



Discussion Papers in Economics

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THE UK USING THE EXPENSE CLAIMS OF MPS**

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DP 01/08

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ISSN: 1749-5075

Determining Constituency Marginality in the UK Using the Expense Claims of MPs

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Abstract

A United Kingdom (UK) parliamentary seat is commonly referred to as 'marginal' if the majority is less than 10% of votes cast thus rendering the seat vulnerable on a swing of 5%. This paper investigates whether the spending behaviour of MPs on selected constituency service expenditure categories can offer insights on what constitutes a 'marginal' seat within the UK 'first-past-the-post' electoral system. The possible existence of a non-linear relationship between the expense claims of MPs and the size of the constituency majority provides the basis for such an insight. This paper thus investigates the empirical nature of this non-linear relationship using separate specifications based on quadratic and piece-wise linear splines in constituency majority size. The empirical analysis reported for the behavior of MPs appears broadly consistent with the conventional definition used to classify a 'marginal' constituency in the UK.

JEL Codes: D72, P16

Keywords: marginality, expense claims, postage, stationery, Members of Parliament

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Introduction

The publication of detailed accounts relating to the expense claims of United Kingdom (UK) parliamentarians in October 2004 attracted significant media attention and generated some adverse public comment.¹ Members of Parliament (MPs) defend the incidence and scale of the claims arguing that such expenses are essential in delivering an effective level of constituency service – a feature of their workload that has been growing in importance since the mid-1960s (see Norton and Wood (1993, p.41) and Barker and Rush (1970)). The published data on the expenses of MPs have recently been used to investigate the key determinants of such discretionary expense claims focusing on the role of individual and constituency characteristics and offering inferences on taxpayer value for money (see Besley and Larcinese (2005)).

The data on expense claims for MPs, however, are potentially useful in other respects. For instance, they could reflect the rational behaviour of MPs and may thus be informative, for example, on the ‘marginal’ or ‘safe’ status of a parliamentary seat. Although it is possible to label Westminster seats as ‘marginal’ or ‘safe’ according to the length of time they have been continuously held by the same political party², it has become conventional to classify a parliamentary seat in Britain as ‘marginal’ if the winner’s majority is less than 10% of the votes cast thus rendering it vulnerable on a 5% swing.³

There is a literature for the UK that examines the relationship between the disbursement of central government and local authority grants and marginal constituencies (for example, see Ward and John (1999) and John and Ward (2001)). However, there has been hitherto, given a lack of relevant data, no research for the UK that explicitly examines the relationship between expenditure behaviour at the level of the individual

¹ For example, see the findings of the *YouGov* poll carried out for the *Mail on Sunday* on October 22-23, 2004. See http://www.yougov.com/archives/pdf/DBD040101010_2.pdf

² See <http://www.electoral-reform.org.uk/news/safeseats.htm>

³ For example, see <http://www.mori.com/mrr/2001/c010119.shtml>. Definitions vary across countries partly in accordance with electoral systems. However, we suspect most are similarly traditional rather than ‘scientific’.

MP and the marginal nature of a constituency. The primary objective of the current paper, therefore, is to ascertain the extent to which the reported data on the expense claims of MPs are consistent with a conventionally accepted definition of marginality.⁴ Our contention is that there is a non-linear relationship between MPs' claims for expenses, assumed driven in large part by constituency service, and the size of the constituency majority. The existence of a turning-point in an inverted U-shaped expenses/majority size relationship, beyond which the constituency is not regarded as 'marginal', is implicit in this type of non-linearity. In order to investigate this empirical relationship, the expense claims on categories of expenditure likely to be highly correlated with constituency service are used. Two categories taken to reflect strongly this role are postage and stationery and both are used in the analysis conducted in this study. It could be argued that electoral campaign expenses provide an alternative proxy measure that could be used in this context. However, this could be taken to capture more effectively the MP's effort at election time rather than reflect effort in terms of constituency service over the parliamentary tenure of the MP. Thus, the use of the electoral campaign expenses measure is eschewed in the current study.⁵

This paper begins with a section describing the data used and its usefulness in the current context. This is then followed by a section that explains the empirical methodology adopted. The penultimate section of the paper reports the empirical results and a final section provides a summary and some concluding remarks.

