

Who Supported the Land War? An Aggregate-Data Analysis of Irish Agrarian Discontent, 1879-1882

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Précis: Correlation and regression of aggregate data for Irish counties is used to investigate the social and economic environment of the Land League and the Land War between 1879 and 1882. Existing hypotheses are outlined, linked to some broader comparative propositions about the politics of agrarian societies, and assessed. Other propositions are derived from the evidence, mainly about the links between the Land War and particular agrarian strata, agricultural products, and political events. Questions are raised about some hypotheses which relate the Land War to structural changes in Irish society in the late nineteenth century.

I INTRODUCTION

This paper examines the pattern of support for the Land League and associated agrarian disturbances between 1879 and 1882 through the use of data from Irish counties derived from a range of official sources. The main method used will be correlation and regression of official figures for Land League meetings and offences relating to agrarian conflict with a range of social and economic variables taken mainly from the *Census* and the *Irish Agricultural Statistics*. This is among the first attempts to analyse nineteenth-century Irish political movements in this fashion. Clark, in his recent book (1979, pp. 143-147, 252-255), also applied these methods to the study of the Land League, but the treatment in this paper differs in (a) considering each year separately rather than aggregating the data for the entire period of the League's history, which reveals developmental patterns, (b) examining a broader range of hypotheses and theories, (c) using a wider range of data and hence of independent variables, and (d) reaching somewhat different conclusions.

II METHODOLOGY

The kind of evidence to be examined clearly has its main application in the investigation of the social and economic environment and the pattern of

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support for the Land League and the Land War. The strategy of the paper will be to assess existing hypotheses on these matters plus some supplementary hypotheses derived from the literature on the Land War and, more broadly, from influential studies of the development of Irish society in the nineteenth and twentieth centuries. These are outlined later. Here it should be made clear that these explanations are not advanced as clear alternative candidates for the solution of exactly the same problem. The questions they seek to answer are not always the same, and even when they are, the explanations could mutually support one another rather than act as competitors. The purpose of the analysis is, therefore, not to decide on one hypothesis alone but to discover which of them do gain support from this body of data and then to attempt to weave these supported explanations into a consistent account, including judgements of their relative weight and of variations in their importance over time.

These explanations deal with a particular episode in Irish agrarian history, but they can in some cases be linked with more general propositions that have been advanced in comparative works on agrarian political sociology, and these will be introduced when appropriate. It would be forcing too strong an interpretation on these links to suggest that they are strict deductions from general theories to a special case. Rather they are relationships of broad intellectual kinship. Also the Irish case is clearly not an adequate systematic test of these broader propositions and can only serve as a further piece of supporting or opposing evidence. None the less it is worth introducing these broader propositions to place the explanations of aspects of the Land War in a wider theoretical and comparative perspective.

The main method to be used is multiple regression. However, there will be extensive initial analysis at the stage at which the hypotheses are introduced and outlined. A number of preliminary problems of logic and evidence will be discussed through the use of zero-order correlation coefficients and through the introduction of supplementary information such as trends in national level data and documentary material. Where there is a variety of measures of a single concept, these will sometimes be reduced to one common factor by principle components analysis to make more manageable the number of variables in the multiple regression equations.

A number of methodological problems are raised by the analysis. First, there is the problem of cross-level inference: measures of association at the level of the aggregate unit, in this case the county, are not necessarily true of the individuals who comprise the units. Extensive exploration of this problem over the last thirty years has shown that it certainly does not prevent all further progress with this sort of evidence. The correctness of aggregate analysis depends on whether all relevant variables have been taken into account and on relationships between the variables, and the basis on which the units are assembled. Also, some propositions are about aggregates rather than individuals. None the less risks are involved when cross-level inferences are made, but it is surely inadequate to omit them when they are clearly necessary for a substantively satisfactory account. They will, therefore, be found in this paper, principally in the discussion of the multiple regressions, and evidence

of other kinds, such as data for individuals and documentary evidence, will also be introduced at points to resolve particular instances. (Langbein and Lichtman, 1978, provide a recent survey of the subject.)

Secondly, there are problems of multi-collinearity, strong relationships between some of the explanatory variables, which make it difficult to sort out their relative effects at the regression stage of the analysis. Some analysts seek to reduce this difficulty by selecting variables in accordance with some set criterion of inter-relationship. While multi-collinearity will be avoided wherever possible, and some steps will be taken to reduce its effects, related independent variables will not be excluded when there are good theoretical or historical grounds for considering them.

Thirdly, each aggregate unit should ideally have the same population, since each counts equally in the computation of the various measures of association. In fact, there is a difference of approximately 10:1 between the largest and smallest counties, and this might have a distorting effect if certain variables were related to the size of county. To circumvent this difficulty, the data have been weighted for population size in the following analysis (unless otherwise stated), using the weighting procedure in the SPSS software package (Nie *et al.*, 1975).

Finally, a problem is posed by Ulster. At the time of the events in question, Ireland was of course one territory administratively but it was very far from being socially or politically united. There was a strong communal factor in Ulster, whose best measure is the religious composition of the population, which cut across factors which turn out to be very important in the analysis. Elsewhere in Ireland, the proportion of Protestants tended to vary directly with variables such as urbanisation, high poor law valuation per acre, and average farm size, which were, in general, inversely related to the incidence of the Land War. But in Ulster there were large numbers of Protestants even in areas of low prosperity, which reduced the propensity of such areas to display support for the Land War. To include the province in the analysis is, therefore, to weaken the strength of important relationships. For example, the county-level correlation coefficient between the average poor law valuation per acre of agricultural land and the incidence of offences related to agrarian conflict in 1880 was only -0.28 for the whole of Ireland but -0.63 for the three southern provinces alone (coefficients based on unweighted data). For this reason all nine counties of Ulster have been excluded from the following analysis since even those with a Catholic majority contained a greater proportion of Protestants than was the case elsewhere in Ireland in counties with a similar socio-economic character. This is not to claim that Ulster was a "separate and incomparable universe" (Fitzpatrick, 1979 p. 134, rejects this notion). Relationships are only weakened by the inclusion of Ulster, not destroyed or reversed, and its exclusion is therefore a form of control for a communal factor best measured by religious composition, not an assumption that events there bore no relationship to those in the rest of Ireland.

It might be pointed out that Clark (1979, p. 253) explains 76 per cent of the variance in his measure of the intensity of the Land War despite includ-

ing Ulster. However, this is partly because he includes six independent variables in the multiple regression and when the number of cases is small it is desirable to limit the numbers of independent variables. Also, because higher correlations can be obtained with these data by combining the measures for various years, as Clark does, than by treating each year separately. This is even more true of the data for the three southern provinces alone. If the incidence of Land League meetings in 1879 and 1880 are combined, one variable alone, the proportion of the male workforce made up by farmers' relatives, explains almost 80 per cent of the variance, but this tactic obscures interesting patterns of development, as this paper tries to show.

In conclusion to this section some comments on the variables are necessary. The independent variables are almost all derived from official figures published as series in the Sessional Papers of the House of Commons. In general, statistics on crops, livestock, landholding, and migratory agricultural labour are taken from the *Irish Agricultural Statistics*, eviction statistics from the *Irish Judicial Statistics*, statistics relating to banks and savings from *The Statistical Abstract of the United Kingdom* and *Miscellaneous Statistics of the United Kingdom*, and statistics on demography, occupations, religions and urbanisation from the *Census*. To save space, references to sources will only be given if the variables are not derived from the obvious tables in the above mentioned series for the relevant year. Precise definitions are given in a Methodological Appendix for variables that have presented special problems, and variables referred to frequently will be given brief mnemonics in upper case.

The two dependent variables are the incidence of Land League meetings in each county in 1879 and 1880 and the incidence of agrarian outrages from 1879 to 1882 in each county, both expressed per ten thousand of population and both taken from the *Irish Judicial Statistics* for the relevant years. "Outrages" were a set of crimes published separately from the usual criminal statistics and "agrarian outrages" were all such crimes connected with agrarian conflict in the judgement of the police.

