

Victorian Voting: Party Orientation and Class Alignment Revisited*

Torun Dewan[†], Jaakko Meriläinen[‡] and Janne Tukiainen[§]

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Abstract

Using individual elector level panel data from the 19th century UK poll books we reassess the development of a party centred electorate in the United Kingdom. In line with findings of Cox, we find that the British electorate was party centred by the time of the major late Victorian institutional reforms. Going further, we show that the decline in candidate centred voting is largely attributable to changes in the behaviour of the English working class. The observed party orientation of the working classes is familiar: The working classes, at least those skilled enough to vote prior to 1868 aligned with the left. Our analysis suggests that class alignment in British politics may have occurred much earlier than previously thought.

Keywords: Candidate-vs-party oriented voting, party development, partisan alignment

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[†] Department of Government, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom, T.Dewan@lse.ac.uk, Tel +44 (0)20 7955 6406.

[‡] Institute for International Economic Studies, Stockholm University, SE-10691 Stockholm, Sweden, jaakko.merilainen@iies.su.se, Tel +468163174.

[§] Corresponding author: VATT Institute for Economic research, Arkadiankatu 7, Helsinki FI-00101, janne.tukiainen@vatt.fi, Tel +358295519451; and Department of Government, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom.

1 Introduction

A central element in the political development of a country is the connection between voters and those who represent them. This connection can take different forms: it may exist due to patronage, vote-buying, or coercion; be based on the personal characteristics or beliefs of the candidate; or arise due to an affiliation between voters and particular political parties. An important distinction is that between candidate-centred systems and party-oriented ones. In the latter, voters are loyal to their preferred party and cast their votes without regard to the personal characteristics, beliefs, or favours offered by candidates.

These patterns of development vary across countries. In the United States parties that emerged as loose coalitions or caucuses of legislators (Aldrich 1995), developed into the well-oiled machines of the early nineteenth century that delivered patronage. As these weakened in the latter part of the century, due in part to civil service reform as well as the introduction of primary elections, a candidate centred system emerged (see Folke, Hirano and Snyder 2011). Duverger (1959, page 28), noted a different pattern of party development in European parliamentary democracies where “first there is the creation of parliamentary groups, then the appearance of electoral committees, and finally the establishment of a permanent connection between these two elements.” According to Duverger the key factors that lead to the emergence of such party oriented systems were the extension of popular suffrage, the role of parliamentary prerogatives, and (later, and in some countries) the emergence of mass parties on the left who connected with working class voters on the basis of ideology. More recently, Hidalgo (2010) shows that extension of the franchise in Brazil is causally related to the votes shares of parties with clear ideological profiles.

How parties appeal to voters can be significant. Recent work suggests that parties with clear ideological programmes can have positive welfare effects (Fujiwara and Wantchekon 2013). So it is important to understand when and why such parties emerge. In this paper we investigate the relationship between voters and parties and how it changes over time. We analyse the institutional and other determinants of that change. And we shed light upon which groups of voters drive such change and why they do so.

Our key contribution is in being able, for the first time, to use individual level voting data in order to address these issues. Before the establishment of the Ballot Act in 1872, voting in Parliamentary elections in the United Kingdom was public. Often the name of each voter and how they voted was recorded in poll books. In addition, these poll books sometimes provided information, such as electors' addresses and occupations. Due to recent work by historians, some poll books have become available electronically, thus allowing us to revisit questions concerning party orientation and voter alignment in Victorian England using these ideal data.

Although it has specific features, the case of Victorian England remains an important case for understanding party development in parliamentary systems and why such developments may differ from those found elsewhere. As described by Strom (2000), the conceptual essence of Parliamentary government is a "historical evolution"-- an accident of 19th century Britain that spread to other parts of the world. Since the seminal study of Cox (1987) it has been understood that, in the case of Britain, cohesive parties with close links to the electorate developed as a result of institutional change: the decline in parliamentary prerogative and the (informal) centralisation of decision-making authority within a cabinet during the mid Victorian period which, when combined with Prime Minister's power of dissolution and existing confidence vote procedures, weakened the role of the individual MP. A party oriented electorate developed as voters used their votes to control the executive and choose between rival teams: an incumbent government and (Her Majesty's Loyal) opposition. The institutional developments that Cox describes as bolstering the development of cohesive parties with close links to the electorate are, of course, found elsewhere and so have been the subject of a large body of theoretical and empirical research (see for example Huber, Diermeier and Feddersen 1998).

The first question we address is the timing of the emergence of party oriented electorate. In a sequence of papers Cox (1984, 1986) used descriptive analysis of a long (and wide) panel of aggregate (district) level data to show that the party orientation of Victorian voters occurred a decade or so before the defining institutional changes of that era, namely the Second Reform Act of 1867 that enfranchised the unskilled working classes, the Corrupt Practices Act of 1883 that made it harder for candidates to bribe voters, and the 1884

Reform Act that extended suffrage in the rural counties. Cox thus challenged the conventional wisdom (see for example Nossiter 1975) that Victorian voters aligned with political parties as a result of these major institutional reforms, highlighting instead the decline in parliamentary prerogative in the mid-Victorian period. It is important to revisit Cox's claims because they rest on the use of aggregate data from constituency elections in nineteenth century Britain. These constituencies differ in many ways, making it hard to support a causal claim that informal institutional change that preceded the major reforms of the late nineteenth century had an effect on the emergence of a party oriented electorate. An ideal resolution to this and other problems involves use of data such as ours that records actual individual level voting returns. We construct voter level panel data from 19th century borough constituencies of Ashford, Guildford and Sandwich. Analysing these remarkable data, using appropriate estimation techniques, provides a unique micro view of the emerging relationship between voters and political parties in Victorian England.

Revisiting Cox's question on the timing of key changes in the English electorate, we adopt his measure of a party oriented electorate. During this period most English constituencies elected two MPs (under plurality rule). Cox's intuitive argument was that party-oriented voters would not split their votes between liberals and conservatives. Split votes do not affect the seat allocation between parties. They do, however, affect which candidates are elected within a party. Thus the evidence in Cox (1986) is based on descriptive analysis of a long (and wide) panel of aggregate (district) level data on the share of split votes. It shows that split level voting (his key indicator of a candidate centred electorate) declined dramatically during 1857-68, and so before the first election under the new extended franchise (in 1868). Regression analysis of our individual level data corroborates those earlier findings providing strong evidence that the party orientation of Victorian voters indeed predates the major institutional changes of the late nineteenth century and hence can be related to cabinet governance.

Our micro-level analysis allows us to go much further, however, in exploring which behavioural voting patterns underpin the decline in split level voting and the apparent emergence of a partisan electorate. The use of aggregate historical data to draw inferences about party alignment within the electorate is problematic. Very different behavioural

patterns could be associated with the same vote share, making any inference difficult to sustain. For example, a party might obtain 50% of the vote share when half of all voters cast both votes for that party or when each elector casts a split vote. A more specific problem--that we discuss in section 6--arises due to the fact that, when franchise restrictions are in place, we cannot accurately infer the population of eligible voters. To our knowledge ours is the first study that addresses questions of partisan alignment using individual level data.

The results are surprising. Aggregate level party votes by district reveals (unsurprisingly) that the working class tended to give more split votes. As has been widely documented, individual MPs controlled campaign finances in the absence of party machines using agents who "worked in parallel with religious and charitable organizations to offer voters social insurance" (Stokes et al. 2013, Chapter 8). Our econometric analysis reveals, however, that the probability of casting a split vote declined far more rapidly amongst working class voters than in other groups. Indeed, and already by 1865, the critical election before the introduction of the Second Reform Act, the level of split voting was somewhat lower among the working than the middle class. The results based on our small sample of constituencies suggest then that the orientation of voters toward parties was based on class and, more specifically, that it was driven by changes in voting behaviour amongst the English working classes.

A key question is when did class based voting develop? As noted by Cox (1983, p162):

"At some point between the elector in 1851 who observed that, "as a tenant-farmer, I well know that when we are given to understand which way our landlord means to vote, and are canvassed by his steward and lawyer, we quite understand which way we are expected to go," and the elector in 1951 who asserted, rather more succinctly, "I would vote for a pig if my party put one up," voting behaviour had clearly changed considerably. "

Previous analysis of aggregate data and individual level surveys document an alignment of the working classes with the British Labour Party in the decades after the Second World War (that has subsequently declined in more recent times). Similar analysis (based on the recall of older cohorts) suggests this alignment occurred much earlier, perhaps as early as the first

decades of the twentieth century during which the Labour Party replaced the Liberals as the main opposition to the Conservatives. Nevertheless there is some evidence that in urban areas, and already by the latter part of the nineteenth century, the working classes were aligned with the Liberal Party. Further analysis of our data reveals, in fact, that the probability of left (Liberal) voting was already significantly higher amongst working class voters in 1865, prior to the introduction of the Second Reform Act and the introduction of the Secret Ballot in 1872 that was introduced in part as a way of reducing the political power of patrons over tenants.ⁱ With respect to British politics this finding is significant in providing the first solid evidence that working class support for the Liberal Party predates the emergence of the more progressive or New Liberalism and was established already during the mid-Victorian era. In sum, we find evidence that two empirical trends-- the party orientation of voters *and* the class basis of party voting-- predate the defining institutional changes of the Victorian era.

What explains the development of class based voting at this time? Or, as Duverger asked "how did we pass from the system of 1850 to that of 1950"? Having shown that a key factor (already in mid Victorian England) was an alignment of the working classes with the Liberal Party, we next try to understand the mechanisms that lie behind that alignment. In particular we explore whether it was due to change in the "technology" of vote-buying or rather to an ideological affinity.

A starting point is to look at the behaviour of so-called swing voters whose electoral behaviour does not suggest a strong attachment to either party. As noted by Andrews (1998) such voters were particularly susceptible to vote buying. There are good reasons to believe that socio economic change made vote buying harder to sustain during the period under investigation. In arguments that parallel those made earlier, Cox states that, due to the decline in the parliamentary stature of the individual MP, local lords could benefit less from having their own MP thus reducing their incentives to buy votes or, correspondingly, the price they were willing to pay. By contrast, Stokes et al. (2013) focus on inefficiencies of vote buying due to the role of local brokers. These inefficiencies, they argue, became more prevalent as the average size of constituency grew larger due to franchise extension, the

removal of rotten boroughs (due to the 1832 Great Reform Act) and in particular increasing wealth in the electorate.

To explore this mechanism, we ask whether patterns in our data are related to a change in behaviour amongst groups of swing voters who were susceptible to vote-buying. In order to do so we first identify, by occupation, the risk population: groups of volatile voters whose voting records indicate that regularly changed their vote. Splitting the sample in this way reveals that the decline in split voting can largely be explained by a change in behaviour in these occupational groups, thus providing support for the conjecture that political and socioeconomic change weakened vote-buying. These same factors can also explain the emerging party orientation of voters. Volatile voters were not only less susceptible to vote-buying but more likely to vote Liberal as well.

This is not the whole story. The decline in vote buying does not (entirely) explain the class basis of Liberal voting. Even when controlling for the behaviour of groups vulnerable to vote buying, an alignment between the working class and Liberals is evident in our data. In fact, the alignment between the working class and the left, that preceded the emergence of the Labour Party, can in part be explained by a change in the voting behaviour of voters who had previously and consistently voted (straight) Conservative. While we cannot prove the claim, our data is at least consistent with the claim made by Stokes et al that, with the decline in vote buying, Victorian voters became more open to programmatic appeals made by parties. More specifically, the data is consistent with the claim that an ideological affinity between the Liberals and the working classes existed in the mid Victorian period and prior to the major franchise extension of 1867 (that provided the vote to the unskilled working class). This finding is significant in broader terms when considering recent findings by Hildago that connects franchise extension to the strength of ideological alignments and programmatic parties.

Finally, and to illustrate the importance of our findings, we use aggregate data to show how patterns in these data might be misleading (hence necessitating the use of micro-level data such as we use here). Problems arise when using aggregate data to explore these historical patterns due to restrictions in voter eligibility which, in turn, are correlated with income and

class status. Specifically, due to these restrictions, areas with a population that includes a large share of workers might contain districts with a large share of middle class voters. In line with this argument we find that voter eligibility is negatively correlated with proxies for the share of unskilled working classes in the population, whose voting patterns in the aggregate data closely resemble our findings in the restricted sample. The aggregate data thus suggests that our findings might generalise to these segments of the Victorian voting population.

Our paper is organized as follows. In the following section we discuss the institutional setting and introduce and describe our novel micro-level data. In Section 3, we present the econometric results. Section 4 discusses some sensitivity and validity checks. In Section 5, we analyse the role of vote buying before concluding in Section 6.

2 Institutional setting and data

2.1 Victorian era British political landscape

Elections in Britain in the Victorian period under investigation took place under the first-past-the-post voting system that is still in place. Whilst some constituencies were single-member districts, most constituencies elected two candidates and a few elected three and four. From around 1850 constituency elections were contested by candidates who aligned with one of two major parties, the Conservatives and the Liberals. The Liberals brought together a loose coalition of (mainly) Whigs, Radicals, and Peelites (a faction that had broken from the Conservatives) and by 1860 formed a cohesive parliamentary block. The Whigs were far being a "party" in the sense of having a clear programme. Nevertheless, candidates who stood on a platform of reducing crown patronage, expressed sympathy towards nonconformists, and supported the interests of merchants and bankers, were labelled as Whigs. For convenience, for our analysis of the years prior to the formation of a cohesive Liberal Party identity we refer to candidates who are either Whig or Radical as Liberal.