⁴ A recent article by Sam Coates, the chief political correspondent of *The Times* (issue dated Friday 26th October 2007, p.4), highlighted the fact that three Labour MPs in marginal constituencies claimed the largest amounts in expenses for the previous financial year, and emphasizes the relationship between MPs expenses and constituency 'marginality'

⁵ The estimated correlation coefficients between campaign expenses and the stationery and postage measures used in the current study are low indicating that the former is poor at capturing constituency service effort.

Data

In March 2001 the Review Body on Senior Salaries (SSRB) recommended fundamental changes to the way in which MPs are funded and reimbursed for their office expenses. In addition to salary and pension arrangements, MPs also receive a number of allowances including a staffing allowance, travel and car allowances, additional costs allowance and London supplement allowance. In 2004 the Speaker of the House of Commons decided, on the advice of the House of Commons Commission, that details of the expenses claimed by individual MPs for these allowances would be made available on the Parliamentary website.⁶

The current study uses data on selected expenditures by Members of the House of Commons who were elected either at the UK General Election on the 7th of June 2001 or at the subsequent six by-elections during the 2001-2005 parliamentary session. As noted above, we focus on just two categories of expenditure – stationery and postage. Though these may not be perfect measures that completely capture variations in constituency service, they have two distinct advantages. First, they are easier to determine than other possible indicators: time spent in constituency surgeries would be an alternative measure but would pose considerable (possibly insuperable) problems in terms of data measurement and collection. In contrast, we already have annual data available for Members on the cost of centrally purchased stationery for four financial years 2001/02, 2002/03, 2003/04 and 2004/05 and on postage for two (2003/04 and 2004/05). Second, the volume of correspondence between MPs and their constituents and (as a bi-product) between MPs and ministers has been considered an informative indicator by researchers interested in constituency service among British legislators (for example, see Norton and Wood (*op.cit.*, pp.43-46) and Barker and Rush (*op.cit.*)). It is, of course, another matter whether such correspondence results in much more than reassurance, as opposed to changed outcomes, for constituents (see Rawlings (1990)) or whether the correspondence, and constituency service in general, actually eventuates in improved electoral performance for the MPs involved (see Cain, Ferejohn, and Fiorina (1991)). The

⁶ Figures for the allowances claimed by each Member for each year since 2001/02 can be found at http://www.parliament.uk/site_information/allowances.cfm.

important consideration is that MPs appear to think either it does or, in the event of a close electoral race, it might (see Barker and Rush (*op.cit.*, p.177)).

In addition to providing information on expenditures by MPs, the data supplied by the House of Commons contain some limited individual-level information. The variables used and their associated summary statistics are reported in table 1. The set of variables employed includes measures on length of service, gender, age, party affiliation and constituency size. The data on the MP's constituency majority are taken from *The Daily Telegraph, General Election Supplement*, Saturday the 9th of June 2001. Data on the constituency majority at by-elections are taken from various issues of *The Times* newspaper.

The empirical analysis is conducted using data pooled by cross-section and financial years from 2001/2 to 2004/5 for stationery (inclusive), and for just two years (2003/4 and 2004/5) in the case of postage. It can be seen from the first two rows of table 1 that expenditures vary widely across those MPs that report positive values for these items⁷, ranging from £36 to £38,750 for postage and from £4 to £13,841 for stationery over the relevant time periods. The second interesting feature of the data is that the size of the constituency majority also varies widely from a fragile 33 to a more formidable 21,949. This table also reveals large disparities in the age and length of service of MPs.

