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POLITICAL REPRESENTATION AND INCOME INEQUALITY

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## **Abstract**

Whose preferences determine the direction of government policy? Is it the political centre, formally known as the median or mean voter, or is government policy more responsive to socio-economic elites? This paper examines political representation in the United Kingdom on the left-right scale. Politicians face a trade-off between policy and electoral incentives. The observed policy behaviour of the British government is therefore posited as a weighted average between these conflicting interests. In contrast to previous studies this paper posits an important role for political competition in the study of unequal representation. Representation can be expected to be biased towards groups with higher incomes during safe Conservative governments. Instead, when a safe Labour government has control over the direction of policy, policy outputs are more likely to be responsive to the preferences of groups with lower incomes. Under an electorally vulnerable governing party, regardless of its ideological colour, observed policy behaviour will be skewed towards the preferences of middle incomes, or, analogously, the mean voter. These propositions are tested and affirmed with longitudinal policy- and opinion-data from 1973-2006.

## **Keywords**

Political representation; inequality; policy; public opinion

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Max Weber Fellow, 2009-2010*



# 1. Introduction

Liberal democracy derives a large part of its appeal from the promise that citizen preferences determine the content and direction of policy making (Pitkin 1967; Dahl 1971). In other regimes the political elite might also adopt policies that are consistent with majority opinion, but democratic government should guarantee policy responsiveness to public preferences through the use of competitive elections. For example, John May defines democracy as the ‘necessary correspondence between acts of governance and the wishes with respect to those acts of the persons who are affected’ (May 1978: 1). This paper takes this definition as a starting point to examine democracy in the United Kingdom.

A vast literature demonstrates the existence of policy responsiveness across different countries and policy domains.<sup>1</sup> However, virtually all of these studies treat the public as an undistinguished whole and focus on elite responsiveness to the mean or median voter. There is good reason for doing so given the crucial role of the political centre for the (re)election chances of politicians (Downs 1957; Black 1948, 1958). This situation has long been recognised by British politicians. Tony Blair, for example, stated that ‘I believe passionately in Labour as a modern, progressive political party in the radical centre of British politics. This is where I am. This is where I will stay.’<sup>2</sup> According to David Cameron, ‘for years, this country wanted - desperately needed - a sensible centre-right party to sort things out in a sensible way. Well, that's what we are today. In these past ten months we have moved back to the ground on which this Party's success has always been built. The centre ground of British politics. And that is where we will stay.’<sup>3</sup> A year later Gordon Brown made it clear in his own maiden speech as Labour leader and Prime Minister that New Labour is ‘not just occupying but shaping and expanding the centre ground.’<sup>4</sup>

Despite the pre-eminent role of the political centre, in the first sentence of his classic *Who Governs?*, Robert Dahl poses a question with great ramifications for students of

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<sup>1</sup> For comprehensive overviews, see Burstein (2003), Weakliem (2003) Soroka and Wleziem (2007); Manza and Cook (2002) review the literature on the United States which constitutes the bulk of this body of scholarship.

<sup>2</sup> Quoted in Peter Riddell and Philip Webster, ‘Shaken and Contrite? Not a Bit of It’, *The Times*, 8 May 2000.

<sup>3</sup> Cameron’s first Party Conference speech as the new Tory Leader and Leader of the Opposition on 1 October 2006, Bournemouth.

<sup>4</sup> Labour Party Conference, 24 September 2007, Bournemouth.

representative democracy: ‘in a political system where nearly every adult may vote but where knowledge, wealth, social position, access to officials, and other resources are unequally distributed, who actually governs?’ (Dahl 1961: 1). Some have consequently moved from a homogeneous to a heterogeneous treatment of public preferences, focusing instead on the representation of certain population subgroups. A number of scholars find evidence for unequal representation. Some American studies point to a significant rightwing bias in the representational link towards the upper socio-economic strata at the expense of middle and lower subgroups (Gilens 2005; Griffin and Newman 2007; Bartels 2008). For Europe, Adams and Ezrow (2009) actually find a leftwing bias: opinion leaders who hold more leftwing views than the mean voter have a bigger impact on the policy positions of parties than the general public. Others demonstrate that all income groups are represented equally well in the policy-making process (Ura and Ellis 2008; Wlezien and Soroka 2009; Soroka and Wlezien 2010).

Whose preferences, then, determine the direction of government policy? Is it the political centre, formally known as the median or mean voter? Or is government policy more responsive to socio-economic elites? This paper examines political representation in the United Kingdom from 1973-2006 on the well known left-right scale. The first section outlines a general framework for explaining observed policy behaviour of British governments. The case for unequal representation is then outlined. In contrast to previous studies, this paper foresees an important role for political competition. Electorally safe governments can be expected to exhibit different policy behaviour to vulnerable governments, which, as shall be argued, has repercussions for the representation of income terciles. The building blocks of the model – government policy and the preferences of the mean voter and income terciles – are presented next. Finally, the relationship between these variables is modelled using time-series regressions.



## 2. A General Framework for Studying Representation

A crucial distinction made in the general party literature is that between policy-seeking and vote-seeking party behaviour.<sup>5</sup> Proponents of the former assume that parties are mainly driven by policy incentives, that is, that their very reason for existing in the first place is to impact policy outputs (Axelrod 1970; De Swaan 1973; Wittman 1973; Hibbs 1977; Chappell and Keech 1986). Proponents of the latter contend that policy is mainly instrumental to winning elections, which constitutes the ultimate goal of any politician (Downs 1957; Nordhaus 1975). As so often happens with competing theories, the truth probably lies somewhere in between. When stated in their purest form, both policy- and vote-seeking models lead to caricatures of political reality.<sup>6</sup> Perhaps the most devastating blow to both pure models is their poor empirical fit. The vote-seeking model cannot account for the 1983 General Election when both Labour and the Conservatives diverged away from the centre in probably the most polarising election in post-war British history. The policy-seeking model fails to comprehend the rise of New Labour and the 1997 General Election.

Understandably, scholars have pushed for a synthesis of the two models (Wittman 1983; Strom 1990). After all, politicians concerned with impacting policy must be in a position to be able to do so in the first place: they must win elections and might sometimes be forced to compromise. When formulating policy, the governing party therefore faces a choice between its own preferred policy position, the ‘ideal point’, and the position most likely to optimise future (re)election prospects, the ‘expediency point’ (Stimson et al. 1995; Levitt 1996). The ideal point is conceived independent of what voter preferences may be. Given a bell-shaped distribution of voters, the expediency point is located at the position of the median voter, since this is the position

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<sup>5</sup> A third type is often mentioned as the office-seeking party. This, however, is of little relevance to Britain since it concerns the behaviour of parties in a coalition. According to this model, parties aim at maximising their control of offices as defined in terms of government portfolios (Riker 1962). Anthony Downs acknowledges powerful office-seeking incentives too, but in the British party system, vote-seeking and office-seeking behaviour come down to the same thing: winning elections.

<sup>6</sup> At least in two-party systems, the pure vote-seeking model predicts convergence of parties to the exact centre of a one-dimensional policy space, where most votes are located. Once in the centre, parties have little incentive to change their location since it would cost them votes. In the end, any policy differentiation between the parties completely disappears with the nefarious effect of denying voters a meaningful choice during elections. The pure policy-seeking model leads to equally dubious outcomes. Shifts in public opinion could lead to one party being left out of office for extended periods of time. While being true to its principles, the losing party remains in opposition and sees its rival implementing its own preferred policies. These policy costs are likely to be much higher than the policy costs resulting from a shift in one’s own party to the political middle ground.

that would beat any other position in a pair-wise majority vote (Black 1948).<sup>7</sup> Policy behaviour of politicians – in this case the governing party – is thus a weighted average of mean voter preferences and party ideology. If the governing party were to attach no weight whatsoever to voter preferences, policy behaviour would be identical to party ideology.