A number of questions might be raised about these variables. First, the series from which they are derived are available on a monthly basis but they have here been compiled for calendar years. Would some other chronological breakdown have been more revealing of changes over time? Recomputation of the variables on two alternative bases, one suggested by Bew's analysis of the development of the League (Bew, 1978, pp. 115-22, 155-61) the other based on apparent lulls in Land League activity, produced almost identical values to those based on calendar years, and the latter were, therefore, retained. Secondly, what exactly do these two variables measure? Land League meetings can be regarded as a rough measure of the Land League strength. Agrarian outrages are better considered as measures of the associated discontent of the Land War. Indeed, while closely related, the variables are not identical for the two years in which both are available, having correlation coefficients of .83 and .66 in 1879 and 1880 respectively. There are, however, two possible problems about agrarian outrages as measures of agrarian discontent, both raised in Vaughan's study (1977) of the 1850-1880 period. First, was all

agrarian crime equally serious or could the statistics be distorted by the inclusion on the same basis of genuinely serious incidents and relatively trivial events such as the sending of threatening letters, the most common sort of agrarian outrage? Second, were all agrarian outrages to do with the Land War or is there distortion because of the inclusion of incidents related to such things as family quarrels and local feuds? It was possible to recompute the variables excluding, first, the sending of threatening letters (for 1879 to 1882), and then all crime unconnected with the Land War (for 1879 and 1880 when brief descriptions of each individual outrage are available). The resulting variables correlated with the variables based on total agrarian crime at or above .9, indicating almost no distortion in the latter, which were therefore retained. The incidence of Land League meetings and agrarian outrages in each year will in future be referred to as LAND LEAGUE 1879 etc., and AGCRIME 1879 etc.

III A REVIEW AND PRELIMINARY ASSESSMENT OF HYPOTHESES

The Land War and the Land League have impressed a number of writers as novel developments in Irish history in two respects. First, the League was the first occasion on which the mass of the rural population was organised in a way that combined public rather than conspiratorial action alone, the pursuit of their own material interests rather than matters such as the Repeal of the Act of Union, and nation wide rather than regional activity (see Clark, 1978; Lee, 1973, pp. 65-66; and MacDonagh, 1977, pp. 60-61). Secondly, as a response to a breakdown of the agricultural economy, the Land War was a massive contrast with the quiescence and demoralisation of Irish rural society in the face of the far greater disaster of the Famine some thirty years earlier (see Lee, 1973, p. 65). A range of explanations for this novelty have been offered.

(a) *The Impact of Modernisation*

Lee (1973), especially, has argued that the period 1850 to 1880 saw very considerable changes in Irish society which amounted to a process of modernisation, and which, in turn, made it more likely and possible for there to be a nation-wide campaign rooted in the grievances of the mass of the rural population. Without entering into the manifold controversies that surround the concept of modernisation, it is possible to list specifiable changes that could have influenced the capacity of Irish society to produce an outburst of discontent such as the Land War. Literacy in English and school attendance grew rapidly in this period, increasing the possibility of a nation-wide agitation based on the printed word. Considerable demographic change occurred. The increasingly typical family farm was maintained in size by the late inheritance of one son after the death or retirement of his parents, thus producing a late average age of marriage, and by the departure of most of the other children, thus producing high emigration rates. This pattern, however, spread unevenly and did not deeply affect the west until the 1870s (Cousens, 1964; Walsh,

1970) when it took hold rapidly and coincided with a decline in opportunities for emigration to the United States, hence producing a socially disturbed situation in those areas where the Land League gained its earliest support. (Lee, 1973, pp. 12-13, 65-66; MacDonagh, 1977, p. 61; and Donnelly, 1975, pp. 247-250, all advance some version of this argument.)

This hypothesis can be linked with the first of the comparative propositions mentioned in the first section. It has frequently been argued that modern agrarian disturbances on a large scale are intimately connected with the impact of externally induced changes on existing social structures, particularly the changes connected with the spread of money economies, production for the market, and the spread of modern means of communication. This clearly connects with the impact of modernisation thesis, and also, to some extent, with hypotheses to be examined later. (For examples of the argument, see Migdal, 1974, generally; Wolf, 1969, pp. 276-82; Huntington, 1968, Chapters 5 and 6.)

To examine the hypothesis in its specifically Irish form, a number of changes suggested by Lee as significant in the genesis of the Land War were calculated at a county level: changes in the percentage of single women aged 20-24 and of single men aged 20-29 between 1871 and 1881, as measures of changing demographic characteristics; changes in the number of illiterates over the same period; and emigration between 1871 and 1881 (Lee, 1973, pp. 82-83). (For the calculation of emigration, see Methodological Appendix.) Rises in school attendance were also examined. Of these, only changes in the percentage of single women aged 20-24 (hereafter called WOM) and the fall in the proportion of illiterates showed any zero-order *rs* with the dependent variables of above .5 and these are shown in Table 1. This is not very encouraging for the modernisation thesis, but WOM, which was less collinear with other independent variables than changes in illiteracy, will be used in the regressions.

Two general comments are appropriate at this point. First, rates of change can be stated either as the absolute value of the difference between the variable at two dates or as this difference expressed as a proportion of the level at the earlier date, which takes account of possibly differing initial levels. All rates of change examined in this paper were calculated in both absolute and proportional forms and, almost without exception, the absolute value was most closely linked with the dependent variables. This is partly because high absolute changes tended to be associated with high initial levels, so that there was relatively little difference between the two measures, but none the less there is the implication that the absolute size of a change was more important than its size in relation to the environment, which is an unexpected result. Secondly, levels of significance are offered neither for the correlation coefficients in Table 1 nor for most other statistics in this paper, for reasons discussed in the Methodological Appendix.

(b) *New Elites*

Clark (1975, and 1979, pp. 122-138) has argued that between the Famine and the 1870s the spread of the money economy with the development of

Table 1: *Correlation coefficients between agrarian discontent and independent variables*

	<i>Land League Meetings 1879</i>	<i>Land League Meetings 1880</i>	<i>Agrarian Crime 1879</i>	<i>Agrarian Crime 1880</i>	<i>Agrarian Crime 1881</i>	<i>Agrarian Crime 1882</i>
Decline in illiteracy 1861-1881	.39	.53	.37	.49	.55	.33
Changes in % of single women 20-24, 1871-81	.18	.23	-.13	.27	.61	.49
Increase in butchers bakers, grocers and publicans as % of male workforce, 1861-1881	-.43	-.71	-.54	-.64	-.74	-.65
Increase in post office savings bank deposits, 1863-1875	-.31	-.46	-.29	-.48	-.64	-.52
Increase in number of bank branches 1859-75	.23	.41	.19	.12	.12	.01
MICROPEASANT ¹	-.84	-.58	-.8	-.77	-.36	-.13
MESOPEASANT ¹	-.66	-.81	-.67	-.62	-.53	-.45
EAST-WEST GRADIENT	-.48	-.59	-.47	-.68	-.72	-.53
Agricultural holdings £15-40 in valuation	-.73	-.62	-.75	-.49	-.12	-.13
Agricultural labourers	-.72	-.77	-.71	-.6	-.45	-.4
Gini Index for landholding by valuation	-.12	-.13	-.12	-.32	-.39	.14
Percentage falls 1879-1880 in:						
(a) Calf nos.		.57		.44	.58	.51
(b) Total cattle nos.		.79		.69	.6	.5
Evictions in each year	-.32	-.22	-.32	.08	.18	.72
Evictions 1856-75	.47	.51	.56	.55	.54	.55

1. These factors produced by principal components analysis are negatively related to the variables from which they are derived, hence the negative relationships with agrarian discontent.

the livestock trade promoted a growth in the proportion of small traders in the population. Also strong links developed between these small traders and the rural population, especially credit links. These retailers thus had a strong

interest in the prosperity of the rural population, and were widely dispersed with strong local connections; yet they were also capable of organisation beyond the local level. They, therefore, formed a potential new political elite capable of providing the peasantry with a nation-wide leadership it previously lacked. Again, this hypothesis can be linked with comparative propositions found in the literature on agrarian political sociology. It has links with the "impact of modernisation" thesis just examined, with its stress on the role of the spread of the money economy, but more specifically, it echoes the notion that agrarian strata, with the exception of western commercial farmers, are not capable of society-wide action on their own. They need the leaven of an external elite with the necessary organisational capacities. Most typical is an elite of discontented urban intellectuals committed to revolution, but others are possible. Clark is aware of this link, although he wishes to distance himself from certain versions of the argument (Clark, 1979, pp. 357-359, for examples of the argument, see Migdal, 1974, pp. 207-210; Moore, 1967, pp. 479-482; Wolf 1969, pp. 287-289).

In its Irish form, the argument falls into two parts: that the proportion of traders in the population expanded greatly in the third quarter of the nineteenth century, and that the links between traders and the mass of the rural population became much closer in this period. Each needs to be examined.

