

Campaign effectiveness in a comparative perspective

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Electoral campaigns aim to affect the outcome of elections. The literature on campaign effectiveness, at first concerned uniquely with US elections, has expanded enormously over the last decade. However, most studies tend to be based on a single case. This article explores campaign effectiveness in a number of elections within the UK, namely the 2010 UK general election, the 2011 Scottish Parliament election, and the 2011 National Assembly for Wales election. By making use of spending data collected by the Electoral Commission this article seeks to disentangle the effective elements of electoral campaigns by estimating the value of combining different types of activity, conditional on candidates' resources. The combination of resources and the strategic decision on how to deploy them are possibly key factors in determining a candidate's success. By analysing each different context this study has a comparative dimension, and aims to assess the performances of the same parties under different electoral rules. Such a set up represents a unique opportunity to evaluate the effectiveness of electoral campaigns across systems, as well as over different 'levels' of electoral competition. The message to take away from this study is that decisions on how to distribute the financial resources of a campaign directly affect electoral success, regardless of the type of election. The allocation of campaign resources, to date neglected in the literature, emerges from this study as a key element to be accounted for in future studies.

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Introduction

Electoral campaigns serve a multiplicity of purposes, from informing the electorate on a party's programme, to reinforcing ties with members and voters, but their core goal lies in electoral gains. The role and effectiveness of electoral campaigns has been extensively debated over past decades. A body of empirical contributions (Benoit and Marsh 2010; Johnston and Pattie 2008; Johnston and Pattie 2006) have consistently indicated that candidates' campaign investments impact their likelihood of success; in other words, money spent for campaign purposes helps win votes. However, this has not always been the case: in the early days of both American and European political science, scholars tended to regard electoral campaigns as influential for vote choice. Only since the 1970s have American campaigns begun to attract scholarly interest; the first efforts to empirically capture the efficacy of campaigns, measured in terms of electoral expenditure, also date back to that time. In one of the first studies of the effectiveness of electoral spending Glatz and co-authors lament that "little research focused on the central question concerning money's role in political campaigns: what effect does it have on the outcome" (1976, 1033). Until the 1990s most studies of campaign effectiveness were still based solely on US elections. While the amount of money in American campaigns is undeniably larger than in any other electoral context, a number of studies have explored campaign effectiveness in Canada, Belgium, Brazil, France, Japan, Ireland and the UK (K. Benoit and M. Marsh 2003; Benoit and Marsh 2008; Forrest, Johnston, and Pattie 1999; Johnston and Pattie 2008; Johnston, Pattie, and Johnston 1989; Palda and Palda 1998; Samuels 2001), finding that campaign spending leads to electoral gains, *ceteris paribus*.

The positive relationship between campaign spending and electoral outcomes has been consistently found to hold, so that the claim that money matters seems now to be uncontested. Consequently, more nuanced questions are being asked, such as "how much does money matter?" (Kenneth Benoit and Michael Marsh 2003; Benoit and Marsh 2010; Gary W Cox and Michael F Thies 2000; Johnston and Pattie 2008), "does it matter equally to incumbent and challengers?" (Benoit and Marsh 2008; Benoit and Marsh 2010; G. W. Cox and M. F. Thies 2000; Green and Krasno 1990; Jacobson 1978; Johnston and Pattie 2008; Maddens et al. 2006; Samuels 2001), "what type of campaign expenses matter the most?" (Sudulich and Wall 2011). An important feature of the process that brings electoral spending to play a key role in determining election outcomes remains overlooked: what spending strategy best fits the purpose of winning a seat?

This study seeks to estimate the efficacy of campaign spending by addressing the value of combining different type of campaign activities conditional on a candidate's resources. The combination of resources and the strategic decision on how to deploy them are possibly key factors in determining a candidate's success. While Sudulich and Wall (2011) tested this very question, doubts about the generalizability of their findings remain; I verify whether the allocation of resources actually impacts the vote by testing this claim on multiple electoral contexts. Specifically, I explore whether diversification of campaign spending on multiple activities pays off more than a concentration of resources on fewer activities, and if the effects of diversification/concentration are conditional on budget constraints.

The availability of disaggregated spending data for the elections of devolved bodies in the UK provides an opportunity to test these hypotheses on different and multi-level elections, giving this study broad external validity. Although in recent years, the number of studies of campaign effectiveness has grown, these tend to be single-country studies. Moreover, national elections dominate the literature, with a handful of studies concerned with local or European elections (Kenneth Benoit and Michael Marsh 2003, 2003; Sudulich, Wall, and Farrell 2011), and by and large, the subnational and supranational levels remain overlooked in the literature. This article seeks to contribute to filling such a gap by investigating campaign effectiveness at general elections as well as at subnational election. Specifically, election for the Scottish and Welsh parliaments and assemblies (held in May 2011) are considered together with the UK general election of May 2010. The UK Electoral Commission collected and published candidates' returns for all the above-mentioned elections¹; these data represent a distinctive opportunity to evaluate the effectiveness of electoral campaigns across systems, as well as over different 'levels' of electoral competition. While remaining within a single country, the study seeks to understand how contextual factors affect the effectiveness of campaign efforts, and compares different types of elections.

The article proceeds as follows. To begin, the next section spells out the theoretical frame of this research, and expectations on the effects of resources allocation. The following section is dedicated to providing contextual information on the elections analysed here. Data and methods are then introduced, followed by the presentation of results from the empirical models. The concluding section of the article is dedicated to the discussion of the empirical findings and their implications for further research.

Expectations on spending diversification and the vote

The increment of late deciders, swing voters and electoral volatility in general has contributed to renewing scholars' interest in electoral campaigns. However, campaigns, and more so, their impact on electoral behaviour, are complex phenomena that remain somewhat obscure. The strategic use of campaign resources is overlooked in the literature, partly because of the scarce information on how candidates and parties invest their resources. Recent work from Fisher (2012) identifies two underlying key assumptions in the literature exploring campaign effectiveness: expenditure is proxy for campaign effort and money is a constant sum; the monetary value of one GBP, or one dollar/euro for what matters, is the same for all candidates. While the former has been debated and challenged (Fieldhouse and Cutts 2009), but remains widely accepted as true, the latter has not been given enough consideration. The idea that money is a constant sum presumes something more than a constant value for money, it also postulates that money is rationally allocated with 'equal degree of skill' and such an assumption is, at least, debatable (Fisher 1999, 520; 2012, 110). Candidates' decisions on what to spend their money on are indeed different and, we shall expect their effects to differ as well. Fisher exemplifies this concept by describing an hypothetical situation where 3 candidates are given 100 GBP: candidate A uses that sum to produce 1000 leaflets, candidate B decides to produce 1 poster, and candidate C buys a loudhailer. Differences in spending patterns could, and I test

¹ Data are also available for the 2011 Northern Irish Assembly election and will be added to this study

here if indeed do, produce different effects. What candidates spend their money on can play a crucial role in their electoral fortunes, meaning that the assumption of candidates spending with equal degrees of skill should be, at least, reconsidered.

