

# Education as a new cleavage?

The relevance of class, education, and income in a long-term perspective

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## Abstract

It has often been claimed in recent literature that class voting is in decline due to the increasing salience of cultural issues, which leads to a re-alignment of the working classes with right-wing populism. Stubager (2010; 2013) goes even further and claims that education has become the new structural cleavage. Others (e.g. van der Waal et al. 2007) argue in favour of an analytical decomposition of class: while both income and education are related to class, they show different relations to value orientations and voting. Income continues to be related to the traditional economic left-right dimension (pitting socialist orientations against preferences for free-market capitalism), while education increasingly is related to the social/cultural value dimension (pitting highly educated social liberals against low educated social conservatives and authoritarians). However both strands of the literature agree that these are rather new developments.

(West) Germany is a case that is unique in allowing to test the validity of these notions, in so far as both the social/cultural liberal-conservative dimension as well as the economic socialist/free-market dimension find a sufficiently strong expression in the party system and as a relatively long time series of election study data is available. We make use of these opportunities by analysing a long-term compilation of German electoral studies from 1949 to 2021 and examining the dynamics of change in “socio-economic” voting and “educational voting”, i.e. whether the latter displace the former and whether these changes are relatively new or the reflection of a long-term process. For the long-term study we focus on the socio-structural characteristics’ impact on SPD- and non-voting and add two shorter trend analyses for Green party vote (1982 to present) and AfD vote (2013 to 2021). For all four trends we compare the relative weight of class compared to education and income.

# 1. Introduction

For decades, the changing role of the traditional cleavage structure and its impact on electoral behavior has been debated in Germany and elsewhere. Especially the class cleavage had been declared dead – very early and repeatedly. Perhaps the earliest swansong stems from 1968 and proclaims that workers have become so affluent that they became part of the bourgeoisie (Goldthorpe et al. 1968). Since Clark and Lipset (1991) titled an article provocatively “Are Social Classes Dying?” the debate has intensified. The list of publications that conclude that the class cleavage is dead or nearly dead is long (e.g. Pakulski and Waters 1996; Clark 2001; Nieuwbeerta 1996; Clark and Lipset 2001; Heath et al. 1996;) and definitely much longer than this list of contributions that claim that class is still alive and kicking (e.g. Evans 2000; Hout et al. 1993; for Germany see e.g. Elff and Roßteutscher 2011). And indeed, in most European countries the once proud Social Democracy – the party that originated from the process of industrialization in 19<sup>th</sup> century (Lipset and Rokkan 1967; Bartolini and Mair 1990; for Germany see e.g. Debus 2010; Arzheimer and Schoen 2007; Weßels 2000) – experienced substantial if not massive electoral losses. The emergence and persistent success of the Green party signalled the advent of a new cleavage which cut across the old Left-Right divide (Dalton et al. 1984; Inglehart 1990). At present, it is debated whether traditional party alignments have given way to new patterns of polarization on issues related to globalization, European integration and migration (e.g. Kriesi et al. 2008; Bornschieer 2018) that led to the establishment of right-wing populist parties which are attractive to working class voters. At the heart of these suggestions for new cleavages are conflicts around cultural issues and values. Is this the final proof that the traditional class cleavage is really dead? Is electoral behavior no longer anchored in the social structure of society? Following Stubager the answer is definitely no: education has substituted class as the politically relevant socio-structural divide (Stubager 2010, 2013). This new educational cleavage structures political competition that nowadays

focuses on cultural issues related to the authoritarian-libertarian dimension of politics. There is a counter-position formulated by van der Waal and co-authors: “Class is not dead – it has been buried alive” (2007). They suggest that social class should be de-composed into two components: income and education. Income, as an indicator for the material concerns associated with the traditional class cleavage is still electorally highly relevant but at present overwhelmed by the higher salience of cultural issues (van der Waal et al. 2007).

In this paper we ask whether and when social class lost its capacity to structure political competition and whether and when education took over. These questions are not at all trivial as education is supposed to structure conflicts around the authoritarian-libertarian politics dimension. If education indeed were to substitute social class as the dominant socio-structural divide, the political weight of cultural issues might even further increase while conflicts around inequality and re-distribution – at the heart of the class cleavage – will be or remain muted.

We make use of a long-term compilation of election studies stretching from the very first election after the 2<sup>nd</sup> World War in 1949 up to the most recent election in 2021. Focusing on West Germany, we analyse how class, education and income compete in explaining electoral behaviour. In particular, we examine voting in favour of the Social Democrats (SPD), the party which traditionally based its success on the class cleavage, as well as the Green party and the AfD. We focus on vote for the left-libertarian Green party and the right-wing radical Alternative for Germany (AfD) because previous analyses showed that the new educational cleavages is particularly relevant for explaining their electoral fate (Stubager 2010; Abou-Chadi and Six 2021). We thus ask: Is class really dying? Has education become the new dividing line? When did this happen and which parties are most affected by shifts in the electoral significance of social structural categories? In order to fully understand possible

socio-structural processes of de- and re-alignment we systematically consider non-voting as one of the options available to citizens (Goldberg 2019; Elff and Roßteutscher 2017).

We believe that Germany is a very interesting case for an analysis of the possible transformation of the traditional class cleavage. First, German Social Democracy was historically one of the strongest class-based parties in Western Europe but has recently experienced massive decline in electoral support. Even in the most recent election 2021 when the SPD became since decades again the strongest party, this result was presumably rather due to the exceptional weakness of the Christian Democrats than own gains in electoral attractiveness. Moreover, many observers claim that these losses are due to the party's shift in attention from the working classes to the higher educated middle classes (e.g. Oskarson and Demker 2015; Oesch and Rennwald 2018). Second, Germany has also one of the strongest Green parties in Europe but was a late-comer with respect to the establishment of the counter-pole, right-wing populism.

## **2. Conceptual Background**

The division of society into several distinctive and potentially politically opposed groups is central to the concept of social and political cleavages (Rae and Taylor 1970). The class cleavage emerged in the 19<sup>th</sup> century as a working class movement against unmitigated capitalist exploitation (Lipset and Rokkan 1967, 46ff) and culminated in the formation of the Social Democratic Party of Germany (SPD). The interruption of democratic policies by the Nazi Regime and the Second World War led to an only moderate transformation of the linkages between social groups and parties. In West Germany, the SPD re-emerged as the party of the working class, again allied with the German Federation of Trade Unions (*Deutscher Gewerkschaftsbund* – DGB). Compared to the 1960s and 1970s when the SPD gained a vote share up to and above 40 percent the SPD has experienced a considerable decline

of her vote share. In the more recent elections one negative record followed the next. In 2017 the SPD won just about 20 percent, roughly half of the share compared to her most successful years. Even in 2021 when the SPD became the strongest party and was thus able to claim chancellorship, the party won only 25,7 percent of the vote – way beyond her heydays in earlier decades.

## 2.1. Decline of the class cleavage?

The development described in the previous section is often interpreted in terms of a decline of the relevance of social cleavage voting. The literature offers several, partly interrelated reasons for this trend: First, the social group that forms the natural basis of a class-based party is shrinking due to long-term social change. It has often been claimed in the literature that the industrial working class has been shrinking in West Germany, as it had been in other countries due to the rise of the service economy (Clark and Lipset 1991; Clark et al. 1993; Dogan 1995; Dahrendorf 1988; Nieuwbeerta 1996; Best 2011). Hence, the relevance of class voting declines because the social composition of societies changed.

