Money and Votes in Canada: Campaign Spending and Parliamentary Election Outcomes, 1984 and 1988*

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Le rôle que jouent les dépenses de campagnes électorales au fédéral dans la détermination de la physionomie du support des partis est incomplètement compris. Tout en admettant une méthode d'estimation technique appropriée, la plupart de la recherche existante au niveau fédéral dépend de modèles sérieusement mal spécifiés. Cet article tente d'évaluer l'impact des dépenses pour le support des partis aux élections canadiennes de 1984 et 1988 en développant des modèles multivariés qui incorporent une étendue de variables socio-démographiques et politiques. Les résultats offrent une confirmation convaincante des arguments disant que les dépenses de campagnes effectuées par les partis locaux contribuent significativement à expliquer la physionomie du support électoral.

The role of campaign spending in determining patterns of party support in Canadian federal elections is incompletely understood. While commendable in applying appropriate estimation techniques, most extant research at the federal level has relied on models that are seriously underspecified. This paper attempts to assess the impact of spending on party support at the 1984 and 1988 federal elections in Canada by developing multivariate models that incorporate a range of socio-demographic and political variables. The results offer convincing confirmation for arguments that campaign spending by local parties contributes significantly to explaining patterns of voter support.

Introduction

The potential for unrestricted campaign spending to corrupt and distort the democratic process has long been recognized. Recent excesses in spending in American elections, for example, prompted a prominent journalist to describe campaign money as the 'crack' of American politics. In Canada, regulating the role of money in election campaigns has become a pressing public policy priority in recent decades. Exploring options in this respect was made a priority of the Royal Commission on Electoral Reform and Party Financing, which was appointed in 1989 and reported in 1991. Of the 23 volumes of research studies published by this Commission, no fewer than four dealt exclusively with campaign financing (and the issue arose in several contributions to other volumes as well).

As campaigning has become increasingly sophisticated and expensive, so too have issues of financing become critical to an understanding of the electoral process. Somewhat surprisingly, students of Canadian elections have generally overlooked the question of the impact of spending on Canadian federal election outcomes. Instead, studies of the impact of campaign expenditure on electoral outcomes have been primarily forthcoming from economists and students of marketing, or from those interested in the legal regulatory process. Accordingly, inspiration for these studies has generally been taken from general models of competitive markets and advertising (see Coyte and Landon, 1989; Chapman and Palda, 1981; Palda, 1975; Palda and Palda, 1985), or from a desire to assess the degree of electoral equity and fairness achieved through legal reforms to the campaign process (see Ewing, 1992).

While such perspectives have undoubtedly contributed significant insights regarding the impact of money in Canadian elections, they are incapable of providing a full understanding of this important issue. Perhaps their greatest shortcoming concerns their narrow empirical focus on the impact of political variables such as incumbency status, prior party support, and spending. However, as one recent survey of this literature acknowledges, political variables alone can offer an incomplete account of the role of money in election outcomes:

> How well money transmits information and sways voters depends on the spender and the context. Is the candidate female, an incumbent, a good speaker? Is the constituency wealthy, educated, religious? A female candidate may spend a fortune in a traditional riding and get nowhere, or might spend little in a liberal-minded riding and do quite well. In other words, money alone does not determine election outcomes; there are many other forces that may interact subtly with spending (Palda, 1991:31–32).

Such influences must be incorporated if reliable and unbiased measures of the impact of spending are to be forthcoming. Therefore, a full assessment of the role of money in Canadian elections must proceed within the context of a broad ecological perspective on the determinants of constituency election outcomes.

This paper attempts to assess the role of money as a determinant of constituency election outcomes while controlling for other known correlates of party support. It also broadens the empirical evaluation of these questions by employing data from constituencies in all provinces of Canada. Using socio-demographic data on constituencies taken from the 1981 and 1986 (20% sample) censuses, together with electoral and campaign financing data for the last two federal elections (1984 and 1988), the paper presents a more completely specified model of the determination of election outcomes than has been forthcoming in extant studies (Statistics Canada, 1983; 1988; Elections Canada, 1980; 1984a; 1984b, 1988a; 1988b; Eagles et al., 1991).

The following section provides a critical overview of the literature on campaign spending and election outcomes in an Anglo-American context. This review provides a source of hypotheses for testing in the Canadian context, and serves to reveal the distinctiveness of Canadian patterns and concerns. Descriptive analyses show considerable variation in the campaign expenditures of parties. Several multivariate models measuring the impact of campaign expenditures on levels of party support across constituencies, estimated using Ordinary Least Squares (OLS) techniques, are presented in the fourth section. OLS techniques are flexible and generate reliable estimates that have the distinct advantage of being easily interpretable. However, two potential difficulties confront simple OLS estimation of spending effects. The first concerns possible non-linearities in spending effects which can be handled within an OLS framework. Potential simultaneity problems, arising from the probability that the amount of money spent in a campaign will likely be partially dependent upon candidate/party popularity, necessitates a more complex two-stage estimation (or 2SLS) to be outlined below. Taken together, these analyses clearly establish that the constituency dimension of campaign spending is a significant determinant of election outcomes in Canada. A simple simulation based on the results of this analysis suggests that the spending behaviour of parties has the potential to affect the partisan distribution of seats in the House of Commons significantly.

Anglo-American Research on the Impact of Campaign Spending

The potential importance of money as a factor in elections has long been appreciated, yet it has only been relatively recently that concerns over scandals, the maintenance of equitable competition, and a desire to curb rising campaign costs have resulted in the widespread adoption of regulatory regimes designed to monitor and control its flow during political campaigns (Paltiel, 1981). An unintended consequence of such regulatory apparatuses has been to spur the academic study of campaign money's effects on voting behaviour by providing large amounts of reliable data pertinent to such questions.

