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The 1846 Repeal of the Corn Laws: insights from a classification tree approach

Stephen Peplow

1. Introduction

In 1815, the British parliament, fearing an inundation of wheat from the Baltic states, imposed import duties by amending the Corn Laws, which effectively transferred a significant rent to landowners. Riots against what became known as the 'bread tax' took place in several cities, but apart from some relatively minor relaxations, the laws remained in force until 1846 when Parliament repealed them amidst huge controversy.¹ The imposition of a tariff wall by a parliament of landowners, surely one of the most blatantly self-interested acts carried out by any legislature, took place just when the wars with Napoleon were over, but the struggle for a wider franchise had just begun. During the three decades that the Laws were in force, the franchise was to some extent widened by the Reform Act of 1832, increasing the number of seats allocated to 'county' or rural areas, and also providing representation for the first time for industrialising areas such as Manchester.

Meanwhile, the ideas of economists such as David Ricardo and John Stewart Mill were gradually gaining currency.

Repeal of the Corn Laws continues to interest for political scientists because it does not respond to any of the materialist models. As Iain McLean puts it, 'the median member of each house voted in favour of Repeal, whereas any model based on material interest predicts that he would have voted against² However, the fact remains that, despite the models, the majority of Conservative Members of Parliament (MPs) voted against their own government in favour of continued protection, while 114 'Peelite' MPs followed their leader and Prime Minister, Sir Robert Peel, in voting for Repeal. The personal costs of Repeal were enormous. Robert Peel was forced to resign two weeks later, and the Conservative Party which he had done so much to build remained broken and out of power for several decades. Peel had been repeatedly made aware that Repeal would not go smoothly, yet he pressed forward. Why he did so, and why those particular 114 MPs chose to follow him has remained a 'puzzle', despite numerous attempts to provide a quantitative solution.³ Most responses to the challenge of modeling Repeal employ demand-side models, in which an MP's is vote is considered to be a direct response to constituency interests. More recently, Cheryl Schonhardt-Bailey has included supply-side variables in her model. The variables come from content analysis of the speeches of MPs. The result is a much more accurate model,

allowing her to 'reinterpret' Repeal. ⁴ In this interpretation, the Conservative Party is a coalition of interests, made up of MPs from rural constituencies, and MPs from more progressive constituencies which are dependent on overseas trade. Until approximately one year before Repeal, both parts of the coalition considered themselves to be 'trustees', with wide national interests as their motivation. As it became clear, in the spring of 1846, that Peel was definitely going to proceed with Repeal, Conservative MPs became torn between voting with the interests of their constituents and with their leader. Peel rescued them from their dilemma by 'characterizing repeal as a means to preserve the traditional institutions of the British government ---- and, in particular, the aristocracy'. ⁵ The Peelites then felt able to vote as trustees rather than delegates.

This article contributes to the literature by using different variables, some of which have been constructed to proxy for less directly measurable pressures that MPs felt. In addition we include religious observance which has been neglected in previous studies. The neglect is odd because Peel created a serious split in his own party in 1845 when he proposed to increase the government's annual grant to the Irish Catholic Seminary at Maynooth. Nearly half of Peel's own Conservative MPs voted against their government's motion over Maynooth, and the measure passed only because the Opposition sided with the government. Many of these same rebellious MPs also voted against Repeal one year later. An entirely new approach is to use a classification tree for the statistical analysis. ⁶ This is a recursive partitioning algorithm which performs an exhaustive search over all possible splits. We have assembled a number of different variables which we test, using voting over Repeal as the dependent variable. We find that party affiliation and previous voting over Maynooth are the most important predictors, and that Maynooth is especially important. Our conclusions therefore support those reached by Schonhardt-Bailey, determined by a different statistical process, and highlighting the overlooked importance of religion in early Victorian voting decisions.

The article begins with a discussion of the motivations of Sir Robert Peel for proposing two motions which he knew would meet considerable opposition from within his own Conservative party.

2. Peel's motivations

Although Sir Robert Peel led his Conservative Party to victory in 1841 on a platform of continued agricultural protection and 'no popery', Peel himself did not make much use of the two issues, allowing his rural candidates to provide their own interpretations. ⁷ The result will be discussed below in Section 4, because the

dangerous imbalance in seats held played an important role in the splits within the Conservative Party which followed soon after.

