

How Far Did Class Determine Voting in New Zealand General Elections, 1911–1951?



OPINION SURVEYS HAVE DEMONSTRATED that the link between class and voting preferences in New Zealand, as in several other western democracies, declined markedly after the 1960s. By 1990 the proportion of manual workers voting for Labour and the proportion of non-manual workers voting for National were much smaller than they had been three or so decades earlier.¹

The fact that the relationship between class and voting preferences in New Zealand has recently been through an era of ‘de-alignment’ raises questions about the nature of that relationship before the ‘de-alignment’ began.² These questions, however, are very difficult to answer with any confidence and precision because of the absence of individual-level voting data. The secret ballot prevented the keeping of records about how individuals actually voted. In addition, although scientific opinion polling began in New Zealand in 1949, it was not until 1963 that the first survey on the relationship between class and voting provided data that could be safely generalised to New Zealand as a whole.³

Thus, although the 1963 survey indicated that most New Zealanders voted along class lines, historians do not really know when that pattern might have been established. This presumes, of course, that the 1963 pattern had arisen quite quickly in a particular period and had then gone through a period of stability. But the data are not good enough to dismiss many other possibilities out of hand. For example, it is conceivable the 1963 pattern was part of a long series of irregular cycles, a great deal of instability in class partisanship marking the whole century. Alternatively, the 1963 pattern might have been the peak of a long-term curvi-linear trend, the peak of a long-term upward movement that was succeeded by the era of ‘de-alignment’. Although the historiography contains many claims about class as a factor in voting before 1963, about the only thing that can be said with confidence is that class started to replace locality in the late 1880s and that by the end of the Liberal period it was an important factor.

In other countries, historians examining the social basis of voting have used a variety of methods to overcome the lack of individual-level data. These include examination of anecdotal evidence, making inferences from records of political party membership, the ‘electorate characterization’ method, and sophisticated statistical approaches called ecological regression.⁴ In New Zealand ecological regression has never been applied to the history of the class–voting relationship, though it has been employed very recently to explore the gender link with voting.⁵ Of the other methods, the most common and productive has been ‘electorate characterization’. Its key developers were

Leslie Lipson and, most notably, the pioneering election historian and political scientist R.M. Chapman.⁶ In a series of highly influential studies over a 40-year period, Chapman honed the method to map and explain the social foundations of voting behaviour in general elections from the end of the Liberals to the Muldoon era.⁷

The 'electorate characterization' method works by dividing electorates into types based on electorate-level data, using census and other demographic aggregate data to make judgements about their dominant economic or social characteristics, then deducing the collective motives for voting behaviour from these dominant characteristics. Thus, Chapman devised seven or so categories of electorates — poorer inner city, higher and middle-income suburban seats, provincial town, rural, farmer, special country, and Maori.⁸ He accounted for their underlying voting patterns by saying, for example, that poorer inner-city electorates were Labour inclined because they were dominated by urban manual workers, middle- and higher-income suburban electorates were predisposed to vote Reform or National because they were dominated by urban middle-class voters, provincial towns to vote Liberal because these contained a balance of sectional interests, and so on.

For their time — given the limited technology that existed then for processing large aggregates of data — Chapman's studies were an extraordinary achievement. But they were very coarse-grained. They left out a lot because the method was unable to say anything about the behaviour of voters who did not fit the supposedly dominant characteristics of an electorate. Hence Chapman's inner-city 'poor' electorates cannot tell us anything about how their middle classes voted, and all his other types of electorates tell us nothing about how their working classes voted. Apart from its lack of precision, the 'characterization method' is also unreliable because it ignores the very real possibility that the social composition of electorates is far more varied than their so-called dominant characteristics indicate.

This article aims to improve on Chapman's work on the alignment between party voting preferences and class for the elections between 1911 and 1951. It will establish and compare the class composition of the voting support for the main political parties (Liberals, Reform, National, Labour and Labour's precursors) over this period as well as for the Coalition in 1931.⁹ It will also attempt to address a series of specific questions: how far class-based voting was sensitive to the many short sharp shocks characterizing the period (such as the world wars, the spasms of popular protest, the deep economic down-turns); whether manual workers were more loyal to Labour than non-manual workers were to National and Reform; whether the class composition of the Labour vote was the same as that for the Liberals; whether, on balance, it paid political parties to make populist as opposed to class appeals; whether the key elections of the period (1911, 1935, 1951) were associated with major switches in class loyalties; and how much geographical variability there was in class loyalties to parties. The first section of the article sketches the methodology. The second section discusses the findings in the context of the historiography.

The study is based on a total of 110 cases composed of ten provincial towns each analyzed individually at 11 separate benchmark years: 1911, 1914,

1919, 1922, 1925, 1928, 1931, 1935, 1938, 1946 and 1951. Although lack of resources prevented the study from including the 1943 and 1949 elections and studying elections after 1951, it nevertheless has an unusually strong longitudinal dimension by international standards.¹⁰

The ten provincial towns chosen for each year of the study were the largest towns outside the four main centres: seven from the North Island (Hamilton, Gisborne, New Plymouth, Wanganui, Napier, Hastings, Palmerston North) and three from the South Island (Nelson, Timaru and Invercargill). There were several reasons for their selection: they were regarded as a unitary group by contemporaries; each comprised a single electorate over the whole study-period; they were similar in size and small enough to be studied manageably; and their boundaries coincided with those for the smallest administrative units enumerated by the census. Moreover, as a group they embraced New Zealand's limited range of diversity. For instance, two grew with extraordinary rapidity (Hamilton and Palmerston North), while some of the others were relatively static (notably Nelson and Timaru); they differed substantially in age; most were port towns, but three were not; some were large railway centres (Wanganui, Hamilton and Palmerston North) while others were not; and so on. Despite their diversity, none of the towns was radically different from the others. The appendix demonstrates that the social structures of the ten towns had a reasonably close resemblance to those for the four main centres.

The concept of class informing the study was Weber's economic class, a concept used by Erik Olssen and David Pearson in their respective studies of class structure and mobility.¹¹ The rationale behind the concept is that the life chances of individuals depend on their job security, level of earnings, control over entry to their jobs, access to employment pension schemes, promotion prospects, and so on; that these things in turn depend on how much market power individuals possess; that their market power in its turn comes from the level of their skill, education and assets; that the level of such things is designated by occupation; and that people with comparable market power belong to a similar economic class. The concept of economic class used for this study, however, certainly does not preclude the possibility that people belonging to the same economic class were also affected to varying degrees by what the famous British sociologist Anthony Giddens calls 'class structuration'. This is the process by which an economic class becomes a cohesive social class and develops an identity of its own. According to Giddens, it is driven by how much vertical mobility the members of an economic class experience, the extent to which they live in class-segregated neighbourhoods, the extent to which they exercise authority in the workplace, and how far they possess a common style of life.¹²

The voting data for the study come from polling booth returns. The occupational class data for the class analysis are for household heads listed in Wise's street directory. The allocation of occupations into class categories is mostly based on Olssen's practices for the Caversham project.¹³ The occupational categorization partly follows the models devised by Olssen and Pearson, but the study has aggregated some of their occupational sub-classes, reducing the number of sub-classes to four. Two are for male manuals (unskilled

and semi-skilled), and two for male white collars (lower and higher). Where the study mainly diverges from the models devised by Pearson and Olssen is that it employs three residual sub-categories. These are for all female household heads irrespective of occupation, male heads who called themselves 'farmers', and male heads whose occupations were not given. The appendix discusses the reliability of the street directories as sources of occupational class data, the definition of each category, and the reasons for the deviations from Olssen's and Pearson's models.