American political scientists have been most responsive to the opportunities for quantitative analyses of campaign expenditure. Since Gary Jacobson's pioneering *Money in Congressional Elections* (1980), attention has focused primarily on the contribution campaign expenditure patterns can make to an understanding of the incumbency advantage. Jacobson's paradoxical finding, confirmed in several subsequent analyses (e.g., Jacobson, 1985; Abramowitz, 1991), that '... the more incumbents spend, the worse they do,' has touched off a lively debate about money in Congressional elections. Green and Krasno (1988) have argued that Jacobson's analyses underestimate the impact of incumbent campaign expenditure on election outcomes because of a failure to control adequately for the quality of the challenger. Once challenger political quality is controlled, they find '... incumbent spending now exerts an influence which is sizeable, properly signed, and fairly stable across different levels of challenger spending' (Green and Krasno, 1988:898; also Jacobson, 1990; Green and Krasno, 1990; Thomas, 1989).

For a variety of reasons, the distinction between challenger and incumbent as the primary focus of interest in the study of money and campaigns is particularly appropriate in the American context. The two-party system ensures that most district races can satisfactorily be characterized as zero-sum contests between two individuals. Moreover, the decay of parties and other developments have accentuated the significance of local factors in Congressional contests, thereby making candidate-specific characteristics (including their ability to raise and spend campaign funds) particularly decisive (Jacobson, 1989; 1990; Jacobson and Kernell, 1990). For these reasons, it is plausible to focus attention on challenger/incumbent differences in campaign spending in the United States. A similar logic does not apply as forcefully in Canada, however. Parties in parliamentary systems are typically much stronger and exert greater control over the behaviour of elected representatives. Candidate-specific qualities (including incumbency status) are likely to be less important (Irvine, 1982). Accordingly, studies of the impact of money in campaigns for parliamentary systems appropriately emphasize the partisan impacts of variations in expenditure effects.

In this respect, the strategic environment confronting candidates and electors in parliamentary systems such as those of Canada and Britain is normally more complex. Virtually all constituencies are contested by more than two candidates, and partisan variations in the ability to finance viable campaigns may be as significant, or even more so, than differences in this respect that may separate incumbents from challengers. However, the nationally coordinated and mass media oriented election campaigns conducted by disciplined parliamentary parties that have become characteristic of the postwar period have probably limited the efficacy of local campaigning. This is particularly the case in Britain. In their analysis of the 1983 election returns, for example, Butler and Kavanagh contended that it was '... not so much a case of money buying victory as of money going to places where victory was probable or possible' (1984:266). Moreover, the amount of money spent per elector on campaigns at the constituency level has been declining over time, both in absolute terms and in relation to that spent by central party authorities (Butler and Kavanagh, 1988: 236; Johnston, 1987:185–7). Variations in spending by local parties, according to this understanding, can hardly be expected to be a significant determinant of constituency election outcomes.

However, even in such an unlikely environment, a variety of empirical studies have established that variations in campaign expenditure at the constituency level in British elections figure significantly in the explanation of patterns of party support. Research by R.J. Johnston and his colleagues has suggested that constituency spending may actually be strengthening as a determinant of electoral outcomes since the 1974 campaigns (Johnston, 1979; 1987). However, as Gordon and Whitely have argued, many of these early analyses were based on incompletely specified models of party support. In addition to political influences and campaign spending, they pointed out that '... one has to control for local influences on voting other than expenditure, which if excluded might lead to spurious inferences' (1980:294). In their most recent analysis of the 1987 election, therefore, Johnston et al. acknowledged this possibility and provided against it by incorporating a range of regional and socio-demographic variables in their models. Campaign spending variables remained significant determinants of party support after these controls were introduced (Johnston et al., 1989:152–3).

Unlike Britain, the constituency dimension of fund raising and expenditure shows no signs of diminished vitality in Canada. Constituency parties, at least for the Conservatives and Liberals, often raise more locally than they can spend, and on average, candidates for these parties spend a large proportion of their legal limits.[1] Moreover, the brokerage nature of Canadian parties ensures that the partisan ties of Canadian electors are relatively weak, thereby creating considerable room for campaign-specific effects such as spending to exert a significant effect on voting behaviour. Not surprisingly, therefore, previous research has uncovered substantial and statistically robust effects for expenditure variables. For example, there is broad agreement that support at elections is positively related to one's own spending and negatively related to that of one's opponents. Similarly, a variant of Jacobson's finding of differential expenditure impacts for incumbents and challengers has also been uncovered. Palda and Palda's analysis of the 1984 federal result in Ontario ridings found that challengers attracted 0.62 more votes per dollar spent during the campaign. However, the rate of return for first term incumbents was only 0.36 extra votes and higher-term incumbents received only 0.29 votes per dollar spent. They conclude that limits on campaign spending buttress the already considerable electoral advantage enjoyed by incumbents (Palda and Palda, 1985:327; Palda, 1991:31–40).

However, as mentioned above, Canadian research in this area suffers from two primary shortcomings. First of all, though estimated using complex and theoretically appropriate procedures (two and three stage least squares to eliminate potential simultaneity problems), most studies fail to incorporate socio-economic or demographic influences on party support (for recent exceptions, see Heintzman, 1991; Palda and Palda, 1991). As such, Canadian research (and much of the American literature) is over-reliant on incompletely specified models of the determinants of constituency outcomes.[2] In addition, extant Canadian research has typically focused on a relatively narrow empirical base (primarily on provincial elections in Quebec and Manitoba, and on federal elections in the province of Ontario; see Palda, 1975; Palda and Palda, 1985; Chapman and Palda, 1986). Because of the salience of regional differences in Canadian politics, there is a definite need to advance such questions in the context of

Table 1
General patterns, campaign expenditure per elector, 1984 and 1988

		PC 1984	PC 1988	Lib. 1984	Lib. 1988	NDP 1984	NDP 1988	Other/ minor 1984	Other/ minor 1988
Region[1]	Canada	.634	.713	.571	.577	.277	.439	.056	.144
	Atlantic	.771	.880	.746	.805	.181	.262	.005	.075
	Quebec	.604	.688	.563	.598	.027	.266	.052	.025
	Ontario	.602	.641	.574	.600	.336	.459	.038	.125
	West	.605	.707	.438	.402	.447	.573	.081	.290
	North	1.179	2.160	2.154	1.864	1.284	2.095	.633	.291
Margin of[2] prior victory	Close	.709	.784	.643	.686	.449	.557	.067	.115
	Competitive	.638	.709	.573	.590	.325	.443	.051	.115
	Safe	.578	.656	.519	.386	.043	.282	.061	.331
Current margin[2]	Close	.669	.723	.603	.626	.326	.476	.067	.130
	Competitive	.646	.722	.593	.587	.297	.470	.051	.154
	Safe	.539	.671	.425	.500	.124	.282	.061	.110
Incumbency[3]	Own seats	.608	.715	.612	.728	.673	.818	N/A	.355
	Other party	.647	.712	.545	.560	.233	.397	N/A	.142
	Open seats	.644	.712	.627	.572	.258	.444	.056	.189

