

## The Effectiveness of Local Campaign Spending in the 1993 and 1997 Federal Elections in Canada

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In contrast to the now dominant view that campaigning in parliamentary systems is increasingly professionalized, leader-centred, and nationalized (for example, see Farrell and Webb, 2000; Mughan, 2000), a growing weight of evidence from a number of countries establishes the persistent importance of local campaign efforts as a determining factor of electoral outcomes (for example, see Carty and Eagles, 1999, and 2003; Cox and Thies, 2000; Denver and Hands, 1997a and 1997b; Jacobson, 1980; Johnston and Pattie, 1995; Whiteley and Seyd, 1992 and 1994). Among other things, these studies draw attention to the important role that money, the “mother’s milk” of politics, plays in the determination of election outcomes. While other dimensions of campaigning—such as the local canvass, in-kind contributions, and the activities of volunteer activists—may have an effect, only campaign money is a fully fungible resource. Recognizing money’s potential to effect electoral outcomes, and its equally important potential when abused to corrode the political process, the regulation of campaign financing has become a prominent feature of many parliamentary systems (for a recent analysis of the Canadian regime, see Stanbury, 2001).

This article employs some of the data collected in accordance with Canada’s statutory regulations governing campaign finances to inquire about the efficacy of campaign spending by candidates running for the five major Canadian political parties in two federal elections in the 1990s. As such, it updates earlier work in this area (see Carty and Eagles, 1999; Eagles, 1993) and confronts some criticisms of the earlier work. As a first step, some controversies and innovations in the analysis of campaign

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spending effects in Canada are discussed in the next section. These debates serve to inform the specification of a model of party support that incorporates measures of campaign spending along with other known determinants of party support. This is the task of the third section. With this model, the fourth section presents estimates of the effects of election spending for candidates of each major party in the 1993 and 1997 federal elections in Canada. The results show unequivocally that even in tightly regulated systems such as Canada's, local spending matters to the share of votes a party receives, albeit to different degrees and in ways that are differentiated by party and election.

### **Controversies in Assessing the Campaign Spending/Votes Relationship**

Studying the impact of campaign spending on electoral outcomes is a highly developed practice in the United States, where campaign spending is less regulated and therefore higher than in other Anglo-American settings. A major impetus to this work has been Gary Jacobson's paradoxical finding that House and Senate incumbents who spent more on their reelection campaigns tended to fare worse than those with lower levels of spending. Challenger spending, by contrast, had the expected positive relationship to their vote. As Jacobson put it, "campaign spending does have a strong effect on congressional election outcomes and...money is a particularly important resource for non-incumbent candidates. Incumbents do not seem to benefit from campaign spending to anywhere near the same degree. The more they spend, the worse they do..." (Jacobson, 1980: 48-49). Jacobson's explanation for his apparently paradoxical finding turns on the question of challenger quality. Incumbents facing a credible and well-financed challenger will be likely to raise and spend more to fend off a serious challenge, even though they may not attract as many votes as their counterparts who spend less while defeating weaker adversaries.

Subsequent replications have upheld Jacobson's finding that spending produces different effects for incumbents and challengers (Abramowitz, 1991; Jacobson, 1990). Others, however, have challenged Jacobson's central finding on methodological grounds. For example, incorporating controls for challenger quality leads Green and Krasno (1988: 898) to conclude that "...incumbent spending now exerts an influence which is sizeable, properly signed, and fairly stable across different levels of challenger spending." Other critics have focused on the problem of "simultaneity bias" that arises when the ability of candidates to raise and spend money is both a cause and a consequence of their electoral popularity. Noting that the debate over the proper specification and estimation of the money/votes relationship in the United States is far from over, Ansolabehere and Gerber (1994: 1, 115) conclude that there is a "...statistical morass that surrounds the study of campaign finance."

**Abstract.** Recent studies of the effects of campaign spending by political parties and candidates at elections in Canada and elsewhere have established the importance of local constituency campaigns. However, particular claims to measure the effects of campaign spending on the vote have been questioned on methodological grounds. This article revisits the question of whether local spending matters in Canadian federal elections. Responding to some criticisms of earlier work, this analysis presents the results of two parallel regression analyses (the first employing two-stage least squares estimation, the second using three-stage least squares techniques) of the effects of local spending in the 1993 and 1997 elections. The results offer strong confirmation that comparatively greater local spending by candidates enhances their vote shares, and diminishes that of rivals, albeit to different degrees for different parties and elections.

**Résumé.** Des études récentes sur l'impact des dépenses électorales par les partis politiques et les candidats lors des élections canadiennes et ailleurs ont établi l'importance des campagnes au niveau des circonscriptions. Cependant, pour des raisons méthodologiques, certaines prétentions quant à l'influence des dépenses électorales sur les résultats électoraux ont été mises en question. Cet article revient sur cette question de l'effet des dépenses locales sur le résultat des élections fédérales canadiennes. En réponse à certaines critiques d'études passées, cette analyse présente les résultats de deux analyses de régression parallèles (la première utilisant une méthode des moindres carrés à deux stades, et la seconde utilisant une méthode des moindres carrés à trois stades) relatives aux dépenses locales lors des élections de 1993 et 1997. Les résultats de ces analyses statistiques confirment clairement l'hypothèse qu'une augmentation des dépenses locales accroît l'appui électoral que reçoivent les candidats, tout en diminuant celui de leurs adversaires. Par contre, les résultats varient selon les partis et les élections en cause.

