Class voting, social changes and political changes in the Netherlands 1971–2006

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ABSTRACT

To what extent can the decline of class voting in the Netherlands be explained by socio-logical factors (compositional changes, the evolution of the class structure and economic progressivism) and political factors (a party-merger and changing party positions)? Multinomial logit (MNP) and conditional logit (CL) are employed using the Dutch Parliamentary Election Studies (1971–2006) and data of the Comparative Manifesto Project. We find that the rise of the class of social-cultural specialists is important for understanding changes in the class–vote relationship. Surprisingly, the impact of economic progressivism became more important for left-wing voting. Finally, although there seems to be a clear relation between party positions and the strength of class-based voting, the party positions hardly explain the assumed linear decline in class-based voting.

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1. Introduction

Like in many other Western European countries class-based voting has become much weaker in the Netherlands (De Graaf, 1996; Irwin and Van Holsteyn, 2008; Need, 1997; Nieuwbeerta and De Graaf, 1999; Van der Kolk, 2000). Although there is a fair amount of speculation about the causes of this trend, there is not much research that system-atically tries to explain the decline in class-based voting. Among the few studies addressing the decline of traditional social cleavages in the Netherlands De Graaf et al. (2001) have explored the interaction between the available political options and the class position and religious affiliation of voters. De Graaf et al. showed that the decline in religious-based voting in the Netherlands was affected by the merging of the three main denominational parties into the Christian Democratic Appeal (CDA). With respect to class voting they did not find that the downward trends were influenced by the merging of four radical left-wing parties into GreenLeft ('GroenLinks'). Theoretically however, their study contributed to the idea that "in understanding the evolving political impact of social divisions it is important to recognise that political behaviour results from the interplay between social and political forces" (2001: 3). The distinction and interaction between social change and political choice has become known as the 'bottom-up' and the 'top-down' perspectives on class voting (cf. Evans, 2000; Evans and Whitefield, 2006).

Most explanations it the literature for the decline in class-based voting are of sociological nature and emphasize factors related to the class composition of electorates and the relevance of class divisions in society. These 'bottom-up' explanations often assume one or more of the following processes (Evans, 2000): the income and living standard of workers are rising and are increasingly similar to those of the middle class, partly because there is also a growing group of low-paid and low-status white-collar employees (Dalton, 2008). New 'post-industrial' and value-cleavages have replaced or cross-cut the class-based conflict. And rising levels of education and 'cognitive mobilization' have enlarged voter's ability to make political choices

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independent from old class-based loyalties. The traditional economic boundaries between classes have, is often assumed, become blurred. The social and political distinctiveness of social classes have in consequence declined. Compositional changes involve transformations in the economic and occupational structure of advanced industrial economies. Due to processes like de-industrialization and market liberalization the number of working class labourers declined. At the same time the service class grew rapidly and became increasingly heterogeneous, creating new lines for political conflict. What all these explanations have in common is that they use changes in social structure as the source for changes in political choices, therefore shaping the class–vote relationship from the bottom-up.

Political parties are assumed to adept to the changing social circumstances. As the working class is shrinking and the service class is growing political parties, especially those on the left, are expected to target middle class voters instead of working class labourers (cf. Przeworski and Sprague, 1986). And as the economic boundaries between classes are weakening all parties may be expected to address new political issues that appeal to voters in non-economic terms. The significance of new political issues in society may also reveal itself in the emergence of new parties with new political agendas. For all these processes, the implication is that the political relevance of class is reduced because parties respond to social change. De Graaf et al. (2001) have contrasted this 'sociological determinist' perspective with the alternative view that political changes are contributions towards, rather than simply reflections of, the evolution of political cleavages. They argue that students of the changing influence of social divisions on politics must realise that an actual voting choice will reflect the political options available to voters as well as their social situation. From this perspective class voting is conditioned by the extent to which political parties emphasize class issues rather than with the strength of class divisions in society (Oskarson, 2005). De Graaf et al. (2001) argue that under different political circumstances identical social structures may in theory well result in different patterns of voting behaviour. These arguments assume a 'top-down' direction in which class leads to vote; Not simply 'bottom-up' social changes, but also class-relevant policy choices offered to voters have an additional effect on the class–vote relationship (Evans et al., 1999; Oskarson, 2005; Elff, 2009). The Netherlands is particularly interesting because not only social changes have been prominent, but there have also been substantial changes in politics.

The effects of political factors on the class–vote association are rarely directly measured. Most studies infer a top-down influence by examining time-specific changes in the strength of class voting that coincide with party shifts or changes in the party system (Evans et al., 1991; Hill and Leighley, 1996; De Graaf et al., 2001; Andersen and Heath, 2003). The measurement of actual party positions, as is done in the studies of Evans et al. (1999), Oskarson (2005) and Elff (2009) is a quite recent innovation to the class voting research. In this study we investigate two types of changes in political choices in the Netherlands. Using more data and better differentiated measures of social class and party choice, we reexamine De Graaf et al.'s question whether the emergence of GreenLeft led to any class

realignment. But additionally, using data of the Comparative Manifesto Project (Budge et al., 2001; Klingemann et al., 2006) we examine the interaction between the party positions and social class. We aim to test whether class voting in the Netherlands is affected by changes in party's 'old' social-economic positions and 'new' cultural conservative-progressive positions. We set out to examine these 'top-down' changes after accounting for the 'bottom-up' process of blurring class boundaries. De Graaf et al. (2001) assume a process of blurring boundaries by modelling linear class voting trends in the Netherlands, without accounting for the social distinctiveness of classes. Instead of simply inferring societal homogenization we test whether trends in class voting are interpreted by differences between voters in their economic ideology and level of education. Our hypotheses are tested using the integrated Dutch Parliamentary Election Studies (DPES) 1971–2006 supplemented by data of the Comparative Manifesto Project (Budge et al., 2001; Klingemann et al., 2006) for Dutch political parties.

2. Bottom-up: changes in the class structure of the Netherlands

2.1. The rise of a 'new' social class within the service class

The occupational structure of the Netherlands has changed considerably in the past four decades. We observe a contracting working class and an expanding service class, and we know that the amount of intergenerational mobility affects the class-vote association (De Graaf et al., 1995). The manual class has shrunk from more than 40% of the working electorate in 1970 to less than 30% in 2004 (Güveli, 2006). To understand class voting, the simple distinction between blue- and white-collar classes no longer suffices (cf. Nieuwbeerta, 1995). In a large scale international comparison Nieuwbeerta distinguished the unskilled manual class, the skilled manual class, the petty bourgeoisie, the routine non-manual class, and the lower-, and upper-service classes. His findings showed that the distinction between manual and non-manual work has become less relevant due to changing class structures. Indeed, more recent research shows that due to changes in employment patterns and class structure also this more elaborate class distinction is no longer accurate. In the Netherlands, the majority of the employed male population works in the high and low service classes. These are the high- and low-grade professionals and managers, known as classes I and II of the EGP class scheme (Ganzeboom and Luijkx, 2004). The service classes in total increased in size from 31% in 1970 to more than 50% in 2004 (Güveli, 2006). Güveli and De Graaf (2007) and Güveli et al. (2007a,b) argue that in post-industrial societies, within this service class two extra sub-classes should be distinguished: i.e. the socio-cultural specialists (e.g. social workers, teachers, lawyers) and the technocrats (e.g. engineers, accountants, and office managers). Construct and criterion validation tests (Güveli, 2006) support this new class distinction. Even after taking level and field of education into account this distinction is of key importance to understand political choices (Van de Werfhorst and De Graaf, 2004). We will therefore apply this adjusted class scheme in this study. Fig. 1 reports the percentage of social and cultural specialists and technocrats

in the labour force. It confirms that the service class in the Netherlands expanded a great deal (De Graaf and Steijn, 1997). The figure shows that the increase applies both to the social and cultural specialists and the technocrats. Due to the increase of the population in higher class positions the relative size of the manual class has declined considerably.

2.2. Compositional changes and the blurring of class boundaries

The aforementioned changes in the size of class categories can be defined as compositional changes. When the class–vote association is measured in (log) odds ratio's (as in the present case) compositional changes not necessarily affect the strength of the association because the odds ratio is invariant to the marginal totals. We therefore need to distinguish compositional changes from the blurring of class boundaries. As said, the processes of blurring boundaries will result in less distinctive classes. Traditionally, class-based political conflict is related to economic divisions is society. The less privileged classes support leftist parties that stand for greater socio-economic equality. In opposition to the working class members from other classes have less interest in redistributionist policies, and are assumed to vote for economic conservative parties on the right. The decline of traditional class divisions is often attributed to the decrease of economic differences between classes or the increase of economic differences within classes. Growing economic homogeneity between classes involves that members of different classes increasingly have common living standards or income characteristics. The heterogenisation of classes, on the other hand, resulted in growing economic and cultural differences within particular classes, reducing a sense of shared identity and interest. We expect that the blurring of class divisions are a continuing and relatively gradual processes which ultimately lead to a convergence in their political preferences. We therefore expect that: The association between class and party choice becomes generally weaker. The odds ratios between class and vote would therefore be expected to decline. (H1).