[1] N (1984): Canada = 282; Atlantic = 32; Quebec = 75; Ontario = 95; West = 77; North = 3.
N (1988): Canada = 295; Atlantic = 32; Quebec = 75; Ontario = 99; West = 86; North = 3.
[2] Marginality categories for current and prior elections are defined in terms of standard deviation units from the mean gap separating the top two finishers in each constituency. For 'prior victory' margins, *Ns* (1984), based on 1980 margins, are: Close – 43; Competitive – 172; Safe – 67. *Ns* (1988), based on 1984 margins, are: Close – 45; Competitive – 210; Safe – 40. For 'current margins', *Ns* (1984): Close – 43; Competitive – 199; Safe – 40. *Ns* (1988) are: Close – 36; Competitive – 208; Safe – 51.
[3] *Ns* (1984) are: Conservative incumbents – 89; Liberal incumbents – 89; NDP incumbents – 28; Open seats – 56. *Ns* (1988) are: Conservative incumbents – 161; Liberal incumbents – 89; NDP incumbents – 29; Other – 2; Open seats – 73. 1988 N does not total 295 due to three multi-incumbent races resulting from redistricting.

a nation-wide research design. However, until very recently, the only two nation-wide analyses of spending patterns and voting behaviour were limited to simplistic descriptive and bivariate analyses (Isenberg, 1980; 1981). Consequently, these analyses are of little utility in untangling the complex issue of the impact of expenditures. What follows is an attempt to redress these shortcomings of Canadian research and to contribute to our understanding of spending effects through the application of appropriate statistical techniques in the context of a more completely specified model of election outcomes.

General Patterns in Campaign Expenditure in Canadian Federal Elections

Before proceeding further, an important caveat must be entered. This analysis focuses primarily on variations in campaign spending by constituency branches of Canada's officially registered political parties. As such, it does not attempt to deal with unofficial campaign-related spending (that occurring prior to the issuance of election writs) or the growing level of spending during the campaign by organizations and individuals other than officially registered political parties. Instead, it relies on the official expenses reported by local party agents to Elections Canada. These data offer several alternative measures of party-controlled campaign spending. These include the total dollar amount of spending by a party's candidates, the percentage of the riding electoral limit spent by candidates, or the amount spent per elector by candidates. The latter two measures have the advantage of controlling for variations in the population size of constituencies; the percentage of the allowable limits spent also incorporates considerations of geographic size and accessibility (see Elections Canada, 1990; Palda, 1991:5–7).

For two reasons, however, the current analysis focuses on the expenditure of candidates per registered elector. First, in contrast to the percentage of allowable limit spent, this measure is intuitively appealing since it retains the metric of dollars and cents in the analyses. Secondly, the large number of minor party/independent candidates running in many constituencies makes it desirable to use a measure that can conveniently express their combined spending. As each minor party or independent candidate is allocated the same spending limit, a measure based on the proportion of the limit each spends is inappropriate. The total minor/independent spending per elector serves present purposes reasonably well.

Table 1 provides a descriptive account of spending per elector by party, broken down by region, the degree of local competitiveness, and incumbency status. The top row illustrates nicely the growing cost in nominal dollars of campaigning over the 1984–1988 period (though allowing for inflation, the increases are less dramatic). The NDP's concerted mobilization efforts in 1988 to penetrate the province of Quebec are clear in these data. Also noteworthy was the increased spending by minor/independent candidates over the 1984–1988 period, which went from a national average of less than six cents per elector to almost 15 cents per elector in the two elections. Even allowing for inflation, this represents a substantial advance. The geography of this mobilization effort is uneven, however, with these minor party/independent candidates more than tripling their 1984 spending during the 1988 campaign in Western ridings, while their Quebec counterparts actually spent less in 1988. The national totals, and regional breakdowns, demonstrate clearly the extent of the Conservative party's financial advantage over all rivals. Only in the three Northern constituencies in the 1984 election did Liberal candidates spend more than their Conservative counterparts. Compared to the Conservatives, spending by candidates from all other parties appears to vary considerably across regions.

These results also reveal a highly distinctive pattern of campaign spending in Canada's northernmost constituencies (Yukon, Nunatsiaq, and Western Arctic). Given the unique features of political campaigns in this remote and sparsely populated region, and in light of the higher than normal level of expenditures by northern candidates, these three constituencies are excluded from the multivariate analyses that follow in subsequent sections.

Previous research has suggested that Canadian parties concentrate their campaign resources in close races and spend more lightly in safe and hopeless seats (Coyte and Landon, 1989:806; Chapman and Palda, 1986:32). Perceptions of the competitiveness of seats are most likely to be formed in the context of the current campaign, but in some cases, campaigners might anticipate a close race in one election based upon a tight finish in the previous election. Accordingly, Table 1 breaks down spending by the marginality of current and previous constituency races. To control for inter-election variations in the average marginality of seats, constituencies are grouped according to standard deviation units from the mean national margin of victory separating first and second place parties. Close races are those in which the gap separating the top two parties is much smaller (by a standard deviation or greater)[3] than the national average winning margin, and safe seats are those where the margin of victory was much (by a standard deviation or more) larger than the national norm.

The results reveal that all local parties, except minor/independent candidates, are likely to spend more in competitive constituencies regardless of whether competitiveness is defined in terms of the current or past election. In this respect, parties appear to behave strategically by channelling funds to those settings where the probability of an electoral return is highest.

