

Has age replaced class in British Elections? A hierarchical age-period-cohort analysis

Paul Whiteley

University of Essex, UK

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ABSTRACT

This paper looks at changes in class and age-related cleavages in British electoral politics from 1964 to 2019, identifying differences between age, period and cohort effects. It uses Hierarchical- Age-Period-Cohort modelling to separate out these effects. The longitudinal analysis shows that the class model of party support developed by Butler and Stokes in the 1960s has considerably weakened and the age effects have become much stronger over time. However, these changes have different effects on support for the Conservatives and Labour. Cohort effects were largely absent in the case of Labour, but they played a central role in explaining declining support for the Conservatives among the young over a period of more than half century.

'Class is the basis of British party politics: all else is embellishment and detail' (Pulzer, 1968)

1. Introduction

The relationship between age and political participation has been of topic of considerable interest to researchers over a long period of time (Butler and Stokes, 1969; Barnes and Kaase, 1979; Himmelweit et al., 1981; Clarke et al., 2004; Goerres 2007; Bartels and Jackman, 2014; Sturgis and Jennings, 2020). This research has focused on different forms of participation but with a distinct emphasis on voting behaviour.

Following the 2017 election a controversy emerged over the question of whether the election could be described as a "Youthquake" event which saw a significant upsurge in turnout and Labour voting by younger age cohorts. This Youthquake theory was supported by a constituency level analysis of the results (Heath and Goodwin, 2017). But Prosser and his colleagues (Prosser et al., 2018) criticised this analysis suggesting that there was no relationship between age and voting at the constituency level once population density was taken into account. In addition, they used individual level data from the British Election Study surveys in 2015 and 2017 to suggest that there was no discernible increase in turnout among young voters between the two elections.

However, in a subsequent analysis Sturgis and Jennings (2020) drew attention to the limited sample sizes in the BES surveys, which make it problematic to draw strong conclusions about age-related effects. As an

alternative they used British Household Panel data which circumvents this problem because it has very large samples. They concluded that there was indeed an upsurge in turnout among the younger age groups in 2017, showing that voting had increased by 9 percentage points for the under 25s and by 13 points for those aged between 25 and 29 (Sturgis and Jennings 2020, p.3).

This debate centred on a single election, but it raises a wider question about the long-term changes in voting behaviour in Britain among different age cohorts, particularly the young. Identifying this is not an easy task because there are three important aspects to age related voting: cohort, life cycle and period effects. Any long-term conclusions about age related effects needs to separate out these different effects, and this is the focus of the present paper.

The paper starts by charting the changes in class and age voting using data from all sixteen election studies conducted between 1964 and 2019. This sets the scene for a focus on the components of changes in age related voting, separating out age, period and cohort effects. After introducing the Hierarchical Age Period Cohort model which enables this to be done, we apply the model to the task of identifying the different effects over this 55-year period. This is followed by an analysis which takes into additional variables that act as controls in a more fully specified voting model. The latter analysis covers eight elections from 1992 to 2019.¹

Butler and Stokes (1969) pioneering study of electoral politics had at its heart an analysis of how different age cohorts changed voting

E-mail address: whiteley@essex.ac.uk.

¹ The variables required for a longer analysis are not available in election studies prior to this period.

behaviour in UK elections over time. Their focus was on the interaction between age and class with partisanship being the key intermediate variable linking these demographic variables to the vote. They hypothesized that social class, defined in terms of occupational status and reinforced by other variables such as housing tenure and geography created long-term partisan attachments by a process of socialisation in families and communities. In their interpretation these in turn largely determined voting behaviour. In general, working-class voters supported Labour and middle-class voters the Conservatives, although there were always exceptions to this pattern (McKenzie and Silver, 1968; Parkin, 1968).

They conceded that short-term variables, as they described them, play a role in influencing voting behaviour such as the state of the economy and the performance of political leaders, but class was the fundamental driver of electoral support. Their theory of electoral change was largely dependent on the replacement of old cohorts by new ones, that is, generational change. This meant that electoral change would be slow to happen, since the socialisation theory implied that once partisanship was acquired it would be relatively stable over the lifetime of the voter. They estimated that changes in cohorts would amount to about 2 per cent of the electorate per year, implying a significant but relatively slow rate of change in voting over time (Butler and Stokes, 1969: 249).

In this paper we focus on a remarkable change in electoral politics which has occurred over the decades since the first British Election Study panel survey in 1963–1964. This is the relative decline of class-based politics and the rise of age-related politics. Younger cohorts now overwhelmingly vote Labour, even in an election like 2019 when the party did rather badly. In contrast older cohorts, particularly the retired, are very likely to vote Conservative. This change has been accompanied by a significant decline in class-based voting, arguably making age the most significant demographic cleavage in electoral politics at the present time.

2. Age and Class Politics 1964 To 2019

We have described the class politics model developed by Butler and Stokes in their pioneering study. However, the weaknesses of their analysis soon became apparent to researchers (Crewe, 1974; Sarlvik and Crewe, 1983). These were evident in the sections of the book which reported the results of panel surveys which looked at the dynamics of voting over time. The first of these panels surveys from 1963 to 1964 coincided with the long campaign for the general election of that year, providing the first national study of the dynamics of voting behaviour in Britain linked to a specific election. The panel showed that in this relatively short period of time 21.2 percent of all respondents opted to vote Conservative on both occasions, while 6.3 per cent changed their minds either by voting for another party or not voting at all (Butler and Stokes, 1969: 260). In addition, only 0.6 percent left the electorate during that year, a process which is consistent with generational replacement.

The figures relating to the dynamics of Labour support were even more striking. Some 26 per cent of respondents opted to vote for the party on both occasions, but no less than 10 per cent chose to vote for another party or not to vote at all. Only 0.7 per cent of Labour supporters left the electorate in the period between the two panel waves. Generational replacement clearly played a relatively minor role in explaining these changes.

This conclusion is reinforced by a glance at the aggregate changes in party voting between 1959 and 1966. In the first of these the Conservative captured 49 percent of the vote compared with Labour's 44 per cent. Five years later in 1964 the Conservative vote share fell to 43 per cent with Labour's share remaining roughly the same. Two years after that in 1966 the Conservatives took 42 per cent and Labour 48 per cent. Clearly, electoral volatility was quite high at the time, reinforcing the earlier point that cohort replacement played a relatively small role in the process.