The first part is the easiest to assess, but also the one about which Clark is most cautious. In his most recent account of the argument (Clark, 1979, pp. 125-128) he argues, on the basis of four measures of the new or expanded elites from the occupational data in the *Census* that there was an increase in their proportion to the total population both at a national level and in each province between 1841 and 1881. There are, however, considerable difficulties with the occupational data from the *Census* in this period, as Clark is aware. Categories were not constant and furthermore underwent a major revision and systematisation in 1871 to bring them closer to the classification used in the *Census of England and Wales*. The vagaries of definition were sometimes quite large and, in my opinion, the only safe tactic is to take broad categories about whose definition there could have been few doubts at any date and for which there is little evidence of fluctuation in numbers for purely definitional reasons. Even then there are problems, as will be seen shortly.

Let us first examine the results of such an analysis at a national level. Table 2 shows the various groups that fit the requirements mentioned at the end of the last paragraph, expressed both as absolute numbers and as a percentage of the male workforce, at each census date between 1841 and 1881. The data for the three southern provinces alone display almost exactly the same pattern. Clark expresses his figures as proportions of the total population, but since men were greatly in the majority in most classes of traders and since the male workforce and the total population varied almost uniformly both regionally and through time, the difference is unimportant. These large groups account for a very high proportion of the total number of traders. The food dealers and publicans, for example, were 79 per cent of the males employed in "Food and Lodgings" in the 1881 *Census*, the most obvious summary category of traders in perishables.

Table 2: *Numbers in large groups of retailers 1841-81*

	1841	1851	1861	1871	1881
1. Publicans and wine dealers	7,990 (0.34)	5,852 (0.31)	5,712 (0.31)	7,223 (0.43)	7,451 (0.47)
2. Butchers	5,294 (0.23)	5,141 (0.27)	5,671 (0.31)	6,938 (0.42)	6,112 (0.39)
3. Millers	4,297 (0.18)	5,653 (0.30)	4,385 (0.23)	3,925 (0.24)	3,653 (0.23)
4. Bakers	6,428 (0.27)	8,537 (0.45)	8,996 (0.49)	8,664 (0.52)	8,935 (0.57)
5. Grocers (sellers of tea, coffee etc.)	2,744 (0.12)	4,447 (0.23)	6,741 (0.37)	9,089 (0.55)	11,776 (0.75)
6. Tailors	36,324 (1.55)	24,038 (1.26)	22,523 (1.22)	18,769 (1.13)	15,687 (1.00)
7. Maker or dealer in boots and shoes	52,144 (2.23)	42,990 (2.26)	41,114 (2.23)	32,113 (1.93)	25,188 (1.60)
8. Sum of rows 1 to 7	115,221 (4.92)	96,658 (5.08)	95,142 (5.16)	86,721 (5.22)	78,802 (5.01)
9. Sum of rows 1 to 5	26,753 (1.14)	29,630 (1.56)	31,505 (1.71)	35,839 (2.16)	37,927 (2.41)
Dealers and workers in food and lodgings				37,912 (2.28)	40,871 (2.59)
General dealers				11,917 (0.72)	12,678 (0.81)

Note: Figures are for the whole of Ireland. Numbers in brackets are percentages of the male workforce.

These figures show few signs of any great expansion in the number of traders. As population fell in this period, a group would have increased in proportion to the workforce if it had simply maintained its numbers – which is roughly what happened to bakers, butchers and publicans – probably because a decline in subsistence farming compensated for the fall in population. Only grocers, who in this context are sellers of tea, coffee and the like, showed an increase of some dimensions in both absolute and proportional terms, no doubt a result of the increase in tea drinking in rural Ireland at this time, Millers, tailors and cobblers, however, fell both absolutely and in proportional terms, the first with some fluctuations, the latter two, which were easily the largest single groups of traders, very considerably. Competition from mass-produced goods probably explains most of this. Thus, some groups fell greatly both absolutely and in proportion to the male working population, others remained stable absolutely and expanded by about a third proportionally, and only one expanded greatly in both senses; hardly a new or even greatly expanded elite. If all the groups on rows 1 to 7 of Table 2 are summed, as on row 8, the number of traders fell absolutely, but remained steady in proportion to the male workforce.

However, it is necessary to look at some of the detail of these figures because they are not entirely consistent with those offered by Clark. The data for bakers, butchers, grocers and publicans do roughly tally with the appropriate categories in his analysis, (his categories of "shopkeepers and dealers", "food and lodgings" and "sample of traders") although the rises in proportional size that he finds are generally larger. None of his measures, however, display the massive falls found in the proportion of cobblers and tailors. They are presumably included, if anywhere, in his "sample of artisans" category, which remained roughly constant proportionally, but which is a very large group and may well contain skilled workers in trades such as construction and furnishing, who were clearly not retailers or traders in the same sense.

It might, however, be argued that declining artisan traders such as tailors and cobblers were in a different position than more flourishing sellers of food and manufactured goods, and that they should, therefore, be excluded (although it might just as plausibly be argued that threatened artisan groups are good potential material as political agitators). None the less, if these two groups are excluded, as is done on row 9 of Table 2, traders rose in proportional terms by a factor of two and in absolute terms by about one-third, which is roughly what Clark finds. But caution must again be exercised here. The two largest rises are in the decades 1841 to 1851 and 1861 to 1871 and these are the periods in which the greatest changes occurred in the *Census* classification. In 1851, the occupational categories became much more extensive and detailed and, in particular, the number of unclassified or general male "shopkeepers" and "dealers" fell from, respectively, 6734 and 9019, in 1841, to 5492 and 4706, in 1851. It is likely that a more accurate assessment of these previously unclassified traders accounts for much of the absolute increase in the number of millers and bakers, as shown in Table 2, particularly since, unlike grocers who also increased in numbers in this decade, the size of these groups did not continue to increase in the following decades. Between 1861 and 1871 the largest definitional change to affect the recording of the number of traders was the inclusion of shop assistants along with the trade in which they were employed, whereas previously they had been listed separately or with unclassified shopkeepers. In 1851, the last occasion on which they were listed separately, there were 7479 male shop assistants, in 1871 there were only 3879 who could not be classified into trades, which tallies roughly with the rise in the number of traders, excluding tailors and cobblers, between 1861 and 1881 shown in Table 2. These purely statistical developments, therefore, cast some doubts on the apparent increase in the proportion of non-artisan traders between 1841 and 1881.

Taking this national level evidence, the case for a greatly expanded number of traders is, at the least, unproven. There are only signs of considerable expansion if the largest categories are excluded, and even then difficulties with the data make it unsafe to speak of a radical alteration in size. None the less, it is worth proceeding with a county level analysis, for global figures may hide regional variations.

A number of variables were examined: (i) the change in the proportion of

(a) bakers, butchers, grocers and publicans, and (b) tailors and cobblers between 1851 and 1881 and 1861 and 1881; these two measures were also combined for each period; (ii) the change in the proportion of "Dealers and Workers in Food and Lodgings" plus that of "General Dealers" between 1871 and 1881; both of these are broad *Census* categories which are not easily reconstructed before 1871 and both show definite increases between the two dates; (iii) the increase in the proportion of workers in printing and publishing between 1871 and 1881. Lee (1973, p. 93) has stressed the role of journalists and the printed word during the Land War, and the numbers in this group can serve as an index of the growth of this elite. The initial results do not favour the hypothesis. Correlation coefficients with the dependent variables are either close to zero or negative. Table 1 shows an example, the change in the proportion of bakers, butchers, grocers and publicans between 1861 and 1881, a measure which favours the hypothesis since this set of groups did show a national increase in proportion. Perhaps the most notable feature of these variables is that their strongest relationships are often with measures of prosperity and urbanisation, indicating that such increases as did take place were greatest in already commercialised areas, not in the most rural districts.