A further bundle of reasons focuses on a loosening of the former strong bond or linkage between the industrial working classes and the Labour parties. As a result, members of the working classes defect to other parties or withdraw from politics. There is indeed clear evidence for Germany that non-voting is more severely structured by class than is the support for the SPD (Elff and Roßteutscher 2017; Elff and Roßteutscher forthcoming). What are possible reasons for such a linkage change? A *first*, rather old, argument claims that group distinctions have become blurry or less relevant, because workers have become more affluent, leading to their *embourgeoisement* (Goldthorpe et al. 1968; Myles 1990; Bartolini and Mair 1990), or because the welfare state has softened differences in economic interest (van der Eijk et al. 1992). A *second* argument points to factors that erode the mechanisms behind these

linkages: cognitive mobilization undermines the loyalty that individuals have to social groups and parties (Dalton 1984), while the decline in labour union membership undermines the organizational and behavioural aspects of the class cleavage (Pappi 1985; Bartolini and Mair 1990; Gray and Caul 2000; Elff and Roßteutscher 2017). A *third* argument claims that social and cultural change has led to the emergence of new non-economic, culturally based cleavages (Dalton et al. 1984; Inglehart 1990; van der Waal et al. 2007) or cleavages between winners and losers of globalization (Kriesi et al. 2008; Bornschieer 2018) that cross-cut alignments based on social class. A *fourth* argument focuses on working class parties' change of political positions and strategies in order to reach voters beyond their traditional strongholds (Przeworski and Sprague 1986; Rohrschneider 2002; Elff 2009; Elff and Roßteutscher 2017; Jansen et al. 2012; Goldberg 2019). This may be motivated by the ordinary goal of maximizing the party's vote share, but also by the need to compensate for the shrinking size of the industrial working classes. However, widening the electoral appeal can also backfire if it alienates voters from the traditional core supporting group (Przeworski and Sprague 1986; Lane and Ersson 1997).

If the class cleavage indeed declined due to both compositional and linkage change then the question arises whether this leads to an end of socially structured voting patterns. The answer to this question is negative if one follows e.g. Stubager (2010, 2013) who claims that education is the new social-structural divide in European societies.

## **2.2. Education as the new social structural divide?**

For a possible substitution of class by education the last two arguments are particularly relevant: the advent of new non-economic or cultural conflicts and Social Democrat parties' attempt to mobilize voters on issues related to this cultural dimension of conflict.

To begin with the emergence of cultural conflicts which are supposed to cross-cut or even undermine traditional socio-economic conflicts: Arguably, the first was a value change

often interpreted in terms of a change from materialism to post-materialism (e.g. Inglehart 1974). Younger, highly educated cohorts who were raised in the wealthy and secure post-war decades turned from materialist claims to issues of so-called “new politics”, i.e. self-direction, emancipation, environmental protection, disarmament, etc. The new social movements that mobilized around such issues led eventually to the foundation of green-alternative parties. Note that Social Democrat parties were never pure working-class parties but were also – at least before the lasting establishment of these “New Politics” parties – the political home of left-libertarian intellectuals. In contrast to Piketty (2020) who claims that Social Democrat parties turned from working class parties to parties that catered the interest of the highly educated, the trend is probably reversed. From the perspective of labour parties the Green parties “stole” the support of the highly educated precisely when this voter segment became electorally relevant (Abou-Chadi and Hix 2021). From the 1980s, and as a result of de-industrialisation and educational expansion, the relative group sizes have been reversing: the industrial working class has been continuously shrinking and the segment of the highly educated steadily growing. While the size of the industrial working class has almost halved, the group of the highly educated has more than tripled. At the end of the 1970s less than ten percent of the German population held a higher educational grade (Abitur or Fachabitur), i.e. were qualified to enter tertiary education. Since then, the size of this group has continuously been rising and at present encompasses roughly 35 percent of the population. The contrary is the case with regard to the lower level of education (Hauptschule or no school completion). During the 1970s a vast majority of almost 80 percent belonged to this educational group. Nowadays, this applies to about 35 percent. At present, the German population thus comprises of three more or less equally strong educational groups. This trend in composition will definitely continue due to generational change. Among younger Germans the quota of higher education is already above 50 percent, while less than 20 percent leave school without

or with low qualification (Figures A1 and A2 in the appendix; see also Elff and Roßteutscher, forthcoming ). The larger size of this group, i.e. a change in composition between educational groups, is in fact a significant pre-condition for the emergence of an education-based cleavage (Stubager 2010: 509).

Globalization put further cultural issues, particularly issues of migration and integration, on the political agenda (e.g. Bornschieer 2010, 2018; Kriesi et al. 2008; Oesch 2013), leading eventually to the establishment of right-wing radical or populist “New Politics” parties – in Germany much later than in most other European countries. As a result, politics is supposed to be increasingly dominated by the authoritarian-libertarian dimension, with the extreme poles politically represented by the two “New Politics” parties – the Greens and right-wing populism (Ignazi 1992; Bornschieer 2010, 2018; Kriesi et al. 2008; Oesch 2013, Abou-Chai and Hix 2021). This cultural issue dimension, however, is not socially structured by class but by education (Stubager 2010).

The compositional changes in the electorate impacted Labour parties’ mobilization strategies. The new social movements and the emergence of Green parties during the 1970s and 1980s posed a further major challenge to European Social Democracy. As a result, it is said that Social Democrat parties began to emphasize libertarian positions cultural issues in order to (re-)gain support from the highly educated middle classes (Oskarson/Demker 2015: 631; Oesch/Rennwald 2018: 788). Hence, working-class voters experienced a Social Democracy that seems to neglect traditional issues about economic redistribution and inequality while at the same time new right-wing competitors mobilized the so-called ‘losers’ of globalization on socio-cultural issues in the context of increasing migration (Kriesi et al. 2008; Piketty 2020). According to Stubager (2010: 506), there is a strong connection between education and new politics issues, with highly educated groups supporting libertarian stances

while the less educated tend to support the authoritarian pole (see also Stubager 2008, van de Werfhorst and de Graaf 2004). Thus, Stubager argues that the new cleavage is complete – at least in the Danish case. There are distinct and clearly defined social groups (the highly and the lowly educated), who share values and issue stances on the authoritarian-libertarian dimension and whose interests are represented by political organizations, Green-Alternative parties, on the one hand and right-wing populist or radical parties, on the other (2010: 508; 2013: 373).

There is, however, a second significantly different approach to the rising impact of education in explaining voter behaviour. Van der Waal, Achterberg and Houtman (2007) claim that “class is not dead – it has been buried alive”, criticising the previous literature on the decline of class voting as one-sided. The working classes do not only hold clear stances on socio-economic issues but also on issues related to the authoritarian-libertarian dimension of politics. The working-class is (and was) left-wing or liberal on economic issues but right-wing or conservative on cultural issues (van der Waal et al. 2007; see already Lipset 1959; also Stubager 2010; Oskarson/Demker 2015). As long as socio-economic issues dominated the political arena and as long as Social Democrats mobilized issues of redistribution and inequality, the working-class ardently supported Social Democracy. However, in constellations where cultural issues are omnipresent, the cultural conservatism of working-class voters results in electoral re-orientation towards populist right-wing competitors (Spies/Franzmann 2011; Rennwald/Evans 2014). As a consequence, van der Waal et al. (2007) argue that class is a two-dimensional concept and should be de-composed in a material dimension (represented by income) and a cultural dimension (represented by education). Accordingly, income as the material representation of class is supposed to be continuously related to voting for Social Democrat parties.

The different positions articulated in the research literature so far discussed lead to different expectations about the long term trajectories of the patterns of voting: If Stubager’s thesis that traditional class cleavages are superseded by new electoral cleavages is correct, we should observe that

- *Hypothesis 1*: the differences between social classes in terms of support for the SPD decrease in the long term;
- *Hypothesis 2*: since the advent of the Green party, the SPD continuously loses support among the highly educated and becomes more homogeneous in terms of education;

If van der Waal et al. (2007) are correct, we should observe further

- *Hypothesis 3*: while the relation between education and voting for the SPD changes in the long term, the relation between income and voting for the SPD remains mainly unaltered

As education is particularly relevant for “new” politics parties, we further expect

- *Hypothesis 4*: The support for the Greens increases with the level of education, while the support for the right-wing AfD decreases with the level of education.

As a long-term result of the higher salience of cultural issues and the SPD’s attempt to re-gain higher status groups from the Green party, we alternatively expect that non-voting to be increasingly socially stratified. Based on the rich literature on turnout we expect that this is the case for class, income and education (e.g. Gallego 2015; Armingeon and Schädel 2015; Dalton 2017; Dassonville and Hooghe 2017; Schäfer et al. 2020).