In the period of analysis, the key institutional reforms were the Great Reform Acts. The first of these, introduced in 1832, introduced several measures that mitigated malapportionment: increasing representation in the industrialized cities, and taking away seats from the so-called rotten boroughs with small voting populations. The act also

increased the male franchise to around 650,000. The Representation of the Peoples Act, otherwise known as the Second Reform Act, was passed by Parliament on August 15th, 1867. The Second Reform Act, that became law in England and Wales in 1867, extended the franchise in the boroughs to all males over the age of 21 who were inhabitant occupiers, whether house-owners or tenants, and to male lodgers whose rent was at least 10 pounds per year. A residence of at least one year in the borough was required and women were still unable to vote. In counties, the franchise was extended to holders of life interests, copyholds and leases of sixty years and more worth 5 pounds per annum (from a previous threshold of 10) and to tenants occupying land worth 12 pounds (from a previous threshold of 50 pounds per annum).

2.2 Poll book data

Prior to the next major reform, The Ballot Act of 1872, individual voting records of registered voters were public and recorded in so called poll books. This historical fact provides a novel and reliable window into actual individual political behaviour. Using these data, we can answer questions previously addressed using less detailed aggregate or less reliable survey data. While Andrews (1998) shows that poll book data may contain some errors, they are so rare that they will be insignificant to any empirical analysis. The main limitations are, in fact, that the information content of the poll books are somewhat limited and that they are currently available electronically only for a very few districts. Therefore, the generalizability of the analysis is limited. Nevertheless, and as we shall see, the fact that we can confirm the very general findings of Cox (1984, 1986, 1987) alleviates these concerns.

Previously, poll book data have been used mainly in historical research (see e.g. Drake 1971, Speck and Gray 1970, Mitchell and Cornford 1977 and Phillips and Wetherell 1995), where the empirical analysis has been very elementary in nature. Accordingly, in a more recent work Andrews (1998) states that “some work has been done on poll books but in general this has been confined to an overview of poll books, or as illustration of a point in another argument”. Indeed, Andrews’ own work (Andrews 1998) is rare in that it utilizes the data in detail and shows that voters in Sandwich change the party they vote quite often over time. He supplements this with evidence from other historical records such as candidates’

accounts to conclude that extensive vote buying took place. Nevertheless, that said, the empirical analysis even in Andrews (1998) is rather crude and indeed no statistical inference is conducted.

Our focus is on the period after the First Reform Act of 1832 and before The Ballot Act of 1872. We use only poll books that contain information on occupation and cover the transition period from candidate to party oriented system, that is, 1857-1868 as discussed by Cox (1986). Given these restrictions, we make use of poll books for a varying number of general elections held in three boroughs: Ashford (four elections in 1852-1868; Drake and Pearce 1992), Sandwich (eight elections in 1832-1868; Andrews 2001) and Guildford (eight elections in 1833-1868; Sykes 1977). Digitized versions of the poll book content are provided by the UK Data Archive (Ashford, UK Data Archive Study Number 2948; Sandwich, 4170; Guildford, 977). All poll books record voters' names and votes. Moreover, Sandwich and Guildford poll books include also occupations of the voters. For Ashford, we obtain the occupation information for a fraction of the voters by linking the data with censuses conducted around the period, directories that also contain occupational information for some of the voters and lists of landowners. We use a fuzzy merging algorithm, allowing minor differences in spelling of the first and last names, to link three censuses (1841, 1851 and 1861), directories from 1851, 1855, 1867 and 1874 and lists of land owners to the poll book data. After this, we assign each voter occupational and class information from the closest available source. We were not able to track other poll books that would both contain information on occupation and cover more than one election during our period of interest. An example of the typical content included in our poll books is illustrated below in Figure 1 which shows two pages from Sandwich poll book for parliamentary elections held in 1857.

REMARKS.	NAME.	PROFESSION.	RESIDENCE.	P.	H.	M.	L.
✓	James, Thomas	Clerk	Deal				
✓	Jarvis, Luke	Publican	do				
✓	Job, Thomas	Pilot	do				
✓	Jones, Edward	Cheminist	do				
✓	Jones, Wm. Beutick	Pilot	do				
✓	Kelsey, James H. G.	Gardener	do				
✓	Kemball, Joseph Bird	Draper	do				
✓	Kennett, John	Hair Dresser	do				
✓	Kent, Frederick	Inn Keeper	do				
✓	Keys, Richard	Gentleman	do				
✓	Kidner, Thomas	Victualler	do				
✓	King, James Jordau	Hair Dresser	do				
✓	King, Stephen	Schoolmaster	do				
✓	Kingsford, William	Baker	do				
✓	Knight, James	Minister	do				
✓	Ladd, William	Farmer	do				
✓	Langley, Morris	Auctioneer	do				
✓	Lawrence, George	Clerk	do				
✓	Leeson, Jas. Seymour	Surgeon	do				
✓	Long, George	Cardmaker	do				
✓	Long, Edmund F.	Shoemaker	do				
✓	Lovnds, Robt. Ramll.	Victualler	do				
✓	Lush, James Robert	Schoolmaster	do				
✓	Mackie, William B.	Pilot	do				
✓	Mackie, Robert Moon	Painter	do				
✓	Malcome, Russell	Banker's Clerk	do				
✓	Marsh, Willm. Bailey	Baker	do				
✓	Marsh, William	Gentleman	do				
✓	Marsh, Simon	Victualler	do				
✓	Mauch, Henry W. G.	Ship Agent	do				
✓	Mauch, James	Victualler	do				
✓	Martin, James C.	Law Clerk	do				
✓	Mac Diarmid, John B.	Chemist	do				
✓	McLeod, Beutley	Bracer	do				
✓	Merceer, George	Solicitor	do				
✓	Millen, John Bullock	Pilot	do				
✓	Moat, George Manger	Carpenter	do				
✓	Moat, Thomas	Blacksmith	do				
✓	Mockett, Thos. H. W.	Gardener	do				
✓	Mockett, Joshua	Victualler	do				
✓	Mockett, Stn. Foster	Victualler	do				
✓	Moon, George Wm.	Pilot	do				
✓	Morse, Edward Geo.	Cheminist & Surgeon	do				
✓	Mose, William James	Cock Maker	do				
✓	Moses, Joseph	Gentleman	do				
✓	Moulton, Morris	Pilot	do				
✓	Mourilyan, Joseph	Gentleman	do				
✓	Mowle, Richard	Pilot	do				
✓	Mowle, Thomas Ralph	Pilot	do				
✓	Mowl, Richard	Pilot	do				
✓	Munnery, Wm. R.	Carrier	do				
✓	Munday, George	Gentleman	do				

REMARKS.	NAME.	PROFESSION.	RESIDENCE.	P.	H.	M.	L.
✓	Myhill, Wm. Popkiss	Baker	Deal				
✓	Myhill, Valentine C.	Pilot	do				
✓	Myhill, George	Baker	do				

BOOTH B, COMPARTMENT, No. 2.—Voters in respect of Property occupied within the Parish of Deal, whose surnames commence with the letters from N to Y, (both inclusive):—and for Voters in respect of Property occupied within the Parish of Walmer.

REMARKS.	NAME.	PROFESSION.	RESIDENCE.	P.	H.	M.	L.
✓	Neal, Robert	Gentleman	Deal				
✓	Nethersole, William	Wine Merchant	do				
✓	Nethersole, John	Wine Merchant	do				
✓	Newing, John	Labourer	do				
✓	Newing, Willm. Harb.	Gardener	do				
✓	Newing, Steph. Danl.	Baker	do				
✓	Newton, James	Pilot	do				
✓	Norman, J. Henry	Gentleman	do				
✓	Norris, Tom	Pilot	do				
✓	Norris, Stephen	Pilot	do				
✓	Norris, Thos. Dixon	Pilot	do				
✓	Norris, James	Pilot	do				
✓	Norris, Leonard Pattn.	Victualler	do				
✓	Norris, James Henry	Draper	do				
✓	Norris, Stephen, senr.	Gentleman	do				
✓	Nott, Edw. Banberry	Capt R. N.	do				
✓	Oatridge, William	Mariner	do				
✓	Packer, Osmond	Draper	do				
✓	Pain, Luke	Baker	do				
✓	Pain, John	Pilot	do				
✓	Pain, Thomas	Clothier	do				
✓	Pain, Edmund	Gentleman	do				
✓	Pain, Thomas Henry	Cooper	do				
✓	Pain, Edmund	Clothier	do				
✓	Palmer, George	Pilot	do				
✓	Parker, Stephen Edw.	Victualler	do				
✓	Parker, David	Butcher	do				
✓	Parker, Thomas	Gentleman	do				
✓	Parker, Thomas	Butcher	do				
✓	Parsons, Henry Wm.	Gentleman	do				
✓	Parsons, Henry Saml.	Baker	do				
✓	Paul, Beucat	Gentleman	do				
✓	Paul, Thomas	Minister	do				
✓	Payne, Iden	Gentleman	do				
✓	Pearce, William	Watchmaker	do				
✓	Pezden, Vincent	Gentleman	do				
✓	Petley, Robert	Schoolmaster	do				
✓	Pettit, William	Gentleman	do				
✓	Philpott, William	Victualler	do				
✓	Philpot, George	Victualler	do				
✓	Pittock, Wm. Edgar	Tailor	do				
✓	Pordige, Robert	Pilot	do				

Figure 1. Pages from Sandwich pollbook, 1857.

We have further classified the occupations in working and middle classes in order to evaluate class differences in voting behaviour. Our classification follows Best (1972) and Clapham (2009), where the main classification criteria is a typical income of each occupation. Table 1 illustrates the occupational composition of the working and middle classes by showing ten most common professions within each class in our data. These ten professions always account for at least half of the voters in the respective group and hence provide fairly comprehensive picture of the classification and the occupations in the data. While all possible classifications may have their issues and one may need to compromise for example between income and social criteria, Table 1 does not reveal any striking misclassifications, at least from purely subjective and intuitive perspective.

Table 1. Ten most common occupations by class and district.

Panel A: Ashford				
Rank	Middle class (<i>N</i> = 250)		Working class (<i>N</i> = 328)	
	Occupation	<i>N</i>	Occupation	<i>N</i>
1	Grocer	30	Farmer	31
2	Gentry	17	Draper	24
3	Clerk	14	Carpenter	21
3	Merchant	13	Labourer	18
5	Engineer	12	Butcher	16
6	Doctor	11	Shoe maker	16
7	Lawyer	11	Tailor	15
8	Religion	11	Baker	14
9	Chemist	10	Cabinet maker	11
10	House proprietor	9	Coach builder	10

Panel B: Guildford				
Rank	Middle class (<i>N</i> = 1210)		Working class (<i>N</i> = 2097)	
	Occupation	<i>N</i>	Occupation	<i>N</i>
1	Gentleman	230	Carpenter	174
2	Dealer	150	Shoe maker	157
3	Grocer	133	Baker	123
3	Merchant	72	Tailor	119
5	Doctor	50	Labourer	105
6	Lawyer	48	Butcher	92
7	Innkeeper	46	Blacksmith	72
8	Victualler	43	Brick layer	71
9	Publican	40	Brewer	61
10	Clerk	39	Gardener	56

Panel C: Sandwich				
Rank	Middle class (<i>N</i> = 3182)		Working class (<i>N</i> = 4086)	
	Occupation	<i>N</i>	Occupation	<i>N</i>
1	Gentry	935	Pilot	379
2	Victualler	305	Mariner	327
3	Grocer	290	Labourer	260
3	Army	211	Shoe maker	208
5	Dealer	128	Carpenter	204
6	Publican	108	Farmer	201
7	Merchant	103	Butcher	187
8	Doctor	95	Gardener	173
9	Clerk	85	Tailor	162
10	Education	83	Painter	137

Table 2 summarizes voting behaviour by class and district. In Sandwich and Guildford working class tends to give more split votes but party preferences are similar across classes. In Ashford, the working class gives less split votes and votes more for the liberals than the middle class. However, this difference between constituencies will turn out to be mainly a result of different election years rather than within election year geographic differences.

Table 2. Aggregate level party votes by district and class.

	Middle class		Working class		Difference
	Mean	Std. dev.	Mean	Std. dev.	
Panel A: Ashford, parliamentary county elections (1852-1865)					
Liberal	0.432	0.496	0.579	0.494	-0.147***
Conservative	0.216	0.412	0.159	0.366	0.057*
Split	0.200	0.401	0.149	0.357	0.051
No vote	0.152	0.360	0.113	0.317	0.039
<i>N</i>	250		332		
Panel B: Guildford, parliamentary borough elections (1832-1868)					
Liberal	0.392	0.488	0.368	0.482	0.024
Conservative	0.358	0.480	0.299	0.458	0.059***
Split	0.250	0.433	0.333	0.472	-0.083***
No vote	N/A				
<i>N</i>	1210		2097		
Panel C: Sandwich, parliamentary borough elections (1832-1868)					
Liberal	0.455	0.498	0.442	0.497	0.013
Conservative	0.334	0.472	0.362	0.481	-0.029**
Split	0.079	0.270	0.118	0.323	-0.040***
No vote	0.132	0.338	0.075	0.264	0.057***
<i>N</i>	3182		4086		
Notes: Class is unknown for 239, 95 and 46 voters in Ashford, Guildford and Sandwich, respectively. *, ** and *** denote statistically significant difference in means at 10 %, 5 % and 1 % level, respectively.					