TABLE 1 ABOUT HERE

⁷ There were no expenditures reported for a small number of MPs. For postage, seven and 14 MPs reported zero expenditures in 2003 and 2004 respectively. For stationery, eight, four, seven and six MPs reported a zero expenditure for 2001, 2002, 2003, and 2004 respectively. Given the use of a logarithmic transformation of the dependent variable (see text), these observations are not used in our empirical analysis. The small degree of censoring of the dependent variable introduced through excluding these observations materially alters the empirical results reported in this paper.

Empirical Methodology

The methodology adopted in this paper exploits the ordinary least-squares (OLS) estimation procedure. If we suppress the time subscript for ease of exposition, the expense amount claimed by the i^{th} MP can be defined as y_i and the relationship expressed as follows:

$$\ln(y_i) = \mathbf{x}_i' \boldsymbol{\beta} + f(m_i) + u_i \quad i=1, \dots, N \quad [1]$$

where $\ln(\cdot)$ is the natural logarithm operator, \mathbf{x}_i is a vector of characteristics for the i^{th} MP, m_i denotes the size of the majority, $f(\cdot)$ denotes the form of the relationship for m_i (see below), $\boldsymbol{\beta}$ is a vector of unknown parameters to be estimated, N is the sample size and u_i is an error term for which conventional least-squares assumptions are made.⁸ The use of logarithms compresses the scale of the dependent variable, which is desirable given the range of the series in this case, and enables a more intuitive interpretation of the regression coefficients in terms of proportional changes.⁹

Although the data are panel in structure, almost all the explanatory variables are time invariant and this renders inappropriate the use of certain conventional panel estimators (e.g, the fixed effects estimator). In addition, the short temporal dimension of the data (either two or four years) and the time invariant nature of the regressors also render infeasible use of Cochrane-Orcutt type corrections for the presence of autocorrelation.¹⁰

⁸ A key assumption of primary concern in this study relates to the existence of a constant error variance in the regression model (i.e., the assumption of homoscedasticity).

⁹ It is acknowledged that the choice of transformation for the dependent variable is not entirely straightforward and use of maximum likelihood estimated Box-Cox models (see Box and Cox (1964)) rejected both logged and non-logged forms for both expenditure categories. However, this finding should not be construed as offering evidence in favour of the more general Box-Cox model. A further examination of comparable unadjusted- R^2 values provided some tentative evidence favouring the logged form for the dependent variable for postage and the non-logged form for stationery (see table 2).

¹⁰ Beck and Katz (1995) suggest use of panel corrected standard errors on the basis of Monte Carlo simulation evidence. However, their analysis was cast in terms of relatively long time periods and none of the Monte Carlo evidence documented was conducted for applications where T was relatively short as in our case. In addition, the time-invariant nature of the regressors in our application also poses problems for the use of such panel corrected standard errors. We believe that in the current application, given that the number of cross-sectional units is extremely large relative to the time periods and dominate the variation in

The hypothesis relating expenditure patterns to the size of the i^{th} MP's constituency majority is investigated through an explicit form assumed for $f(m_i)$. Two approaches are used in this study to investigate the proposition of interest and these are now discussed in turn. A quadratic form could be assumed for the relationship where:

$$f(\mathbf{m}) = \gamma_1 m_i + \gamma_2 m_i^2 \quad [2]$$

The estimated values obtained for γ_1 and γ_2 provide information on the nature of the relationship between expenditure and constituency majority size. If both estimated values are well determined, this suggests the existence of a non-linear relationship and if $\gamma_1 > 0$ and $\gamma_2 < 0$, then an inverted U-shaped relationship exists between the two variables. This could be taken to reflect, on average, rational behaviour on the part of MPs. The size of the constituency majority at the stationary point of the inverted U-shaped relationship, computed using some basic differential calculus, is $m_{\text{stationary}} = \frac{\gamma_1}{-2\gamma_2}$. This reveals the average constituency majority at which expenditures start to fall. The stationary or turning point can then be compared to the average number of votes cast per constituency to determine an empirical estimate for what constitutes a 'marginal' constituency.