Sudulich and Wall (2011) found that the allocation of campaign resources had a significant impact on determining candidates' electoral success, *ceteris paribus*. Basically, spending strategies matter, and their effects depend on campaign budgets: well-resourced campaigns benefit from investing in an array of campaign activities. While spending types under UK regulation are classified differently to the Irish ones, it is also reasonable to expect to find differential effects outside the Republic of Ireland. The goals of electoral campaigns are, after all, the same everywhere. poorly resourced campaigns can be harmed by the dispersion of resources. Despite contextual differences, I expect such logic to apply to elections in general. My analysis seeks to confirm whether this is actually the case, by testing these claims on three electoral contexts that took place within the UK in 2010 and 2011.

If a number of studies unveiled the significant role of local campaigns in determining the outcome of the 2010 UK general election (Fisher, Cutts and Fieldhouse, 2011), there is no evidence on the elections for the devolved bodies, held one year later. Parties competing at the devolved assemblies' election are, by and large, the same, and it is reasonable to imagine that they can run equally effective local campaigns for these elections. However, a number of key conditions are different: electoral rules include a proportional component for Wales and Scotland. As a consequence, parties may act differently and voters may formulate their vote choice(s) by balancing elements that simply do not exist under pure First Past The Post. Moreover, elections to the devolved bodies are possibly not purely second order, but they certainly share a number of characteristics with second order elections (low turnout, lower media attention). Regional parties are strong competitors to Labour, Conservatives and Liberal Democrats, therefore local campaigns depend on multiple forces, which do not characterize as strongly the competition for general elections.

My goal here is to test whether strategic choices on how to deploy campaign resources have an impact on the vote, and to explore whether such an impact is conditional on the availability of resources.

The contexts

Local campaigns, in the UK, possibly more than in other contexts, have been long regarded as largely unimportant for electoral outcomes; the only relevant level of competition seemed to be the national arena (Kavanagh 1970). While even as early as the 1970s the idea that local campaigns could indeed matter was explored by innovative studies on the effects of canvassing (Bochel and Denver 1971; Bochel and Denver 1972), the overall tendency to consider campaigns a national business was only challenged from the 1990s onwards (Pattie, Johnston, and Fieldhouse 1995). Since then, a considerable amount of research on local campaigning and its effects on the vote has been produced (Fieldhouse and Cutts 2009; Johnston and Pattie 2006; Pattie and Johnston 2003; Pattie, Johnston, and Fieldhouse 1995), and the consensus on the efficacy of local campaigning is now widespread. Empirical research has pointed to a clear linkage between campaign effort and electoral performance, and more specifically, to the fact that money spent for electioneering does in fact matter.

Hence, the idea that local campaigns play a role in determining electoral outcomes is largely accepted among analysts of UK elections. Johnston and Pattie (2011, 206) describe campaigns for the UK general elections as ‘two interdependent sets of campaigns [...] Each major party strategy now combines a national campaign with a centrally-directed, party locally-derived, geographically focused set of local campaigns’. While the 2010 UK campaign was characterized by the first televised leaders’ debates in the country’s history, the role of local campaigns has been proved significant (Fieldhouse and Cutts 2009; Fisher, Cutts, and Fieldhouse 2011; Johnston and Pattie 2008, 2011; JOHNSTON et al. 2011; Johnston and Pattie 2006; Pattie, Johnston, and Fieldhouse 1995), despite the perception of dominance of the national campaign. At general elections, British political parties have proved their capacity in strategically target campaign efforts and, by and large, of making gains (and containing losses) where most needed. It has even been argued that the Labour’s well-managed local campaign effort was what allegedly denied an absolute majority to the Conservatives (Fisher, Cutts, and Fieldhouse 2011). By considering multiple elections within the UK, I seek to test whether the allocation of campaign resources is effective across elections, and whether differences in electoral contexts affect its efficacy.

Elections to the devolved bodies operate under rules that differ considerably to those that apply to the UK general election. The 650 members of the Westminster parliament are elected under the First Past The Post (hereafter FPTP) electoral system; candidates compete in single member districts, the electoral constituency, where the candidate that receives the highest share of the vote is elected. Sixty members compose the Welsh Assembly; forty of them are elected under FPTP and twenty under a closed party list system that allocates seats on a regional basis. Wales is divided into five electoral regions, each one electing four members. Scotland uses a similarly mixed system, but the proportion of MPs elected under proportional representation amounts to 43% of the total, whereas in Wales it accounts for 33%. Members of the Holyrood elected under FPTP are 73, and members elected under the regional list system – Scotland is divided into eight electoral regions – are 56. With regard to the Scottish parliament, the process of devolution gave substantial effective power (primary legislation) to the devolved body, whereas the Welsh Assembly holds, almost exclusively, secondary legislative powers.

While the electoral system in use for the three elections considered here differ, with the UK election held under pure FPTP, and election to the devolved bodies in Scotland and Wales being held under the mixed system discussed above, the data I deploy are restricted to those candidates running under FPTP in Wales and Scotland². Therefore, there is no variation in terms of electoral systems, while differences regarding what is at stake remain. The electoral contexts are quite different. The electoral districts are not the same: the First Periodic Review of Scottish Parliament Boundaries³, submitted in May 2010, resulted in a boundary change for the 2011 election. As such, the boundaries of districts used for Westminster elections do not

² The Electoral Commission collects data on parties’ expenditures for the election held under the list system, but those returns are collected at the party level rather than at the level of individual candidates. Therefore, the only individual level data pertain to those candidates running for FPTP seats. An extensive account of rules and regulations in place for devolved bodies’ elections can be found at http://www.electoralcommission.org.uk/_data/assets/pdf_file/0004/146668/May-2011-Campaign-spending-report.pdf. The report also gives an overview of campaign expenses in aggregate terms, as well as by type of expenses .

³ http://www.bcomm-scotland.independent.gov.uk/1st_holyrood/1st_holyrood.asp

overlap with those in use for elections to the Scottish Parliament. The same scenario is in place in Wales, where the 2007 Assembly was elected with newly designed boundaries, which are currently under review with the prospect of cutting the number of Assembly members elected under FPTP from forty to thirty. Despite these differences, I expect the allocation of campaign resources to effectively impact candidates' fortunes.

To date, the effectiveness of campaign spending at the level of devolved assemblies remains unexplored, with the notable exception of Johnston and colleagues looking at spending effects in Wales (Jonston et al. 2000). Scholars interested in those elections have pointed out that, especially in the case of the Welsh Assembly, the elections share a number of characteristics with second order elections. Certainly, the election of devolved legislative bodies puts less at stake than a general election, but the second order model seems to only partially fit elections to the devolved assemblies (Jones and Scully 2006; McAllister and Cole 2012). Studies of campaign effectiveness at levels other than the national are rather uncommon outside the US. Benoit and Marsh (Kenneth Benoit and Michael Marsh 2003, 2003) addressed the issue at local elections by analysing data from the 1999 Irish local election, and found that even at the "miniscule spending levels found in Irish local elections, spending is positive and significantly related to electoral success" (2003a: 1). While campaign spending is expected to affect election results, the magnitude and scale of such an effect is unknown in the context of devolved assemblies, and there are no previous assessments of how it may differ across regions within the UK. In electoral campaign dynamics context is king, and this study allows for an empirical evaluation of how much of a difference context makes.