By and large, empirical studies of representation have modelled this as follows:

$$Y = \alpha + \beta X + \gamma Z + \varepsilon \quad (1)$$

where  $Y$  denotes observed policy behaviour, however measured,  $X$  represents the ‘expediency point’ in the form of mean voter preferences,  $Z$  stands for the ideology of the governing party, i.e. ‘the ideal point’,  $\beta$  and  $\gamma$  are the weights attached to the previous two independent variables, and, finally,  $\alpha$  and  $\varepsilon$  are the conventional regression components for the intercept and error term. If  $\beta > 0$ , then public preferences will have an independent effect on elite policy behaviour. If  $\gamma > 0$ , then partisanship can be assumed to drive government policy outputs, controlling for public preferences.

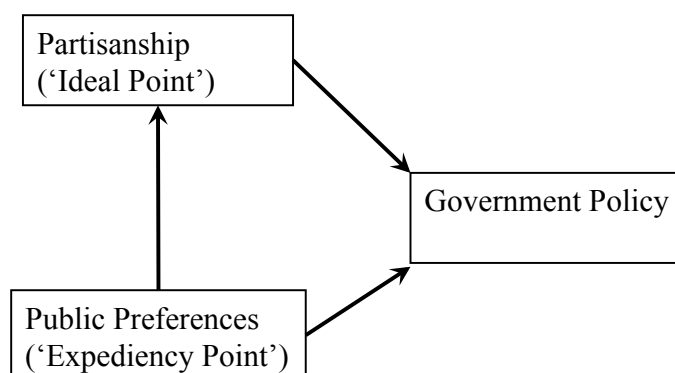
When applying Eq. 1 to real world settings, some, exclusively American, studies employ a cross-sectional design, where Senators or Representatives constitute the unit of observation (Levitt 1996; Bartels 2008). This approach, known as ‘dyadic representation’, travels poorly to Britain, since representation there occurs predominantly through political parties, not through individual legislators. Party discipline all but eliminates idiosyncratic policy behaviour on the part of representatives so it would be wrong to model an MP’s roll call vote as a function of constituency preferences and the MP’s own policy bliss point (Spirling and McLean 2006). For present purposes, the ‘dynamic representation’ framework is more relevant. In an attempt to model Eq. 1 dynamically, studies within this approach track the policy behaviour of collective actors, such as the governments, the United States Senate, House, or Presidency, or political parties, over time (Stimson et al. 1995; Soroka and Wlezien 2005; Hobolt and Klemmensen 2008; Hakhverdian 2010). Either way, both

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<sup>7</sup> When operationalised with actual data, scholars often rely on the position of the mean voter instead.

dyadic and dynamic representation take vote- and policy-seeking incentives into account.

Parameter  $\beta$  in Eq. 1 is of obvious interest, as it captures the direct effect of public opinion on policy outputs regardless of the partisan composition of government. However, it is crucial to realise that government partisanship itself is a pathway of representation, since public preferences decide elections and, in doing so, influence which party assumes government control. A right-wing electorate results in the election of a right-wing (Conservative) party to government, after which this party implements policy that is close, if not identical to, its ideal policy point. The public then sees itself being represented indirectly through election outcomes, a mechanism that Stimson et al. (1995) label ‘electoral turnover’.<sup>8</sup> Of course, as captured by parameter  $\beta$  above, public preferences also directly influence the policy behaviour of incumbent governments. After all, the governing party senses its popularity through, for example, polls and could opt to change its policy profile to pre-empt electoral defeat. Stimson et al. (1995) call this ‘rational anticipation’. Electoral turnover is the channel through which policy-oriented behaviour emerges, while rational anticipation is governed by vote-maximising motives. In sum, political representation in Britain takes the following form<sup>9</sup>:



**Figure 1: Pathways of Representation**

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<sup>8</sup> Electoral turnover as a representational mechanism has made its appearance in the scholarly literature under alternative monikers such as ‘responsible party government’ (Schattschneider 1942; APSA 1950; Ranney 1954), ‘partisan theory’ (Hibbs 1977; 1992), ‘promissory representation’ (Mansbridge 2002), or ‘mandate politics’ (McDonald and Budge 2005).

<sup>9</sup> Note that one arrow in Figure 1 (from Public Preferences to Partisanship) is not modelled in Eq. 1. To capture the effect of public opinion on election outcomes, one requires a separate model (Stimson et al. 1995; Hakhverdian 2010).

### 3. Who Gets Represented?

Collective preferences bear upon policy by deciding which party gets to govern, by altering the policy behaviour of governing parties, or a combination of the two. But how does all this relate to unequal representation? This paper contends that our understanding of inequality and representation benefits from the proper incorporation of vote- versus policy-seeking incentives of political actors. Crucially, models of unequal representation ought to take the conditioning effect of electoral competition into account. As mentioned before, the representational pathway of rational anticipation explicitly assumes vote-seeking behaviour on the part of politicians. In the exposition of political representation by Stimson et al. (1995), the choice between the ideal point and the expediency point is formulated in clear conditional terms: politicians with a wide margin of safety have no reason to engage in rational anticipation (also see Erikson et al. 2002). The direct causal effect of public preferences on policy is therefore expected to hold only under the condition of electoral uncertainty. Put otherwise, the magnitude of  $\beta$  in Eq. 1 is not a constant, but instead depends on the degree of incumbent security.

A fully specified model of political representation has the following form:

$$Y = \alpha + \beta X + \gamma Z + \delta S + \lambda X S + \varepsilon \quad (2)$$

where  $S$  represents the degree of incumbent security, usually operationalised as government popularity (Schultz 1995; Hobolt and Klemmensen 2008),  $\delta$  captures the direct effect of incumbent security on observed policy behaviour (not of immediate substantive concern here), and  $\lambda$  denotes to what extent rational anticipation ‘suffers’ under incumbency security. In Eq. 2,  $\beta$  stands for the direct effect of opinion on policy under maximum electoral vulnerability ( $s = 0$ , i.e. the hypothetical situation where nobody considers voting for the incumbent government). More realistically, since safe incumbents are expected to be less directly responsive to mean voter preferences than vulnerable incumbents,  $\lambda$  should take on a negative sign. All that this extension of Eq. 1 entails is that incumbents with a margin of electoral safety have a ‘policy buffer’. They could sacrifice some of their popularity to implement policies closer to their ideal point than the expediency point. Of course, an unpopular government could still opt to

sit tight at its policy bliss point, but almost certainly at the cost of being replaced by its political rival at the next election.

Now let us introduce the possibility of unequal representation by moving beyond the public as a whole. Imagine dividing the public into three equal-sized groups, for example based on income. In left-right terms, ideology and income are clearly related: Lower income groups tend to be more in favour of redistribution of wealth, government intervention in the economy, trade union power, and so on, while higher incomes place more emphasis on individual responsibility, free enterprise, and little government interference in the market (Heath et al. 1994; Bartle 1998). Empirical sections later on deal with this topic in more depth, but, for the moment, let us assume the distribution of left-right preferences across income terciles to be fairly uncontroversial: The middle incomes will be located in the centre of the left-right axis, with the lower and higher incomes adopting left-of-centre and right-of-centre positions respectively.

With the addition of the two major British parties to the framework, Labour and the Conservatives, it becomes possible to derive some specific expectations regarding the representation of income terciles. Douglas Hibbs, one of the founders and most cited proponents of ‘partisan theory’, writes the following: ‘parties behave to a significant degree ‘ideologically’, meaning that they promote policies broadly consistent with the objective interests and revealed preferences of their core constituencies’ (1992: 363).<sup>10</sup> Evidence abounds about left-right differences between Labour and the Conservatives. While there have been periods of polarization (the 1980s) as well as periods of convergence (the 1950s and 1990s), British parties have generally occupied distinguishable positions on the left-right scale during the post-war period.<sup>11</sup> The ideal points of the two major competitors can thus be assumed to be located to the left and the right of the mean voter for Labour and the Tories respectively. All things equal, lower income groups would see themselves better represented if policy outputs were left-of-centre, which is more likely under Labour rule. Vice versa, higher income groups can be said to have better representation under Tory rule.

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<sup>10</sup> One can make a strong theoretical case to disaggregate the public along class lines rather than income, but we shall see later that this is empirically impossible with available data.