The heterogenisation of the service class, which led to the rise of a 'new' social class of social-cultural specialists,
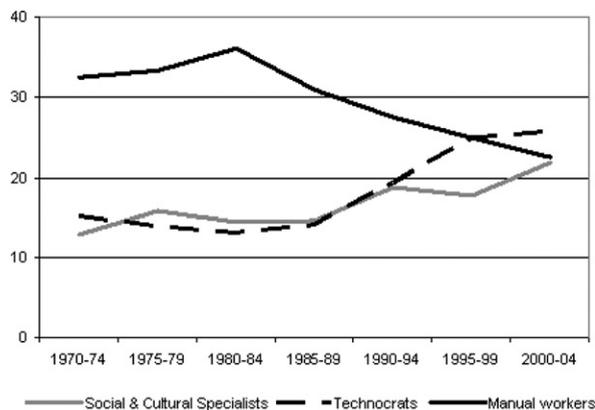

Fig. 1. Trends in the percentage of social and cultural specialists and technocrats in the labour force between 1980 and 2004. Source: Güveli (2006: 52).

may have resulted more differentiated patterns of voting behaviour. The socio-cultural specialists and technocrats are especially different with respect to characteristics. First, it is relatively harder for employers to monitor the work performance, both qualitatively and quantitatively, of socio-cultural specialists than the work performance of technocrats. Second, socio-cultural specialists have specific skills and knowledge involving social services and social-cultural issues, and they more often work in a public or non-profit field (e.g. health, education) that requires state support. Research has shown that the social-cultural specialists therefore have developed a distinct leftist political orientation (Güveli and De Graaf, 2007; Güveli et al., 2007a, b). Güveli et al. (2007b) found that over the last three decades the low social-cultural specialists had become the most leftist class in the Netherlands. We therefore formulate the following hypothesis about class voting within the service class: The decline of the association between class and vote weakened the odds of technocrats to vote left-wing, relative to the manual class, but reversed the odds of social-cultural specialists to vote left-wing relative to the manual class (H1b).

The blurring of class divisions should show up in weaker ideological differences between classes. The relevant ideology for class voting is the left-right dimension related to economic progressivism/conservatism. We expect that due to rising living standards and income levels economic ideology has become less associated with class differences. As the ideological differences about redistribution between classes decrease, the class basis of voting should diminish. Hence, we formulate: The decline of the association between class and party choice becomes less strong when we take voters' economic ideology into account (H2).

Of course, Lipset already suggested that the working class is perhaps ideologically on left on the basis of socio-economic issues but certainly not with regard to the cultural issues (Lipset, 1959). From this perspective, the association between class and vote is declining because working class conservatism is increasingly relevant to predict party choice (e.g. Van der Waal et al., 2007). However, in this study we cannot test to what extent cultural conservative ideology accounts for the decline in class voting because we lack a direct comparable measure of individual cultural conservatism in our data. But we are able to test this claim indirectly in three ways. First, the use of manifesto data enables us to consider the impact of cultural conservatism at the party level. We can test if, and to what extent manual workers are less likely to vote for a party as it is more culturally progressive. Second, we may expect that as the traditional class conflict increasingly has to compete with non-economic cleavages, the influence of peoples' economic ideology on voting has declined in the past decades. Third, a higher education is associated with cultural liberal attitudes and values (Van de Werfhorst and De Graaf, 2004). From a cultural perspective the lower educated will vote for right-wing parties cross-cutting traditional class-based voting (Van der Waal et al., 2007). We therefore may expect that as cultural issues are increasingly important to predict vote choice, the influence of education on voting has increased in recent decades. Hence, we formulate: The association between voters'

economic ideology and party choice becomes generally weaker (H3a), and the association between education and party choice becomes generally stronger (H3b).

3. Top-down changes: political change in the Netherlands

3.1. Differences and changes in party manifestos

Instead of merely reflecting social changes parties may contribute to yet more blurring of class boundaries. Facing the decline of the working class left-wing parties may adopt a more middle class orientated appeal (cf. Przeworski and Sprague, 1986). By abandoning class-relevant policy programs left-wing parties reduce the distinct political voice of the working class, which may decrease their distinct class identity, group solidarity and political awareness (De Graaf et al., 2001). In this sense, the political relevance of class is, at least in part, a product of the behaviour of parties and politicians that choose to politicize it or not (Evans and Whitefield, 2006). It is assumed the strength of class voting is conditioned by the extent to which parties offer choices that are relevant to economic differences between classes. If left-wing parties take more centrist positions (e.g. appeal to the middle class, have weaker ties to trade unions and call for retrenchment of the welfare state), thus reducing the socio-economic differences relative to other parties, it may weaken working-class allegiance to left-wing parties. In appealing to, the growing number of, new middle class voters left-wing parties may also be expected to emphasize non-economic issues in their campaigns. Especially the new class of social-cultural specialists holds progressives attitudes favouring democratization, multiculturalism and environmental protection (Güveli et al., 2007a, b). By appealing to the liberal values of this group left-wing parties may give them a distinct political voice and strengthen their sense of shared interest and identity. But in doing so, left-wing politicians will estrange themselves from their traditional social basis of manual workers that hold more cultural conservative attitudes.

Assuming interaction between party positions and class categories we expect that: *Members from the working class generally vote for parties that are economically progressive, and members from other classes generally choose parties that are economically more conservative (H4a).* With respect to non-economic issues (conservative vs. progressive) the opposite may be true. *Members from the working are more likely to vote for a party that is culturally conservative, whereas other classes vote for parties that are culturally more progressive (H4b).* Keman and Pennings (2006) have shown that there is a general tendency in European countries for major parties to *convergence* with respect to economic differences and *diverge* with respect to progressive/conservative issues. We expect that the relevance of economic differences between voters will decline as parties become less distinct in their economic policies, as happened in the Dutch case (Pennings and Keman, 2008). In this way, the changes in social-economic positions of parties in the Netherlands may have had an autonomous impact on the voting behaviour of classes. Alternatively,

polarization on non-economic differences, in which the voting preferences of classes are assumed to be reversed (Achterberg and Houtman, 2006), may be responsible for the decline in class voting. We therefore formulate the hypothesis that: *The decline of the association between class and vote becomes less strong when we take the ideological position of parties into account (H5a).*

Second, it may be expected that as a result of the economic convergence of the political parties, the economic ideology of individuals will loose its power to predict party choice. Therefore the influence of economic conservatism on party choice should weaken as the differences on economic issues between parties become smaller. Hence we hypothesize: *The association between economic ideology and party choice becomes less strong when we take the economic position of parties into account (H5b).*

3.2. The emergence of GreenLeft

The second test of the top-down perspective is related to the restructuring of the Dutch party system. If the influence of class on party choice is assumed to be declining due to 'bottom-up' sociological processes, this decline is assumed to be relatively gradual as well as unidirectional. Explanations for more time-specific and group-specific changes and possible reversals in the associations between class and vote must therefore be attributed to changes in the party system or the emergence of new parties, rather than to sociological developments. Like in many other European countries a Green party emerged in the Netherlands during the 1980s (Müller-Rommel, 2002). This party, GreenLeft, came into existence after 1989 when four minor radical parties (CPN, PSP, PPR and EVP) contested the election with a joint party list. These four parties had rather diverse and distinct histories, the communist CPN dating from 1936, the left-pacifist PSP from 1959, the radical PPR from 1971 and the progressive Christian EVP from 1981. Although their electoral strength has always been weak De Graaf et al. (2001) argue that their merger may be important because:

> "By appealing to environmentalists in a way that the old-left parties did not, [the emergence of GreenLeft] may have well have attracted more middle-class, post-materialist voters than did left-wing parties in the past. By giving a distinctive voice to these postmaterialists it may also have led to a strengthening of their group identity and thus have increased the political awareness of this group. Conversely, by fragmenting left-wing appeals and reducing the emphasis on specifically class issues, it may also have tended to undermine class identity yet further" (2001: 3).

De Graaf et al. claim that the emergence of new political options, or the disappearance of old options may have an immediate impact on the relationship between class and vote. To test this for the Dutch case they therefore look for sudden changes in the association between class and vote after the formation of the common GreenLeft party list in 1989. De Graaf et al. do not find evidence for an abrupt decline of class voting after 1989. We are however able to

conduct a more group-specific test of their hypothesis that *'The odds of middle-class voters supporting the old left, relative to working class voters, increases after the formation of the GreenLeft* (De Graaf et al., 2001: 8). Especially the new class of socio-cultural specialists benefits from the material advantages which allow the support for parties which hold more postmaterialist stances (e.g. Norton, 2003; Inglehart, 1997). The immediate consequences of environmental protection policies are far less severe for this new middle class compared to the manual class (Obach, 2002). Socio-cultural specialists may therefore have been likely to support GreenLeft once the new party list was established. Consequently, this process would be expected to increase the level of class voting. This suggests the hypothesis: *The odds of the social-cultural specialists supporting new-left parties increases after the formation of Green Left (H6).*

4. Data and variable construction

To test our hypotheses we use survey data from the Dutch Parliamentary Election Studies (DPES) covering the Dutch national elections between 1971 and 2006. We use information on social class-based on detailed occupational codings, economic ideology, party choice and some social background characteristics from 11 elections (1971 [$N = 2.495$], 1972 [$N = 1.526$], 1977 [$N = 1.856$], 1981 [$N = 2.305$], 1982 [$N = 1.541$], 1986 [$N = 1.630$], 1989 [$N = 1.745$], 1994 [$N = 1.812$], 1998 [$N = 2.101$], 2002 [$N = 1.574$] and 2006 [$N = 2.623$]). We excluded the 2003-survey because for that survey no data on occupational codings were available. In the multivariate analyses we control for *age* ($17 = 0$) and *gender* (male $= 0$), *denomination* (Catholic, Protestant, Calvinist, other religion, no religion) and *church attendance* ($0–4$).