Despite Peel's own reticence, contemporaries would certainly have believed that he himself held these views and would therefore maintain them when in office. ⁸ However, Peel's actions as Prime Minister showed this belief to be misplaced. Instead, as his most recent biographer has noted, Peel's primary concerns were the improvement of the domestic economy and a reduction of the tensions in Ireland.⁹ Peel took action on his concerns over Ireland through Maynooth and over the economy through the Repeal of the Corn Laws. In this section, we describe Peel's reasons for concentrating on these particular issues and his actions to resolve them. In doing so, we note the reasons why some members of his own party found these policies so intolerable that they drove their party almost to destruction.

2.1 Ireland: Peel and Maynooth

Peel was familiar with the poverty and increasing unrest of Ireland from his time as Irish Secretary at the beginning of his political career, and took the view that improving the Irish education system would help to reduce the unrest. He proposed the establishment of non-denominational colleges. Here he ran into heavy opposition from Anglicans and, less predictably, from the Vatican.¹⁰ The colleges were never built.

He had more success, but at the cost of even more controversy, when in 1845 he proposed to convert the government's annual grant to the Irish Catholic Seminary at Maynooth into an endowment and also to increase the size of the grant. Peel's rationale was that the wretched conditions at Maynooth were inculcating priests with a hatred of Britain which would then spread throughout Ireland. At this time, anti-Catholic feeling was especially strong, as Paul Adelman writes, 'By the 1840s, mainly as a result of increased antipathy to the Irish and fears engendered by the Oxford Movement, the country was probably more anti-Catholic than it had been a year earlier.¹¹ Predictably, rural backbenchers and the newspapers reacted to Peel's Maynooth proposal with outrage, especially as Peel had been one of the prime movers behind the Catholic Emancipation Bill of 1829. Edward Miall, editor of the *Nonconformist*, wrote that the Maynooth Bill was a 'measure which can only be taken as a preliminary to the payment by the state of the Roman Catholic priesthood'. Ten thousand petitions against Maynooth raised a million and a quarter signatures. Harriet Martineau described the Maynooth Question as the 'great political controversy of the year, the subject of which society seemed to be going mad.' In an impassioned speech at Exeter Hall, the MP

John Plumptre told his audience that 'To endow Popery once more in a land that has been rescued from its yoke, is a madness little short of high treason against heaven.' ¹²

Peel's Cabinet colleagues were aware of the high political risks of Maynooth. Sir James Graham, Peel's closest colleague, pointed out to him, 'I foresee that on the part of the British public, invincible repugnance will be felt to any such proposal'.¹³ Graham was right. Of all Conservatives, 147 voted against the Government in the Second Reading, and 159 for the motion. The voting was even closer at the Third Reading, with the Conservatives being almost exactly divided. The motion was carried only because substantial numbers of the Whig-Liberal Opposition voted for the motion, a precursor for the Corn Laws division almost exactly a year later. As a result of Maynooth, Peel had alienated approximately half of the parliamentary Conservative Party for no real gain. There is no evidence that Irish Catholic priests were grateful for the grant. Peel's next move, against the Corn Laws, was even more destructive.

2.2 The economy and the Corn Laws

The departing Whig government had left Peel with a budget deficit of over

£2 million for the current year and no obvious means of recovery from the recession which had begun in 1838.¹⁴ Peel began to believe that a gradual replacement of import duties by taxation would provide both an alternative and more reliable source of revenue for the government; and an improvement in the economy from gains from trade. The result was the ambitious budget of 1842, which reduced the import tariffs on 750 articles, including livestock.¹⁵ In the same year he lowered the import duty on wheat. The income tax, which had been first imposed during the French Wars but removed shortly afterwards, came back at seven pennies in the pound, or about three per cent. The budget was slow to take effect because of the recession and bureaucratic delays: it took six months for the income tax machinery to be set up. ¹⁶ By early 1844, the economy has recovered to the extent that government was able to renew £250 million in bonds at a lower rate of interest. Professor Gash has noted that Peel's budgets did more for the poor than all of the reforms under Shaftesbury combined. ¹⁷ Peel now had first-hand evidence that transferring the burden of financing the government from import duties to the more progressive income tax did indeed produce gains from trade.