An overall view of the social composition of the towns is provided in Table 1 on the structure of household heads for all the towns taken together for all the years combined. Part (a) of the table contains the percentage of heads in each of the seven categories; part (b) indicates what the distribution of the four sub-classes looks like when the three residual categories are excluded. As can be seen, the relative size of the four sub-classes differs appreciably depending on which schema is used. Thus, the percentage of the working class (sub-classes i and ii combined) in the household head population is 60.5% if the three residual sub-categories are excluded from the calculation but 44.1% if they are included. This needs to be taken into account if comparisons are made between the proportion of the vote received by a particular party and the relative size of each sub-class or aggregation of sub-classes. When estimating the degree to which a party's percentage of the total vote came from a particular sub-class or aggregate of sub-classes, the article has used all six categories as the base for the percentage, not the total of just the four sub-classes. Testing showed that the choice of base made little difference to the estimates, which is not surprising given that the four sub-classes (categories i, ii, iii and iv) constitute such a large part of the total household head population. Trends in the composition of household heads in each town over time are discussed elsewhere.¹⁴

Table 1: Social Composition of the Towns, 1911–1951

(a) Percentage of household heads in each of the seven categories, all towns combined (n = 400,662)

(i) Male semi- skilled & unskilled	(ii) Male skilled	(iii) Male lower white collar	(iv) Male higher white collar	(v) All females	(vi) Male farmers	(vii) Males undescribed
24.6	19.5	19.8	8.7	15.4	3.83	7.9

(b) Percentage of household heads in each of the four class categories only (n= 291,528)

(i) Male semi-skilled and unskilled	(ii) Male skilled	(iii) Male lower white collar	(iv) Male higher white collar
33.7	26.8	27.3	12.1

This brings us to the complex matter as to how the study estimated the strength of the relationship between class and voting. As the method is a novel one and understanding it is crucial for interpreting the resulting estimates, it needs to be spelt out. Six procedures were involved. First, the occupations of all household heads were coded, then collated by street for each town for each year. Long streets were divided into sections to ensure that the closest polling booth to each section was the same for every part along it. Second, the percentage of household heads belonging to each category in each street/street section for each town and year was calculated. The base for each calculation consisted of the total number of heads from all the seven categories in the same street/street section and year. The third step was to measure the distance in a straight line of every polling booth from each street/section in each town in each year. Fourth, the votes cast in every polling booth for each party for each town and year were distributed to each street/section for the same year and town. Fifth, the votes allocated were then deflated by the distance between every street/section they went to and the booth they came from. The point of the deflation measure was to take account of the strong likelihood that while most people at this time would have voted at the booth nearest to their homes, some would have voted at more distant booths. A series of deflation measures were tested, all producing similar estimates of the strength of the association between class and party preference. The measure used for this article was the *inverse* of the distance cubed (that is, to the power of three). Finally, to measure the strength of the relationship between estimated percentage of party vote and percentage of household heads in each category, a correlation procedure was employed. The correlation was between the estimated percentage of votes for each party and the percentage of households in each category across all the streets/sections for each year for each town. Thus, if a town had 100 streets and street sections in a particular year, the correlation would be between the percentage of households in a particular category across each one of the 100 streets and the estimated percentage of the votes for a particular party across the same streets.

A correlation measures the strength of the association between two series of data and can be visualized as a single measure of how far two lines on a graph are moving together or against each other. The resulting co-efficient (indicated with the symbol R) is expressed along a scale that moves between +1.0 (a perfect positive association) and -1.0 (a perfect negative association), with a 0.0 co-efficient indicating that there is no relationship at all, positive or negative, between the two lines of data.

In these terms, the correlations between the estimated vote for a particular party and households in a given category tell us how strong their relationship is and whether the association moves in a positive or negative direction. Thus, a high positive correlation for a town in a given year between estimated percentage of the Labour vote and percentage of skilled workers across the streets/street sections implies that an abnormally large portion of the Labour vote came from skilled workers. A high negative correlation, on the other hand, indicates that the skilled proportion of the Labour vote was abnormally small. For its part, a zero correlation can be interpreted as meaning that the skilled were neither over-represented nor under-represented in the Labour vote, but

that the skilled component in the Labour vote was proportionate to the size of the skilled in the total household population.

Almost no research has been done on the electoral history of the Liberals over the 1911–1928 period. Work on the class composition of the Liberal vote is restricted to the earlier years, 1890–1911. But David Hamer's and Erik Olssen's studies of the support base for the Liberals in the 1890–1911 period suggest three hypotheses might be the best predictors of the class composition of the Liberal vote in the ten towns in the 1911–1928 period.¹⁵ One hypothesis is suggested by Hamer's view that the Liberals saw themselves as a populist party who represented all sections except the large estate owners. If the town electorates perceived the Liberals in the same terms and voted accordingly in the 1911–1928 period, then the correlations between the estimated percentage of the vote for the Liberals and the percentage of household heads in each of the sub-classes should be zero or close to it.

The second hypothesis is suggested by Hamer's more specific claim that in the provincial towns the Liberals were particularly attractive to the middle classes — newspaper editors, storekeepers, transport operators, manufacturers and the like — because they were the main beneficiaries of Liberal development policies. If Hamer's claim is extrapolated to the ten towns for the later period, then the correlations between the estimated percentage of Liberal vote and the percentage of household heads who were middle class (categories iii and iv combined) should be moderately or strongly positive; and perhaps the correlations between estimated percentage of Liberal vote and percentage of manual workers (categories i and ii combined) should move in a relatively strong negative direction.

The third hypothesis is derived from Olssen's argument that from 1890 to 1911 the Liberals primarily represented the values and interests of artisans not only in Caversham but in New Zealand generally. If voting in the ten towns reflected this bias from 1911 to 1928, then the correlations between the estimated percentage of Liberal vote and percentage of skilled manual workers (sub-category ii) should be positive and comparatively strong (as distinct from the corresponding correlations between the percentage of the Liberal vote and each of the other three sub-classes).

What in fact do the correlations show? In the six general elections between 1911 and 1928, the Liberals fought a total of 46 contests in the ten towns.¹⁶ Table 2 provides the results for each contest when the percentage of middle-class household heads is correlated with the estimated percentage of Liberal vote. Noteworthy is that none of the correlations moves in a strong positive direction — the highest positive correlation being 0.232 for Napier in 1922 — and that all the positive correlations were substantially lower than the corresponding correlations between estimated percentage vote for Reform and percentage of middle-class household heads. Instead the vast majority of correlations between estimated vote Liberal and percentage middle class are either close to zero or move in a slight negative direction, meaning that the middle-class component in the Liberal vote was either proportionate to the size of the middle class in the wider population or tended to be small, to a slight degree. Moreover, in all the 22 contests won by the Liberals (indicated with

bold type in Table 2), the pattern was no different. Regardless of whether they lost or won, the Liberals were not a predominantly middle-class party, with the possible exception of Napier in 1922. Thus, on balance the first hypothesis has greater support than the second.

Table 3 confirms the point. It gives the results when the percentage of working-class voters (categories i and ii) is correlated with the estimated percentage of the Liberal vote in every contest the Liberals fought. The strongest of the negative correlations are not only comparatively weak but also restricted to just three contests (Invercargill in 1919, Napier in 1922 and Nelson in 1911). In most contests, the correlations are near to zero, implying that the size of the working-class vote for the Liberals was proportionate to the number of the working-class household heads in the wider population of household heads.

The most serious anomaly in the first and second hypothesis, however, is that in 11 or 12 of the 46 contests fought by the Liberals, the working-class component in the Liberal vote was abnormally large, at least by comparison with the middle-class component in the Liberal vote. In addition, the Liberals won most of these contests (Gisborne 1914; New Plymouth 1922; Wanganui 1922, 1925, 1928; Napier 1914; and Nelson 1919 and 1924). To some extent, therefore, the social composition of the Liberal vote in the ten towns over this period was similar to that often claimed for their so-called working-class seats in the main centres in the earlier Ballance and Seddon era.

However, the correlations do not support the third hypothesis, that the Liberals were primarily the skilled working man's party. Although there is no space to table all the results here, the correlations between the percentage of the Liberal vote and the percentage of unskilled household heads are positive and comparatively high; those between Liberals and skilled are positive but lower; those between Liberals and lower white collar are negative but comparatively weak; while those between Liberals and higher white collar are negative and comparatively strong.¹⁷

The historiography on the electoral history of the Reform, the Coalition and National parties is very patchy (for convenience from here on, the term 'mainstream conservatives' will be used where the reference is to more than one of these parties). The convention in the literature, which Chapman helped to establish, is that voter support for the mainstream conservatives was based on a coalition of farmer voters in the countryside and middle-class voters in the wealthier suburban seats in the four main centres.¹⁸ Apart from anything else, the biggest weakness in the literature is that it says nothing about trends in the class composition of the mainstream conservative vote over the study period, other than implying that in 1935 and 1938 National must have lost a considerable proportion of its middle-class and farmer support to Labour.

How far are these surmises consistent with the correlation analysis of the towns? Although one of the household categories consists of farmers, it is too small after 1919 to yield reliable results. Discussion of the findings is thus restricted to the two manual categories and the two white collar. Table 4 gives the results for the correlations between the estimated percentage conservative vote and the percentage middle-class vote across the streets/street sections of

Table 2: Pearson correlations between estimated percentage of vote for Liberals and percentage of total white collar household heads (lower and higher) across the streets/street sections of each town over the study period, 1911–1928.