<sup>11</sup> This is supported by manifesto-based methods (Budge et al. 2001; Klingemann et al. 2006) as well as expert surveys (Castles and Mair 1984; Laver and Hunt 1992; Huber and Inglehart 1995; Laver 1998; Benoit and Laver 2006)

The argument is summarised in Figure 2. Representation can be expected to be biased towards the higher incomes during safe Conservative governments. When a safe Labour government has control over the direction of policy, policy outputs are more likely to be responsive to the preferences of lower incomes. Under an electorally vulnerable governing party, regardless of its ideological colour, observed policy behaviour will be skewed towards the preferences of middle incomes, or, analogously, the mean voter.

		<b>Incumbent Security:</b>	
		Safe	Vulnerable
<b>Governing Party:</b>	Conservative	High Incomes	Middle Incomes (Mean Voter)
	Labour	Low Incomes	Middle Incomes (Mean Voter)

**Figure 2: Who Gets Represented?**

## 4. Government Policy

The next two sections deal with the measurement of the key dependent and independent variables in Eqs. 1 and 2. Valid and reliable policy estimates of parties, governments, and voters are indispensable for testing theories of political competition, coalition formation, policy responsiveness, and cleavage politics, to name but a few. For the present paper, we require a left-right measure for the observed policy behaviour of British government. When it comes to the longitudinal analysis of left-right positions of governments, the Comparative Manifesto Project (CMP) was long seen as the only game in town.<sup>12</sup> Still, since the CMP coding scheme is based on party election manifestos, the post-war period only provides a maximum of 15 time-points for Britain.

As a result, more and more scholars have shifted their attention from election programmes to legislative speeches. In the British case, some have analysed the annual Queen's Speech which contains the government's policy intentions for the coming year (Hobolt and Klemmensen 2005, 2008; Jennings and John 2009). The time-series variables employed there represent the relative importance of separate policy domains, such as social services, health care, defence, and so on. These studies contain annual observations for a period of at least thirty years, so more sophisticated statistical tools become available to relate policy to public opinion. Still, unlike the CMP data, most emphasis approaches cannot be transformed into left-right position scores, because their coding schemes are not designed with positional purposes in mind.

The challenge, then, is to construct a long time-series of the left-right policy position of government speeches with enough degrees of freedom to comfortably pursue regression techniques. The policy document of focus will be the Budget Speech, which is annually delivered by the Chancellor of the Exchequer to the House of Commons to outline policy in terms of spending and revenues, as well as monetary and fiscal matters. While election manifestos clearly constitute promises that a party makes vis-à-

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<sup>12</sup> The latest CMP-publication is Klingemann et al. (2006) The CMP uses human coders to classify sentences in election manifestos into more than fifty policy categories. The left-right score of each manifesto, and hence government, is calculated by subtracting the percentage of right-wing categories from the percentage of left-wing categories. The CMP scale thus has a range of -100 (for a party devoting its entire manifesto to left-wing issues) to 100 (for a party devoting its complete programme to right-wing issues). Substantively, the scale 'opposes emphases on peaceful internationalism, welfare and government intervention of the left, to emphases on strong defence, free enterprise and traditional morality on the right' (Budge and Klingemann 2001: 21).

vis the electorate, the Budget Speech is more concerned with actual policy outputs. It contains information on the government's general role in shaping economic policy so it offers potential to distinguish between speeches in terms of their left-right policy content.<sup>13</sup>

Instead of using pre-existing coding schemes specifically designed for party manifestos to code speeches, the dependent variable is constructed using an innovative content analysis technique known as Wordscores. According to its founders, the technique 'breaks radically from 'traditional' techniques of textual content analysis by treating texts not as discourses to be read, understood, and interpreted for meaning [...] but as collections of word data containing information about the position of the texts' authors on predefined policy dimensions' (Laver et al. 2003: 312). At its core, Wordscores is based on simple word frequencies and has been used to analyze coalition formation in Germany, competition between presidential candidates in France, Senators' motivations in President Clinton's impeachment trial, and longitudinal movements of parties and governments in Denmark.<sup>14</sup> As can be seen from this wide variety of languages, texts, and topics, the approach 'offers the potential to crunch huge volumes of virgin text very rapidly indeed, with an enormous range of intriguing political science applications' (Laver et al. 2003: 330).

Figure 3 depicts the movement of British government policy on the left-right scale from 1956 to 2006, measured in this fashion. The actual construction of the policy time-series is outlined elsewhere (Hakhverdian 2009; see also Appendix A). This policy variable has a high degree of validity. First, the Wordscores-measure compares well to expert survey data. Second, government policy is characterized by a general trend towards the right from the early 1970s onwards, which is consistent with studies on the restructuring of the welfare state. Third, a visual inspection of Figure 3 quickly reveals that, in the time-frame under investigation, every major policy shift to the right coincides with a change from Labour to Tory rule and vice versa. Fourth, and most importantly, the placement of individual administrations conforms to historical accounts of post-war British politics.<sup>15</sup> Wordscores is thus able to replicate the CMP time-series with the essential advantage of providing more points of observation.

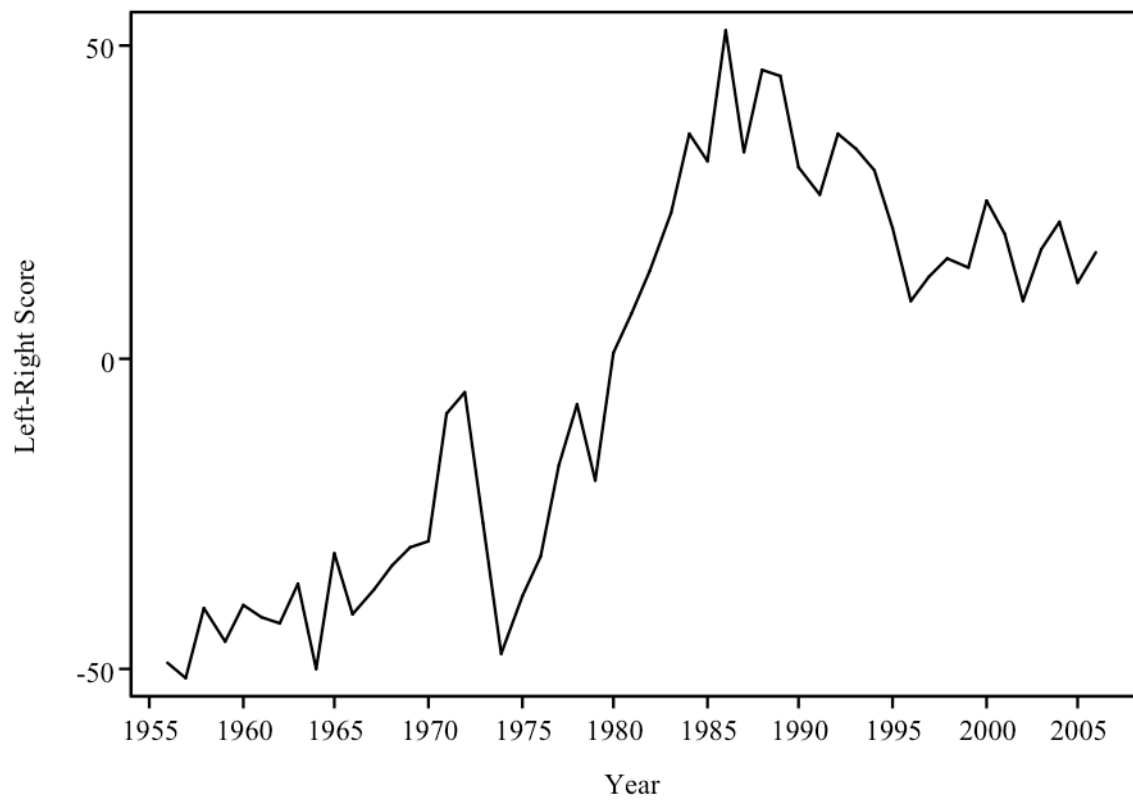
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<sup>13</sup> On average the Budget Speech is almost ten times as long as the Queen's Speech, which is likely to contribute to the reliability of position estimates (Laver et al. 2003; Klemmensen et al. 2007).

<sup>14</sup> See, respectively, Proksch and Slapin (2006), Laver et al. (2006), Bertelli and Grose (2006), and Klemmensen et al. (2007)

<sup>15</sup> These sources of cross-validation are described in detail in Hakhverdian (2009).