3 Econometric analysis

In this section, we describe the relationships in our data using regression analysis. The unit of observation is an individual voter in one election. Most voters are observed and identified over many elections. We begin our analysis by focusing on the question of split voting at the individual voter level and then analyse party alignment.

3.1 Split voting

In Table 3, the outcome variable gains value one if the vote is split between Liberal and Conservative candidates and value zero in all other possible cases (including a split vote within a party). We adopt different specifications, either with no control variables or including fixed effects at two levels: election year fixed effects control for overall over time

changes in the popularity of split voting; voter fixed effects focus the identification only on the variation arising from individual voters changing their class status over time.

The results in Table 3 show that for Sandwich and Guildford, working class predicts split voting positively and this correlation is quite robust and significant. There is one exception, namely the model with voter fixed effects (column 3). Because there are insufficient voters who change class, we are unable to precisely estimate the coefficient of interest in that specification. For Ashford, there is no robust pattern, which is not surprising given that it contains the smallest sample of voters.

Table 3. Regression results on the association between working class status and splitting the vote between the liberals and conservatives.

Panel A: Ashford			
	(1)	(2)	(3)
Working class	-0.0686* [0.0407]	-0.0310 [0.0316]	0.2636 [0.2108]
Constant	0.2370*** [0.0330]	0.6159*** [0.0595]	1.0482*** [0.1167]
<i>N</i>	502	502	502
<i>R</i> ²	0.01	0.40	0.77
Panel B: Guildford			
	(4)	(5)	(6)
Working class	0.0829*** [0.0182]	0.0833*** [0.0176]	0.0573 [0.0825]
Constant	0.2504*** [0.0141]	0.4477*** [0.0306]	0.4940*** [0.0635]
<i>N</i>	3307	3307	3307
<i>R</i> ²	0.01	0.14	0.18
Panel C: Sandwich			
	(8)	(9)	(10)
Working class	0.0366*** [0.0087]	0.0316*** [0.0086]	0.0277 [0.0228]
Constant	0.0912*** [0.0062]	0.1737*** [0.0143]	0.1756*** [0.0205]
<i>N</i>	6541	6541	6541
<i>R</i> ²	0.00	0.04	0.04
Election FE	No	Yes	Yes
Voter FE	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for splitting the vote between candidates from two parties. Estimates are conditional on voting. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

In Table 4, we revisit the classic concerns of Cox using our micro-level data. His main finding from analysis of aggregate data was that split level voting had declined by 1865 and almost to the level that persisted from 1868 onwards, thus prior to the major institutional change in 1867. However, during the election year 1857 split voting was as common as in the previous era. In 1859 split voting was lower than in 1857, but still within the variation of the previous era. We use these findings to split our sample into two periods: the first contains elections before 1865; the second, those during and after 1865. We use this classification to conduct difference-in-difference estimation (DID) that allows us to assess whether in the critical periods the response of the working class was different to that of the middle class. (From this perspective, working class be seen as the treatment group and middle class as the control group in the DID).

While our main concern is to provide descriptive results on the timing of changes in political behaviour for different classes, one could give a causal interpretation to these results if standard DID assumptions are met. The common trend assumption means that absent a general shift (from candidate oriented to a party oriented system) the outcome of interest for the working class and middle class would have evolved with the same trends. Moreover, a causal interpretation would require that any change in the behaviour of the working class in the post-treatment period did not cause a response in the behaviour of the middle class, i.e. there should be no spill-overs caused by the effect of interest. If both of these assumptions hold, a causal claim could be made. However, if not, then DID regressions and graphical illustrations (typical to the DID) still provide a useful way of describing the phenomenon of interest. Therefore, we estimate following regressions

$$(1) \quad y_{it} = \alpha_t + \beta_1 Working\ class_{it} + \beta_2 1[Year \geq 1865]_t + \beta_3 1[Year \geq 1865]_t Working\ class_{it} + \varepsilon_{it}$$

We estimate (1) either separately for each constitution or using a pooled data from all of them. We use either no controls or election year fixed effects. For Guildford, we also observe more detailed location (parish) information within the constituency and therefore include that locality fixed effect. With the pooled data, we also use election year times constituency fixed effects.

The DID results for split voting are presented in Table 4. From the separate regressions we find that working class status is a strong and robust predictor of split voting prior to the 1865 elections (the coefficient related to the *Working class* variable). In Guildford and Sandwich this result is highly significant, but it is imprecise in Ashford. However, in elections during and subsequent to 1865 we observe that split voting goes down for all voters (the coefficient related to the $1[Year \geq 1865]$ variable). This result is highly significant in all constituencies and exactly in line with the Cox aggregate level results.

The novel contribution of our paper is that our data allows us to go further in assessing heterogeneous effects. In particular, we observe that subsequent to 1865, the split voting goes down even more for the working class than the middle class (the coefficient related to the $1[Year \geq 1865]Working\ class$ variable). This main effect of interest is present and robust within all constituencies, but statistically significant only for Sandwich. The pooled analysis confirms these findings and all the results are highly significant in the pooled analysis.

As to the interpretation of the coefficients, let us look at specification (6) as an example. In Sandwich and prior to 1865, 10.35% percent (Constant=0.1035) of the non-working class voters gave split votes and 14.76% of the working class did so (Constant + 0.0441). After and during 1865, 6.34% of the non-working class voters gave split votes (Constant – 0.0446) and 6.05% of the working class did the same (sum of all the reported coefficients). Therefore, while we observe that split voting decreased across classes the decrease was relatively large amongst the working class. More specifically, the reduction in split voting amongst the working class was large enough to bring them to the same level observed in the middle class.

Table 4. DID results on splitting the vote.

Panel A: Ashford				
	(1)	(2)		
Working class	-0.0574 [0.0847]	-0.0572 [0.0851]		
1[Year>=1865]	-0.5739*** [0.0638]	-0.5941*** [0.0724]		
1[Year>=1865] x Working class	0.0360 [0.0864]	0.0372 [0.0867]		
Constant	0.6232*** [0.0617]	0.6294*** [0.0699]		
<i>N</i>	502	502		
<i>R</i> ²	0.40	0.41		
Panel B: Guildford				
	(3)	(4)	(5)	
Working class	0.0883*** [0.0205]	0.0936*** [0.0200]	0.0911*** [0.0200]	
1[Year>=1865]	-0.1665*** [0.0260]	-0.3264*** [0.0374]	-0.3330*** [0.0378]	
1[Year>=1865] x Working class	-0.0519 [0.0338]	-0.0572* [0.0335]	-0.0493 [0.0333]	
Constant	0.2815*** [0.0162]	0.4414*** [0.0312]	0.2592*** [0.0656]	
<i>N</i>	3307	3307	3307	
<i>R</i> ²	0.03	0.14	0.15	
Panel C: Sandwich				
	(6)	(7)		
Working class	0.0441*** [0.0105]	0.0408*** [0.0104]		
1[Year>=1865]	-0.0470*** [0.0112]	-0.1213*** [0.0176]		
1[Year>=1865] x Working class	-0.0401** [0.0157]	-0.0370** [0.0156]		
Constant	0.1035*** [0.0075]	0.1681*** [0.0146]		
<i>N</i>	6541	6541		
<i>R</i> ²	0.01	0.04		
Panel D: All constituencies				
	(8)	(9)	(10)	(11)
Working class	0.0644*** [0.0107]	0.0629*** [0.0106]	0.0568*** [0.0098]	0.0567*** [0.0097]
1[Year>=1865]	-0.1041*** [0.0108]	-0.1966*** [0.0167]	-0.1758*** [0.0170]	-0.1137*** [0.0172]
1[Year>=1865] x Working class	-0.0542*** [0.0146]	-0.0535*** [0.0145]	-0.0585*** [0.0145]	-0.0489*** [0.0139]
Constant	0.1718*** [0.0079]	0.2341*** [0.0143]	0.1806*** [0.0136]	0.1584*** [0.0145]
<i>N</i>	10350	10350	10350	10350
<i>R</i> ²	0.03	0.06	0.12	0.16
Election FE	No	Yes	Yes	Yes
Parish/Constituency FE	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for casting a split vote. Estimates are conditional on voting. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

In order to visualize the estimation exercise of Table 4, in Figure 2 we plot the share of split votes among the two classes over time. Our discussion of these results is based on the bottom-right graph that uses the pooled data. However, for completeness, we also report separately the individual constituency graphs that deliver the same main message (albeit with more noise due to obvious sample size reasons).

Doing so we first observe that the split vote share has reasonably common pre-treatment trends for working and other classes prior to the 1865 elections. This indirectly implies that the common trend assumption may be realistic and so might allow some causal claims to be made concerning the main association of interest reported in Table 4. The second key observation is that prior to 1865 split voting is always more common among the working class than the middle class. The third key observation is that for the 1865 election, split voting is about as common in both the groups and in 1868 slightly less common among the working than the middle class. Finally, and critically we note that the decrease in the split vote share among the working class was in place already in 1865 and not only in 1868. This is important because the 1868 elections were affected by the franchise extension of 1867 (see e.g. Berlinski et al. 2014). Thus we observe that the decline in split ticket voting amongst the working class precedes the main institutional change of the Victorian era.

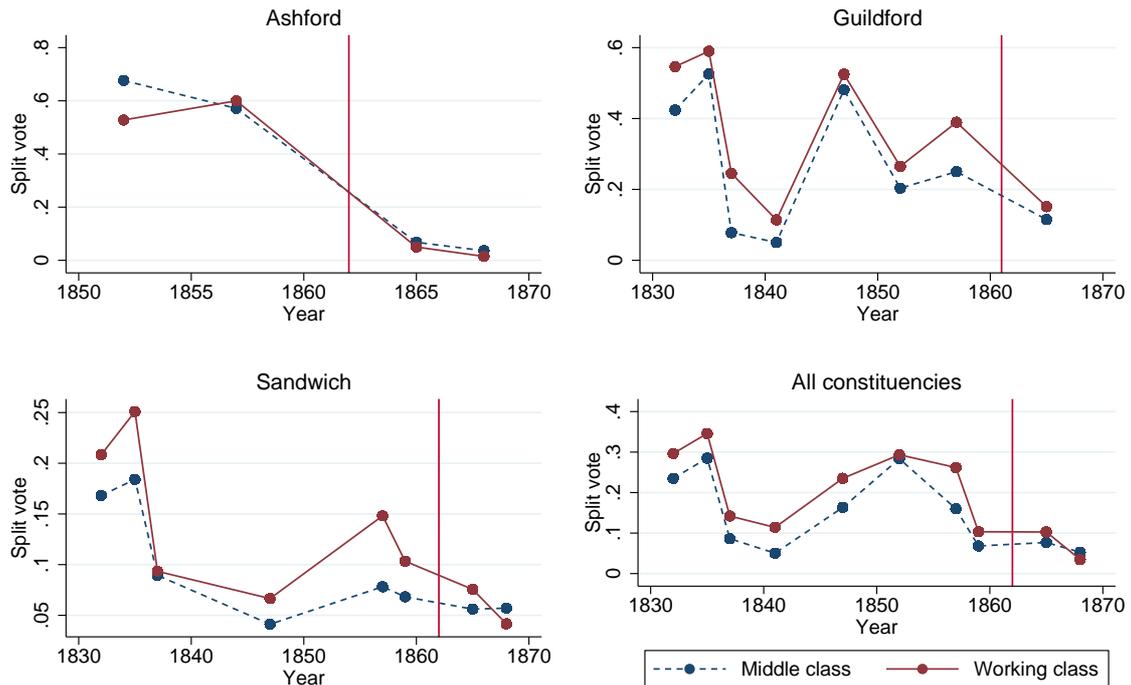


Figure 2. Graphical representation of the DID analysis on split voting.

In Figure 3, we illustrate the same findings further by plotting over time the class means of the residuals from a regression where split voting is predicted with only the election year fixed effects. The graphs focus on the relative differences between the classes, while cleaning out the variation due to time in the occurrence of split voting. The graphs show quite clearly the extent to which the behaviour of working class voters converges with that of middle class ones with respect to split voting. Our results thus corroborate Cox's findings and go further in showing that the development of a party centred electorate in Victorian England owes much to the change in behaviour of the English working classes.