Town/year	Hamilton	Gisborne	New Plymouth	Napier	Hastings	Palmerston North	Wanganui	Nelson	Timaru	Invercargill
1911	-0.237 *	<i>LU</i>	-0.164	-0.027	-0.045	+0.145	-0.007	+0.136	-0.045	-0.076
1914	-0.171	-0.441 ***	-0.043	-0.450 ***	+0.111	-0.120	-0.123	-0.134	-0.311 ***	-0.111
1919	-0.343 ***	-0.016	-	-0.119	-0.031	-	-	-0.105	-	+0.126 *
1922	+0.067	-0.213 **	-0.197 **	+0.232 **	+0.021	-	-0.276 ***	-0.175 *	-	+0.090
1925	-0.062	+0.148 *	-0.122	-	+0.014	-	-0.225 ***	+0.042	-	+0.047
1928	-0.049	-0.021	-0.040	-	+0.133	-0.006	-0.181 **	-	-	-0.090

Notes: Lower and higher white collar are categories iii+iv. ** $p < 0.0001$, *** $p < 0.01$, * $p < 0.05$ (assuming normality). 'Liberals' is used as a cover term for United and National in the 1920s. Liberal wins are in bold. Note that significance levels are very similar if Spearman rather than Pearson correlations are used, so the normality assumption is not critical.

Table 3: Pearson correlations between estimated percentage of vote for Liberals and percentage of working-class household heads across the streets/street sections of each town over the study period, 1911–1928.

Town/year	Hamilton	Gisborne	New Plymouth	Napier	Hastings	Palmerston North	Wanganui	Nelson	Timaru	Invercargill
1911	+0.172	LU	+0.252 *	+0.059	+0.121	-0.145	-0.087	-0.218 *	-0.002	+0.026
1914	+0.224 *	+0.338 ***	+0.214	+0.497 ***	-0.035	+0.133	-0.006	+0.329 ***	+0.364 ***	+0.127 *
1919	+0.328 ***	+0.053	-	-0.082	-0.161 *	-	-	+0.191 *	-	-0.123 *
1922	-0.097	+0.261 **	+0.340 ***	-0.244 **	+0.099	-	+0.416 ***	+0.352 ***	-	+0.011
1925	+0.072	-0.090	+0.216 *	-	+0.036	-	+0.385 ***	+0.021	-	-0.031
1928	-0.026	-0.065	+0.055	-	+0.059	+0.142 *	+0.305 ***	-	-	+0.026

Notes: *** $p < 0.0001$, ** $p < 0.01$, * $p < 0.05$ (assuming normality). Proportion working class is categories i+ii combined as a percentage of all seven categories as base. Spearman and Pearson correlations have very similar significance levels. Liberal wins are in bold.

each town in each year over the study period; and Table 5 provides the results for the corresponding correlations between estimated percentage conservative vote and the percentage working-class vote.

The first point to note in Table 4 is that most of the correlations in the early benchmark years — 1911–1919 — are negligible, with the remainder moving in a weak to moderately strong positive direction. In other words, at this crucial juncture, when twentieth-century New Zealand's right wing mainstream established itself in power for the first time, its voter support was broadly based to an unexpected degree (though not to the same extent as the Liberal vote). In the 1911–1919 period, Reform did not over-represent the middle classes in most contests and in the few where it did, the degree of over-representation was small or modest. In only two contests (Hamilton 1919 and Napier in 1914) were the correlations between estimated Reform vote and percentage middle class in the +0.4 range.

The correlations in Table 5 between estimated percentage Reform vote and percentage working class are also surprising, considering that the 1911–1919 period witnessed an unparalleled amount of industrial unrest and class polarization.¹⁹ The bulk of the correlations in Table 5 certainly move in a negative direction, implying that in these contests Reform under-represented the working class. But most of the negative correlations are close to zero or very weak, and only in four instances do they extend into the -0.4 range (Hamilton in 1919, Napier in 1914, Wanganui in 1914 and Nelson in 1919).

That said, however, it would be quite wrong to assume that in the 1911–1919 period voting in the towns did not proceed along class lines at all. Comparing the correlations in Tables 4 and 5 for Reform with the corresponding correlations for the Liberals in Tables 2 and 3, we can see that Reform had a stronger tendency to be a middle-class specific party and the Liberals had a stronger tendency to be a working-class one. How far Labour fits this pattern will be investigated later.

From 1922 onwards, however, the relationship between class and conservatism changed. The long-term trend was for the middle-class portion of the vote for mainstream conservatism to grow at the expense of the working-class portion. By the end of the study period, the positive correlations in Table 4 between estimated percentage conservative vote and percentage middle class were appreciably larger than they were at the beginning, and the negative correlations in Table 5 between the estimated conservative vote and the percentage working class were stronger as well. By 1951 National was more of a working-class party and less of a middle-class one than had been the case with Reform around the Great War. The social base of mainstream conservatism tended to be highly populist up to about 1919, become more middle class from 1919 to 1938, then shift back slightly towards the populist direction.

Perhaps the most interesting aspect of the social base for mainstream conservatism is that in Hamilton, Gisborne, New Plymouth, Napier, Wanganui and Timaru, the positive correlations between estimated percentage vote conservatism and percentage middle class were higher in the 1930s than at any other time, as were the corresponding negative correlations for the same six

Table 4: Pearson correlations between estimated percentage of vote for Reform/Coalition/National and percentage of total white collar household heads (lower and higher) across the streets/street sections of each town, 1911–1951.

Town/year	Hamilton	Gisborne	New Plymouth	Napier	Hastings	Palmerston North	Wanganui	Nelson	Timaru	Invercargill
1911	+0.237 *	-	+0.075 **	-	+0.019 **	+0.040 **	+0.270 **	-0.047	+0.374 ***	+0.292 ***
1914	+0.171 ***	-	+0.043 **	+0.450 ***	-0.131	-0.009 **	+0.370 ***	+0.134 **	+0.311 ***	+0.128 *
1919	+0.400 ***	+0.376 ***	+0.078	-	-0.008 **	+0.219 **	+0.072	+0.230 **	-	-
1922	+0.417 ***	+0.377 ***	+0.201 **	+0.434 ***	-0.022	+0.174 *	+0.302 ***	+0.175 *	+0.318 ***	+0.255 ***
1925	+0.368 ***	+0.355 ***	+0.214 **	+0.440 ***	+0.042 **	+0.134 **	+0.413 ***	+0.154	+0.343 ***	+0.151 *
1928	+0.459 ***	+0.468 ***	+0.205 **	+0.478 ***	-0.063 **	+0.249 **	+0.329 ***	+0.227 **	+0.414 ***	+0.277 ***
1931	+0.382 ***	+0.342 ***	+0.321 ***	+0.341 ***	+0.038 **	+0.351 ***	+0.406 ***	+0.351 ***	+0.471 ***	+0.076 **
1935	+0.493 ***	-	+0.219 **	+0.522 ***	+0.041	+0.313 ***	+0.427 ***	+0.316 ***	+0.471 ***	+0.335 ***
1938	+0.465 ***	+0.448 ***	+0.357 ***	+0.462 ***	+0.066	+0.341 ***	+0.436 ***	+0.414 ***	+0.516 ***	+0.418 ***
1946	+0.366 ***	+0.282 ***	+0.209 **	+0.379 ***	+0.183 **	+0.334 ***	+0.442 ***	+0.371 ***	+0.449 ***	+0.345 ***
1951	+0.372 ***	+0.288 ***	+0.214 **	+0.418 ***	+0.209 **	+0.375 ***	+0.400 ***	+0.228 **	+0.457 ***	+0.454 ***

Notes: Lower and higher white collar are categories iii+iv with total households from all categories as base. *** $p < 0.0001$, ** $p < 0.01$, * $p < 0.05$ (assuming normality). Data for 1911 are from the first ballot. Party affiliations from Chapman, 'Significance of 1928 General Election', *Press and Lyttelton Times*; where labels differ between sources, those with 'Reform'/'Coalition' title have taken precedence. Wins are in bold. Note that significance levels are very similar if Spearman rather than Pearson correlations are used, so the normality assumption is not critical.

Table 5: Pearson correlations between estimated percentage of vote for Reform/Coalition/National and percentage of total working-class household heads (skilled and unskilled/semi-skilled) across the streets/street sections of each town, 1911–1951.