However, even if increases in the proportion of these groups were not linked to the discontent of 1879 to 1882, the character of their relationship with the rural population might have altered between the Famine and the Land War. This is the second part of the hypothesis and it can only be assessed indirectly by the methods used here. Presumably the spread of consumption through the market and the associated spread of credit relationships should have been reflected in the growth of a money economy. This undoubtedly expanded in Ireland during this period, although it did not mushroom from a small base, as Clark is aware (1979, pp. 362-363). The amount of notes and coins in circulation, an admittedly crude measure of money, increased from £1.6 per head in 1856 to £2.18 per head in 1875. There are no regional figures for the growth in the money economy, but indirect county level measures are available: the increase, per ten thousand people, in (i) the number of bank branches between 1859 and 1875, (ii) the number of branches of the Post Office Savings Bank between its inception in 1863 and 1875, and (iii) the amount of money invested in the latter bank over the same period, an avenue of investment mainly for small savers. These variables should be related to the expansion of the exchange economy and indeed the increase in the numbers of Post Office Savings Bank branches and in their deposits do show positive correlations of .8 and .83 respectively with the increase in the proportion of bakers, butchers, grocers, and publicans between 1861 and 1881. However, much like these changes in the proportion of traders, the signs of an expansion in the money economy were most evident in already commercialised areas, displaying strong links with measures of urbanisation and prosperity. Zero order correlation coefficients with the dependent variables are accordingly either low or strongly negative, as with the coefficients for the growth in Savings Bank deposits shown in Table 1. The growth in ordinary bank branches, also shown in Table 1, is a partial

exception, but the *rs*, although positive, are generally low and this measure is also negatively related to the growth in non-artisan traders between 1861 and 1881, which casts some doubt on its accuracy as an index of growth in the money economy. (It should be noted that this is a proportional rather than an absolute measure of change, as defined on pp. 208-209 above.)

Overall, the preliminary evidence does not support the new elites thesis. An expansion of the money economy did occur and some sorts of trader did become more common, although not at the rate that a straightforward reading of the *Census* figures might suggest. But other sorts of trader were in rapid decline, most groups were substantially represented before the Famine, and increases that did occur do not, at first sight, bear any positive relationship to the geographical pattern of the Land War. There is no doubt that groups such as small traders were active in Irish political life in this period (see O'Brien, 1957, Chapter V, for example, as well as Clark's own work) but this evidence casts some doubt on the claim that increases in their numbers or changes in their relations with the rest of the population were directly responsible for this development. None the less, some measure of the hypothesis needs to be included in the later regression analysis when other explanatory factors can be controlled. The change in the number of ordinary bank branches (hereafter BANKC) is the best candidate, partly because its zero order *rs* with the dependent variables are at least in the right direction, partly because it is less closely related to other important variables such as urbanisation. However, it also has clear drawbacks, as pointed out in the last paragraph.

(c) *Rising Expectations*

This takes a proposition first advanced by de Tocqueville about the French Revolution and more recently modified and generalised by Davies (1962). Neither stable poverty nor emiseration produce revolt, according to this argument. Rather, an improvement in conditions is necessary to lodge in men's minds the notion of the possibility of change, and this will be especially potent if followed by a reversal which disappoints increased expectations. Thus, though the suffering caused by the Famine far exceeded that caused by agricultural depression of the late 1870s, the former produced nothing comparable to the Land War. What separates them is the sustained period of rising prices after the Famine followed by the sudden disappointment of the late 1870s. (See Clark, 1975, Donnelly, 1975, pp. 250-252, and Mansergh, 1940, pp. 146-147.)

It is not possible to directly test this hypothesis. In principle it would be necessary to calculate net agricultural income for each county for, say, 1855, 1873 and 1879, and devise some coefficient to measure the rise and fall. In the present state of knowledge this presents insurmountable problems. Estimates of gross agricultural income for the whole country have been made for 1876, 1881, and 1886 (Solow, 1971, Appendix B), using the *Irish Agricultural Statistics* and some subsistence/sale ratios and milk yields from the first decade of the twentieth century. Similar county level calculations for the purposes of this paper would have involved pushing these estimates back

to the 1850s and assuming no regional variations. Also, to obtain net income, expenses such as rents would have had to be subtracted, and there are at present no generally accepted national rent figures, let alone county level estimates. In these circumstances it seemed pointless to attempt to measure movements in net agricultural income.

In any event, the argument already faces substantial difficulties. One of its major adherents, Donnelly, has argued that there was an agricultural depression in the early 1860s of the same order of magnitude as that of the late 1870s. This means that the period of rising expectations is cut from the thirty years since the Famine to the ten years since 1865, a much shorter time span than the gestation periods in Davies's original examples, and that there were in reality two depressions, each preceded by ten years of rising prices. Why should the Land War follow the second and not the first? (Donnelly, 1976). For the sake of completeness, it should be stressed that there is, of course, much evidence for a general rise in prosperity in the latter half of the nineteenth century in Ireland. What is questioned here is whether the fluctuations in this rise fit the pattern of a long sustained improvement followed by a sudden fall, which is required by Davies's model.

We now turn to explanations that receive somewhat more preliminary support. As they differ somewhat in character, and as they each display their greatest association with the dependent variables in one particular year of the Land War, they will be examined in, so to speak, chronological order. The first is concerned not with the historical novelty of the Land League, but with changes in its pattern of support between 1879 and 1881.

(d) *Class Transition*

Bew (1978, pp. 100-104, 121-125, 223-224) argues that the League began as a movement of considerable radicalism based on the depressed small-holding peasantry of the western seaboard but expanded from some point in 1880 to embrace a wider range of farmers, including a stratum dubbed the "rural bourgeoisie". This emasculated the League which adopted less combative policies and eventually lost effectiveness. A deep opposition is postulated between the small peasant and the "rural bourgeoisie", and this is seen as most pronounced in the west where a cushioning layer of modest holdings between the raw poverty of the small holders and the wealth of the larger farmers was, allegedly, lacking.

This hypothesis of a transition in Land League support from one class or stratum to another would lead us to expect that the main initial support would have come from small holdings in the west and south west. These were the main sufferers from the harvest failures of the late 1870s because, while commercial crops such as wheat were also affected, the main social impact was on the subsistence potato crop and the areas and groups most dependent on it. In some areas this was reinforced by the reduced demand for Irish seasonal migratory labour in Great Britain, a result of the general agricultural depression. The resulting distress has been described in Palmer (1940). Five closely related variables were used as measures of this small-holding peasantry: potato acreage, numbers of migratory agricultural labourers,

holdings with poor law valuations of under £4 (the lowest and largest valuation class, making up 35 per cent of holdings in Ireland as a whole), the incidence of illiteracy, and the proportion of Irish speakers (see Methodological Appendix). A principal components analysis of these five variables, using principal factoring without iteration, produced one factor that explained 75.6 per cent of the variance, demonstrating their closely related character and providing a convenient summary measure.

This factor will be called MICROPEASANT and, as can be seen from Table 1, it relates more strongly to AGCRIME 1879, AGCRIME 1880 and LAND LEAGUE 1879 than does any other variable. This offers initial support for the class transition hypothesis in the early part of the Land War. Also larger holdings are strongly negatively related to agrarian discontent in 1879 and 1880. Table 1 shows the high negative r s for larger holdings and the agricultural labourers they tended to employ. (Bew, 1978, p. 87) suggests 30-100 acres as the size of farm held by the "rural bourgeoisie" and £15-40 is the poor law valuation category most closely corresponding with it.

There is no support, however, for the supplementary hypothesis that discontent was highest where there was no cushioning layer of modest tenancies between small holders and larger farmers. The Gini coefficient, a summary measure of inequality, is high wherever there are a few large landholders and many small holders and, as is shown in Table 1, the relationship between this coefficient, calculated for landholdings by poor law valuation, and the dependent variables is low in 1879 and all other years. High degrees of inequality existed in the prosperous eastern grazing counties, which were never prominent in the Land War, and it could be argued that the effect of inequality would be most pronounced where it was combined with poverty, as in some western counties. However, the relationship with the dependent variables is just as low if only the twelve counties with below average poor law valuation per acre are included, although this is not shown. Since the role of inequality of landholding is only a supplementary hypothesis, it will not be examined further in the multiple regressions.

The class transition argument also suggests that the pattern of support changed from 1880 onwards and it is clear that this did indeed happen. After 1880, the relationship between MICROPEASANT and the dependent variables falls away rapidly. However, the change in the aggregate level relationships was not towards areas in which the "rural bourgeoisie" was strong. As Table 1 shows, larger holdings did not achieve even a small positive correlation with agrarian discontent in the entire period. (The individual level actions that underlie this aggregate level relationship are discussed in more detail below in Section IV.) However, a possible explanation of the change in the pattern of support can be found by examining the next hypothesis.