Data and measures

Data

My empirical work utilizes data from the Electoral Commission Candidates Returns for the UK general election of 6 May 2010 and for the election of the devolved bodies held on 5 May 2011 in Scotland and Wales. The datasets have been integrated with previous electoral performances and incumbency status, which were also gathered through the UK Electoral Commission website. The spending returns are organized in a more-or-less consistent fashion but in the case of the Welsh Assembly there are no provisions for the 'long campaign' and expenses are recorded and regulated only from 25 March and 5 May, therefore the analysis is limited to the 'short campaign' in every electoral context. The Westminster Parliament is responsible for the regulation of campaign spending⁴; it legislated on the matter by using a very broad definition of what can be accounted for under each heading. That allows for some degree of flexibility on what can be included, and accommodates the changing nature of electoral campaigns.

The data analysed here pertain to the elections run under FPTP only, since the list system component of the Scottish and Welsh elections data are aggregated at the party

⁴ Representation of the People Act 1983 (RPA 1983) is the template on the issue and covers almost all elections in the country, and the part concerning the breakdown of expenses is reported in the Appendix to this article.

level. As such, this study focuses on electoral competitions that have a fairly similar structure in terms of the electoral system and regulations. In Scotland and Wales the spending limits for the short campaign are set at 7,150 pounds plus 7p for every elector registered in a county constituency, and 5p for every elector registered in a burgh. For the Westminster election of May 2010, the spending limits for the short campaign were also 7,150, with the long campaign limits set at 25,000 per candidate plus 7p for every elector registered in a county constituency and 5p for every elector registered in a burgh.

Measures and models

For the *dependent variable* – electoral success – I use two individual level measures: candidate share of the vote, and candidate share of the electorate. Effectively, the former is the percentage of the vote won by a candidate and the latter is the percentage of the local electorate, also won by a candidate. In line with previous studies (Kenneth Benoit and Michael Marsh 2003, 2003; Pattie, Johnston, and Fieldhouse 1995) I use share of the electorate in order to capture the extent to which campaigns attract ‘new voters’ and affect turnout. Moreover, using two types of operationalization of the dependent variable insures findings have higher degrees of robustness.

The *explanatory variables* in use are: party affiliation, incumbency status, candidates’ campaign expenditures, marginality of the constituency, and the index of diversification of resources; the models in use here are therefore parsimonious. In order to ensure consistency, the parties considered are the three main national level contenders – Labour, Conservatives and Liberal Democrats – and the main regional parties – Plaid Cymru in Wales and the Scottish National Party in Scotland – whereas all minor parties and independent candidates are aggregated into the category ‘Others’. Incumbency is measured as party incumbency rather than personal incumbency⁵. Campaign expenditures are operationalized as the (logged) *share* of the total amount of money spent in each constituency, following Benoit and Marsh (2003b)⁶. The substantial reason for that is to account for the context, as candidates run against one other in their respective constituencies, where the fortune of one affects the (mis)fortune of another. This measure takes into account constituency level dynamics and, it has been argued, may mitigate the endogenous nature of spending⁷.

⁵ For Wales and Scotland the estimates have also been produced with personal incumbency, which does not affect the findings.

⁶ As for Benoit and Marsh (2003) the decision to use the logarithmic transformation does not affect the estimates.

⁷ This subfield of electoral research has been characterised by the need to deal with the endogeneity of spending, which has been addressed by means of Instrumental Variable approaches (Gerber, 1998; Benoit and Marsh 2010, Johnston and Pattie 2008), which guarantee more efficient estimates, although finding a good instrument for campaign spending remains problematic and the very value of dealing with the simultaneity problem by means of 2SLS is not unanimously accepted; for instance Gierzynski, A. and D. Breaux (1991). In estimating the effects of campaign spending here, I do not have a good set of predictors of spending, so that I do not implement a 2SLS model, instead a number of widely used types of operationalization of the key variables that mitigate the endogeneity bias of spending.

Marginality is measured, at the constituency level, as the difference in share of the vote between the winner and the runner up at the previous election. The variable is then transformed into a binary measure setting apart constituencies where the margin was less than 10%, as convention in the literature, and the rest; its operationalization is detailed in the appendix to this article. Bonneau (2007) argues that expectations on the closeness of the race are the best way to count for expected vote. Margins between winner and runner up at the previous election thus represent a key element in building expectations on the race.

Diversification is measured by means of an index based on the Herfindahl-Hirschman index (hereafter HH). I follow Sudulich and Wall (2011) in the operationalization of such a measure and test how it performs across contexts, assuming that operationalizing diversification of resources by means of such an index overcomes differences across systems of classification of electoral expenses. The HH index was originally created to measure the size of firms in market research; it provides an indication of how concentrated a market is. Its adaptations in social science research are diverse (Alesina, Spolaore, and Wacziarg 2005), and the logic behind its calculation is similar to Laasko and Taagepere's (1979) measure of the effective number of parties in a political system. I use a normalized and reversed version of it, so that lower values indicate concentration of spending – 0 being all expenses in one category – and higher values indicate diversification of campaign activities, 1 being the maximum degree of diversification. The measure is computed as follows:

$$HH = \frac{H - \left(\frac{1}{N}\right)}{1 - \left(\frac{1}{N}\right)}$$

Where

$$H = \sum^N x_j^2$$

And x_j represents the six types of expenditure in the Electoral Commission taxonomy, namely: Advertisement, Unsolicited material addressed to electors, Transport, Public Meetings, Agent and Staff, and Accommodation. This measure allows to target empirically the theoretical argument, made by Fisher, that money is spent with different degrees of skill.

Finally, a note of caution on judgments over the national government's performance in elections for the devolved bodies. Those considerations are probably more relevant in the context of the list system in place at the elections for the devolved bodies, but it cannot be ruled out that such an evaluation also affects competitions run under the FPTP vote. From an empirical perspective, it is not possible to introduce a variable accounting for participation in the coalition government as it is collinear to party affiliation, therefore somewhat captured by that. However, from a theoretical perspective the evaluation of national government performance could reflect on candidates' 'strategies and voters' evaluations, in the run up to elections for the devolved bodies.

In order to assess the role of diversification, I implement two core models, described below. All the estimations are obtained using bootstrap standard errors as the object

of study is the entire population of candidates running for elections rather than a sample of them. Estimates are almost identical to the ones obtained with Huber/White/Sandwich robust variance estimators.