The largest obstacle to further free trade, the Corn Laws, were still in place. Here Peel faced two difficulties. The first was that his own party considered itself to be a party of the land. In 1841, Lord Ashburton remarked that, 'I am aware to what extent our Conservative party is a party pledged to the support of the land and that, that principle abandoned, the party is dissolved'. ¹⁸ At the same time, the growing of wheat and adherence to the Church of England were spatially correlated, as we show below in Section 5. Having alienated his more anti-Catholic supporters with Maynooth, Peel was now asking them to give up agricultural protection, a belief almost equally cherished and which, as Edwin Jaggard notes, had won the 1841 General Election for the Conservatives. ¹⁹

The second difficulty came from the opposite direction. The Anti-Corn Law League (ACCL) had formed itself into an extremely well-organised and highly successful pressure group. ²⁰ The League, formed by Richard Cobden and John Bright, was financed in the main by Lancashire textile manufacturers, who were able to see that their own exports of finished goods would increase if their buyers were able to earn money by selling wheat. Meanwhile, the ACCL ramped up the pressure on MPs, especially in the larger industrializing boroughs which were their strongholds.²¹

An interesting and astute strategy used by the ACCL was to attack the Church of England. ²² Dissent was concentrated in cities and industrial areas, typically in the north-west of the country, and by organizing conferences and meetings for dissenting ministers, the league drew attention to the abuses and weaknesses of the established church. One especial vulnerability was the link between the church and the collection of tithes. Most tithes were owned by the Church, and collected by the local vicar with varying degrees of aggressiveness.²³ The 1836 Tithe Commutation Commission had commuted the physical harvest to a 'corn rent' based on the average price of wheat over the previous seven years.²⁴ Now not only farmers and landowners but also the clergy benefited from high wheat prices. By arguing that the Corn Laws caused high wheat prices, the ACCL suggested that the clergy supported protectionism to maintain their own tithes.²⁵ The evidence for the effectiveness of the ACCL's campaigning is mixed. In an interesting and imaginative survey of local newspapers, Cheryl Schonhardt-Bailey has shown that free-trade interests had become 'increasingly politicized under the leadership of the Anti-Corn Law League'. ²⁶ Liberal MPs were increasingly likely to vote in the direction of free trade as a result, but the effect on Conservative MPs was negligible.

The League was also able to make full use of the 1832 Reform Act by vigorous action over electoral rolls. The 'forty-shilling householder' was entitled to vote, but had to be registered so that his name appeared on the electoral roll. The League worked extremely hard to ensure that as many of their supporters as possible were on the roll, meanwhile challenging the validity of entries relating to protectionist voters. As result, the League was able to direct the voting in several constituencies so that free-traders were returned.

The landed interests formed an 'anti-league' to combat the ACLL but its

leaders lacked the organizing skill and fervor of Cobden and Bright. ²⁷ More effective opposition to Repeal emerged in January 1846 when Peel introduced his bill to repeal the Corn Laws, provoking protectionist Conservative MPs into action. Lord George Bentinck emerged as their reluctant but determined leader, and a Protectionist group formed within the Conservative Party.²⁸ Bentinck, one of the more curious characters to emerge in early Victorian politics, was a backbencher who had rarely spoken in the House, and who was frequently engaged at his large racing stables. He felt intensely betrayed by Peel's apparently overnight conversion to free-trade, and spoke for many Conservative MPs when he complained about being 'sold' referring to the electoral strategy which Peel had used to win the election.²⁹ Under Bentinck, a Protectionist party began to form, with its own offices and administration. An important tactic of the new group was to put up Protectionist candidates at by-elections. Encouraged by tenant farmers, Protectionist candidates won 16 out of the 24 by-elections held between January and May 1846.³⁰ The pressure that MPs suspected of free-trade leanings came under was intense. The Northamptonshire Protection Society sent a deputation to their MP to urge him to resign if his views on the Corn Laws differed from theirs.³¹

Repeal passed at its Third Reading on 15 May 1846 but, as with Maynooth, only with support from the Opposition. Of the 241 Conservatives, who voted against Repeal, 119 had also voted against Maynooth. The Protectionist majority of the Conservative Party voted against the Bill, but 114 Conservative 'Peelite' MPs voted with Peel and for Repeal. The outcome of the vote is presented below in Table 1, but it should be noted that tabulations differ, not helped by errors and duplications in Hansard. The result below is based on Aydelotte's dataset, but his records do not indicate whether an MP who is not recorded as voting was in fact an MP at the date of the division. The database in use has been amended by working through other Hansard records to establish a list of MPs who were absent for the Repeal vote for any reason.

Table 1. Repeal voting in 1846.