The quadratic form is sometimes viewed as a rather blunt non-linear approximation. One criticism is that it allows the rise (as reflected in the linear term) to occur too slowly and the fall (the quadratic term) to occur too rapidly. Thus, an alternative approach potentially useful in this context exploits linear splines.¹¹ These replace the m_i variable by a set of piece-wise linear segments allowing majority size to exert differential effects on expenditure patterns at different portions of the majority size distribution. For example, if we assume for simplicity two linear segments, the form is expressed as:

the dependent variable, cross-sectional heteroscedasticity is likely to present the more significant econometric problem in need of address.

¹¹ Gujarati, (2003, pp.317-319) offers a brief but accessible introduction to this topic. Strictly speaking, the splines are piece-wise linear.

$$f(m_i) = \phi_1 m_i + \phi_2(m_i - m^*)D_i \quad [3]$$

where m^* is now a threshold value known as a knot (or node) determined in advance, and D_i is a binary (or dummy) variable which equals 1 if $m_i > m^*$ and 0 if $m_i \leq m^*$. The estimated effect for ϕ_1 provides the average *ceteris paribus* effect of majority size on expenditure if the constituency majority falls within the first linear segment (i.e., is less than some value m^*). The sum of the estimated effects $\phi_1 + \phi_2$ provides the average effect of majority size on expenditure if the constituency majority falls within the second linear segment (i.e., is greater than some value m^*). The estimated effect corresponding to ϕ_2 provides a basis for testing whether there is a break in the empirical relationship at the threshold value m^* . The t-ratio corresponding to this estimate provides a statistical test for the differential in slopes between the two linear segments. In our application the estimated effect for the first linear segment is anticipated to be positive and negative for the second.

It is clear that the number of piece-wise linear splines could be increased to reflect the behaviour of the data but this proved unnecessary in the current application (see below). A key empirical issue in the implementation of the approach, however, relates to determining the optimal knots that delineate these segments. In our case, the choice of knots and the number of splines is determined by experimentation with the final selection prompted by regression model goodness-of-fit considerations. It is arguable that the reliance on a close coherence with the observed data in this approach renders it conceptually more persuasive than the quadratic form.

Empirical Results

Table 2 reports OLS estimates for a pair of specifications for each of the two expenditure categories. As noted earlier, the data points for each MP are pooled across the short time period available. The number of observations used in estimation is thus different since the data relating to the postage expenditure category are only available for two financial years. The adjusted-R² values, conveying information on the goodness-of-fit of the estimated regression models, are relatively modest in all cases. Given the presence of heteroscedasticity, the OLS standard errors are corrected using a sandwich estimator (see White (1980); Huber (1967)).

Attention now turns to the estimated effects reported for the postage equation with an initial emphasis on the specification containing the linear and quadratic terms in constituency majority – see expression [2] above. There is strong evidence of a gender differential in expenditure on this category (with male MPs spending about 20% less than female MPs), and postage expenditure tends to decline both with age and length of service, on average and *ceteris paribus*. This may reflect the fact that older and longer serving MPs have well established networks that substitute for the type of constituency service captured by postage expenditure. It is also consistent with the notion that younger and newer MPs are perhaps more enthusiastic and energetic in engaging in such constituency service. This would accord with Norton and Wood’s findings concerning the type of electoral cost-benefit analysis undertaken by MPs – though admittedly their evidence was relevant for Conservative rather than Labour MPs (see Norton and Wood, (*op.cit.*, ch. 7)).

There are differences in expenditure patterns across political parties. Labour MPs, on average and *ceteris paribus*, spent 56.7% more on postage than their Conservative counterparts.¹² This may be attributable to the fact that the former are still likely to represent ‘[u]rban and poor rural constituencies [that] are generally assumed to generate

¹² Given the use of a logarithmic dependent variable and a binary dummy variable, the estimated Labour coefficient (β) is transformed as follows $[\exp(\beta) - 1] \times 100$ to yield the relevant percentage effect reported in the text.