Town/year	Hamilton	Gisborne	New Plymouth	Napier	Hastings	Palmerston North	Wanganui	Nelson	Timaru	Invercargill
1911	-0.172	-	-0.285 **	-	-0.086	-0.116	-0.354 ***	0.047	-0.361 ***	-0.326 ***
1914	-0.224 *	-	-0.214 **	-0.497 ***	+0.167 *	-0.027	-0.430 ***	-0.329 ***	-0.347 ***	-0.121
1919	-0.437 ***	-0.253 **	-0.205 **	-	+0.024 **	-0.229 **	-0.189 **	-0.450 ***	-	-
1922	-0.533 ***	-0.383 ***	-0.341 ***	-0.521 ***	+0.020	-0.309 ***	-0.428 ***	-0.352 ***	-0.392 ***	-0.123 *
1925	-0.558 ***	-0.301 ***	-0.331 ***	-0.500 ***	+0.027	-0.002	-0.553 ***	-0.344 ***	-0.448 ***	-0.067
1928	-0.578 ***	-0.405 ***	-0.154 *	-0.523 ***	-0.032	-0.138 *	-0.516 ***	-0.421 ***	-0.558 ***	-0.202 **
1931	-0.537 ***	-0.328 ***	-0.326 ***	-0.490 ***	-0.058	-0.360 ***	-0.566 ***	-0.446 ***	-0.570 ***	-0.006
1935	-0.597 ***	-	-0.229 **	-0.607 ***	-0.082	-0.399 ***	-0.499 ***	-0.463 ***	-0.589 ***	-0.327 ***
1938	-0.576 ***	-0.473 ***	-0.347 ***	-0.546 ***	-0.131	-0.248 ***	-0.521 ***	-0.525 ***	-0.602 ***	-0.329 ***
1946	-0.436 ***	-0.295 ***	-0.256 ***	-0.504 ***	-0.022	-0.279 ***	-0.452 ***	-0.569 ***	-0.529 ***	-0.284 ***
1951	-0.462 ***	-0.369 ***	-0.397 ***	-0.563 ***	-0.207 **	-0.368 ***	-0.429 ***	-0.505 ***	-0.515 ***	-0.393 ***

Notes: Working class is categories i+ii. *** $p < 0.0001$, ** $p < 0.01$, * $p < 0.05$ (assuming normality). Party affiliations from Chapman, 'Significance of 1928 General Election', *Press and Lyttelton Times*; where labels differ between sources, those with 'Reform'/'Coalition' title have taken precedence. Wins are in bold. Data for 1911 are for first ballot. Note that significance levels are very similar if Spearman rather than Pearson correlations are used, so the normality assumption is not critical.

towns between their estimated percentage conservative vote and percentage working class. It is not quite correct for historians to assume, therefore, that in 1935 and 1938, when the share of the votes for National crashed, it was because National lost urban middle-class votes to Labour. The correlations indicate that National's loss of working-class votes out-stripped its loss of middle-class votes. Although in absolute terms a good many of National's middle-class votes might have gone to Labour, National lost proportionately more working-class than middle-class votes to Labour (and other parties). The historic defeat of mainstream conservatism in the mid-1930s occurred not so much because its traditional middle-class voters deserted it as because it alienated its working-class followers and thus became more narrowly based.

In this connection, what is noteworthy about National's rising popularity after 1938 was its ability to restore the broader base of support which Reform had enjoyed in the late 1920s, though not to the degree Reform possessed from 1911 to 1919. In other words, as a rough general rule, the mainstream conservative political parties over the period tended to do best in general elections when their class base of support was broader than when it was narrower. With some exceptions, broader was best for Reform and its successors.

The historiography has much more to say about the electoral fortunes of the Labour Party and its precursors than it has about those for the Liberals and the mainstream conservative parties. Within this strongly developed strain of Labour historiography, there has long been a well-established consensus about trends in the relationship between class and voter preferences for Labour. Though in recent times the consensus has started to fray, it sees the social composition of Labour's vote as going through four phases.²⁰ The first phase was between 1908 and 1919 when independent labour emerged and rose rapidly. Although there is disagreement about whether it mobilized more urban working-class support before the war than during it, there is general agreement that by 1919 or 1922, in the larger centres and in special rural seats with large concentrations of unionists, the great bulk of the Labour vote came from manual workers.²¹ In the next phase, 1922–1928, the historiography portrays Labour as stagnating electorally. Unable to broaden its appeal outside the working classes in the main towns and special rural seats, its share of the vote failed to rise much above the 25% level, variously as a result of its extremist image, its land nationalization policy and inappropriate leadership.²² The historiography says that in the third phase, the 1930s, Labour's popularity increased exponentially. It won its landslide victories in 1935 and 1938 because it succeeded in diversifying its mass base of support, winning over small farmers and the urban middle classes for the first time.²³ According to the historiography, however, Labour declined in popularity after 1938 and lost office in 1949 because the broad-spectrum voter coalition it built in the mid-1930s disappeared: its farmer and urban middle-class converts returned to National. By 1951 Labour was left with only its traditional urban working-class support, a social base that was too narrow for it to win general elections.²⁴

The systematic correlation analysis of the class basis for Labour's vote in the ten towns during the study period enables the whole consensus argument to be tested rigorously. Table 6 gives the results when estimated percentage vote

for Labour is correlated with the percentage of working-class household heads across the streets/street sections for each town in each year. If the orthodoxy is correct, the correlations should be highest from 1911 to 1928, when Labour's support was supposedly confined to the urban working class and unionised rural workers; lowest during Labour's exponential increase in popularity over the 1930s; and rise from then to 1951 as Labour's share of the vote declined. In fact, the correlation analysis provides a much more complex picture; if anything, the trends in the correlations are the *inverse* of those which the orthodoxy predicts.

In the first phase, 1911–1919, the correlations between estimated percentage Labour vote and percentage working-class head of household varied considerably across the towns. While none of the 15 correlations for these years was negative, only one was in the +0.4 range. Of the rest, three were close to zero, three were in the +0.2 range, eight in the +0.3 range. Even allowing for the fact that for mathematical reasons the correlations are lower than they should be, they are not high enough to suggest that Labour was predominantly a working-class party. Confirming this is that Labour's share of the votes in the seats it contested was generally far lower than the relative size of the working class. At a time when male manual workers made up about 60% of the total male workforce, Labour's share of the vote across the towns varied between 17.4% and 44.2% in 1911–1914, and 15.1% and 45.2% in 1919. In addition, the correlations between estimated percentage Labour and percentage working class for the 1911–1919 period are no higher than the corresponding correlations between estimated percentage voting Liberal and percentage working class, and those between estimated vote Reform and percentage middle class. More important still, the correlation analysis of the whole study period shows that, contrary to what the consensus view implies, the working-class component in the Labour vote was smaller in the 1911–1919 years than at any other time.

In the next phase of Labour's electoral history, 1919/22–28, the proportion of the working-class vote in the party's total vote grew in six of the towns. The exceptions were Hastings (where the correlations declined), Invercargill (where the correlations showed no obvious trend), and New Plymouth and Nelson (where Labour fought too few contests to produce a discernible trend). By the end of the 1920s, the correlations had climbed into the +0.4 range for Gisborne, and into the +0.5 range for Hamilton, Wanganui, Napier and Timaru. Indeed, by the end of the 1920s the correlations between estimated percentage vote Labour and percentage working-class head of households were now considerably higher than the corresponding correlations between estimated percentage vote for Liberals and percentage working class, and those between estimated Reform vote and percentage middle class. Although Labour was failing to increase its share of the total vote, it was succeeding in increasing the working-class component of its total vote. The growth of Labour in the 1920s as a working-class-specific party, however, does not mean that the consensus view in the historiography is correct. Although rising, the correlations nevertheless are not higher by the end of this phase than at any other time of the study period.

Table 6. Pearson correlations between estimated percentage of Labour vote and percentage of household heads who were working class in streets/street sections in each town in each study year, 1911–1951.

Year	Hamilton	Gisborne	New Plymouth	Napier	Hastings	Palmerston North	Wanganui	Nelson	Timaru	Invercargill
1911	-	-	-	-0.059	+0.022	-	+0.373 ***	-	+0.350 ***	+0.350 ***
1914	-	-	-	-	-	+0.045	+0.378 ***	-	-	-
1919	-	+0.240 **	-	+0.456 ***	+0.206 **	+0.229 **	+0.387 ***	+0.300 **	+0.312 ***	+0.321 ***
1922	+0.540 ***	+0.319 ***	-	+0.559 ***	+0.157 *	+0.258 **	+0.372 ***	-	+0.392 ***	+0.047
1925	+0.552 ***	+0.297 ***	+0.295 ***	+0.500 ***	+0.130	+0.116	+0.504 ***	+0.327 ***	+0.448 ***	+0.305 ***
1928	+0.578 ***	+0.429 ***	+0.164 *	+0.523 ***	+0.048	+0.270 ***	+0.534 ***	-	+0.558 ***	-
1931	+0.521 ***	+0.413 ***	+0.326 ***	+0.490 ***	+0.137	+0.461 ***	+0.566 ***	-	+0.608 ***	+0.344 ***
1935	+0.600 ***	+0.349 ***	+0.332 ***	+0.611 ***	+0.140 *	+0.423 ***	+0.504 ***	-	+0.589 ***	+0.414 ***
1938	+0.576 ***	+0.473 ***	+0.347 ***	+0.546 ***	+0.211 **	+0.301 ***	+0.521 ***	-	+0.602 ***	+0.419 ***
1946	+0.436 ***	+0.295 ***	+0.256 ***	+0.504 ***	+0.152 *	+0.287 ***	+0.452 ***	+0.569 ***	+0.529 ***	+0.308 ***
1951	+0.462 ***	+0.369 ***	+0.397 ***	+0.563 ***	+0.292 ***	+0.380 ***	+0.429 ***	+0.505 ***	+0.515 ***	+0.393 ***

Notes: P=*** <0.0001, ** <0.01, * <0.05 (assuming normality). Proportion working class is categories i+ii combined as a percentage of all seven categories as base. 1911 data are for the first ballot. Labour wins are in bold. Party affiliations for the 1911 and 1914 electoral returns are for precursors of Labour taken from N.D. Stevens, 'Labour Candidates for the New Zealand House of Representatives, 1890–1916', *Political Science*, 9 (1957), pp.61–71. Thereafter affiliations from *Press* and *Lytelton Times*. Correlation values and ranking of the values are little different if Spearman's correlations are used.