Research on these questions in Canada has not completely avoided this morass. As a consequence, contradictory conclusions regarding the impact of campaign spending on voting choices have been advanced. Aggregate evidence has repeatedly turned up evidence of reasonably small but significant campaign spending effects, particularly for non-incumbent candidates and for the New Democratic party (Carty and Eagles, 1999; Eagles, 1993; Palda, 1975; Palda and Palda, 1985). However, several concerns have been raised about the methodologies upon which these conclusions are based. First, there is concern that some of the significant spending coefficients uncovered in this work reflect the targeting strategies of parties in their deployment of campaign resources (particularly in the case of the NDP). In these cases, the estimates of the effectiveness of campaign spending will be inflated because of the party's decision to concentrate its spending in particularly receptive environments (Cutler, 1999: 2). Had the party spent more in less competitive seats its return would have been lower, this argument claims. While this is a reasonable concern, it applies primarily to those parties adopting a spatially differentiated approach to the deployment of their financial resources. In a setting where most of the money spent locally is raised locally, such a concern is less pressing.<sup>1</sup> Indeed, a recent exploration for evidence of party strategies in this respect in Canadian elections suggests that, contrary to received wisdom, there is actually very little widespread practice of strategic targeting governing the distribution of party resources to local

racés. In 1997, for example, only the Conservatives appeared to transfer significantly amounts of additional party money into local races where it might have tipped the balance in favour of their candidate (see Carty, Eagles and Bélanger, 2001).<sup>2</sup>

Potentially of more serious concern is the failure of some analyses to rule out likely simultaneity biases that result from the fact that the same factors that generate voter support for a local candidate are also responsible for the candidate's capacity to raise campaign funds. A positive coefficient on the spending variable may be taken as evidence of a causal relationship between spending and votes, when in fact spending is merely serving as a proxy on the right-hand side of the equation for the popularity of the candidate (that is, both are measuring the same thing). Failing to remove the endogeneity of spending by simultaneously estimating equations for spending and the vote in a two-stage least squares framework could result in an overestimation of the impact of local spending on votes. Some analyses utilizing this statistical technique have confirmed that spending effects remain after endogeneity has been statistically removed, but these conclusions are weakened by model underspecification or other statistical problems. For example, many models estimated at the federal level by the Palda's (Chapman and Palda, 1984; Palda, 1975; Palda and Palda, 1985) do not incorporate demographic, geographic or sociological measures of the determinants of party support. Their estimates of spending effects are weakened by their failure to control for these known influences (see Cutler, 1999; Eagles, 1993).

An extension of this critique of existing aggregate research in Canada concerns its failure to take adequate account of the potential endogeneity introduced not solely in the spending but also in the fund-raising aspects of the relationship. According to this formulation, candidates spend what they can raise, and therefore popular candidates can raise and spend more. Positive coefficients on an instrumental spending estimator may still be contaminated by the fact that funds available for spending are plausibly regarded as a function of candidate popularity (the dependent variable). For this reason, Cutler (1999: 3) argues that instrumental estimators for both spending and fund-raising are necessary to properly estimate the impact of local money on vote shares.<sup>3</sup> In other words, it is necessary to simultaneously estimate a system of three equations, one involving the determinants of a candidate's ability to raise money from campaign contributions, a second involving the determinants of the level of a candidate's local campaign spending, and the third estimating the impact of both predicted levels of fund raising and expenditure (recovered from the first two equations) on a candidate's share of the popular vote.

Finally, much of the literature on spending effects in Canada follows the American literature in focusing on the differences between incumbents

and challengers. The conventional finding here is that spending matters more for challengers than for incumbents. This leads scholars to conclude that whereas regulatory limits on campaign spending are defended on the grounds that they serve to level the competitive playing field and make it easier to mount successful political challenges against incumbents, paradoxically they also serve to buttress the incumbency advantage enjoyed by MPs by ensuring that more efficacious challenger spending is constrained (Palda and Palda, 1991). Such conclusions can be questioned on a number of grounds. First, there is little evidence that incumbents in Canadian elections enjoy undue job security—indeed, fully 69 per cent of the House of Commons membership turned over in the 1993 election (203 of 295 members elected in 1993 were rookies; for comparative statistics on Canada's high rate of legislative turnover see Matland and Studlar, 2003). By contrast, in the free-spending environment south of the border, incumbents in races for the House of Representatives routinely enjoy re-election success rates in the 90 per cent plus range (Greenberg and Page, 2002: table 11.5, p. 319). Evidence of weak or negligible incumbent spending effects in Canada might reflect the fact that spending limits exert a more meaningful constraint on challenger spending than on that of incumbents, since the latter are more likely than challengers to be able to raise money up to and beyond the maximum allowable expenditure. The available American evidence suggests that incumbents enjoy considerable advantages in fund-raising over their challengers, and without statutory spending limits, Canadian incumbents would have a greater incentive to amass large campaign war chests, thereby discouraging challengers and rendering most district elections far less competitive.

In addition, the past success of incumbents at winning large vote shares makes it more difficult for them to generate additional votes than it does for challengers, who start with lower levels of support. There is, in other words, more "room" for challenger spending to exert a significant impact as compared to incumbent spending (Denver and Hands, 1997a). Finally, analyses purporting to show that incumbents benefit from expense ceilings have combined all incumbent and challenger spending together (for example, Palda, 1993; Palda and Palda, 1991). In a multiparty environment such as that experienced in Canada during the 1990s, in which at least four major party candidates contested most ridings, and where the local fortunes of a party's candidates are highly differentiated, treating all incumbents and challengers uniformly will subsume potentially important partisan differences in the deployment of campaign assets. A more defensible strategy is to focus on an exploration of spending (and incumbency) effects separately for each party and, since strategies and competitive position changes over time, for each election.