**Figure 2: British Government Policy on the Left-Right Scale**

## 5. Public Preferences

In order to carry out the necessary statistical procedures for analysing representation, a long time-series of voter left-right ideology is just as important as a long time-series of government policy. To test the theoretical expectation outlined above, we require measures for the left-right preferences of the mean voter and of income terciles. As ever, though, theoretical ambitions are constrained by data availability. Geoffrey Evans and his colleagues show that mass preferences are best captured by batteries of survey items (Evans et al. 1996; also see Ansolabehere et al. 2008). Since the political dimension of interest in this thesis is the economic left-right axis, one would require survey data on matters pertaining to redistribution, the scope of government action, equality, and the like, and then combine these into some sort of left-right index. The reality of survey research, however, prohibits this strategy in time-series settings because of insufficient time-points. Fortunately, the Eurobarometer offers a solution since these respondents were consistently asked, for over a period of thirty years, *to place themselves* on the left-right scale.

Left-right self-placement can only be used if self-assigned ideological scores follow from actual policy preferences. However, the ‘issue interpretation’ of left-right self-placement has been attacked in landmark works on electoral behaviour. David Butler and Donald Stokes have famously written that ‘voters come to think of themselves as Right or Left very much as a Conservative in Birmingham or Scotland used to think of himself as “Unionist”, because that is what his party was called locally’ (1969: 260). Party loyalties, not issues, are posited as the dominant cue determining ideological identification. Ronald Inglehart and Hans-Dieter Klingemann adopt a similar stance: there may be cases where both the ideological label and issue preferences fit perfectly; there may be other cases, however, where the extreme ‘leftist’ takes a hard line on law and order and favours a nationalistic foreign policy (1976: 244).

Following Huber (1989) and Pattie and Johnston (2001), left-right self-placement is therefore regressed on survey items on economic equality and the government’s role in achieving that goal, party identification, and a set of socio-economic controls.<sup>16</sup> Since

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<sup>16</sup> The 1997 British Election Study is chosen for two main reasons. First, of all BES datasets, the 1997 version contains the most issue questions *and* an appropriate measure of self-placement. But secondly, and more importantly, the 1997 General Election is considered to be one of the least ideological elections in post-war British history. Pattie and Johnston write that ‘we might expect less discussion of left-right differences [during the campaign] in 1997 than in earlier, more overtly ideological elections,

non-response is a serious concern with left-right self-placement – only 70% of BES-respondent provide a valid answer – multiple imputation is used to handle for missing data (Rubin 1987; King et al. 2001). The BES scale for left-right left-placement runs from 0 on the left to 10 on the right. The ten socio-economic issue items used below are all unbalanced Likert scales that have five response categories ranging from strongly disagree to strongly agree. These items have all been recoded so that higher values correspond to right-wing answers.

Table 1 reports that issue orientations are a robust component of self-reported ideology. Controlling for party identification and socio-economic background, 7 out of 10 issue items retain statistical and substantive significance. Furthermore, Tory-identifiers tend to place themselves on the right, while Labour-identifiers place themselves on the left. While a separate analysis of the impact of issues and party identification is not conducted here to save space, the explained variance of these two sets of predictors is highly comparable. Issue considerations alone account for 26% in the variance in left-right self-placement, while party identification alone explains 24% of the variance in the dependent variable. The issue component is thus by no means ‘overshadowed’ by partisan attachment, as Inglehart and Klingemann (1976) claim.

The micro-level foundations of left-right self-placement are strong. However, in order to include this variable in a statistical model of representation, a shift to the macro-level is required. When the left-right preferences of all respondents in a given year are aggregated, a single mean score will emerge as an indicator of the ideology of the British electorate, and, as such, as the ‘expediency point’ that was referred to in the theory sections. The annual mean left-right self-placement score of the British population as a whole was calculated for all Eurobarometer surveys from 1973 onwards. Incomplete data was highest for Eurobarometer 56.0 with 21% and lowest for Eurobarometer 35.0 with 6.6%. For all Eurobarometers from 1973 to 2006, the average incompleteness was around 14.5%. Since the lower educated and manual classes are more likely to refrain from answering, listwise deletion of incomplete data could bias the mean score to the right. Single imputation was therefore used to ‘fill in the blanks’ using as many independent variables as were available for the entire time frame. While there is a data-point in 1973, the Eurobarometer mysteriously skipped asking for self-

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and hence we might expect less coherent left-right differences and more random ‘noise’ (2001: 376-377). Borrowing from case-study methodology, the 1997 case therefore constitutes a so-called crucial case (Gerring 2007). If the issue component of left-right self-placement turns out to be strong in 1997, it must surely be even stronger in other, more polarized, elections.

placement in 1974 and 1975, but returned the item from 1976 onwards. The mean scores for these two missing years have been imputed too. Finally, it is important to note that the Eurobarometer item runs from 1 to 10, not from 0 to 10 as with the BES.

**Table 1: The Determinants of Left-Right Self-Placement**

Independent variables	Dependent variable: left-right self-placement	
Private education	0.15*** (0.037)	0.15*** (0.36)
Foreign aid	0.19*** (0.036)	0.15*** (0.037)
Privatized medicine	0.079 (0.044)	0.080 (0.047)
Education spending	0.11* (0.052)	0.075 (0.052)
Nationalization vs. privatization	0.065 (0.046)	0.065 (0.047)
Trade union power	0.18*** (0.034)	0.16*** (0.037)
Redistribution of wealth	0.13** (0.041)	0.16*** (0.041)
Private enterprise	0.17*** (0.046)	0.19*** (0.046)
Workers get fair share of wealth	0.15** (0.045)	0.16*** (0.044)
One law for rich, one for poor	0.12** (0.042)	0.16*** (0.042)
Party Identification (Reference = None)		
Labour	-0.58** (0.18)	-0.64** (0.18)
Conservatives	0.96*** (0.19)	0.93*** (0.19)
Liberal Democrats	-0.11 (0.21)	-0.075 (0.21)
Other	-0.14 (0.28)	-0.11 (0.29)
Socio-economic controls <sup>a</sup>	No	Yes
Constant	1.31** (0.28)	0.87* (0.34)
N	3615	3562
Adjusted R <sup>2</sup>	0.31	0.33

Source: British Election Study 1997

Note: The BES item on self-placement runs from 0 (left) to 10 (right).

Multiple imputation is used to handle incomplete data (5 imputations)

The entries are unstandardised coefficients with standard errors in parentheses.

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$  (two-tailed tests).

<sup>a</sup> The socio-economic controls are age, sex, religion, education, social class, income, region, home ownership, and union membership.



**Figure 2: Left-Right Self-Placement of the Mean Voter**

The movement of the mean voter on the left-right scale is displayed in Figure 4. The mid-1970s, which eventually culminated in the election of Margaret Thatcher in 1979, have been famously dubbed ‘The Great Moving Right Show’ (Hall 1979). Indeed from 1973 to 1979 average voter ideology made a considerable shift to the right of about 0.44.<sup>17</sup> However, during the mid-1980s and 1990s, public opinion took a turn towards the political centre, and still further to the left. With the Tories in power for 18 years, public opinion shifted a massive 0.73 points to the left from 1979 to 1997.<sup>18</sup> Towards the end of Labour’s third consecutive term, Philip Stephens, political commentator for the *Financial Times*, wrote that ‘the zeitgeist has changed. Middle Britain has tired of bloated government. The pendulum has swung back to champions of a smaller state.’<sup>19</sup> Figure 3 indeed supports Stephens’ statement. From 1997 to 2006, there has been a rightward movement in aggregate preference of 0.22 points.

Several issues demand attention when it comes to the disaggregation of the public into sub-groups. To begin with, on the basis of which variable do we divide the whole

<sup>17</sup> The conservative turn in mass attitudes has also been documented by Sarlvik and Crewe (1983) and Heath et al. (1991).

<sup>18</sup> The swing to the left is also described by Harris and Seldon (1987), Crewe and Searing (1989), and Heath et al. (1991).