It was only in the 1930s that working-class representation in the total Labour vote is at its largest. At this juncture, the correlations between percentage Labour vote and percentage working class for Hamilton, Timaru and Napier reached the +0.6 range; that for Wanganui rose to +0.566 (in 1931). Invercargill, Gisborne and Palmerston North climbed to their highest points in 1935, 1938 and 1931 at +0.414, +0.473 and +0.461 respectively. The only exceptions to this trend were Hastings and New Plymouth (Nelson being a special case since Labour did not contest the seat during the 1930s). In other words, the exponential rise in Labour's popularity over the 1930s was linked not to a broadening of Labour's support base (as the historiography would have it) but a narrowing. Labour's share of the vote peaked at the same time as the working-class proportion of its vote reached its highest levels. Although the middle classes may have swung to Labour in substantial numbers for the first time in the 1930s, the swing by the working classes was stronger. Contrary to the orthodox view, Labour came to power in the 1935 landslide, and entrenched its position in 1938, by becoming *more* of a working-class party, by winning over working-class voters who had not been traditional Labour supporters.

The reverse process occurred in the last phase of Labour's electoral history, 1938–1951. As Labour's share of the vote diminished over these years, the proportion of working-class votes in its total vote sunk in most towns. Except for Hastings and New Plymouth, where the correlations between estimated percentage vote Labour and percentage working class reached their historical zenith in 1951, the correlations fell to about the levels they reached in 1928. This is the opposite of what the historical orthodoxy predicts. After 1938, while Labour may have lost the middle-class converts it made in the early 1930s, it alienated a greater proportion of its working-class supporters, though the degree and timing varied between the towns. In short, the general rule was for Labour to do best when it was most successful in picking up working-class votes relative to other sources of votes. In this respect, the pattern was the inverse of that for the conservative mainstream parties. The conservatives tended to win elections when their class base was broader than normal; Labour tended to win elections when its class base was narrower than normal.

In summary, perhaps the best way to conceptualize the relationship between class and voting over this period is in terms of its variability. There were considerable — and persisting — differences across the towns in the strength of the correlations between any one of their two classes and any one of the three parties. For instance, the class basis for voting preferences in Hastings was generally the lowest while that for Napier and Timaru was generally the strongest. The relationship was also variable over time. As we have seen, the degree of partisanship not only showed year-to-year fluctuations but tended over the long term to rise and over the medium term to move through four phases: with lowest levels in the earliest phase, a rising trend over the 1920s, a peak in the 1930s, and a declining trend at the end of the period. Also highly variable was the degree of strength across the parties in the relationship between class and voting preferences. The relationship was strongest with Labour and weakest with the Liberals, with the conservative mainstream parties somewhere in between. Related to this was another area of variability,

perhaps the most interesting: the degree to which the parties received cross-class support. Although the Liberals tended to be the most populist, the other two parties received a surprisingly large proportion of votes from outside their 'natural' class base. The relative size of the working class vote for mainstream conservative vote was certainly abnormally small compared with the relative size of the working class in the wider population. But the negative correlations are not strong enough to suggest that the mainstream conservative parties received no working-class votes at all; on the contrary, the level of the correlations (seldom more than -0.5) suggests that Reform and its successors must have been supported by a substantial minority of 'working-class Tories'. The relative size of the middle-class vote for the Labour Party was likewise small in relation to the proportion of middle-class voters in the wider population. Indeed, the degree of under-representation of the middle class in the Labour vote was greater than the degree of under-representation of the working class in the vote for Reform and its successors. As high as they were in comparative terms, however, the negative correlations between estimated percentage Labour vote and percentage middle class were not extremely high, suggesting that Labour must have received at least some non-manual votes right through the study period.

The variability in the class and party preferences relationship, then, is a prominent characteristic of the study period. Indeed, the variability in one form or another might have been responsible for the widespread notion that New Zealand was a 'classless society'.

The variability of the relationship, however, was not extreme. It should not lead us to assume that there was no relationship at all between class and voting preferences. A defining characteristic of societies where class cleavage dominates voter preferences is that voting moves along a class gradient where the class model has more than two levels: the higher the class the greater the proportion of votes for the right, and the lower the class the higher the proportion of votes for the left.²⁵ We can apply this test to the whole study period by disaggregating the two classes into their four sub-classes, and re-do the correlation analysis for each of the three parties for each of the four classes in each town in each year. Although there is no space to detail the results, the correlation patterns fit the gradients in modern survey data. Thus for the mainstream conservatives, the highest negative correlations are with the unskilled/semi-skilled category, the lowest negative correlations are with the skilled category, the lowest positive correlations are with the lower white collar category, and the highest positive correlations are with the higher white collar category. With Labour and its precursors the correlations with the four classes are in the reverse order. With the Liberals what is noteworthy is that while they tended to be the most broad-based of the three parties, their vote also moved across a class gradient. As we noted earlier, the values at the extreme ends of the gradient for the Liberals tended to be much smaller than they were for the other two parties. Nonetheless, the gradient is still apparent in most contests fought by the Liberals, and the direction of the gradient is the same as it is for Labour. Class-based voting was highly variable, but underneath the variability was regularity. Explaining these patterns is the next task.

Appendix — Methodology

Typicality of the ten towns

There is good reason to believe the ten towns provide reasonable proxies for the four main centres and, to a lesser extent, for urban New Zealand as a whole in terms of their class profiles. Although it is tempting to assume that the occupational class structures of the towns must have been quite different from those of the four main centres (with the latter having much larger proportions of manual workers), a comparison with Caversham and interwar Christchurch shows otherwise. As Caversham probably had one of the largest concentrations of artisans in the four main centres, it is not surprising that its proportions of skilled manuals were higher than those for the ten towns (see Table A). Even so, the relative size of the unskilled/semi-skilled class in the towns was very similar to that of Caversham in 1911 and 1922, and their overall proportion of both categories combined was almost the same in 1911.²⁶

Table A: Comparison between percentages of skilled and unskilled/semi-skilled males for Caversham and the ten towns taken as a group, 1911 and 1922.

Year/occupational class category	Unskilled/semi-skilled males %		Skilled males %	
	Caversham	Ten-town average	Caversham	Ten-town average
1911	30.6	32.0	31.6	27.5
1922	31.2	32.1	31.5	26.9

Notes: Sources for Caversham are electoral rolls as given in T. Brooking et al., ‘The Ties that Bind: Persistence in a New World Industrial Suburb, 1902–22’, *Social History*, 24 (1999), p.65; and data for the ten towns are computed from household listings in Wise’s *New Zealand Post Office Directory*. The base for the Caversham percentages is all males listed in the electoral rolls; the base for the ten towns is total households in categories i, ii, iii and iv. Differences in definitions prevent comparisons of occupations in the middle-class categories.

The more comprehensive data in Table B shows that the proportions of male household heads in a four-point class scale for Christchurch between the wars differed little from those for the ten towns, except for the skilled category in 1921 and the higher white collars in all years. In addition, the proportions of males in the two working-class categories for the towns have a close fit with the proportions of males in the same categories for ‘urban New Zealand’ as constructed by Olssen and Hickey from census data for 1926.²⁷ More indirectly, the similarities between the class structures of the ten towns as a group and the main centres as a group are reflected in personal income and employment status distribution data. The first comprehensive census of annual incomes for gainfully employed males in 1926 found that the range across the ten towns was little different from that across the four main centres;²⁸ and in the 1936 census the distribution of employed males across the six grades of employment status (employers, self-employed, wage and salary earners,

unemployed, relatives assisting and apprentices) for the ten towns as a group did not differ substantially from that for the main centres as a group.²⁹

Table B: Male occupational class composition — comparison between Christchurch and the ten towns taken as a group, 1921, 1931, 1938.