Note: one MP remains unaccounted for. After the disenfranchisement of the corrupt borough of Sudbury in 1844, the total number of seats was 656.

| | Against | For | Absent | Total |
|--------------|---------|-----|--------|-------|
| Conservative | 241 | 114 | 21 | 376 |
| Opposition | 10 | 235 | 34 | 279 |

| Total | 251 | 349 | 55 | 655 |
|-------|-----|-----|----|-----|
| | | | | |

Although the government won the vote over Repeal, the fact that less than half of the Conservative MPs voted for the Repeal meant that Peel had lost the confidence of his own party. Two weeks later, when Repeal had been passed by the House of Lords, the government resigned.

Peel's choice of timing for Repeal is interesting, and may well be related to the next General Election which had to occur in 1848, as Parliaments were then of seven years duration. Peel was well aware that his protectionist wing were winning by-election seats, and it is possible that he feared that his margin would be reduced even more unless he acted quickly. He also perhaps did not want to appear to be giving in to the extra-parliamentary pressure exerted by the ACLL. By choosing the months over which the debate would be fought, he was at the least maintaining some semblance of control.

4. Election platforms in the 1841 General Election

The previous section discussed Robert Peel's proposals for changes in two key issues of the day: agricultural protection and religion. To see why these were powerful factors in influencing the voting decisions of MPs', it is necessary to step back from Maynooth and Repeal and examine the 1841 General Election in some detail. Over protection, the platforms of the two parties were in direct opposition. Whig candidates in industrial areas indicated that they would reduce the Corn Laws to a fixed duty in order to reduce the price of bread, while Conservative candidates were in favour of maintaining the present rate of protection. Conservative electoral posters in the west riding of Yorkshire read: 'West Riding' Manufacturers: the Pride of England. The altar, the throne and the Cottage. If agriculture decays, trade will not flourish'. The Tory-leaning Kentish Gazette helpfully claimed that the effect of any Whig budget would be to 'overthrow the existing order of society, to trample down the agriculturalist and the farm labourer'. ³² This threat was credible because the Whig leader, Lord John Russell, had courted support from the new 'middling classes' by proposing a reduction of the import duties on wheat to a small fixed duty.

For Conservatives, the second issue was defence of the Church of England, and by implication resistance to both Irish Catholics and English Dissenters. ³³ Peel took advantage of a last-minute Whig proposal to appropriate surplus Church of Ireland revenues to suggest that a future Whig government might be unable to safeguard not only church property, but all property, making a further veiled reference to agricultural protection, and was also able to point to the large fiscal deficit run up by the Whigs by linking the deficit to agricultural protection. While contemporaries were left in no doubt that a future Conservative government under Peel would continue the supremacy of the Church of England and, no less important, maintain protection for agriculture, this was not necessarily Peel's own view. In a speech at the close of the previous parliament in 1840, he said that if elected, he would 'earnestly advise a relaxation, an alteration, nay if necessary a Repeal of the Corn Law.'

4.1 Election results and their implications

Lord Blake describes the Conservative platform in 1841 as 'protection, Protestantism and no popery' and this message went over best in the more rural constituencies.³⁴ As a result, the Conservatives won many county seats, but rather fewer seats in the large boroughs. In the large boroughs the Whig message of lower bread prices, and by implication a lower wage bill, earned support from tradesmen and employers. Table 1 below cross-tabulates Party with Constituency Type. Conservative domination of the county and small borough seats is clear. Just as clear is their vulnerability in the large boroughs where opposition to agricultural protection was greatest.

Table 2. Cross-tabulation of seats won in the 1841 election by party and type of constituency

Source; Aydelotte's dataset

| | | Small | Large | | |
|-------|--------|---------|---------|------------|-------|
| Party | County | Borough | Borough | University | Total |
| Cons | 184 | 109 | 70 | 6 | 369 |
| Whig | 71 | 90 | 128 | 0 | 289 |
| Total | 255 | 199 | 198 | 6 | 658 |

The vulnerability was especially dangerous because, as we show below, support for the Church of England was strongest in the wheat-growing regions. In rural areas, any attempt to weaken either the position of the Anglican Church or reduce agricultural protection implied an attempt to weaken the other. ³⁵ The narrow grounds on which rural seats had been won was especially problematic for those Conservative MPs who had gone so far as to pledge that they would resist any weakening of agricultural protection. Such MPs were especially vulnerable when Peel began to cut away at the pillars of protection and Protestantism through which they had won their seats.