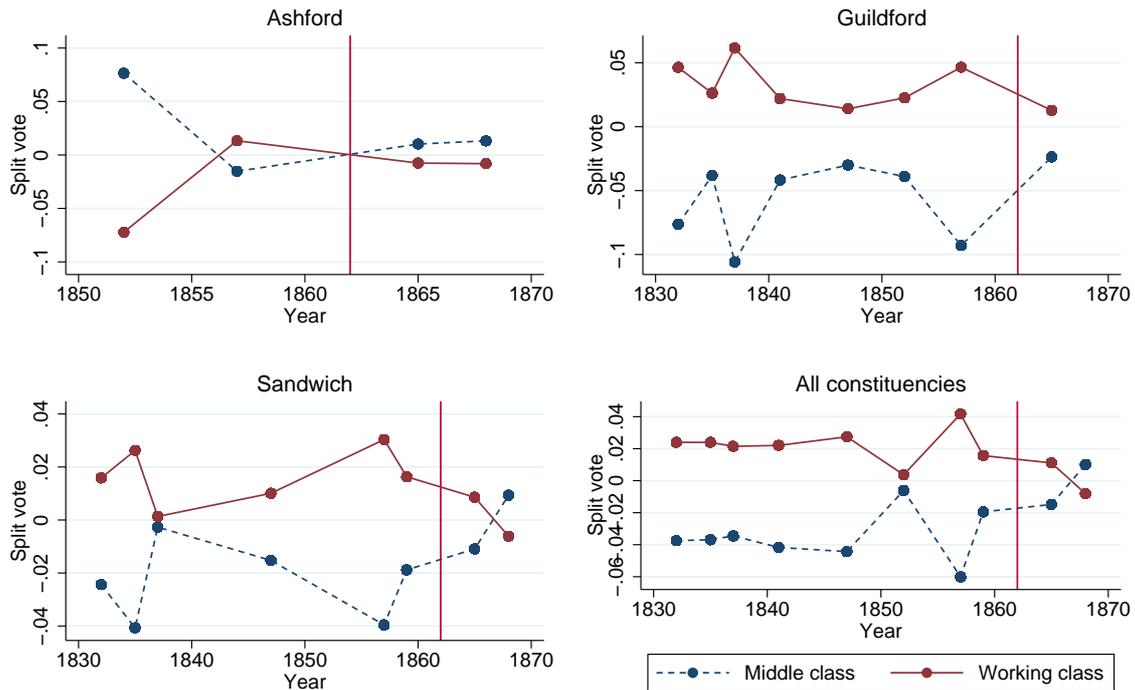


Figure 3. Graphical representation of the DID analysis on split voting residuals.

3.2 Party alignment

Next we investigate the form taken by the party orientation of Victorian voters. That is, we assess the partisan alignment of the English working classes.

In Table 5, we study the left alignment of workers by assessing the probability of voting for the liberals. Correspondingly, for this analysis, the outcome variable takes value one if a voter votes solely for liberals and the value zero in all other cases (a split vote between the parties, a vote for the conservatives, or no vote at all).¹ Depending on the specification, we either adopt no control variables or include election year fixed effects, voter fixed effects, or both.

¹ Our conclusions are robust to assigning the outcome variable value 0.5 if a voter casts a split vote between the parties, although this tones down the magnitude of the estimates slightly.

The results in Table 5 show that for Sandwich and Guildford, working class predicts Liberal voting negatively and this correlation is quite robust even when including voter fixed effects. The correlation is statistically significant for Sandwich in all the specifications and for none in Guildford. In Ashford, the pattern is not robust to voter level fixed effects, which is not surprising given it contains the smallest sample of voters. However, in models (1) and (2) the correlation is positive and significant for Ashford. This difference between Ashford and others is driven by the different election years in the data.

Table 5. Regression results on the association between working class status and voting for the liberals.

Panel A: Ashford			
	(1)	(2)	(3)
Working class	0.1458** [0.0575]	0.1160** [0.0531]	-0.0891 [0.2407]
Constant	0.5071*** [0.0460]	0.1975*** [0.0542]	-0.1727 [0.1123]
<i>N</i>	502	502	502
<i>R</i> ²	0.02	0.18	0.85
Panel B: Guildford			
	(4)	(5)	(6)
Working class	-0.0236 [0.0254]	-0.0168 [0.0253]	-0.035 [0.0783]
Constant	0.3917*** [0.0213]	0.4056*** [0.0329]	0.4092*** [0.0555]
<i>N</i>	3307	3307	3307
<i>R</i> ²	0.00	0.08	0.20
Panel C: Sandwich			
	(8)	(9)	(10)
Working class	-0.0458** [0.0187]	-0.0383** [0.0185]	-0.0557** [0.0265]
Constant	0.5241*** [0.0147]	0.5123*** [0.0204]	0.5396*** [0.0260]
<i>N</i>	6541	6541	6541
<i>R</i> ²	0.00	0.04	0.07
Election FE	No	Yes	Yes
Voter FE	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for voting for the liberal candidates. Estimates are conditional on voting. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

In Table 6, we analyse how party voting behaviour changes over time. We ask whether the working class voted liberal more often than other classes prior to the 1865 election and

whether they did so in 1865 and 1868 elections. The analysis is identical to the previous DID analysis on split voting bar the difference in outcome variable. Again, the main coefficient of interest relates to the interaction variable between working class status and the latter time period. This can be seen as a difference-in-differences estimate of left voting amongst the working class in the post 1865 era.

Consistent with Table 5, we find that during the earlier period, working class status is a predictor of casting split votes or voting Conservative rather than Liberal in Guildford and in Sandwich. For Ashford there is also a positive correlation but this finding is not statistically significant. In Ashford, in the 1865 and 1868 elections, the Liberal party became much more popular among the middle class than in the earlier period and this change is statistically significant. In Sandwich and Guildford there is not much change in the popularity of the liberals among the middle class. However, in the latter period, and in all three constituencies, the popularity of the liberals amongst the working class increased. This effect of main interest is robust when including controls within all the constituencies, and the effect is of similar magnitude across constituencies.

In order to interpret these coefficients, we again look at specification (6) in Table 6. Prior to 1865 52.16% (Constant) of the middle class voters voted liberal in Sandwich and 45.2% of the working class did so (Constant - 0.0697). After and during 1865, 53.1% of the non-working class voters voted liberal (Constant + 0.0094) whereas 56.81% of the working class did so (sum of all the reported coefficients). Thus, whereas the middle class liberal support stayed the same, there was a substantial change in the behaviour of the working class. In sum, we observe an emerging alignment between the working class and the Liberal Party that, as in the decline in split ticket voting, predates the major institutional reforms of the late Victorian era.

Table 6. Regression results on the association between working class status and voting for the liberals for pre- and post-1865 elections.

Panel A: Ashford				
	(1)	(2)		
Working class	0.1116 [0.0771]	0.1109 [0.0774]		
1[Year>=1865]	0.4305*** [0.0647]	0.4606*** [0.0700]		
1[Year>=1865] x Working class	0.0080 [0.0890]	0.0073 [0.0891]		
Constant	0.2174*** [0.0542]	0.2001*** [0.0554]		
<i>N</i>	502	502		
<i>R</i> ²	0.18	0.18		
Panel B: Guildford				
	(3)	(4)	(5)	
Working class	-0.0429 [0.0278]	-0.0368 [0.0275]	-0.0331 [0.0276]	
1[Year>=1865]	0.0134 [0.0359]	-0.0151 [0.0442]	-0.0172 [0.0462]	
1[Year>=1865] x Working class	0.1174*** [0.0455]	0.1113** [0.0454]	0.1008** [0.0455]	
Constant	0.3892*** [0.0235]	0.4177*** [0.0337]	0.7938*** [0.1001]	
<i>N</i>	3307	3307	3307	
<i>R</i> ²	0.01	0.08	0.09	
Panel C: Sandwich				
	(6)	(7)		
Working class	-0.0697*** [0.0202]	-0.0633*** [0.0200]		
1[Year>=1865]	0.0094 [0.0242]	0.0311 [0.0309]		
1[Year>=1865] x Working class	0.1068*** [0.0324]	0.1009*** [0.0324]		
Constant	0.5216*** [0.0159]	0.5275*** [0.0209]		
<i>N</i>	6541	6541		
<i>R</i> ²	0.01	0.04		
Panel D: All constituencies				
	(8)	(9)	(10)	(11)
Working class	-0.0617*** [0.0162]	-0.0598*** [0.0162]	-0.0548*** [0.0161]	-0.0510*** [0.0159]
1[Year>=1865]	0.0470** [0.0196]	0.0819*** [0.0263]	0.0434 [0.0266]	0.0282 [0.0287]
1[Year>=1865] x Working class	0.1178*** [0.0255]	0.1176*** [0.0255]	0.1178*** [0.0254]	0.1080*** [0.0253]
Constant	0.4727*** [0.0132]	0.5010*** [0.0179]	0.5376*** [0.0181]	0.5200*** [0.0196]
<i>N</i>	10350	10350	10350	10350
<i>R</i> ²	0.01	0.03	0.05	0.08
Election FE	No	Yes	Yes	Yes
Parish/Constituency FE	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for voting for the liberal candidates. Estimates are conditional on voting. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

We visualize the estimation exercise of Table 6 in Figure 4. When comparing pre-treatment trends between classes with those concerning split voting (Figure 2) it is less clear that (with respect to class voting) there are indeed common trends. This makes a causal interpretation of our findings with respect to the timing of the class basis of partisan voting hard to defend. The second key observation is that typically the liberals were more popular among the middle class than the working class in the earlier period, whereas in all constituencies the opposite was true in the latter period. The increase in the liberal vote share among the working class took place already in 1865 and not only in 1868, that is, already before the 1867 reform.

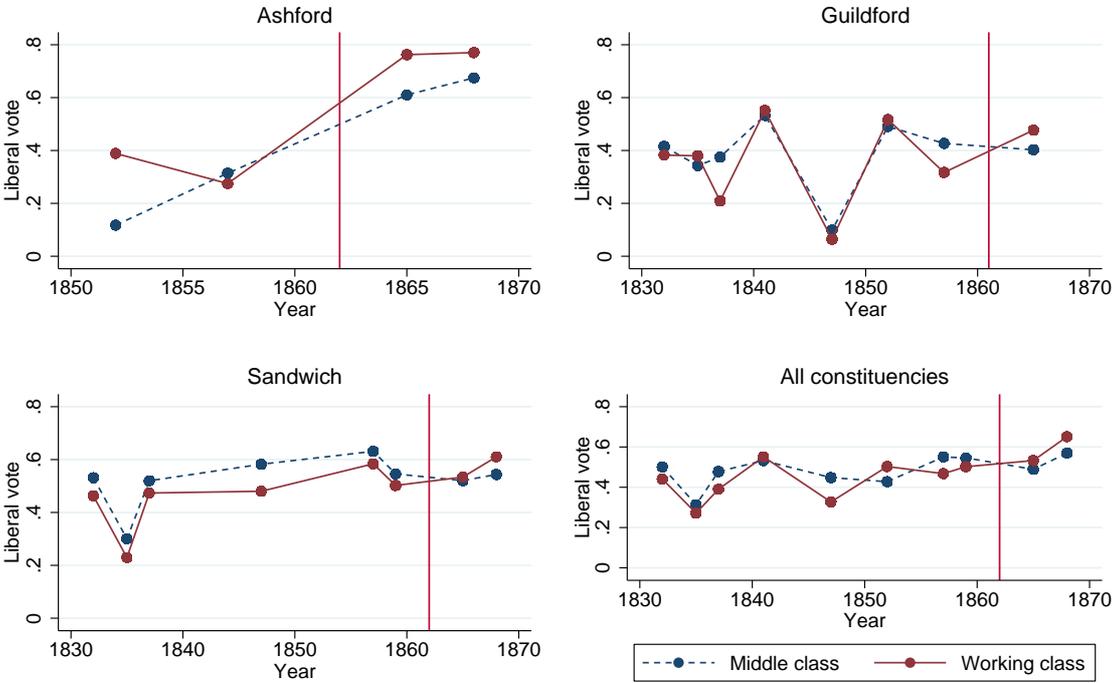


Figure 4. Graphical representation of the DID analysis on voting for liberals.

In Figure 5, we illustrate the same findings by plotting over time the class means of the residuals from a regression where liberal vote is predicted with only the election year fixed effects. The graphs focus on the relative differences between class while cleaning out the overall over time variation in occurrence of the liberal. The conclusion remains the same as in the context of Figure 4. However, Figure 5 underlines that the relative change in the behaviour of different classes is particularly striking in Sandwich. In Ashford and Guildford,

the change in the latter behaviour is not particularly different from the typical variation in the time series in the earlier era.

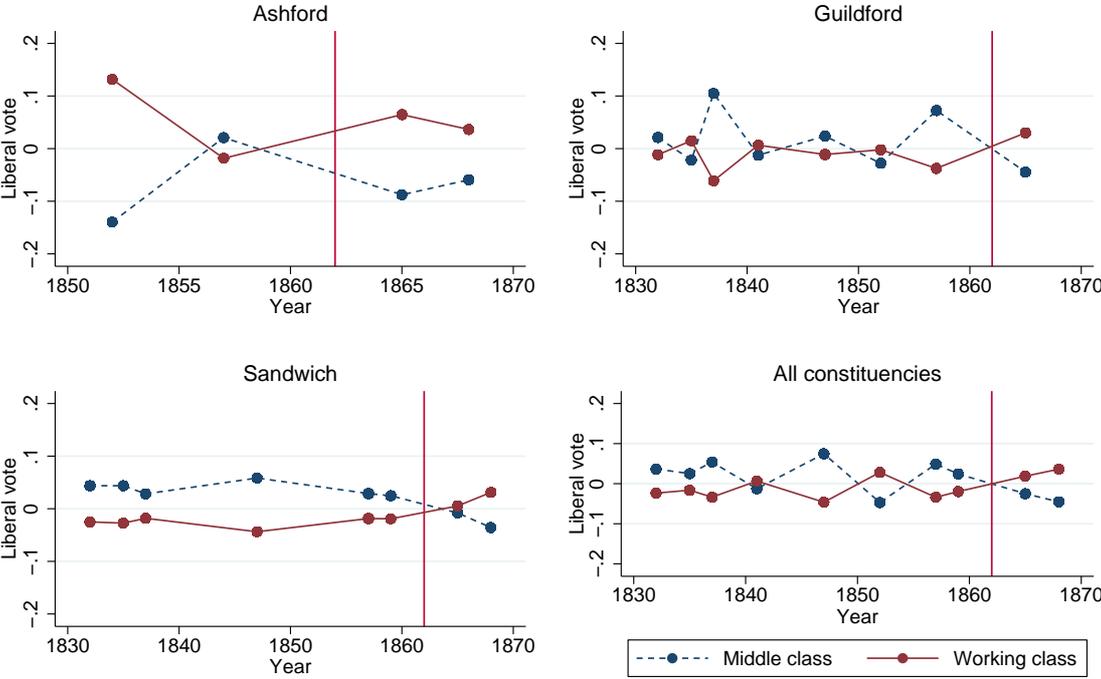


Figure 5. Graphical representation of the DID analysis on voting for liberals residuals.