- *Hypothesis 5*: Non-voting is socially stratified, but this pattern emerges only in the last decades.

### 3. Data

In this paper we rely on two data sources. The first is a cumulation of electoral studies from 1949 to 2005 compiled by Arndt and Gattig (2005). For the four recent federal elections of 2009, 2013, 2017 and 2021, we rely on the cumulated cross-section surveys conducted pre-

and post-election by the German Longitudinal Election Study, GLES (GLES 2019, GLES 2022). All variables of the GLES data were re-coded to match the coding of the long-term data set. As these older studies used divergent sampling frames and consist of differing sample sizes and items included (for details see Arndt and Gattig 2005), we have to trade long-term comparability against a detailed and theoretically optimal operationalization.

The social class variable is based on respondents' statements about their "main occupational groups" and, where applicable, on answers to questions about their occupational sub-groups. As usual in German election studies, respondents were asked (in various formats) whether they are manual workers, employees, civil servants, self-employed, or farmers and occasionally also, whether they are unskilled or semi-skilled workers. These occupational groups were recoded by Arndt and Gattig into a class scheme that was intended as an adaptation of the EGP class scheme (see e.g. Erikson and Goldthorpe 1992). The original documentation of the data set provides details about the translation of occupational categories into classes (Arndt and Gattig 2005). The GLES surveys include question both about major and minor occupational groups and ISCO coded occupations. Assigning individuals to EGP-classes based on the ISCO codes of their occupations has become the standard procedure in the sociology of occupations and inequality, but for the sake of the continuity of the analysis we follow Arndt and Gattig in preparing the GLES data for our analysis.

It should be noted that this implies that we cannot distinguish between members of the lower and the higher service class. Also, to make the analysis more straightforward, we collapsed the two categories of unskilled and semi-skilled workers and of skilled workers into the single category of manual workers. Arndt and Gattig (2005: 2) emphasize, moreover, that the class categories are also ambiguous with regard to the distinction between routine non-manual, the service classes, and the petty bourgeoisie. They recommend to treat the service

class as a category of highly educated employees and entrepreneurs, non-manual routine workers as employees with lower educational background and petty bourgeoisie as small job owners.

To accommodate the fact that married persons are not always economically active (which more often concerns women than man) respondents are usually not classified individually but per household. The traditionalist way is to categorize married women based on the occupational class of their spouses, as they were traditionally considered as the “head of household”. The most individualist way is to categorize married individuals (male or female) based on their own occupational class if they are economically active or based on the occupational class of their spouses or partner if they are not. The Arndt and Gattig data set contains two variables (named “egp1” and “egp3”), which are supposed to correspond to the traditionalist and the individualist classification. Unfortunately, the data set documentation is not very explicit which of the variables correspond to which way, it only suggests that “egp3” corresponds to the individualist classification. Based on this assumption, we use an individualist classification for assigning individuals to household classes.

Education was coded in correspondence with the traditional tri-partite educational system in Germany, distinguishing lower (no degree, degree of Hauptschule) from medium (typically Realschule) and higher secondary school degrees (Fachabitur or Gymnasium). However, there are some exceptions from this rule because Arndt and Gattig coded for the electoral surveys conducted between 1961 and 1983 a successful Realschul qualification as a higher degree. When interpreting our findings we need to take this deviation into account.

Income is coded in three categories and differentiates between low, medium and high income. Due to inflation and rising incomes the borders of the three income categories were continuously adopted in order to secure similar case numbers in the single income categories.

The category of medium income encompasses roughly half to two thirds of the respondents, while the low and high income category consist of a minimum of 13 and not more than 35 percent of the respondents (Arndt and Gattig 2005: 5). Unfortunately, the four election studies conducted between 1980 and 1990 do not provide any information on income because the question was included in the questionnaire.

We focus on voting for the traditionally class-based party, the SPD, and the two “new” politics parties, the left-libertarian Greens and the right-wing populist AfD. Since in our perspective, abstention from voting is an option citizens can choose and not just “missing data” with regards to the vote (Goldberg 2019, Elff and Roßteutscher 2017), we additionally analyse shifts in the relevance of class, education and income for turnout.

## 4. Results

In order to assess the possible changing relevance of social categories, we fit logistic regression models with SPD, Green, AfD voting and non-voting, respectively, as dependent variables. Independent variables are class (in the fivefold class schema used in the Arndt and Gattig data set, education (with levels “low”, “medium”, and “high”), income (with levels “low”, “medium”, and “high”). As controls we include religious denomination (with levels “none”, “other”, “Protestant”, and “Catholic”), gender, and age (unfortunately only with the three levels “low”, “medium”, and “high”).

To model changes in the influence of these variables, we include main and interaction effects of time into our models. To allow for non-linear effects, cubic regression splines are used with up to five degrees of freedom, depending on the number of available time points

(Ruppert, Wand, and Carroll 2003; Bates and Venables 2022).<sup>1</sup> Because of the proliferation of coefficients, we use Wald tests to check the statistical significance of the interaction terms instead of discussing individual coefficients. The results of these Wald tests are shown in Table 1.

Regarding voting for the SPD, the Wald tests suggest that the interaction effects of class with time and of education with time are statistically significant, while the interaction effect of income with time is not. That is, there is evidence that the influence of class and of education changes over time, while the influence of income does not. While the interaction term with class is highly significant, education is only marginally significant. Hence, the SPD is particularly affected by changes in class voting. In case of non-voting, all three interactions are statistically significant, while the interaction time by education seems to be most relevant. With regards to the Greens, the Wald test suggests that only the influence of education has changed over time. With regards to the AfD we only find a barely significant change in the influence of class, yet note that we have only three time points here.

Of course, the results of the Wald tests can only indicate whether there are changes in the influence of class, education or income. If non-linear effects of time are allowed for, the signs of individual coefficient also cannot provide such information. We therefore rely on predictive margins (Hanmer and Ozan Kalkan 2013) for the interpretation of such changes.

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<sup>1</sup> That is, the number of available time points is much smaller when voting for the Greens or the AfD is analysed.

Table 1: Testing changes influences of class, education and income over time

	SPD (1949-2021)			Non-Voting (1949-2021)		
	Chisq	df	Pr(> Chisq)	Chisq	df	Pr(> Chisq)
Class x Time	99.1380	20	1.796e-12 ***	37.1103	20	0.0113507 *
Education x Time	22.1445	10	0.0143849 *	45.5922	10	1.700e-06 ***
Income x Time	18.0562	10	0.0540225 .	20.6191	10	0.0239119 *
	Greens (1982-2021)			AfD (2013-2021)		
	Chisq	df	Pr(> Chisq)	Chisq	df	Pr(> Chisq)
Class x Time	5.2433	12	0.949354	11.6214	4	0.0204005 *
Education x Time	18.9400	6	0.004266 **	1.5402	2	0.4629700
Income x Time	11.2567	6	0.080759 .	0.2929	2	0.8637859

Note: Wald tests for significance of interaction term estimates in the models. Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' .

To begin with changes in the influence of class: Figure 1 shows how the support for the SPD, the Greens, the AfD and turnout in the main four social classes changes over time - after controlling for education, income, gender, age, and religious denomination (both main effects and interactions with time). We exclude the farmers because that group became very small and leads to wide confidence intervals around the lines. The diagram suggests that support for the SPD reached a high point during the 1970s in all classes. Most importantly, the influence of class was highest during the 1960s and 1970s, i.e. the heydays of German Social Democracy when the party attracted an increasing support from all classes. At the same time, differences in SPD support between classes were huge and highly significant, with the highest support among the workers. Since the 1980s, class differences are reduced to a dichotomy between the petty bourgeoisie, on the one hand, and all other classes, on the other. In the most recent decade even this last marker of class voting vanishes, leading to the very modest influence of class on SPD voting we witness at present. These changes confirm the first hypothesis of a decline in the electoral relevance of social class.