(e) *Structural Simplification*

This explanation, advanced by Clark, relies on a contrast between the pre- and post-Famine rural social structure. Before the Famine, it was only in the west that a roughly uniform mass of impoverished small tenants formed the bulk of the population. Elsewhere, a stratum of modestly prosperous tenants

existed, who themselves sub-let to smaller tenants or cottiers, and who employed both these and landless men as labourers. In this period, it is argued, conflict between farmers and labourers was as acute as landlord-tenant conflict. However, the effects of the Famine fell most heavily on the dwarf tenants of the west and the labourer-cottier stratum elsewhere, greatly reducing their numbers. Their decline continued in the decades that followed, producing a society in which increasingly the most typical social unit was the modest holding, worked mainly by family labour. In this more simplified social structure, the significance of farmer-labourer conflicts declined and a more united approach to a now pre-eminent landlord-tenant conflict became possible (Clark, 1978; Clark, 1979, pp. 107-122).

The argument is about post-Famine change, but unlike the earlier arguments of this kind, such as the impact of modernisation hypothesis, it seems to be not the speed or size of the *change* that allegedly produces the effects, but the *extent* to which a simplified social structure exists. The hypothesis can thus be interpreted as dealing straightforwardly with the class structure at the time of the Land War: the most militant areas should be those with the fewest labourers and the greatest number of modest holdings. This is the way it will be treated here. (Even if it were to be taken as a rate-of-change hypothesis, the only available measure would be the increase in the number of farmers in the agricultural workforce between 1841 and 1881, and this is in fact less closely related to the dependent variables than the variables described below.)

The argument can be connected with another proposition from agrarian political sociology. Among those who have written of the varying militancy of different agrarian strata, the favourite candidate for radicalism has been the tenant farmer of modest holdings worked largely by family labour. In contrast, tenants of larger holdings who regularly employ wage labour are likely to be attached to stability, while labourers and smaller tenants are likely to be too weak and too close to the edge of subsistence to sustain a lasting resistance. (See Alavi, 1965; Stinchcombe, 1961; and Wolf, 1969, pp. 290-294, for variations on this theme). Isolation in regions distant from centres of political power may increase the potential militancy of smaller holdings, as may migratory labour to more advanced areas, which serves as a transmission belt for new ideas (Wolf, 1969 pp. 292-293). This also points to a possible connection with the first part of the class transition thesis, which stresses the role of the isolated small peasantry of the west. Finally, the room for manoeuvre of peasants will be greater if the landlords are receivers of rent with no role in agricultural production. (Moore, 1967, pp. 468-474; Stinchcombe, 1961; Skocpol, 1979, pp. 115-117.)

To examine the specifically Irish hypothesis, a number of closely-related variables were again reduced to a single factor by the use of principal factor-ing without iteration: the proportion of farmers' relatives in the male agricultural workforce, a measure of the extent of the use of family labour which has a very strong inverse relationship with the proportion of agricultural labourers; the proportion of holdings with a poor law valuation of £4-10, a measure of modest farms which was the second lowest and second largest

valuation class and included 27 per cent of holdings nationally; the proportion of the male workforce in agriculture, as a measure of rural character; and the percentage fall in cattle numbers between 1879 and 1880. The resulting factor, which will be called MESOPEASANT, explained 85.3 per cent of the variance in the variables and, as Table 1 shows, has the strongest relationship with LAND LEAGUE 1880. It was also strongly related to both dependent variables for 1879 and to AGCRIME 1880, although not so strongly as MICROPEASANT, so it is no surprise that it has a high r of .68 with MICROPEASANT, raising problems of multicollinearity. But it continues to show a strong relationship with agrarian discontent as MICROPEASANT falls away. The initial findings thus suggest that the shift in Land League activity in 1880 was towards areas of modest family farms with few labourers, not towards the areas strong in the top 40 per cent or so of holdings with a poor law valuation in excess of £10.

This interpretation receives some further preliminary support from other evidence because the MESOPEASANT factor also shows the closest relationship with the main source of distress by 1880, falls in the prices of key agricultural products. Transatlantic competition in 1879-80 produced a drop in the price of two crucial commodities: store cattle and butter. The fall in butter prices is well documented and not in doubt (see Barrington (1927) p. 252). Cattle prices are a more complicated matter because the Barrington indices show only a small fall for store cattle prices, easily paralleled in earlier years of the 1870s. However, these indices measure prices at the spring selling fairs and there are indications that prices fell in the autumn of 1879, as Donnelly has pointed out (1975, pp. 229-230). Other measures of price indicate a much more difficult situation. The percentage of cattle that went unsold at Ballinasloe Fair, the largest in Ireland, was far higher than usual that autumn, as Clark (1979, pp. 229-230) points out, and prices there for better classes of cattle fell to levels not seen since the 1860s, although these are probably fat cattle prices (Stahle, 1950, p. 455). (For prices and numbers sold at Ballinasloe, see *Thom's Irish Almanac* 1880.)

A more systematic source of evidence is provided by variations in the number of cattle. By the 1870s, cattle were produced mainly for sale and their numbers varied roughly in accordance with demand. The relationship was not exact because of the length of time it took to produce an animal, but it certainly existed, as Table 3 shows. It was closest between calf numbers and prices for one-year-old store cattle in the previous year, but it was still evident between numbers of older cattle and prices for them one or two years previously. The much weaker relationship between cow numbers and prices is presumably because cows were intended for long-term milk production and not for rapid sale. A fall in cattle numbers is thus indirect evidence of a fall in prices, and in 1880 the total number of cattle in Ireland fell by 3.6 per cent, the largest fall since the depression years of the early 1860s. Calf numbers fell by fully 11.39 per cent, the largest fall since 1860, and cow numbers by 4.82 per cent, the largest fall since 1862. These falls exceeded the drop in numbers in any one year of the middle 1880s, which were a response to the undoubtedly severe and lasting price falls of those years

(O'Donovan, 1940, p. 218). The numbers of older cattle fell in 1881 and 1882, but by smaller amounts because of the temporary recovery in prices of the early 1880s.

Table 3: *Correlation coefficients between cattle numbers and price movements in previous years, 1860-80*

Prices	Calves	Dry cattle	Dry cattle	Cows
		1-2 years old	over 2 years old	
One year previously	.71**	.69**	.44	.36 (20 cases)
Two years previously		.59*	.62*	.5 (19 cases)
Three years previously			.62*	.35 (18 cases)

*Significant at the .01 level.

**Significant at the .001 level.

Notes: Prices are from the Barrington indices (Barrington, 1927). Calf and 1-2 year-old dry cattle numbers were correlated with the prices for one-year old store cattle, numbers of dry cattle over 2 year-old with prices for two-year store-cattle, and cow numbers with cow prices.

Significance levels are given because this is a sample of years in which cattle numbers and prices were associated.

At a county level, the fall in the total number of cattle and in the number of calves was clearly related to the dependent variables in 1880, as Table 1 shows. (No *rs* with the fall in the number of cows exceeded .4, despite the problems of the butter market.) But this response to the fall in prices did not occur in areas particularly dependent on the production of, say, calves. There was no positive correlation coefficient above .4 between the dependent variables and the proportion of different ages of cattle in each county. Instead, as Table 4 shows, the fall in numbers occurred in areas in which the MESOPEASANT factor was strong. The variables on which it is based were closely connected to these falls, despite the fact that they were actually strongly negatively related to cattle densities, as column four of the table indicates. The table also displays other evidence pointing in the same direction. Pig numbers fell in 1879-80 and wheat yields fell sharply in the late 1870s and, again, the falls in these products show a strong relationship with the MESOPEASANT variables, despite their negative relationship with pig densities and wheat acreage. These modest holdings were probably less able to maintain livestock numbers in the face of declining income than larger holdings with greater reserves. It might, therefore, be suggested both that family farms were related to Land League activity in 1880 and that they had good reason to be. Two chains of aggregate data evidence point in the same direction. This also explains why the fall in cattle numbers was included in the principal components analysis that produced the MESOPEASANT factor.

Although the MESOPEASANT factor is more strongly related to the dependent variables than MICROPEASANT in the later stages of the period, it too had fallen away by 1882. Here we are helped by the examination of two further explanatory variables.