The most recent search for evidence of spending effects in Canadian elections is to be found in a paper by Fred Cutler (1999). He takes the cri-

tique of existing work a step further by noting its failure to directly address the individual-level processes of voter decision making that purportedly underpin and account for the observed aggregate relationships. As an alternative to the constituency-level modeling, he offers a contextual methodology for assessing spending effects that combines aggregate and individual-level survey data. Based on an adaptation of an American study that successfully identifies at the micro-level the processes hypothesized to be operative at the district level in that country (Kenny and McBurnett, 1994), Cutler finds no evidence of spending effects. He concludes that available evidence to date of spending effects in Canada is an artifact of improper methodology. Summarizing his findings, he writes: "In these data, voters are no more or less likely to choose a candidate who spends a great deal than one who spends little, and no more likely to choose incumbents, net of other influences on their choice" (Cutler, 1999: 14). On this basis, Cutler echoes the orthodox interpretation of Canadian elections as highly nationalized affairs in which there is little room for the impact of local or candidate-specific factors (see also Cunningham, 1974; Irvine, 1982). He notes that although "...the idea of a grass-roots democracy with an important local component is attractive to some..." it is "perhaps overly romanticized" and misleading in the Canadian context (Cutler, 1999: 18).

On the face of it, this might appear to settle matters. However, such a conclusion may be questioned on a number of grounds. For one thing, this perspective forces us to accept a view of the electoral process that is significantly at odds with what many deeply involved in the system appear to believe. In 1997, for example, the local candidates for the five major parties were accountable for 52 per cent of their party's total election expenses (the remaining 48 per cent being spent by the party's national and provincial campaign organizations). This proportion dipped to less than one half for only the Conservatives (for the first time in two decades) and the NDP, both parties whose local riding associations had been devastated in many parts of the country since their respective collapses in 1993 (Carty, Eagles and Bélanger, 2001: 4-5).<sup>4</sup> Judging from the behaviour of those most closely involved, local races hardly appear to be an inconsequential appendage to an exclusively nationalized electoral competition. Prudence should urge us to be cautious about second-guessing these individuals too readily.

While it would have indeed been useful to have the findings of a large body of constituency-level research confirmed by Cutler at the individual level, there are methodological reasons for believing that his micro-level search for evidence of campaign effects is overly conservative. As he admits (Cutler, 1999: 6), there are several a priori reasons to expect such evidence to be much weaker in Canada than was the case in the US. This is because in the former, "...candidates spend much less, they are

part of a much more unified party more strongly connected to the chief executive, and the mass public does not consider them advocates for the constituency *against* the national government.” With expected marginal spending effects likely to be small in most cases (and in any case, substantially smaller than their American counterparts), it seems especially unlikely that the number of respondents available for analysis in Canadian surveys will be large enough to adequately identify them using data from these sources. As John Zaller (2002) has recently demonstrated in his Monte Carlo simulation assessing the ability of American national election surveys to turn up evidence of the impact of campaign communications, most surveys lack the statistical power to identify even reasonably large media effects on vote choice.<sup>5</sup> It is entirely possible that Cutler’s negative conclusions reflect the limited statistical power of his surveys rather than any absence of spending effects.

### **Model Construction and Estimation Strategy**

Until more sensitive and appropriate individual-level research designs are implemented, therefore, there is no alternative but to return to a revision of the aggregate format to attempt to identify a more satisfactory estimate of the impact of local campaign spending on the local vote. In this section, some criticisms levelled against earlier work from an aggregate perspective are taken up. In particular, it is possible to specify a system of three equations (containing a variety of demographic, economic and political indicators) that, when estimated, should produce an unbiased measure of the impact of spending on local races in Canada (for general discussions of these models, see Gujarati, 1988: 553-621; a less technical treatment can be found in Kennedy, 1985: 126-45). The resulting models will be calibrated using data taken from the 1991 and 1996 censuses and the 1993 and 1997 elections in the next section.

Estimating a system of equations simultaneously enables the investigator to statistically remove potential reciprocity in the relationship between fund-raising, spending and votes won (wherein strong candidates attract and spend more money for the same reasons that they attract more votes, giving the appearance of a causal relationship between money and votes when it could be that no such relationship actually exists). In the three-equation technique, one first generates predicted values for the two endogenous variables of campaign fund-raising and expenditure from first and second-stage equations using all the exogenous variables. However, there are identifying restrictions governing the estimation of these models, such that it must be possible to identify, *on a priori and theoretical grounds*, additional factors that can account for variation in fund-raising and expenditure but that are not related to the share of votes going to parties. Unfortunately, all too often in applications of simultaneous equation

models, such measures are difficult to find. When the identifying variables are only partially or incompletely exogenous, the predicted values generated by the equations can be considered only “quasi-instrumental” variables. It is inevitable that utilizing these “quasi-instrumental” estimators incurs a statistical cost in terms of their efficiency (see Bartels, 1991 for a discussion of this tradeoff).<sup>6</sup> These caveats notwithstanding, the efforts are worthwhile and necessary if unbiased measures of campaign spending effects are to be generated.

In the analysis that follows, an ecological model of voter support for the five major parties contesting the 1993 and 1997 elections is estimated. In addition to measures of campaign spending (own and opposition, where the former is expected to increase a candidate’s vote share whereas the latter is expected to diminish it) and a candidate’s own total fund-raising, three additional types of information on constituencies that have been shown in previous research to be related to patterns of party support are incorporated (for example, Carty and Eagles, 1999; Eagles, 1993). Since the primary interest here is in the coefficients for campaign spending, the analysis does not test specific hypotheses for each of these control variables, nor will the discussion dwell on particular results regarding these controls. These control variables reflect aspects of the socio-economic (the proportion of the workforce employed as “managers”) and ethno-linguistic characteristics of riding electorates (the proportion of residents speaking French as their home language [1993 election] or as their mother tongue [1997 election], and the proportion of residents who are immigrants). Total population figures are included to index the overall amounts of money raised and spent by all candidates in the riding to the size of the electorate. Political variables related to party support are also included as controls (a dummy variable representing the incumbency status of the candidate and the proportion of the vote going to the party at the previous election).<sup>7</sup> Finally, geographic factors are incorporated using a number of regional and provincial dummy variables (Ontario is omitted and therefore serves as the baseline for comparison when interpreting these geographic dummies).

