

How Much Does a Vote Cost? Incumbency and the Impact of Campaign Spending at English General Elections

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ABSTRACT *A number of studies have shown significant relationships between the votes cast for individual parties and the amount spent on their constituency campaigns at British general elections. Most of those studies have indicated that the party in power before an election gets a smaller return on its local spending than does its main challenger, but this has not been subject to comparative study focusing on similar situations except that a different party was in power before the contest. Because of the modelling strategies adopted, these studies have not directly evaluated the cost of a vote – or the yield in votes for any given level of expenditure and in addition those strategies have rarely tackled some of the technical issues faced in such studies. This paper deploys an analytical strategy which allows a direct evaluation of the cost of a vote and, by comparing two elections – one in which Labour was mounting a strong challenge to a Conservative government and the other, eight years later, when the positions were reversed – can assess the relative impact of spending by incumbents and challengers.*

The last three decades have seen a substantial amount of research into the impact of constituency campaigns on election results in Great Britain. From the 1970s on, the 'conventional wisdom' of many British electoral analysts – as expressed in the Nuffield election studies (on which see Cutts, 2006) – was that those local campaigns had no influence on the election outcome. General elections had been 'nationalised' and there was little variation around the overall trend across constituencies – and certainly none that could be linked to the intensity of the local campaigns as indexed by, for example, the number of posters displayed, the number of leaflets distributed, and the number of canvassers working for a candidate both before and on election day. According to Kavanagh (1970, pp.10 and 87) 'democratization and modernization of the social and political systems has enervated the local campaign ... the political swing during a campaign is negligible and what change does occur is only slightly related to exposure to campaign propaganda'; two decades later, Butler and Kavanagh (1992, 245) claimed that at the 1992 election it was 'hard to pinpoint any constituencies where the quality of one side's efforts made a decisive difference'.

Countering these views, a number of analysts have used constituency campaign spending data to show very strong links between the intensity of a party's constituency campaign and the election outcome there. They have provided strong circumstantial evidence that spending is linked to vote-winning, either directly (the more spent – almost all of it on 'advertising' the party and its candidate – the better

the return) or indirectly (spending is a surrogate for other successful campaign activities): Pattie and Johnston (1998) suggest that both arguments are valid. A range of papers, beginning with Taylor (1972) and Denver and Hands (1974), has produced the same general finding through a variety of analytical approaches – the more that a party spends on the local campaign, the better its performance there. Furthermore, the argument that in part at least this is an indirect effect – with spending acting as a surrogate for other indicators of a campaign’s intensity – has been sustained by other work using a wider range of indicators of activity (Denver and Hands, 1997a), and by studies of party activists (Whiteley and Seyd, 1994, 2003a, 2003b) and comparative studies (e.g. Pattie et al, 1994) have shown that all three indicators are closely correlated and thus tell the same story – the more intensively a party campaigns in a constituency, the better its performance there.

One further finding that has characterised many of these studies is that spending by the Conservative party had less impact at many elections than did spending by the other main parties. Because most of the studies reporting this finding were concerned with general elections in the period 1979-1992, when the Conservatives won five contests in a row, however, it was not possible to determine whether this was because the Conservatives as a party get a relatively insubstantial and insignificant return from greater expenditure or whether – in line with studies in the United States (e.g. Erikson and Palfrey, 1998; Green and Krasno, 1988; Jacobson, 1990; Moon, 2006) – it is the incumbent party/candidate that gets a poorer return from its spending. (A discussion of this issue in the British context can be found in Denver and Hands, 1997b, and Johnston and Pattie, 1997.) Since then, however, Labour has won three general elections in a row, providing the opportunity to test which argument is correct.

Apart from the issue of incumbency, despite the considerable literature on this subject – and technical advances in analytical methods (Cutts and Shrayne, 2007; Pattie and Johnston, 2008) – nevertheless a number of issues remain either unresolved or largely ignored. One of these is the substantive impact of spending. In part because the maximum amount that a candidate can spend on the campaign in a British constituency varies – according to the number of voters on the electoral roll and whether the constituency is categorised as either borough (i.e. urban) or county (i.e. rural) – almost all analyses have transformed the amount spent into a percentage of the local maximum allowed. This precludes any straightforward interpretation of the result of regression analyses (especially if the spending variable is then transformed to a logit) to indicate the substantive link between spending and votes won: in other words, how many additional votes does spending an extra £100 yield? As with so much quantitative social science, the focus is often on the statistical significance of the findings rather than their substantive import. (On which, more generally, see McCloskey and Ziliak, 1996; Ziliak and McCloskey, 2004.) Finally, there continue to be analytical problems, particularly those related to endogeneity which are discussed below.

The goal of the present paper, therefore, is to address these lacunae in the study of the impact of campaign spending at British general elections. The substantive focus is on the two issues raised above – the direct link between spending and vote-winning (‘how much does a vote cost?’) and whether incumbent parties of government gain a smaller vote yield from their campaign expenditure than their challengers. These are considered using a 2SLS regression approach.

The approach

The benefits of incumbency

Reflecting the individualised nature of campaigning for election to the US House of Representatives and the Senate, most attention in studies of the impact of spending there focuses on the candidates themselves. In that context, the finding that incumbents tend to get a lower yield in votes per \$ spent than do challengers is generally interpreted as showing that the former have many advantages from their position – much greater media publicity; use of the Congressional free postage facilities etc – than their opponents, who have to spend more to promote their candidacy. A dollar spent by somebody relatively unknown to the electorate has greater impact than one spent by a well-known incumbent candidate who has other sources of self-promotion.

In the UK, however, the individual candidate has much less of an impact on election results, because the focus is on the parties – mainly, of course, because British electors are voting for a government whereas their American counterparts are voting for a representative in a system which separates the executive from the legislature. Thus, very little of the variation in voting across British constituencies can be accounted for candidate-specific factors save in a few circumstances (see, for example, Wood and Norton, 1992; for an analysis indicating that even losing candidates who contested a constituency again at the next election had no impact on the outcome at that second election – i.e. carried no ‘personal vote’ – see Johnston and Pattie, 2006). But the general argument is the same for the UK as in the USA; incumbents have advantages over challengers in terms of access to voters, which the latter have to combat through their campaigning – but in the British case it is incumbent parties rather than incumbent candidates (MPs). The incumbent party of government gets a great deal of ‘free publicity’ relayed to the electorate daily via the media and challengers have to counter this significant advantage by gaining attention for their policies, positions and attitudes through other promotional forms, some of which they have to pay for.¹ A party not in government will gain media coverage for its opposition stance and the alternatives offered, but much of this will be generalised and not specific to particular constituencies. For the party in power, therefore, its substantial advantage over competitors in visibility and knowledge of its record means that its spending on constituency campaigns may make only a marginal contribution to promoting its cause locally. A party out of power, on the other hand, has to promote its cause strongly there in order to overcome its disadvantages; the more that it spends on local campaigns promoting its cause through its local candidate, the better able it is to challenge the governing party.