(f) *The East-West Gradient*

By 1881 the disturbances of the Land War were widespread and differences between counties in the incidence of agrarian crime had fallen. The coefficient of variation is the standard deviation of a variable divided by the mean and thus gives a comparative measure of the extent to which values deviate from the mean. It fell from .95 for AGCRIME 1879 to .47 for AGCRIME 1881, a reflection of the weakening relationship with particular strata and regions. The hypothesis that fared best here was the effect of the east-west gradient of prosperity, urbanisation and anglicisation first advanced as an explanation of political differences in the early twentieth century (Rumpf and Hepburn, 1977). Again, a number of closely related variables were reduced to a single

Table 4: *Correlation coefficients between farm types and Agricultural products*¹

	Percentage falls 1879-80 in:		Fall in Wheat Yields 1871/5-9	Ratios to agricultural population of:		
	Cattle nos.	Pigs under 1 year old		Cattle nos.	Pig nos.	Wheat acreage
Proportion of Male Workforce in Agriculture	.88	.56	.64	-.32	-.35	-.78
Farmers' Relatives as Proportion of Male Agricultural Workforce	.87	.61	.63	-.6	-.46	-.73
Agricultural Holdings £4-10 in Rateable Value	.75	.76	.51	-.62	-.65	-.7
Agricultural Holdings £15-40 in Rateable Value	-.66	-.8	-.32	.7	.77	.56

1. See Methodological Appendix for discussion of these measures of livestock density.

factor by principal factoring without iteration: the proportion of the population in towns of over 2,000 people, the proportion of the population that was Catholic, and average poor law valuation per acre of agricultural land. This will be called EAST-WEST GRADIENT and explained 77.7 per cent of the variance in the three variables. As can be seen in Table 1, this is the factor most closely related to AGCRIME 1881. It is also closely related to MESO-PEASANT, with an r of .79, and less closely to MICROPEASANT, with an r of .59, which raises problems of multicollinearity. The evidence thus

suggests that by 1881 the Land War had become very widespread and that its links were with broad variations in prosperity and anglicisation rather than with specific regions and sources of distress. By 1882, however, not even EAST-WEST GRADIENT had an r much above .5 with the dependent variable. Here, aid can be gained from, perhaps, the most obvious, but so far unexamined, explanation for the Land War: the incidence of evictions, the events that the Land League was formed to resist.

(g) *Evictions*

As Table 1 shows, there was no important relationship between evictions and agrarian discontent between 1879 and 1881. But caution is needed here. The relationship was probably not a simple one way flow from evictions to agrarian discontent, but also worked in the opposite direction. Agrarian agitation most likely reduced the propensity to evict. Such reciprocal but counter-acting relationships cannot be detected by a simple measure of association. This interpretation is reinforced by the strong relationship for the remaining year, 1882, when the incidence of evictions suddenly became the factor most closely associated with the dependent variable; by then the League had ceased to act as an intervening variable between evictions and agrarian outrages. In the autumn of 1881 the League was banned and had, in any case, been losing effectiveness as tenants made use of the rent-reducing procedures of the 1881 Land Act rather than relying on the League for protection. Evictions rose and so did outrages and the two became much more closely linked until outrages fell away in 1883 (see Methodological Appendix.) In view of the difficulties involved in the interpretation of the link between evictions and the dependent variables between 1879 and 1881, only evictions in 1882 will be included in the multiple regression equation.

(h) *Traditions of Conflict*

One final factor is worth mentioning. As Irish rural society had a history of class conflict, it is plausible to suggest a link between a record of such conflict and discontent during the Land War period. A number of possible measures was examined, but the only one which showed a relationship with the tensions of 1879 to 1882 was the incidence of evictions between 1856 and 1875, henceforth called EVIC 1856-75 (see also Methodological Appendix). It should be noted that, as Solow points out (1971, pp. 51-57), evictions were low in this period, and that the time series correlation between evictions and agrarian outrages for the whole of Ireland between 1850 and 1880 is only .44. However, Lee (1973, pp. 100-101) has suggested that behind the low level of evictions there may have been a more widespread fear of evictions. In any event, as Table 1 shows, EVIC 1856-75 does display a consistent and noticeable positive relationship with agrarian discontent.

This concludes the initial description and examination of the various hypotheses but before using multiple regression to study their interactions, it is necessary to briefly turn to a problem of cross-level inference which needs to be examined and which will not be discussed at the stage of the multiple regression analysis.

IV LABOURERS AND LARGER FARMERS

In no year was there an important positive correlation between agrarian discontent and the numbers of larger farmers and of labourers, and indeed most of the *rs* are strongly negative. What pattern of individual action underlay these aggregate level relationships? Were both groups indifferent to the League or only one of them?

There is evidence of labourer activity in this period. There were wages disputes in 1881 around Kanturk in County Cork (Donnelly, 1975, pp. 236-242), an area with a history of collective action by labourers (Horn, 1971), and these were much publicised by the Irish Conservative Press (see leaders in the *Dublin Evening Mail* 11th July and 2nd September 1881). In the same year the Land League leadership courted labourer support. Leading figures such as Sexton and Parnell expressed sympathy with the labourers in the Cork wages disputes and concern at the lack of attention to labourers' needs in the 1881 Land Act (see *Dublin Evening Mail* 16th May and 25th July 1881). At the National Convention of the League in September, a representative of the labourers was appointed to the League's Executive and aims of the labourers were officially adopted by the League (see *Freeman's Journal* 17th and 19th September 1881). Enemies and friends of the League claimed that League meetings and boycotts owed much to labourer support. However, it is as well to remember that there were few statistics to support these claims, that the best-attested labourer activity concerned wages not the Land War, and that the concern of parliamentary politicians might have had something to do with the enfranchisement of labourers which occurred a few years later.

More systematic evidence points in another direction. Clark's analysis of those arrested under the Protection of Person and Property Act 1881 shows no agricultural labourers in the strict sense and only 14 agricultural wage earners of any kind, a mere 1.7 per cent of the total number of arrests (Clark, 1971). Analysis of the description of individual outrages available for 1879 and 1880 shows that even on the most generous definition of an outrage committed in the interests of a labourer, counting all gardeners and herdsmen as labourers and all disputes over conacre as affecting labourers, only 8 (1.25 per cent) in 1879 and 18 (0.86 per cent) in 1880 were in aid of labourers (figures for three southern provinces only). Documentary evidence from the Royal Commission on Labour of the 1890s, which included the most exhaustive nineteenth-century survey of agricultural labourers in the United Kingdom, points in the same direction. Among the welter of largely impressionistic evidence in the Irish Reports, partly from its own investigations, partly summaries of previous official inquiries, one thing stands out: despite the rise in wages of the post-Famine period, the diet and housing of the still substantial class of labourers was very poor, yet they did not provide the basis for stable collective action. Of the thirty areas investigated by the Commission, only 10 had possessed any labourers' organisation within the memory of those interviewed and only four of these had been involved in strikes or other action to improve wages. In the face of this evidence, labourer

indifference to the League seems the safest conclusion to reach at the present stage of knowledge and the most that could plausibly be claimed is passive support.

There is no such supplementary evidence for the activities of larger farmers, but, as with the MESOPEASANT factor, two chains of aggregate level evidence point in the same direction. Table 4 shows that, in direct contrast with MESOPEASANT, larger holdings were closely associated with cattle and pig densities and with wheat acreage, yet had a negative relationship with the decline in the output of these products in 1879 and 1880. Thus the holdings that were least associated with agrarian discontent also, perhaps, had the least reason to be discontented.

On this evidence then, neither labourers nor larger farmers seem to have been major sources of support for the League and the Land War. *Control* of the League, however, is a conceptually distinct matter. Larger farmers may have been poor sources of support, but those who did become involved might have exercised a great effect on the League's policies. This argument could be advanced by writers such as Bew (1978) and the kind of evidence examined here cannot resolve the issue.

V MULTIPLE REGRESSION

Section III outlined and gave a preliminary analysis of the eight explanatory factors one by one. I hope it is by now clear that this lengthy initial analysis was necessary to clarify the hypotheses and to present various sorts of supplementary evidence. In this section each of the dependent variables for each year will be regressed on the independent variables to enable judgements of their relative importance and changing roles. There will also be a discussion of the problems of cross level inference these judgements raise.

There is a direct relationship between the number of independent variables employed in a multiple regression and the percentage of variance explained, and this presents a particular problem when the number of cases is small. With 23 cases, as in this study, any 23 variables, even if they were no more than sequences of random numbers, would explain 100 per cent of the variance in the dependent variable. Accordingly, in the stepwise multiple regressions that are reported in Table 5, only the first three variables selected are shown and the effects of the other variables are excluded. As we saw earlier, there are problems of multicollinearity with a number of the independent variables. The most severe case is the relationship between MESOPEASANT and EAST-WEST GRADIENT and the inclusion of both in a regression equation is avoided by excluding the least powerful, if both were initially selected, and running the stepwise regression again. The resulting equations were also subjected to the ridge regression technique with a ridge coefficient of .2 and, although this generally reduced the size of the beta coefficients, they stabilised in all cases without altering their direction of association or relative sizes (see Hoerl and Kennard (1970)). This is not shown in the table.