Model 1 below allows for an estimation of the marginal effect of diversification *per se*, while spending is held constant.

$$Y = \alpha + \beta_1 D + \beta_2 S + \beta_3 I + \beta_4 P + M + \epsilon \quad (1)$$

D= Diversification

S= Spending

I= Incumbency

P= Party

M= Marginality

Model 2 estimates the effect of diversification conditional on spending by means of an interaction term between the two of them.

$$Y = \alpha + \beta_1 D + \beta_2 S + \beta_3 I + \beta_4 P + \beta_5 D * S + M + \epsilon \quad (2)$$

Disaggregate spending. Cross election patterns

I begin by describing average spending, detailed by category, for each election in Table 1, and provide an overview of it by party in Table 2. The descriptive statistics on campaign expenses, in Table 1 below, show that campaigns for the devolved bodies are, on average, more expensive than campaigns for the general election. The average candidate running for a general election spends about 600 pounds less than the average candidate running for a seat in the Assembly for Wales or in the Scottish parliament, spending limits being equal. Obviously, these averages account for individual candidates and do not include expenses that took place in the ‘long’ campaign⁸.

⁸ Table HA in the appendix shows the breakdown by type of expenses for the ‘long campaign’ for the 2010 UK general election and the 2011 election for the Scottish Parliament, for which data are available. The long campaign for the former was more expensive than the one for the latter.

Table 1. Expenses by category, overall average per election and by parties

	UK		Wales		Scotland	
	Mean	SD	Mean	SD	Mean	SD
Advertising	467	939	669	1040	569	884
Unsolicited Material	2424	2857	3006	2464	3000	2518
Transport	33	178	42	175	58	250
Public Meetings	15	90	6	26	7	80
Agent and Staff	177	485	86	279	95	277
Accommodation	265	545	321	576	392	633
Total	3383	3856	4133	3344	4123	3349
N		3920		176		315

The breakdown by expense type shows that, on average, candidates running for the devolved bodies spend more on Advertising and for the production of Unsolicited Electoral Material – the largest portion of the overall campaign expenses – than their counterparts running for a seat in Westminster. The other types of expenses accounted for by the data amount to a small portion of campaign budgets. Campaigns for devolved bodies are more costly than national ones with regard to expenses for Transport and Public Meeting, which, however, even combined, amount to a minuscule percentage of the total spending. Expenses for Accommodation are also, on average, higher at the level of the devolved bodies. Spending for Staff is, on the contrary, higher for first order elections. The standard deviations are always very large, indicating that there is a sizeable degree of variation in amounts spent, which may also be due to the fact that all candidates are included here.

Effects of diversification

I begin by looking at how Model 1 performs once applied to the empirical data, in Table 4 here below. The coefficients for the index measuring diversification is significant in every model except for the case of the Scottish election. The magnitude of the coefficients indicates that diversifying is much more effective in the case of Wales. The positive effect of spending on electoral outcomes is solid across context and in both dependent variables, confirming the expectations. So is, as expected, incumbency status and party affiliation. Model 1 also proves to be a good fit, with the R^2 of each individual model always above 80%.

Table 4. Model 1 – Effects of diversification on the vote

	MODEL 1					
	% electorate		% vote		% electorate	
	UK 2010		Wales 2011		Scotland 2011	
Diversification	0.02**	1.12*	0.04**	6.71*	0.02	1.29
	(0.00)	(0.55)	(0.01)	(2.82)	(0.01)	(2.05)
Ln (% spending of constituency)	0.02**	2.73**	0.02**	5.14**	0.02**	3.83**
	(0.00)	(0.17)	(0.00)	(0.67)	(0.00)	(0.77)
Incumbency	0.14**	21.68**	0.07**	18.26**	0.08**	15.12**
	(0.00)	(0.52)	(0.01)	(1.79)	(0.01)	(1.35)
Conservatives	0.06**	8.34**	-0.02**	-7.87**	-0.04**	-9.67**
	(0.00)	(0.61)	(0.01)	(2.20)	(0.01)	(1.40)
LD	0.03**	3.88**	-0.05**	-	-0.06**	-
	(0.00)	(0.43)	(0.01)	14.45**	(0.01)	12.93**
Plaid Cymru	-0.04**	-6.80**	-0.04**	-	-	-
	(0.01)	(1.14)	(0.01)	11.66**	(2.02)	(1.47)
SNP	-0.00	-0.52	-	-	0.08**	15.55**
	(0.00)	(0.65)	(0.01)	(2.33)	(0.01)	(1.05)
Others	-0.06**	-	-0.05**	-	-0.06**	-
	(0.00)	10.71**	(0.01)	13.72**	(0.02)	11.75**
Marginality	0.00**	-0.08	0.00	-0.35	0.01	-0.30
	(0.00)	(0.10)	(0.00)	(0.67)	(0.00)	(0.45)
Constant	0.06**	10.28**	0.04**	11.53**	0.06**	11.83**
	(0.00)	(0.48)	(0.01)	(2.52)	(0.01)	(2.27)
Observations	3,862	3,920	176	176	315	315
R-squared	0.88	0.88	0.84	0.87	0.87	0.89

Notes: Robust standard errors in parentheses ** p<0.01, * p<0.05. The difference in number of observation for the UK elections is due to missing data on the size of the electorate for several constituencies (58 observations). Models are estimated with boots replications. Standard errors are clustered around total spending in the constituency. Estimates are consistent when controlling for vote share at the previous election.

This first specification addresses the effectiveness of diversification *per se*. The effects of investing a wider (or narrower) range of campaign activities can be evaluated by keeping the other variables at a constant level and it is especially interesting in relation to the effects of spending. Let us take, for instance, the case of Wales 2011 and estimate the marginal effect of diversification for two hypothetical candidates – A and B – both spending about 15% of the total amount spent in the constituency, but with different spending strategies and different degrees of skill in investing their resources. A concentrates all his money in one type of activity, whereas B diversifies his resources, let's say to the average level of diversification in the dataset⁹. The expected vote share for A is 20.3%, *ceteris paribus*, while the

⁹ The average level of diversification for the Welsh election is 0.31; as such I am describing a change from no diversification (0) to 0.31.

expected vote share for B is 22.4%, making the marginal effect of diversification (from the minimum level to its average) 2%. This is a relatively small amount, but it shows how different degrees of skill in using campaign money can produce differential effects in terms of votes. In a competitive constituency even 2% of the share of the vote can determine one's success.

Figure 1 provides, in more detail, an indication of the extent to which spending on more categories affects spending effectiveness. The depiction, in graphs, of the effects is straightforward, as it shows simultaneously the marginal effect of diversification at three levels of spending – 15%, 25% and 50% of total spending in the constituency – and for the entire range of values of the index of diversification. I present graphs for the UK and the Welsh election, leaving Scotland aside as the level of significance of diversification does not reach the conventional levels of significance of 95%.