Also, a key determinant of the competitive environment of constituency contexts concerns the presence and party affiliation of an incumbent. Previous research has suggested that incumbents enjoy substantial advantages in attracting votes, and it may be tempting to ascribe this in part to advantages in the ability of incumbents to finance campaigns (Krashinsky and Milne, 1983; 1985). The results in the bottom of Table 1 reveal some interesting party differences in spending according to the incumbency status of the seat. While all parties seem prepared to spend heavily in defence of their incumbents (only in the context of the Conservatives' offensive in 1984 was more spent on average in seats with no incumbent or which were held by other parties), the New Democratic Party clearly carries this strategy much further than other parties.[4] Clearly, only the Conservatives seem prepared and able to carry out an aggressive campaign strategy designed to penetrate new territory.

Multivariate Models of the Impact of Constituency Campaign Expenditures

How effective are patterns of constituency campaign expenditure in affecting the vote totals of parties? A preliminary answer can be taken from models expressing the percentage of the vote for a party across ridings as a simple linear function of its own spending, the spending of its local rivals, the traditional level of party support in the constituency, the party's incumbency status, and other socio-economic characteristics of constituency electorates. Additionally, regional differences in patterns of party support have long been recognized as important in Canadian electoral politics (Blake, 1972). Incorporating dummy variables for Atlantic Canada, Quebec, and the West enables the residual distinctiveness of constituencies to be con- trolled in these regions relative to their counterparts in Ontario. As Canada's most populous province, Ontario embodies within its borders many of the qualities of the country as a whole. Indeed, the province has been described as 'Canada writ small' (Krause, 1991), and therefore it conveniently serves as a base-line for the analysis of the distinctiveness of other regions. Together with the measure of party support taken from the previous election, these dummy variables operationalize the role of 'traditional party support' in these models.

Several socio-economic characteristics of constituency environments are likely to affect both the voting behaviour of constituency electorates and the ability of parties to raise campaign funds. For example, the fund-raising ability of parties depends in part on the relative prosperity of constituency electorates. Differences in the affluence and class structure of the constituency are also likely to affect the pattern of voting behaviour of these aggregates. While most scholars stress the weakness of the relationship between socio-economic cleavages and voting behaviour (Clarke et al., 1991:8–14; Pammett, 1987), others using aggregate data have uncovered significant relationships (e.g., Blake, 1972; Gerber, 1986). Therefore, it is reasonable to expect that more affluent, white collar constituency electorates will tend to support Conservative candidates, while less affluent blue collar ones are likely to give disproportionate support to the NDP. The proportion of a riding's residents who are university graduates and who work in administrative/managerial positions are both reasonable proxies for constituency socio-economic status. Again, constituencies scoring highly on these measures should also evince high levels of campaign contributions, and strong support for Conservative candidates. Similarly, ridings with high proportions of families classified as 'low income' are likely to provide relatively infertile ground for local campaign fund-raisers, and potentially at least relatively promising ground for NDP candidates.[5]

Ethnicity, language and religion are the social cleavages most strongly associated with party support in Canada (Johnston, 1991: 108–35). The effects of the cleavage separating Anglophones and Francophones and Protestants and Catholics have tended to be mutually reinforcing in past elections. Since 1984, the traditional Liberal/Francophone/Catholic *versus* Conservative/Anglophone/Protestant pattern has been reversed, with the Conservatives doing particularly well among Francophone Catholics in Quebec. In the two elections analysed here, the proportion of households using French as their normal home language should contribute positively to Conservative support (and negatively to the support of the other two parties). The Liberals have traditionally appealed to new immigrants, however, and this party's support should rise in relation to the proportion of constituency residents born outside Canada.

Given the diverse demands of campaigning in rural as opposed to urban settings, it is worthwhile to incorporate a measure to control for this factor. For this purpose, the proportion of constituency residents employed in the agricultural sector serves well as a proxy for the rural quality of ridings. Finally, the intensity of fund-raising and expenditure by parties and candidates in local races will likely vary according to the perceived closeness of the current contest. For reasons outlined earlier, these perceptions may arise equally from the current or the past election, and as such measures of marginality from both races should be controlled as well.

Table 2 presents OLS estimates of models incorporating these political, geographic, and socio-economic variables as explanators for the proportion of the vote going to each of the three major parties in the 1984 and 1988 elections. Overall, the models explain roughly between 80 and 90 per cent of constituency variations in patterns of party support, suggesting that we can place considerable confidence in the models' specification. While our primary interest is in the performance of the spending variables, several points regarding the control variables are noteworthy. Most generally, the strongest determinants of constituency outcomes tend to be political and geographic variables, confirming the oft-noted weakness of ties linking party and social structure in Canada. However, sig-

Table 2
Multivariate models of campaign expenses and party support unstandardized OLS coefficient / (t-statistics) 1984 and 1988*