That said, class effects on voting at the individual level of analysis were strong in 1964, while age related effects were rather weak. More than half a century later in the 2017 general election, the reverse was true, with class voting weakening and age-related voting being very prominent. To compare trends in class and age-related voting we need to look at general elections with rather similar outcomes which are separated from each other over a long period. This helps to avoid the problem of long-term demographic trends being swamped by the effects of short-term influences specific to a particular election.

For this reason, we compare the 1964 and 2017 elections as a preliminary exercise. As mentioned earlier, in the former the Conservatives captured 43 per cent and Labour 44 per cent of the vote. Some fifty-three years later in 2017 the Conservatives won 42 per cent and Labour 40 percent. This was very different from the 2019 election, when the Conservatives won 44 per cent and Labour only 32 per cent. The latter election was dominated by two short-term issues: the turmoil caused by Brexit and the unpopularity of the Labour leader, Jeremy Corbyn (Whiteley et al., 2023). So, a comparison of 1964 and 2017 gives a more accurate picture of long-term trends.

Fig. 1 shows the age composition of Conservative and Labour voting in the 1964 and 2017 elections. In the case of the Conservatives 37 per cent of the under 29s voted for the party in 1964, compared with 22 per cent in 2017. For Labour 52 per cent of that age group voted for the party in 1964, but by 2017 it was 65 per cent. At the other end of the age scale, 51 per cent of those over 70 voted Conservative in 1964 and this rose to 59 per cent by 2017. In contrast 41 per cent of this group voted Labour in 1964 falling to 29 per cent in 2017. Clearly, there have been major changes in age-related voting over this period.

Fig. 2 examines class composition of voting in the two elections as measured by occupational status. In 1964 some 25 per cent of the unskilled manual workers voted Conservative, but by 2017 it was 38 per cent. On the Labour side no less than 68 per cent of this group supported the party in 1964, but by 2017 this was reduced to 48 per cent. As regards the higher management group in 1964 72 per cent of them voted Conservative and this was reduced to 47 per cent by 2017. In contrast Labour obtained only 16 per cent of the group in 1964, but this rose to 38 per cent by 2017. Class polarization in voting has eased rather dramatically over this period.

In the remaining part of the paper, we focus on unpacking these changes, focusing on long term trends in age-related compared with class-related voting. This is done by drawing on data from fifteen successive British Election Studies from 1964 to 2017 and the Essex-UTD voting survey in the 2019 contest.² We start by introducing Hierarchical-Age-Period-Cohort analysis, the methodology which makes it possible to identify the different components of age-related voting over time.

3. Hierarchical age-period-cohort analysis

Hierarchical Age Period Cohort Analysis makes it possible to separate out the life-cycle, period and cohort effects of age related voting over a long period of time (Yang and Land, 2013). To briefly clarify each of these in turn, *Life-Cycle* effects are associated with the political changes resulting from individuals getting older which can affect their attitudes and rates of political participation. For example, 18-year-olds are less likely to have full-time careers, few will own property or have mortgages and they are less likely to have a stable partner than older people. They acquire some or all, of these characteristics as they grow older and this is likely to influence their political beliefs and rates of participation (Verba et al., 1995).

In contrast, *Period* effects arise from the political context existing at the time an election takes place. Each election is to an extent unique, and

² The analysis used the face-to-face BES surveys up until 2017 and the online Essex-UTD survey in 2019.

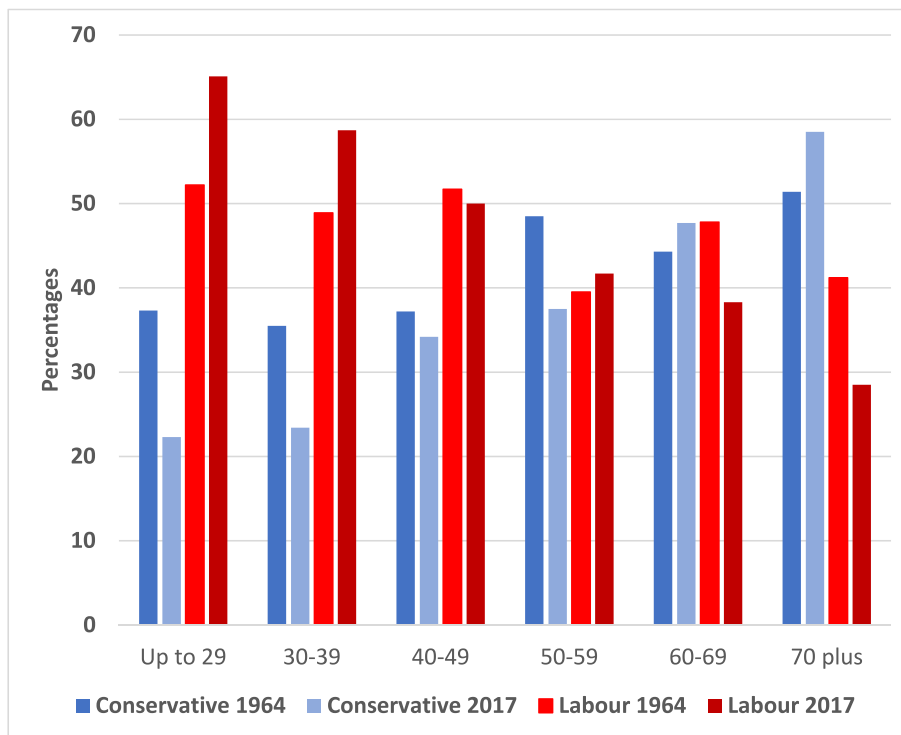


Fig. 1. Age sources of conservative and labour voting in the 1964 and 2017 elections.