Figure 1. Effects of diversification, at spending (15%, 25%, 50%), by election

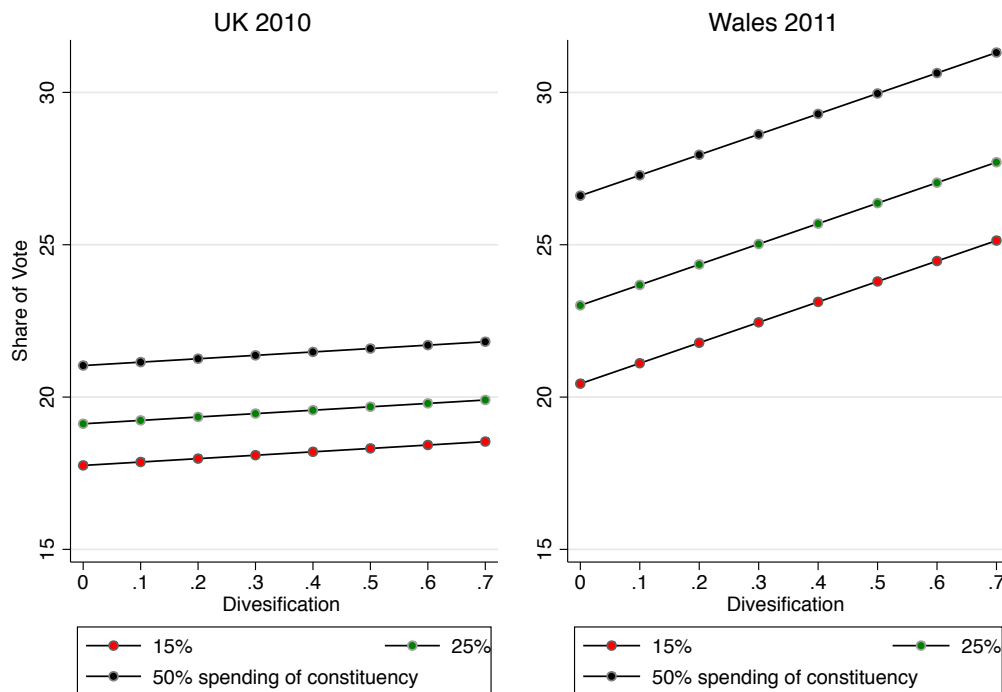


Figure 1 shows – as suggested by the coefficients – that the curve for the Welsh election is much steeper than the curve for the general election. Hence, the effects of diversifying among campaign activities are much stronger in the context of the 2011 election to the Welsh Assembly. Interestingly, as seen in Table 1, the Welsh Assembly election is also the most expensive election among the three considered here; therefore, finding that the effect of diversification is the most dramatic in the Welsh case is not particularly surprising. Finally, the graph shows that the higher the amount of monetary resources a candidate has at his/her disposal the higher his/her predicted vote share. In order to further explore the relationship between spending, diversification and vote, Table 5 below shows the effect of diversification conditional on resources, by means of an interaction term between the index of diversification and overall resources (Model 2).

Table 5. Model 2 – Effects of diversification, conditional on spending, on vote

	MODEL 2					
	% electorate	% vote	% electorate	% vote	% electorate	% vote
	UK 2010		Wales 2011		Scotland 2011	
Diversification	-0.07** (0.01)	- 11.04** (0.88)	-0.09* (0.05)	-18.89 (9.83)	-0.15** (0.03)	- 30.61** (5.31)
Ln(% spending of constituency)	0.01** (0.00)	1.90** (0.14)	0.01** (0.00)	3.43** (0.65)	0.01** (0.00)	2.63** (0.55)
Diversification* Ln(% spending of constituency)	0.04** (0.00)	5.51** (0.41)	0.05** (0.01)	9.15** (3.05)	0.06** (0.01)	11.22** (1.83)
Incumbency	0.13** (0.00)	19.69** (0.57)	0.07** (0.01)	16.46** (1.77)	0.07** (0.01)	13.66** (1.43)
Conservatives	0.05** (0.00)	6.82** (0.65)	-0.02** (0.01)	-8.09** (1.95)	-0.04** (0.01)	-8.65** (1.30)
LD	0.03** (0.00)	3.74** (0.43)	-0.05** (0.01)	- 14.32** (1.62)	-0.04** (0.01)	- 12.40** (1.22)
Plaid Cymru	-0.04** (0.01)	-7.45** (0.96)	-0.04** (0.01)	- 12.05** (1.87)	- 12.05** (1.87)	- 12.05** (1.87)
SNP	-0.00 (0.00)	-0.96 (0.62)	- (0.01)	- (1.87)	0.08** (0.01)	15.06** (1.01)
Others	-0.06** (0.00)	- 10.83** (0.42)	-0.05** (0.01)	- 14.16** (2.32)	-0.05** (0.01)	-9.95** (2.45)
Marginality	0.00** (0.00)	-0.28 (0.12)	0.00 (0.00)	-0.47* (0.84)	0.01* (0.00)	-0.06 (0.39)
Constant	0.07** (0.00)	11.67** (0.47)	0.06** (0.01)	15.43** (2.32)	0.06** (0.01)	13.47** (1.60)
Observations	3,862	3,920	176	176	315	315
R-squared	0.89	0.89	0.86	0.88	0.89	0.91

Notes: Robust standard errors in parentheses ** p<0.01, * p<0.05. The difference in number of observations for the UK elections is due to missing data on the size of the electorate for several constituencies (58 observations). Models are estimated with bootstrapped replications. Standard errors are clustered around total spending in the constituency. Estimates are consistent when controlling for vote share at the previous election.

In each and every election, as well as for every specification of the dependent variable, the interaction between diversification and monetary resources is significant at the highest level. The impact of diversification thus depends on the amount of money each candidate is able to spend. The magnitude of the interaction coefficients is again larger for elections to the devolved bodies than for general elections, consistent with what is observed in the additive model presented in Table 4. The interpretation of the extent to which diversification – conditional on spending – impacts the outcome variable is easier to explain in graphical form. In order to disentangle the effects of

such an interaction I first provide, in Figure 2 below, contour plots for each election, which give a very clear visual representation of how such an interaction works¹⁰.

Figure 2. Marginal effects of diversification conditional on spending, by election.