In order to provide a parsimonious study that allows for an over time comparison it is unavoidable to group relevant Dutch political parties into a limited number of party groups. We measure *party choice* in four categories[1] on the basis of the De Graaf et al. (2001) classification: the *old-left* (PvdA, DS70, CPN, SP), *new-left* (D66, GroenLinks, PPR, PSP, EVP), *liberal right* (VVD, BP, NMP) and *religious parties* (CDA, ARP, KVP, CHU, SGP, GPV, RPF, RKPN and CU). Respondents voting for another party are excluded from the analysis. We mainly examine the odds of voting old-left and new-left

relative to the odds of voting liberal right.[2] The old-left/liberal right contrast has also been used in earlier studies on class voting (De Graaf et al., 2001). The new-left/liberal right contrast is used to get more insight in the changing political alignment of the new service class (Güveli et al., 2007b).

For *social class* we want to take into account the evolution of the social classes and we therefore use the modified EGP class scheme distinguishing the social and cultural specialists as a separate class from the technocrats (cf. Güveli et al. (2007b) for recoding ISCO-scores into the new classes). We distinguish the following classes: 1a. Higher technocrats; 1b. Higher social and cultural specialists; 2a. Lower technocrats; 2b. lower social and cultural specialists; 3. Routine non-manuals; 4. Self-employed; 5. Manual class. We collapsed the higher manual and lower manual class, since there is hardly any difference in their voting patterns also not over time.

4.1. Economic conservatism

In all election surveys there is a question on income inequality. This is a question that starts as follows: "*Some people think that the difference in incomes in our country should be increased (at number 1). Others think that these differences should be decreased (at number 7). Of course, there are also people whose opinion is somewhere in between.*" Then there are four questions about where the respondent would place the four major political parties on this line. Finally respondents were asked: "*And where would you place yourself?*". We coded economic ideology such that the metric is running from 0 ('The differences in our country should be decreased'.) to 6 ('The differences in incomes in our country should be increased'.).[3]

We measure the respondent' *level of education* as the number of years it normally takes to complete a certain level of education. The educational categories in the original files are recoded using the conversion tables of Ganzeboom and Treiman (2009). In general this results in a metric running from: 4 year for incomplete primary education ($=0$) to 18 years for complete university level ($=14$).

4.2. Party positions

To determine the ideological position of party groups we use data from the Comparative Manifesto Project

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[1] Although we are aware that the LPF attracted 17% of the voters in the 2002 election, we do not include the LPF for several reasons. First, it is hard to say to which of the political groups they belong. A separate category of far- and new-right parties in order to examine whether the working class has abandoned the left to the advantage of the 'new right' does also not yield to a comparable category suitable for over time analyses. Second, in this article we are especially interested in long term trends and less in temporary fluctuations. Before the rise and fall of the LPF new- and far-right voting was a relatively minor phenomenon in Dutch politics; the extreme-right Centre Democrats (CD) only gained 0.9% and 2.4% of the votes in the 1989 and 1994 elections. In 2006 the PVV managed to draw support (5.9%) on an anti-establishment agenda against immigration and 'islamization'. Although the success of the PVV was accompanied by heavy losses for the PvdA and of course the idea of cultural voters pops up immediately, it is too early to examine whether the emergence of the PVV has a long-standing impact on the relationship between the working class and the classical left and in this study the 2006 election is the latest one.

[2] We do not present the estimates with religious parties as the reference category for reasons of parsimony. Results (available upon request) indicate that voters from all social classes are more likely to vote religious vs. old-left relative to the manual class. But only for the low social-cultural specialists we find that this association is declining. Results for voting new-left vs. religious parties indicate that – except for the self-employed and low-grade social-cultural specialists – class differences do not play a significant role in determining party choice.

[3] Before 1989 the exact formulation of this question is slightly different. Especially for the 1971 and 1972 surveys. In these surveys three answer categories were being used. We tried several recoding procedures to make the items comparable and all resulted in similar results. We recoded the 1971 and 1972 version into the seven point version by giving the lowest category a score of 1, the middle category a score of 4 and the highest category a score of 7.

(Budge et al., 2001; Klingemann et al., 2006). The CMP datasets are based on content analyses of election programs of political parties contesting in national elections. The quantity and direction of statements by parties on 56 policy categories are measured as the percentages of sentences in a program devoted to these issues. First, we construct a left-right party position based on socioeconomic issues. We use three policy categories from the CMP data files: *planned economy* (i.e. market regulation economic planning), *welfare* (social justice and welfare state expansion), and *market economy* (free enterprise and economic orthodoxy). Next, we add three policy categories on social groups: *labour groups* (positive mentioning of working class and trade unions), *middle class and professional groups* (positive mentioning) and '*labour groups: negative*' (negative mentioning of working class and unions). We create a social-economic left-right position by combining the categories as (market economy + middle class groups + negative labour groups) − (planned economy + welfare + labour groups). Hence, a higher score on this scale (−33.9 to 18.1) corresponds to a more rightist party position. Because our dependent variable consists of party groups instead of individual parties we constructed a weighted mean of this scale by party group for each election year. The weight of a party within this group is determined by its vote share in percentages.[4]

In similar vein we constructed the policy positions of party groups associated with conservative-progressive ideology. For this purpose we employ a scale construction procedure used by Keman and Pennings (2006) who use the total of five policy categories to measure the emphasis on progressive issues, and five categories to measure conservative issues. The progressive issues are: *anti-growth economy, national way of life: negative* (i.e. appeals to patriotism/nationalism), *multiculturalism: positive, traditional morality: negative* (i.e. opposition to traditional moral values) *and environmentalism: positive*. The conservative issues are: *social harmony* (e.g. need for society to see itself as united), *national way of life: positive, multiculturalism: negative, traditional morality: positive and middle class groups: positive*. We create a progressive position (progressive issues – conservative issues) which runs from conservative (−1.2) to progressive (18.0).

5. Analysis

To test the formulated hypotheses we divided our analyses in four steps. First we examine the bivariate association between social class and economic conservatism. Second, we model over time changes in class voting by employing multinomial logistic (MNL) regression analysis. In figures we will present the odds ratios for voting old-left vs. liberal right and new-left vs. liberal right for all class categories (working class is reference). Third we present the parameter estimates of more elaborate MNL models to formally test to what extent trends in class voting can be explained by the blurring of class boundaries and/or the 1989-GreenLeft merger. Finally, we use conditional logistic (CL) regression models[5] to test whether party positions account for changes in class voting.

### 5.1. The blurring of class boundaries

First, we investigate whether the ideological boundaries between classes are blurring. For this purpose we regressed economic conservatism on social class including dummy indicators for the surveys. We assumed linear trends for the change of the class-effects. In Fig. 2 we report the regression coefficients for the reference year 1971 and the calculated class effect for 2006 based on the linear trend.

In Fig. 2 we observe a decrease in the association between class position and economic conservatism for all classes when compared to the manual class. However, this linear decrease is only significant at the 5% level for the higher technocrats and the lower social-cultural specialists. In 2006 the associations between ideology and the (higher and lower) social-cultural specialists or the routine non-manual class are not much different from the association between ideology and the manual class. As expected, both the higher and lower technocrats and the self-employed are clearly the most economic conservative classes in 2006, which illustrates the political difference of the technocrats and the social-cultural specialists. In earlier work Van Wijnen (2000) concluded for the 1971–1998 surveys that there is no systematic difference over time in the association between *subjective* class orientation and the left-right ideology. Our results are different, and this difference in conclusions may be explained by our use of a detailed objective class measure, our use of more recent elections or a different measure of ideology.

5.2. Over time changes in class voting

To analyze the changing class–vote association we employ MNL regression models. We concentrate on the

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[4] Because the CMP data only includes so-called 'significant' parties not all parties in Dutch post-war electoral history are covered in the CMP dataset. Therefore, it must be noted that the Dutch Communist Party, Pacifist Socialist Party and Evangelical People's Party are not covered in the CMP data thus not included in calculating the old-left or new-left mean scores. On the liberal right-wing side this also applies to the Farmers Party and Middle Class Party.