Incumbent British MPs do have some advantages over their challengers in their constituencies – whether or not they are members of the government party. They can readily get publicity through the local media – much of it unpaid for – through their representative work and their attendance at many local functions. Furthermore, UK MPs have free access to the postal service that they can use to contact their constituents, either individually or through mass mailings aimed at sustaining and winning support.² According to the published returns of their expenditure from public funds, the average UK MP spent some £5000 in the Parliamentary year 2004-2005

(i.e. immediately preceding the 2005 general election) on stationery and postage, for example, none of which – even if it is explicitly deployed for campaigning purposes – has to be declared against the maximum allowed expenditure during the official election campaign. (None can be spent during the campaign period itself, because Parliament will by then have been prorogued and they are no longer MPs. During the campaign, however, each candidate can send one item through the post to every registered elector in her/his constituency, thus providing some equality of access during that brief period.)

A combination of these two benefits of incumbency – to the governing party and to sitting MPs – makes the challengers' task difficult and potentially expensive. They have to counter the 'free publicity' before the official campaign and present as much information as possible to the electorate during that short period, although local parties try to select their candidates well in advance of the expected date of a general election, thereby allowing them to develop their profile within the constituency well before the contest is announced and candidacies are officially declared. Challengers start the campaigns at a disadvantage, therefore, which is probably why most analyses have found that their spending has a greater impact than incumbents' – the more that they spend the better able they are to tackle the electors' relative ignorance of their arguments. Incumbents, on the other hand, start with the advantage that they are better known and so there may be smaller returns from spending to distribute more information – which may in any case not be feasible because of the limits on spending which most incumbents can readily approach.

But does that advantage accruing from incumbency apply equally to the Conservative, Labour and Liberal Democrat party candidates? It was difficult to answer that question before 1997 because of the long run of Conservative victories, but it is now feasible. It is done here by comparing the impact of spending in 1997, when the Conservatives were the incumbent government, and 2005, when Labour were. However, as it is uncertain exactly which aspect of incumbency is most important, we look, both separately and together, at three aspects:

- Differences between parties, contrasting the party of government (Conservative in 1997; Labour in 2005) with the other two, irrespective of the constituency situation;
- Differences between constituency winners, contrasting the party which won the contest there at the previous election (irrespective of whether its candidate is the incumbent MP) with the others; and
- Differences between incumbent MPs (irrespective of whether the party is in government) and other candidates.

The cost of a vote

As already noted, most studies of campaign spending in the UK have transformed the actual amount spent into a percentage of the allowed maximum in the constituency, which varies from place to place. This has ensured consistency in one aspect of the modelling but it, in effect, makes a £ worth different amounts in different constituencies. More importantly, it precludes analysts getting a clear indication of how much has to be spent on average to get a desired additional vote yield.

The differences in the allowed spending maximum are not very considerable – save in a few cases of either very large or very small constituencies. In England (the only part of the UK considered here, for reasons discussed below), the mean maximum spending allowed in any constituency at the 2005 general election was £11,403, with a standard deviation of £954. The full range was £9,690-14,691, but the inter-quartile range only £10,519-12,210. (Full descriptive data are in Appendix Table 1. The data on spending at the 1997 election were obtained from the Home Office; those for 2005 from the Electoral Commission.) Including the actual amount spent rather than the percentage of these maxima was unlikely to introduce any substantial bias to regression estimates, therefore, and a variable for the number of electors in the constituency could in any case be used to control for that variation.³ In this way it is possible to look directly at the impact of additional expenditure – how many more votes does an additional £1,000 of campaign expenditure yield?

The statistical approach

Almost all studies of spending's impact in the UK have used OLS regression, with vote as the dependent variable (often expressed as a percentage of either the total number cast or the total constituency electorate) and spending as an independent variable, with a range of controls. This has generally yielded results that are in line with expectations and appear to be robust, but such an approach encounters a number of problems.

One is that in many cases the relationship between spending and votes is analysed separately for each of the three main parties. This pays no account to the issue of correlated error terms – necessarily so because the party vote totals are themselves correlated, especially when expressed as percentages. To avoid this problem, Cutts and Shrayne (2007) have argued that the relationship across all parties should be modelled simultaneously, which they do with 'seemingly unrelated regression' (SUR; see also Pattie and Johnston, 2008).

A second problem concerns endogeneity. The amount that a party spends in a constituency will be influenced by a range of factors – such as its marginal status, which has been incorporated into a number of studies. Furthermore, not only may spending influence vote share but expected vote share (based on the result of the previous contest in the constituency) may in turn affect spending, which is also likely to be influenced by what one's opponents are spending – the more that one party/candidate spends in a constituency, the more that others will also to counter it. Thus there is a problem of endogeneity, which can bias the coefficients for the impact of spending – usually downwards. A number of ways of circumventing this has been deployed – though rarely in UK studies. One is to use instrumental variables that are endogenous to the main equation of interest, producing estimated spending amounts (as in Stratmann, 2004, 2006), as in two-stage least squares (2SLS) regressions,⁴ which was deployed in Pattie et al.'s (1995; Pattie and Johnston, 1996) study of the 1983, 1987 and 1992 elections but not followed up in other studies. That approach is adopted here. At the first stage, spending in a constituency by the candidates of each of the three main parties which contested virtually every English constituency at the two elections considered here is estimated using a range of variables including seat marginality. These estimated values are then used at the second stage as independent variables to predict the election outcome, along with a range of other controls.

The estimated spending values used in the second-stage of this 2SLS approach are, in effect, the average amounts spent in constituencies with particular characteristics – very marginal seats being defended by the Labour party with a strong Liberal Democrat challenge as exemplified by that party’s spending, for example. What the second stage regressions thus identify is the impact of that average spending. But what if a party spends more than the average – if it makes an extra effort? Does this bring an additional reward? Do the constituencies where ‘extraordinary’ amounts are spent by at least one party bring extra yields for the additional campaign intensity? To answer that question, the paper has a third stage: the residuals from the second-stage regressions, which show whether the party won more or fewer votes than expected, are regressed against the residuals from the first-stage regressions, which show whether the party spent more or less than expected. If there is a positive relationship between these two, this shows that there is a value in ‘making an extra effort’ (Pattie and Johnston, 1996).

The model

To evaluate these arguments we use two data sets, one each for the 1997 and 2005 general elections (when the Conservatives and Labour were the incumbent party of government, respectively). Instead of, as in almost all other studies of local campaigning in Great Britain, looking at the relationship between spending and election outcome for each party separately, we look at all three together. There are thus three observations for each constituency – one each for Conservative, Labour and Liberal Democrat. (The very small number of constituencies where one of them did not field a candidate are excluded.)

The model tested here thus comprises three stages, as follows.

$$ES_{ijk} = f(E_{jk}, V_{ijk-1}, P_{ijk}, W_{ijk-1}, M_{ijk-1}, T_{jk-1}) \quad [1]$$

where

E_{jk} is the electorate of constituency j at election k ;

V_{ijk-1} is the number of votes cast for party i in constituency j at election $k-1$;

P_{ijk} is the party (i) contesting constituency j at election k (a series of dummy variables, coded 1 for Conservative, Labour and Liberal Democrat respectively – Conservative is omitted from all of the regressions and used as the comparator);

W_{ijk-1} is the party (i) which won election $k-1$ in constituency j (again, a series of three dummy variables, with Conservative omitted as the comparator);

M_{ijk-1} is the margin of victory/loss in constituency for party i at election $k-1$ in constituency j , defined as the vote difference between party i and the winning party if i did not win the constituency then, and the vote difference between party i and the second-placed party if i did win the contest there;

T_{ijk-1} is whether party i came third in constituency j at election $k-1$ (a series of dummy variables, with Conservative omitted as the comparator); and

ES_{ijk} is the estimated spending by party i in constituency j at election k .