What is needed for the multi-equation modeling of spending effects are determinants of local fund-raising and expenditure that are unrelated to the partisan division of the vote in ridings. Combined with all the exogenous variables mentioned above (the socio-economic/ethno-linguistic, political and geographic factors explaining patterns of party support), these identifying variables will enable the generation of predicted values for both campaign fund-raising and local expenditures. Fortunately, using the results of previous research on both fund-raising and campaign spending, it is possible to suggest five variables that together are likely to influence the level of local campaign funds but not the vote. Specifically, the ability of candidates to raise funds, and therefore to spend them, is hypoth-



esized to be a function of the education (represented here by the proportion of residents who are university graduates), affluence (indexed by average family incomes), and social integration of riding electorates (represented here by the residential stability of a riding, and measured as the proportion of households who have moved within the last year). Higher levels of the first two measures, and lower levels of residential mobility, should be positively associated with campaign fund-raising and expenditure (Eagles, 1992). In addition, political factors such as the closeness or competitiveness of the local constituency race (the margin separating first and second-place finishers), and the competitiveness of the party's local candidate (the absolute value of the distance between the local candidates' vote share and the winners' vote share in the current election) are likely to have an impact on the ability to raise and spend campaign funds by local candidates, independent of the particular party/candidate popularity function (Chapman and Palda, 1984; Eagles, 1992).<sup>8</sup> Close races should encourage candidates to raise and spend more in the campaign.

To summarize our model development to this point, then, three equations can be specified. Equation 1 uses all exogenous variables, together with instrumental variable scores derived from equations 2 and 3, to arrive at estimates of the determinants of support for a party's local candidates that are purged of simultaneity bias.

1). % party support =  $f\{\$ \text{ own campaign spending instrument; } \$ \text{ campaign funds raised instrument; } \$ \text{ total spending by opposition candidates; } \% \text{ party's vote at previous election; incumbency status; } \% \text{ French; } \% \text{ immigrants; } \% \text{ managers; total population; regional/provincial dummy variables}\}$

2). \$ Campaign spending =  $f\{\% \text{ party's vote at previous election; incumbency status; } \% \text{ French; } \% \text{ immigrants; } \% \text{ managers; total population; regional/provincial dummy variables; } \% \text{ margin at current election; } \$ \text{ average family income; } \% \text{ university graduates; } \% \text{ moved within last year; } \% \text{ absolute value of distance between candidate and winner at current election}\}$

3). \$ Campaign funds raised =  $f\{\% \text{ party's vote at previous election; incumbency status; } \% \text{ French; } \% \text{ immigrants; } \% \text{ managers; total population; regional/provincial dummy variables; } \% \text{ margin at current election; } \$ \text{ average family income; } \% \text{ university graduates; } \% \text{ moved within last year; } \% \text{ absolute value of distance between candidate and winner at current election}\}$ .

As a check on the adequacy of the proxy values for campaign spending and fund raising, bivariate correlations were generated between each proxy and the actual values of the variables for which they are substituted in the first equation. In this case, the stronger the correlation between

instrumental and actual values, the better. This test revealed that the instruments serve quite well as proxies. In all cases the correlation was greater than 0.5 and highly statistically significant. Finally, since earlier studies have demonstrated that diminishing returns for spending are not a problem in Canada, given the regulatory constraints placed on campaign spending, it is safe to assume that all effects are linear and additive.

### **Does Local Spending Matter?**

As noted earlier, local candidates for Canada's major parties spend millions of dollars in support of their efforts to get elected. To give some guidelines as to the nature and partisan variations in this expenditure, Table 1 summarizes the pattern of campaign fund-raising and expenditure by local candidates for each of the five major parties contesting the 1993 and 1997 elections. The data reveal that while many local candidates manage to campaign within their means, Conservative candidates in both elections, and Reformers and Bloc Québécois (BQ) candidates in 1997, spent more than they raised during the campaign period. Only Liberal, Conservative (in 1993) and BQ candidates (1993 and 1997) were able to spend on average over one half of the permissible limit.<sup>9</sup> Clearly, there is sufficient variation in the financial capabilities of the parties to make it sensible to explore for the effects of spending on votes separately for each party. Is this activity futile, as some contend? Does this spending have any impact on the outcome of the local race?

Answers to this question are found in Tables 2 and 3. As expected, the estimates in Table 2, taken from the two-stage least squares procedure, offer the strongest and clearest confirmation that local spending matters. These models perform generally very well in explaining the variation in support for a party's candidates (adjusted R-squared figures range from a low of .229 for the Conservatives in 1993 to a high of .948 for the Reform party candidates in 1997). Turning to the coefficients of interest, of the 10 "own spending" measures, seven are significant and in the expected positive direction. One is positive but insignificant (Liberals in 1993), and the two spending coefficients for BQ candidates in the two elections are negative and insignificant. This overall picture offers clear and convincing evidence that the local campaign spending of most major party candidates has a measurable effect, enabling them to increase their support on election day. For most candidates, then, spending in support of their own election bids appears to be a sensible and productive activity.

In contrast to some earlier results showing weaker spending effects for candidates of incumbent governing parties (Eagles, 1993), there does not seem to be a large difference between the efficacy of spending by members of the governing Liberal party in 1997, or for the outgoing incumbent Conservatives in the 1993 election, and those of opposition

parties. Other things being equal, the magnitudes of the estimated impact of spending are highest for the Conservatives and the NDP candidates (each additional dollar spent locally by these candidates produced a .09 and .05 per cent increase respectively in the proportion of the popular vote won locally). For the Liberals in 1997, the increase in vote share for every additional dollar spent was .04 per cent, while for Reform in 1993 the comparable figure was .05 per cent and in 1997 it was .03 per cent.