[5] We are aware that both MNL and CL models make the assumption of Independence of Irrelevant Alternatives (IIA), i.e.: adding or omitting a category of the dependent variable does not affect the odds of the initial or remaining alternatives. The IIA assumption can be relaxed using computationally more complex multinomial probit models (MNP) instead of MNL (Alvarez and Nagler, 1998; Long and Freese, 2006). We decided not to use MNP models for three reasons. First, the tests commonly used to detect whether the IIA assumption is violated – the Hausman Test and the Small-Hsiao Test – both indicated that there is more evidence that IIA is not violated in our models than evidence for the opposite (results available upon request). Second, the results of MNP models were are not substantially different from our MNL estimations. We used the stata program ASMPROBIT – alternative-specific multinomial probit (ASMP) – as an alternative for the CL model (Long and Freese, 2006). The CL models presented in this article are however too demanding to converge with ASMP estimation. Third, MNL models are often used to study electoral behaviour and research has shown that for most applications the IIA assumption is neither relevant nor particularly restrictive (Dow and Endersby, 2004). By applying CL models we follow a recent innovation in cleavage voting research (Elff, 2009).
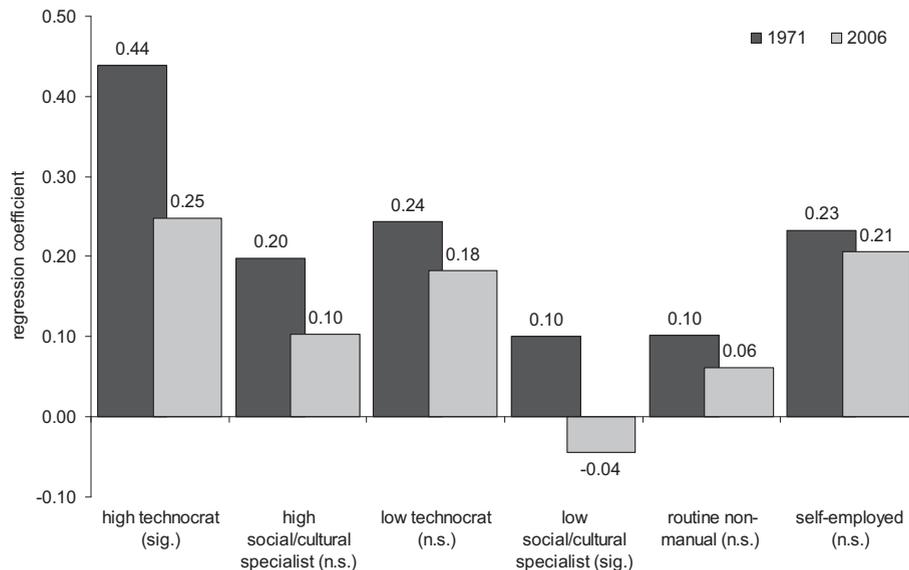
Fig. 2. Economic conservatism regressed on social class (manual class is reference group) and year of survey assuming linear trends for the effect of social class (sig = linear trend effect significant at the 5% level.). Source: DPES 1971–2006.

contrasts between old-left vs. liberal right and new-left vs. liberal right parties. In this *unconstrained model* we add dummy indicators for each year of survey with 1971 as the reference, as well as interactions between year-dummies and the class groups. In Fig. 3 we first look at the odds ratios to vote for old-left vs. liberal right parties over time. Six class categories are distinguished: Four in the service class (higher and lower technocrats, higher and lower social-cultural specialists) and routine non-manual workers and the self-employed. The reference group in the analysis are people in the manual class. An odds ratio above 1 (ranging to infinite) indicates that the odds to vote old-left vs. liberal right are higher compared to the manual class. Negative associations are indicated by odds ratios ranging between 0 and 1. In order to make the scale in Fig. 3 comparable for positive and negative association we present negative associations as −(1/odds ratio). We start with a comparison of the lower and upper service class, routine non-manual class and the self-employed relative to the working class. Fig. 3a shows that the high service class is least likely to vote old-left followed by the self-employed and low service class/routine non-manual class, and that until 2002 the differences compared to the manual class decline.

To illustrate how important changes in the occupational structure are for understanding changes in the class–vote relationship we disentangle the classes within the service class. In Fig. 3b we report the odds ratios for the higher technocrats, the lower technocrats and the lower cultural specialists vote left-wing compared to the manual class. Due to a lack of a substantive number of cases for each year we do not report the higher social specialists. Fig. 3b shows that until 1981 there was not much difference between the low technocrats and the lower social-cultural specialists relative to the manual class and these difference increases over time. After 1994 the lower social and cultural specialists are even more likely to vote for left-wing than the manual class, which shows that it becomes increasingly important to

disentangle the service class in order to understand the evolution of class voting. With respect to the higher technocrats we see that they are far less likely to vote old-left relative to the manual class than the other classes in the service class. The differences between the lower and higher technocrats seem to have weakened since the 1970s and from 1989 onwards there is hardly any difference.

Next, in Fig. 4 we investigate the odds ratios of voting new-left vs. liberal right. Fig. 4a shows that in general the self-employed the least likely to vote new-left vs. liberal right, following by the high service class, routine non-manual class and low service class. We clearly observe a process of convergence: All classes, especially the high service class are increasingly likely to cast a new-left vote relative to voting liberal right. From the mid-1990s there is hardly any difference between the working class and the low service class/routine non-manual class. In 2006 manual class voters were very unlikely to vote for a new-left party, and therefore also the odds for the high service class to vote new-left vs. liberal right were higher compared to the manual class.

With respect to the sub-classes within the service class Fig. 4b shows that the new-left/liberal right voting behaviour of the (higher and lower) technocrats is converging towards the voting behaviour of the manual class. The low-grade social and cultural specialists on the other hand initially voted not that different from the manual class, but are increasingly more likely to cast a vote for a new-left party relative to casting a liberal right vote. The odds ratio to vote new-left vs. liberal right has reversed between the 1980s and 1990s and this evolution shows how important it is to distinguish this class within the service class.

5.3. Interpreting the decline of class voting

Next we formally test hypotheses 1, 2 and 3 in Table 1. We present the MNL parameter estimates (*b* and s.e.) of voting old-left and new-left vs. liberal right. In our first
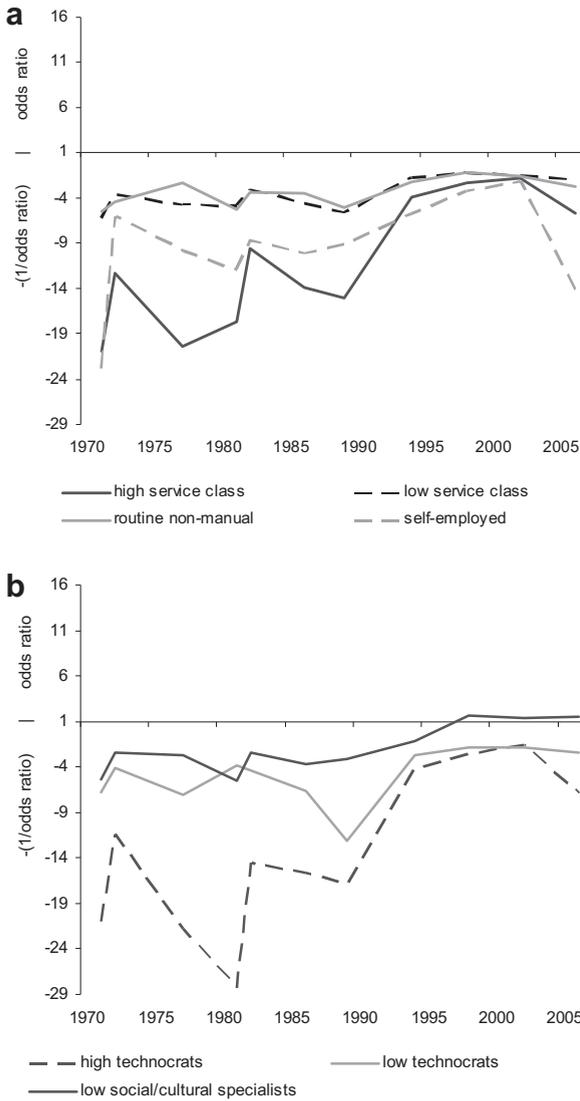
Fig. 3. a: Odds ratios for voting old-left vs. liberal right (manual class as reference group); b: odds ratios for voting old-left vs. liberal right (manual class as reference group).
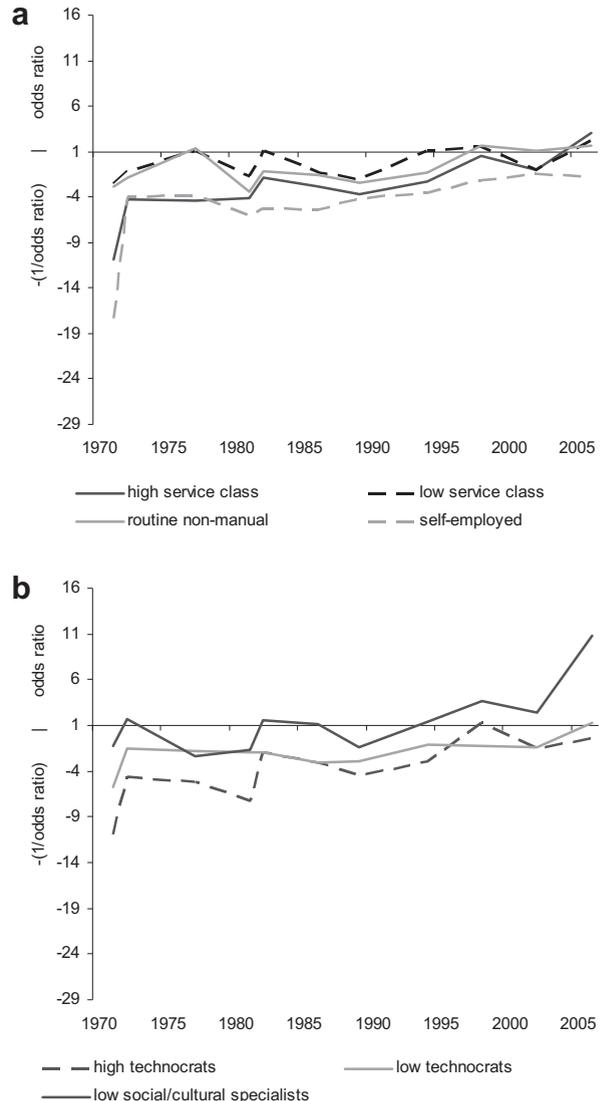
Fig. 4. a: Odds ratios for voting new-left vs. liberal right (manual class as reference group); b: odds ratios for voting new-left vs. liberal right (manual class as reference group).