		PC 1984	PC 1988	Lib. 1984	Lib. 1988	NDP 1984	NDP 1988
Constant		34.833	2,890	13.673	26.881	10.714	14.575
		(13.14)	(.63)	(4.67)	(6.98)	(4.362)	(4.53)
Spending	Cons.	6.00	4.343	-3.696	-4.443	-.933	2.484
		(2.31)	(1.99)	(-1.32)	(-1.85)	(-.41)	(1.25)
	Lib.	-6.965	-3.898	12.307	10.403	-5.062	-7.210
		(-3.19)	(-2.11)	(5.09)	(4.94)	(-2.70)	(-4.25)
	NDP	-5.201	-4.117	-11.296	10.150	15.748	16.514
		(-2.87)	(-2.78)	(-6.47)	(-6.11)	(8.67)	(11.27)
	Minor/	-14.603	-5.236	-1.566	-5.670	-8.038	-4.967
	Other	(-4.37)	(-2.67)	(-.44)	(-2.58)	(-2.81)	(2.70)
Political	Incum-	.816	4.736	3.127	12.661	7.07	6.539
	bency	(1.03)	(6.85)	(4.16)	(8.77)	(6.96)	(5.20)
	Prior	.403	.556	.387	.407	.405	.383
	vote	(10.15)	(8.90)	(7.89)	(6.82)	(8.78)	(7.51)
	Current	.309	.138	-.211	-.117	-.032	-.088
	margin	(11.21)	(4.62)	(-8.15)	(-3.38)	(-1.67)	(-3.34)
	Prior	-.009	-.054	-.014	-.074	-.022	.008
	margin	(-.447)	(-1.22)	(-.54)	(-2.25)	(-1.36)	(.288)
Socio-	%	-.186	-.030	.252	-.094	.138	-.175
economic	Degrees	(-1.55)	(-.23)	(1.97)	(-.64)	(1.32)	(-1.46)
	%Low	-.183	-.221	-.041	.080	.062	.055
	income	(-2.34)	(-2.59)	(-.482)	(.87)	(.92)	(.732)
	% Man-	.264	.379	-.33	.277	-.148	-.254
	agers	(1.55)	(1.87)	(-1.58)	(1.22)	(-.99)	(-1.36)
	%	-.034	.208	.091	.033	-.058	-.207
	Agric.	(-.71)	(3.37)	(1.83)	(.51)	(-1.39)	(-3.91)
	%	-.181	.096	.161	.0006	.023	-.094
	Immig.	(-5.26)	(2.17)	(4.34)	(.01)	(.73)	(-2.33)
	%	.114	.086	.027	-.055	-.07	.010
	French	(4.55)	(3.09)	(1.01)	(-1.74)	(-3.23)	(.378)
Region	Atlantic	.586	3.044	3.65	2.328	-3.36	-5.677
		(.48)	(1.93)	(2.78)	(1.37)	(-3.19)	(-4.03)
	Quebec	2.851	6.060	-7.58	-8.422	3.063	-.210
		(1.48)	(2.80)	(-3.72)	(-3.40)	(1.91)	(-.103)
	West	-3.297	1.072	-.356	-6.614	2.027	4.107
		(-3.63)	(1.02)	(-.30)	(-5.0)	(2.71)	(3.90)
	Adj. R^2	.872	.813	.830	.808	.910	.851
	$F=$	112.28	71.18	81.00	73.06	166.57	99.02
	Sig.	.0000	.0000	.0000	.0000	.0000	.0000

* Dependent variable in each case in the percentage of the popular vote won by the party. Spending variables are all expressed in terms of dollars per elector in constituencies. Other variables are defined in the text. Three northern constituencies (Yukon, Nunatsiaq, and Western Arctic) have been dropped from this and subsequent analyses. N (1984) = 279; N (1988) = 292. T-statistics of 1.65 or greater are normally associated with statistical significant at the .05 level for a one-tailed test; t-statistics of 1.96 normally indicate significance in a two-tailed test.

nificant coefficients for a number of the socio-demographic controls underscore the importance of controlling for these factors also in estimating spending effects. As expected, the concentration of Francophones was strongly associated with Conservative voting at both elections. Similarly, Conservative support generally increased along with constituency affluence. By contrast, the density of university graduates, administrators and managers, and immigrants were occasionally important determinants of party support, but had no consistent association with any particular party over the two elections. The regional dummy variables tended to confirm that the Conservatives enjoy special returns from the Quebec electorate compared to the Ontario base (above and beyond what might be expected on the basis of the other variables in the model). Similarly, the Liberal Party's weakness in Quebec and the West is also clear, as is the New Democrats' inability to penetrate Atlantic Canada.

In contrast to the somewhat uneven performance of the socio-economic variables, the non-spending political characteristics of constituencies had a stronger and generally more consistent relationship with voting patterns. Not surprisingly, electoral support for all parties is highest in ridings where the party did best in the previous election.[6] More interesting in light of extant research, however, is the effect of incumbency on party support. With the sole exception of the Conservatives in the 1984 election (when the party's representation in the House of Commons increased from the 103 seats it won in 1980 to 211), incumbency is associated with considerable electoral rewards. The estimates based on these models generally place the incumbency advantage in the range of 3 to 7 per cent (with higher and lower rates being possible when, respectively, a party's national electoral fortunes are unusually stable or when they swing abnormally). These results are broadly consistent with the findings reported by Krashinsky and Milne (1985:155–65) that incumbency normally is worth between 3.5 to 4 per cent, with higher incumbency advantages in times of relative political stability (see also Krashinsky and Milne, 1991:58; Heintzman, 1991).

Turning to the performance of the campaign spending variables, even controlling for a wide range of influences on election outcomes, 'own spending' generally increases a party/candidate's political support (all 6 coefficients are positive and significant) and rival's spending tends to depress it (14 of the 18, or more than three-quarters, of these coefficients are significantly negative). In general, the interpretability of these models, and the fidelity with which they reproduce known features of Canadian electoral politics, inspires confidence in the reliability and accuracy of the estimated spending coefficients.

Judging both from the magnitude of the coefficients and their associated *t*-statistics, spending by Conservative candidates was less efficacious in attracting votes than it was for the other two major parties. This pattern could reflect the diminishing returns of this party's generally higher level of spending, but (for reasons to be outlined shortly) it seems more plausible to interpret this as a reflection of the enhanced efficacy of spending when it is concentrated in settings where the party is particularly strong (see Spafford, 1970 for a relevant discussion). By refraining from spending in ridings where the party is expected to do poorly (something the Conservatives did less frequently than the other parties in the two elections studied), the returns for a given amount of expenditure can appear to be enhanced. Such strategically-targeted spending is particularly rational in light of findings that other campaign activities (notably, the canvass) of Canadian parties tend primarily to mobilize existing supporters rather than win new converts (Black, 1984:372). If Liberal and New Democratic candidates were to spend closer to the legislated limits in larger number of ridings, some decrease in the magnitude of their spending variables could be expected.[7]

The higher coefficients and *t*-statistics for the 'own spending' coefficients for the NDP suggest that variations in the spending of candidates for this party are especially important determinants of its support. This finding is interesting in light of the commonly-heard arguments that the NDP benefits disproportionately from (unregulated) volunteer labour in its campaigns (Palda, 1991:37). These efforts are not included in official expenditure records and hence their effects would not be captured in this analysis. The excellent fits of the NDP's models here suggest that the electoral influence of this volunteer labour is either not as important or efficacious in attracting votes as is frequently assumed. Alternatively, these results may reflect a tight correspondence in constituencies between the party's volunteer efforts and its fund-raising performance, thereby making the task of untangling the effects of each difficult.