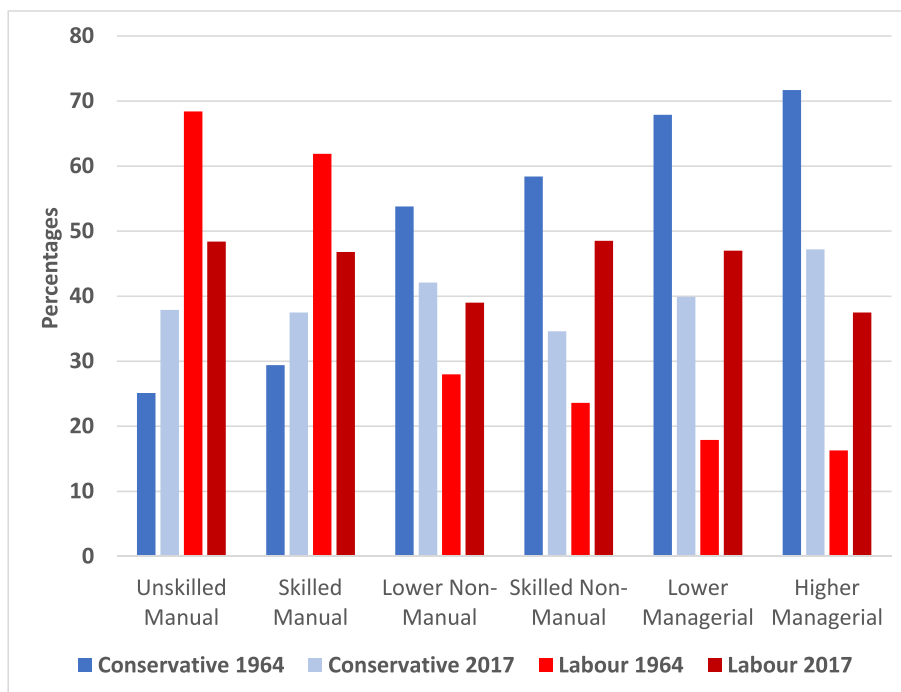


Fig. 2. Class sources of conservative and labour voting in the 1964 and 2017 elections.

this influences how citizens vote. For example, the 2019 election took place after three years of political turmoil following the referendum on UK membership of the European Union in 2016. This allowed Prime Minister Boris Johnson to claim that he would ‘Get Brexit Done’, and this turned out to be a very popular slogan at the time. The Conservatives won an 80-seat majority in that election (Ford et al., 2021; Whiteley et al., 2023). This was a very different context from the 2017 election in which Prime Minister Theresa May broke repeated promises not to call

an early election. A barnstorming campaign by the new Labour leader Jeremy Corbyn, and a stumbling campaign by the Prime Minister resulted in a Conservative minority government (Cowley and Kavanagh, 2018).

Cohort effects arise from the fact that each new generation has different socialisation experiences which influences their political beliefs and rates of participation. The concept of a cohort effect was introduced by the political philosopher Karl Mannheim (1928), and as

the earlier discussion indicated it was the main explanation for electoral change put forward by Butler and Stokes. Cohort effects are based on the idea that political attitudes and behaviour are formed in late adolescence and early adulthood. As this happens it is influenced by the economic, social and political circumstances of the time. However, unlike life-cycle and period effects, cohort effects remain relatively stable over time as people grow older, even when their social and economic circumstances might change (Inglehart, 1977; Alwin and Krosnick, 1991).

There have been a number of different approaches to estimating these effects in political science (Tilley, 2002; Lewis-Beck et al., 2008; Dassonneville, 2013; Neundorf and Niemi, 2014; Grasso, 2016). As the earlier discussion indicated, they have very different implications for electoral behaviour. If cohort effects predominate, then it means that electoral change will be slow because it largely relies on young cohorts replacing older ones over a long period. A similar point can be made about life-cycle effects, although they imply rather faster changes than cohort replacement, since it means that people will change their political views as they get older. Finally, if period effects dominate the picture, then electoral change will be much faster and produce greater volatility in voting behaviour over successive elections.

There is a serious methodological problem in attempting to separate out these effects, captured by the following relationship.

3.1. Period - Age = Cohort

This means that it is impossible to estimate separate effects in a standard linear regression model since this is an extreme case of an identification problem giving rise to perfect multicollinearity (Kennedy, 2008: 192–202). Recent debates have divided the methodological community on whether this problem can be solved. All are agreed that it cannot be done with a single cross-sectional survey, but some researchers go further arguing that it is inherently impossible to separate them out (Glenn, 1976; Bell and Jones, 2018). However, others, notably Yang and Land (2013), argue that it is possible to do this using longitudinal data collected over a long period.

Their argument is based on the idea that the problem arises from a linear relationship between the variables, but if the model can be recast in a non-linear form, then it can be circumvented. This approach is referred to as ‘breaking’ the linear relationship between variables (Reither et al., 2015). They explain why it works in the following terms: ‘An HAPC framework does not incur the identification problem because the three effects are not assumed to be linear and additive at the same level of analysis’. (Yang and Land, 2013: 191).

The HAPC approach divides the estimation of these effects into two parts which are identified at different levels of analysis using a multi-level model (Kreft and De Leeuw, 1998; Raudenbush and Bryk, 2001). One equation is estimated at the individual level, the ‘fixed effects’ model, which seeks to identify the life-cycle effects on voting. The second is an aggregate level of analysis, called the ‘random effects’ part of the modelling, which focuses on cohort and period effects. The most common version of HAPC analysis is the random intercept model which estimates the effects of cohorts and periods on the intercept of the individual-level model. If these aggregate level variables have an impact, it means that these contextual measures influence individual voting behaviour.

Age and period effects are easy to measure, the former by the respondent’s date of birth and the latter by different elections identified using dummy variables. But the measurement of cohorts is more difficult. We can define them as a grouping of a number of cohorts characterised by a specific historical setting and by common characteristics. The important point about defining cohorts is to locate them in a political and historical context. If they are defined too broadly this will bundle together rather different political periods, and if they are defined too narrowly this will try to estimate differences in rather similar political contexts.

Researchers in social science have often defined cohorts arbitrarily as time intervals of fixed duration such as five or ten years. This may be acceptable in some contexts, but in electoral politics there are clear differences between political eras, and they are not of the same duration. To illustrate this point, there are good reasons to expect that individuals who reached political maturity during the years of economic prosperity and consensus politics in the 1960s are likely to look at the political world differently from those who came of age in the divisive Thatcher era of the 1980s, or in the lean years of austerity following the 2010 general election.

A study of the 2001 general election identified five different cohorts in an analysis which looked only at life-cycle and cohort effects (Clarke et al., 2004: 270-71). The assumption was that individuals would reach political maturity by the age 21, although it is now more common to assume that this happens by the age of 25 (Grasso, 2016: 40). Obviously, period effects could not be estimated in one election. More recently, Grasso has suggested that different researchers have identified rather similar political cohorts in Britain, indicating that there is something of a consensus about them in practice (Grasso, 2016: 42–43). Her focus was on studying age-related political participation across several European democracies and for this reason her definition of cohorts is rather broad. She identified five cohorts in her study: ‘Pre-World War 2’, ‘Post-World War 2’, ‘Baby-Boomers’, ‘80s generation’ and ‘90s generation’.