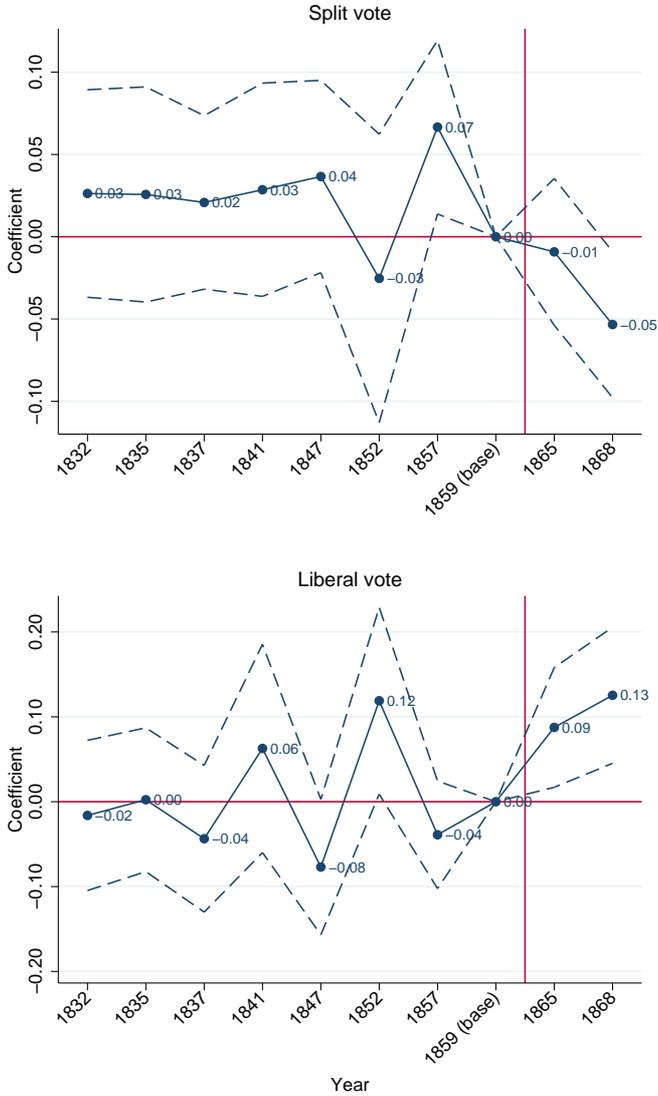
4 Additional sensitivity analysis

As already noted, any causal claims that could be made with respect to the behaviour of working class voters, based on our DID estimates, rest on the assumption of common pre-treatment trends. In Table 7, we formally test for common pre-treatment trends for both main outcomes using the pooled data from all the constituencies. We achieve this by estimating the following model:

$$(2) \quad y_{it} = \alpha + \beta_1 Working\ class_{it} + \sum_t \beta_{2t} Year_t + \sum_t \beta_{3t} Year_t Working\ class_{it} + \varepsilon_{it}.$$

In Figure 6, we report graphically only the β_{3t} coefficients for each t . We set the base year to 1859, i.e. the last year before our treatment period. The last two coefficients (1865 and 1868) relate to the actual treatment period of interest. That actual result of interest seems to be robust to allowing a different coefficient for each year, since three out of four

coefficients are statistically significant. If, however, the coefficients related to years prior to 1865 were shown to be statistically significant then the hypothesis of common pre-treatment trends would be rejected. In two out of 14 cases is this in fact the case. While this may be an indication of potential issues, it may also be due to multiple testing.



Notes: Figure shows point estimates for each year. Dashed blue lines mark 95% confidence intervals.

Figure 6. Formal pre-treatment common trends tests

In Table 7, we study whether the results are robust to excluding those voters from the sample who voted for the first time in 1868 elections in Ashford or Sandwich. While the fact that original poll book data for Ashford and Sandwich excluded voters enfranchised in 1867 implies that results should not be attributed to the reform, there are some voters who were

eligible to vote before but did not exercise their right to do so. The results remain the same after excluding these voters from the estimation sample.

Table 7. Results for both the outcomes excluding first-time voters in 1868.

	Split vote				Liberal vote			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Working class	0.0644*** [0.0107]	0.0629*** [0.0106]	0.0569*** [0.0098]	0.0567*** [0.0097]	-0.0617*** [0.0162]	-0.0598*** [0.0162]	-0.0550*** [0.0161]	-0.0510*** [0.0159]
1[Year>=1865]	-0.1044*** [0.0110]	-0.1977*** [0.0169]	-0.1716*** [0.0170]	-0.1170*** [0.0174]	0.0459** [0.0202]	0.0747*** [0.0276]	0.0419 [0.0275]	0.0386 [0.0297]
1[Year>=1865] x Working class	-0.0481*** [0.0150]	-0.0482*** [0.0149]	-0.0505*** [0.0150]	-0.0444*** [0.0143]	0.1018*** [0.0264]	0.1029*** [0.0264]	0.1037*** [0.0264]	0.0968*** [0.0261]
Constant	0.1718*** [0.0079]	0.2341*** [0.0143]	0.1798*** [0.0136]	0.1584*** [0.0145]	0.4727*** [0.0132]	0.5010*** [0.0179]	0.5386*** [0.0181]	0.5200*** [0.0196]
<i>N</i>	10160	10160	10160	10160	10160	10160	10160	10160
<i>R</i> ²	0.03	0.06	0.12	0.15	0.01	0.03	0.05	0.07
Election FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes	No	No	No	Yes

Notes: Only general elections are included. Voters who vote for the first time after the Reform Act of 1867 are omitted. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

As a further robustness check, and fully exploiting the richness of our data, in Table 8, we regress the change in individual voters vote decision (liberal, split or conservative in specification (1)-(4), only liberal or conservative in specifications (5)-(8)) relative to the previous elections on change in the individual voters class status relative to the previous elections. We find that a change in vote status is strongly correlated with a change in class status. This result is informative for two reasons. First, it suggests that we are measuring something meaningful with our class status variable, since it has predictive power beyond individual voter fixed effects. Second, it suggests that voter preferences are not stable but may relate instead to the current occupational or economic situation of a voter.

Table 8. The association between changing the vote decision and changing class.

Panel A: Vote-splitters included				
	(1)	(2)	(3)	(4)
Change in class	0.0812*** [0.0098]	0.0763*** [0.0094]	0.0755*** [0.0094]	0.0738*** [0.0094]
Constant	0.1615*** [0.0072]	0.2050*** [0.0137]	0.1936*** [0.0146]	0.2631*** [0.0166]
<i>N</i>	9124	9124	9124	9124
<i>R</i> ²	0.01	0.04	0.04	0.05
Panel B: Vote-splitters excluded				
	(5)	(6)	(7)	(8)
Change in class	0.0590*** [0.0083]	0.0555*** [0.0080]	0.0554*** [0.0080]	0.0531*** [0.0080]
Constant	0.1034*** [0.0059]	0.1782*** [0.0139]	0.1718*** [0.0145]	0.2112*** [0.0164]
<i>N</i>	7862	7862	7862	7862
<i>R</i> ²	0.01	0.02	0.03	0.05
Election FE	No	Yes	Yes	Yes
Parish/Constituency FE	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for change in vote from previous election. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

We explore the robustness of our main results to alternative social class divisions by reclassifying the voters mimicking Eriksson and Goldthorpe’s (1992) five-class scheme as closely as possible (see also Ganzeboom and Treiman 1996). First, we show in Table 9 that the decline in split votes comes mainly from skilled workers and petty bourgeoisie, all mostly belonging to the working class. Second, we verify in Table 10 that the alignment with the liberals happens among the non-skilled workers, skilled workers and petty bourgeoisie. In Appendix Tables A1 and A2 we demonstrate how our middle and working classes and different occupations map into the Eriksson-Goldthorpe classification.

Table 9. Split voting using Eriksson-Goldthorpe classification.

	(1)	(2)	(3)	(4)
Non-skilled workers	0.0548*** [0.0161]	0.0509*** [0.0161]	0.0493*** [0.0145]	0.0526*** [0.0143]
Skilled workers	0.0668*** [0.0119]	0.0656*** [0.0118]	0.0546*** [0.0110]	0.0546*** [0.0108]
Farm workers	0.0555** [0.0277]	0.0627** [0.0272]	0.0782*** [0.0245]	0.0738*** [0.0233]
Petty bourgeoisie	0.1296*** [0.0371]	0.1367*** [0.0362]	0.1119*** [0.0374]	0.0963** [0.0384]
1[Year>=1865]	-0.1014*** [0.0110]	-0.1946*** [0.0168]	-0.1751*** [0.0171]	-0.1135*** [0.0174]
1[Year>=1865] x Non-skilled workers	-0.0424* [0.0242]	-0.0382 [0.0240]	-0.0481** [0.0235]	-0.0413* [0.0230]
1[Year>=1865] x Skilled workers	-0.0643*** [0.0159]	-0.0645*** [0.0157]	-0.0662*** [0.0158]	-0.0568*** [0.0151]
1[Year>=1865] x Farm workers	-0.0110 [0.0387]	-0.0177 [0.0385]	-0.0190 [0.0371]	-0.0254 [0.0351]
1[Year>=1865] x Petty bourgeoisie	-0.1404*** [0.0504]	-0.1450*** [0.0494]	-0.1391*** [0.0531]	-0.0991* [0.0510]
Constant	0.1704*** [0.0080]	0.2331*** [0.0143]	0.1805*** [0.0136]	0.1587*** [0.0146]
<i>N</i>	10350	10350	10350	10350
<i>R</i> ²	0.03	0.06	0.12	0.16
Election FE	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes

Notes: Only general elections are included. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

Table 10. Liberal voting using Eriksson-Goldthorpe classification.

	(1)	(2)	(3)	(4)
Non-skilled workers	-0.0957*** [0.0234]	-0.0893*** [0.0235]	-0.0866*** [0.0233]	-0.0816*** [0.0232]
Skilled workers	-0.0513*** [0.0179]	-0.0508*** [0.0180]	-0.0420** [0.0178]	-0.0398** [0.0177]
Farm workers	-0.0678* [0.0385]	-0.0693* [0.0382]	-0.0825** [0.0373]	-0.0755** [0.0366]
Petty bourgeoisie	-0.1123*** [0.0433]	-0.1270*** [0.0429]	-0.1119*** [0.0431]	-0.1048** [0.0431]
1[Year>=1865]	0.0453** [0.0199]	0.0804*** [0.0265]	0.0425 [0.0268]	0.0268 [0.0289]
1[Year>=1865] x Non-skilled workers	0.1240*** [0.0403]	0.1169*** [0.0400]	0.1192*** [0.0401]	0.1081*** [0.0394]
1[Year>=1865] x Skilled workers	0.1164*** [0.0282]	0.1189*** [0.0282]	0.1179*** [0.0281]	0.1109*** [0.0280]
1[Year>=1865] x Farm workers	0.0789 [0.0555]	0.0793 [0.0553]	0.0840 [0.0546]	0.0823 [0.0536]
1[Year>=1865] x Petty bourgeoisie	0.1845*** [0.0695]	0.1939*** [0.0685]	0.1736** [0.0683]	0.1423** [0.0673]
Constant	0.4755*** [0.0133]	0.5041*** [0.0179]	0.5402*** [0.0181]	0.5228*** [0.0196]
<i>N</i>	10350	10350	10350	10350
<i>R</i> ²	0.01	0.04	0.05	0.08
Election FE	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes

Notes: Only general elections are included. Outcome is a dummy for casting a liberal vote. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

Finally, we check that the elections are similar across years. In Table 11, we report the available candidates for each election. For Ashford we report the results from the entire constituency of Kent Eastern, of which, Ashford is part of. In all the constituencies there are either three or four candidates in every election. There is no striking difference between the pre- and post-treatment years, and thus, changes in available candidates are unlikely to explain our findings.

Table 11. Candidates in elections.