more casework than the more affluent suburban constituencies (Norton and Wood (*op.cit.*, p.45))' generally represented by the latter, although some researchers suggest that this may be offset or even trumped by the greater willingness and capacity of more affluent voters to contact their MP by letter (see Barker and Rush (*op.cit.*, p.231)). The difference between Labour and Conservative members could equally well be explained by the fact that, since the large (and continuing) influx of state-educated university graduates into the Labour ranks began in the 1960s, Labour MPs have a stronger ethic of professionalized welfare service (see Barker and Rush (*op.cit.*, p.194) and Norton and Wood (*op.cit.*, p.141)). But it may also reflect the Labour party's re-election strategy that encouraged MPs to dedicate considerable time to their constituencies in order to promote party policies and consolidate their electoral support (see Cowley *at al.* (2001)). This strategy, along with a widely assumed increase in both vulnerability and the proportion of 'professional' or 'career' politicians (see King (1981)) may render Norton and Wood's cost-benefit or 'life-cycle' explanation as relevant now for the recent cohorts of Labour MPs as it was originally for earlier vintages of Conservative MPs. The most important explanation, though, may be as Norton and Wood reasoned, '[t]he "in" party will be populated by more rational actors than it will when it is "out" (Norton and Wood (*op.cit.*, p.191))'. The current crop of Labour MPs is now comprised of newer and younger individuals who, in the face of electoral defeat, clearly have something substantial to lose.

A positive relationship is detected between postage and the size of the constituency, which represents a potential proxy for the workload of the MP. For instance, on average and *ceteris paribus*, a rise of 1,000 in the size of the constituency raises expenditures on postage by 1.5%.

Attention now turns to the estimated effects for the linear and quadratic terms in the constituency majority variable, which are both well determined and possess, *a priori*, the correct signs. The estimates appear consistent, on average, with rational behaviour on the part of MPs. The size of the constituency majority at the stationary point corresponding to the inverted U-shaped relationship is computed at 7,048. This indicates the average constituency majority at which postage expenditures by MPs initially start to fall.

The coefficient estimates for the stationery expenditure category in column two of table 2 are in broad comport with the estimates reported for the postage equation, though the differential in stationery expenditures between Labour and Conservative MPs is slightly attenuated. There is evidence of a decline from the early years to the financial base year of 2003/4, and then an increase of about 8% in the subsequent financial year relative to this base year. This could be taken to reflect the effect exerted on constituency service by the closer temporal proximity of a general election. The linear term in the constituency majority is also slightly less well determined but achieves statistical significance at an acceptable 0.06 level. The turning point computed using the relevant estimates in this column is somewhat lower than for the postage category, however, and suggests that, on average and *ceteris paribus*, stationery expenditures start to decline when the average majority exceeds 5,242 votes.¹³

The final two columns of table 2 report estimates based on expression [3] to model the constituency majority. After careful investigation¹⁴, two linear splines were found to best fit the data and the optimal knots were detected at majorities of 4,000 and 3,300 votes for the postage and stationery categories respectively.¹⁵ The estimated coefficients for the other controls, as compared to those reported for the models containing the linear and quadratic terms, appear invariant to the use of linear splines and thus warrant no further comment.

The estimated effects for the splines are extremely well determined individually and, on the basis of priors, register correct signs in both specifications. For instance, the point estimates for the first spline in both cases are positive and well determined. The point estimates for the second spline (the sum of the two spline coefficients) in both cases are negative and well determined. The estimated effects for the second spline are statistically

¹³ The estimated turning points are 6,581 and 6,163 if the non-logged dependent variable is used for the postage and stationery categories respectively.

¹⁴ The knots were experimentally altered by 100 votes in turn and the models re-estimated. The regression model that generated the highest unadjusted R^2 was chosen and this yielded the knots reported in this study.

¹⁵ The optimal knots are 4,000 and 3,600 if the non-logged dependent variable is used for the postage and stationery categories respectively.

different from zero in both specifications confirming the sharp change in average expenses' claim behaviour after the chosen knots. The estimated effects suggest a sharper downturn in postage compared to stationery expenditures beyond the relevant knot. In addition, the specifications containing the two linear splines fare slightly superior than the quadratic forms on the basis of the adjusted-R² measures, though the increment in fit appears modest.