Let us first examine factors that fared poorly in the multiple regressions. The results for WOM and BANKC, the chosen measures of the impact of

Table 5: Multiple regressions

	<i>LAND LEAGUE 1879</i>			<i>LAND LEAGUE 1880</i>		
	MICRO- PEASANT 1856-75	EVIC	WOM	MESO- PEASANT	WOM	MICRO- PEASANT
A	.192			1.755		
B	-.280	.295	-.016	-.623	-.027	-.042
beta	-.823	.177	-.16	-.829	-.144	-.063
Cumulative R ²	.713	.728	.749	.658	.674	.676
	<i>AGCRIME 1879</i>			<i>AGCRIME 1880</i>		
	MICRO- PEASANT 1856-75	EVIC	WOM	MICRO- PEASANT	EAST- WEST GRADIENT	EVIC 1856-75
A	.408			3.466		
B	-1.569	3.429	-.146	-1.976	-1.194	4.142
beta	-.736	.328	-.236	.505	.288	.216
Cumulative R ²	.633	.692	.738	.587	.665	.701
	<i>AGCRIME 1881</i>			<i>AGCRIME 1882</i>		
	EAST- WEST GRADIENT	WOM	EVIC 1856-75	EVIC 1882	WOM	EAST- WEST GRADIENT
A	5.876			1.541		
B	-2.448	.409	5.743	5.899	.285	-1.44
beta	-.473	.288	.24	.573	.208	-.209
Cumulative R ²	.517	.601	.646	.511	.592	.623

Note: As in Table 1, the coefficients for MICROPEASANT and MESOPEASANT are negative because these factors are negatively related to the variables from which they are derived.

modernisation and new elites hypotheses, largely replicate the initial analysis. BANKC was not selected in any equation. WOM was selected in five out of the six regressions but in the case of the dependent variables for 1879 and 1880 the relationship was negative and hence in the wrong direction for the hypothesis and, in any event, as the beta coefficients show, rather small in relation to the most important independent variable. It was in the right direction in the cases of AGCRIME 1881 and 1882 but WOM was still a distinctly subordinate factor. EVIC 1856-75, which is intended to measure the existence of a previous tradition of class conflict, appears in four of the regressions and its relationships are all in the right direction, although again, as the beta coefficients indicate, distinctly subordinate to those of the main explanatory factor in each case. The common feature of these propositions is that they deal with matters operating over a long period between the Famine and the 1870s, as will be discussed further in the conclusions.

The remaining four explanations outlined in Section III fare rather better and it is worth noting that they can all be interpreted as dealing with the immediate environment of the Land War: harvest failures, price falls, social structure and evictions. Most of the explained variance in both dependent variables for 1879 and in AGCRIME 1880 is accounted for by MICROPEASANT, the measure of the poverty stricken western peasantry worst affected by the harvest failures of the late 1870s. A cross level inference is involved here, but it is difficult to see what other plausible explanation could be offered and the inference is in accordance with all that is already known about the beginnings of the Land War.

MICROPEASANT is not, however, selected in any of the regressions dealing with the years after 1880. The results indicate a shift in the pattern of the Land War as suggested in the preliminary analysis: away from a concentration in the very poorest areas in which the MICROPEASANT factor was strong but towards the only slightly more prosperous areas in which MESOPEASANT and the "western" end of EAST-WEST GRADIENT were strong. Thus, MESOPEASANT is most strongly related to LAND LEAGUE 1880 (although EAST-WEST GRADIENT was also initially selected and, while it made little difference to the dominant role of MESOPEASANT, it was excluded in the second run of the regression which is displayed in Table 5). Areas of modest-sized tenancies worked mainly by family labour thus showed the most marked relationship with Land League activity in 1880 and, as argued earlier, these were also the areas most affected by the price falls which were the main source of distress in 1880.

AGCRIME 1881 is most closely connected with EAST-WEST GRADIENT, indicating a further shift away from specific strata and economic problems and towards nation-wide variations in prosperity and urbanisation. In accordance with this more dispersed pattern of agrarian discontent, there is a decline in the total percentage of variance accounted for by the three selected variables, and also the two less important variables, WOM and EVIC 1856-75, have larger beta coefficients in relation to the first variable than in previous regression equations.

This interpretation of events in 1880 and 1881 does admittedly face some

problems. MESOPEASANT could be interpreted either as a measure of social structure, in which case it refers to aggregates, or as a measure of the occupants of small family farms, in which case individual level inference is involved. The inference would be supported by two trains of evidence — the family farms themselves and falls in cattle numbers — but the aggregate interpretation is evidently safer, although even this involves the assumption that the county is an appropriate aggregate for measuring social structure. EAST-WEST GRADIENT is more obviously an environmental factor. Perhaps more important than these questions of inference, there is strong collinearity, particularly between MESOPEASANT, on the one hand, and both MICROPEASANT and EAST-WEST GRADIENT, on the other hand, which casts doubt on the genuine distinctiveness of MESOPEASANT. None the less, the interpretation does possess internal consistency and links well with economic developments.

For those who would still wish to treat the detailed interpretation with reserve, however, a more general and safer one can be drawn from the results. It is clear that a shift in the centre of gravity of the Land War took place in 1880 and 1881 but, whatever the details of this shift, it is also clear that it remained a movement weighted towards less prosperous areas and never drew its support equally, let alone substantially, from areas of large farms and many labourers (both MESOPEASANT and the “western” end of EAST-WEST GRADIENT locate such less prosperous areas).

Finally, in 1882, the incidence of evictions is easily the most important of the three selected variables, although, again, less dominant than the most important independent variables selected in the regressions for 1879 and 1880. A plausible explanation, as suggested earlier, is the disappearance of the counter-acting effects of the Land League, which had probably destroyed any simple one-way flow of influence from evictions to agrarian discontent before 1882. The link between the two in 1882 can be posed either at an individual level — the evicted were the ones who committed the offences, or as a proposition about the environment — areas with high levels of evictions were probably areas of tense landlord-tenant relations and hence displayed a high incidence of agrarian crime. Both are plausible, but the latter is the safer given the nature of the evidence.

In general, these regression equations are quite successful in accounting for the variation in the dependent variables. The percentage of variance explained is always above 60 per cent and in three cases above 70 per cent. The highest percentages are found in the earlier part of the period, when the discontent was still closely connected with specific areas and problems, the lowest in the latter part, when the Land War had reached its widest extent.

VI CONCLUSIONS

In this section I shall take as understood the various qualifications in the last section about multicollinearity and cross level inference, so that the conclusions can be stated as clearly as possible.

The various hypotheses that deal with the impact of changes in Irish rural society in the second half of the nineteenth century have not fared well in the analysis. Some sorts of change did not exist in the form that their proposers have suggested, namely, the rapid expansion of commercial elites and the J-curve of rising then falling prosperity. Others existed but were not so closely or continuously associated with the incidence of agrarian discontent as their proposers have argued, as with the impact of modernisation thesis. Only one, the structural simplification hypothesis, is strongly supported for at least one year by the regression equations and, as pointed out earlier, the measure of the hypothesis deals with the extent of this kind of social structure in 1881 rather than with any change between 1841 and 1881.

Perhaps two conclusions are in order. First, these results bring into question a notion that underlies some of these explanations that the concept of a wave of change sweeping across Ireland in the later nineteenth century encompassing market relationships, rising incomes, demographic and structural change, and new elites. (It should in all fairness be noted that Clark (1979, pp. 362-363) distances himself from elements of this idea.) It seems clear that the changes which did occur were more complicated in their form and inter-relationships than this concept suggests. Whatever its utility in the Third World in the twentieth-century, the idea of a sudden tidal wave of linked changes is probably too simple to cope with the complexities of societies long tied to European social and economic developments.

Secondly, so far as the changes that did occur are concerned, probably the most charitable way to interpret these results is in terms advanced by Tilly in a work that Clark rightly cites with respect. The role of structural change, Tilly argues, is not to directly provoke political militancy but rather to alter the form that it takes. Actual discontent may bear no direct relationship to variations in the pace of change and be provoked by ephemeral economic and political factors but its form is altered fundamentally by these longer term transformations.