model we allow the class effect to change linearly over time. Compared to a base model where the class-effects are fixed over years this *linear change model* yields a better model fit (decrease in −2LL of 72 against 18 degrees of freedom) and at the same time it is far more parsimonious than the *unconstrained model* shown in Figs. 3 and 4 (159 vs. 246 df).

With respect to voting old-left vs. liberal right model 1 shows gradual decreases in class differences for almost all classes relative to the manual class. The negative main-effects of the class–year interactions indicate that in 1971 the odds of voting old-left rather that liberal right are lower for other classes compared to the manual class. In support of hypothesis 1 the significant positive interactions imply that the distinction between the manual class and all other classes for voting old-left vs. a free market liberal party

become less important each year. In 1971 the parameter estimate is −3.23 for the higher technocrats and this is −1.13 (−3.23 + (35 × 0.06)) in 2006. These effects indicate that in 1971 the odds for higher technocrats to vote old-left were about $(1/e^{-3.23})$ 25 times lower than the odds for the manual class, compared to about 3 times lower in 2006. For low-grade technocrats the odds respectively are about 8 $(1/e^{-2.03})$ and 2 $(1/e^{(-2.03+35\times0.04)})$ times lower compared to the manual class in 1971 and 2006. Most remarkable is that – based on a linear trend – the odds for low-grade social-cultural specialists are 6 times $(1/e^{-1.77})$ lower than the odds for the manual classes in 1971, and they are about the same $(e^{(-1.77+35\times.06)} = 1.3)$ in 2006.

We also observe gradual changes in class differences with respect to voting new-left vs. liberal right. The differences between manual workers and the class of social

Table 1
Multinomial logistic regression for voting old-left, new-left, and religious parties with liberal parties as reference in the Netherlands, 1971–2006.[a]

	Model 1				Model 2			
	Old-left vs. liberal right		New-left vs. liberal right		Old-left vs. liberal right		New-left vs. liberal right	
	b	s.e.	b	s.e.	b	s.e.	b	s.e.
Constant	2.57***	(0.17)	1.70***	(0.19)	3.45***	(0.20)	1.83***	(0.23)
Year (1971 = ref.)								
1972	−0.55***	(0.17)	−0.60***	(0.20)	−0.60***	(0.17)	−0.63***	(0.20)
1977	−0.43***	(0.16)	−0.96***	(0.19)	−0.59***	(0.17)	−1.03***	(0.20)
1981	−0.91***	(0.16)	−0.44**	(0.18)	−1.06***	(0.17)	−0.54***	(0.19)
1982	−1.27***	(0.16)	−1.57***	(0.19)	−1.43***	(0.17)	−1.69***	(0.20)
1986	−0.91***	(0.17)	−1.23***	(0.21)	−1.14***	(0.19)	−1.40***	(0.22)
1989	−0.79***	(0.18)	−0.64***	(0.21)	−1.09***	(0.20)	−0.84***	(0.23)
1994	−1.67***	(0.19)	−0.83***	(0.22)	−2.05***	(0.22)	−1.12***	(0.26)
1998	−1.60***	(0.21)	−1.21***	(0.24)	−2.11***	(0.25)	−1.56***	(0.29)
2002	−1.54***	(0.23)	−0.89***	(0.27)	−2.15***	(0.28)	−1.26***	(0.33)
2006	−1.18***	(0.25)	−2.12***	(0.31)	−1.89***	(0.34)	−2.69***	(0.40)
Age	0.01***	(0.00)	−0.02***	(0.00)	0.003*	(0.00)	−0.02***	(0.00)
Gender (male = ref.)	0.17***	(0.06)	0.20***	(0.07)	0.08	(0.06)	0.19***	(0.07)
Social class (manual class = ref.)								
High technocrats	−3.23***	(0.21)	−2.21***	(0.26)	−2.55***	(0.23)	−2.08***	(0.27)
High social/cultural specialists	−2.16***	(0.46)	−0.90*	(0.48)	−0.91*	(0.48)	−0.74	(0.50)
Low technocrats	−2.03***	(0.19)	−1.13***	(0.22)	−1.64***	(0.19)	−1.05***	(0.23)
Low social/cultural specialists	−1.77***	(0.21)	−0.37	(0.23)	−1.03***	(0.23)	−0.23	(0.25)
Routine non-manual	−1.60***	(0.16)	−0.99***	(0.19)	−1.35***	(0.16)	−0.93***	(0.19)
Self-employed	−2.51***	(0.20)	−1.89***	(0.27)	−2.45***	(0.20)	−1.87***	(0.27)
Trend								
Year* high technocrats	0.06***	(0.01)	0.07***	(0.01)	0.04***	(0.01)	0.06***	(0.01)
Year*high s/c specialists	0.03*	(0.02)	0.05***	(0.02)	0.00	(0.02)	0.04**	(0.02)
Year*low technocrats	0.04***	(0.01)	0.03**	(0.01)	0.03***	(0.01)	0.02*	(0.01)
Year*low s/c specialists	0.06***	(0.01)	0.04***	(0.01)	0.04***	(0.01)	0.03**	(0.01)
Year*routine non-manual	0.03***	(0.01)	0.03***	(0.01)	0.02***	(0.01)	0.03***	(0.01)
Year*self-employed	0.02*	(0.01)	0.03***	(0.01)	0.02**	(0.01)	0.03**	(0.01)
Bottom-up								
Education in years					−0.16***	(0.02)	−0.03	(0.02)
Year*education in years					0.004***	(0.00)	0.002**	(0.00)
Economic conservatism								
Year*economic conservatism								
df	87				93			
−2LL	25,418.4				25,263.6			

*p < 0.1; **p < 0.05; ***p < 0.01; N = 11,832.
[a] Estimates for religious vs. liberal right not shown. And additional controls not shown, i.e. Catholic, Protestant, Calvinist, other religion, church attendance.

and cultural specialists were relatively small in 1971. In the reference year, we find no significant difference in the odds to vote new-left between the low social and cultural specialists and manual class voters. With respect to the odds for high-grade social and cultural specialists we find that that they were only about 2.5 times lower that the odds for manual class voters. Over time, social-cultural specialists become more likely to vote new-left rather that liberal right. Based on a linear trend we find support for hypothesis 1b – the odds for both high and low social-cultural specialists to vote new-left increase to about 2.5 times the odds for manual workers in 2006. In other words: class differences between social-cultural specialists and manual workers have increased in the period 1971–2006. With respect to other classes we find that the differences relative to the manual class decline over the same period. Based on a linear trend the difference to vote new-left vs. liberal right for high and low-grade technocrats and the routine non-manual nearly disappeared in 2006.

In model 2 we account for years of education, and allow the effect of education to change over time. With respect to voting old-left vs. liberal right we find that in 1971 more years of education suggested a rightist party choice (−0.16). But based on linear change in the education–vote association (0.004) this negative effect has nearly disappeared in 2006. With respect to voting new-left vs. liberal right we find that since 1986 – 15 years after the reference year – more education is increasingly associated (−0.03 + 15 × 0.002) with casting a vote on a new-left party. The findings supports hypothesis 3b, a high education is decreasingly associated with voting right-wing. Education has the largest impact on class-effects with respect to voting old-left vs. liberal right. Especially for the sub-classes within the service class both the main-effects as well as the linear trends are lower when we control for education: In other words: Class voting is partially due to educational differences, and the differences in voting between the 'new' service classes and the working class are declining because the effect of education changed over time.