TABLE 2 ABOUT HERE

The values computed for the turning points for the quadratic form and those chosen for the knots in the spline function can now be used to inform on the 'marginal' status of the average constituency. As noted earlier, it is conventional to classify a seat as 'marginal' if the majority is less than 10% of the votes cast. We now endeavour to assess the extent to which this provides an accurate benchmark for the classification of a 'marginal' constituency given the observed expenditure behaviour of MPs. The coefficient estimates reported here are based on mean (or sample average) regression estimates. An average estimate for the votes cast per constituency in the 2001 General Election is thus required and is computed at 39,862.9.¹⁶

In the first instance we use estimates based on the quadratic relationship [2] for the postage category. The turning point represents $(7,048 \div 39,862.9) \times 100 = 17.7\%$ of the votes cast suggesting that MPs, on average, appear more circumspect in their classification of a 'marginal' constituency than the conventional 'rule-of-thumb' when the quadratic form is used. The estimates for the stationery expenditure category suggests a marginal constituency is defined in terms of $(5,242 \div 39,862.9) \times 100 = 13.2\%$ of the votes cast.

¹⁶ The average electorate per constituency is 67,347.12 and the average turnout per constituency in the 2001 general election was 0.5919016 in proportional terms. The average number of votes cast per constituency is therefore $67347.12 \times 0.5919016 = 39862.9$. The electorate value used here is slightly different from that reported in table 1 given that the latter is based on those MPs that report positive expenditure values only.

The knots optimally determined for the linear splines of expression [3] are also used to inform the ‘marginal’ status of a constituency. In regard to the postage category, the optimal knot is remarkably $(4,000 \div 39,862.9) \times 100 = 10.0\%$ of the votes cast, while for the stationery category it is $(3,300 \div 39,862.9) \times 100 = 8.3\%$.¹⁷ On balance, and given a slight preference for the specifications containing the two linear splines on both conceptual and goodness-of-fit grounds, the expenditure behaviour of MPs appears broadly consistent with classifying ‘marginal’ constituencies as those with majorities close to 10% of the total number of votes cast.

Summary and Conclusions

The received wisdom among psephologists in the UK is that a parliamentary seat is interpretable as ‘marginal’ if the majority is less than 10% of votes cast thus rendering the seat vulnerable on a swing of 5%. This appears a reasonable definition but data on the spending behaviour of MPs on selected expense categories can provide some assistance in empirically determining the validity of this convention. The existence of a non-linear relationship between the expenses of MPs, assumed to be driven by the effort invested in constituency service, and the size of the constituency majority provides the basis for an empirical insight on this issue. In particular, the point along the spectrum of the constituency majority that delineates a sign change in the spending behaviour of MPs can be exploited to assess the accuracy of the conventionally-used definition.

This paper used econometric analysis to examine the relationship between the expenditures of MPs on postage and stationery and the size of a constituency majority allowing separately for two forms of non-linearity in the relationship. The empirical approach adopted also allowed the interrogation of other factors assumed to independently influence the expense claims of MPs. The analysis revealed an independent role for the gender of an MP and an inverse relationship between the expenses’ categories and both the age and length of service of an MP. Not surprisingly,

¹⁷ This increases to $(3,600 \div 39,862.9) \times 100 = 9.0\%$ of votes cast if the non-logged form is used for the dependent variable in this case.

the electoral size of a constituency exerted an important positive influence on expenditure outlays and Labour MPs, on average and *ceteris paribus*, spent over 57% and 48% more than their Tory counterparts on postage and stationery respectively.