<sup>19</sup> Philip Stephens, ‘Middle Britain wants value for money’, *Financial Times*, 15 October 2007

into pieces? Income was chosen preliminarily in the theory section, but other candidates present themselves too, the two most important of which are social class and education. As for the former, the Eurobarometer leaves a lot to be desired. To be sure, respondents are asked to provide their occupational group, but the item changes so often that it becomes very hard to consistently isolate core groups over the relevant time-frame.

**Table 2: Left-Right Self-Placement and the Evans-Heath Index for Income and Education Terciles**

	Mean Ideological Score	
	Evans-Heath Index	Left-Right Self-Placement
Education		
<i>Low</i>	2.45 (1162)	5.06 (1077)
<i>Middle</i>	2.54 (839)	5.03 (780)
<i>High</i>	2.68 (1009)	4.88 (977)
Income		
<i>Low</i>	2.42 (960)	4.83 (891)
<i>Middle</i>	2.54 (946)	4.96 (906)
<i>High</i>	2.70 (811)	5.04 (789)

*Source:* 1997 British Election Study

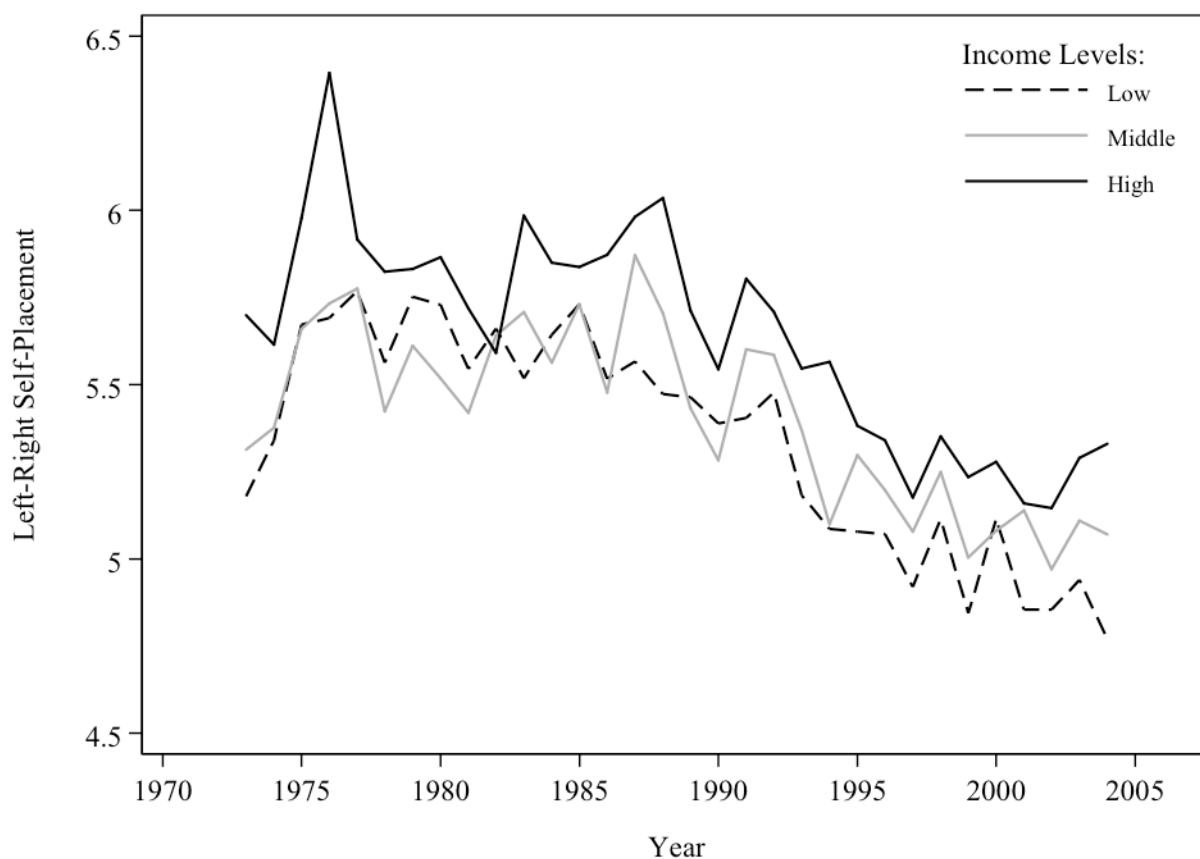
*Notes:* The Evans-Heath index runs from 1 on the left to 5 on the right. It consists of five Likert scales on economic equality (Heath et al. 1994; Evans et al. 1996)

Left-Right Self-Placement runs from 0 on the left to 10 on the right.

Missing values for Left-Right Self-Placement have been imputed.

Number of observations in parentheses.

Education presents an even bigger problem. While education and income are positively related, the left-right self-placement scores for incomes terciles and education terciles are radically different. Table 2 shows the extent of the problem. As mentioned earlier, left-right self-placement was not selected because it constitutes the best way of capturing mass attitudes, but rather as the best available longitudinal option. Being a battery of five Likert-scales, the Evans-Heath index (Heath et al. 1994; Evans et al. 1996) is the preferred, i.e. more reliable and valid, method for cross-sectional purposes. Table 2 compares left-right scores of income and education terciles for the Evans-Heath index and self-placement in the 1997 BES. Note that results are almost identical for income and education terciles when preferences are measured using the Evans-Heath approach. Lower strata are more left-wing than higher strata, with the middle strata occupying a centre position. Now compare left-right self-placement for these same groups. The higher educated place themselves *to the left* of the middle and lower



**Figure 5: Left-Right Self-Placement across Income Terciles, 1973-2004**

educated, while they are clearly less in favour of redistribution of wealth, government intervention, and the like. One should therefore be wary of disaggregating left-right self-placement across education groups, since the constituent groups clearly have other cues in mind when answering the survey item. However, left-right self-placement for income groups follows conventional wisdom, so we are justified in using this measure as a summary for the left-right preferences of these sub-groups.

Figure 5 tracks the movement of the left-right preferences of income terciles over time, as measured by the Eurobarometer. While there is cross-sectional difference between the groups – the higher, middle, and lower incomes have average placements scores of 5.64, 5.41, and 5.33 respectively – and this difference remains more or less constant throughout the examined timeframe, one feature stands out in particular: the groups exhibit identical movement when it comes to *changes* in preferences. This is perhaps not surprising, since similar ‘parallel publics’ are found by American macro-level studies, no matter which variable is singled out for disaggregation (Page and Shapiro 1992, Erikson et al. 2002, Enns and Kellstedt 2008, Wlezien and Soroka

2009). The correlations between the three depicted time-series are 0.87, 0.89, and 0.90. This will have serious repercussions on how to model unequal representation.

## 6. Modelling Unequal Representation

The building blocks for a model of representation are in place. Our main aim is to explain the observed policy behaviour of British governments, for which the general regression model takes the following form:

$$\begin{aligned} \text{Policy}_t = & \alpha + \beta_1 \cdot \text{Policy}_{t-1} + \beta_2 \cdot \text{Public Preferences}_{t-1} \\ & + \beta_3 \cdot \text{Government Partisanship}_{t-1} + \beta_4 \cdot \text{Incumbent Security}_{t-1} \\ & + \beta_5 \cdot (\text{Public Preferences} \times \text{Incumbent Security})_{t-1} + \varepsilon_t \end{aligned} \quad (3)$$

$\beta_1$  represents the auto-regressive component of the policy time-series, which, in less technical terms, indicates the extent of ‘stickiness’ of the policy-making process. Policy today is a function of past policy as modified by new information on the independent variables. Incidentally, the lagged dependent variable also serves to rid the residuals of serial correlation.<sup>20</sup> Government partisanship is a dummy variable that assumes the value ‘1’ for those years when the Conservatives delivered the Budget Statement and ‘0’ for Labour. Partisanship is entered with a one year lag to capture the fact that the bulk of policy decisions for year  $t$  are made during the previous year  $t - 1$  (Wlezien 2004; Soroka and Wlezien 2005). An interaction term between public preferences and incumbent security is added to estimate under which conditions the marginal effect of public opinion on government policy is most pronounced. Following Schultz (1995) and Hobolt and Klemmensen (2008), incumbent security is captured by the standard vote intention question.<sup>21</sup> Finally, the policy measure contains a trend towards the right, most likely as a result of reforms and cutbacks in the welfare state.<sup>22</sup> Thus, to deal with this rightward trend, the policy variable was de-trended first.<sup>23</sup>

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<sup>20</sup> Plots of the auto-correlation and partial auto-correlation functions of the dependent variable indicated one lag to be appropriate to capture dynamics.