5. Data and Methods

The goal of this article is to estimate the relative strengths of the factors which influenced the decision of an MP to vote either for or against repeal of the Corn Laws, and to illustrate the importance of Maynooth in influencing his decision. This section introduces the dataset used in the quantitative analysis, the methodology and the results. The dataset is primarily that compiled by Professor W.O. Aydelotte in the 1960s. He collected data on nearly two hundred divisions in the 1841 Parliament, choosing those which were well-attended. It is fortunate for subsequent scholars that he did so much painstaking work on the Parliament during which Repeal occurred. ³⁶ Iain McLean has added data from the 1851 Census, primarily on religious observance, and we use this below. We have constructed and added new variables obtained mostly with the aid of Geographical Information Systems (GIS). These are described below.

Wheat-dependency.

Robert Peel's proposal to remove import duties on wheat would have the greatest impact on two groups: those who grew wheat, and those who bought bread. The producers of wheat might be expected to protest Repeal, while buyers would welcome Repeal. To capture the dependency of each political constituency on wheat growing, we have created two measures of dependency on wheat-farming. The first is a straightforward share of area under wheat and area under cattle at the county level, using data from the 1869 Census of Agriculture. From this data, we used geographical information systems (GIS) to develop a surface which we then integrated into the dataset, to provide a share at the political constituency level.

The second variable, the 'wheat balance', is more complex but has the benefit of working 'in both directions'. By this we mean that the measure takes into account both the desire to profit from the export of wheat to other counties, and the desire to have cheaper bread, a feature lacking in the wheat share measure described above. The Corn Laws meant that very little wheat was imported into Britain, apart from Irish supplies ³⁷ and so wheat production and consumption was a closed system. The county-level value for wheat dependency is the net surplus or

deficit for each county, calculated by multiplying each county's wheat acreage by reported yield, and then subtracting consumption, found by multiplying the population by per capita consumption. The balance indicates either a surplus available for export, or a shortfall requiring an import. Full details of the calculations and the datasets are available from the author on request. Areas which produced more wheat than they consumed would therefore wish to earn money by 'exporting' their surplus to less productive areas. We have calculated the net balance for each constituency, which we call the 'wheat-balance', Constituencies with a positive balance would, we suggest, resist Repeal because much of their livelihood depended on the continued selling of wheat. For constituencies with a negative balance, such as the larger industrializing boroughs, the desire for cheap bread would encourage voting for Repeal. The data used to construct the wheatbalance variable comes from the 1869 Census of Agriculture, the first such census to be held. ³⁸ (Thirsk and Collins 1967). Although data closer in time to the 1840s would clearly have been preferred, it is unlikely that the distribution of wheatgrowing changed markedly between 1846 and 1869.³⁹

Party affiliation

Early-Victorian Parliamentarians were rather more independent of their party whip compared to MPs of today, and party loyalty was only gradually developing. Peel himself once stated that he cared nothing for party. Aydelotte has helpfully included a coding representing party affiliation which we shall use.

Local wheat price

The price of wheat varied considerably, depending on the amount of expensive inland transportation required. Wheat was therefore most expensive in the industrializing north-west, far from the corn-producing areas of Lincolnshire and the south-east. The wheat price in 1845 was found from prices reported in the *London Gazette* as holding at approximately 150 registered markets throughout Britain. Again, we use kriging to interpolate between the points. The result is as one would expect. Wheat is cheapest in the arable areas of Lincolnshire and Cambridgeshire in the east, and most expensive in the north-east of England.

Capital intensity in agriculture

Farmers who had invested heavily in their land did so on the basis of continued high wheat prices. As a result, such farmers were highly sensitive to any measures which might threaten wheat prices. To proxy for capitalisation, we use the ratio of farmers to farm labourers, calculated from employment data contained within the 1841 census. Each county contains approximately five locations at which counts of farmers and farm labourers were recorded. Using kriging, we developed a surface which interpolates the ratio between farmer and labourer. We use the ratio as a proxy for the capital intensity of agriculture, a higher ratio implying a larger labour force and thus more capital. ⁴⁰

Maynooth voting

Aydelotte supplies the roll-call outcome of voting over Maynooth. This variable will be used in the classification tree to test whether an MP's vote over Maynooth contributed to his vote over Repeal.

Type of constituency

Political constituencies are grouped into four classes: rural; small boroughs; large boroughs; universities (which at that time meant just Oxford and Cambridge). We would expect rural constituencies to oppose Repeal, because agriculture might well be their only source of revenue. Small boroughs would tend to support Protectionism because they depended on agriculture. Large boroughs would oppose Repeal because the manufacturers located in larger urban areas tended to favour free trade.

Model

Combining the variables above provides a model as follows, with the MP's voting decision as the dependent variable.

Pr (Vote for Repeal = f(wheat balance, party, wheat price, capital intensity, Maynooth, Constituency Type).