Kent, Eastern (Ashford)					Guildford					Sandwich				
Year	Electors	Candidate	Party	Votes	Year	Electors	Candidate	Party	Votes	Year	Electors	Candidate	Party	Votes
		Sir E. C. Dering, Bt.	L	3063			J. Mangles	L	299			J. Marryat	L	495
1852	7119	W. Deedes	C	2879	1832	342	C. B. Wall	C	180	1832	916	Sir E. T. Troubridge, B.t.	L	485
		Sir B. W. Bridges, Bt.	C	2356			Hon. C. F. Norton	L	138			S. G. Price	C	361
		Sir B. W. Bridges, Bt.	C	2379			J. Mangles	L	299			Sir E. W. C. R. Owen	C	265
1857	8000	Sir E. C. Dering, Bt.	L	2358	1835	537	C. B. Wall	C	214			S. G. Price	C	551
		W. Deedes	C	2216			H. A. C. Austen	L	131	1835	934	Sir E. T. Troubridge, Bt.	L	405
		E. A. Acheson	L	127			C. B. Wall	C	252			Sir E. W. C. R. Owen	C	389
		Sir B. W. Bridges, Bt.	C	3208	1837	425	Hon. J. Y. Scarlett	C	188			Sir E. T. Troubridge, Bt.	L	416
1865	8250	Sir E. C. Dering, Bt.	L	3195			J. Mangles	L	159	1837	911	Sir J. R. Carnac, Bt.	L	401
		Sir N. J. Knatchbull, Bt.	C	2919			R. D. Mangles	L	242			S. G. Price	C	370
		E. L. Pemberton	C	5231	1841	486	C. B. Wall	L	221			Sir B. W. Bridges, Bt.	C	330
1868	13107	Hon. G. W. Milles	C	5104			Hon. J. Y. Scarlett	C	177			Lord Clarence Paget	L	459
		H. J. Tufton	L	4685			H. Currie	C	161	1847	943	C. W. Grenfell	L	437
		Sir J. Croft, Bt.	L	4579			H. Currie	C	336			Lord Charles Clinton	C	392
					1847	585	R. D. Mangles	L	242			E. H. K Hugessen	L	547
							T. L. Thurlow	C	184	1857	1008	Lord Clarence Paget	L	503
							R. D. Mangles	L	370			J. McGregor	C	322
					1852	648	J. Bell	L	251			J. Lang	L	24
							T. L. Thurlow	C	184			E. H. K Hugessen	L	497
							R. D. Mangles	L	349	1859	1030	Lord Clarence Paget	L	458
					1857	666	W. Bovill	C	338			Sir J. Fergusson, Bt.	C	404
							J. Bell	L	167			W. D. Lewis	C	328
							G. J. H. M. E. Onslow	L	333			E. H. K Hugessen	L	494
					1865	667	W. Bovill	C	318	1865	1054	Lord Clarence Paget	L	477
							W. W. Pocock	L	228			C. Capper	C	413
												E. H. K Hugessen	L	933
										1868	1906	H. A. Brassey	L	923
												H. Worms	C	710

Notes: C = conservative, L = liberal, Hon. = honourable, Bt. = baronet. Source: Craig (1977).

5 Role of vote buying

What might explain our findings that the decline in split voting was due to the behaviour of the English working classes who aligned with the Liberals. A plausible explanation relates to the fact that 19th century elections were characterized by the presence of vote buying. Political parties and candidates offered voters money or other types of benefits in exchange for their votes and even gathered information on voters' debts, crimes and infidelities to gain leverage over them (Stokes et al 2013, Stokes et al 2014). As shown in several studies, the introduction of the secret ballot in 1872 led to a substantial decrease in vote buying (e.g. Cox 1987 and Kam 2016). Stokes et al (2014) argue that the changes in political and economic environment before the ballot reform were also important. As larger groups were

enfranchised and the median income of the electorate increased, bribing voters became more expensive and less beneficial for the candidates. Closely related to these arguments, Cox (1987) links the decline of vote buying in 19th century England with the growth of electoral districts which also meant that a fixed amount of money would buy a smaller proportion of votes. Moreover, Cox argues that the power of individual MPs was declining during the 19th century. For instance, while individual MPs were previously processing private bills which conferred, for example, divorces, canals and railroads, these among some other responsibilities were moved to courts and bureaus. As local lords could benefit less from having their own MP, also the incentives to buy votes became smaller.

The argument that vote buying was a problem in Mid Victorian England but became less so towards the 1872 reform raises an important question: Was the decline in split voting and working class alignment with the liberals merely due to vote buying becoming less common? We can shed some light on this question by focussing on the behaviour of occupational groups that were particularly susceptible to vote buying.²

To identify these occupational groups, we define a procedure that that builds upon arguments made in previous research that inconsistencies or volatility in voting behaviour across different elections, or splitting the vote between liberal and conservative candidates, can be treated as an indication of vote buying (see e.g. Andrews 1998).

First, we define a dummy for changing voting behaviour from the previous election for each voter. This dummy gets value one if a voter switches from conservative (liberal) to liberal (conservative) or split vote or from split vote to conservative or liberal vote. Then, we compute the average of this measure for all occupations using data from the period before 1865, i.e. our pre-treatment period. The measure serves as a proxy for the propensity to be

² The previous literature on Mid Victorian voting behavior has argued that some occupational groups were more prone to vote buying than others (e.g. Andrews 1998). For instance, local lords could pressure small entrepreneurs such as shopkeepers by threatening with boycotts if they did not cast at least one vote for the lord's candidate (Cox 1987). Hence, it is justifiable to define the vulnerability to vote buying at the occupational instead of the individual level. Another rationale for this choice is that an individual voter changing his voting decisions once or twice may be entirely normal but a large fraction of voters in a whole occupational group changing its voting behavior would lead one to suspect vote buying. Moreover, more than one election would probably be needed to define the likeliness of being affected by vote buying at the individual level. This would mean unnecessary loss of some data.

affected by vote buying. Finally, we define a dummy for belonging to a group likely affected by vote buying by splitting the sample by different thresholds (50th and 75th percentile) in the average volatility measure.

The group of volatile voters includes both working and middle class. A slight majority, roughly three out of five, of these volatile voters belong to the former. Voters classified as volatile often work as, for instance, small entrepreneurs such as shoe makers, dealers, innkeepers and tailors and laborers. Indeed, these occupations overlap partially with those groups that Andrews (1998) suspects were more likely affected by vote buying in Sandwich.

Again, we employ the pooled data set consisting of all three constituencies. We estimate equations of form

$$(3) \quad y_{it} = \alpha + \beta_1 \textit{Working class}_{it} + \beta_2 \textit{Volatile voter}_{it} + \beta_3 1[\textit{Year} \geq 1865]_t + \beta_4 1[\textit{Year} \geq 1865]_t \textit{Working class}_{it} + \beta_5 1[\textit{Year} \geq 1865]_t \textit{Volatile voter}_{it} + \varepsilon_{it}.$$

Contrary to our previous estimations, we redefine the working class dummy so that the class includes only consistent voters (who are less likely to be affected by vote buying). We can then interpret the coefficients for the group dummies and their year interactions as effects relative to those amongst middle class voters who were consistent in their voting behaviour.

The estimation results are shown in Tables 12 (split voting) and 13 (liberal votes). The first conclusions that we can draw from these tables are in line with results discussed in previous sections. First, we find that being a consistent working class voter is a strong and robust predictor of split and liberal voting prior to the 1865 elections (the coefficient related to the *Working class* variable), the coefficients being statistically significant and positive and negative, respectively. Second, split voting goes down for all voters (the coefficient related to the $1[\textit{Year} \geq 1865]$ variable) in elections during and subsequent to 1865.

Here, however, our question of interest is what happens to working class and volatile voters' behaviour in 1865 and after, i.e. the coefficients related to the interaction terms. First, it appears that being a consistent working class voter is only weakly associated with split

voting after 1865. The estimated coefficients are rather small, around 2-3%, and barely significant in some specifications. On the contrary, most of the decrease in split voting comes from volatile voters who change their voting behaviour. The estimates are much larger in absolute terms and statistically highly significant. This is perhaps what one would expect to see, if we have indeed classified those groups affected by vote buying properly and vote buying became less common during our post-treatment period.

In Appendix Tables A3 and A4 we re-estimate equation (3) but split the group of volatile voters into volatile working class voters and volatile middle class voters, and contrast their and consistent working class voters' outcomes to those of consistently voting members of the middle class. These tables show that the effects for the volatile voters mainly come from the volatile working class voters changing their behaviour.

Furthermore, however, we observe that both the consistent working class and volatile working class voters aligned with the liberals. The estimates are positive and statistically significant and slightly larger for the volatile voters. We can conclude then that working class alignment with the liberals cannot be completely explained by a decline in vote buying. This suggests that other factors were important also. While we do not directly observe the effect, the patterns in our data are consistent with claims that working class voters were attracted to the programmatic appeal of the Liberal Party. Stokes et al have argued that the diminishing role of agents reduced the advantages of vote buying and so led parties to develop different (ideological) appeals that targeted groups of voters rather than individual ones. Such programmatic appeals can be seen as a coordinated partisan response to the institutional and socio-demographic changes that broke the stranglehold of the brokers and aligned groups (or classes) of voters with parties on the basis of ideology. Recently, others have argued (alongside Stokes) that such programmatic appeals are a critical element in political and economic development (see for example, Acemoglu and Robinson chapter 11). For example, Fujiwara and Wantchekon (2013) argue that programmatic appeals can enhance welfare and use evidence from Benin that such appeals are also optimal for candidates under some circumstances. We view our analysis as complimentary to that of Stokes: Whereas she provides case study evidence that parties were incentivised to develop

ideological appeals, ours is (we believe) the first quantitative analysis that is consistent with the claim that voters responded to such appeals.

Table 12. Role of vote buying, split votes.

	50th percentile				75th percentile			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Working class	0.0454*** [0.0143]	0.0435*** [0.0141]	0.0470*** [0.0131]	0.0485*** [0.0127]	0.0659*** [0.0119]	0.0640*** [0.0117]	0.0603*** [0.0109]	0.0599*** [0.0107]
Volatile voter	0.0936*** [0.0127]	0.0874*** [0.0125]	0.0785*** [0.0116]	0.0787*** [0.0113]	0.1031*** [0.0142]	0.1005*** [0.0140]	0.0856*** [0.0133]	0.0819*** [0.0132]
1[Year>=1865]	-0.0971*** [0.0138]	-0.1906*** [0.0190]	-0.1656*** [0.0191]	-0.1061*** [0.0191]	-0.1020*** [0.0120]	-0.1949*** [0.0177]	-0.1719*** [0.0180]	-0.1138*** [0.0182]
1[Year>=1865] x Working class	-0.0238 [0.0193]	-0.0217 [0.0191]	-0.0301 [0.0191]	-0.0264 [0.0180]	-0.0423*** [0.0164]	-0.0405** [0.0163]	-0.0449*** [0.0164]	-0.0362** [0.0155]
1[Year>=1865] x Volatile voter	-0.0682*** [0.0176]	-0.0629*** [0.0174]	-0.0729*** [0.0174]	-0.0562*** [0.0166]	-0.0784*** [0.0197]	-0.0751*** [0.0196]	-0.0814*** [0.0197]	-0.0578*** [0.0191]
Constant	0.1520*** [0.0100]	0.2153*** [0.0158]	0.1621*** [0.0148]	0.1383*** [0.0155]	0.1588*** [0.0085]	0.2208*** [0.0147]	0.1688*** [0.0140]	0.1466*** [0.0149]
<i>N</i>	10350	10350	10350	10350	10350	10350	10350	10350
<i>R</i> ²	0.03	0.06	0.12	0.16	0.03	0.07	0.12	0.16
Election FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes	No	No	No	Yes

Notes: Only general elections are included. The outcome is dummy for casting a split vote. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

Table 13. Role of vote buying, liberal votes.

	50th percentile				75th percentile			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Working class	-0.0661*** [0.0232]	-0.0643*** [0.0232]	-0.0663*** [0.0230]	-0.0632*** [0.0227]	-0.0727*** [0.0183]	-0.0710*** [0.0183]	-0.0681*** [0.0181]	-0.0632*** [0.0180]
Volatile voter	-0.0376* [0.0200]	-0.0343* [0.0201]	-0.0266 [0.0199]	-0.0229 [0.0198]	-0.0484** [0.0205]	-0.0529** [0.0206]	-0.0426** [0.0203]	-0.0347* [0.0202]
1[Year>=1865]	0.0685*** [0.0261]	0.1040*** [0.0316]	0.0641** [0.0317]	0.0526 [0.0335]	0.0428* [0.0224]	0.0763*** [0.0287]	0.0386 [0.0289]	0.0277 [0.0308]
1[Year>=1865] x Working class	0.0680* [0.0360]	0.0659* [0.0358]	0.0685* [0.0356]	0.0610* [0.0354]	0.1168*** [0.0294]	0.1152*** [0.0293]	0.1140*** [0.0292]	0.1027*** [0.0289]
1[Year>=1865] x Volatile voter	0.0581* [0.0314]	0.0568* [0.0314]	0.0564* [0.0313]	0.0410 [0.0312]	0.0887*** [0.0327]	0.0918*** [0.0326]	0.0880*** [0.0325]	0.0652** [0.0325]
Constant	0.4718*** [0.0176]	0.4992*** [0.0216]	0.5360*** [0.0218]	0.5182*** [0.0231]	0.4792*** [0.0145]	0.5094*** [0.0191]	0.5456*** [0.0192]	0.5270*** [0.0207]
<i>N</i>	10350	10350	10350	10350	10350	10350	10350	10350
<i>R</i> ²	0.01	0.03	0.05	0.08	0.01	0.03	0.05	0.08
Election FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes	No	No	No	Yes

Notes: Only general elections are included. The outcome is dummy for casting a liberal vote. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

6 External validity

The advantages of using such rich data as analysed here means that we can avoid some pitfalls when making inferences from more aggregated data. Nevertheless, a limitation of the poll book data is that they are available for only three constituencies. In this section we assess those potential pitfalls (of using aggregate data) while analysing whether some of our findings may generalise to a larger sample.