Class category	1921*		1931		1938	
	ChCh	Ten-town average	ChCh	Ten-town average	ChCh	Ten-town average
Unskilled/ semi-skilled	32.3	32.1	33.4	33.1	34.9	35.3
Skilled	30.8	26.9	29.3	27.4	28.0	26.1
Lower white collar	26.7	27.7	28.0	28.1	27.9	27.3
Higher white collar	9.9	13.1	9.1	11.3	9.0	11.1

Notes: Data for Christchurch are from Michael Smith, 'Residential Segregation and the Interwar Christchurch Experience', in M. Fairburn and E. Olssen, eds, *Class, Mobility and Voting in New Zealand*, Dunedin, forthcoming. The definitions of the class categories are the same and the data come from the same source, Wise's *New Zealand Post Office Directory*.

Polling booth level of analysis

To maximise the statistical robustness of the analysis, the study drew its voting data from the lowest level of aggregation, that is, from the returns of individual polling booths for each town in each year. Although the distribution of polling booths was not legally prescribed, a substantial core were always placed in the same inner-town precincts and suburban centres. At no point in the period were voters required to vote in a particular booth or sub-district of the electorate.

The study excluded votes from rural areas surrounding some of the towns because of the great difficulty of tracking down the precise location of household heads by (and in) roads/streets. Hence it omitted the returns from rural polling booths. Their exclusion has a negligible effect on the correlations since we also excluded household heads listed in Wise's from the data on town occupations. It is possible that some rural dwellers voted in the town, but the number would have been slight overall. Rural dwellers comprised a tiny minority of each of the town electorates (except for some places in 1911 and 1914) and poor transport would have constrained the number who voted in a town polling booth.

The total number of polling booths dealt with by the study averaged about ten per town at the start of the study period and about 19 at the end.

Categorization of occupations

Allocation of occupations into categories mainly followed the practices of the Caversham project, but in some instances, notably where the precedents were

unclear or absent, decisions were also guided by the comprehensive data in the 1926 census on average annual incomes for each grade of employment status.

Although the study's occupational class schema was adapted from those used by Pearson and Olssen, it aggregated some of Pearson's and Olssen's sub-classes, producing a simpler occupational schema. The less elaborate schema was preferred partly because the information implied by many occupational labels is inadequate for fine distinctions, partly because elaborate schemas tend to generate cells which are too small for analytical purposes, and partly because a more elaborate schema though important for mobility studies is not essential for the investigation of voting preferences by class.

Whereas Pearson and Olssen omit 'farmers' or put them into a miscellaneous category, we put farmers into a separate category of their own because they were much more numerous than expected, constituting up to 14% of household heads in some towns in the beginning of the study, though diminishing rapidly thereafter. In reality, of course, the market power of farmers in Weber's sense varied substantially, but as the degree of market power of each farmer is not discernable from their occupational designations, it is impossible to make reliable decisions about how they should be distributed across the four class categories.

The study also diverged from Olssen's and Pearson's analyses by placing all female household heads, irrespective of their occupations, into a single residual category of their own. The proportion of female household heads was not small in the towns and it grew over the study period from about 12% for the average town in 1911 to a peak of over 18% in 1946. But allocating them into economic classes proved impossible because Wise's did not give most of them an occupation or any label at all apart from an indication of their marital status. Contemporary labelling conventions might account for the failure of Wise's to include the occupations of most female household heads (by law all females registering as voters were required to describe their occupations solely by marital status). But another factor was that the participation rate of women (married women especially) in the paid workforce was exceptionally low not only by modern standards but also relative to the participation rates of that time in Australia, Britain and the United States.³⁰

Although Olssen and Pearson leave the 'undescribed' out altogether, or lump them into a miscellaneous category, this usage was not followed here because there were too many people in this category. The proportion of such household heads reached about 13% by 1951, a four-fold increase from the beginning of the study period. Research shows that a good many such men were retired and on private or, especially from 1938, state pensions. Almost no household heads over the study period described themselves as 'unemployed'.

Categorization of male occupations

(1) Unskilled/semi-skilled manual (generally wage earners with incomes of less than c. £190 pa or £35 below male median for 14 largest urban centres in 1926 census): bag maker, bottler, brewery hand, brick-maker, brush-maker, bushman, caretaker, carter, chainman, cheese-maker, cook, ditcher, drainer, dray-man, driver, farm worker, fell-monger, fisherman, freezer hand, gas employee, glazier, greaser, labourer, milk-vendor, paper bag maker, pipe-maker, porter, postman, rope-maker, seaman, seed cleaner,

shearer, soap-maker, spinner, stevedore, steward, taxi driver, tile maker, tobacconist, twister, vulcaniser.

(2) Skilled manual

A. Trades (on wages and excluding petty proprietors and self-employed): boiler maker, butter maker, carpenter, chef, coach builder, cooper, currier, engraver, gunsmith, fireman (train), electrician, expert (type-writer, tractor, dairy etc), fitter, gunsmith, joiner, linesman, maltster, marine engineer, mason, plasterer, printer, plumber, projectionist, tailor, radio engineer, saw doctor, ship wright, saddler, signal man, sheet metal worker, shop fitter, train driver, turner, upholsterer, wool-classer.

B. Supervisors/petty officials: bailiff, conductor (train, tram), constable, foreman, guard (train), overseer.

(3) Lower white collar

A. Semi-professionals: chemist, chiropractor, draftsman, engineer (town/county), journalist, music teacher, primary school teacher, school inspector.

B. Clerical, sales and official: agent, assistant manager, auctioneer, canvasser, clerk, collector, insurance agent, meter reader/inspector, post master, ranger, salesman, senior sergeant (police), stock agent, commercial traveller.

C. Small proprietors (usually designated in Wise's with 'pr', proprietor): book seller, builder, car dealer, carrier, coach builder, contractor, cycle dealer, draper, fish monger, hotel keeper, iron monger, jeweller, master (blacksmith, plumber, tailor, painter, butcher etc), mercer, real estate agent, soap manufacturer, storekeeper, wool buyer.

(4) Higher white collar

Managers and owners of large businesses (distinguished from petty proprietors by earning in excess of c. £364 pa, and by being designated in Wise's with the name of the firm in brackets alongside home address): company secretary, editor, merchant, publisher, saw miller, timber merchant, town clerk, wool merchant.

Higher professionals: accountant, civil engineer, clergyman, commissioned officer, dentist, electrical engineer, harbour master, lawyer, magistrate, master mariner, medical practitioner, surgeon, valuer.

Note: The categorization excluded farmers. The 1926 census was used as data source for income since it provided the first detailed national data on incomes by employment status.

Choice of primary source data

Although the census tabulated the occupations of the gainfully employed in each town, we chose not to use this data for the class analysis. Apart from the relative infrequency of the census, many census years did not coincide with general election years, census occupational categorizations at the borough or urban-district level are too broad, and changes over time in census categorization of occupational data prevent the study of long-term trends. Moreover, the census tabulations were at borough or urban district level which was too high to minimize what is called the 'ecological fallacy'. The fallacy arises when individual behaviour is inferred from aggregate behaviour. For example, it is fallacious to infer that as the vote for Labour across several electorates rises as the number of farmers rises, that farmers are voting Labour; what the association might be disguising is that the rise in Labour

votes came instead from rises in the votes by manual workers.³¹ To minimize the ecological fallacy, data aggregated at the lowest possible level, or, better still, individual-level data, must be used as far as practicable. For that reason, the study took as its raw data for the class analysis the occupations for every individual household head listed in Wise's *New Zealand Post Office Directory* for each street for each town for every study year.

We could also have used the electoral rolls as the source material for the class analysis. The rolls have at least two advantages over the directories: they are more reliable and provide social data for most adults as opposed to household heads, which is a skewed sub-group of the voting population. Ideally, both sources should have been used; but for lack of resources one had to be preferred to the exclusion of the other, and on balance the directories were preferred over the rolls. They deal with a smaller population which makes them more manageable; as they were compiled annually, they furnished data for every benchmark year; they provide more detail about occupations and hence allow categorization decisions to be more consistent; and as their listings are organized by street, they required less processing to make them suitable for the method used to estimate the strength of the relationship between class and voter preferences.

Reliability of the directories

As the class analysis in this study vitally depends on the occupational data in the directories, a comment is required on their much-disputed reliability. Without doubt directory listings, based as they are on household heads, provide an unrepresentative picture of the voting population. In particular, they under-represent women, the unskilled and young voters.³² Their bias against women, however, does not produce a distorted class profile. During the study period New Zealand was a patriarchy. The strong commitment to the male breadwinner's wage produced vigorous formal and informal discrimination against women in paid employment. As a result most women, whether in paid work or otherwise, were dependent for their life chances on the market power of their husbands or fathers; and thus male household heads are a reasonable proxy for the (economic) class position of women.³³

The under-representation of the unskilled and younger male voters does not seriously distort the class profiles of the towns either. The total of manual household heads (categories i and ii combined) as a proportion of all household heads in the four class categories combined (categories i to iv) was only slightly lower than the corresponding proportions of male manual workers in the total male New Zealand workforce as enumerated by the census.³⁴ In addition, in a case taken at random, Gisborne in 1935, the proportion of household heads in each of the four class categories (i, ii, iii and iv) across each street and street section had a strong correlation with the proportions of males in the same class categories as calculated from the electoral roll.³⁵

Apart from their bias, the other problem imputed to directories is their reputedly high rate of error, notably their mis-spellings and out-dated entries. The seriousness of such errors, however, depends on the purpose the directories

are used for. The problem could be serious where record linkage is involved, tracing specific individuals and their occupations. The problem is much less serious for this study, however, because its aim is to map class voting in the towns street by street, and incorrect details about the names of individual household heads and their occupations in streets are unlikely to distort their overall class composition to a major extent.