5.2 Principal Component Analysis

The discussion above in section 4 concerning campaigning in the 1841 General Election claimed that areas which grew wheat were also areas in which the population were more likely to attend an Anglican Church for worship. It is time to test this claim and, more broadly, to develop a profile of the constituency characteristics. Principal Component Analysis (PCA) is a suitable tool for this task. ⁴¹ The goal of PCA is to reduce the dimensionality of the data so that a small number of dimensions contain the bulk of the variance in the dataset. ⁴² Figure 2 shows the results of the PCA on variables which relate to the constituencies only, and not to the MP who represented that constituency. The results are helpful in understanding the background for his decision to vote for or against repeal.

Figure 1 here

Caption: Principal components analysis of constituency variables.

The variables have been standardised so that differences in units and scales do not distort the analysis. As a result, it is possible to quantify the contribution that each variable makes to any one of the dimensions and each variable's correlation with a dimension. In general, PCA reduces the variability within the

dataset to less than five dimensions. In Figure 1, the first dimension accounts for 44.15 per cent of the variability, and the second dimension 17.99 per cent. Therefore over 60 per cent of the total variability is accounted for by the first two dimensions. Here dimension 1 appears to include variables relating to arable farming and attendance at an Anglican church. On the other hand, dimension 2, which is orthogonal to dimension 1, contains information relating to livestock farming and worship at a Catholic church on Census Day 1851. The direction of the arrows for each variable indicates that variable's correlation with the first dimension. For the first dimension, wheat acreage is close to parallel with attendance at an Anglican church, and also, the wheat balance. Numbers of sheep is also contained within this dimension because arable farmers folded sheep onto their fields when the field was between crops or fallow. Numbers of cattle is diametrically opposed because cattle farming was generally carried out on the hilly land in the west of the country. It is interesting that the variable indicating attendance at a Nonconformist service is in a sort of halfway house. The Nonconformist variable has a very large contribution (nearly half) to the third dimension. A conclusion is that attendance at a Nonconformist service was unrelated to any of the other variables. Wheat price in 1845 has a negative correlation because the transport costs involving in moving wheat were high.

5.3 Classification trees

The conditional classification tree seems almost too simple to work, yet it does. The classification tree has been used in a wide range of disciplines, from ecology⁴³ to marketing. The procedure is non-parametric and algorithmic, and operates by testing whether the dependent variable and any one of the independent variables included as a possible predictor contributes any 'information' about the dependent variable. ⁴⁴ The null hypothesis is that the independent variable contains no information about the dependent variable. If the null cannot be rejected, then that independent variable is selected as a possible node. Those nodes which do contain information about the dependent variable are then ranked, and the node which provides the most information is placed at the top of the tree. The algorithmic process continues until the supply of independent variables which contain information is exhausted. By the end of the process, the relationship between the dependent variables and the set of statistically significant independent variables has been drawn, and a set of terminal nodes constructed. The terminal nodes contain the results of the classification. In the case being examined in this article, we are able to count how many MPs voted for or against repeal and examine the influences on them. The results are presented below in figure 2, with voting on repeal as the dependent variable.

Figure 2 here

Caption: Classification tree of voting over repeal.

The classification tree analysis was performed with the variables detailed above, with Maynooth voting added. They are repeated here for clarity:

Area under wheat and cattle

Party affiliation (code 0 = Conservative; 1 = Whig/Liberal

Wheat dependency: amount of wheat imported or exported from the constituency

Maynooth voting record (0 = against providing grant; 1 = for)

Capital intensity

The dependent variable is coded as 1 means voted against Repeal (therefore Protectionist); 2 voted for Repeal (therefore Free Trade); 3 (absent).

5.4 Classification Tree Results

The classification tree has eliminated several of the independent variables, retaining only those with statistical significance. Those which were present in the PCA but which have been eliminated by the classification tree are: wheat price in 1845; capital intensity; and wheat balance. These three variables did not have a statistically significant impact on voting over Repeal.

The independent variables that remain are ranked by amount of information contained. The first node, that is the node with the greatest amount of information, is party membership (0 means Conservative, 1 means Whig). This is hardly a surprising result, because the Whig party under Lord John Russell had committed itself to reform of the Corn Laws at the end of 1845. For the Whigs, the next important split is at node 11, which is 'constituency type'. County or rural seats are indicated by 0, small and large boroughs by 1 and 2 respectively. Whig votes are classified in terminal nodes 12 and 13, at the bottom right of the figure. The numbers below each terminal node refer to possible voting decisions, with a vote against repeal coded as 1, for repeal as 2, and absence as 3. Some ten Whig MPs did vote against repeal, and these ten represented deeply rural constituencies. The grey column within the terminal node (above the figure 2) indicates the proportion voting for Repeal. The proportion in the small and large boroughs (Type = 2 or 3) is higher than in the rural areas. Whigs who represented urban areas felt under more pressure to vote for Repeal than Whigs representing rural areas.