The second stage regressions are fitted twice. In the first case the equation is

$$V_{ijk} = f(ES_{ijk}, P_{ijk}, I_{ijk}, F_{ijk}, NW_{ijk}, INTES_{ijk}, INTESW_{ijk}, INTESI_{ijk}) \quad [2]$$

where

E_{jk} is the electorate of constituency j at election k ;

ES_{ijk} is the estimated spending by party i in constituency j at election k ;

P_{ijk} is the party (i) contesting constituency j at election k (a series of dummy variables, as before) ;

I_{ijk} is whether the candidate of party i at election k is the incumbent MP for constituency j ;

F_{ijk} is whether the candidate for party i in constituency j at election k is a female;

NW_{ijk} is whether the candidate for party i in constituency j at election k is a non-white;

$INTES_{ijk}$ is the interaction between party i and its estimated spending in constituency j at election k ;

$INTESW_{ijk}$ is the interaction between whether party i won constituency j at election $k-1$ and its estimated spending in constituency j at election k ;

$INTESI_{ijk}$ is the interaction between whether party i 's candidate for constituency j is the incumbent MP and its estimated spending in constituency j at election k ; and

V_{ijk} is the estimated vote total for party i in constituency j at election k .

Variables P , F and NW are entered as dummies; for the first, the Conservatives are the comparator.

The second version at this stage [2a] includes one further independent variable

V_{ijk-1} which is the vote for party i in constituency j at election $k-1$.

Its inclusion means that the equation is modelling vote change between the two elections, thereby holding constant the lag effect which is normal in electoral studies of this type – parties perform well where they have always done so.⁵

Finally, the third stage model is

$$RV_{ijk} = f(E_{jk}, RS_{ijk}, P_{ijk}, INTRS_{ijk}) \quad [3]$$

where

E_{jk} is the electorate of constituency j at election k ;

RS_{ijk} is the residual from the estimated spending by party i in constituency j at election k obtained in equation [1];

P_{ijk} is the party (i) contesting constituency j at election k (the usual series of dummy variables);

$INTRS_{ijk}$ is the interaction between party j and the residual from its estimated spending in constituency i at election k ; and

RV_{ijk} is the residual vote for party i in constituency j at election k derived from equations [2] and [2a].

These models are fitted to data for the Conservative, Labour and Liberal Democrat parties across all English constituencies at the 1997 and 2005 general elections. (Scotland and Wales were excluded from this study because of their four-party systems.) Two constituencies were excluded from the 1997 analysis because they weren't contested by all three parties (Tatton, and the Speaker's seat at West

Bromwich West), as were three from the 2005 analysis (two because of the impact of 'other' candidates who won against the main party candidates – an independent at Wyre Forest and a Respect party candidate at Bethnal Green & Bow – and the other – Staffordshire South – because it was not contested on general election day due to the death of a candidate; when it was fought, the higher spending limits for by-elections applied). This gave an N of 1581 for the 1997 analysis and 1578 for 2005.

The pattern of spending

The results of the first-stage regressions are in Table 1. Each has a substantial goodness-of-fit – R^2 values of 0.725 and 0.669 respectively – and the coefficients show a consistent pattern. Spending at the two elections was both predictable and rationally focused.

The first two coefficients show that spending was greater in a constituency both the larger the electorate – although this relationship was only marginally significant at the 0.05 level – and the more votes that the party won there at the previous election. In 1997, on average an additional £1 was spent on the constituency campaign for every 59 voters, all other influences being held constant; in 2005, it was £1 for every additional 42 voters. More substantially, each party spent more the greater its support at the previous contest: in 1997, £1 was spent for every 5.3 votes won in 1992; in 2005, £1 for every 2.8 voters.

There were differences between the three parties in spending levels, however, particularly between the Conservatives and Labour – at each election spending by the Liberal Democrats differed only slightly from the Conservatives', and those differences were statistically insignificant. The differences between the two larger parties were of a similar size, but varied in direction. In 1997, when Labour was the main opposition party, it spent on average £1,910 more on each constituency campaign than did the Conservatives; in 2005, when they in turn were the main challenger, the Conservatives spent £1,868 more than Labour. Holding constant other aspects of the contest, therefore, these findings suggest that the party providing the main challenge to the incumbent government tends to spend more on the constituency campaigns.

The coefficients for which party won the constituency at the previous election introduce further variation. In 1997, in constituencies that Labour won in 1992 it spent on average £2,224 less defending those seats than the Conservatives did where they were fighting to retain control of one of their seats; in 2005, the reverse was the case – with Labour spending £918 more on average to defend the seats that it held than did the Conservatives. The seat's marginality was also an important influence on the amount spent: for every additional vote either separating the winner from the second-placed party or, if the party did not win the seat at the previous election, between the party concerned and the winner then, £0.110 less was spent in 1997 and £0.154 in 2005. Parties spent more, the greater their support at the previous contest – but the size of that increase was tempered by the seat's safety; the more marginal, the more that was spent contesting it (with a greater focus on the most marginal seats in 2005 than 1997). Finally, where the Liberal Democrats occupied third place in a constituency they tended to spend significantly less than the Conservatives did in a

similar position (£676 in 1997; £1,635 in 2005), clearly being less willing and/or able to raise funds and campaign intensively in relatively hopeless causes.

These patterns are consistent with models of rational behaviour given the electoral context. Some aspects apply to both contests, notably the link to marginality. In 1997, with a party that held a seat, for every additional nine votes between it and the nearest challenger, £1 less was spent on its defence, whereas for a challenger, for every nine votes less needed to defeat the incumbent it spend £1 more; in 2005, the ratio was £1 for every 6.5 votes separating the parties. Other aspects were particular to the individual contests, specifically which party was in power. Thus in 1997 the Conservatives were facing a strong challenge from Labour, which didn't expect to lose many (if any) of the seats it already held and as a consequence spent £2,224 on average less (holding marginality and other variables constant) defending those it held than did the Conservatives, which did fear that they would lose seats. Eight years later Labour was on the defensive and the Conservatives expected to lose few (if any) of the constituencies they were defending whereas Labour was facing potential losses: consequently, on average Labour spent £918 more than the Conservatives defending the seats that it held.

Conclusions drawn from one election regarding the amount spent by the various parties do not all apply to every contest, therefore. It is not necessarily the case, as suggested by many studies of spending at UK elections which have focused on the four elections being defended by Conservative governments (1983-1997), that the same party always outspends the other. When the context changes some of the patterns change, as illustrated here by the differences between when Labour was challenging for power nationally (1997) and when it was in government and very much on the defensive (2005).

Spending and votes

The second stage of the analysis uses the estimated spending by each party in each constituency derived from the regressions in Table 1 as an independent variable to predict the impact of that expenditure on the election contest. The models include a number of other variables to see whether the election outcome varied, holding spending levels constant, between parties, between incumbent and non-incumbent candidates, and between candidates defined by gender and ethnicity. In addition, and most importantly for the present analyses, interactions between party and spending were introduced, to explore whether the three parties varied in the return on their campaign expenditure. Three sets of interaction variables were included in separate regressions – interacting spending with party, with constituency winner at the previous election, and with individual candidate's incumbency as an MP, respectively, as argued earlier – and then all three sets are included in a final model.