Fast social change, does not, for all its bewilderments, incite disorder immediately or reliably. The relationship does not resemble that between the pushing of a button and the ringing of a doorbell. A better analogy might be the relation between the performance of an automobile and the stamping of the dies used in the making of its parts: indelible but indirect (Tilly *et al.*, 1975 p. 75).

In this fashion the case for the impact of long-term changes which did occur, such as the decline in illiteracy, could be maintained in an altered form. They enabled the transformation from the local level conspiracies of the early nineteenth-century to the nationwide disturbances of the Land War, but variations in the speed and extent of their occurrence did not directly provoke the discontent of 1879 to 1882.

The explanations that have fared best deal with the immediate surroundings of the Land League and Land War: the earlier part of the class transition thesis, which specifies a stratum and its problems in 1879 and 1880; the

structural simplification hypothesis, alone among the social change explanations, but which is measured by the extent of a social structure closely associated with a specific economic difficulty in 1880; the east-west gradient concept, which measures systematic variations in the immediate social environment; and the role of evictions in 1882. This perhaps is not surprising as these factors were much closer to the action of the Land War than long-term social changes.

These results suggest the following interpretation. The beginnings of both the Land League and the Land War lay in the depressed and poverty-stricken peasantry of the west, suffering from the effects of successive poor harvests in the late 1870s. Land League activity, however, shifted in 1880 towards the stratum of slightly more prosperous family farms which was increasingly the most typical element of late nineteenth-century Irish rural society and which was worst affected by the main source of distress in that year, the price falls of late 1879. Thereafter the social basis of the Land War broadened as it reached its widest geographical extent, when it was most closely related to variations in prosperity and urbanisation. Finally, once the League was removed as a restraining factor in late 1881, evictions became the prime and direct source of discontent until agrarian crime receded, not to rise again until the Plan of Campaign in the mid 1880s. More briefly, and with less emphasis on perhaps risky detailed inferences, the Land War was an economically provoked movement of the poorest groups which gradually spread to much of the island, although it was always strongest in less prosperous areas, and which, after the demise of the League, became a straightforward matter of resistance to evictions.

Finally, what of the comparative propositions which have been linked with specifically Irish hypotheses at points in the analysis? The only one that receives strong support is the argument concerning the potential militancy of the occupiers of modest-sized family tenancies and of even smaller tenancies in remote areas. The League and the Land War, did, indeed, receive their earliest support among the small tenantry of the remote west and then from the "middle peasants" on small family farms in the areas where social structural simplification had gone furthest, according to the interpretations offered here. The groups furthest from the discontent seem to have been larger farmers and labourers, which is also in accordance with this argument. Additionally, the argument suggests that the possibilities of organised discontent will be greatest where the landlords are purely rent gatherers with no important role in agricultural production, which is surely an accurate general description of late nineteenth-century Ireland. What is probably the most oft-repeated argument in agrarian political sociology thus seems to receive further support from the experience of the Land War.

In conclusion, it should perhaps be stressed that evidence of the sort examined here, while it is fruitful and repays systematic analysis, cannot be the final word on some matters. Detailed examination of individual level evidence in particular regions may modify some of the interpretations that have been offered. If this paper serves to provoke such studies, it will have fulfilled a useful purpose.

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METHODOLOGICAL APPENDIX

1. *Statistical Significance*

Levels of significance have not been presented in this paper. This could be justified on the grounds that the evidence is drawn not from a sample, but from the population of Ireland during the Land War. However, the evidence might also be regarded as drawn from the population of nineteenth- and twentieth-century agrarian societies. But even on this interpretation, significance levels could only be justified if the sample was a probability sample of a defined population, in this case the population is ill-defined and 23 geographically contiguous and culturally-linked administrative units are not a probability sample. This does not mean that it is wrong to connect Irish events with wider theoretical propositions, but it is dubious to use significance levels to assess the risks of so doing. The connections must be made by the analyst and reader on their own responsibility and on the basis of the evidence presented. For those who none the less believe in the applicability of significance tests in circumstances such as these (perhaps on grounds such as those advanced in Gold (1969)), it is an easy matter to compute tests from the information in the paper ($n = 23$ in all cases) and it will be found that all correlation coefficients above .53 are significant at the .01 level, and that the first beta coefficients of all regression equations and the total percentage of variance explained by the equations are significant at the .05 level at least.

2. *Independent Variables*

Agricultural labourers: This variable presents two problems. First, as well as the category "agricultural labourer" the *Census* of 1881 lists separately "shepherd", "indoor farm servants", and another category "general labourer", which it helpfully suggests consisted mainly of agricultural labourers. This presents severe difficulties in the calculation of absolute numbers, but for correlation and regression what matters is the pattern of variation, and any alternative to the strict definition of agricultural labourer adopted in the paper correlates with it at above .9. Secondly, Fitzpatrick (1980) argues that it is impossible to draw any clear distinction between farmers' relatives, who frequently served as agricultural labourers on other farms and may, or may not, have returned themselves as such, and agricultural labourers. He, therefore, merges the two groups, although this is also partly because he wants to trace trends between 1841 and 1912 and the distinction was only fully established in the 1881 *Census*. This concern for continuity leads, I believe, to an underestimation of the value of the 1881 statistics. If the distinction between the two groups is as untenable as Fitzpatrick suggests, one would not expect to find strong patterns of covariation among the categories that cover most of the agricultural workforce; farmers, farmers' relatives, and labourers. Yet, in fact, the proportion of farmers' relatives in the male agricultural workforce correlates with the proportion of farmers at above .9 and with the proportion of agricultural labourers at below $-.9$ (as does the proportion of farmers and farmers' relatives taken together). Further, while

farmers' relatives have a correlation of below $-.9$ with the proportion of holdings with a poor law valuation of between £50 and £100, as an example of larger holdings, agricultural labourers have a correlation of above $.9$ with the same category. This clearly suggests two broad types of workforce varying strongly and inversely with each other: one consisting of farmers and their relatives on small to medium sized holdings, and the other consisting of relatively fewer farmers plus wage labourers on larger holdings. It is difficult to believe that even aggregate data *rs* of this size and mutual consistency reflect only random status considerations, and I hence conclude that, whatever the detailed deficiencies of the statistics, both "agricultural labourer" and "farmers' relative" as used in the 1881 *Census* are useful measures of the structure of the agricultural workforce.

Emigration: In view of the disquiet expressed about official emigration figures in this period (Ó Gráda, 1975), emigration has been calculated as recorded in the *Census*, and thus measures net outward migration from the county, not distinguishing between domestic and international migration. Problems still remain about the extent to which births and death were actually registered in some parts of Ireland.

Evictions: As total numbers of holdings fell between 1856 and 1875, EVIC 1856-75 was not calculated by summing evictions for the whole period and dividing by the number of holdings at one date. Instead, each five year period was calculated separately and the results then averaged.

Eviction statistics are available both for the total number evicted and for those re-admitted as tenants or caretakers. However, both for EVIC 1856-75 and evictions in each year between 1879 and 1882, total evictions and evictions minus re-admissions correlate at above $.9$ and the former was, therefore, used.

Livestock densities: The extent of dependence on categories of livestock in Table 4 is expressed in terms of the ratio of livestock to agricultural population rather than to acreage. The latter confuses dependence and fertility since a fertile county such as Louth had higher cattle densities per acre than Galway but was less dependent on cattle. The ideal measure would be the proportion of income derived from cattle, but the difficulties this involves are discussed in the section of the text on the rising expectations hypothesis.

Migratory labourers: The official county level figures for this group available from 1881 have been heavily criticised by Ó Gráda (1973). They probably underestimate numbers but there is no alternative in examining the regional pattern, and Ó Gráda is forced to use them for this purpose.

Valuation categories for landholdings: These are from the *Return of Agricultural Holdings in Ireland Compiled by the Local Government Board in Ireland, 1881*, (House of Commons, 1881, XCII, 793). Unlike acreage

figures, these categories take account of varying fertility, but the valuations took place just after the Famine in a period of rising prices. Thus, the first counties surveyed might have been undervalued, and at a time of changing relative prices for crops and livestock products, the productivity of tillage areas might have been overvalued (see Solow (1971), pp. 59-64). In fact, all counties of the three southern provinces were valued between 1853 and 1858, reducing the effect of the first problem, and valuation categories are, in any case, greatly superior to acreage categories even given these problems.