Since the present focus is on Britain, we can be somewhat more specific about the definition of cohorts, linking them to periods of post-war political history which are clearly different from each other. Accordingly, we use the original cohorts introduced in the 2001 analysis but add another four to bring it up to date. Specifically, we define members of a cohort as people in their late teens and early twenties who come of age politically during a given era. They are assumed to become aware of politics for the first time at the age of 15 and achieve mature political views by the age of 25. The nine cohorts are defined as follows.

- (1) ‘First World War’ cohort who achieved political maturity before 1919.
- (2) ‘Post First World War’ cohort from 1919 to 1929
- (3) ‘Great Depression’ cohort from 1930 to 1939
- (4) ‘Second World War’ cohort from 1940 to 1949
- (5) ‘Churchill/Macmillan’ cohort from 1950 to 1963
- (6) ‘Wilson/Callaghan’ cohort from 1964 to 1979
- (7) ‘Thatcher/Major’ cohort from 1980 to 1997
- (8) ‘Blair/Brown’ cohort from 1998 to 2010
- (9) ‘Austerity’ cohort from 2011

Table 1
Party vote shares by Cohorts (1964) to 2019.

		Conservatives	Labour	Liberals/ LibDems	Others
cohort	First World War cohort	59.6%	32.8%	7.6%	0.0%
	Post-World War 1 cohort	47.8%	40.1%	10.0%	2.1%
	Depression cohort	48.3%	37.1%	11.5%	3.1%
	Second World War cohort	41.1%	41.1%	14.3%	3.5%
	Macmillan cohort	39.5%	39.0%	15.2%	6.3%
	Wilson/Callaghan cohort	41.0%	33.1%	16.8%	8.7%
	Thatcher cohort	34.0%	39.0%	17.1%	9.9%
	Blair cohort	30.6%	42.6%	16.1%	10.7%
	Austerity cohort	21.3%	54.4%	12.3%	12.0%
Total		38.6%	38.5%	15.4%	7.6%

Source: BES and Essex-UTD Surveys

Table 1 shows the party vote shares of these nine cohorts identified from the pooled surveys. This represents a mixture of life-cycle, period and cohort effects, so they are illustrative of overall changes during this period rather than precise estimates of the different effects. There are some interesting features in the table. It is striking how support for the Conservatives has declined markedly across the cohorts. Almost 60 per cent of the First World War cohort voted Conservatives and only about a third of them supported Labour. In contrast nearly 55 per cent of the Austerity cohort voted Labour, with only just over a fifth of them supporting the Conservatives. Liberal and Liberal Democrat support reached a high point among the Thatcher cohort at 17 per cent before falling to 12 per cent in the Austerity cohort. Finally, there were no respondents to be found in the First World War cohort who voted for minor parties, but by the time of the Austerity cohort 12 per cent of them did so.

The appearance of long-run changes in Conservative and Labour support is not necessarily due to cohort replacement. But with that qualification in mind, this long run perspective does show that the Conservatives had a consistent advantage over the other parties before the Second World War, but this changed after the war was over. Conservative support averaged 52 per cent in the pre-World War two cohorts and only 33 per cent in the post-war cohorts. The equivalent figures for Labour were 37 per cent before the war and 42 per cent after. Labour caught up and subsequently moved ahead of its main rival in the post-war years. This gap widening to a chasm by the time of the Austerity cohort.

4. Methodological issues

HAPC modelling has been criticised particularly by Bell and Jones (2013, 2018) in a series of papers based on simulations. They create a model with known parameters and then try to estimate it using the HAPC procedure. They conclude: 'For us, the key critique of the HAPC model lies in its inability to accurately represent data generating processes (DGPs) in simulations' (Bell and Jones, 2018). In addition, they find that period effects tend to dominate the cohort effects, although as they point out the reasons for this are unclear.

We respond to the Bell and Jones critique by changing the definition of period effects in the modelling. In a standard HAPC analysis the period effects would take the form of fifteen dummy variables representing all sixteen elections between 1964 and 2019, with one omitted to act as the reference category. This produces the identification problem discussed earlier. As an alternative we look only at a limited number of elections which are chosen on theoretical grounds as being important turning points in electoral politics. In other words, period effects are defined theoretically and not empirically.

We focus solely on 'turnover' elections, that is, contests in which an incumbent party was removed from office and replaced by a challenger party. There were seven elections between 1964 and 2019 when this happened. Labour replaced the Conservatives after the 1964, February 1974 and in the 1997 elections, and the Conservatives replaced Labour after the 1970 and 1979 elections. In addition, the Conservative-Liberal Democrat coalition government replaced Labour after the 2010 election and the Conservatives replaced the coalition government in 2015.

These are all politically consequential shocks to the system rather than simply recurring events defined in terms of the elections between 1964 and 2019. This modification of the HAPC analysis has the effect of reducing the overall importance of period effects in the analysis. But at the same time, it ensures that the really significant period effects are retained, and so are more likely to be important in influencing age related changes in electoral behaviour. This helps to reduce the identification problem referred to earlier, since the periods are no longer systematically linked to changes in the respondent's age closely linked to cohort and life cycle variables. Rather they are defined by political events which we have good reason to expect will influence voting behaviour because they had major political consequences.

5. Party Choice 1964 to 2019

Fig. 3 shows the results of the HAPC modelling where Labour voting is measured with a dummy variable at the individual level using a multi-level logistic estimation procedure (Scott Long and Freese, 2006). In this preliminary analysis the fixed effects part of the model is restricted to age and occupational status, plus an interaction term between the two variables.³ The aggregate random effects examine all cohorts in comparison with the Austerity cohort as the reference category. In addition, the random effects show the impact of the 'turnover' elections on Labour support over this period.

It should be noted that the figure presents the average changes in the probability of voting Labour over the whole range of values of a predictor variable, while controlling for the impact of all other variables. This avoids the well-known problems of interpreting logistic regression results.⁴ The results show that age, occupation and the interaction between the two all have negative impacts on the probability of voting Labour.⁵ Older and higher status respondents were less likely to vote Labour and this effect was strengthened as respondents grew older and acquired higher occupational status.

That said, the numerical effects of age on the probability of voting Labour are relatively modest when all the other variables are controlled. If we compare an eighteen-year-old with a seventy-year-old voter, a quick calculation reveals that the former has a probability of 0.11 greater of voting Labour compared with the latter.⁶ In relation to the random part of the model Fig. 3 shows that the World War Two and Churchill/Macmillan cohorts were more likely to vote Labour than the Austerity cohort. If we accept a lower level of statistical significance, then the post-World War One cohort was also more likely to vote Labour.⁷ Identifying these cohort effects for the party is quite a high bar to cross since as Table 1 shows young people were very likely to vote Labour during the years that the Austerity cohort came of age politically.