The results for the 1997 election are in Table 2, with all five versions of the model reporting excellent fits (the smallest R^2 value is 0.875). They show a very consistent pattern regarding spending's impact; for every additional £1 spent on the constituency campaign, the party gained slightly more than three additional votes. (In other words, a vote 'costs' c.0.33p!) Holding this relationship constant the Liberal Democrats got more votes than the Conservatives. So did Labour in some of the models, the exceptions being where the interaction with party was also included (Models II and V:

see below). Conservative incumbent candidates performed no better than non-incumbents, but Labour incumbent MPs did receive a 'vote bonus', as did the small number of Liberal Democrat MPs in some of the models. Female candidates performed no better or worse on average than males and there is some evidence that the small number of non-white candidates performed slightly less well than their white contemporaries (although the regression coefficient is only statistically significant in the fifth model).

The three models introducing the separate interaction terms (II-IV) indicate that incumbent candidates (introduced in Model IV) got no significantly different return on their expenditure from those who lacked the advantage of the exposure that MPs get in their constituencies. The other two models had very significant interaction effects, however. In Model II, a coefficient of 2.093 indicates that Labour candidates on average got a much greater return from £1 of spending on their campaigns than Conservative candidates (5.256 votes for Labour – i.e. $3.193 + 2.093$ – compared to 3.163 for the Conservatives). This benefit did not extend to the Liberal Democrats, however; the negative coefficient indicates they got a smaller return from every £1 spent than Conservatives did in similar situations. Model III shows a similar pattern, with Labour getting a greater return than the Conservatives for every additional £1 spent on the campaign in seats that it held. These two relationships are replicated in the final model (V), suggesting that they are additive.

These findings regarding the interaction terms are entirely consistent with the argument that challenger parties nationally get a greater return from their investment in campaigns than do incumbent parties of government. The Conservatives were in government in 1997 facing a strong challenge from Labour, and the more intensive that challenge in any constituency the greater the electoral return to the Labour party. Labour gained 3,489 votes in the average constituency between 1992 and 1997: it gained even more the greater its campaign expenditure, with an added bonus in those won by the Conservatives in 1992. Thus, using the coefficients from Model V we can calculate that in a constituency with 70,000 voters, if the Conservatives spent £9,000 on the local campaign they would have won 24,767 votes, whereas if Labour had spent the same amount the party's candidate would have obtained 34,146 – assuming that neither party was fielding an incumbent MP as candidate.

Each party's candidates got a return from their local campaign spending, therefore, but that return was greater for the main challenger – Labour – than it was for the party currently in power – the Conservatives. This difference held whether the focus was on all constituencies or just those won by the party at the previous election. However, incumbent MPs got no apparent benefit from their spending relative to the situation for non-incumbents: spending delivered votes to parties generally rather than to specific candidates.

For the argument regarding party incumbency (i.e. which party is in power nationally) to be fully verified, however, a reverse pattern should be observed at the 2005 election, when Labour was in government and facing a strong challenge from the Conservatives. Table 3 shows that this was indeed the case.

With a few exceptions the overall pattern of coefficients for Model I in Table 3 is the same as in Table 2. Labour and Liberal Democrat candidates got more votes on

average than Conservative, all other relationships held constant, and incumbents (both Labour and Conservative on this occasion) performed better than non-incumbents. Most importantly for the current arguments, there was again a highly significant link between votes won and amount spent, although the coefficient in 2005 was substantially smaller than that for 1997: on average, each additional £ spent yielded a further 1.8 votes to the party in 2005, compared to 3.2 in 1997. (Pattie and Johnston, 2008, also show that Labour campaigns declined in their effectiveness over time.)

The major difference between the two sets of models, which is crucial to the arguments developed here, is with the interaction terms and in particular those for Labour. Whereas in 1997, as the principal challenger nationally, Labour got a greater yield in votes for every £1 spent than did the defending Conservatives (shown by positive interaction terms), in 2005, when the electoral position was reversed so was the relationship with expenditure. At the latter contest, the negative coefficients for each of the interactions (spending with each party, winner in 2001, and, in this case, incumbent MP) indicates that Labour got a poorer return on its spending than did the Conservatives – relationships which remain in place in the final model (V) that incorporates them all. Thus, again in a hypothetical constituency with 70,000 registered voters, and neither party fielding an incumbent MP as candidate, whereas a Conservative candidate would have obtained 21,444 votes from spending £9,000 on the local campaign a Labour candidate would have won only 15,575.

This final set of results thus allows two clear conclusions to be drawn from this set of models, which are only available when comparative investigations across two contrasting elections are undertaken. The first is that spending on local campaigns is efficacious; the more that is spent – implying the more intensive the local campaign – the better the vote yield. Secondly, the strength of this relationship varies between parties, notably between Labour and the Conservatives. But one party does not always outperform the other. Instead, as argued here, it is the challenger party that gets the greatest return from its campaign expenditure rather than the party of government. There is a lower yield on spending for a governing party defending its incumbency than for one challenging for power.

The marginal return on an extra £

The regressions reported in Tables 2 and 3 focus on the total number of votes won by each party. It can be argued that this, despite the use of a 2SLS design, retains an endogenous effect, since the number of votes that a party wins at any election in a constituency is almost invariably closely linked to those it won at the preceding contest. Many of its supporters will remain loyal over a sequence of contests (as indeed studies using longitudinal data have shown: Johnston and Pattie, 2000). Thus it could be argued that the focus of modelling spending's impact should be on the changing distribution of votes between the pairs of elections (1992-1997 and 2001-2005), which is done by including a further variable in each of the models reported in Tables 2 and 3: the number of votes that the party won in the seat at the previous election.

The results of this second set of models are reported in Tables 4 and 5 – all have very high correlation coefficients because of the continuity introduced by the variable representing the party's vote at the previous election, so our focus here is very much

on the statistical significance and coefficient magnitude for the key variables. In Model I the additional variables – vote in 1992 and 2001 respectively – are, not surprisingly, very significantly linked to the outcome of the second election in the pair. But the strong relationship with spending remains. In 1997 a coefficient of 0.801 indicates that for every extra £5 spent each party got an additional four votes, compared to its performance in 1992 (*ceteris paribus*, as always) – an extra vote cost £1.25. In 2005, a much smaller coefficient of 0.271 indicates that every extra £5 spent produced a yield of 1.4 votes (or an extra vote cost £3.57) – again indicating that in general constituency campaigns were less efficacious at the second of the two contests.⁶ A similar smaller impact is also indicated in comparing Tables 2 and 3.

In 1997, the coefficients for the interaction terms show a slightly different pattern when previous vote is held constant (Table 4) to that in Table 2. When the focus is on party alone (Model II), then – as in Table 2 – the difference between the Conservative and Labour parties remains the same: the Labour party gets a substantially greater return (a positive coefficient of 1.232) on every £1 spent than do the defending Conservatives. (The Liberal Democrats also get a slightly better yield.) But when the focus is on which party won the seat (Model III), then the significant coefficient for Labour has a negative sign, indicating that they (and also the Liberal Democrats) got a smaller return on their spending than did the defending Conservatives; Labour and Liberal Democrat incumbents MPs also experienced a smaller impact from their expenditure than did Conservative incumbents (Model IV).