An Assessment of Potential Distortion: Non-Linearity and Simultaneity Bias

On the basis of extant research in Canada and other countries, two sources of potential bias for these OLS estimates should be examined. The first, mentioned briefly above, concerns potential non-linearities in spending effects due to the operation of a process of diminishing returns. Beyond a certain threshold, additional spending in a local campaign could be expected to produce ever smaller incremental returns in terms of electoral support. However, in the Canadian context, the existence of legislated spending limits[8] constrains the possibility of this occurring.

A visual inspection of bivariate spending/votes plots does not turn up any evidence of diminishing returns for any party at either election. However, to explore more systematically for non-linearities in the impact of spending, semi-log (with logarithmic transformations of the spending variables) and double-log (with the dependent variable also logarithmically transformed) versions of the models presented in Table 3 were estimated.[9] In each case, the result was a reduction in the goodness of fit (adjusted R^2), and higher standard errors (lower t-statistics) for most of the transformed coefficients. Relatively few coefficients changed sign from those reported in Table 2, and none of those that did so were statistically significant. Moreover, the generally higher standard errors meant that many more coefficients failed to reach acceptable levels of statistical significance. There is little reason to expect that diminishing returns or non-linear effects are important contaminants of the spending estimates reported above.

Secondly, it is possible that the OLS estimates reported in Table 2 are distorted by the presence of a simultaneity bias arising out of the spending/votes relationship. In other words, the robust spending coefficients might simply reflect a spurious correlation between a party's ability to win *both* the campaign contributions required to spend on the campaign and votes. Previous research, in Canada and elsewhere, has produced a mixed verdict concerning the existence of such a bias.[10] In Canada, strong party cues and the comparatively short campaign (at least with respect to American campaigns) period probably work to limit the potential for perceptions of candidate electability to feed back into fund-raising success. Moreover, the guarantee of some minimum campaign funding by virtue of Canada's public subsidy of campaign expenses for parties who receive more than 15 per cent of the local poll (outlined in sections 241–7 of the *Canada Elections Act*, 1990) also reduces the probable importance of the simultaneity problem by socializing some of the financial aspects of mounting a campaign. *Wu*-type-two tests for endogeneity for the three major parties in each election suggest that simultaneity is not a particularly pressing problem in these analyses.[11]

However, it has become customary (if only, as Kristian Palda has argued, to have OLS results taken seriously) to attempt to investigate this question empirically. Two-stage regression generates 'reduced-form' estimates of campaign spending variables that are purged of any endogeneity stemming from the reciprocal spending/votes relationship (see Gujarati, 1988:603–21).[12] Table 3 presents the results of the second stage estimates of the models similar to those presented in Table 2 but in which both 'own spending' and a combined total of spending by 'other parties/candidates' are represented by reduced-form variables

Table 3
Second stage models of campaign expenses and party support unstandardized 2SLS coefficients (2nd stage equations only) / (t-statistics) 1984 and 1988*

		PC 1984	PC 1988	Lib. 1984	Lib. 1988	NDP 1984	NDP 1988
Constant		62.867	20.168	-9.377	11.790	4.923	7.001
		(6.75)	(2.47)	(-2.46)	(1.81)	(.766)	(1.361)
Spending	Own**	-18.944	3.289	23.116	36.529	-1.696	25.011
	spending	(-1.70)	(.591)	(3.69)	(6.59)	(-.22)	(11.68)
	Total**	-14.438	-9.702	4.798	-8.248	-16.101	-.262
	Other spending	(-3.94)	(-4.64)	(1.92)	(-2.79)	(-3.53)	(-.107)
Political	Incumb-	1.835	4.565	4.204	10.355	-.380	6.573
	ency	(1.45)	(6.34)	(4.24)	(5.88)	(-.16)	(4.83)
	Prior	.451	.468	.402	.306	1.229	.304
	vote	(6.47)	(10.87)	(6.80)	(3.82)	(6.02)	(5.84)
Socio-	%	.021	.053	.047	-.154	.766	-.248
economic	Degrees	(.096)	(.38)	(.26)	(-.803)	(3.09)	(-1.85)
	% Low	-.152	-.255	-.107	.178	.322	.062
	income	(-1.23)	(-2.79)	(.95)	(1.534)	(2.27)	(.738)
	%	-.384	.211	.212	.520	-.307	-.028
	Managers	(-1.17)	(.898)	(.783)	(1.642)	(-.96)	(-.128)
	% Agric.	.229	.193	-.103	-.145	.363	-.216
		(1.98)	(2.612)	(-1.44)	(-.177)	(2.92)	(-3.36)
	% Immig.	-.141	.08	.115	-.053	.059	-.104
		(-2.83)	(1.62)	(2.57)	(-.822)	(1.11)	(-2.47)
	% French	.173	.107	-.014	-.097	.050	-.008
		(4.51)	(3.71)	(-.40)	(-2.41)	(1.06)	(-.283)
Region	Atlantic	4.731	2.545	2.513	-2.19	2.789	-5.14
		(1.89)	(1.391)	(1.38)	(-.962)	(1.210)	(-3.03)
	Quebec	-2.163	5.231	-1.913	-7.447	.981	.775
		(-.635)	(2.20)	(-.662)	(-2.39)	(.347)	(.351)
	West	-2.995	2.700	-1.251	-4.416	-2.606	3.950
		(-2.37)	(2.69)	(-.865)	(-2.49)	(-1.70)	(4.17)
	Adj. R^2	.705	.790	.718	.717	.749	.827
	$F=$	52.15	84.94	55.57	57.82	64.88	107.73
	Sig.	.0000	.0000	.0000	.0000	.0000	.0000

* See notes for Table 2.
** Reduced form estimates taken from first stage equations. Details and results of these equations available from the author.

whose values are taken from first stage equations. To identify the series of equations, variables hypothesized to contribute to the determination of variations in constituency campaign spending but not electoral support must be included only in the first stage equations.