Furthermore, the rate of directory error does not seem to have been large in these towns in this period. For one thing, the total number of household heads contained in the directories for the towns was very close to the number of private occupied dwellings in the towns as given in the nearest census years.³⁶ For another, if the errors were substantial they should have led to sharp differences between adjoining years in the proportions of household heads belonging to any one of the seven categories for any given town. Yet statistical tests for such sharp differences threw up only nine suspects out of the total maximum of 770 cases.³⁷

Strengths and weaknesses of the correlation method for estimating the class composition for each party's vote

One limitation of this method is that for mathematical reasons the strength of each correlation is less than it should be.³⁸ Hence comparisons between correlations are more informative than each correlation in itself. Another limitation is that the procedure does not tell us about the absolute number of households in a given household category who voted for a particular party but about the relative number, that is, relative to the household heads in all seven categories combined. But a judgement about the absolute number can be gauged by comparing the correlation value with the absolute number it received in total.

The advantages of the procedure are many. It gives a precise measure of the strength of the relationship between class and voting. It also minimizes the effect of the ecology fallacy. Its strong longitudinal dimension permits close examination of short-term changes over time. Taking each street and street section as a unit of analysis for each town and year, the methodology enables micro-analysis of the social geography of the towns, of their voting geography, and of the interaction between these two geographies ('contextual effects').³⁹ Finally, as each correlation measures the strength of the association between two series of data for each street or street section for each town and year, it is based on an exceptionally large number of observations or data points, consisting of an average of 179 streets and street sections per town at the beginning of the period and 270 at its end. As a consequence, the study generates highly robust results in the sense that they are most unlikely to be distorted by quirks in the data or by a few extreme values ('outliers').

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NOTES

1 See Jack Vowles and Peter Aimer, *Voter's Vengeance: The 1990 General Election in New Zealand and the Fate of the Fourth Labour Government*, Auckland, 1993; and Clive Bean, 'Class and Party in the Anglo-American Democracies. The Case of New Zealand in Perspective', *British Journal of Political Science*, 18, 3 (1988), pp.303–21.

2 The term 'de-alignment' was first used: Bo Sarlvik and Ivor Crewe, *Decade of Dealignment: The Conservative Victory of 1979 and Electoral Trends in the 1970s*, Cambridge, 1983 in a famous study of the electoral success of the British Conservative Party under Margaret Thatcher. It generated a huge political science literature in Britain, Australia and other democracies where class voting had in mid-century been primarily or mainly structured by class.

3 See Bean, 'Class and Party' for a comprehensive and critical analysis on what early opinion surveys tell us about the amount of class-based voting in New Zealand. In the article he demonstrated that 'the conventional wisdom' in the national and international political science literature in the 1960s and 1970s was that the level of class voting in New Zealand was as strong in New Zealand as it was in Britain. He criticized the 'convention', saying it was based on a few local surveys of unrepresentative electorates: Wellington Central in 1957, Dunedin Central in 1960 and 1962, and Christchurch Central and St Albans in 1966. He went on to argue that the 1963 survey (which sampled four electorates) provided a 'fairly' representative picture of the level of class voting in New Zealand as a whole, and that the level was probably lower than Britain's and similar to Australia's. He concluded nonetheless that the 1963 survey indicated 'social class remained the central socio-political cleavage' in New Zealand; 'Class and Party in the Anglo-American Democracies', p.10. See also Clive Bean, 'An Inventory of New Zealand Voting Surveys 1949–84', *Political Science*, 38 (1986), pp.172–84.

4 Ecological (multiple) regression is a mathematical technique which, when applied to aggregated voting and social data, estimates what percentage of the vote for a given party comes from a particular social category. A good summary discussion of it for historians is J.M. Kousser, 'Ecological Regression and the Analysis of Past Politics', *Journal of Interdisciplinary History*, 4, 2 (1973), pp.273–82. Our study did not employ the technique partly because ecological regression of aggregates does not avoid a well-known problem in statistics called the ecological fallacy, and partly because there are no data at street or individual level for explanatory variables apart from the occupational data that we have employed. We spell out the arguments and mathematical justification for our technique in M. Fairburn and S.J. Haslett, 'Cleavage Within the Working Class? The Working Class Vote for the Labour Party in New Zealand, 1911–1951', *Labour History* (forthcoming).

5 L. Linda Moore, 'Gender Counts: Men, Women and Electoral Politics, 1893–1919', MA thesis, University of Canterbury, 2004.

6 L. Lipson, *The Politics of Equality: New Zealand's Adventures in Democracy*, Chicago, 1948.

7 R.M. Chapman, 'The Significance of the 1928 General Election', MA thesis, University of Auckland, 1948; *The Political Scene, 1919–1931*, Auckland, 1969; *Marginals '72: An Analysis of New Zealand's Marginal Electorates*, Auckland, 1972. A collection of his articles can be found in E. McLeay, ed., *New Zealand Politics and Social Patterns: Selected Works by Robert Chapman*, Wellington, 1999; and R.M. Chapman, W.K. Jackson and A.V. Mitchell, *New Zealand Politics in Action. The 1960 General Election*, London, 1962.

8 Chapman never explicitly used the term 'class' in his social analyses of voting behaviour, preferring instead to refer to 'sections'. He did so on the grounds that classes in the European sense did not exist in New Zealand. It is quite clear, however, that Chapman believed that New Zealand had economic classes in Weber's sense, and thus most of his 'sections' (except Maori) are economic classes.

9 Note that we are using the term 'Liberals' to cover the various names they went under in the 1920s (National, United etc.).

10 For example, the very rich statistical studies of voting behaviour in the Weimar Republic generally focus on a few elections towards the end of the period when the Nazis rose to power (see, for example, R. Hamilton, *Who Voted for Hitler?*, Princeton, 1982; Jurgen W. Falter and Reinhard Zintl, 'The Economic Crisis of the 1930s and the Nazi Vote', *Journal of Interdisciplinary History*, 19, 1 (1988), pp.55–85; J. W. Falter, 'How Likely Were Workers to Vote for the NSDAP?', in Conan Fischer, ed., *The Rise of National Socialism and the Working Classes in Weimar Germany*,

Oxford, 1996). William Miller's longitudinal analysis of British voting behaviour, which covers a larger span than any other British study (1918–1970), takes its social data from just four points in time (1921, 1931, 1951 and 1966); William Lockley Miller, *Electoral Dynamics in Britain since 1918*, London, 1977.

11 Max Weber, *From Max Weber: Essays in Sociology*, New York, 1947, pp.181–8. For Olssen see, for example, Erik Olssen, *Building the New World; Work, Politics and Society in Caversham 1880s–1920s*, Auckland, 1995; Erik Olssen and Hamish James, 'Social Mobility and Class Formation: The Worklife Social Mobility of Men in a New Zealand Suburb, 1902–1928', *International Review of Social History*, 44, 3 (1999), pp.419–49; Erik Olssen and Maureen Hickey, *Class and Occupation: The New Zealand Reality*, Dunedin, forthcoming. (We are grateful to Erik Olssen for showing us copies of many of the chapters in earlier drafts of this book). See also Tom Brooking and Dick Martin, 'The Ties that Bind: Persistence in a New World Industrial Suburb, 1902–1922', *Social History*, 24, 1 (1999), pp.55–73. For David Pearson's studies, see his *Johnsonville: Change and Continuity in a New Zealand Township*, Sydney, 1980; 'Small-Town Capitalism and Stratification in New Zealand 1880–1930', *New Zealand Journal of History*, 14, 2 (1980), pp.107–31; 'Marriage and Mobility in Wellington 1881–1980', *New Zealand Journal of History*, 22, 2 (1988), pp.135–51; and David Pearson and David Thorns, 'A Tale of Two Cities: Marriage and Mobility in New Zealand', *Australian and New Zealand Journal of Sociology*, 22, 2 (1986), pp.208–24.