All three relationships remain significant – though less so in some cases – when they are all included in the same model (V). They tell an entirely sensible story. In general, both Labour and the Liberal Democrat candidates got a better return on their spending than did the Conservatives – consistent with our general argument that challengers benefit more from spending on constituency campaigns. But where those challenges were in seats held by the Conservatives (especially those where an incumbent Conservative MP was defending the seat) this impact was reduced: the positive relationship indicated by the coefficient for the first interaction is reduced by the negative relationship for the second.

Turning to the 2005 election, the coefficients for the interaction terms relating to party (Model II: Table 5) are consistent with the arguments developed here, and thus with the results in Table 3. Whereas in 1997 Labour got a greater return from its spending when holding constant its performance at the previous election – i.e. it was able to increase its vote share more for every £1 spent than were the Conservatives – in 2005, when Labour was the defending party, the reverse was the case. The negative coefficient of 0.541 in Model II (Table 5) indicates a superior yield for the challenging Conservative than for the defending Labour party. Similarly, Labour incumbent MPs got a smaller return than both non-incumbents and Conservative incumbents (Model IV), although this difference is eliminated when all of the interactions are included in the final model (V).

Overall, therefore, the results of these two sets of tests, the first looking at the total number of votes won and the second at relative change in that number by holding constant the number won at the previous election, provide a very clear set of conclusions. The first is that money spent on constituency campaigns is linked to success there: the more that a party spends, the better its performance. Secondly, the

strength of this relationship varies, particularly between the country's two main political parties – Conservative and Labour. The party in power gets a smaller return from every additional £1 spent on constituency campaigns than does the party challenging to replace it.

The benefits from making an extra effort

Use of a 2SLS research design enables us to remove the confounding effects of endogeneity when establishing the impact of spending on election outcomes. But as a consequence it looks only at the impact of spending in average conditions – for example, what an average constituency Labour party would spend in a seat that it won at the previous election by a very small margin, taking into account what its challengers were also spending. What if a party spends more or less than that amount: does that have an additional impact? After the 2005 election one defeated Labour MP claimed that where individual donors gave large sums to the local Conservative party this enabled it to 'buy' a large number of votes (on which, see Johnston and Pattie, 2007). Was that the case?

To address that issue we have undertaken a third stage analysis. In this the dependent variable is not the number of votes that the party won at an election but rather the (unstandardized) residual number from the regressions reported in Tables 2-5 and the spending variable is the residual amount of spending from the regressions in Table 1. In 1997, for example, this residual spending ranged from -£5,084 to £5,903, with a standard deviation of £1,398 around the zero mean; the residual number of votes from Model I (Table 2) ranged from -10,237 to 12,987, with a standard deviation of 7,998. Were these two variables related; where a party spent more than expected did it get more votes than expected?

To answer that question, Tables 6-7 report models regressing residual vote against residual spending, with the latter values obtained from each of the five models in Tables 2 and 4 (1997) and Tables 3 and 5 (2005) respectively. The top block in each table relates to the residuals from the predicted vote total (Tables 2-3) and the lower block to those from predicted vote change (Tables 4-5). The fits are fairly weak – average R^2 values of 0.054 and 0.085 for the two sets in Table 6 and 0.136 and 0.105 respectively in Table 7 – but most of the regression coefficients are highly statistically significant and their signs are consistent with the arguments developed here.

The core relationship being explored in these regressions is both significantly significant and positive, with very consistent coefficients across all five models in every case for the impact of spending. The more that a party spent in a constituency compared to the average pattern across all constituencies with similar characteristics (i.e. electoral contexts) the better its performance. Spending even more 'bought' more votes; spending even less 'bought' fewer.

Furthermore, the pattern of coefficients for the interaction terms (interacting party with residual spending – after experimentation it was decided not to include interactions with winning party and MP incumbency as well) was again consistent with the arguments developed here, although a few of them are either insignificant or of only marginal significance. Thus at the 1997 election (Table 6) every one of the interaction coefficients for both Labour and Liberal Democrat was positive, indicating

that these two challenger parties gained greater benefits from extra spending than did the incumbent Conservatives.⁷ In 2005, on the other hand (Table 7), all of the regression coefficients for the interaction of Labour with spending are negative and highly significant – which is entirely in line with our arguments and other findings here that the party of government gets a lesser yield from constituency campaign expenditure. However, all of the comparable coefficients for the Liberal Democrats are both positive and highly significant, indicating that when they spent more than predicted on a constituency campaign they got an even greater return from that expenditure than did the main challengers – the Conservatives.

These findings thus extend our earlier conclusions – whether the focus is on votes won or changes in votes won between elections. They show that where a party spends more than the average it gets a greater return from this – with the incumbent party benefiting less from such additional expenditure than its two main challengers.⁸ The main extension to our findings relates to the last point, with specific reference to the Liberal Democrats – who on average spend much less than the other two parties on their constituency campaigns. Where they run a particularly intensive local campaign, they benefit accordingly.

Conclusions

The answer to the main question posed in this paper is that votes have become slightly more expensive in the UK over recent elections. In 1997, on average, a vote cost 33 pence; eight years later, it cost about 50 pence (which, taking account of inflation over that eight-year period – an increase in the Retail Price Index of some 22 per cent – is about a 25 per cent increase). However, if you assume (rightly) that many people vote for the same party at each election in an adjacent pair, and that each party's fortunes depend on the number of swing voters whose support is won during the campaign for a particular contest, then perhaps the question should be 'how much does it cost for a party to get an extra vote in a constituency?' – where the extra votes are those additional to what would be won if the national trend (either up or down) in a party's support was the same everywhere. The answer to that question is about £1.33 in 1997 and £2.25 in 2005 which – again allowing for inflation – is about a 40 per cent increase. So whichever way the question is asked, the answer is that votes have become more expensive.

Having established this basic parameter to the votes:money relationship, this paper has reached a number of other important conclusions regarding the impact of money on constituency election contests in England – and in doing so has extended our appreciation of that link. Most importantly, it has shown that although candidates from all three main parties – Conservative, Labour and Liberal Democrat – benefited from spending on their constituency campaigns at the two elections studied, the extent of that benefit varied. In particular, it varied according to which party was in power when the general election was called. Previous research has suggested that the incumbent party of government reaped a smaller return on its spending but, because the Conservatives won four elections in a row between 1979-1992 when many of those studies were conducted, it was not clear whether the key independent variable was incumbency per se or Conservative incumbency. Labour, as the main opposition challenger party, may have got a greater yield for its constituency spending than did the party of government, but what would happen when Labour won power; would it

too get a smaller return on its expenditure than the Conservatives, who now provided the main opposition?

The answer to that question, provided here through a comparative analysis of the 1997 and 2005 general elections – with the Conservatives defending their incumbency at the first contest and Labour at the second – is unambiguous and clear. Although both parties benefited from greater spending in their constituency campaigns, the challenger party – Labour in 1997; Conservatives in 2005 – benefited most, to a considerable extent. Thus in 1997, whereas the Conservatives got an extra 3.163 votes for every additional £1 spent, Labour got 5.256 votes; and in 2005, the Conservatives got 2.087 votes per £1 but Labour got only 1.672. Incumbency brings the party of government many advantages when it comes to campaigning for re-election in the constituencies, and the more that the main challenger spends the better able it is to counter those advantages and win additional votes. Its opponent can, of course, try to counter that through its own campaigning, but additional spending by the government party – whether Conservative or Labour – brings a smaller return than similar expenditure by its challenger. The intensity of local campaigning – for which expenditure is an excellent surrogate measure, available for all constituencies – is more efficacious for challengers.