In order to do so we use aggregate constituency level data from Eggers and Spirling (<http://andy.egge.rs/data.html>; see, e.g., Eggers and Spirling 2014) data set. We merge this data with that from the 1861 census obtained from the UK Data Archive (Gatley et al. 2000). Besides limiting the data to those constituencies that we could link with the census info, we restrict the sample to constituencies that are present for more than 5 elections between 1835 and 1868 (we omit the entire year 1832, because the data are relatively scarce then).

Moreover, we only include constituencies that are present in both our before and after periods. These restrictions are needed to insure comparison of how voting behaviour evolves in the same constituencies over time. We are left with 117 constituencies.

First, we analyse how these 117 constituencies compare to those used in the main analysis. In Figure 8, we report a histogram of working class shares while marking the location of our three constituencies, based on poll book data and the census, by vertical red lines. We use the 1861 census information to measure the working class share in these constituencies, and include only constituencies which have elections in 1859. The census is available for Guildford, but not for Sandwich. For Ashford, we use the census information from Kent, which Ashford is a part of.

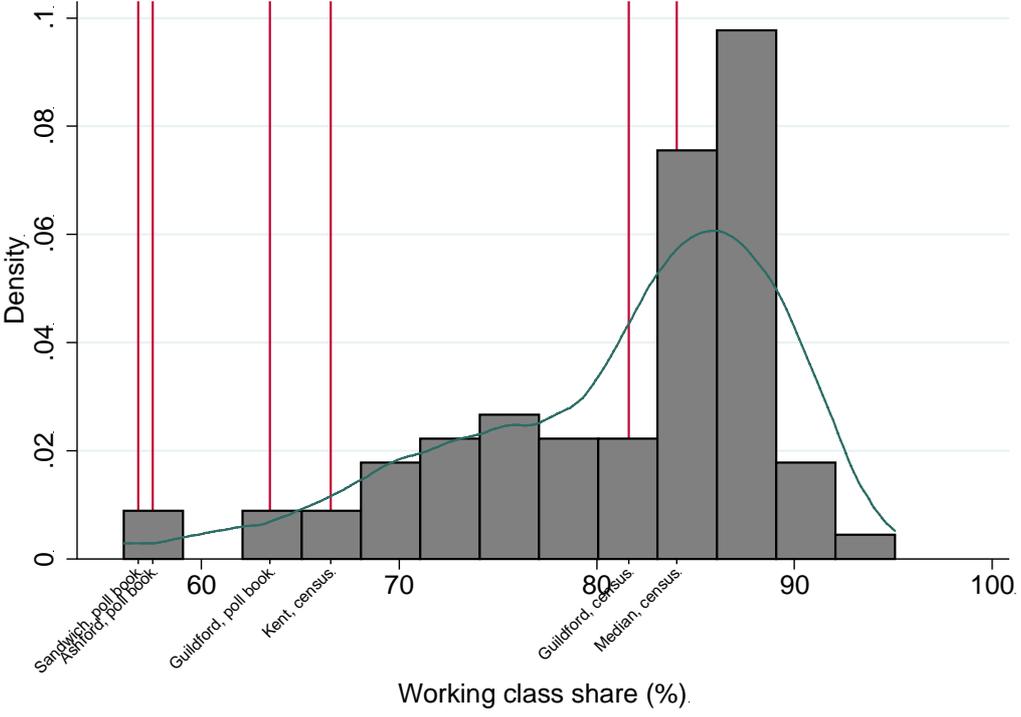


Figure 8. Histogram of working class share among the wage earning adult male population for year 1861 census and 1859 poll books.

Based on both of these measures, we observe that our three constituencies have fewer working class residents than is typical in the entire sample. If it were the case that the areas

with a larger share of working class were more likely to vote Liberal (we show that this is so) then this suggests that our estimates represent bounds for the alignment of the working class and liberals.

The closest we can come to our voter level DID analysis is to compare how voting behaviour evolves in constituencies that have a large working class share relative to constituencies that have a smaller share. Accordingly, the first limitation of the aggregate data when compared to voter level data is that the analysis takes places between rather than within constituencies. This leads us to a second and further issue with the aggregate data: The share of working class measure is available only for the one census year (and we have no idea how that evolves over time). A third issue is that the occupation information in the census follows a more aggregate classification than the poll book information.

Perhaps the most important issue concerning use of aggregate data, however, is that we do not have information on the share of eligible voters, neither overall nor (and in particular) within each occupation. This is reflected, for example, in Figure 7 that shows the working class shares based on census measures are much larger than the respective shares in the poll book data. This is important since it implies that we cannot separate whether a (possible) correlation between working class share and the liberal vote share is driven by voter alignment or by the eligibility to vote. For example, comparing across constituencies using aggregate data one might find that working class share is negatively correlated with Liberal vote share, even though, at the individual level, working class voters are more likely to vote Liberal. This is due to the possibility that, because of franchise restrictions, as the share of working class in a constituency goes up then the share of middle class voters goes up also.

To address this issue, we group the working class into on average low skilled occupations of agriculture, mining, domestic service and labourer, and into on average high skilled occupations of building, manufacturing and transportation. The latter group will contain a larger share of eligible voters. Put together, these groups make up the working class described in Figure 8.

We construct a proxy of voter eligibility share as the (total votes in constituency)/(number of adult males who gain wages in year 1861). Since women and men who received no wages were disenfranchised the numerator is never larger than the denominator.

In Figures 9 and 10, we show that the share of low skilled working class is indeed negatively correlated with eligibility, whereas the share of high skilled is positively correlated. For the sake of clarity, the figures show binned averages within twenty bins with equal number of observations and linear fits.

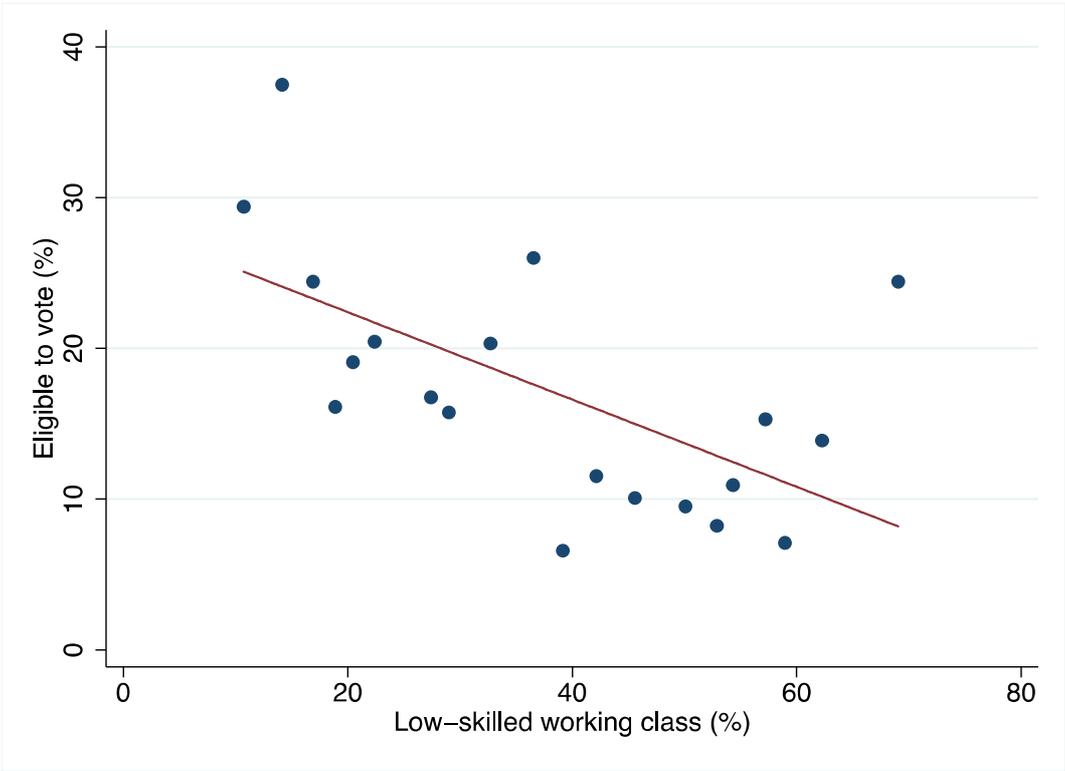


Figure 9. Constituency level scatter plot for year 1861 census and 1859 elections for eligibility share and low skilled working class occupations' share.

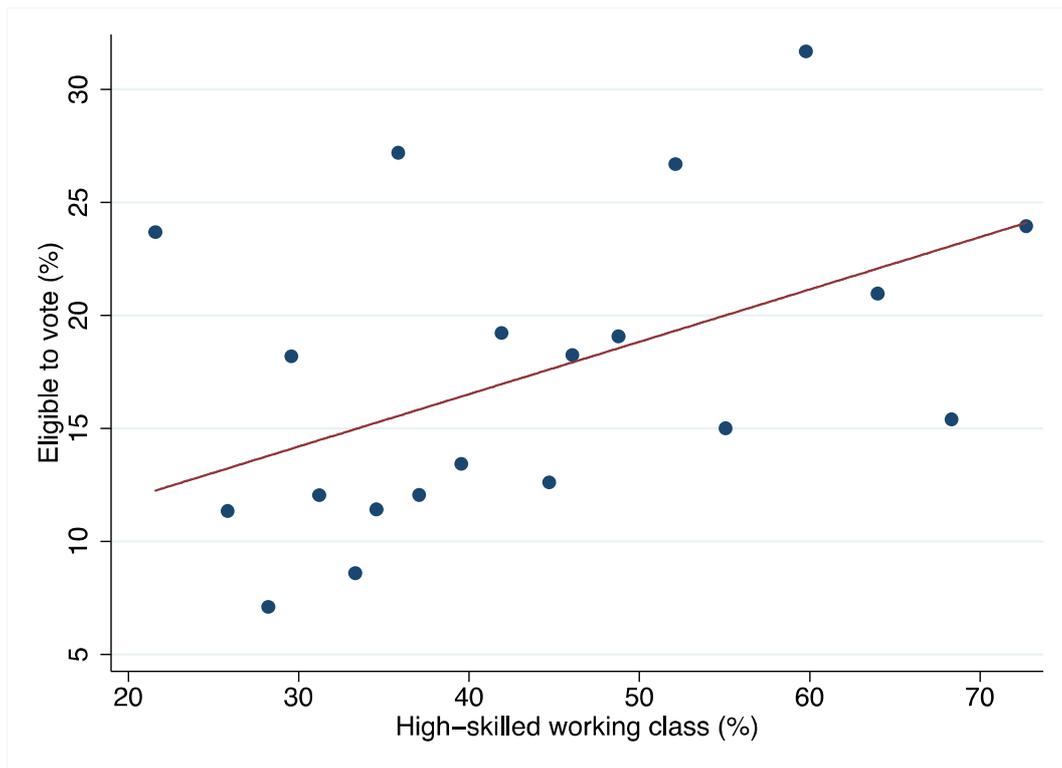


Figure 10. Constituency level scatter plot for year 1861 and 1859 elections for eligibility share and high skilled working class occupations' share.

In Figures 11 (and 12), we conduct graphically the aggregate level attempt to mimic our DID analysis. We report how liberal vote share evolves in municipalities in two groups with above or below median share of low (high) skilled working class. Given the limitations imposed by the data, lacking clear common pre-treatment trends, and given that none of the estimated effects turn out to be statistically significant (not reported), these figures should be taken as tentative descriptive evidence.

In Figure 11, the pattern is similar to the micro level findings. In figure 12, the pattern is opposite. Given this, the main results of this paper concerning the alignment of the working class with the left seems more likely to generalize to the behaviour of low skilled working class; although, given the limitation of this analysis, one should not draw too strong a conclusion one way or the other.

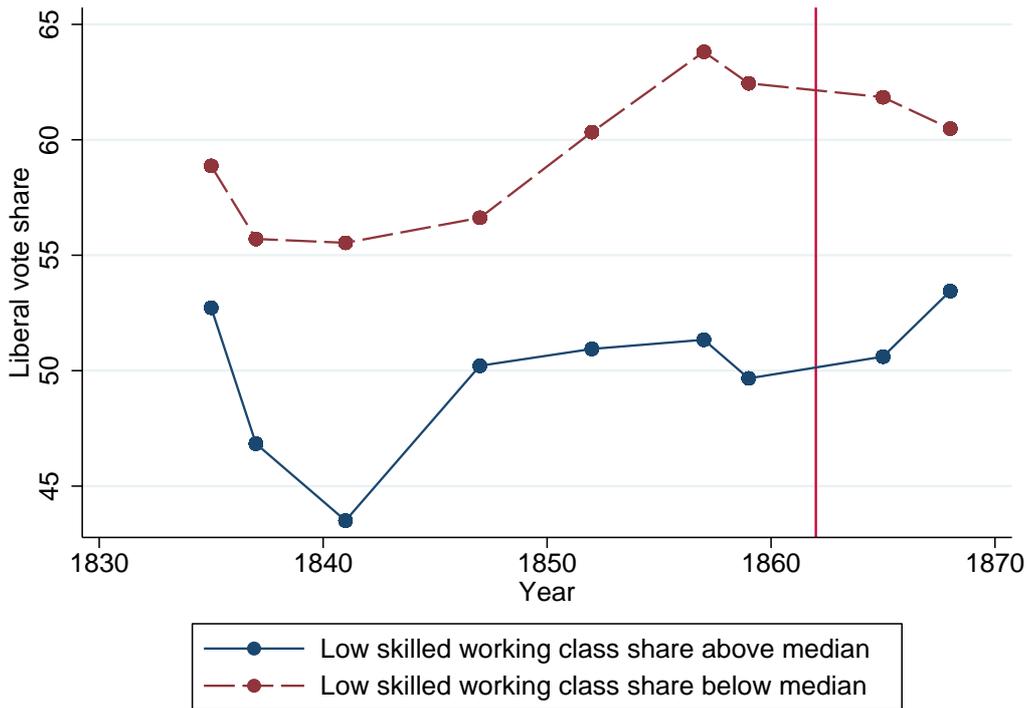


Figure 11. Liberal vote share trends in constituencies with above and below median share of low skilled working class occupations among the wage earning adult male population.