More relevant to this article are the results for Conservative MPs. For Conservatives, following the line marked 0 leading to the left of the figure, the variable with the most information is voting history over the increased grant to the Irish Catholic Seminary at Maynooth. The voting history is coded as follows: 0 means that the MP voted *against* the Maynooth grant, 1 means *for* the grant. Following those who voted against Maynooth, we come to node 3, which refers to percentage in the constituency attending an Anglican church on Census Day 1851. The best split occurs at the 15.21 per cent level. When the constituency's percentage exceeds 15.21 per cent, the number of MPs voting against repeal is large. The meaning is twofold: constituencies with a larger share of the population attending Anglican services are more likely to be represented by an MP who voted against Maynooth, and who is therefore highly likely to vote against Repeal.

For those Conservative MPs who voted for Maynooth, there is an interesting series of subsplits: the type of their constituency mattered. If it was rural (Constype =1), then wheat acreage mattered. Those with a higher wheat acreage (>20.2) were more likely to vote against Repeal than those with a smaller wheat acreage. However, if the MP represented a small or large borough or university (Constype, 2,3,4) then he was almost equally likely to vote for or against Repeal.

6. Discussion

The results reported above suggest that both Conservative and Whig MPs followed the preferences of their constituents when deciding how to vote over Repeal. Those most likely to vote against Repeal are classified into terminal nodes 5 and 10. For terminal node 5, these are constituencies where the anti-Catholic feeling was especially strong. Node 10 is the most straightforward: rural areas with a large wheat acreage.

The accuracy of the model when Maynooth is included as a predictor variable is approximately 80 per cent correct classification (comparing predicted with observed). Without Maynooth, the accuracy reduces to about 60 per cent. An MP's previous voting decision over Maynooth is therefore an important factor in his subsequent voting over Repeal. Maynooth occurred almost exactly a year before Repeal, and this result therefore matches Cheryl Schonhardt-Bailey's finding that Conservative MPs switched from being representatives to being delegates. The disruption to Peel's authority over his Party caused by Maynooth meant that Conservative MPs felt free to vote as they felt that their constituencies would wish. Above, we questioned why Peel failed to heed the warning signs from his backbenchers. The rebellion over Maynooth should surely have alerted him to the difficulties he would face over Repeal. Yet he pressed on with, as Eric Evans puts it, 'purblind self-belief and contempt for the arguments of his opponents' ⁴⁵ 77).

Endnotes

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¹ Barnes, Donald. A History of the English Corn Laws, (London, 1961);

J. G. Williamson, The Impact of the Corn Laws Just Prior to Repeal, *Explorations in Economic History*, 27 (1990), at 123.

² Iain McLean, Roll-call Analysis When You Have Too Much Data and Are Not in the USA, (presented at the ECPR workshop on estimating the policy positions of political actors, Mannheim, 1999).

³ Amongst many, see J. J. McKeown, The Politics of Corn Law Repeal and Theories of Commercial Policy, *British Journal of Political Science* 19,(1989); I. McLean, Wellington and the Corn Laws 1845-6: a Study in Heresthetic,' ed. M. Woolgar, Wellington Studies III (Southampton, 1999), at 227.

⁴ C. Schonhardt-Bailey, *From the Corn Laws to Free Trade: Interests, Ideas, and Institutions in Historical Perspective,* (London 2006).

⁵ Cheryl Schonhardt-Bailey, Conservatives Who Sounded Like Trustees but Voted Like Delegates: The Reinterpretation of Repeal, (Government Department, London School of Economics, 2002).

⁶ Torsten Hothorn, Kurt Hornik, and Achim Zeileis, Unbiased Recursive Partitioning: A Conditional Inference Framework, *Journal of Computational and Graphical Statistics* 15, (2006)

⁷ Douglas Hurd, *Robert Peel* (London, 2007), at 226.

⁸ Ian Newbould, Sir Robert Peel and the Conservative Party, 1832-1841: A Study in Failure? *The English Historical Review* 98, (1983).

⁹ Hurd, *Robert Peel, at* 33.