No British election result is independent of the results of its immediate predecessors, of course, as many voters remain loyal to the same party across contests. For many of those loyalists, the intensity of the campaign by the party they support may have little impact on whether they vote, let alone who for. For others, however, if their preferred party does not canvass their support they may withhold it, perhaps by abstaining rather than by voting for somebody else. Thus the more that a party spends, the more likely it is that those who supported it at one election will do so at the next – and also the more likely that they will win over some who didn't support the party at the first contests in the pair. The analyses reported here (in Tables 3-4) sustain that argument: the more that a party spent the better its performance at the second election of the two pairs studied (1992-1997; 2001-2005) – and again, the challenging party performed better for every additional £ spent than did the incumbent party of government.

Analyses of the impact of spending on constituency election results face a number of technical problems because the parties are involved in a competitive situation which means that where one decides to run an intensive campaign, its opponent(s) will probably counter by doing the same. The 2SLS modelling approach deployed here takes that competitive element into account, but one consequence of that technical solution is that the substantive focus of the models tested is then on the average expenditure in particular situations. But what if a party spends more or less than the average – more or less than estimated given the pattern of spending across all constituencies? Does that influence the outcome; does making an extra effort bring additional rewards (with the obvious corollary – ‘does spending less than estimated mean a less effective campaign’)? Those questions have been addressed in the final part of this paper, again producing results that are entirely consistent with the two general arguments advanced here: spending more brings a greater electoral return; and spending more by the party in power generates a smaller return than does spending more by its main challenger.

The 2SLS modelling strategy has been deployed here in order to counter some of the problems of endogeneity that beset studies of the apparent impact of campaign spending on election outcomes – how much a party spends may be a function not only of its expectation regarding the outcome in a constituency but also what it sees (or believes?) its opponents there are spending (undoubtedly based on evidence on the amount of canvassing and other campaigning activity in the constituency in the months before the election is called). Most British studies of this issue to date have not adopted that strategy but instead deployed ordinary least squares (OLS) modelling. To provide an assessment of the strategy adopted here, OLS models have also been fitted, to provide direct comparisons with the results presented in Tables 2-5, in which the actual rather than estimated spending is the key independent variable, both separately and in the various interaction terms. The results are in Appendix Tables A2-A5. Of particular interest here is not the independent impact of expenditure – which is substantial and highly significant statistically in every case – but rather the signs on the interaction terms, and there is less clarity than in the results reported in the body of this paper. In general the argument developed here is upheld – the main challenger party (Labour in 1997; Conservative in 2005) gets a larger return on its campaign expenditure than does the incumbent party of government. But the 2SLS modelling strategy, which addresses the endogeneity issue, produces a much clearer set of results showing not only that when the nature of the local competitive contest is taken into account our argument regarding the differential impact of spending by incumbents and challengers is strongly sustained but also that when parties – again especially challengers – spend more than anticipated given the local context, they benefit even more from that greater campaign intensity.

Money matters in British general elections, it seems – but it matters more to those representing a party seeking to be in government than it does to one currently in power. The more that is spent by both the governing party and its challengers in the various constituency campaigns, the better the outcome for them in terms of votes won and change in the number of votes won between elections. But challengers get a better return on their expenditure, a conclusion which this comparative study of the 1997 and 2005 general elections in England sustains irrespective of which party is in power when the election is called and which is its main challenger.

Notes

¹ It is sometimes argued, for example, that the ‘third party’ in British politics – the Liberal Democrats – have great difficulty getting media attention (other than for high profile events such as leadership elections and party conferences) and thereby getting their message through to the electorate. During an election campaign they attract more attention, however, in part because of the legal constraints on access to radio and TV. As a result, their poll standing tends to improve during campaigns and they perform better in the election than opinion polls at the campaign’s outset suggest.

² Factsheet M5 from the House of Commons Information Office on *Members’ pay, pensions and allowances*, June 2006 revised edition, states simply that ‘Members are currently entitled to free stationery, free inland telephone and postal services from Westminster’ (p.13). Their Office Costs Allowance (OCA) – which covers secretarial, research and general office expenditure – is limited to expenditure ‘incurred wholly, exclusively and necessarily on the performance of Parliamentary duties’ and cannot be used for ‘expenditure that is personal or party-political’ and a ruling in 2000 by the Parliamentary Commissioner for Standards stated that ‘No one should be in any doubt that using the OCA to pay people to campaign for a political party is a serious offence against the rules of the House’ (House of Commons Library, Research Paper 01/88, November 2001, *Members’ office costs – the new system*, pp. 20-21), though no mention is made regarding the use of the free post facility for such

purposes. See also the House of Commons Committee on Standards and Privileges report on the use of House stationery and postage to contact his constituents: <http://www.publications.parliament.uk/pa/cm200506/cmselect/cmstnprv/1223/122302.htm>

³ Nor, given the relatively small amounts of money involved, was there likely to be any diminishing returns from expenditure which would require a non-linear formulation of the relationship: inspection of scatterplots indicated a clear linear relationship between spending and votes won.

⁴ Though in passing we note Goodliffe's (nd) cautionary comments.

⁵ In both of these equations, given the relatively low turnout at UK general elections, it was unnecessary to constrain the relationships to avoid estimations outside normal expected bounds.

⁶ Inflation between the two dates, according to the Retail Price Index, was about 22 per cent, which would make the £1.25 in 1997 worth £1.53 in 2005.

⁷ Dummy variables for the two parties were included in the model: both were zero, which is as expected given the regressions from which the residuals were derived.

⁸ This is the argument made by losing Labour candidates at the 2005 general election in seats where the Conservative spending benefited from large donations to the local party: Johnston and Pattie, 2007.

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Table 1. Predicting the pattern of spending across constituencies

<u>Election</u>	<u>1997</u>	<u>2005</u>
Constant	2172	2262
Total electorate	0.017*	0.024*
Party's vote at the previous election	0.189***	0.356***
Party (comparator: Conservative)		
Labour	1910***	-1869***
Liberal Democrat	166	-140
Winner at previous election (comparator: Conservative)		
Labour	-2224***	918***
Liberal Democrat	-271	1256***
Margin	-0.110***	-0.154***
Third-placed party at previous election (comparator: Conservative)		
Labour	529*	598
Liberal Democrat	-676**	-1635***
R ²	0.725	0.669
N	1581	1578

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 2. The impact of predicted spending on the number of votes cast for each party at the 1997 general election in the constituencies

Model	I	II	III	IV	V
Constant	-5123	-5947	-5709	-5192	-7644
Total electorate	0.018	0.033*	0.032*	0.019	0.062***
Predicted spend	3.188***	3.163***	3.134***	3.189***	3.119***
Party (comparator: Conservative)					
Labour	3774***	-8741***	2930***	3773***	-9728***
LibDem	2527***	4263***	2397***	2529***	4118***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	235	245	309	114	1051
Labour	7921***	7405***	1501**	8665***	21939***
LibDem	861	3805***	8502**	9720	-16011*
Candidate Female	54	-42	-72	49	-223
Candidate Non-White	-526	-698	-797	-533	-1170**
Interactions with predicted spend					
Party (comparator: Conservative)					
Labour		2.093***			2.123***
Libdem		-0.580***			-0.571***
Winner in 1992 (comparator: Conservative)					
Labour			1.184***		1.084***
Libdem			-1.008**		-1.775***
Incumbent standing					
Conservative				0.015	-0.103
Labour				-0.119	-3.257***
Libdem				-1.104	4.103*
R ²	0.875	0.902	0.895	0.875	0.921