Model 3 (Table 2) includes the voters' economic conservatism. We expected that we could interpret class voting trends by accounting for the decline of ideological differences between voters. We therefore allow the effect of economic conservatism to linearly change over time. The improvement in fit is considerable (−2LL reduction of 1617.5 against 6 df). We only find partial evidence for hypothesis 2. With respect to voting old-left we find that the main-effects for class voting are somewhat weaker compared to model 2, but the interaction coefficients are not substantially different. This indicates that although economic conservatism accounts for part of the class–vote association, it does not explain the linear trend in class

voting. With respect to voting new-left we find that the interaction coefficients of lower social-cultural specialists and technocrats are no longer significant. This suggests that the decline in class voting between low-grade technocrats and the manual class is accounted for by economic conservatism, and that the former are about 2.5 ($1/e^{-0.87}$) times less likely than the latter to vote new-left vs. liberal right throughout the whole period. For low-grade social-cultural specialists we initially found that the differences with the manual class were increasing over time. But controlled for economic conservatism low-grade social-cultural specialists and manual workers are equally likely to vote new-left vs. liberal right over the whole period. We

Table 2
Multinomial logistic regression for voting old-left, new-left, and religious parties with liberal parties as reference in the Netherlands, 1971–2006.[a]

	Model 3				Model 4			
	Old-left vs. liberal right		New-left vs. liberal right		Old-left vs. liberal right		New-left vs. liberal right	
	b	s.e.	b	s.e	b	s.e.	b	s.e.
Constant	3.90***	(0.22)	2.25***	(0.25)	3.91***	(0.22)	2.28***	(0.25)
Year (1971 = ref.)								
1972	−0.60***	(0.18)	−0.63***	(0.20)	−0.60***	(0.18)	−0.64***	(0.20)
1977	0.32*	(0.18)	−0.20	(0.21)	0.31*	(0.19)	−0.23	(0.22)
1981	−0.04	(0.18)	0.43**	(0.20)	−0.06	(0.20)	0.36	(0.23)
1982	−0.16	(0.18)	−0.54**	(0.21)	−0.19	(0.21)	−0.61**	(0.24)
1986	0.03	(0.20)	−0.32	(0.24)	0.00	(0.25)	−0.43	(0.29)
1989	0.16	(0.22)	0.32	(0.25)	0.19	(0.23)	0.38	(0.26)
1994	−0.41	(0.26)	0.39	(0.28)	−0.39	(0.26)	0.41	(0.28)
1998	−0.68**	(0.29)	−0.25	(0.32)	−0.67**	(0.29)	−0.28	(0.32)
2002	−0.59*	(0.32)	0.14	(0.36)	−0.61*	(0.33)	0.08	(0.37)
2006	−0.45	(0.39)	−1.33***	(0.44)	−0.50	(0.41)	−1.45***	(0.47)
Age	0.00	(0.00)	−0.02***	(0.00)	0.00	(0.00)	−0.02***	(0.00)
Gender (male = ref.)	−0.14*	(0.07)	−0.02	(0.07)	−0.14**	(0.07)	−0.02	(0.07)
Social class (manual class = ref.)								
High technocrats	−2.17***	(0.24)	−1.74***	(0.28)	−2.20***	(0.25)	−1.84***	(0.29)
High social/cultural specialists	−0.74	(0.52)	−0.58	(0.53)	−0.80	(0.53)	−0.62	(0.54)
Low technocrats	−1.41***	(0.20)	−0.87***	(0.24)	−1.46***	(0.21)	−0.87***	(0.25)
Low social/cultural specialists	−0.89***	(0.24)	−0.11	(0.26)	−0.83***	(0.27)	−0.12	(0.29)
Routine non-manual	−1.27***	(0.17)	−0.85***	(0.20)	−1.32***	(0.19)	−0.90***	(0.22)
Self-employed	−2.38***	(0.22)	−1.77***	(0.28)	−2.33***	(0.23)	−1.75***	(0.30)
Trend								
Year*high technocrats	0.03***	(0.01)	0.05***	(0.01)	0.04*	(0.02)	0.09***	(0.02)
Year*high s/c specialists	−0.01	(0.02)	0.03*	(0.02)	0.02	(0.03)	0.05	(0.04)
Year*low technocrats	0.03***	(0.01)	0.02	(0.01)	0.04**	(0.02)	0.02	(0.02)
Year*low s/c specialists	0.03***	(0.01)	0.02	(0.01)	0.03	(0.02)	0.03	(0.03)
Year*routine non-manual	0.02**	(0.01)	0.02**	(0.01)	0.03*	(0.02)	0.03*	(0.02)
Year*self-employed	0.02*	(0.01)	0.03*	(0.01)	0.01	(0.02)	0.02	(0.03)
Bottom-up								
Education in years	−0.17***	(0.02)	−0.03	(0.02)	−0.17***	(0.02)	−0.04	(0.02)
Year*education in years	0.01***	(0.00)	0.003*	(0.00)	0.01***	(0.00)	0.002**	(0.00)
Economic conservatism	−0.44***	(0.03)	−0.40***	(0.04)	−0.44***	(0.03)	−0.41***	(0.04)
Year*economic conservatism	−0.01***	(0.00)	−0.01***	(0.00)	−0.01***	(0.00)	−0.01***	(0.00)
Top-down								
GreenLeft merger since 1989								
1989*High technocrats					−0.05	(0.45)	−0.98*	(0.50)
1989*High s/c specialists					−0.68	(0.80)	−0.25	(0.80)
1989*Low technocrats					−0.47	(0.44)	0.09	(0.51)
1989*Low s/c specialists					0.13	(0.44)	−0.19	(0.48)
1989*Routine non-manual					−0.25	(0.34)	−0.31	(0.40)
1989*Self-employed					0.24	(0.48)	0.10	(0.59)
df	99				117			
−2LL	23,646.1				23,627.2			

*p < 0.1; **p < 0.05; ***p < 0.01; N = 11,832.
[a] Estimates for religious vs. liberal right not shown. And additional controls not shown, i.e. Catholic, Protestant, Calvinist, other religion, church attendance.

thus find modest support with respect to hypothesis 2. Interestingly, we notice an increase of the impact of economic conservatism. In 1971 the effect of economic conservatism on voting old-left is −0.44 and this amounts to −0.8 ($-0.44 + (35 \times -0.01)$) in 2006: i.e. for each step up on the economic conservatism scale one is 1.5 ($1/e^{-0.44}$) less likely to vote old-left in 1971 and this is 2.7 ($1/e^{-0.99}$) in 2006. Also with respect to voting new-left vs. liberal right we find that economic conservatism is increasingly relevant to predict party choice. Therefore we have to refute hypothesis 3a.

In model 4 we test the top-down interpretation using the merging of the minor left-wing parties into the Green Party in 1989. To test whether the association between class and vote for old and new-left vs. liberal parties shows an abrupt change after the 1989-election when GreenLeft came into existence we include interactions between class categories and a dummy that indicates the 1989-merger. The estimates however reveal that in general this merging has no influence on the class-effects whatsoever. We only find that from 1989 onwards the higher technocrats are less likely to vote for new-left parties compared to the working class. Hence, we have to refute hypothesis 6. We do not find that the odds for the social-cultural specialists supporting left parties increase after the formation of GreenLeft.

5.4. Party positions and the decline of class voting

Next we test hypothesis 4 stating that the decline of the association between social class and party choice becomes less strong when we take the ideological positions of parties into account. First, we look at the changes in the positions of parties between 1971 and 2002 with respect to social-economic issues and conservative vs. progressive issues. Unfortunately there are no manifesto data available for the Dutch 2006-elections. In Fig. 5 we present the positions for the four party groups; old-left, new-left, liberal right and religious parties. Fig. 5a reveals a process of convergence between the major party groups in the Netherlands with respect to social-economic issues till 1994 and Fig. 3a and b suggests convergence in class voting in this period as well. Fig. 5b clearly shows that the new-left parties are the most progressive in the Dutch party system, and that the liberals are most conservative. The figure suggests ideological convergence between parties with respect to conservatism vs. progressivism until 1986, but later we observe divergence on conservative vs. progressive policy issues. In this case the relation with class-based voting as reported in Fig. 4a and b is less obvious.