¹⁰ D. Read, *Peel and the Victorians*, (London, 1987), at 138.

¹¹ P. Adelman, *Peel and the Conservative Party*, 1830-1850, (London, 1989).

¹² Norman, *AntiCatholicism in Victorian England* (New York, n.d.), at144

¹³ C. S. Parker, *Sir Robert Peel: From His Private Papers* (London, 1899)

¹⁴ Asa Briggs, *The Age of Improvement*, *1783-1867*. (London, 1959),
 at340

¹⁵ Briggs, Improvement, at 341

¹⁶ Briggs, Improvement, at 306

¹⁷ N. Gash, *Politics in the Age of Peel.* (London, 1953)

¹⁸ Schonhardt-Bailey, Conservatives Who Sounded Like Trustees but

Voted Like Delegates: The Reinterpretation of Repeal, at 3

¹⁹ Edwin Jaggard, The 1841 British General Election: A

Reconsideration, Australian Journal of Politics and History, 30, (1984),

at 99

²⁰ Hamer, *The Politics of Electoral Pressure: A Study in the History of Victorian Reform Agitations* (Hassocks, 1977)

²¹ P. A. Pickering and A. Tyrell, *The People's Bread: a History of the Anti-Corn Law League*. (Leicester, 2000)

²² R. F. Spall, The Anti-Corn-Law League's Opposition to English
Church Establishment, *Journal of Church & State* 32, (1990), at 97

²³ E. J. Evans, *The Contentious Tithe*, (London, 1976)

²⁴ R. J. P. Kain and H. C. Prince, *The Tithe Surveys of England and Wales* (Cambridge, 1985)

²⁵ Spall, The Anti-Corn-Law League's Opposition to English Church Establishment

²⁶ Cheryl Schonhardt-Bailey, Feeling the Heat of the League? How Local Newspapers Affected MP's Voting on Repeal, (Government Department, London School of Economics, 2004).

²⁷ G. L. Mosse, The Anti-League: 1844-1846, *The Economic History Review* 17, (1947), cited at 134 ²⁸ Robert Stewart, *The Politics of Protection: Lord Derby and the Protectionist Party 1841-1852.* (Cambridge, 1971)

²⁹ Stewart, Protection, at 62

³⁰ W. D. Jones and A. B. Erickson, *The Peelites*, *1846-1857*. (Columbus, 1972) at 25

³¹ Travis L. Crosby, *English Farmers and the Politics of Protection* (Hassocks, 1977), at137

³² E. J. Evans, *Sir Robert Peel: Statesmanship, Power and Party*. (Taylor & Francis, 2006). Cited at 46.

³³ Read, *Peel and the Victorians*, at 92.

³⁴ R. Blake, *The Conservative Party from Peel to Thatcher* (London, 1985)

³⁵ B. I. Coleman, *The Church of England in the Mid-nineteenth Century: a Social Geography* (n.p., 1980) ³⁶ William O. Aydelotte, "Voting Patterns in the British House of
Commons in the 1840s," *Comparative Studies in Society and History* 5, no. 2 (1963): 134–163

³⁷ S. Fairlie, The Nineteenth-Century Corn Law Revisited, *The Economic History Review* 18, (1965), at 562

³⁸ Joan Thirsk and E. J. T. Collins, *The Agrarian History of England and Wales* (Cambridge, 1967)

³⁹ M. Overton, Agricultural Revolution in England: The Transformation of the Agrarian Economy, 1500-1850 (Cambridge, 1996)

⁴⁰ Leigh Shaw-Taylor, Family Farms and Capitalist Farms in Mid
Nineteenth Century England, *The Agricultural History Review*, 53, (2005), at 158

 ⁴¹ George Dunteman, *Principal Components Analysis* (London, 1989)
 ⁴² Francois Husson et al., *FactoMineR: Multivariate Exploratory Data Analysis and Data Mining with R*, 2013, http://CRAN.Rproject.org/package=FactoMineR. ⁴³ Marko Debeljak, Habitat Suitability Modelling for Red Deer (Cervus Elaphus L.) in South-central Slovenia with Classification Trees, *Ecological Modelling*, 138, (2001), at 321 and Sara Dolnicar et al., Key Drivers of Airline Loyalty, *Tourism Management*, 32,(2011), at1020
⁴⁴ Hothorn, Hornik, and Zeileis, Unbiased Recursive Partitioning
⁴⁵ Evans, *Sir Robert Peel: Statesmanship, Power and Party*, at 77