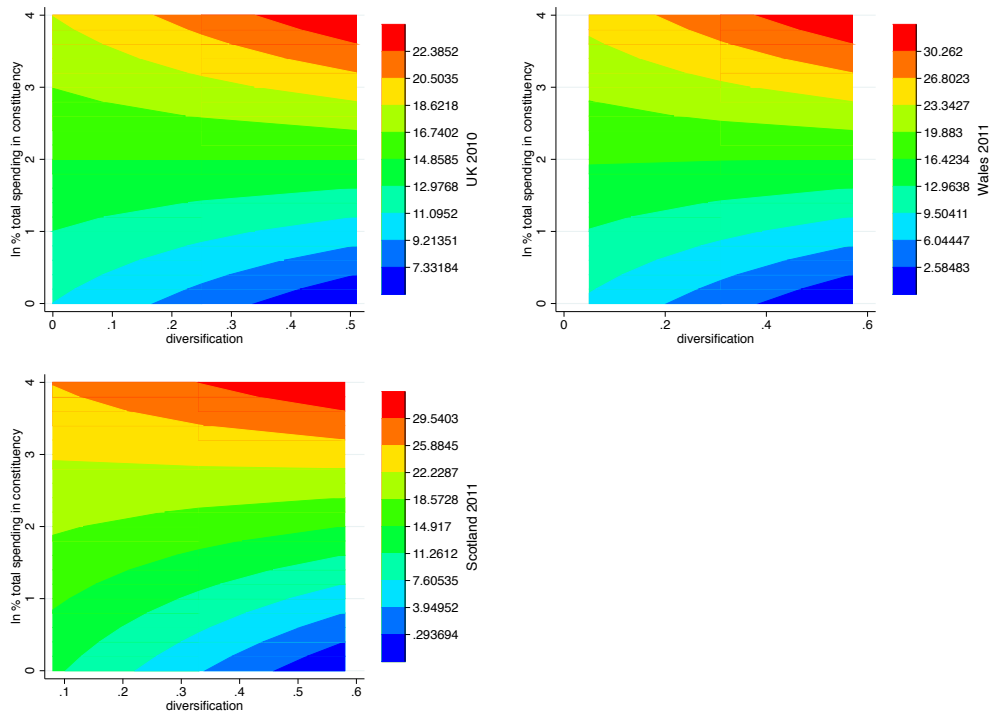


Figure 2 depicts the effects of the interaction term, with diversification on the x axis and spending on the y axis, on the vote share prediction, represented by the coloured areas. The effects are non-linear; diversifying is very beneficial for a well-resourced campaign but not advisable for poorly financed campaigns. For instance, in the case of Wales high spenders, those at 4 on the y axis, concentrating all their money into one activity versus maximum diversification among the six type of expenses, could mean a jump of 7% in their electoral performance. Conversely, for those who run poorly resourced campaigns, higher levels of diversification would correspond to diminishing marginal returns: for a candidate placed at 0.5 on the y axis moving from full concentration to full diversification would result in a loss of about 7% of the vote.

While this type of plot is helpful for understanding the nature of the relationship between the components of the interaction term and the outcome variable, Figure 3 below, gives an overview of the interaction effects.

¹⁰ Large scale graphs are available in the Appendix.

Figure 3. Marginal effects of diversification conditional on spending, by election

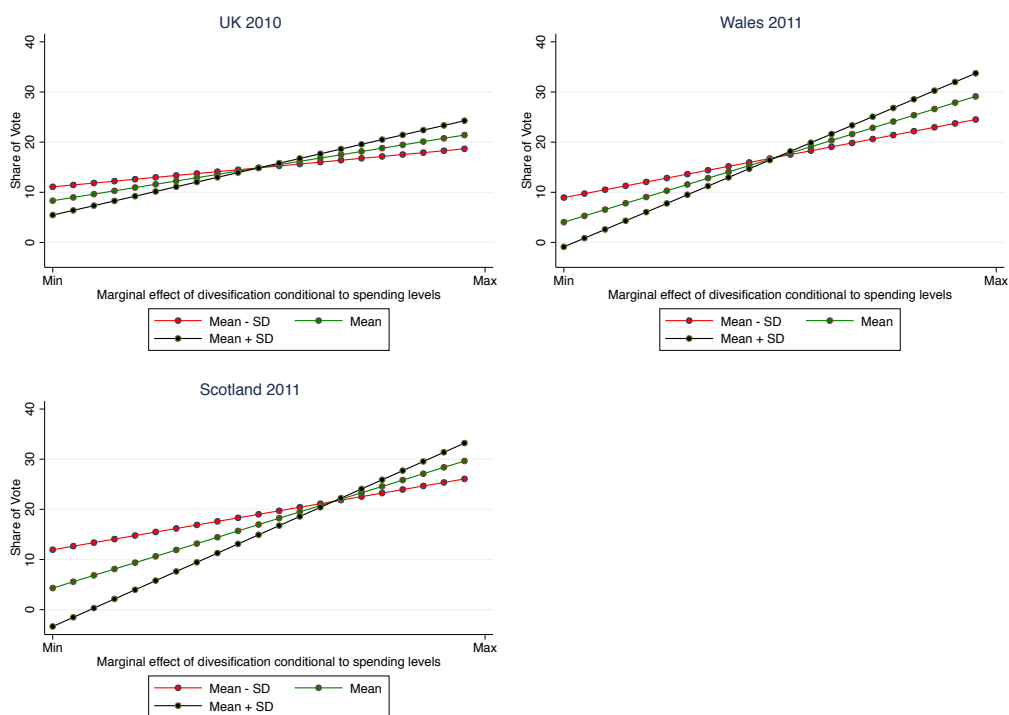


Figure 3 presents, for each electoral context, the outcome variable through a plot where the x axis represents spending levels and the y axis vote share. The coloured lines depict the effects of diversification conditional on spending for 3 levels of diversification: the average level (green line), and the average level plus (black line) and minus (red line) one standard deviation. The trends are clearly very similar across electoral contexts: the benefits of diversification are high when candidates run well-financed campaigns, whereas high levels of diversification for poorly resourced campaigns are definitely harmful. Diversifying resources when resources are scarce (black line) always leads to smaller returns than a higher concentration (green line) or full concentration (red line). This confirms the hypothesis that the effects of diversification are conditional on a campaign’s overall budget.

In the Appendix, I show the effects of Model 2 on marginal versus non-marginal constituencies. While, in line with the expectations in the case of the UK 2010 election and the Welsh assembly elections, the interaction term’s coefficients for marginal constituencies are larger than for non-marginal, the Scottish election shows a reverse pattern, possibly due to the low number of observations for marginal constituencies. Splitting the sample is however a highly inefficient way of looking at the issue as the number of observation between the two groups is different, with a particularly low number of cases for Wales and Scotland in the marginal constituencies group.

Concluding remarks

The message to take away from this study is that decisions on how to distribute campaign monetary resources directly affect electoral success. What I have presented here, empirically tests Fisher's intuition and indicates that money is not spent with equal degrees of skill, and that the ability to make the best use of resources can determine the difference between electoral success and defeat.

How candidates allocate their resources impacts their likelihood of being elected and it does so in different ways, depending on their overall budgets. Candidates with large budgets can benefit from implementing a wide range of campaign activities. Candidates with small budgets, on the contrary, would be penalized by such a choice. Diversifying is a winning strategy when the campaign budget is big enough to ensure effective allocation of money. When resources are scarce, candidates should opt for a more parsimonious allocation of money in one or two types of campaign activity.