This requirement is frequently difficult to meet in applications of two stage least squares in political research, and to ensure that the models are identified, four indicators specific to a determination of spending but unlikely to be related to constituency partisanship itself are employed. These measures reflect the amount of funds raised by parties, the closeness of the previous election, and two measures of the socio-economic integration of constituency electorates (their residential stability, measured in 1984 as the mean length of time spent by families at their present address and in 1988 as the proportion of households who moved in the previous five years; and their involvement in economic activity, measured in 1984 by the size of constituency workforces and in 1988 by the

Table 4
Simulated* seat changes resutling from maximal spending for own candidates by major parties

Party		1984 Election	1988 Election
Conservatives			
	Gains	0	0
	Losses	5	31
Liberals			
	Gains	5	33
	Losses	0	0
New Democrats			
	Gains	1	2
	Losses	1	4
Total Potential Seat Change		6	35

*For details of this simulation, see text and note 14.

labour force participation rate). The level of campaign contributions, and hence the ability of parties to spend in local campaigns, are expected to vary positively with the level of social and economic integration of constituency electorates. The other two measures represent determinants of the intensity of campaigning itself, rather than the specific partisan nature of this activity. The adjusted-R^2 figures (ranging from .21 to .75) suggest that the first stage equations are reasonably successful in capturing determinants of constituency spending by parties.

Compared to the OLS models, the second stage models incorporating the spending instruments resulted in weaker fits (in terms of adjusted R^2 figures). This probably reflects the influence of measurement error (or noise) associated with using predicted values from imperfectly specified first stage models of campaign expenditure. With respect to the spending coefficients in Table 3, the higher magnitudes probably reflect the reduced range of variation for the instruments as compared to the actual values for these variables (as opposed to any substantively meaningful difference in the effect of spending on votes). The spending measures generally performed less consistently and strongly in their reduced forms than was the case in the OLS models. In three of the six models, for example, the coefficient for own spending was either negative and/or insignificant. However, of the 12 coefficients for own/other spending, only two were incorrectly signed *and* statistically significant (at the .05 level for a one-tailed test; none cleared this threshold for a two-tailed test). Clearly, these results suggest that some simultaneity is present in the spending/votes relation, and removing its effect from the models for the Conservative Party rendered the own spending coefficients either insignificant or negative. A similar result for NDP own spending in 1984 suggests that their spending patterns in that election also tended to reflect prior support rather than bring new votes.

These results underscore the importance of controlling for simultaneity bias in the measurement of spending effects.[13] This bias seems to be less apparent in the estimated spending effects for Liberal candidates, and for NDP candidates in 1988, where the 2SLS results essentially confirm those of the OLS estimation. Also in line with the previous OLS analysis was the finding of the significantly negative impact of rivals' spending on levels of party support. The more reliable 2SLS estimates for the Conservative Party, and for the NDP in 1984, however, reveal that the significant and positive OLS own spending coefficients probably disguise the effects of prior candidate/party popularity.

Discussion and Conclusions

These findings counsel against simplistic conclusions with respect to the spending/votes relationship in Canada. However, several points do emerge reasonably clearly from the above analyses. Most generally, despite the less robust results for the spending variables in the 2SLS models, it does appear that parties and candidates generally can be successful in moving some votes through their campaign spending efforts. To differing degrees, most candidates/parties can both attract votes through their own spending in campaigns and can diminish the votes going to their competitors.

Partisan differences in spending effects are clear, however. These effects seem weakest and least stable for Conservative candidates. In both elections Conservative campaign spending did not appear to attract much additional support to the party. Expenditure effects appear to be more consistent and strong for Liberal and New Democratic candidates (the latter primarily in 1988). The strengthened impact of NDP spending on its vote share in 1988 as compared to 1984 may be attributable to the different campaign strategies adopted by the party in the two elections. Whereas their 1984 effort has been characterized primarily as defensive (focusing on 40 to 50 ridings west of the Ottawa River), fully 144 ridings were targeted for attention in the 1988 campaign, 50 of which were east of Ontario (Whitehorn, 1989:46). The analysis presented here suggests that the party's effort to employ their financial resources tactically, within the context of a broader strategy of selective territorial penetration and expansion, produced dividends in terms of popular vote in 1988 (if not in seats won).

On the other hand, the Conservatives' relative inability to win substantially more votes through spending suggests that parties aggressively spending in most constituency races, with little regard for their candidate's electability, can generally expect a smaller return on their financial investment. The strongest spending impacts seem likely to result when money is deployed strategically in local races that campaign officials have determined offer potential openings for the party. In other words, money matters in campaigning, but wealthy parties cannot simply 'spend and win'.

Finally, this analysis confirms that while money may not be as all-powerful as some have argued, it does play a complex yet significant role in the determination of election outcomes in Canadian constituencies. A simple simulation, using the estimates for 'own spending' from Table 3, will demonstrate the potential for spending to affect the distribution of seats among the major parties. If *all* major party candidates spent their allowable limits as determined under the *Canada Elections Act*, ceteris paribus, the 1984 outcome in six seats would have been different, and 35 seats would have had a different result in the 1988 election. Table 4 gives a breakdown of the partisan gains/losses associated with this simple simulation. While too much ought not to be made of these simulated effects,[14] obviously, since the Conservatives have come closest to actually spending their legal limits in constituencies, they have the least to gain (and potentially, the most to lose) from the simulation scenario. The results suggest that, were the Liberals to be able to spend closer to the maximum across the board, this party could make significant gains. The NDP would not, on this scenario, be greatly affected by spending.

These results, demonstrating the effects of 'official' spending, are significant particularly in light of the substantial amounts of campaign-related spending that went unregulated in both election years. Part of this unregulated expenditure came as the result of an effort on the part of the registered parties to transfer, by creative accounting practices, campaign related expenses to general operating budget lines that are not subject to legislated ceilings (Stanbury, 1986:801, 819–20; Palda, 1991:10–12). As noted above, however, both the 1984 and 1988 campaigns attracted large amounts of so-called 'third party' expenditure by private interest groups (the effects of which cannot be captured in this analysis).[15] Whatever effect this unregulated spending had (and despite the large amounts involved, some have questioned its efficacy; see Gray, 1989) it certainly did not nullify the impact of official party expenditures. It seems plausible to anticipate that moves to constrain the spending of third parties (such as that provided for in the recent Bill C-114) will increase the efficacy of spending by parties by limiting the amount of campaign advertising that is outside partisan control.