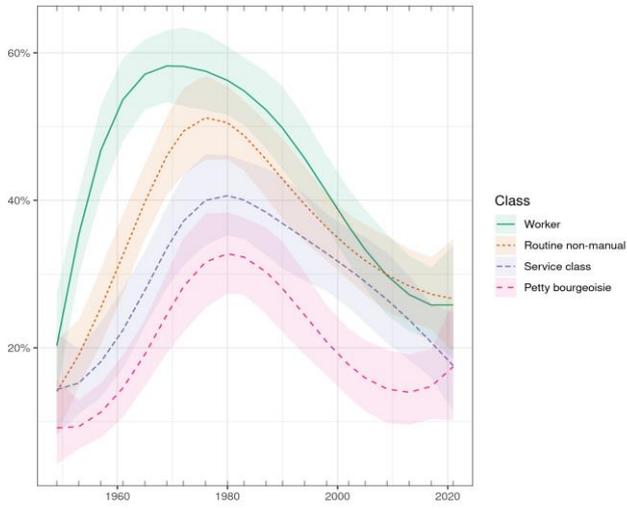
With regard to non-voting the patterns is almost reversed. During the first elections in the young Federal Republic non-voting was very frequent and almost disappeared during the 1960s and 1970s. Moreover, non-voting was until then not at all structured by class. This changed significantly during the 1980s and 1990s, while the first decade in the 21<sup>st</sup> century marks a highpoint in the influence of class on turnout. Hence, turnout became structured by class just at the time when the class impact on SPD voting vanishes. It appears that particularly the working class which previous ardently supported the SPD turned to electoral abstention.

As already suggested by the result of the Wald test, there does not seem to occur any change in the influence of class on voting for the Greens, instead, their support increases in all classes in parallel. It even appears that class is altogether irrelevant for the support for the Greens. In fact, the Wald test of the main effect of class (see Table A1 in the appendix) turns out statistically insignificant.

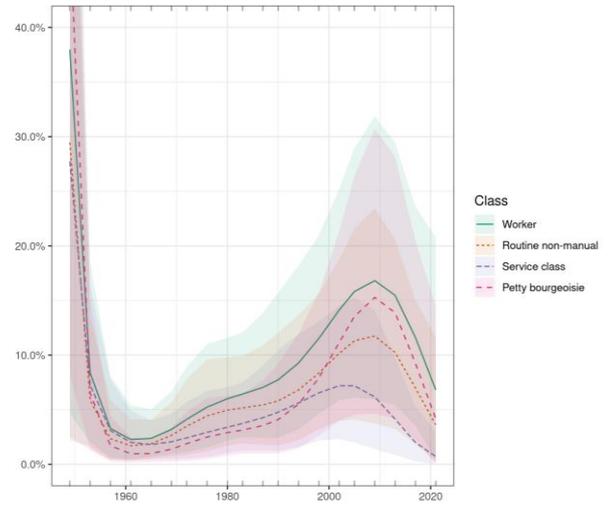
This seems strikingly different with regard to the AfD. In 2013, the party received strongest support among the service classes and least support among workers. By 2021, this picture is turned upside down. Among all classes, workers are most supportive, while the support of the service classes decreased substantially. Yet, it is presumably premature to conclude that the AfD turned to a new working class party. The Wald statistics showed that class is generally no significant predictor of AfD voting (Table A1), and the test result for interactions with time (Table 1) is significant only at a 5 percent level. Upcoming elections will have to show whether this trend stabilizes or not.

Figure 1: Changes in the influence of class overtime

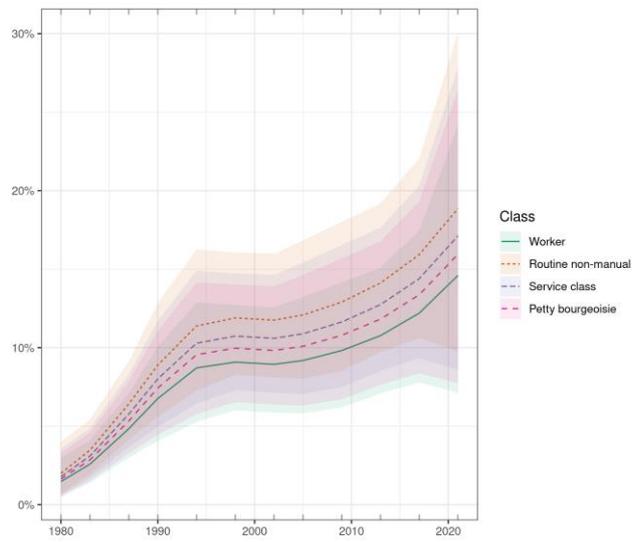
a) SPD



b) non-voting



c) Greens



d) AfD

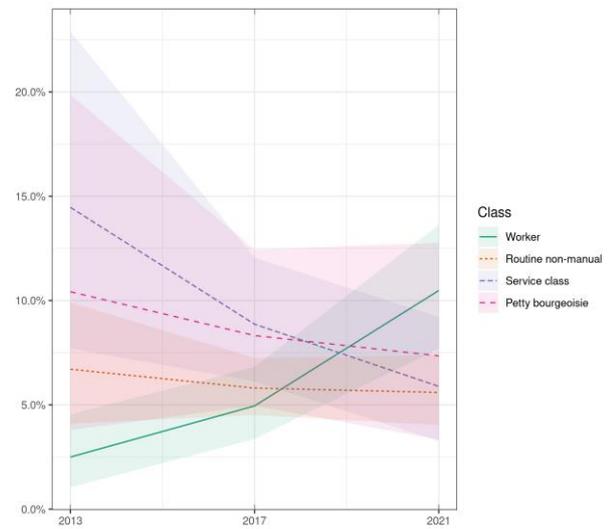


Figure 2 illustrates the change in the influence of education. It shows that most of the time, the SPD gets the relative most support from the group with low education. Only in the elections since 2000, educational groups begin to converge, resulting in indistinct patterns at the occasion of the most recent elections. Thus in contrast to Hypothesis 2 the SPD is not increasingly homogenous in terms of support of educational groups but rather more heterogeneous because education ceases to predict SPD vote. It is also clearly visible that the SPD loses dramatically in all educational groups since the 1980s – and the losses were relatively stronger among the low and medium educated compared to the highly educated.

As with class, since the 1980s a gap between educational groups emerges with respect to non-voting, culminating in the first decade of the 21<sup>st</sup> century. Non-voting becomes increasingly frequent amongst voters with low education, while those with high education turnout at very high rates throughout the electoral history of West Germany. As these analyses are based on repeated cross-sections, we cannot be absolutely sure, but it seems highly plausible that among those with low education a process of de-alignment unfolds since the 1980s: Former SPD-voters turned to electoral abstention.

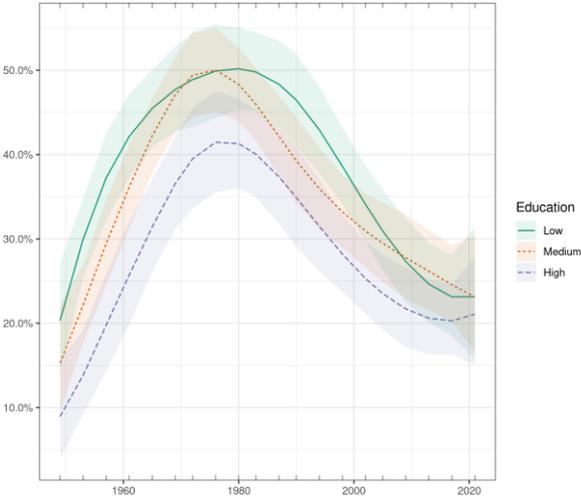
With regards to the Green party, education became indeed increasingly important. Since the first election in 1982 when the Greens became electorally relevant, the party increasingly won the vote of those with higher educational titles. During the last elections there is a huge gap between the Green support of higher educated groups (roughly 25 percent) and those with low education (below ten percent). Note, however that very recently the Greens appear to be successful in attracting voters with medium level of education. It is not therefore plausible, that the Greens indeed “stole” the group of the higher educated exactly at the time when this group was rising in terms of electoral relevance – thus supporting Hypothesis 2 and 4.