There is clearly an association between wartime experiences and support for Labour among the cohorts. The party emerged in the 1918 election as the main opposition party to the Conservatives after the split in the Liberal party took place during the First World War (Whiteley et al., 2006). As a consequence, the Post-World War One cohort was more likely to vote Labour in subsequent elections. The same thing happened after the Second World War, when that cohort was much more supportive of the party. This effect continued into the Churchill/Macmillan cohort. Clearly wartime experiences and the post-war desire for change among voters helped Labour to build long-term support.

There were two period effects identified in the Labour model in Fig. 3, each associated with Labour winning the election. In this case the reference category was the average of all the other elections which did not bring about a change of government. As far as life cycle effects are concerned it appears that the 1964 election following thirteen years of Conservative incumbency had a significant positive impact on voting Labour. In addition, not surprisingly, the Labour landslide victory in 1997 produced a positive effect on the Labour vote.

Turning to the impact of class in the Labour model, a quick calculation reveals that over the whole range of the occupational status variable from unskilled manual work to higher managerial work the probability of voting Labour falls by -0.072 over this period. This is not

³ Note that the age variable is categorized in the interaction term to avoid the problem of each year of the age variable interacting with all six occupational status variables which is too fine grained for meaningful analysis.

⁴ Note that the model logistic regression coefficients appear in the appendix.

⁵ This is hard to see in the Figure, but it is confirmed by the results in the appendix.

⁶ This calculation is based on the direct and indirect interaction effects of age and occupational status.

⁷ This effect was statistically significant at the 0.10 level.

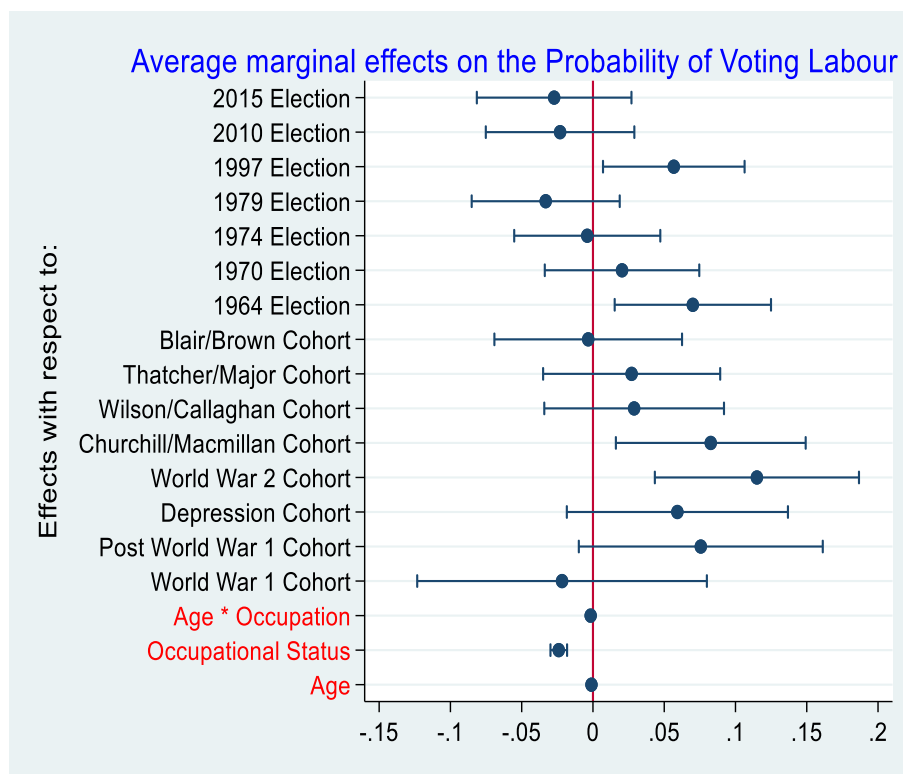


Fig. 3. The HAPC Model of Labour Voting (1964) to 2019 [Note that the individual fixed effects model coefficients are in red and the aggregate random effects model coefficients in black. The bars represent 95% confidence intervals]. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.) Source: BES and Essex-UTD Surveys

a very large effect, but it is nonetheless a significant one, given that cohort and life-cycle effects are controlled in the modelling.

Fig. 4 contains the equivalent model for the Conservatives, and it is very different from the Labour model. As far as the fixed effects were concerned Conservative support increased with age and occupational status, but there was no interaction effect between the two variables. In this case the seventy-year-old has an increased probability of 0.13 of voting Conservative over time compared with the eighteen-year-old, when all the other variables are taken into account.

Turning to occupational status in the Conservative model, there was a positive relationship between this indicator of social class and voting for the party. Over the whole range of the occupational status variable a higher manager had a probability of 0.08 greater than an unskilled manual worker of voting Conservative while other predictors were controlled.

The really striking difference between the Conservative and Labour models were the cohort effects. In the Conservative model each cohort from post-World War One to the Blair/Brown cohort shows greater average support for the party in comparison with the Austerity cohort. Moreover, the earlier the cohort, the larger the difference with the Austerity generation in Conservative support. That said, there appears to have been a shift in Conservative voting during the Blair/Brown cohort, since it is much closer to the Austerity cohort than earlier, although it remains statistically different.

This suggests that the New Labour era, which occurred just prior to the Austerity cohort, disrupted the socialisation processes that had sustained Conservative support since the start of the twentieth century. Tony Blair and Gordon Brown had the effect of breaking the link between socialisation and Conservative support over time. The result was that younger people have become less and less likely to support the Conservatives in recent elections. Since these are cohort effects it shows that Conservative support in the wider electorate is in danger of further

decline in the future as generational replacement slowly changes the political landscape.

5.1. An extended model - 1992 to 2019

The fixed effects in the previous section were very limited, focusing solely on age and occupational status. This is clearly mis-specified as a model of individual level voting behaviour. As such the absence of a well-specified individual level model means that the aggregate level effects of cohorts and elections may well be overstated. In this section we extend the individual fixed effects model to deal with this criticism.