This is only part of the picture, however. In Canada's multiparty system (in which Reform and the BQ were the only major parties not to field a full slate of candidates in all ridings), all candidates confront the combined spending of at least three rivals in any given constituency. Assessments of the impact of local spending that ignore this dimension will underestimate the total net effects of money on Canadian elections.<sup>10</sup> The second row of Table 2 reveals that the spending of rival candidates has a negative impact on the vote share going to many candidates. Of the ten coefficients tapping this dimension, all had the expected negative sign and six of the ten were statistically significant. The impact was most strongly negative for Conservative and Reform candidates and weakest for BQ, Liberal and NDP candidates. Overall, when the positive and negative effects of campaign spending are measured, a total of 13 of the 20 estimated spending coefficients in the models were significant and in the expected direction; none of the others was significant and in the expected direction.

Is it possible that our two-stage procedures overestimate the impact of spending on the vote by ignoring the possibility that candidates spend when they can raise money? If this is the case, as discussed above, simultaneity bias may remain in a system of equations because popular candidates will be able to raise more money in the first place. These well-financed candidates have the opportunity to spend at higher levels, thereby generating the appearance that it is their spending rather than their (prior) popularity that is responsible for their higher vote share (Cutler, 1999: 2-3). To remove this potential additional source of contamination from the error terms of the two equation model, it is necessary to estimate equation 3 (above) and to incorporate the predicted values for candidate fund-raising in place of the observed values for this variable in the first equation. This instrument will be purged of the error that results from unmeasured factors that influence the level of spending a candidate can mount in their campaign. The results of this exercise are presented in Table 3.

The inclusion of two instrumental (or "quasi-instrumental") variables in the regression equation qualifies our conclusions regarding the extent of spending effects, but it does not invalidate them. While all but two of the ten coefficients for "own spending" have the predicted positive sign, only four of these reach an acceptable level of statistical significance (Liberal

TABLE 1  
Campaign Spending and Fund-raising by Party, 1993 and 1997 (means)

Variable	1993 Lib.	1997 Lib.	1993 Cons.	1997 Cons.	1993 NDP	1997 NDP	1993 Ref.	1997 Ref.	1993 BQ	1997 BQ
\$ Total Spending	40,756	46,059	43,485	29,240	16,285	17,537	26,741	29,491	36,238	50,016
% Limit Spent	68.34	73.86	71.47	47.01	27.34	28.38	46.35	46.75	60.91	78.81
\$ Total Contributions	43,745	48,024	40,214	24,282	19,600	19,775	29,609	28,084	33,895	42,344

TABLE 2  
Major Party Campaign Spending and the Vote—1993 and 1997<sup>a</sup>  
(2SLS estimation; unstandardized coefficients/t-statistics)

Variable	1993 Lib.	1997 Lib.	1993 Cons.	1997 Cons.	1993 NDP	1997 NDP	1993 Ref.	1997 Ref.	1993 BQ	1997 BQ
\$ Campaign Spending <sup>b</sup>	.00005 (.341)	<b>.0004</b> (4.80)	<b>.0009</b> (4.36)	<b>.0006</b> (9.67)	<b>.0005</b> (7.66)	<b>.0005</b> (11.51)	<b>.0005</b> (4.89)	<b>.0003</b> (4.57)	-.0003 (-.95)	-.00005 (-.56)
\$ Total Opposition Spending	-.00004 (-1.22)	<b>-.0001</b> (-5.35)	<b>-.00008</b> (-2.08)	<b>-.00009</b> (-5.01)	<b>-.00003</b> (-2.48)	-.00001 (-1.09)	<b>-.00009</b> (-2.99)	<b>-.00007</b> (-5.29)	-.00004 (-.56)	-.00002 (-.85)
% Prior Vote	<b>.73</b> (2.59)	<b>.41</b> (9.19)	-.155 (-.97)	-.08 (-.72)	-.09 (-1.36)	<b>.28</b> (3.19)	<b>.73</b> (5.60)	<b>.60</b> (10.66)	n/a	<b>.75</b> (11.02)
Incumbent	<b>7.06</b> (2.20)	4.46 (4.56)	-1.32 (--.57)	<b>17.67</b> (4.12)	<b>5.68</b> (4.83)	-.004 (-.70)	<b>16.00</b> (2.35)	5.95 (5.75)	<b>8.82</b> (2.37)	<b>2.28</b> (1.98)
% French Home Language (1993)/ Mother Tongue (1997)	<b>-1.10</b> (-2.94)	-.04 (-1.10)	<b>.12</b> (1.72)	<b>.08</b> (2.35)	.03 (1.20)	.02 (1.07)	<b>-.80</b> (-2.57)	.01 (.40)	<b>.90</b> (4.18)	-.06 (-.71)
% Immigrant Population	.12 (1.57)	<b>.17</b> (4.29)	.14 (1.48)	-.07 (-1.62)	.02 (.77)	.04 (1.56)	<b>-.43</b> (-3.82)	<b>-1.10</b> (-3.00)	.32 (1.42)	-.12 (-1.10)

TABLE 2 (CONTINUED)