AfD always attracted mainly the vote of those with lower education. It seems that it lost among the higher educated and may have won somewhat among those with medium level of education, but one should keep in mind that the Wald test of the interaction between education and time turned out to be insignificant.

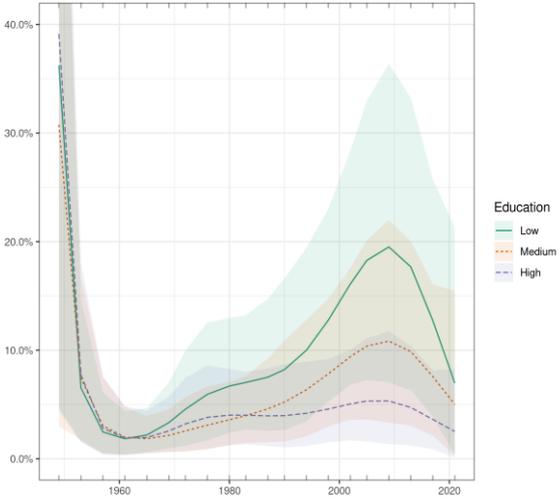
What is clear from Figure 2 is that during recent elections three outcomes, Green party vote, AfD vote and non-voting, are clearly structured by education (see Table A2 in the appendix for Wald statistics on the general, time-invariant impact of education = .

Figure 2: Changes in the influence of education

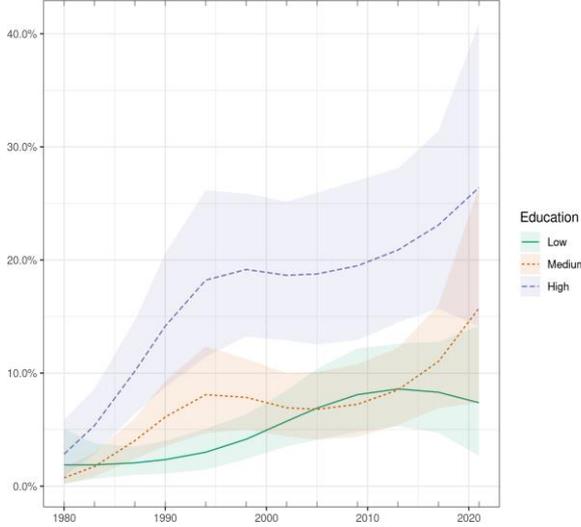
a) SPD



b) non-voting



c) Greens



d) AfD

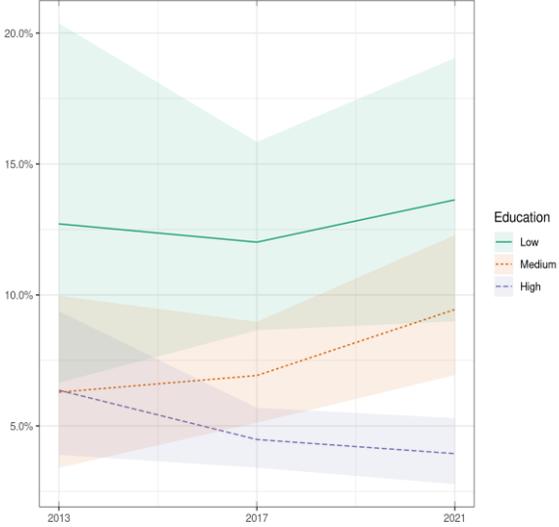
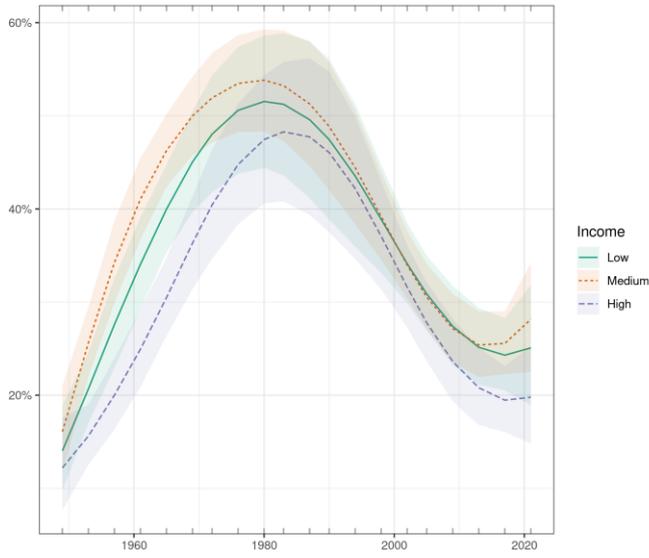
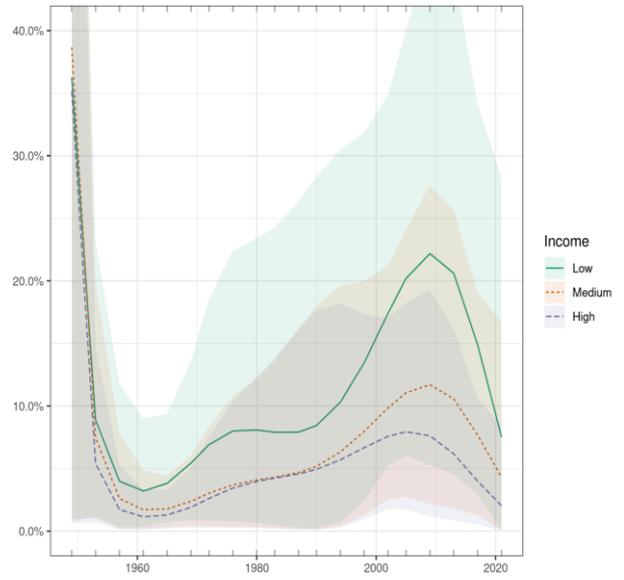