To estimate how party choice is affected by the ideological positions of the political parties we apply conditional logistic (CL) regression (McFadden, 1974). Like the MNL model the CL model can simultaneously estimate binary log-odds ratios for multiple contrasts among party alternatives. But the CL model also allows combining case-specific variables with choice-specific variables. CL models are sometimes used in electoral studies to estimate whether party choice is conditional on characteristics of parties that vary across individuals, e.g.: the voter–party distance on particular issues (Alvarez and Nagler, 1998). But it is also possible to examine characteristics of choice options that are
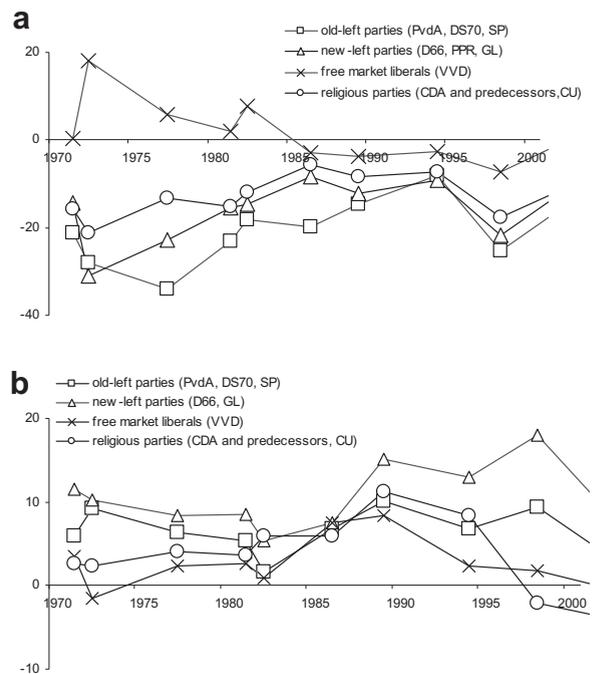

Fig. 5. a: Social-economic left-right positions of party groups in the Netherlands (1971–2002); b: conservative vs. progressive positions of party groups in the Netherlands (1971–2002). Source: Comparative Manifesto Data (2001, 2006), own calculations.

constant across individuals, like product price in consumer behaviour research (Lammers et al., 2007). In our analysis the individual-specific variables are the same variables that we used in the MNL models. The choice-specific variables are the positions of each party group on social-economic issues and conservative-progressive issues at each election. This way the CL model enables us to examine what happens as parties change their position on two political dimensions. We are primarily interested in whether changing party positions are responsible for the decline in the class–vote relationship.

In order to fit CL models with choice-specific variables we rearrange the structure of our dataset by 'stacking' the data matrix into a person-choice file. In a person-choice file each respondent has a separate row in the data matrix for each category of the dependent variable. In our data that is four rows per respondent. Next to dummy variables indicating party groups, we construct another binary variable indicating the actual choice made by a respondent. This binary variable is used as the dependent variable. The four party groups which were the dependent contrasts in the MNL models, are now included as an independent variables. As dummy variables these party group indicators correspond with the intercept term of the MNL model (Hendrickx, 2000). In our analysis the liberal right parties are the reference category. Choice-specific variables are included using one parameter for the effect of each variable. The effects of individual-specific variables on different choice contrasts are modelled as interactions between dummy variables of party groups and the individual-specific variables (cf. Hendrickx, 2000; Long and Freese, 2006).

In model 1 of Table 3 we report the estimates of a CL model without choice-specific variables. Without choice-specific variables the CL model is equivalent to the MNL model (Long and Freese, 2006). Although individual-specific effects are modelled as interactions with dummy indicators for party groups we report them in similar fashion to standard MNL effects. We include the same individual-specific variables as in model 3 of Table 2. Again we only present the parameter estimates for voting old-left vs. liberal right and new-left vs. liberal right. There are however two differences with the MNL models that we presented in Table 2. First, because there are no CMP data available for 2006, we excluded this year from the analysis. Second, given that we aim to include choice-specific variables that vary between elections we are unable to include year-dummy indicators for each election. The linear class voting trends in model 1 are therefore somewhat different from model 3 in Table 2. With respect to voting old-left vs. liberal right model 1 shows linear declines in class differences for almost all classes relative to the manual class. With respect to voting new-left vs. liberal right we only

find decline for the high-grade technocrats, routine non-manual class and self-employed.

In model 2 we include the choice-specific variables social-economic position and conservative-progressive position. The estimate for social-economic position is positive (0.11). This indicates that the more economically right-wing the position of a party group, the more likely that party group is to be chosen. Interestingly, the effect of the conservative-progressive position is not significant. This implies that *after accounting for all individual-specific variables in the model*, the traditional L-R position of parties – and not their position on the cultural dimension – has a significant impact on vote choice between the four major party groups in the Netherlands between 1971 and 2002. The relevance of the L-R party positions is supported by the fact that these results are controlled for economic conservatism of voters. Even though such a control is lacking for cultural conservatism there is no effect of conservative-progressive party position. Accounting for fact that people are inclined to vote for parties that are economically more right-wing has not reduced the effect of individual

Table 3

Conditional logistic regression for voting old-left, new-left, and religious parties with liberal parties as reference in the Netherlands, 1971–2002.[a]

	Model 1			Model 2	
Choice-specific variables	b	s.e.		b	s.e.
Liberal right (=ref.)	–	–		–	–
Old-left	3.71***	(0.20)		4.14***	(0.23)
New-left	1.88***	(0.22)		2.26***	(0.25)
Religious	0.28	(0.21)		0.58**	(0.23)
Social-economic L-R position*10				0.11***	(0.03)
Conservative-progressive position*10				−0.01	(0.06)

	Model 1				Model 2			
	Old-left vs. liberal right		New-left vs. liberal right		Old-left vs. liberal right		New-left vs. liberal right	
Individual-specific variables	b	s.e.	b	s.e	b	s.e	b	s.e
Year (1971 = ref.)	0.008	(0.01)	0.03**	(0.01)	−0.01	(0.01)	0.02	(0.01)
Age	0.004*	(0.00)	−0.02***	(0.00)	0.004	(0.00)	−0.02***	(0.00)
Gender (male = ref.)	−0.15**	(0.07)	−0.05	(0.08)	−0.14**	(0.07)	−0.04	(0.08)
Social class (manual class = ref.)								
High technocrats	−2.39***	(0.26)	−1.63***	(0.29)	−2.37***	(0.26)	−1.59***	(0.29)
High social/cultural specialists	−0.60	(0.6)	−0.61	(0.61)	−0.57	(0.59)	−0.62	(0.6)
Low technocrats	−1.46***	(0.21)	−0.93***	(0.24)	−1.45***	(0.21)	−0.89***	(0.24)
Low social/cultural specialists	−0.84***	(0.25)	−0.08	(0.27)	−0.82**	(0.25)	−0.08	(0.27)
Routine non-manual	−1.26***	(0.18)	−0.87***	(0.21)	−1.27***	(0.18)	−0.88***	(0.21)
Self-employed	−2.54***	(0.23)	−1.79***	(0.29)	−2.55***	(0.23)	−1.81***	(0.29)
Trend								
Year*high technocrats	0.05***	(0.01)	0.05***	(0.02)	0.05***	(0.01)	0.04***	(0.02)
Year*high s/c specialists	−0.01	(0.03)	0.03	(0.03)	−0.01	(0.03)	0.04	(0.03)
Year*low technocrats	0.03**	(0.01)	0.02	(0.01)	0.03**	(0.01)	0.02	(0.01)
Year low s/c specialists	0.03**	(0.01)	0.02	(0.01)	0.03**	(0.01)	0.02	(0.01)
Year*routine non-manual	0.02**	(0.01)	0.02**	(0.01)	0.02**	(0.01)	0.03**	(0.01)
Year*self-employed	0.04***	(0.01)	0.03*	(0.02)	0.04***	(0.01)	0.03*	(0.02)
Bottom-up								
Education in years	−0.16***	(0.02)	−0.02	(0.02)	−0.17***	(0.02)	−0.03	(0.02)
Year*education in years	0.004***	(0.00)	0.002*	(0.00)	0.005***	(0.00)	0.002*	(0.00)
Economic conservatism	−0.33***	(0.03)	−0.38***	(0.04)	−0.32***	(0.03)	−0.39***	(0.04)
Year*economic conservatism	−0.02***	(0.00)	−0.01***	(0.00)	−0.02***	(0.00)	−0.01***	(0.00)
df	75				77			
−2LL	21,501.0				21,488.0			

*p < 0.1; **p < 0.05; ***p < 0.01; N = 10.669.
[a] Estimates for religious vs. liberal right/old-left vs. religious/new-left vs. religious not shown. And additional controls not shown, i.e. Catholic, Protestant, Calvinist, other religion, church attendance.

economic conservatism on voting old-left/liberal right or new-left/liberal right. Hence, we refute hypothesis 5.