<sup>21</sup> Data are taken from the Gallup Poll (pre-1980) and Ipsos-MORI. These polls have monthly data on voting intention, so the annual mean is taken as a more reliable measure than a single item from, say, the Eurobarometer.

<sup>22</sup> Similar post-war policy trends are found for the Anglo-Saxon democracies and Denmark respectively (Budge and McDonald 2007; Klemmensen et al. 2007).

<sup>23</sup> In the end, identical results to the ones reported below are obtained by retaining the original policy variable and including a time-variable on the right-hand side. To account for the possibility of a non-



We face a number of challenges when modelling unequal representation. The ideal scenario would be to include direct measures of the preferences of the sub-groups – income terciles in this paper – on the right-hand side of the equation (Levitt 1996; Bartels 2008; Wlezien and Soroka 2009). What one effectively does in that case is assessing the explanatory power of the preferences of, say, higher income groups, while holding the preferences of the other groups constant. In other words, such a research design allows us to gauge who gets represented when groups differ in their left-right preferences. Steven Levitt’s model of Senators’ roll call behaviour extends Eq. 1 above to include a variable for the Senator’s core constituency (Levitt 1996). In line with Levitt, we would have to include the preferences of the higher and lower incomes on the right-hand side of Eqs. 2 and 3. The middle incomes are represented by the mean voter. In accordance with the theoretical expectations outlined in Figure 2, safe Conservative governments would be more responsive to the preferences of the higher incomes, while safe Labour governments would be better at representing the lower incomes. Vulnerable governments, regardless of partisan composition, would be more inclined to respond to the mean voter.

Unfortunately, as Wlezien and Soroka (2009) also note, this approach is unfeasible in longitudinal settings because of the very strong correlations that exist between the three income time-series. An alternative design therefore estimates three different equations where the preferences of the constituent groups are entered separately (Ura and Ellis 2008; Wlezien and Soroka 2009). The results from this design are unsurprising given the pronounced parallelism in the preference series: policy is responsive to each income group with very minor – in most cases statistically indistinguishable – differences between estimates. There appears to be a serious trade-off between the two methods. A proper test of unequal representation requires a simultaneous entry of all income groups, but this is impossible for reasons of multicollinearity. A practical solution, i.e. separate equations for the three groups, works in practice but is not an actual test of the unequal representation thesis.

Still, one could make the argument that Eqs. 2 and 3. actually already allow for an assessment of unequal representation. We have seen that, relatively speaking, lower incomes have more egalitarian preferences than the higher incomes. Consequently, the

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linear trend, a model was also run with time-squared on the right-hand side, but this yielded identical results.

partisanship variable in the equations could serve as a proxy for Levitt's 'core constituencies' which happen to be quite comparable to the income terciles. We thus estimate Eq. 3 and argue that the policy bliss point of Tory governments is closer to the bliss point of the upper strata. Reversely, the ideal point of Labour governments ought to be closest to the preferences of the lower strata. From this angle, Eqs. 2 and 3 represent a modified version of the ideal model of unequal representation where the constituent groups are entered separately. Let us now see whether this modification sheds light on the possibility of unequal representation.

## 7. Results

Table 3 presents the regression results. Before delving into substantive findings, note that the residuals are well-behaved. The estimated models produce no clustering of small or large residuals, as the ARCH-diagnostic shows. Furthermore, serial correlation has been sufficiently removed and the residuals have been reduced to white noise. Table 3 reports strong partisan influence on policy in the expected direction. Since the partisanship-variable is a dummy, the coefficient is readily interpretable. The replacement of Labour by the Conservatives results in a right-ward policy shift of 18.83 points in the year after. Considering the standard deviation of the dependent variable ( $s = 17.95$ ), the size of this effect is impressive.

Yet, as can be seen from Table 3, previous values of policy are carried over into the future. As the coefficient for the lagged dependent variable indicates, almost 45% of the shock is transmitted to the next year, 20% ( $0.45^2$ ) to the one after that, 9% ( $0.45^3$ ) to the one after that, and so on. The original auto-regressive component, i.e. the coefficient for the lagged dependent variable excluding all other independent variables, was 0.84. This indicates that the explanatory variables do quite a good job in 'explaining the past', as the coefficient for lagged policy is almost cut in half after adding predictors. In the long run, then, government partisanship has an even bigger, cumulative, effect of  $18.83/(1 - 0.45) = 34.24$  points on the left-right policy content of Budget Speeches. This is precisely as one would expect in a political system which a former Lord Chancellor called 'an elective dictatorship' for the cabinet's ability to determine public policy through its domination of Parliament.<sup>24</sup>

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<sup>24</sup> Lord Hailsham, *Elective Dictatorship* (London: BBC, 1976).

**Table 3: Political Representation in the United Kingdom, 1973-2006**

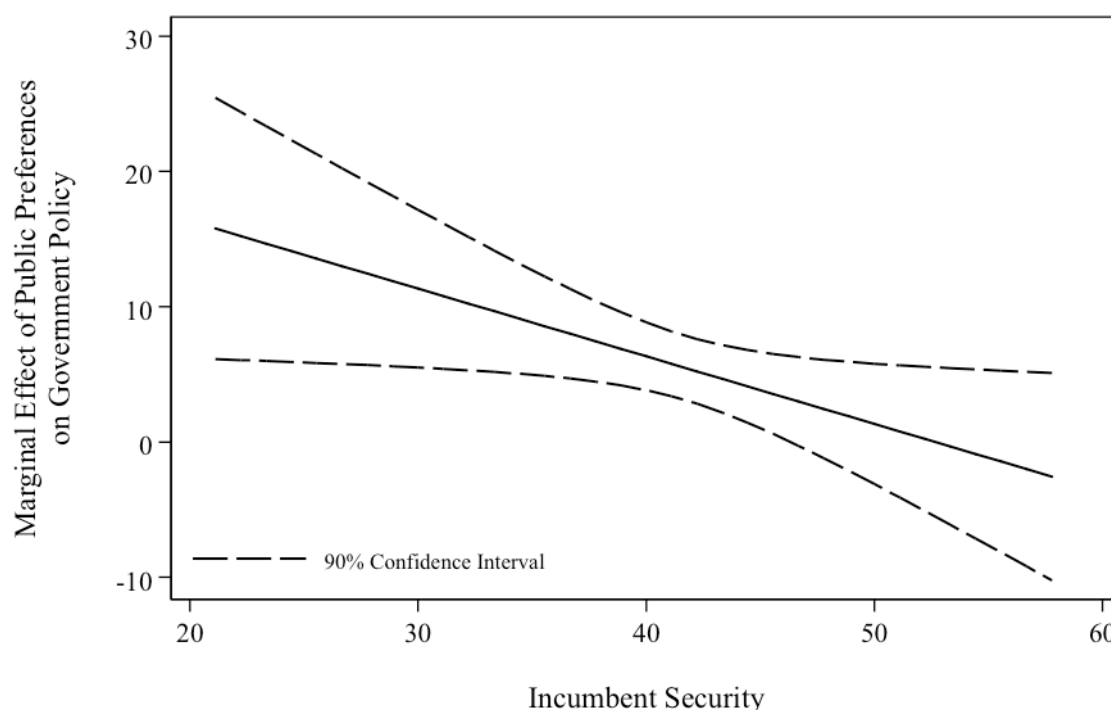
Independent variables	Dependent Variable: Policy <sub>t</sub> (detrended)
Policy <sub>t-1</sub>	0.45*** (0.11)
Public Preferences <sub>t-1</sub>	26.33** (11.43)
Government Partisanship <sub>t-1</sub>	18.83*** (5.37)
Incumbent Security <sub>t-1</sub>	0.32 (0.27)
(Public Preferences × Incumbent Security) <sub>t-1</sub>	-0.50* (0.27)
Constant	-22.32* (12.03)
N	33
Adjusted R <sup>2</sup>	0.88
Durbin-Watson	2.36
Breusch-Godfrey	2.14
(χ <sup>2</sup> p-value)	(0.14)
1 <sup>st</sup> order ARCH	0.00
(χ <sup>2</sup> p-value)	(0.99)
Box-Ljung Q-test	17.89
(χ <sup>2</sup> p-value)	(0.21)

Note: The preference variable for both models have been standardized.  
The entries are unstandardized coefficients with standard errors in parentheses.  
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$  (two-tailed tests).