Figure 3: Changes in the influence of income

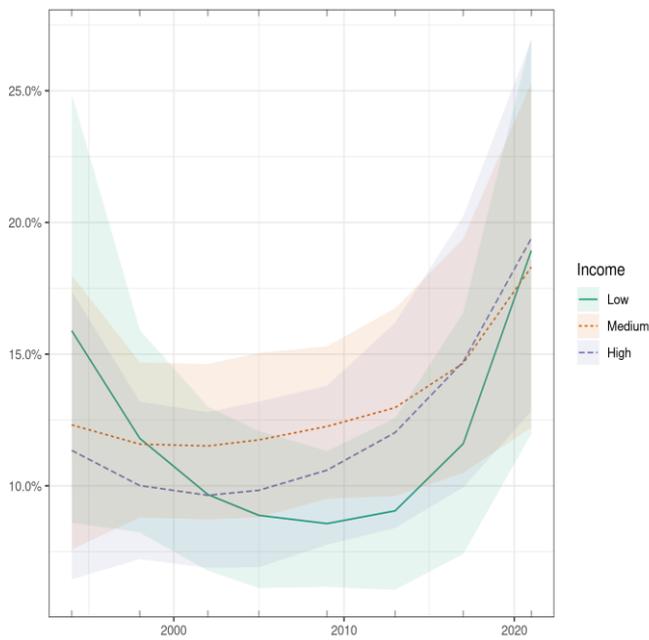
a) SPD



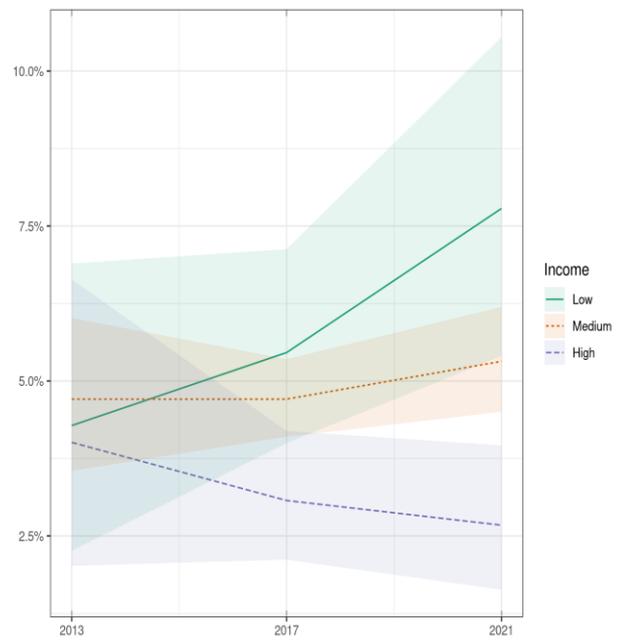
b) Non-voting



c) Greens



d) AfD



What sets apart the thesis of Van der Waal et al from Stubager's thesis is the role of income. If we take Stubager's thesis seriously, then we should expect a decline in the influence of income that parallels the decline in the influence of class since income differences are just another aspect of class divisions. If Van der Waal's thesis is correct then the influence of income should not decline but rather remain stable (Hypothesis 4). At least we should find changes that go in the opposite direction as trends in the influence of education. Figure 3 however, gives little support to such expectations at least with regard to the SPD. The impact of income seems relatively stable over time. However, parallel to class voting, the SPD loses support in all income groups alike. Moreover; after a short period of apparent convergence during the 2000s, income has more recently copied the pattern that was typical for most of the electoral history. Note, however, that most of the time the SPD found strongest support of voters with medium level of income. This is presumably less surprising as it might look at first sight. The industrial working class, the class for which SPD and the allied Labour Unions catered most, earns relatively decent incomes – definitely above the income levels of the non-manual routine workers or persons in lower service professions. The relative wealth of this class in post-war societies has been at the core of the older thesis on the embourgeoisement of the working class (Goldthorpe et al. 1968; Myles 1990). Thus, while van der Waal et al.(2007) are correct in claiming that the impact of income on Social Democrat voting has hardly changed, they are incorrect in the case of the German SPD in their assumption that it is the materially most deprived who opt for them.

Looking at non-voting, we find a pattern very similar to the patterns regarding the influence of class and education. Hardly any differences during the first decades, followed by

rising patterns of inequality since the 1980s, peaking in the 2000s and a decline in the differences between income groups during the most recent elections.

Although the Wald test suggests that the interaction between income and time is insignificant with regard to Green party vote, the U-shaped trend hints towards some interesting developments. The early Greens started as a party of low-income supporters, turned since the late 1990s continuously to a party that received most support from medium income earners (postmaterialist “under-achievers”?), and most recently seems to be similarly successful in all income groups. The most intriguing trend is presented by the low-income group: Strong support from inception, followed by substantial decline in support in the following decades, with an immense recovery during the very last elections. Although this must remain pure speculation, we suspect that this trend is due to the changing attractiveness of the Green party to different age groups. As children of the new social movements, the first supporters were relatively young, during the 1990s and 2000s the Greens aged with this founding generation and only recently gained access to young voters again, most visible presumably in the relation to Fridays-for-Future activists. As young people earn little income, this shifting relationship between age/cohort and Green party voting might explain the U-shaped trend in low-income group’s support of the Greens.

With regards to the AfD, we observe that the party has increasingly attracted the vote of those with low income, while losing the support of high-income groups. In 2021, we thus see a substantial gap between high income groups, on the one hand and medium and low-income groups, on the other. Note, however, that the Wald test for changes in the influence of income was insignificant (Table 1).

To summarize our findings: We do find a decline in the electoral relevance of social class for SPD-voting (after taking into account income, education, age, gender, and religious denomination), thus confirming H1. By contrast, H2 is not supported by our data. For SPD vote-decisions, education became less and not more relevant over time. H3 is again supported. We find the expected change in the influence of education (albeit in the opposite direction as expected) and a more or less stable but relatively small influence of income. Green party vote is strongly influenced by higher education and this influence increases over time. By contrast, AfD is most favoured by those of lower educational background. Thus, education polarizes “new” politics voting behaviour – as expected in H4. Finally, we can confirm H5 which postulated that non-voting is socially structured (by class, education and income), but that this is a pattern that emerged only in more recent decades. While one could argue that our findings are plagued by problems of multicollinearity – social class, income, and education are so strongly related that their respective influences are hard to disentangle – results change little when social class or income are dropped from the logistic regression models (Figures A3 to A5 in the appendix).

A final note on turnout: Our data clearly suggests that inequality in non-voting has immensely decreased during the last elections. The data also suggests, that non-voting in general has declined dramatically. However, we know from official data that this is not the case. Since the election 2009 with its all-time low of 70.8 percent turnout, electoral participation is rising and reached 76.6 percent at the most recent election of 2021. But even this figure is below the turnout rate of the 2005 federal election (77.7 percent) and way below the 80 and even above 90 percent reached during the 1970s and 1980s in West Germany. Our data, by contrast suggests exactly such turnout rates of above 90 percent. While turnout over-reporting due to social desirability is a well-known phenomenon, in more recent times even high-quality surveys such as the GLES are troubled by declining response rates and an

increasing middle-class bias. In particular, individuals with low education are hard to reach (Wasmer et al. 2017) and response rates are significantly lower in low social status neighbourhoods compared to high status districts (Ryu et al. 2005: 99; Smith und Kim 2013: 188). As turnout is highly correlated with education, income and class (Abendschön/Roßteutscher 2016; Schäfer et al. 2020), the number of non-voters in the German election studies decreased substantively (from xx in 2009 to xx in 2021). Indeed, recent validation studies come to the finding that under-representation of non-voters in election studies is mainly driven by selection bias, i.e. non-voters are decreasingly inclined to take part in the survey (Sciarini and Goldberg 2016; Goldberg and Sciarini 2019). As a result, we cannot be sure whether – as our data suggests – we at present witness a re-alignment of previous non-voters and thus an increase in electoral equality, or whether non-voters of low social status are simply no longer participating in election surveys.

## 5. Conclusion

In this paper we looked at socio-structural voting from a long-term perspective since the rebirth of German democracy after the end of the Second World War up to the present. We looked at four electoral outcomes: Voting for the SPD, the traditional class party, Germany's two "new" politics parties, the Greens and the AfD, as well as non-voting. With regards to the SPD, this long-term perspective clearly revealed that class voting is in decay. It revealed, however, equally clearly that education has not become the new socio-structural divide. Although education impacted SPD vote choices for many decades, its influence decreased parallel in time with the decline in class voting. Income, by contrast, was never a particularly important predictor of SPD voting. Hence, since about 2005, vote choices in favour of the SPD seem to have lost almost any anchor in social structure characteristics that

are related to social status. Thus, neither the claims of Stubager nor Van der Waal and colleagues find support in the data.

Is education thus no relevant variable in German politics? As expected and postulated by Stubager, it clearly structures voting for “new” politics parties. The highly educated increasingly support the Greens, while those with low educational background tend to vote for the AfD. The influence of education is most pronounced with regard to the Greens, where it seems to be the only socio-structural variable that matters. This is clearly different with regard to the AfD. In the most recent election it attracts also a substantial share of workers and voters with little income. Thus, the AfD appears to develop a social profile very similar to the profile of non-voters during the 1990s and 2000s: typical working class background, lower education and materially deprived. Our data thus suggests that we at present witness a trend of re-alignment. However, we cannot be sure whether our turnout data is reliable (see discussion above).

Unfortunately, our analysis is limited in two important aspects. First, due to the long-term focus of this paper that examined voting trajectories since the very first election after the Second World War, we had to rely on rather crude measures of class, education and income. A shorter time perspective that focuses on elections since the 1990s would allow not only a more fine-grained and state of the art operationalization of our social structural categories, but also to extend the analyses to East Germany. More importantly, in order to give the arguments of Stubager and others full justice, we have to add a proper cohort analyses. In order to understand the dynamics of socio-structural voting, of processes of de- and re-alignment we need to take cohort into account (Abou-Chadi and Six 2021). From inspection, electoral research showed that partisan vote can be “sticky” and develop into a habit after roughly three subsequent elections (Brody and Sniderman 1977; Campbell et al. 1960;

Milbrath 1965: 31; Miller and Shanks 1996: 62; Verba and Nie 1972: 148). Hence, the decline of class voting and the proposed increase in educational (or income) voting is presumably particularly pronounced among younger cohorts who had not yet the chance to develop a partisan habit. If changes in the cleavage structure are related to generational exchange, an analysis that fails to distinguish between cohorts might fail to recognize significant trends. In doing this, we again need to rely on a much shorter time frame because early election studies provide only categorical age variables. That said, we believe that such a long-term trend analyses – even if suboptimal due to data limitations – has its merit on its own. Processes of re- and de-alignment unfold gradually. With a shorter time series, we could not show the significantly changing patterns, in particular with regard to SPD-voting and turnout that were at the core of this paper.