12 Anthony Giddens, *The Class Structure of the Advanced Societies*, London, 1973.

13 See Olssen, *Building the New World*.

14 M. Fairburn and S.J. Haslett, 'Stability and Egalitarianism: New Zealand, 1911–1951', in M. Fairburn and E. Olssen, eds, *Class, Mobility and Voting in New Zealand*, Dunedin, forthcoming.

15 David Hamer, *The New Zealand Liberals: The Years in Power, 1891–1912*, Auckland, 1988, ch.5; Olssen, *Building the New World*.

16 Data on Liberal candidates are taken from the *Lyttelton Times* and the classic study by Chapman, 'The Significance of the 1928 General Election'. In 1911, Gisborne went to the Liberals without a contest. Unfortunately, Chapman does not give his sources. In a few cases, the *Lyttelton Times* and Chapman disagree on the affiliation of Liberal candidates, variously calling them Liberal or Independent Liberals. Where there was conflicting information, we have erred towards calling the candidate 'Liberal'. This applies to Atmore in Nelson in 1922 and 1925, and Ward in Invercargill in 1925.

17 The correlation data are discussed in detail in M. Fairburn and S.J. Haslett, 'Voter Behaviour and the Decline of the Liberals in Britain and New Zealand, 1911–1929 — Some Comparisons', unpublished.

18 See, for example, Hamer, *The New Zealand Liberals*, pp.184–5.

19 It might be objected that comparisons between voting behaviour for the ten towns and the four main centres is invalid for the 1911–1914 period since the working class in the ten towns lagged well behind the four main centres in class consciousness; that is, that the ten towns were less polarized by class than the four centres. This is not correct. The average percentage of the total vote won in seats contested by the left candidates in the ten towns in both years combined was 30.17% as opposed to 30.89% won by the left in the four main centres. The left candidates for the four centres were those identified by Norman D. Stevens, 'Labour Candidates for the New Zealand House of Representatives, 1890–1916, Part 4: 1908–1914', *Political Science*, 9 (1957), pp.61–71, as the New Zealand Labour Party, Socialist Party and Independent Labour candidates in 1911; and Social Democratic Party and Independent Labour candidates in 1914. There were 20 such candidates in 1911 and 13 in 1914.

20 See M. Fairburn, 'Why did the Labour Party Fail to Win Office until 1935?', *Political Science*, 37 (1985), pp.101–24; Olssen and James, 'Social Mobility and Class Formation', pp.437ff.

21 For 1911–1914 see Erik Olssen, 'The Origins of the Labour Party: A Reconsideration', *New Zealand Journal of History*, 21, 1 (1987), pp.83–86; and the rather more cautious view in Barry Gustafson, *Labour's Path to Political Independence: The Origins and Establishment of the New Zealand Labour Party 1900–1919*, Auckland, 1980, ch.3. For 1919 see Erik Olssen, 'The New Zealand Labour Movement, 1880–1920', in Eric Fry, ed., *Common Cause: Essays in Australian and New Zealand Labour History*, Wellington, 1986, pp.14–15; Hamer, *The New Zealand Liberals*, p.185; Gustafson, *Labour's Path to Political Independence*, chs 12, 13.

22 Olssen, 'The New Zealand Labour Movement', pp.16–17; Chapman, *Political Scene*, pp.16, 32, 55; Bruce Brown, *The Rise of New Zealand Labour: A History of the New Zealand Labour*

Party, Wellington, 1962, pp.41–42, 104–105; Len Richardson, 'Parties and Political Change', in Geoffrey W. Rice, ed., *Oxford History of New Zealand*, 2nd ed., Auckland, 1992, pp.219, 220, 222; Keith Sinclair, *Walter Nash*, Auckland, 1976, p.75.

23 Brown, *The Rise of New Zealand Labour*, pp.180–1; Olssen, 'The New Zealand Labour Movement', p.22; R.M. Chapman, 'From Labour to National', in Rice, ed., *Oxford History*, pp.353–4; Richardson, 'Parties and Political Change', in Rice, ed., *Oxford History*, pp.228–9; Keith Sinclair, *A History of New Zealand*, rev. ed., Auckland, 1969, p.269; Raymond Miller, 'Labour', in Raymond Miller, ed., *New Zealand Government and Politics*, Oxford, 2001, p.236.

24 Chapman, 'From Labour to National', pp.368, 370, 373; Sinclair, *Walter Nash*, pp.266–7; and Austin Mitchell, *Politics and People in New Zealand*, Christchurch, 1969, p.30.

25 See the classic study by David Butler and Donald Stokes, *Political Change in Britain: The Evolution of Electoral Choice*, 2nd ed., London, 1974, ch.6.

26 The Caversham standard of comparison, it should be noted, is biased upwards because the directories understate working-class occupations relative to electoral rolls.

27 Erik Olssen and Maureen Hickey, 'Towards an Occupational Classification of New Zealand, 1901–1926', Caversham Project, History Department, University of Otago, CWP, 1998, where the base is male urban New Zealand workforce only. In urban New Zealand in 1926 the percentages were unskilled/semi-skilled, 29.5%; skilled, 23.5%. In the ten towns in 1925 the percentages were unskilled/semi-skilled, 32.3%; skilled, 27.3%.

28 In the 1926 census, annual mean income for gainfully employed males ranged between £210 and £230 across the ten towns compared with a spread of between £220 and £240 for the four main centres (as opposed to a mean of £185 for all the areas outside the 14 largest centres and £205 for New Zealand as a whole).

29 Distribution of the male workforce by occupational status in New Zealand, the ten towns, and the four main centres, 1936 (%):

	Employers	Self-employed	Wage and salary earners	Apprentices	Un-employed (partly and wholly)	Relatives assisting without pay
New Zealand	10.6	12.7	62.7	1.4	10.3	2.1
Four main centres	6.2	7.6	68.3	2.2	15.5	0.3
Ten towns	8.7	9.5	66.6	2.0	13.5	0.5

Source: NZ Census, 1936, Occupational Status, p.iv.

30 Melanie Nolan, *Breadwinning: New Zealand Women and the State*, Christchurch, 2000, p.307, note 23.

31 The literature on the ecological fallacy is vast. See, for example, W.S. Robinson, 'Ecological Correlations and the Behaviour of Individuals', *American Sociological Review*, 15, 3 (1950), pp.351–7; and the literature survey in John L. Hammond, 'New Approaches to Aggregate Electoral Data', *Journal of Interdisciplinary History*, 9, 3 (1979), pp.473–92. For more sophisticated treatments, see, for example, A. Gelman et al., 'Models, Assumptions and Model Checking in Ecological Regressions', *Journal of the Royal Statistical Society*, 164 (2001), pp.101–18; Leo A. Goodman, 'Some Alternatives to Ecological Correlation', *American Journal of Sociology*, 64, 5 (1959), pp.610–25; J. Wakefield and R. Salway, 'A Statistical Framework for Ecological and Aggregate Studies', *Journal of the Royal Statistical Society*, 164 (2001), pp.119–38.

32 See, for example, the complaint in Brooking and Martin, 'Ties that Bind', pp.59–60.

33 See also the arguments by John H. Goldthorpe, 'Women and Class Analysis: In Defence of the Conventional View', *Sociology*, 17, 4 (1983), pp.465–88.

34 David Pearson and David Thorns, *The Eclipse of Equality: Social Stratification in New Zealand*, Sydney, 1983, pp.44–47 and Table 3:1; P.M. Meuli, 'Occupational Change and Bourgeois

Proliferation: A Study of Middle-Class Expansion in New Zealand, 1896–1926', MA thesis, Victoria University, 1977.

35 For the proportions of unskilled/semi-skilled $R=+0.75$; for proportions skilled, $R=+0.78$; for lower white collar, $R=+0.85$; higher white collar, $R=+0.87$; for proportions for the two manual categories combined, $R=+0.83$; and for the two white collars combined, $R=+0.72$. Not unexpectedly, the correlations between the two sources for farmers was $+0.59$, and undescribed was $R=+0.46$.

36 The differences between the two series of data varied between 1.3% and 8.7%.

37 The tests were based on a multiple regression (ANCOVA) model and on log-linear models for category, town and year. The models measured the degree of change for each cell in relation to the long-term linear trend for the series.

38 This is explained in Fairburn and Haslett, 'The Rise of the Left and Working Class Voting Behaviour', unpublished.

39 For 'contextual effects' see, for example, P.J. Taylor and R.J. Johnston, *The Geography of Elections*, Harmondsworth, 1979; Robert D. Putman, 'Political Attitudes and the Local Community', *American Political Science Review*, 60, 3 (1966), pp.640–54; I.S. Foadare, 'The Effect of Neighbourhood on Voting Behaviour', *Political Science Review*, 83 (1968), pp.516–29. The best historical study on how contextual effects influence collective protest (but not on voting) is Roger V. Gould, *Insurgent Identities: Class, Community and Protest in Paris from 1848 to the Commune*, Chicago, 1995.