Two empirical forms were used to capture the relationship between the expense claim categories and majority size. The quadratic approximation provided well determined effects for both the linear and quadratic terms and yielded turning points that situated a ‘marginal’ constituency between 13% (using stationery) and 18% (using postage) of votes cast. In contrast, the use of two linear splines suggested the classification of a ‘marginal’ constituency at 8.3% (using stationery) and 10% (using postage) of votes cast. The regression model goodness-of-fit criteria revealed a very mild preference for the specifications exploiting the linear splines and this form could also be viewed as conceptually more persuasive. In addition, given some very mild evidence suggesting a case for the use of a non-logged form for the stationery model with splines, the classification is placed at 9.0% of votes cast using the non-logged dependent variable (see footnotes 15 and 17).

It is arguable that we have not captured all relevant factors that determine constituency service and thus the regression model could be interpreted as potentially mis-specified, though the econometric evidence on this is ambiguous.¹⁸ For instance, the level of deprivation within a given constituency might be one such factor. However, it could be argued in defense of the specifications used that the political affiliation of an MP crudely proxies these types of factors with Labour MPs, as noted above, more likely to represent deprived and poorer constituencies.¹⁹ Thus, we take the view that the empirical evidence reported here, based on the actual expenditure behaviour of MPs, provides some empirical support for the conventionally used definition of a ‘marginal’ constituency.

¹⁸ We used the RESET with predictions raised to the fourth power (see Ramsey (1969)) to investigate model mis-specification. This is generally viewed as a relatively weak test but suggested no problem in regard to the stationery measure with prob-values of 0.98 and 0.93 for the quadratic and spline models respectively. In contrast, the results were more border-line for the postage measure with the prob-values 0.056 and 0.46 respectively.

¹⁹ This issue could be interrogated further by using the 2001 Census data to construct constituency-level deprivation indicators, and using these as additional regressors in the estimated regression models. This approach goes beyond the scope of the current paper.

Assuming variations in postage and stationery capture constituency service, and assuming the latter varies with the ‘safeness’ of a parliamentary seat, conventional wisdom appears to be borne out in the average behaviour of MPs. However, our empirical results do not preclude the possibility that such behaviour is actually driven by conventional wisdom or what new ‘institutionalists’ refer to as a ‘logic of appropriateness’.²⁰

Acknowledgments

The authors acknowledge the considerable assistance provided by the House of Commons Information Office and are particularly indebted to Stephen McGuinness for help and guidance. The comments of Hugh Ward on an earlier draft are also acknowledged. However, the usual disclaimer applies.

²⁰ For example, see March and Olsen (1986).

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Table 1: Variable Description and Descriptive Statistics

Variable Name	Variable Description	Obs.	Mean	Standard Deviation	Min	Max
Postage	The cost of postage associated with the use of stationery. This includes the postage element for any pre-paid envelopes ordered from the central supplier for use in direct connection with a Member's parliamentary duties.	1292	3636.514	3910.009	36	38750
Centrally Purchased Stationery	The cost of stationery items ordered from a central supplier. This includes stationery with pre-paid postage for use in direct connection with a Member's parliamentary duties.	2598	1212.403	1127.539	4	13841
Male	= 1 if individual Member is male; = 0 otherwise.	2598	0.8187	N/A	0	1
Age	The age of the individual Member in years as at 1 April 2005.	2598	53.420	8.729	30	80
Length of Service	The length of continuous service in the House of Commons (in months)	2598	147.997	92.548	6.1	521.067
Labour	= 1 if individual is affiliated to the Labour Party; = 0 otherwise.	2598	0.622	N/A	0	1
Conservative	= 1 if individual is affiliated to the Conservative Party; = 0 otherwise.	2598	0.248	N/A	0	1
Liberal Democrats	= 1 if individual is affiliated to the Liberal Democratic Party; = 0 otherwise.	2598	0.082	N/A	0	1
Other	= 1 if individual's party affiliation is other than Labour, Conservative and Liberal Democrats; = 0 otherwise.	2598	0.048	N/A	0	1
Majority	The individual Member's majority at the General Election 7 June 2001 and for six by-elections during the Parliament 2001-2005.	2598	8437.463	4569.02	33	21949
Electorate	The size of the Member's constituency at the General Election 7 June 2001 and for six by-elections during the Parliament 2001-2005.	2598	67419.87	8445.48	21807	106305

Notes to table 2: (1) N/A denotes not applicable given the discrete nature of the variable.