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## Appendix

Table A1: The influence of class, education, and income (controlling for religious denomination, gender, and age) - on average of the period of analysis

	SPD (1949-2021)			Non-Voting (1949-2021)		
	Chisq	df	Pr(> Chisq)	Chisq	df	Pr(> Chisq)
Class	507.5457	4	< 2.2e-16 ***	18.535	4	0.0009697 ***
Education	40.6895	2	1.460e-09 ***	38.590	2	4.171e-09 ***
Income	26.1331	2	2.115e-06 ***	9.878	2	0.0071617 **

	Greens (1982-2021)			AfD (2013-2021)		
	Chisq	df	Pr(> Chisq)	Chisq	df	Pr(> Chisq)
Class	7.1431	4	0.128515	3.1532	4	0.532525
Education	151.5477	2	< 2.2e-16 ***	20.0296	2	4.473e-05 ***
Income	6.5909	2	0.037051 *	6.5777	2	0.037297 *

Note: Wald tests for significance of terms in model. Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05

Figure A1: Changes in social class composition

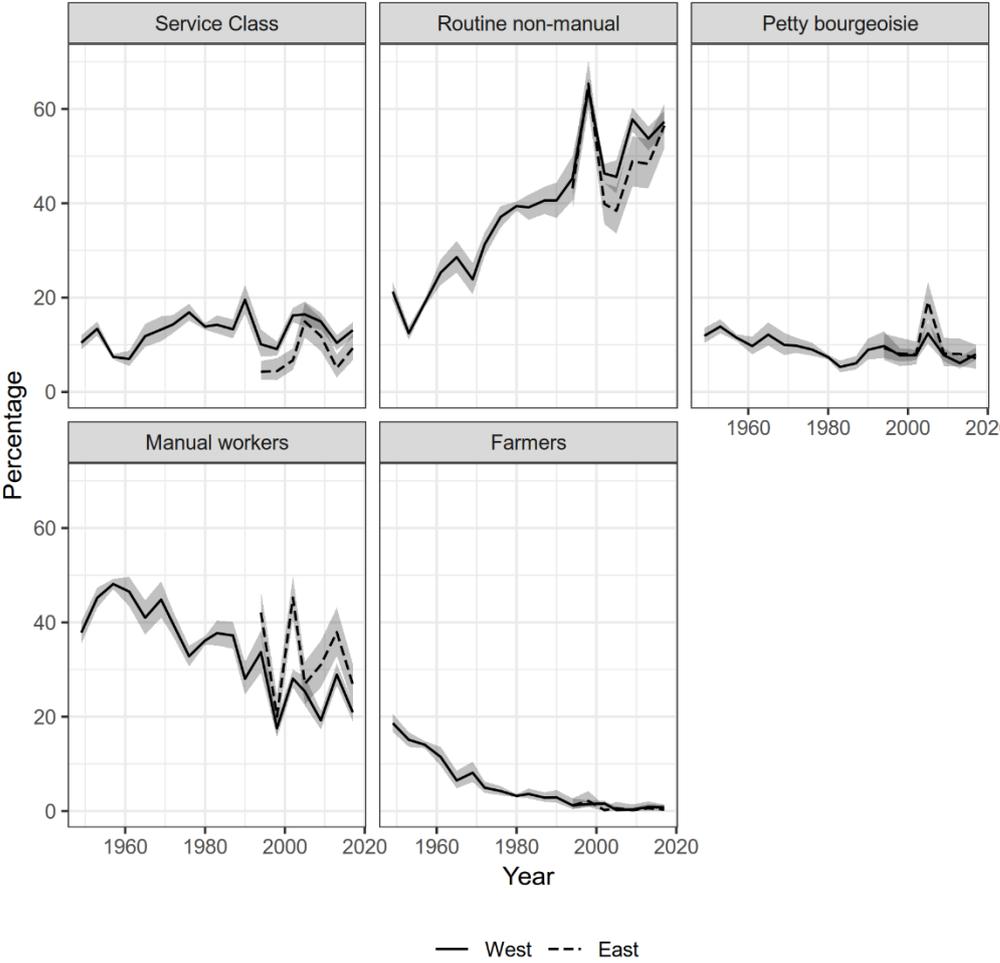
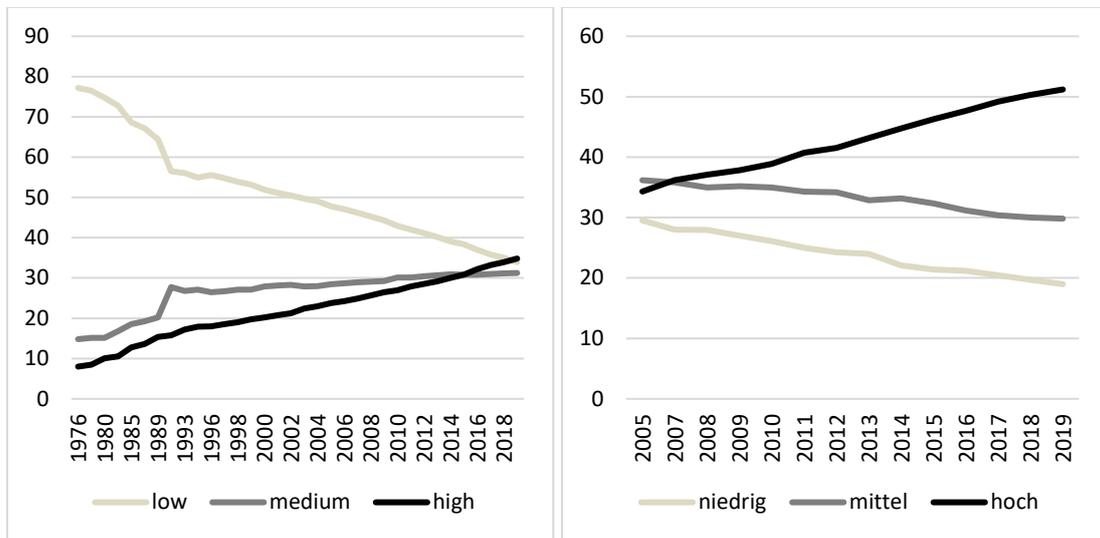


Figure A2: Changes in educational composition

a) General population

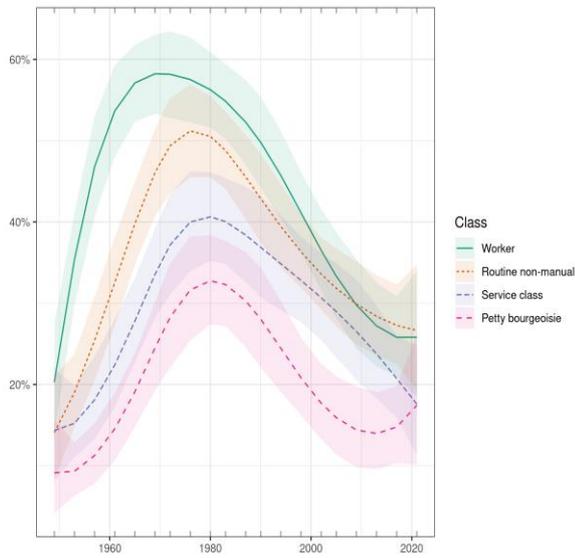
b) below 30 years



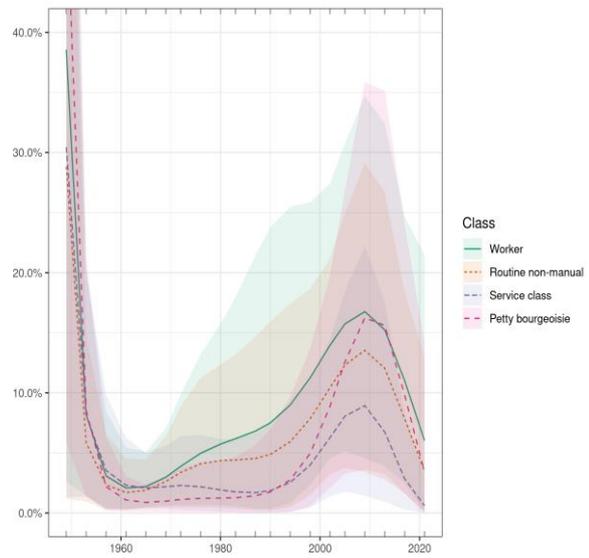
Source: Microcensus, population aged 15 and older. Until 1989 only West Germany.

