2017. Source: Data sets ZA5701 and ZA6801 (see Table A1). ***,, *, indicate significance at the 1, 5 and 10 percent level, respectively.