Variable	1993 Lib.	1997 Lib.	1993 Cons.	1997 Cons.	1993 NDP	1997 NDP	1993 Ref.	1997 Ref.	1993 BQ	1997 BQ
% Managers	.13 (.73)	.36 (2.00)	.04 (.15)	-.68 (-3.34)	-.08 (-.87)	.05 (.36)	-.17 (-.67)	-.44 (-3.62)	.15 (.34)	-.38 (-1.53)
Total Population	-.0004 (-1.39)	<b>-.00007</b> (-1.76)	<b>-.0002</b> (-3.30)	-.00005 (-1.26)	.000002 (.16)	.000003 (.10)	<b>.0001</b> (2.64)	-.00005 (-1.50)	<b>.0002</b> (2.04)	.00004 (-.96)
Newfoundland	<b>9.68</b> (2.87)	<b>-14.83</b> (-5.31)	-2.25 (-.40)	<b>10.45</b> (3.53)	2.35 (1.27)	<b>15.97</b> (8.00)		-2.27 (-.92)		
Maritimes	-3.18 (-.99)	<b>-14.94</b> (-8.49)	4.51 (1.34)	<b>4.38</b> (2.24)	<b>3.99</b> (3.37)	<b>11.85</b> (9.38)		-1.76 (-1.31)		
Quebec	-3.19 (-1.18)	.94 (.39)	<b>-10.53</b> (-2.12)	4.23 (1.64)	2.16 (1.23)	.28 (.16)		-.73 (-.32)		
Sask.-Man.	-3.85 (-1.44)	<b>-10.22</b> (-5.79)	2.70 (.75)	.84 (.46)	<b>5.81</b> (5.09)	<b>5.74</b> (3.75)		<b>2.23</b> (2.05)		
Alberta	-5.88 (-1.96)	<b>-6.08</b> (-3.46)	-1.71 (-.47)	-1.45 (-.87)	<b>3.01</b> (2.86)	1.87 (1.63)		<b>3.23</b> (2.21)		
British Columbia	<b>-7.37</b> (-2.10)	<b>-8.45</b> (-4.96)	-.17 (-.06)	1.66 (.99)	-1.77 (-1.64)	-.51 (-.43)		<b>6.60</b> (5.95)		
North	-.35 (-.07)	<b>-14.90</b> (-3.29)	-11.34 (-1.33)	4.75 (.99)	<b>14.91</b> (4.95)	<b>5.89</b> (1.77)		1.99 (.65)		
Constant	<b>23.88</b> (1.99)	<b>14.45</b> (3.33)	1.78 (.33)	<b>19.00</b> (4.26)	1.81 (.93)	-.77 (-.28)	<b>20.95</b> (4.38)	<b>18.55</b> (6.24)	-30.87 (-1.60)	<b>16.76</b> (2.11)
Adjusted R-sq	<b>.847</b>	<b>.810</b>	<b>.229</b>	<b>.679</b>	<b>.797</b>	<b>.852</b>	<b>.802</b>	<b>.948</b>	<b>.676</b>	<b>.900</b>
F	109.27	86.11	6.83	43.37	77.75	116.38	43.04	271.64	23.01	84.48
Sig. of F	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

a Dependent variable is per cent of valid vote in riding (N=295 in 1993; N=301 in 1997). The 1993 models were calibrated using 1991 census data. The 1997 models were calibrated using 1996 census data. Prior vote figures for 1993 election used in the 1997 models come from Elections Canada's transpositions of the vote onto the new boundaries. Coefficients significant at the .05 level or better are shown in bold (i.e., a t-statistic of 1.65 or higher for a one-tailed, directional, test).

b Instrumental variable, values taken from first stage equation.

TABLE 3  
Major Party Campaign Spending and the Vote—1993 and 1997  
(3SLS estimation; unstandardized coefficients/t-statistics)<sup>a</sup>

Variable	1993 Lib.	1997 Lib.	1993 Cons.	1997 Cons.	1993 NDP	1997 NDP	1993 Ref.	1997 Ref.	1993 BQ	1997 BQ
\$ Campaign Spending <sup>b</sup>	<b>-0.0001</b> (-36)	<b>.0005</b> (4.65)	<b>.001</b> (3.02)	.0004 (.39)	<b>.001</b> (2.17)	<b>.001</b> (2.88)	.0003 (1.61)	.00005 (.42)	.002 (.43)	.0002 (-1.27)
\$ Funds Raised <sup>b</sup>	.00004 (.21)	<b>-0.0002</b> (-1.68)	-0.0001 (-.40)	.07 (.25)	-0.001 (-1.43)	-0.0007 (-1.58)	.0002 (1.34)	<b>.05</b> (1.93)	-0.002 (-.52)	<b>.0003</b> (1.83)
\$ Total Opposition Spending	<b>-0.0004</b> (-1.84)	<b>-0.0001</b> (-5.13)	-0.00008 (-1.60)	<b>-0.00009</b> (-5.04)	<b>-0.00003</b> (-1.69)	-0.00001 (-.50)	<b>-0.0001</b> (-3.23)	<b>-0.00007</b> (-5.38)	-0.0003 (-.59)	.00003 (-.86)
% Prior Vote	<b>.69</b> (8.10)	<b>.47</b> (7.75)	-0.17 (-.96)	-0.05 (-.32)	-0.22 (1.49)	<b>.66</b> (2.31)	<b>.69</b> (5.55)	<b>.65</b> (9.99)	n/a	<b>.69</b> (7.67)
Incumbent	<b>7.64</b> (4.67)	<b>4.47</b> (4.18)	-1.04 (-.40)	<b>18.06</b> (4.07)	<b>6.47</b> (2.98)	.03 (1.28)	<b>11.91</b> (1.68)	<b>4.03</b> (2.74)	24.25 (.78)	<b>2.96</b> (2.08)
% French Home Language (1993)/ Mother Tongue (1997)	<b>-0.08</b> (-2.12)	-0.05 (-1.30)	.14 (1.62)	.12 (.71)	.04 (1.11)	.07 (1.52)	-0.56 (-1.61)	.003 (.09)	.71 (1.21)	<b>-0.23</b> (-1.67)
% Immigrant Population	<b>.15</b> (2.28)	<b>.23</b> (4.15)	.16 (1.43)	.01 (.04)	.06 (.99)	<b>.13</b> (1.84)	<b>-0.34</b> (-2.83)	-0.06 (-1.42)	.44 (.81)	<b>.31</b> (-1.86)
% Managers	.24 (1.36)	.32 (1.62)	.15 (.37)	-0.41 (-3.8)	-0.04 (-.22)	-0.01 (-.04)	-0.25 (-1.02)	<b>-0.56</b> (-3.96)	.13 (.13)	<b>-0.69</b> (-2.03)
Total Population	-0.00002 (-.48)	-0.00004 (-.95)	<b>-0.0002</b> (-3.07)	-0.00006 (-1.32)	.000003 (.13)	.00004 (.74)	<b>.0001</b> (1.67)	<b>-0.00008</b> (-2.15)	.0002 (.98)	<b>-0.0001</b> (-1.82)
Newfoundland	<b>11.48</b> (3.77)	<b>-13.33</b> (-4.20)	-2.00 (-.33)	17.34 (.64)	3.34 (.99)	<b>19.96</b> (4.91)		-1.46 (-.56)		