I – core model; II – core model with party interactions; III – core model with winner in 1992 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 3. The impact of predicted spending on the number of votes cast for each party at the 2005 general election in the constituencies

Model	I	II	III	IV	V
Constant	-4729	-6263	-3830	-5733	-6168
Total electorate	0.069***	0.062***	0.062***	0.080***	0.063***
Predicted spend	1.801***	2.087***	1.967***	1.838***	2.339***
Party (comparator: Conservative)					
Labour	1997***	4618***	1231***	2034***	3161***
LibDem	2521***	5311**	2074***	2635***	5439***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	5251***	4464***	3240***	2681	3259
Labour	2161***	2561***	3081***	7940***	7792***
LibDem	-436	1310***	790	4294*	2390
Candidate Female	-44	83	-28	-39	111
Candidate Non-White	-743***	-592*	-767***	-714**	-561*
Interactions with predicted spend					
Party					
Labour		-0.415***			-0.294***
Libdem		-0.513***			-0.660***
Winner 2001					
Labour			-0.235***		-0.286***
Libdem			-0.271***		-0.342***
Incumbent standing					
Conservative				0.244	-0.145
Labour				-0.720***	-0.570***
Libdem				-0.455*	0.113
R ²	0.903	0.908	0.908	0.906	0.917

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 4. The impact of predicted spending on the number of votes cast for each party at the 1997 general election in the constituencies, holding constant the result of the 1992 general election there

Model	I	II	III	IV	V
Constant	-6205	-5007	-6159	-7141	-5798
Total electorate	0.005	0.017	0.001	0.017	0.029*
Vote 1992	0.724***	0.670***	0.773***	0.734***	0.702***
Predicted spend	0.801***	0.646***	0.658***	0.787***	0.525***
Party (comparator: Conservative)					
Labour	9503***	1849***	10053***	9549***	1279
LibDem	4729***	2924***	4915***	4795***	2868***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	-388*	382	-455	3856*	2026
Labour	-87	306	660*	7508***	14472***
LibDem	1285	1541*	9368***	21342**	1929
Candidate Female	-93	-129	-78	-128	-173
Candidate Non-White	-327	-474	-255	-414	-596
Interactions with predicted spend					
Party (comparator: Conservative)					
Labour		1.232***			1.384***
Libdem		0.269***			0.303***
Winner in 1992 (comparator: Conservative)					
Labour			-0.237***		-0.141*
Libdem			-1.104***		-1.337***
Incumbent standing					
Conservative				-0.557*	-0.215
Labour				-1.226***	-2.197***
Libdem				-2.510**	1.165
R ²	0.941	0.946	0.942	0.942	0.948

I – core model; II – core model with party interactions; III – core model with winner in 1992 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 5. The impact of predicted spending on the number of votes cast for each party at the 2005 general election in the constituencies, holding constant the result of the 2001 general election there

Model	I	II	III	IV	V
Constant	-1648	-3020	-1786	-2393	-3388
Total electorate	0.037***	0.031***	0.038***	0.045***	0.035***
Vote in 2001	0.807***	0.811***	0.819***	0.803***	0.836***
Predicted spend	0.271***	0.520***	0.232***	0.310***	0.457***
Party (comparator: Conservative)					
Labour	-1474***	1686***	-1404***	-1419***	1849***
LibDem	1385***	3507***	1437***	1488***	3328***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	2218***	1500***	2424***	1656	2811*
Labour	322*	1219***	109	3467***	1271
LibDem	-353	420	-257	7331***	6756***
Candidate Female	-42	94	-48	-52	66
Candidate Non-White	-467***	-331*	-471**	470***	-369*
Interactions with predicted spend					
Party					
Labour		-0.541***			-0.568***
Libdem		-0.354***			-0.291***
Winner 2001(comparator: Conservative)					
Labour			0.036		0.046
Libdem			0.009		-0.018
Incumbent standing (comparator: Conservative)					
Conservative				0.045	-0.117
Labour				-0.395***	-0.035
Libdem				-0.718***	-0.581***
R ²	0.903	0.915	0.947	0.949	0.952

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 6. The benefits of an extra effort in 1997; regressions of the residuals from the regressions in Tables 2 and 4 on residuals from the spending regressions in Table 1.

A. Vote totals

Model	I	II	III	IV	V
Constant	6.7	8.8	6.8	6.6	9.4
Total electorate	0.000	0.000	-0.000	-0.000	0.000
Residual spend	0.276**	0.276**	0.273**	0.278**	0.264***
Interactions with residual spend					
Labour	0.207	0.209*	0.211*	0.201	0.090
LibDem	0.245*	0.318**	0.245*	0.238	0.336***
R ²	0.043	0.065	0.051	0.042	0.069

I – predicted vote from model I, Table 2; II - predicted vote from model II; Table 2; III - predicted vote from model III, Table 2; IV predicted vote from model IV, Table 2; V - predicted vote from model V, Table 2

B. Holding vote in 1992 constant

Model	I	II	III	IV	V
Constant	4.7	6.0	4.0	5.9	6.3
Total electorate	-0.000	-0.000	-0.000	-0.000	-0.000
Residual spend	0.271***	0.237***	0.271**	0.215***	0.214***
Interactions with residual spend					
Labour	0.225*	0.258**	0.224*	0.231***	0.193*
LibDem	0.171*	0.220**	0.147	0.213*	0.227**
R ²	0.083	0.091	0.081	0.071	0.098

I – predicted vote from model I, Table 4; II - predicted vote from model II; Table 4; III - predicted vote from model III, Table 4; IV predicted vote from model IV, Table 4; V - predicted vote from model V, Table 4

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Table 7. The benefits of an extra effort in 2005; regressions of the residuals from the regressions in Tables 3 and 5 on residuals from the spending regressions in Table 1.

A. Vote totals

<u>Model</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
Constant	462	468	419	447	413
Total electorate	-0.007	-0.007	-0.006	-0.006	-0.006
Residual spend	0.128***	0.102*	0.138**	0.126**	0.107**
Party (comparator: Conservative)					
Labour	-0.310	-0.338	-0.262	-0.298	-0.283
Libdem	-0.310	-0.338	-0.262	-0.298	-0.283
Interactions with residual spend					
Labour	-0.304***	-0.289***	-0.278***	-0.303***	-0.248***
LibDem	0.425***	0.448***	0.383***	0.402***	0.403***
R ²	0.140	0.146	0.128	0.133	0.135

I – predicted vote from model I, Table 3; II - predicted vote from model II; Table 3; III - predicted vote from model III, Table 3; IV predicted vote from model IV, Table 3; V - predicted vote from model V, Table 3

B. Holding vote in 2001 constant

<u>Model</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
Constant	231	239	232	208	218
Total electorate	-0.003	-0.003	-0.003	-0.003	-0.003
Residual spend	0.157***	0.134***	0.158**	0.154***	0.134***
Party (comparator: Conservative)					
Labour	-0.074	-0.101	-0.075	-0.056	-0.081
Libdem	-0.074	-0.101	-0.075	-0.056	-0.081
Interactions with residual spend					
Labour	-0.158***	-0.151***	-0.161***	-0.155***	-0.151***
LibDem	0.206***	0.226***	0.206***	0.173***	0.193***
R ²	0.110	0.114	0.110	0.094	0.098