I firstly explored the effects of differentiation *per se* and showed that its effects are, by and large, positive and significant, even though evidence from the Scottish election is weak. I then looked at whether such an effect is conditional on resources, finding that it is indeed the case, in every electoral context. The context seems to play an important role in terms of the magnitude of the effect on the vote. Elections to the devolved bodies are more sensitive to how resources are used, than are general elections. The effectiveness of diversification conditional on resources is a significant and important factor in determining electoral fortunes, and more so at lower level elections within the UK.

All things considered, the findings presented here indicate that the study of the effectiveness of electoral campaigns has possibly omitted an important element: the allocation of campaign resources. Strategic choices on how to invest resources emerge from this study as a key variable that has long been neglected. Work from Sudulich and Wall (2011) sheds some light on how diversification of resources had a significant impact on the vote in the Irish general election of 2007; here I add new evidence for it by testing the theory on a larger range of elections.

Appendix

Representation of the People Act 1983

Part 1

List of matters

1 Advertising of any nature (whatever the medium used). Expenses in respect of such advertising include agency fees, design costs and other costs in connection with preparing, producing, distributing or otherwise disseminating such advertising or anything incorporating such advertising and intended to be distributed for the purpose of disseminating it.

2 Unsolicited material addressed to electors (whether addressed to them by name or intended for delivery to households within any particular area). Expenses in respect of such material include design costs and other costs in connection with preparing, producing or distributing such material (including the cost of postage).

3 Transport (by any means) of persons to any place. Expenses in respect of the transport of such persons include the costs of hiring a means of transport for a particular period.

4 Public meetings (of any kind). Expenses in respect of such meetings include costs incurred in connection with the attendance of persons at such meetings, the hire of premises for the purposes of such meetings or the provision of goods, services or facilities at them.

5 The services of an election agent or any other person whose services are engaged in connection with the candidate's election.

6 Accommodation and administrative costs.

Spending limits and regulation

Wales

In Wales, candidates' spending was controlled between 25 March and 5 May 2011 (day of poll).

The spending limit for a constituency candidate was £7,150 plus:

- 7p for every elector on the register if in a county constituency; or
- 5p for every elector on the register if in a borough constituency.

The maximum individual regional candidates could spend was the total of all the constituency limits within that region. Campaign spending by party list candidates counted towards their parties' national limit.

Scotland

At the 2011 election there were new additional controls on how much candidates could spend before the dissolution of Parliament.

Between 6 January and 22 March (dissolution of Parliament), the spending limit for a constituency candidate was £17,500 plus:

- 4.9p for every elector on the register if in a county constituency; or
- 3.5p for every elector on the register if in a burgh constituency.

Between 23 March and 5 May (day of poll), the spending limit for a constituency candidate was £7,150 plus:

- 7p for every elector on the register if in a county constituency; or
- 5p for every elector on the register if in a burgh constituency.

The maximum individual regional candidates could spend was the total of all the constituency limits within that region. Campaign spending by party list candidates counted towards their parties' national limit.

United Kingdom

At the 2010 election there were new additional controls on how much candidates could spend before the dissolution of Parliament and who they could receive donations from.

Between 1 January and 12 April (dissolution of Parliament), the spending limit for a candidate was £25,000 plus:

- 7p for every elector on the register if in a county constituency; or
- 5p for every elector on the register if in a burgh constituency.

Between the dissolution of Parliament and 6 May (day of poll), the spending limit for a candidate was £7,150 plus:

- 7p for every elector on the register if in a county constituency; or
- 5p for every elector on the register if in a burgh constituency.

General spending by parties and non-party campaigners (third parties) was controlled by separate national spending limits.

Table A1. Long campaign. Breakdown of expenses

	UK		Scotland	
	Mean	Std. Dev.	Mean	Std. Dev.
Advertising	211	972	80	355
Unsolicited	1882	4193	1198	2196
Material				
Transport	9	68	5	31
Public Meetings	23	195	6	51
Agent and Staff	374	1169	86	284
Accommodation	327	840	243	528
Total	2826	5760	1619	2647

Decomposition of the goodness of fit

If we look at the decomposition of the goodness of fit (by making use of the `rego` module in STATA 12: <http://ideas.repec.org/p/boc/usug12/17.html>) the regression for the 2010 UK general election clearly shows that among the four types of expenditure significantly correlated to the dependent variable, one – Unsolicited Electoral Material – plays the most explanatory role (20%). This is remarkably similar in the case of Scotland and Wales where expenses for Unsolicited Electoral Material account in both cases for 17% of the R^2 . Hence, the production and dissemination of canvassing material seems to be key to a successful campaign in general elections as well as in elections to the devolved bodies, under FPTP. In every model, coefficients – and in `rego` the Shapley percentage of R^2 – indicate that incumbency is strongly defining a candidate’s electoral fortune, with incumbents considerably benefitting from their status (on average 25% share of the vote in the UK general election, almost 40% in Wales and 18% in Scotland). The amount of variance explained by campaign activities is about 40% in the case of the UK general election, and in the case of the Welsh Assembly election, and about 31% for the election to the Scottish parliament. These figures suggest that campaigns as such constitute a key component of electoral behaviour.

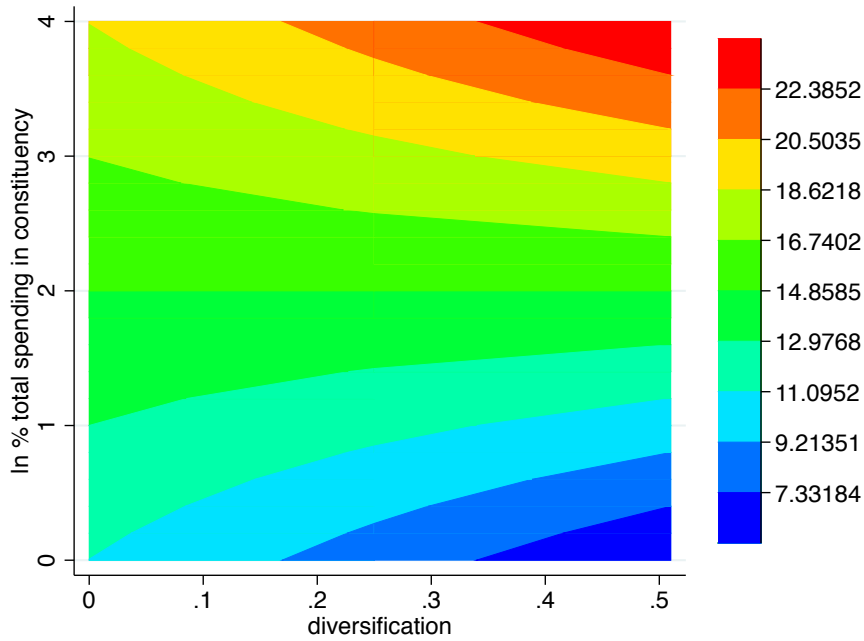
Table A2. Decomposition of the Goodness of Fit