We specify a theoretical model of individual voting behaviour which contains the core of measures which are included in the great majority of voting models in the literature (Campbell et al., 1960; Himmelweit et al., 1981; Heath et al., 1985; Rose and Ian McAllister, 1986; Niemi and Weisberg, 1993; Clarke et al., 2004, 2009; Johnston and Pattie, 2006; Lau Richard and Redlawski, 2006; Whiteley et al., 2013). We will describe it as the 'standard model' of electoral choice.

This 'standard model' includes three highly consequential variables. Firstly, voter evaluations of issues, a variable which is common to all models. In this version issue effects are divided into two types: spatial and valence issues. As is well known, the first relates to controversial issues creating disagreements among voters over policy objectives. These are often divided along a left-right ideological dimension (Downs, 1957). This is measured with an indicator of the respondent's preferences for the trade-off between taxation and public spending and their perceptions of the party locations on the same scale. Traditionally voters on the left favour high spending and taxation and those on the right favour the opposite. The assumption is that the larger the distance between their own preferences and their perceptions of the party preferences, the less likely they are to voter for a party.

As is well known, valence issues are those over which there is

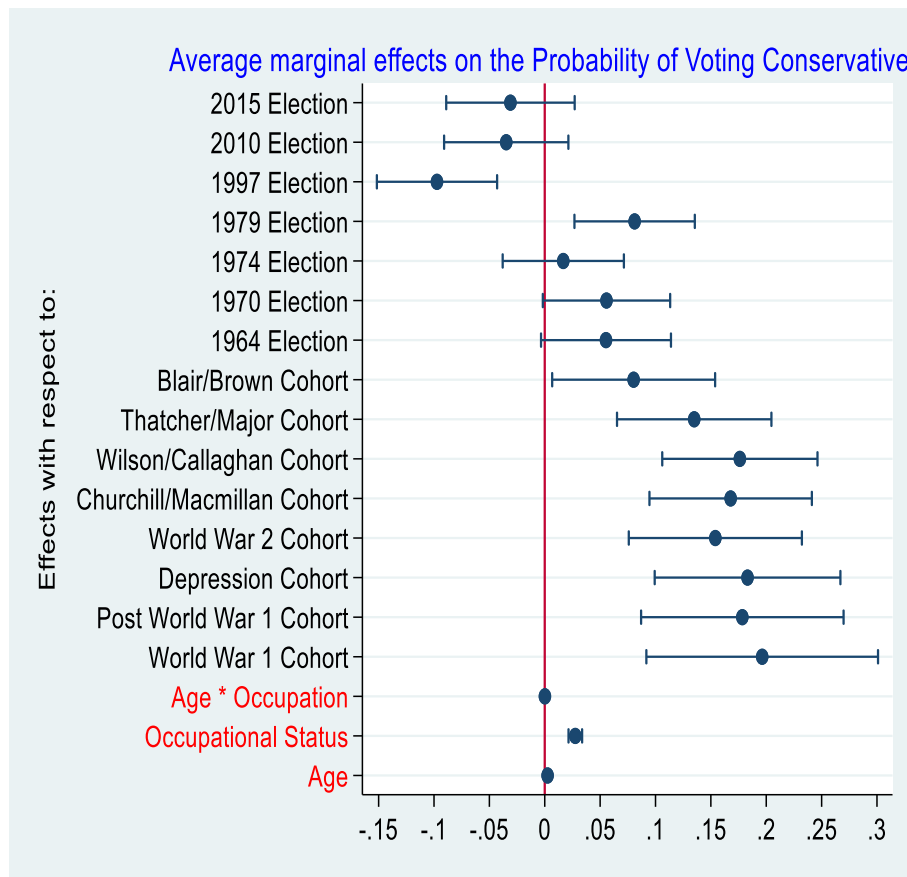


Fig. 4. The HAPC model of Conservative Voting (1964) to 2019. Source: BES and Essex-UTD Surveys

widespread agreement among voters about policy objectives such as promoting economic prosperity and improving public services. In this case electoral competition is focused on which party is best at delivering these objectives rather than on disagreements about the objectives (Stokes, 1963). This is measured with an indicator of the respondent's evaluations of the state of the national economy as well as their own financial situation when the Labour or the Conservative parties were in government. The assumption is that a positive evaluation of an incumbents performance will raise the probability of a voter supporting them.

The second core variable in the standard model is partisanship, a concept originally introduced by Angus Campbell and his colleagues (Campbell et al., 1960). They defined it as an affective attachment to a political party commonly acquired through socialisation processes in families and communities and which has a long-lasting impact on voting behaviour. This is the definition used by Butler and Stokes (1969) as the earlier discussion indicated. Subsequent debates about the origins of partisanship have provided an alternative explanation of its determinants. This is the idea that it is a running tally of performance evaluations of parties in relation to issues (Fiorina and Morris, 1981; Clarke et al., 2004). However, this difference in interpretation does not reduce its impact in contemporary models of voting behaviour.

The third core variable in the standard model is leadership evaluations reflecting the extensive literature on this topic in studies of voting behaviour. Early research on leadership in British electoral politics tended to play down the importance of leadership, relegating it to a minor role in explaining the vote (Butler and Stokes, 1969: 387–388). However subsequent work has shown that leaders play a much more important role in influencing voting than had been acknowledged previously (Miller et al., 1996; Stewart and Clarke 1992; Clarke et al., 1998;

Lenz, 2012).

Finally, we include additional demographic variables in this revised model, along with age and occupational status. These are educational attainment and gender.⁸ Younger voters are significantly more likely to be highly educated than older voters reflecting the enormous expansion in higher education which has taken place over the last twenty-five years in the UK. The experience of higher education has important effects on political knowledge and civic engagement (Niemi and Junn, 1998; Pattie et al., 2004) and so it is important to take this into account. In addition, the research on gender and politics suggests that this is an important factor in influencing political behaviour (Krook and Childs, 2010).

We use data from all seven British Election Study surveys from 1992 to 2017 plus the Essex-UTD survey in 2019 to estimate these effects at the individual level. This means that there are seven cohorts rather than nine in the analysis, since the Pre-First World War and First World War cohorts lack enough cases to model effects. Given this, the three cohorts existing prior to the Second World War in the earlier analysis are now combined into a single Pre-Second World War cohort.

Fig. 5 contains the additional fixed effects in the HAPC model of Labour voting. It is apparent in the fixed effects part of the model partisan attachments were the most powerful predictors of voting, with Labour partisanship having a large positive effect and Conservative partisanship an equally large negative effect on Labour voting. The impact of Liberal Democrat and other partisan attachments were also strong and negative, but not as much as Conservative partisanship.