Because party groups became closer towards each over time on social-economic issues this could have narrowed the differences between voting old/new-left vs. liberal right. To test whether the inclusion of L-R party positions is capable of explaining the class voting trends we model interactions between the class dummy variables and the social-economic position of party groups. This way we test whether the effect of parties' L-R position varies between social classes, with the

manual class as the reference. The results are reported in model 3 of Table 4. In spite of hypothesis 4a we find that compared to the manual class, other classes are not more likely to vote for a party as it is economically more right-wing. With one exception we find that voters from all social classes – including the manual class – prefer parties with a more rightist position. Only low-grade social-cultural specialists are more likely to vote for a party group with a more leftist position. By including these interactions we expected (H5a) to explain the decline in class voting. Both

Table 4
Conditional logistic regression for voting old-left, new-left, and religious parties with liberal parties as reference in the Netherlands, 1971–2002.[a]

Choice-specific variables	Model 3		Model 4	
	b	s.e.	b	s.e.
Liberal right (=ref.)	–	–	–	–
Old-left	4.32***	(0.29)	4.3***	(0.23)
New-left	2.41***	(0.29)	2.46***	(0.25)
Religious	0.71***	(0.26)	0.65***	(0.23)
Social-economic L-R position*10	0.16***	(0.06)	0.12***	(0.03)
L-R*high technocrats	0.09	(0.11)		
L-R*high s/c specialists	0.15	(0.26)		
L-R*low technocrats	−0.04	(0.10)		
L-R*low s/c specialists	−0.19*	(0.11)		
L-R*routine non-manual	−0.07	(0.09)		
L-R*self-employed	−0.18	(0.11)		
Conservative-Prog position*10	−0.01	(0.06)	−0.36***	(0.10)
Con-Prog*high technocrats			0.62***	(0.2)
Con-Prog*high s/c specialists			0.42	(0.38)
Con-Prog*low technocrats			0.46***	(0.18)
Con-Prog*low s/c specialists			0.75***	(0.18)
Con-Prog*routine non-manual			0.38***	(0.15)
Con-Prog*self-employed			0.35*	(0.21)

	Model 3				Model 4			
	Old-left vs. liberal right		New-left vs. liberal right		Old-left vs. liberal right		New-left vs. liberal right	
Individual-specific variables	b	s.e.	b	s.e	b	s.e.	b	s.e.
Year (1971 = ref.)	−0.02	(0.01)	0.01	(0.01)	−0.01	(0.01)	0.02	(0.01)
Age	0.004	(0.00)	−0.02***	(0.00)	0.003	(0.00)	−0.02***	(0.00)
Gender (male = ref.)	−0.14**	(0.07)	−0.03	(0.08)	−0.14**	(0.07)	−0.04	(0.08)
Social class (manual class = ref.)								
High technocrats	−2.06***	(0.47)	−1.34***	(0.43)	−2.61***	(0.27)	−1.95***	(0.31)
High social/cultural specialists	−0.07	(1.05)	−0.27	(0.87)	−0.73	(0.6)	−0.85	(0.61)
Low technocrats	−1.59***	(0.41)	−1.01***	(0.39)	−1.65***	(0.23)	−1.18***	(0.27)
Low social/cultural specialists	−1.46***	(0.46)	−0.58	(0.41)	−1.06***	(0.26)	−0.46	(0.28)
Routine non-manual	−1.52***	(0.35)	−1.09***	(0.32)	−1.42***	(0.19)	−1.11***	(0.22)
Self-employed	−3.18***	(0.45)	−2.31***	(0.42)	−2.69***	(0.24)	−2.01***	(0.31)
Trend								
Year*high technocrats	0.04**	(0.02)	0.04**	(0.02)	0.05***	(0.01)	0.03**	(0.02)
Year*high s/c specialists	−0.02	(0.03)	0.03	(0.03)	−0.01	(0.03)	0.03	(0.03)
Year*low technocrats	0.03**	(0.01)	0.02	(0.01)	0.03**	(0.01)	0.01	(0.01)
Year low s/c specialists	0.05***	(0.02)	0.03*	(0.02)	0.03**	(0.01)	0.00	(0.02)
Year*routine non-manual	0.03**	(0.01)	0.03**	(0.01)	0.02**	(0.01)	0.02*	(0.01)
Year*self-employed	0.06***	(0.02)	0.05**	(0.02)	0.04**	(0.01)	0.03	(0.02)
Bottom-up								
Education in years	−0.17***	(0.02)	−0.03	(0.02)	−0.17***	(0.02)	−0.03	(0.02)
Year*education in years	0.004***	(0.00)	0.002*	(0.00)	0.005***	(0.00)	0.002*	(0.00)
Economic conservatism	−0.32***	(0.03)	−0.39***	(0.04)	−0.32***	(0.03)	−0.39***	(0.04)
Year*economic conservatism	−0.02***	(0.00)	−0.01***	(0.00)	−0.02***	(0.00)	−0.01***	(0.00)
df	83				83			
−2LL	21,480.5				21,464.9			

*p < 0.1; **p < 0.05; ***p < 0.01; N = 10.669.
[a] Estimates for religious vs. liberal right/old-left vs. religious/new-left vs. religious not shown. And additional controls not shown, i.e. Catholic, Protestant, Calvinist, other religion, church attendance.

old- and new-left parties largely moved to the centre of the Dutch party system since the 1970s. However, we still see strong trend effects for all classes in model 3.

Next, we examine whether voters from different classes are more or less likely to vote for parties that are culturally more progressive. In model 4 we include interactions between social class and the conservative-progressive position of party groups. The main-effect is negative (−0.36). Keeping in mind that the manual class are the reference category, this indicates that a party is less likely to be chosen by manual workers as it is more culturally progressive. Supporting hypothesis 4b the positive coefficients for the interaction estimates imply that the more progressive the position of a party group the more likely people in these classes will vote for that party group compared to the manual class. Differences in the effect of conservative-progressive party position are the largest between the manual class and the low-grade social-cultural specialists. As we observed in Fig. 5 especially new-left parties became much more culturally progressive after 1986. But, in contrast to hypothesis 5a, both the old-left/liberal and new-left/liberal class voting trends are not explained any further by accounting for conservative-progressive party positions.

6. Conclusions

This article discussed changes in the class basis of voting in the Netherlands. It would be misleading if one assumes that only political parties change over time and that the cleavage structure remains fixed, or vice versa. There are strong indications that the class structure is changing in the Netherlands. We find that the rise of the 'new' class of social-cultural specialists is important in accounting for changes in the class–vote relationship. The higher and lower technocrats are clearly not only more right-wing, but the higher and lower social-cultural specialists also have developed strong preferences for new-left parties. Overall, the distinction between the manual class and other classes becomes less relevant over time for left-wing voting.

We tried to interpret the decline of class voting by accounting for the blurring of the ideological boundaries between classes. We found that the differences between classes with respect to their economic ideology weakened over the last decades. But holding constant for voters' economic ideology could only partially interpret class voting differences and changes therein. Surprisingly, we find that the association between economic conservatism and voting has increased, although slightly, over time.[6] This is surprising if one considers that an increasing number of

non-economic, for example cultural, topics are included in the political discussion, and this would make economic ideology less relevant. On the other hand, a low education is decreasingly associated with voting left-wing. Especially new-left parties are increasingly chosen by voters with a high education. A cultural or cognitive explanation for the decline in class voting seems to apply: Education has the largest impact on class-effects with respect to voting old-left vs. liberal right. Especially for the sub-classes within the service class both the *level* and *decline* of the class-effects are somewhat lower when we control for education. But after accounting for changes in the effect of educational differences and the blurring of ideological boundaries, the decline of class voting largely persists. We however cannot test whether the inclusion a 'left-libertarian' cultural progressive ideology would interpret class differences in voting new-left.

We tested whether, after accounting for social changes, political choices offered to voters have an additional effect on the class–vote relationship. Despite the fact we covered more elections after 1989 and used a better differentiated class schema than De Graaf et al., we reached similar conclusions about the top-down effect of the GreenLeft merger: There is no evidence that the downward trends in class voting were influenced by this political merger. Using conditional logistic regression we can conclude that after accounting for trends in class differences, economic ideology and level of education, the economic L-R position of parties – and not their position on the cultural dimension – has a significant impact on vote choice between the four major party groups in the Netherlands between 1971 and 2002. It is rather surprising that the extent to which voters favour parties with economically right-wing policies does not seem to vary between the manual class and other classes. Only low-grade social-cultural specialists tend to vote for parties that are economically left-wing. This seems to rule out the possibility that changing party positions on the economic dimension are responsible for the decline in class voting in the Netherlands. Regarding the cultural dimension however, we find that manual workers tend to favour conservative parties, whereas other classes – again especially the low-grade social-cultural specialists – prefer progressive parties. But strong evidence that changes in cultural positions of parties are able to account for the decline in class voting is however not found. Even though political parties seem to converge on the traditional left-right dimension, and diverge on 'new' political issues we were not able to interpret trends in class voting accounting for these political developments. Moreover, considering that changing class composition most probably affects party strategy, one could raise the question on the causality of influence between social and political factors. We have demonstrated that there is a lot to gain by directly measuring political factors, and by investigating them simultaneously with individual factors. We found significant effects of party positions after accounting for the heterogenisation of the service class and the blurring of economic class boundaries. Inquiries on the causal relationship between societal developments and party strategy are however beyond the scope of this study.

Furthermore, there is a trend in political science to use subjective class identification instead of objective

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[6] This finding might be influenced by differences in the way the question about 'income differences' that we used to measure economic ideology was phrased in the pre-1989-surveys, and in particular in 1971 and 1972. We have however no reasons to assume these differences are responsible for the increasing effect of economic ideology on voting. Also when we investigate shorter time trends (i.e. from 1981 or 1982 onwards) we find similar results with respect to the over-time effect of economic conservatism. However, when we investigate the 5 surveys form 1989 and later, which is only half of the original time period, we find no over-time change in the effect of economic conservatism on voting (neither linear nor year-specific changes).

measures. This makes it difficult to study possible changes in class voting since one does not know whether changes are due to changes in subjective class identity or due to changes in the class-vote relationship. We used a new class scheme, that takes socio-economic changes into account, and the results show that this is to be recommended for future research.

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