Table 2: Determinants of Selected Categories of Discretionary Expenditure by MPs

Variables	Ln(Postage)	Ln(Stationery)	Ln(Postage)	Ln(Stationery)
Constant	7.7370*** (0.2724)	6.4370*** (0.1666)	7.5409*** (0.2966)	6.2661*** (0.1795)
Male	-0.2029*** (0.0634)	-0.1616*** (0.0375)	-0.2181*** (0.0633)	-0.1701*** (0.0374)
Age (years)	-0.0211*** (0.0035)	-0.0196*** (0.0021)	-0.0243*** (0.0034)	-0.0197*** (0.0021)
Length of Service (months)	-0.0006* (0.0003)	-0.0003 (0.0002)	-0.0005 (0.0003)	-0.0003 (0.0002)
Labour	0.4491*** (0.0554)	0.3903*** (0.0359)	0.4533*** (0.0554)	0.3942*** (0.0360)
Liberal Democrats	0.2829*** (0.0734)	0.2688*** (0.0482)	0.3081*** (0.0755)	0.2845*** (0.0492)
Other	-0.1771 (0.1347)	-0.1909** (0.0841)	-0.1597 (0.1289)	-0.1761** (0.0826)
Conservative	Base Category	Base Category	Base Category	Base Category
Financial Year 2001/2	Not applicable	0.1402*** (0.0381)	Not applicable	0.1400*** (0.0380)
Financial Year 2002/3	Not applicable	0.1569*** (0.0380)	Not applicable	0.1568*** (0.0379)
Financial Year 2003/4	Base Category	Base Category	Base Category	Base Category
Financial Year 2004/5	0.0758* (0.0446)	0.0829** (0.0410)	0.0759* (0.0444)	0.0830** (0.0408)
Electorate ÷1000	0.0153*** (0.0028)	0.0187*** (0.0018)	0.0152*** (0.0028)	0.0186*** (0.0018)
Constituency Majority	0.0561*** (0.0168)	0.0195* (0.0104)	Not applicable	Not applicable
[Constituency Majority] ²	-3.98e-09 *** (8.39e-10)	-1.86e-09*** (5.26e-10)	Not applicable	Not applicable
Constituency Majority < 4000	Not applicable	Not applicable	0.000134*** (0.000031)	Not applicable
Constituency Majority ≥ 4000	Not applicable	Not applicable	-0.0001695*** (0.0000337)	Not applicable
Constituency Majority < 3300	Not applicable	Not applicable	Not applicable	0.0000951*** (0.0000233)
Constituency Majority ≥ 3300	Not applicable	Not applicable	Not applicable	-0.0001186*** (0.00000248)
Observations	1292	2598	1292	2598
Adjusted-R ²	0.1626	0.1682	0.1679	0.1717
Ratio of R ² Values	1.069	0.946	1.045	0.943
Heteroscedasticity χ^2	29.4576***	45.465***	29.716***	36.372***

Notes to table 2: (1) ***, **, * denote statistical significance at the 0.01, 0.05 and 0.1 level respectively using two-tailed tests. (2) 'Base category' denotes the reference group used in estimation when there is a set of mutually exclusive binary categories. (3) 'Not applicable' denotes not relevant for the estimation model reported. (4) Robust standard errors are corrected for heteroscedasticity of unknown form using the White(1980)/Huber(1967) adjustment. (5) The homoscedasticity test reported is based on White (1980). (6). The R² values from models with logged and non-logged dependent variables are not comparable. The 'Ratio of R² Values' computes comparable R² values and expresses them as the ratio of the logged to non-logged R². A ratio in excess of unity favours the logged dependent variable model (see Ramanathan, 1995, p. 275). (7) The estimated effect reported for the second spline represents the differential in slopes between the two linear splines (see expression [3] and related discussion in the text).