I – predicted vote from model I, Table 5; II - predicted vote from model II; Table 5; III - predicted vote from model III, Table 5; IV predicted vote from model IV, Table 5; V - predicted vote from model V, Table 5

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Appendix

Appendix Table A1: Spending data (£)

	Minimum	Maximum	Mean	SD
1997				
Party				
Conservative	903	10,316	6,397	2,208
Labour	891	9,064	6,057	1,780
Liberal Democrat	40	10,529	3,198	2,688
Winning Party in 1992				
Conservative	3,969	10,316	7,655	1,103
Labour	2,210	8,688	6,254	1,318
Liberal Democrat	6,338	9,102	8,179	893
Incumbent candidate				
Conservative	3,969	10,316	7,660	1,051
Labour	2,210	8,688	6,185	1,287
Liberal Democrat	6,338	9,102	8,228	837
Third place in 1992				
Conservative	1,541	6,760	3,765	1,791
Labour	891	8,990	4,810	1,918
Liberal Democrat	40	8,734	1,880	1,651
2005				
Party				
Conservative	768	13,093	7,699	3,233
Labour	20	12,639	6,690	3,193
Liberal Democrat	5	13,212	4,055	3,522
Winning Party in 2001				
Conservative	5,507	13,093	9,621	1,768
Labour	2,573	12,546	8,376	2,310
Liberal Democrat	7,558	12,996	10,705	1,196
Incumbent candidate				
Conservative	5,507	13,093	9,603	1,801
Labour	2,573	12,442	8,314	2,355
Liberal Democrat	7,558	12,737	10,557	1,226
Third place in 2001				
Conservative	769	12,779	4,300	2,910
Labour	20	11,893	3,045	1,787
Liberal Democrat	5	11,567	2,777	2,405

Appendix Table A2. The impact of spending on the number of votes cast for each party at the 1997 general election in the constituencies – OLS regressions

Model	I	II	III	IV	V
Constant	-6086	-6563	-6521	-7522	-9435
Total electorate	0.141***	0.144***	0.152***	0.153***	0.176***
Spend	1.845***	1.894***	1.791***	1.953***	2.023***
Party (comparator: Conservative)					
Labour	4264***	3068***	3743***	4164***	1557
LibDem	-631*	92	-760*	-392	842
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	3233***	3123***	3303***	13184***	13878***
Labour	8925***	8890***	5077***	22112***	25025***
LibDem	6807***	7549***	10759**	13533	14827
Candidate Female	-335	-352	-484	-176	-320
Candidate Non-White	-2772***	-2765***	-2977***	-2772***	-3042***
Interactions with spend					
Party					
Labour		0.195			0.297*
Libdem		-0.195			-0.344**
Winner 2001					
Labour			0.722***		1.022***
Libdem			-0.505		-0.481
Incumbent standing					
Conservative				-1.332***	-1.451***
Labour				-2.125***	-3.484***
Libdem				-0.885	-0.488
R ²	0.774	0.776	0.783	0.787	0.808

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Appendix Table A3. The impact of spending on the number of votes cast for each party at the 1997 general election in the constituencies holding constant the 1992 result – OLS regressions

Model	I	II	III	IV	V
Constant	-6369	-5399	-6225	-6408	-4820
Total electorate	0.013	0.020*	0.007	0.013	0.010
Vote 1992	0.786***	0.794***	0.801***	0.786***	0.824***
Spend	0.504***	0.204***	0.494***	0.505***	0.115**
Party (comparator: Conservative)					
Labour	10051***	6917***	10310***	10051***	6687***
LibDem	4732***	3107***	4873***	4734***	3071***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	-169	364	-254	489	-1849
Labour	-666**	-786***	233	-784	72
LibDem	1647*	1434*	7898***	-7637	-4507
Candidate Female	-217	-255	-168	-221	-198
Candidate Non-White	-667*	-681*	-568	-668*	-519
Interactions with spend					
Party					
Labour		0.551***			0.668***
Libdem		0.313***			0.359**
Winner 2001					
Labour			-0.204***		-0.313***
Libdem			-0.872***		-0.935***
Incumbent standing					
Conservative				-0.086	0.285*
Labour				0.019	0.070
Libdem				1.128	1.532*
R ²	0.945	0.947	0.946	0.945	0.949

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Appendix Table A4. The impact of spending on the number of votes cast for each party at the 2005 general election in the constituencies – OLS regressions

Model	I	II	III	IV	V
Constant	-4007	-4970	-2935	-6251	-6298
Total electorate	0.150***	0.139***	0.139***	0.166***	0.151***
Spend	0.905***	1.142***	1.051***	1.061***	1.410***
Party (comparator: Conservative)					
Labour	250	3866***	-405	557*	1807***
LibDem	-543*	866*	-953***	-11	1426***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	7759***	7258***	6053***	15414***	16321***
Labour	4924***	6403***	5991***	14094***	13759***
LibDem	6476***	6007***	5916***	9585*	8997*
Candidate Female	-451*	-197	-396*	-333*	-178
Candidate Non-White	-1815***	-1601***	-1701***	-1537***	-1325***
Interactions with spend					
Party					
Labour		-0.650***			-0.308***
Libdem		-0.160**			-0.336***
Winner 2001					
Labour			-0.241***		-0.233***
Libdem			-0.076		-0.170***
Incumbent standing					
Conservative				-0.842***	-1.170***
Labour				-1.161***	-0.960***
Libdem				-0.400	-0.217
R ²	0.790	0.804	0.796	0.821	0.827

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.

Appendix Table A5. The impact of spending on the number of votes cast for each party at the 2005 general election in the constituencies holding constant the 2001 result – OLS regressions

Model	I	II	III	IV	V
Constant	-1386	-1926	-1524	-2056	-2405
Total electorate	0.036***	0.032***	0.036***	0.044***	0.036***
Vote 2001	0.837***	0.819***	0.842***	0.804***	0.817***
Spend	0.198***	0.337***	0.167***	0.265***	0.335***
Party (comparator: Conservative)					
Labour	-1561***	446*	-1462***	-1414***	698**
LibDem	1297***	1951***	1384***	1361***	2134***
Incumbent standing (comparator: candidate not an incumbent MP)					
Conservative	2247***	2104***	2511***	4027***	4626***
Labour	218	1150***	26	2807***	1279**
LibDem	-123	-318	-206	1320	877
Candidate Female	-141	-10	-484	-120	-22
Candidate Non-White	-551***	-446*	-2977***	-528***	-476**
Interactions with spend					
Party					
Labour		-0.356***			-0.374***
Libdem		-0.071			-0.084*
Winner 2001					
Labour			0.039*		0.046*
Libdem			0.027		-0.008
Incumbent standing					
Conservative				-0.175*	-0.237***
Labour				-0.304***	-0.043
Libdem				-0.140	-0.090
R ²	0.950	0.954	0.950	0.952	0.955

I – core model; II – core model with party interactions; III – core model with winner in 2001 interactions; IV – core model with incumbency interactions; V – core model with all interactions

* - coefficient significant at the 0.05 level or better; ** - coefficient significant at the 0.01 level or better; *** - coefficient significant at the 0.001 level or better.