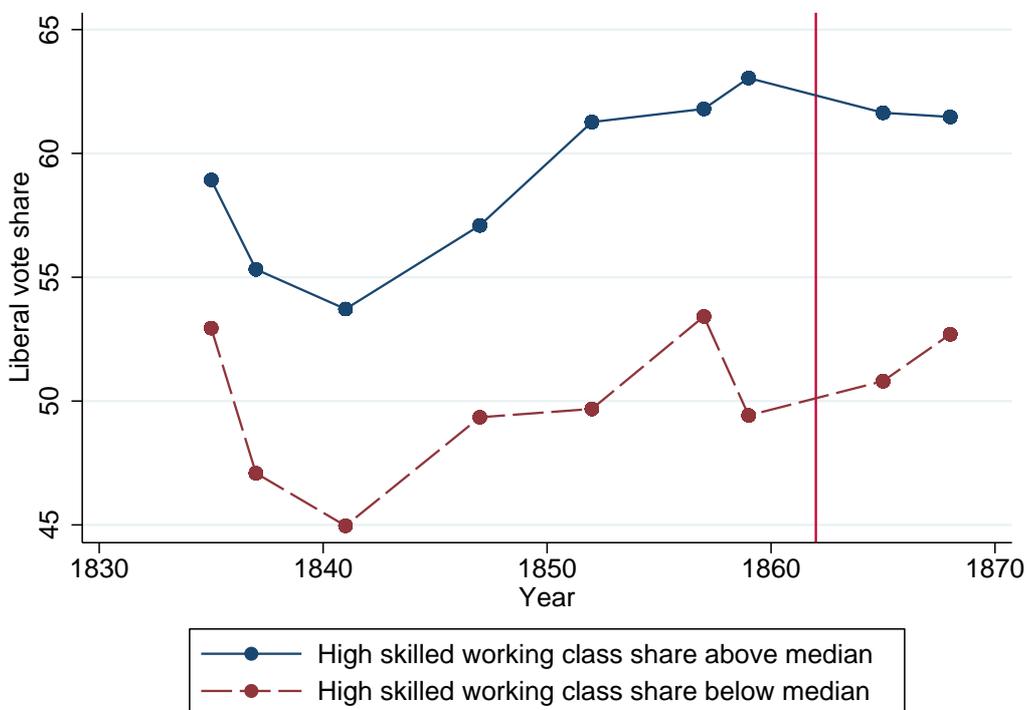


Figure 12. Liberal vote share trends in constituencies with above and below median share of high skilled working class occupations among the wage earning adult male population.

7 Conclusions

Much of what we know about the emergence of party oriented electorates and the alignment of specific groups with political parties stems from analysis of aggregate voting returns. Inferences drawn from such analysis are of course subject to several caveats. As we have shown, when assessing the propensity of specific groups to vote for particular parties, we are unable to separate whether correlations are driven by voter alignment or by the eligibility to vote within that group.

To deal with this and other issues we use new micro data from elections in Victorian England which provides a unique insight into actual voting behaviour. While our sample is small, we are, nevertheless, able to corroborate key findings in Cox's seminal work; namely, that the development of a party oriented electorate in England arose prior to the key institutional reforms of the late Victorian era. More specifically, we show that the decline in split level voting, a key characteristic of a candidate centred electorate, was already declining rapidly prior to the introduction of the Second Reform Act. The evidence supports the claim that it was the decline in parliamentary prerogative enjoyed during the so called "Golden Age" of Parliament and the emergence of a dominant executive that stimulated the development of cohesive parties with links to the wider electorate.

Our key contribution, however, is in using our micro-level data to explore patterns of voter alignment underpinning this broader development. We find that the emergence of a party centred electorate in Victorian England owes much to a change in behaviour amongst the English working classes. Furthermore, we show that party orientation takes a specific and familiar form: An alignment of working class voters with the then left party, the Liberals. While this alignment has been shown previously with survey data from the post war period, to our knowledge this is the first such study that shows a corresponding relationship using actual voting returns. While it is certainly plausible, indeed likely, that the class basis of left voting was established by the turn of the twentieth century when the British Labour Party came into existence, our analysis reveals instead that this alignment was already in place much earlier.

We also shed light on the mechanisms behind this alignment. The evidence suggests a decline in vote buying amongst groups susceptible to such pressures. But the evidence suggests other factors were important also. While we do not directly observe the effect, the patterns in our data are consistent with claims that working class voters were attracted to the programmatic appeal of the Liberal Party.

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A Appendix Tables

Table A1. 10 most common occupations and different classifications.

Panel A: Ashford		
Eriksson-Goldthorpe class	Middle class (<i>N</i> = 250)	Working class (<i>N</i> = 328)
White-collar workers (<i>N</i> = 208)	Grocer, gentry, clerk, merchant, doctor, lawyer, religion, chemist, house proprietor	
Petty bourgeoisie (<i>N</i> = 35)		Draper
Farm workers (<i>N</i> = 33)		Farmer
Skilled workers (<i>N</i> = 172)		Carpenter, butcher, shoe maker, tailor, baker, cabinet maker, coach builder
Non-skilled workers (<i>N</i> = 54)		Labourer
Panel B: Guildford		
Eriksson-Goldthorpe class	Middle class (<i>N</i> = 1210)	Working class (<i>N</i> = 2097)
White-collar workers (<i>N</i> = 1167)	Gentleman, dealer, grocer, merchant, doctor, lawyer, innkeeper, victualler, publican, clerk	
Petty bourgeoisie (<i>N</i> = 95)		Gardener
Farm workers (<i>N</i> = 98)		
Skilled workers (<i>N</i> = 1492)		Carpenter, shoe maker, baker, tailor, butcher
Non-skilled workers (<i>N</i> = 455)		Labourer
Panel C: Sandwich		
Eriksson-Goldthorpe class	Middle class (<i>N</i> = 3182)	Working class (<i>N</i> = 4086)
White-collar workers (<i>N</i> = 2699)	Gentry, victualler, grocer, military officer, dealer, publican, merchant, doctor, clerk, worker in education	
Petty bourgeoisie (<i>N</i> = 146)		Farmer, gardener
Farm workers (<i>N</i> = 373)		Pilot, shoe maker, carpenter, butcher, tailor, painter
Skilled workers (<i>N</i> = 2418)		
Non-skilled workers (<i>N</i> = 905)		Labourer, mariner

Table A2. Distribution across classes in pooled data.

Eriksson-Goldthorpe class	Middle class	Working class
White-collar workers	0	504
Petty bourgeoisie	0	1414
Farm workers	110	166
Skilled workers	0	4082
Non-skilled workers	4074	0

Table A3. Role of vote buying, split votes.

	50th percentile				75th percentile			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Working class	0.0454*** [0.0143]	0.0436*** [0.0141]	0.0470*** [0.0131]	0.0485*** [0.0127]	0.0659*** [0.0119]	0.0640*** [0.0117]	0.0603*** [0.0109]	0.0599*** [0.0107]
Volatile working class	0.1159*** [0.0140]	0.1100*** [0.0139]	0.0966*** [0.0129]	0.0962*** [0.0126]	0.1171*** [0.0164]	0.1146*** [0.0163]	0.0957*** [0.0154]	0.0923*** [0.0154]
Volatile middle class	0.0472*** [0.0160]	0.0405*** [0.0157]	0.0411*** [0.0148]	0.0430*** [0.0145]	0.0739*** [0.0213]	0.0708*** [0.0208]	0.0646*** [0.0198]	0.0601*** [0.0193]
1[Year>=1865]	-0.0972*** [0.0138]	-0.1910*** [0.0189]	-0.1669*** [0.0191]	-0.1075*** [0.0190]	-0.1020*** [0.0119]	-0.1955*** [0.0177]	-0.1727*** [0.0180]	-0.1149*** [0.0182]
1[Year>=1865] x Working class	-0.0200 [0.0195]	-0.0180 [0.0193]	-0.0262 [0.0192]	-0.0228 [0.0182]	-0.0407** [0.0164]	-0.0391** [0.0163]	-0.0426*** [0.0164]	-0.0351** [0.0155]
1[Year>=1865] x Volatile working class	-0.0947*** [0.0195]	-0.0902*** [0.0194]	-0.1011*** [0.0194]	-0.0794*** [0.0186]	-0.1072*** [0.0228]	-0.1044*** [0.0227]	-0.1190*** [0.0229]	-0.0857*** [0.0223]
1[Year>=1865] x Volatile middle class	-0.0192 [0.0217]	-0.0125 [0.0215]	-0.0222 [0.0216]	-0.0150 [0.0206]	-0.0357 [0.0274]	-0.0306 [0.0272]	-0.0343 [0.0272]	-0.0180 [0.0261]
Constant	0.1520*** [0.0100]	0.2156*** [0.0158]	0.1626*** [0.0148]	0.1392*** [0.0155]	0.1588*** [0.0085]	0.2212*** [0.0147]	0.1690*** [0.0140]	0.1472*** [0.0149]
<i>N</i>	10350	10350	10350	10350	10350	10350	10350	10350
<i>R</i> ²	0.03	0.07	0.12	0.16	0.03	0.07	0.12	0.16
Election FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes	No	No	No	Yes

Notes: Only general elections are included. The outcome is dummy for casting a split vote. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

Table A4. Role of vote buying, liberal votes.

	50th percentile				75th percentile			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Working class	-0.0661*** [0.0232]	-0.0643*** [0.0232]	-0.0663*** [0.0230]	-0.0632*** [0.0227]	-0.0727*** [0.0183]	-0.0710*** [0.0183]	-0.0681*** [0.0181]	-0.0632*** [0.0180]
Volatile working class	-0.0569*** [0.0214]	-0.0533** [0.0215]	-0.0423** [0.0213]	-0.0370* [0.0212]	-0.0539** [0.0233]	-0.0571** [0.0234]	-0.0431* [0.0231]	-0.0354 [0.0231]
Volatile middle class	0.0028 [0.0249]	0.0052 [0.0248]	0.0058 [0.0245]	0.0061 [0.0242]	-0.0369 [0.0296]	-0.0442 [0.0294]	-0.0411 [0.0292]	-0.0334 [0.0287]
1[Year>=1865]	0.0675*** [0.0261]	0.1044*** [0.0316]	0.0652** [0.0317]	0.0550 [0.0335]	0.0421* [0.0224]	0.0763*** [0.0287]	0.0386 [0.0289]	0.0286 [0.0308]
1[Year>=1865] x Working class	0.0628* [0.0360]	0.0608* [0.0358]	0.0636* [0.0356]	0.0564 [0.0355]	0.1122*** [0.0294]	0.1111*** [0.0293]	0.1101*** [0.0292]	0.1001*** [0.0290]
1[Year>=1865] x Volatile working class	0.1253*** [0.0340]	0.1245*** [0.0339]	0.1238*** [0.0338]	0.1047*** [0.0337]	0.1505*** [0.0385]	0.1531*** [0.0383]	0.1521*** [0.0384]	0.1237*** [0.0382]
1[Year>=1865] x Volatile middle class	-0.0471 [0.0389]	-0.0494 [0.0388]	-0.0481 [0.0387]	-0.0557 [0.0384]	0.0282 [0.0437]	0.0314 [0.0435]	0.0274 [0.0434]	0.0084 [0.0434]
Constant	0.4718*** [0.0176]	0.4990*** [0.0216]	0.5358*** [0.0217]	0.5175*** [0.0231]	0.4792*** [0.0145]	0.5093*** [0.0191]	0.5459*** [0.0192]	0.5269*** [0.0207]
<i>N</i>	10350	10350	10350	10350	10350	10350	10350	10350
<i>R</i> ²	0.01	0.04	0.05	0.08	0.01	0.04	0.05	0.08
Election FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constituency FE	No	No	Yes	Yes	No	No	Yes	Yes
Election-Constituency FE	No	No	No	Yes	No	No	No	Yes

Notes: Only general elections are included. The outcome is dummy for casting a liberal vote. Estimates are conditional on voting. Data from all three constituencies are pooled together. Robust standard errors clustered by voter are reported in brackets. *, ** and *** denote statistical significance at 10 %, 5 % and 1 % levels, respectively.

ⁱ Studies of the introduction of the Secret Ballot elsewhere shows strong evidence of its impact on the voting behaviour of relatively poor voters (Baland and Robinson 2008).