It has not been possible to directly assess the effects of existing campaign finance regulation on the efficacy of spending by parties/candidates. However, the results reported above confirm the premise of campaign finance regulation, namely, that money matters in elections. The important role that campaign spending plays in effecting party support levels suggest that policy-makers should be mindful of the potential partisan implications of their proposals for change.

Notes

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1 For example, in 1984 Conservative candidates spent an average of 89.3% of their allowable constituency limit, while the comparable 1988 figure was 85.8%; Liberal candidates spend 79.8% of their limit in 1984 and 70.4% in 1988; and NDP candidates spent an average of 37.8% of constituency limits in 1984 and 52.7% in 1988. Moreover, there is no across-the-board trend for financial transfers from central party organizations to play a larger role in bankrolling local campaigns. (See Eagles, 1992:544).

2 Concluding his analysis of the impact of expenditures on Quebec and Manitoban election results, for example, Kristian S. Palda acknowledged: 'No doubt other factors would have been discovered to be influential in electoral outcomes had more varied data been available. I particularly regret the absence of statistics on socio-economic characteristics (proxies for voters' tastes or predispositions)' (1975:770). It is not simply a matter of discovering additional explanators, however. Lacking such controls, the estimates of campaign spending effects must be regarded as tentative, and potentially biased.

3 Extensive boundary revisions between the 1984 and 1988 election complicate the calculation of the prior victory margin for the new constituencies. Elections Canada (n.d.) transpositions of the 1984 election results onto the 1988 boundaries were used for this purpose. I am grateful to Elections Canada for supplying these figures.

4 This confirms the widely-noted tendency of the NDP to concentrate their relatively scarce campaign resources on 'concentration ridings,' including those already held by the party (Surich, 1975:135; Whitehorn, 1990:46).

5 Average incomes across constituencies, another likely measure of socio-economic status, are not included here to avoid potential problems of multicollinearity. The proportion of low income families is preferred here because it indicates something of the distribution of incomes in a constituency.

6 The marginality measures are included primarily as controls for the intensity of campaigning. Accordingly, their direct effects on party support are not of theoretical interest.

7 The logic of 'concentrated effort' differs slightly from that underlying the thesis of diminishing spending returns. The latter holds that, beyond a certain threshold, an additional dollar of campaign spending will generate incrementally smaller electoral returns, regardless of the other features of the setting. The argument is not, therefore, spatially discriminate. Concentrating electoral effort (and spending) on specially selected locales where it is likely to be most efficacious means that all constituencies are not viewed equally by party officials. Parties strategically target those ridings where the electoral return for a

dollar of spending is likely to be highest.

8 Section 210 (1) and (2) of the *Canada Elections Act* (1990) provides two formule for calculating maximum allowable election expenses. Most candidates may spend one dollar for each of the first 15,000 enumerated electors; 50 cents for each additional elector between 15,000 and 25,000 on the preliminary electors list; and 25 cents for each elector beyond 25,000. Candidates in ridings with less than 10 electors per square kilometre, an additional allowance of 15 cents per square kilometre (not to exceed 25% of the allowance based on electors) is permitted. See Elections Canada, 1990:128.

9 These results are not presented here for considerations of space. They are available upon request from the author.

10 Among those not uncovering significant evidence of simultaneity bias in OLS analysis of campaign spending effects, see Jacobson, 1980:162; Palda, 1985; Palda and Palda, 1985). Chapman and Palda (1986), however, do uncover some evidence of endogeneity in their analysis of spending and election results in Ontario constituencies for the 1984 election.

11 This test involves using residuals from an OLS model predicting each party's campaign expenditures, together with the actual spending variables, in a series of three equations (one for each party) predicting the party's vote. To the extent that both the variable and the residuals contribute significantly to explaining party support, the presence of simultaneity cannot be ruled out (for a brief discussion of this test, see Palda and Palda, 1985:326–7). The contribution of the four residual spending variables was tested as a block by calculating F-statistics for the 'additional explained variation' (for a brief discussion, see Kennedy, 1985:52–64). In no case was this statistic significant at better than the .10 level.

12 The application of 2SLS procedures to correct for this potential problem is widely accepted (see Jacobson, 1980; 1990; Green and Krasno, 1988), but it is not without its critics (e.g., Bartels, 1991:789–94).

13 Checks for non-linearity in the second stage equations proved negative.

14 The impact of spending is calculated by multiplying the difference between what a candidate/party spent in a riding and what it legally could have spent, by the estimated coefficient for 'own spending' taken from the 2SLS results. This is repeated for each of Conservative, Liberal, and NDP candidates, and produces a simulated election result that represents the amount of support the party would have received had the candidates/parties spent the legal maximum in each riding. For a number of reasons, this impact assessment should be treated cautiously. As noted in the discussion of Table 3, several of the coefficients used to produce simulated results are themselves not statistically significant. Moreover, the simulation ignores any potential reciprocal increase in 'other spending' that might attend a party's decision to increase its spending to the legal limit. This latter possibility would likely diminish the impact of the 'own spending' increases, and hence the estimates of seat changes provided here are probably slightly exaggerated.

15 This follows the 1984 decision of the Alberta Queen's Bench to disallow provisions of the *Canada Elections Act*, as amended in 1983, that had prohibited interventions in campaigns by privately sponsored advertisements (Hiebert, 1989–90). To date, this decision has not been appealed to the Canadian Supreme Court, and third parties remain free to spend during election campaigns. However, the recent Report of the Royal Commission on Electoral Reform and Party Financing recommends the adoption of a $1,000 cap on election expenses by non-registered political parties and/or candidates. See Canada. Royal Commission on Electoral Reform and Party Financing, 1991:356.

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