	UK	Wales	Scotland
Advertising	2.8	5.9	7.3
Unsolicited Material	20.3	17.1	17.2
Transport	0.3	1.4	0.9
Public Meetings	0.1	0.2	0.1
Agent and Staff	6.5	2.1	0.6
Accommodation	9.3	12.5	5.2
Total campaign	39.3	39.2	31.3
Incumbency	25.4	36.9	18.6
Marginality		0.2	0.2
Conservatives	7.7	1.6	5.9
LD	2.4	12.4	12.9
Plaid	0.2	3.5	
SNP	0.1		25.1
Others	24.3	5.6	5.3
Overall R^2	.89	.84	.89

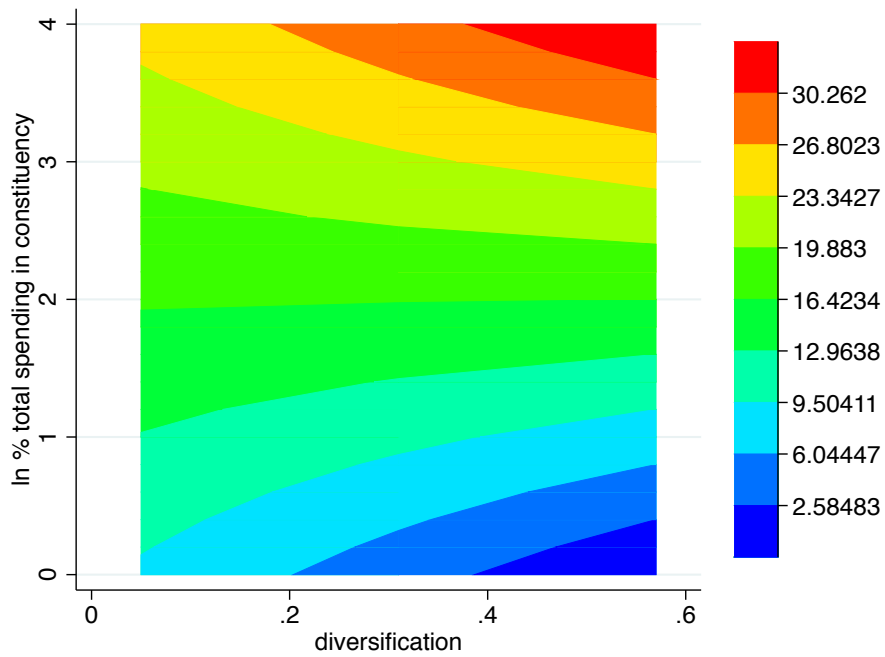
The models control for party belonging by setting Labour as the reference category.

Figures A1a, A1b and A1c . Marginal effects of diversification conditional on spending,

UK 2010



Wales 2011



Scotland 2011

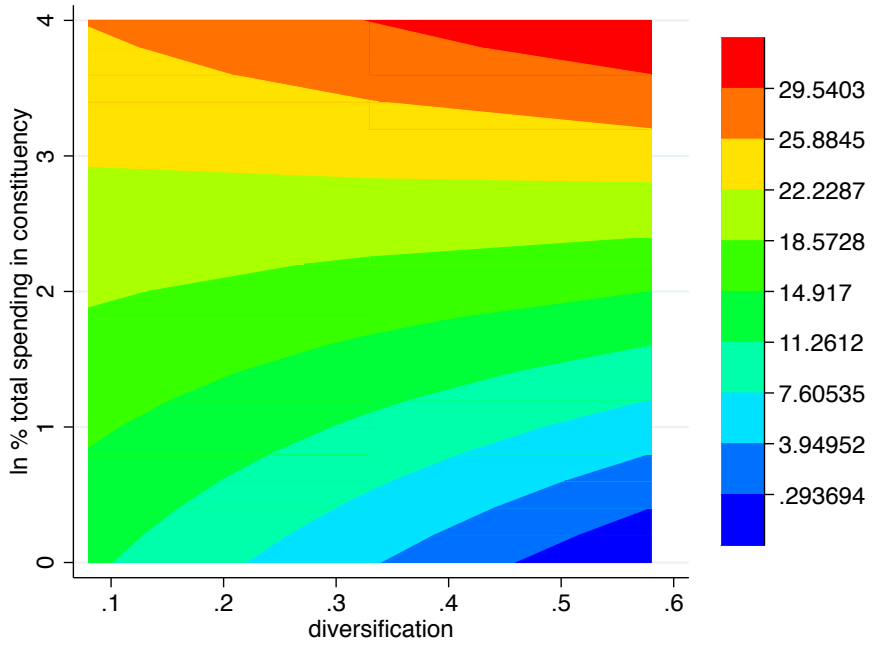


Table A-3. Model 2 on marginal and non-marginal constituencies.

VARIABLES	Marginal	Non-	Marginal	Non-	Marginal	Non-
	UK 2010	marginal	Wales 2011	marginal	Scotland 2011	marginal
Diversification	-16.82** (2.63)	-9.64** (0.97)	-29.45 (20.29)	-18.15 (9.30)	-22.25** (8.56)	-33.02** (5.38)
Ln(% spending of constituency)	2.64** (0.35)	1.78** (0.14)	3.76 (2.00)	3.19** (0.74)	3.89** (0.64)	2.25** (0.70)
Diversification* Ln(% spending of constituency)	7.31** (1.16)	4.91** (0.46)	11.42 (5.87)	9.09** (3.07)	8.16** (3.15)	12.00** (1.86)
Incumbency	10.24** (0.99)	21.67** (0.60)	10.91** (0.92)	17.17** (1.84)	7.63** (1.66)	15.95** (1.67)
Conservatives	10.78** (1.18)	6.54** (0.58)	-4.30** (1.20)	-9.26** (2.40)	-9.00** (2.08)	-9.35** (1.52)
LD	4.11** (1.38)	4.00** (0.48)	-17.05** (2.06)	-14.65** (1.87)	-14.04** (1.35)	-12.12** (1.89)
Plaid Cymru	-4.64 (2.62)	-8.21** (0.82)	-13.86** (1.58)	-12.31** (1.85)		
SNP	3.32 (2.98)	-0.80 (0.68)			10.34** (1.75)	17.30** (1.43)
Others	-10.44** (1.33)	-10.66** (0.41)		-14.63** (2.46)	-13.69** (2.07)	-8.02 (4.26)
Constant	10.60** (1.43)	11.59** (0.46)	16.57** (6.23)	16.19** (2.51)	14.02** (3.08)	12.91** (2.03)
Observations	589	3331	24	152	62	235
R-squared	0.90	0.91	0.97	0.88	0.94	0.91

Notes: Robust standard errors in parentheses ** p<0.01, * p<0.05. The difference in number of observations for the UK elections is due to missing data on the size of the electorate for several constituencies (58 observations). Models are estimated with bootstrapped replications. Standard errors are clustered around total spending in the constituency.

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