Let us now consider the direct effects of public opinion. As the British public moves right, a year later policy follows. If, for the moment, government popularity is set at its mean value, the magnitude of this effect can be calculated. Of course, the degree of responsiveness is expected to vary across different values of electoral uncertainty, but that issue will be tackled later on. The mean static effect of public preferences on policy equals  $26.33 - (0.50 \cdot 40.38) = 6.14$ , so one standard deviation change in public preferences causes an average 6-point change in government policy. Remember that this coefficient captures the *direct* effect of preferences on policy, that is, after controlling for which party actually governs. All in all, in the long run, public preferences have a cumulative impact on policy, namely  $6.14/(1 - 0.45) = 11.16$  points. Direct mean voter effects have about a third of the impact on policy that partisanship has, quite comparable to the substantive findings of Stimson et al. (1995), Levitt (1996), and Erikson et al. (2002). For Britain, Soroka and Wlezien (2005) and Hobolt and Klemmensen (2008) reach similar conclusions as to the prominence of government ideology over direct public opinion in explaining policy outputs.

Having said that, the distinct aim of this paper was to correctly model the typical trade-off that elected officials face between policy and (re)election. Table 3 shows that,

as governments become more popular, their responsiveness to the mean voter declines. Rational anticipation indeed depends on electoral security, as the marginal effect of public preferences on government policy increases as electoral pressures rise. The interaction term has the correct sign and is statistically significant, but the reported coefficients and standard errors only hold for the unlikely case that government popularity is zero. In the time-frame under investigation, government popularity ranges from 25.2% to 53.8. When dealing with multiplicative interaction models, it is often useful to illustrate conditional effects graphically (Brambor et al. 2006). The downward sloping line in Figure 6 affirms that government responsiveness to the mean voter decreases as incumbent vulnerability rises.<sup>25</sup>



**Figure 6: The Conditional Nature of Policy Responsiveness**

<sup>25</sup> To test the robustness of these findings, one can resort to a ‘change-oriented’ design (Page and Shapiro 1983) More precisely, as opinion shifts leftwards at time  $t - 1$ , an unpopular government at  $t - 1$  is expected to initiate a rightward shift in policy that same year. The sample was therefore split into two groups at the median value for government popularity (40.3%). The correlation between  $\Delta Policy_t$  and  $\Delta Preferences_{t-1}$  for Budgets for which  $Popularity_{t-1} < 40.3\%$  equals  $r = 0.58$  ( $p = 0.018$ ). For the non-competitive cases,  $r = 0.40$  ( $p = 0.12$ ). Policy responsiveness is thus stronger and far more reliable for vulnerable incumbents than safe incumbents. In fact, for the latter the coefficient is too unreliable to infer that the link between policy and opinion actually exists at all.

The cumulative impact of direct policy responsiveness under maximum electoral uncertainty is therefore 24 points, which, in terms of magnitude, brings it quite close to the partisanship effect. Also, the confidence intervals reveal that the marginal effect of preferences on policy is only statistically significant when popularity remains under 45%. The policy behaviour of safe incumbents, then, is hardly affected directly by public opinion. The default line of action for government is to implement their ideal point, which, to state the obvious, is why this is called their *ideal* point. All else being equal, observed policy behaviour equals the policy bliss point of the government. In ignoring mean voter preferences, politicians sacrifice popularity to implement policies closer to their own bliss point. In that case, policy-seeking incentives overshadow vote-seeking incentives, which creates opportunities for unequal representation. Policy outputs of safe Tory governments are therefore more in line with the preferences of the higher incomes, while the reverse holds for safe Labour governments. The effect of middle incomes, as captured by the mean voter, is most pronounced if either Tory or Labour incumbents face electoral pressures.

## 8. Discussion

While political representation is per definition biased – unless, of course, in the unlikely case that *all* citizens agree on an issue, in which case it does not matter whose preferences are translated into policy outputs – some forms of bias are considered fair while others are not. When people disagree, it is surely more just that a majority has its way at the expense of a minority rather than the other way around. That is why policy bias to the median voter is considered democratic; it is the single policy position that beats all others in a pair-wise majority vote (Black 1948). Intuitively, this means nothing else than that the median voter has a unique bargaining position because he can threaten to form an alternative majority with people on the other wing of the political spectrum. But when representation is biased to either extreme, the normative appeal of democracy is at stake.

As Robert Erikson, Michael Mackuen, and James Stimson write: ‘Public officials in a democracy exist always in a dual state: they govern by making and enforcing policy, and they seek election and reelection’ (2002: 20). This paper has proposed a general model for explaining the observed policy behaviour of British governments that pits electoral and policy incentives against one another. In contrast to most existing work, we have incorporated electoral pressures into the calculus of governing parties. Furthermore, the issue of unequal representation was approached from this very angle. While existing work considers only the partisan composition of governments, it was argued here that it is equally important to consider incumbents’ security in upcoming elections. Labour governments are more left-wing in their policy outputs than Conservative governments, but both types of government converge to the mean voter’s position when facing electoral pressures. Electoral competition then functions as a device for equality, while the absence of competition has the opposite effect.

Of course, the approach taken here has its limitations. While government partisanship influences policy as expected, we have omitted the effect that public opinion has on government partisanship. This might turn out to be important for studies of unequal representation. If party ideology is the dominant determinant of government policy-making in Britain, then it is equally important to analyse how elections are decided and who consequently assumes the reins of government.

An important line of scholarship considers unequal participation in elections to be the cause of unequal representation. Two consecutive presidents of the American

Political Science Association devote their presidential address to precisely this problem (Verba 1995; Lijphart 1997). Sidney Verba writes that ‘democratic responsiveness depends on citizen participation, and equal responsiveness depends on equal participation’ (Verba 1996: 2). Arend Lijphart even recommends the adoption of compulsory voting as an egalitarian instrument to counter biases in representation that presumably stem from unequal turnout. Would election outcomes be different in Britain, had turnout been universal? A fascinating question, for sure, which many have attempted to answer using a host of research designs (see Lutz and Marsh 2007 for an overview). Let it be clear, though, that the general expectation is that unequal participation damages Labour’s chances, since Labour supporters are more likely to abstain than Tory supporters. One would therefore have to analyse recent Tory victories and assess whether universal turnout would have swung the election.

## Appendix A: Applying Wordscores to Budget Speeches

The Wordscores procedure uses so-called ‘reference texts’ of which the score on a given dimension is known or can be confidently assumed to estimate the position of ‘virgin texts’ on that same dimension. Virgin texts are texts of which position estimates have yet to be calculated. As a matter of illustration, consider two speeches of equal length, one from a right-wing source such as the Conservative party, the other from a left-wing source such as Labour. Someone who reads these texts might find that certain words such as ‘business’ or ‘enterprise’ appear more frequently in the right-wing texts, while ‘equality’ or ‘social’ seem to resurface in left-wing texts. *The texts make use of systematically different language.* If the word ‘business’ features twenty times in the Tory speech, but only four times in the Labour speech, one can say that when encountering the word ‘business’ in either text, the likelihood is 0.83 that one is reading the Tory text. Suppose that – through independent sources such as expert surveys, opinion polls, the CMP, historical sources, or through the researcher’s own judgement – the Labour text receives a score of 2 and the Tory text a score of 7 on a 10-point left-right scale. Words in the reference texts can then be scored on a left-right metric, depending on the relative frequency of the word in proportion to the total number of words and the assigned left-right score of the reference texts.<sup>26</sup>

Wordscores thus creates a dictionary file, which can be used to score texts of which we have as yet no position estimate. If these so-called virgin texts makes heavy use of left-wing words, it would probably be safe to assume that the text has left-wing content. The score of any virgin text is the mean score of all scored words on the dimension of interest, weighted by the frequency of scored words. Since commonly overlapping words in the reference texts – i.e. ‘for’, ‘and’, ‘it’, and so on – tend to pull the raw scores towards the centre of the defined interval, Laver, Benoit, and Garry propose a final transformation of these raw ‘virgin’ scores to ensure that they have the same dispersion metric as the reference texts. So if one decides to use CMP scores as references, the transformation of raw scores will ensure that virgin texts can be interpreted along the same CMP scale.