⁸ Ethnicity is missing from some of the BES surveys used in the extended model, otherwise this would have been included in the modelling.

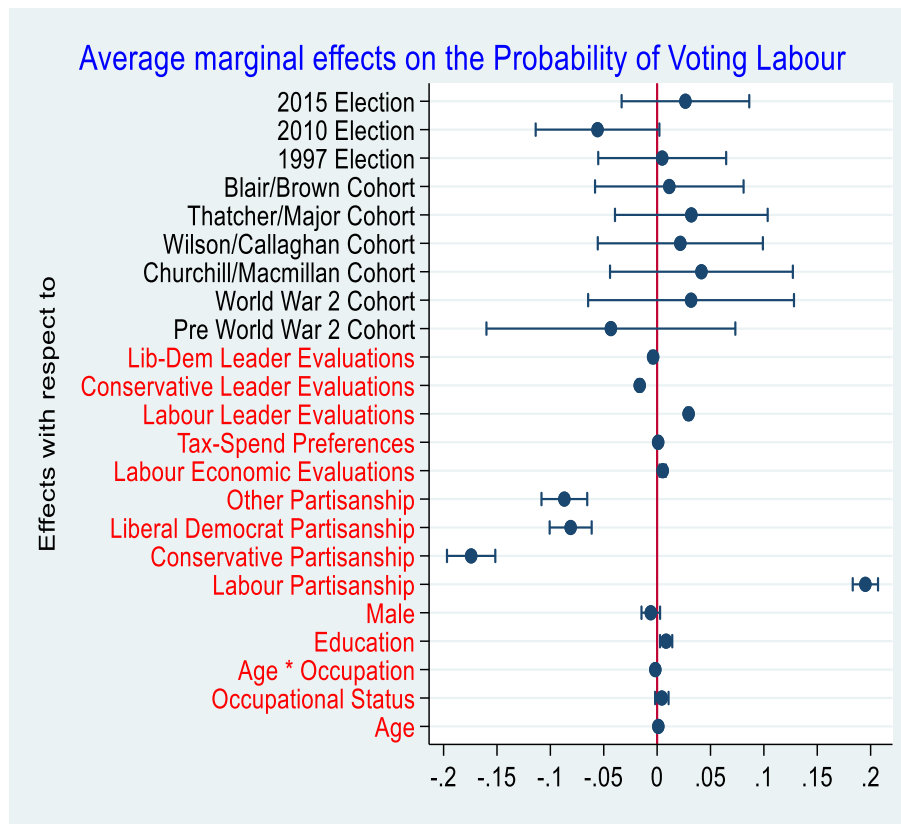


Fig. 5. The extended HAPC model of Labour Voting (1992) to 2019. Source: BES and Essex-UTD Surveys

After partisanship the second most powerful variables were leadership evaluations, which played a very prominent role in explaining vote choice in these eight successive elections over a period of nearly thirty years. Not surprisingly, Labour leaders had a strong positive impact on the Labour vote and Conservative leaders and to a lesser extent Liberal Democrat leaders had a highly significant negative effect.

The spatial issue variable measuring the policy distance between the respondent and their perceptions of the Labour party’s position on the taxation versus spending scale was not statistically significant. This finding reinforces evidence showing that while spatial issues can be consequential in voting models, they tend to be much weaker than valence issues (Clarke et al., 2004). The spatial model has generated a huge literature in the research on electoral behaviour (Merrill and Grofman, 1999) but its empirical impact in voting models is limited.

In contrast to the spatial issue indicator, the valence evaluation of the performance of the economy is highly significant and positive. This variable is weighted by party incumbency since the emphasis is on the performance of the governing party in the analysis of valence effects. The results confirm the expectation that a good performance on the economy brings electoral rewards when the party is in power, and a poor performance has the opposite effect.

Turning to the demographic effects in the modelling, the most important finding in the extended Labour model is that the direct effect of age remains statistically significant while occupational status does not. However, the interaction term involving age and occupational status is significant and negative. Thus life cycle effects increase the probability of voting Labour but at a declining rate as occupational status increases.

Clearly, the fully specified individual level model shows that life cycle effects of age are positive rather than negative for Labour which Fig. 1 suggested. Older voters are more likely to vote Labour than younger voters once all the other effects are controlled, making this a

pure life-cycle effect. In addition to age, education also has a significant positive impact on Labour voting, indicating that the growth of higher education over this long period of time has helped to boost support for the party.

Moving to the aggregate or random section of the Labour model in Fig. 5, it appears that the cohort effects are all non-significant, indicating that these do not differ from the Austerity cohort when all the other variables are taken into account. A similar point can be made about the effects of the three turnover elections which took place over this period with the possible exception of the 2010 general election. In the latter case it appears that Labour did worse than expected given the other variables in the modelling, but this was a relatively weak effect.⁹

The implication is that while life cycle effects remain important for the party, there are no long-run cohort effects in the modelling. Fig. 1 shows that age differences in voting did occur over a period of more than fifty years, but they cannot be attributed to long-run cohort or period effects. The key to understanding Labour’s electoral performance is found in the variables in the individual level model. The party must fight each election as it stands. It needs to do well on valence issues, leadership evaluations and partisanship to win elections, with a modest assistance from life-cycle effects and occupational status.

Fig. 6 shows the Conservative voting extended model, and there are similarities but also important differences in the individual level part of the analysis compared with Labour. The similarities are that, as expected, Conservative partisanship and the leadership variables have strong positive impacts on the Conservative vote, and strong negative impacts for the other parties. In addition, economic evaluations are very positive when the party is in office and the economy is prosperous, but the opposite when the economy is in recession. It also the case that the

⁹ It was significant at the 0.10 level.