Figure A3: Changes in the influence of class overtime, excluding income

a) SPD



b) Non-Voting



c) Greens

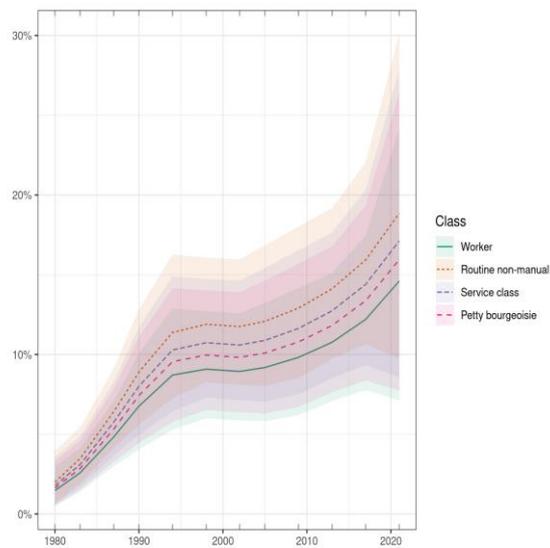
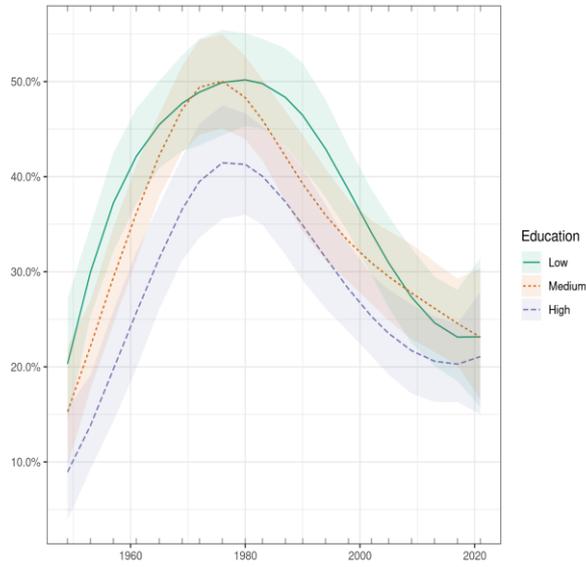
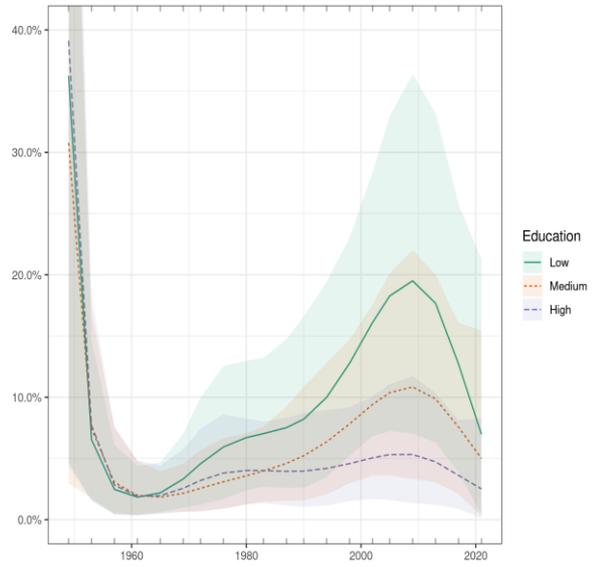


Figure A4: Changes in the influence of education overtime, excluding income

a) SPD



b) Non-Voting



b) Greens

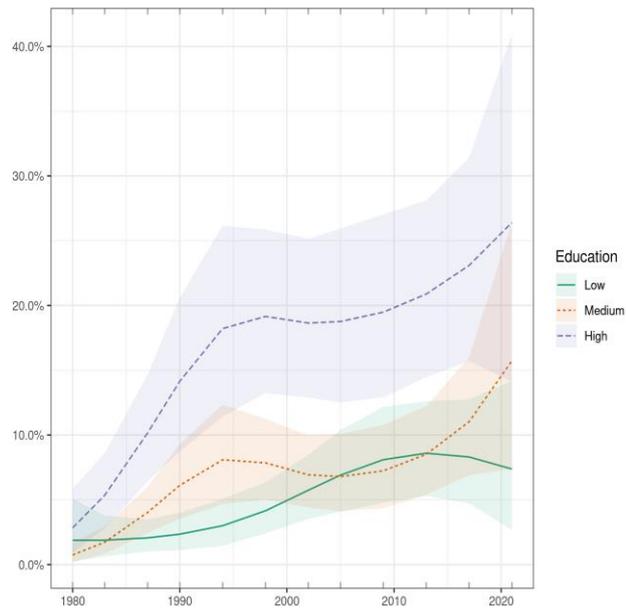
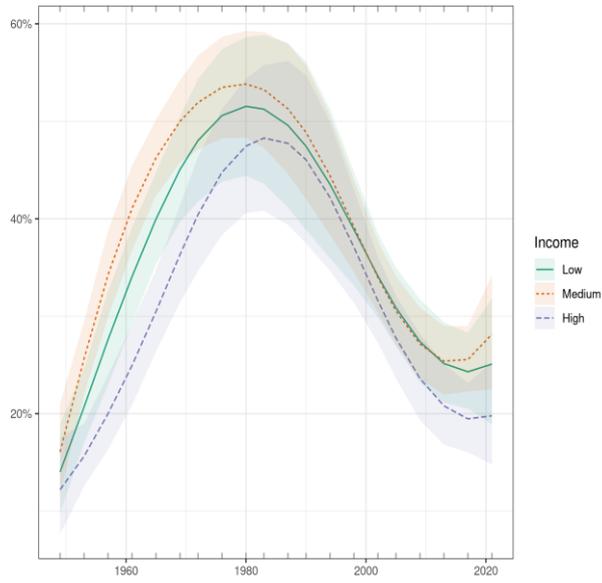
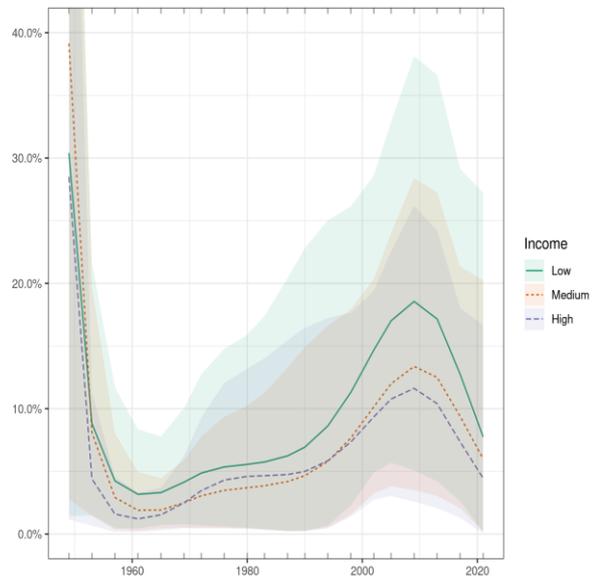


Figure A5: Changes in the influence of income, excluding class

a) SPD



b) Non-Voting



b) Greens