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<sup>26</sup> In the example above, the left-right score of ‘business’ would be  $0.17(2) + 0.83(7) = 6.15$ , which as expected lies closer to the score of the Conservative text score than the Labour text.



The Wordscores procedure is entirely automatic following two key decisions by the researcher.<sup>27</sup> Firstly, one has to identify the dimension of interest on which one wishes to score the reference texts in order to obtain virgin text scores. For the purposes of this article, this shall be the general left-right axis of competition. Secondly, a particular set of reference texts has to be chosen of which position estimates are known. Laver, Benoit, and Garry continuously stress the importance of the choice of reference texts to the success of Wordscores and warn that “garbage in” will probably result in “garbage out”.

There are four guidelines to the selection of reference texts (Laver et al. 2003). First, the researcher must have a confident estimate of reference scores on the dimension of interest through the CMP, expert surveys, his own judgement, or any other source. Second, the reference texts should contain as many words as possible for the sake of reliability. Third, reference texts should be located at the extremes of the policy dimension of interest. Fourth, reference texts should use the same lexicon as the virgin texts. Failure to comply with these guidelines will result in invalid and/or unreliable estimates of virgin text positions. The left-right estimates for the reference texts were taken from the CMP, since their dataset covers the entire post-war era. The policy position of, for example, the 1987 Thatcher government as set out in the Budget Statement will assumed to be identical to the policy position of the Conservative Party as set out in its 1987 party manifesto. Based on the abovementioned recommendations, the 1987, 2005, and 1974 Budget Speeches are selected as the right-wing, centre, and left-wing references respectively with which to consequently score all remaining (virgin) Speeches.<sup>28</sup>

The central difficulty, however, is that virgin estimates may be unstable as the base switches from one anchor to another (Klemmensen et al. 2007). In other words, results could be driven by particular combinations of reference texts rather than patterns in the textual data. This would not be an issue if there was one uniquely superior set of reference texts, but this is rarely the case. In their latest publication the CMP-team provide a margin of error for the point estimates of  $\pm 4$  (Klingemann et al. 2006: 104,

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<sup>27</sup> Laver, Benoit, and Garry have written a Wordscores-algorithm for STATA, which was used to analyze the speeches. Available from [www.tcd.ie/Political\\_Science/wordscores/](http://www.tcd.ie/Political_Science/wordscores/).

<sup>28</sup> On the CMP's scale, which runs from -100 on the left to 100 on the right, the respective scores for the Budget Speeches from 1987, 2005, and 1974 are 30.5, -2.9, and -48.5. These scores are identical to the left-right score of the election manifesto of the relevant governing party at that time (Conservative Party in 1987 and Labour in 1974 and 2005).

fn. 6). The difference in left-right score between, for example, the 1983 and 1987 texts is only 1.5, making it impossible to discern whether this difference is ‘real’ or due to measurement error. This poses a dilemma, since there is no way of determining which text actually occupies the extreme positions on the relevant axis.

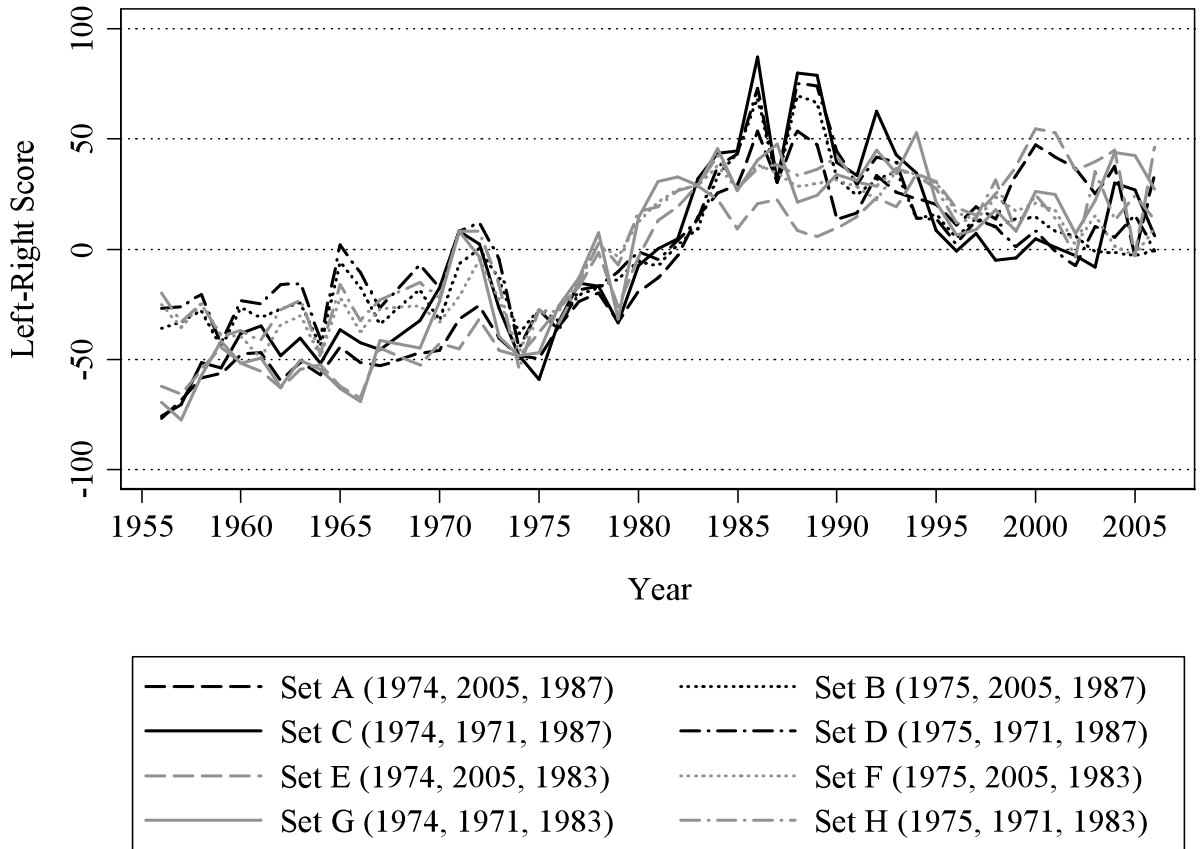
Therefore, rather than settling on the 1987-2005-1974 combination to construct the policy time-series, the following strategy is adopted: The two most right-wing (1987 and 1983), two most left-wing (1974 and 1975), and two most centrist (2005 and 1971) texts were selected based on their CMP scores. There are consequently eight possible combinations of these texts, either of which would satisfy the guidelines set forth by Laver, Benoit, and Garry.<sup>29</sup> These eight ‘reasonable’ reference sets are then used to create eight separate policy time-series (see Figure A.1). The resulting eight time-series track one another closely, which indicates that the left-right estimates are truly driven by differences in textual patterns between Budget Speeches.<sup>30</sup> Since the choice for one particular reference set is difficult to justify, the mean score of the eight individual series will be used as the final policy variable.<sup>31</sup>

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<sup>29</sup> These eight combinations are 1987-2005-1974, 1987-2005-1975, 1987-1971-1974, 1987-1971-1975, 1983-2005-1974, 1983-2005-1975, 1983-1971-1974, 1983-1971-1975.

<sup>30</sup> In fact, factor analysis of these eight time-series results in a one-factor solution with an eigenvalue of 6.93 that explains 87 percent of the variance. All of the eight reference sets have factor loadings between 0.87 and 0.96. Comparable results are found for Danish government speeches by Klemmensen et al. (2007).

<sup>31</sup> The mean score is identical to the one-factor solution (Pearson’s  $r = 0.994$ ).



**Figure A.1: Left-Right Scores of UK Governments with Eight Different Combinations of Reference Texts**

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