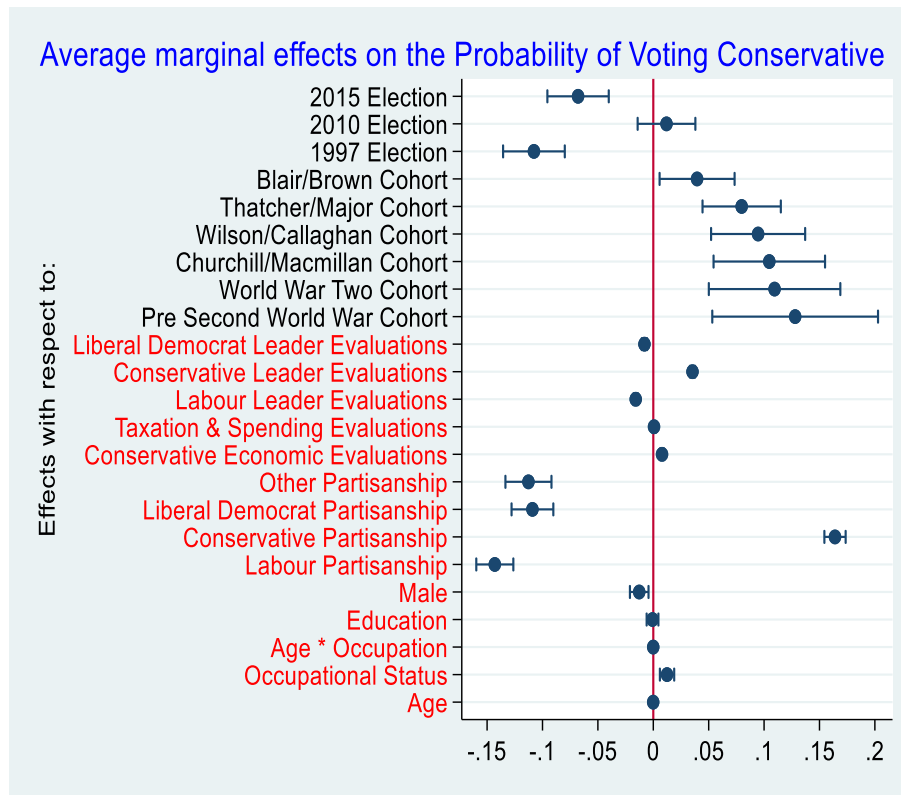


Fig. 6. The extended HAPC model of Conservative Voting (1992) to 2019. Source: BES and Essex-UTD Surveys

tax-spending variable, which captures the spatial dimension of issue voting, is non-significant.

Turning to the demographics in the extended Conservative fixed effects model, unlike Labour there are no evident life-cycle effects. Contrary to popular belief voters do not become more Conservative as they grow older, which again is counter-intuitive finding when compared with a more cursory analysis. It derives from the controls provided by the standard model. The second difference with Labour is that the social class effects, as measured by occupational status, are very strong and significant in the Conservative model. Class remains important for the Conservatives but not important for Labour and the reverse is true for the age variable. While Labour has increasingly become a classless party the Conservatives have retained their class support over time.

The fixed effects do not of course mean that age is irrelevant in the Conservative model, since unlike Labour there are very strong cohort effects as Fig. 6 demonstrates. When compared with the Austerity cohort all the cohorts had higher levels of support for the Conservatives. The findings in Fig. 4 are replicated in the fully specified model of Fig. 6. Moreover, once again these cohort effects were stronger the further back in time. The largest impact is found in the pre-Second World War cohort, the next largest in the Second World War cohort and so on. The weakest effect, though still statistically significant, is found in the Blair/Brown cohort. These changes were of course independent of any effects due to variables in the standard model in the fixed effects part of the analysis.

To interpret this important finding it appears that the socialisation processes which transmitted Conservative support from one generation to the next have gradually weakened over time. In addition, a turning point appears to have occurred in the Blair/Brown era, which disconnected the Conservatives from the traditional socialisation mechanisms which they relied on in the past. This can be seen in Fig. 6 in the form of a sharp decline in support for the party in the Blair/Brown cohort compared with the Thatcher/Major cohort. This suggests that in the

future the party may become more like Labour in relation to cohort effects. If so both parties will fight elections based on other factors unrelated to cohort effects as they weaken over time.

As regards the election-related period effects, not surprisingly, Conservative voting support fell dramatically in the 1997 Labour landslide election. But in the 2010 election with no overall majority in the House of Commons which produced the Conservative/Liberal Democrat Coalition, there was no period effect. However, there was a negative effect in the 2015 election when David Cameron was returned with a small majority and the Coalition came to an end. The party did worse than expected in comparison with other elections even though it won a small majority in that election.

6. Discussion and conclusions

There are perhaps three conclusions which can be drawn from this analysis. Firstly, generational change is largely irrelevant in British electoral politics as far as Labour is concerned. It was at the core of Butler and Stokes original analysis of elections in Britain, but it turns out not to be important for Labour except in the aftermath of the two world wars in the twentieth century. This is in sharp contrast to the Conservatives a party which has relied heavily on cohort effects in the past, and trends in these appear to be a long-term threat to Conservative support.

An external validator of these trends and a possible cause is the decline of Conservative party membership over time. In the nineteen fifties the party had one of the largest memberships of any party in Western Europe (Whiteley et al., 1994). In sharp contrast more recent data shows that this has dwindled to a fraction of that in the modern era (Whiteley, 2011; Bale et al., 2020: 8). A large well-organised grassroots party with a significant youth movement is an excellent institution for socialising people into lifelong support for the party, but this has now disappeared. Labour never really had this since much of its membership relied on trade union affiliations which often signed up people who were

not that (Sarlvik and Crewe, 1983; Rose and Ian McAllister, 1986). interested in politics (Seyd and Whiteley, 1992).

A second conclusion is the decline in partisan attachments for the two major parties which is now well documented is clearly related to these demographic trends (Sarlvik and Crewe, 1983; Rose and Ian McAllister, 1986). Partisanship has weakened over time across all demographics and in addition there are alternatives available to young voters which did not exist in the past. The rise in support for the nationalist parties as well as the Greens provide alternative avenues for political loyalties which are now available to an increasingly educated electorate.

A third conclusion is methodological. There are different ways of trying to identify age, period and cohort effects in longitudinal modelling and disagreements among researchers about whether this is possible. The suggestion here is that there is a need to draw on theoretical arguments, particularly when defining period effects to make this possible. Theory helps to solve the problems associated with separating out the different effects.

The overall conclusion is that age related voting has become more important and social class less important for Labour, while to the reverse appears to be true for the Conservatives. That said, it is not clear if this is a stable long-term development. Certainly, the voters who came of age after the 2010 election are very different from their predecessors in their support for Labour and the Conservatives. But the lack of cohort effects in the Labour model suggest that this could be a temporary phenomenon, if it is replicated for the Conservatives. It should be possible to classify cohorts more finely when new data arrives from the 2024 general election, perhaps dividing the Austerity cohort into pre and post Brexit and Covid generations, but this is a topic for the future.

Declaration of competing interest

No conflict of interest

Data availability

All data is available from the ESRC Archive at the University of Essex

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.electstud.2023.102695>.

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