TABLE 3 (CONTINUED)

Variable	1993 Lib.	1997 Lib.	1993 Cons.	1997 Cons.	1993 NDP	1997 NDP	1993 Ref.	1997 Ref.	1993 BQ	1997 BQ
Maritimes	-1.19 (-.62)	<b>-13.87</b> (-6.82)	4.70 (1.29)	6.79 (.70)	<b>4.05</b> (1.91)	<b>12.57</b> (6.09)		-1.24 (-.86)		
Quebec	-4.03 (-1.30)	3.23 (1.10)	<b>-11.62</b> (-1.95)	4.92 (1.33)	2.19 (.70)	-1.93 (-.60)		1.10 (.43)		
Sask.-Man.	-1.23 (-.48)	<b>-9.78</b> (-5.04)	3.32 (.80)	2.09 (.40)	2.33 (.74)	2.37 (.73)		1.07 (.83)		
Alberta	<b>-6.69</b> (-2.87)	<b>-4.69</b> (-2.25)	-.90 (-.21)	1.34 (.12)	<b>4.96</b> (2.14)	2.76 (1.44)		<b>2.99</b> (1.89)		
British Columbia	<b>-7.04</b> (-3.61)	<b>-7.35</b> (-3.73)	1.06 (.24)	2.43 (.71)	2.16 (.65)	1.65 (.71)		<b>4.89</b> (3.35)		
North	.40 (.08)	-9.39 (-1.58)	-11.06 (-1.21)	7.85 (.60)	<b>14.48</b> (2.69)	<b>10.93</b> (1.77)		.47 (.14)		
Constant	<b>24.20</b> (7.11)	<b>12.06</b> (2.44)	-.00008 (-1.60)	13.86 (.67)	2.87 (.81)	-5.90 (-1.08)	<b>22.86</b> (4.86)	<b>21.91</b> (6.15)	-2.12 (-.30)	<b>38.96</b> (2.53)
Adjusted R-sq	<b>.847</b>	<b>.781</b>	<b>.201</b>	<b>.693</b>	<b>.545</b>	<b>.692</b>	<b>.822</b>	<b>.943</b>	<b>.257</b>	<b>.866</b>
F	102.43	67.97	5.63	43.24	23.03	43.14	45.73	232.50	4.15	53.99
Sig. of F	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0005	.0000

a Dependent variable is per cent of valid vote in riding (N=295 in 1993; N=301 in 1997). The 1993 models were calibrated using 1991 census data. The 1997 models were calibrated using 1996 census data. Prior vote figures for 1993 election used in the 1997 models come from Elections Canada's transpositions of the vote onto the new boundaries. Coefficients significant at the .05 level or better are shown in bold (i.e., a t-statistic of 1.65 or higher for a one-tailed, directional, test).

b Instrumental variables, values taken from first/second stage equations.

candidates' spending in 1997, Conservative candidates' spending in 1993, and NDP candidates' spending at both elections). What is interesting to note, however, is that once differences in fund-raising capacities are statistically controlled, the magnitude of the spending coefficients actually *increases* over those generated by two-stage estimation. For example, for each additional dollar spent by Liberal candidates in the 1997 election, their share of the popular vote in the riding increased by .05 per cent. Similarly, for PC candidates in 1993, and NDP candidates in both elections, a \$1 increase in spending produced a 0.10 per cent increase in their popular vote, net of all other influences. These results suggest that local spending can be a substantively important source of support for a candidate.

By contrast, only three coefficients for "fund-raising" register as statistically significant effects. Interestingly, however, once the direct effects of spending on the vote were controlled, the impact on the Liberal vote of funds raised in 1997 was significantly *negative*. In fact, only in the case of Reform candidates in 1997 does it appear that the putative positive impact of spending on their vote share (as uncovered in the 2SLS estimates shown in Table 2) was actually attributable to the superior fund-raising efforts of their most successful candidates. In the case of BQ candidates in 1997, other things being equal, there was no positive effect on their vote share associated with their own spending (either in the 2SLS or the 3SLS models), but there does appear to be a positive effect associated with their ability to raise money in that election campaign.

As in the analyses presented in Table 2, not only does campaign spending enhance the vote shares of the candidates for many parties participating in Canadian elections, but it seems equally clear that local spending hurts the electoral performance of rivals. All ten coefficients for "opposition spending" in the models presented in Table 3 have the expected negative sign, and six of them are statistically significant. The relatively small magnitude of the coefficients is at least partially offset by the fact that the measure combines the spending of all major party rivals (in some cases, candidates faced major party opponents spending upwards of \$200,000 in the riding).

An illustration of the potential impact of spending effects may help put this analysis in a broader and less abstract context. An overly simple but nonetheless revealing indicator of what is potentially at stake can be taken from the 1997 (3SLS) results presented in Table 3. If all Liberal candidates had increased their spending to the legal maximum in that election, on average they would have attracted 8.3 per cent more of the local vote (57 ridings had Liberal candidates winning or losing that year by less than this margin). Of course, a hypothetical increase in spending in opposition to the Liberals would attenuate this somewhat. In a much less plausible but nonetheless interesting scenario, had all three major opposition parties increased their election expenses to the maximum, Liberal candidates



would hypothetically have lost on average approximately 10.5 per cent of the local vote. Taking these two simulated effects together, the average net difference resulting from this simplified simulation was -2.4 per cent for Liberal candidates—sufficient to alter the result in ten local races (Liberal candidates would have won seven new seats, but lost three of those they had taken in 1997). With the actual election resulting in a slim four-seat overall majority for the victorious Liberals (who won a total of 155 of the 301 seats up for grabs in 1997), these potential spending effects cannot be ignored. Clearly, not just seats but also governments are at stake. Even for the candidates of incumbent governing parties, local spending has the potential to deliver or lose seats.

### Conclusion

The analyses presented in this article have established that local spending by candidates is indeed effective in shaping the distribution of party vote shares at the riding level. Controlling for other factors, spending in support of one's own candidacy generally increases one's support, and spending by one's rivals tends to diminish it. While the impact is not uniform across parties or elections, it is clear that even within the relatively strict confines of Canada's statutory spending limits, candidates' spending efforts can and do have an impact. These conclusions are most strongly supported by the two-stage estimations in which the simultaneity associated with campaign spending and the vote alone is removed. They are also apparent in the more conservative three-stage least squares tests (where potential additional feedback from the fund-raising capabilities of candidates is also removed). The simple illustrative simulation based on the 1997 results indicates that differences in spending are associated with the movement of sufficient votes to be potentially decisive in some ridings.

In short, there are real opportunities for local campaign spending to affect the local outcome, opportunities that candidates ignore at their peril. In their efforts to raise and spend money locally at election time, Canada's parties and their candidates are not behaving as hopeless romantics clinging to an idealized but anachronistic version of grassroots democracy. Far from representing empty rituals, or vestiges of an earlier era of pre-professional campaigning, these local activities continue to have consequences in the complex shaping of the electoral outcomes and of government formation in Canada.

### Notes

- 1 It is difficult to assess precisely how much of a candidate's financial support comes from local (that is, within district) sources, but in 1997, for example, less than 20 per cent of the total amount contributed to all candidates came from registered political

- parties. This suggests that there is limited scope for the spatial targeting of campaign resources by centralized party campaign organizations (see Carty et al., 2001).
- 2 For comparative evidence that suggests that campaign resources may on occasion be misallocated by British parties as compared to expectations based on rational targeting aimed at seat maximization, see Denver and Hands, 1997b: 256-59. A different set of dynamics is producing a sub-optimal allocation of campaign resources in American House elections—see Jacobson (1993).
  - 3 While the relationship between candidate fund-raising and spending is strongly positive, it is not perfect. In 1997, the zero order correlation between funds raised and spent locally ranged from a high of .927 for the NDP to .435 for the Liberals (for the Conservatives,  $r = .793$ ; BQ,  $r = .655$ ; and Reform,  $r = .854$ ).
  - 4 The actual amounts spent locally are hardly trivial. In the 1997 election, Elections Canada reported that, taken together, registered political parties spent \$34,921,726 on their campaigns while candidates collectively spent \$39,172,431. Regrettably, while the latter expenditures are carefully tabulated, it is not known how or where the national party offices spend their campaign money. Some of it will, of course, be spatially targeted through advertising buys in particular media markets. Records of this kind of expenditure are unavailable.
  - 5 Zaller (2002) argues that even effects responsible for 5-10 per cent swings in vote choices can escape detection in surveys with several thousand respondents. Though developed in the context of media exposure research, his findings have potentially much broader application. Cutler's null findings in 1993 and 1997 result from analyses of fewer than 1,200 cases.
  - 6 Obviously, the larger the number of instrumental variables included, the higher the cost. For this reason, and in light of the robustness of 2SLS estimators generally, analysts tend to prefer two equations to other simultaneous equation alternatives (Kennedy, 1985): 134. Presenting both two- and three-stage least squares results below, readers are invited to follow their own preference in this respect. As will become evident, both techniques lead to essentially the same general conclusion.
  - 7 Because of the intervening adjustment of electoral boundaries between the 1993 and 1997 elections, Elections Canada's transposition of the 1993 vote onto the 1997 boundaries are employed in the analysis of the latter election.
  - 8 While there is agreement that the closeness of the current race is a crucial influence on the ability of candidates to raise and spend campaign money, scholars disagree about how the local competitiveness of candidates is best measured. Cutler (1999: 8) argues that the federal competitiveness of the party in each province is the best proxy of the local potential of its candidates on the grounds that party strategists will have access to polling results at this level. It is likely, however, that campaigners in the constituency trenches will have a much more finely grained and continuously updated appreciation of the relative competitiveness of their candidates during the campaign than the aggregate results of provincial polls, and for this reason, marginality measures used here are based on the outcome of the current race in the local constituency.
  - 9 The formula for establishing the allowable spending limit for candidates in each riding is spelled out in Section 441 of the *Canada Elections Act*. Essentially, the law provides for a candidate to spend \$2.07 per elector for the first 15,000 electors; \$1.04 per elector for the next 10,000 electors; and 0.52 for each remaining elector. Adjustments to this basic formula are made for lower than average population and low population density districts. The consolidated "Federal Electoral Legislation" is available online at [www.elections.ca](http://www.elections.ca) (January 27, 2003).
  - 10 In 1993, NDP and Reform candidates faced the highest average level of rival spending (\$113,396 and \$105,131 respectively) whereas the Conservative candidates faced the lowest spending rivals (on average, only \$86,196). In 1997, however, BQ candidates tended to face the highest spending oppositions. In 1997, BQ rivals spent on

average a total of \$115,076, whereas Liberal candidates faced an average of only \$81,480 in expenditures by their local opponents.

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