

Public Health Care Spending in the OECD: The Role of Partisan Cycles and Campaign Promises*

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Abstract

Public expenditures on health care are rising in most OECD countries, though the strength of this development varies strongly across countries. Building on a partisan theory framework, we argue that political parties' campaign promises regarding the welfare state – made to win over voters during the process of electoral competition – can help explain above-mentioned patterns *provided these promises are kept once politicians are elected*. Analyzing a rarely used dataset on party manifestos, we find that parties with stronger positive inclination towards welfare state expansion prior to elections spend significantly more on public health care once elected (though favourable mentioning of social justice in election platforms does not have an independent, additional effect). These results indicate that partisan identities matter for public health care spending, and that – contrary to popular conceptions – political parties tend to behave in line with campaign promises.

Key words: Public Health Care Spending, Public Policy, Political Economy, Campaign Promises, OECD countries.

JEL codes: C12, C23, D72, H51, I10.

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1. Introduction

In their review of the literature on aggregate health care spending, Gertham and Jönsson (2000) argue that too much effort has been put into new econometric techniques aiming to solve the problem of non-stationarity and cointegration in the level of health care spending and too little effort into finding ‘new’ theories explaining aggregate health care spending. Taking this criticism seriously, we analyse – invoking a partisan-theoretical argument developed by Alesina (1988) – the impact of campaign promises on public health care spending using an amazing data set on party manifestos. To the best of our knowledge, neither the theory nor the dataset has been previously considered in the field of health economics.

While political economy approaches, such as the one suggested in this paper, may contribute to our understanding of the nature and size of health care systems, this route is rarely taken. The most notable exception is (public) health care financing. Epplé and Romano (1996) and Gouveia (1997), for example, use a median voter approach to explain the existence of public health care financing (for related work, see Kifmann 2005). Their key assumption is that public health care provision is uniform (i.e., independent of individual characteristics) but health care financing is not. With progressive income taxation and a right-skewed income distribution, a majority will vote in favour of a public health care system since their tax price for health goods is below their actuarially fair price. Still, although these papers help explain the *existence* of public health care financing, they offer little insight regarding the actual *size and/or growth* of public health care systems.¹ Moreover, while the median voter approach is a powerful tool, it literally only applies to direct democracies and takes for granted that the median voter’s most preferred policy is actually implemented after the elections.

In a representative democracy, the latter assumption clearly cannot be taken for granted. Even if parties take up the position of the median voter in order to maximize their chance of being elected, they may deviate once elected and implement *their* most favoured

¹ Recently, Hartwig (2008) revisited Baumol’s theory of unbalanced growth to explain growth in health care spending – and found firm support for it. This theory argues that sectors with low labour market productivity grow at a faster rate than sectors with high labour market productivity when the unproductive sector produces essential goods; health care is one prime example of such an unproductive but essential sector.

policy. This commitment problem strongly suggests that not only the preferences of the electorate matter (or, more precisely, the preferences of the median voter) but also the political process; that is, the nature of electoral competition. Alesina (1988) offers a theoretical model that – depending on voter rationality and parties’ discount factors – derives the equilibrium platforms that will evolve in electoral competition (more detail will be provided in Section 2 below). Such analysis invokes two central questions: First, do electoral platforms diverge in real life? Second, do diverging platforms actually translate into diverging policies (i.e. do parties stick to their campaign promises once elected)? Given that electoral platforms about health care and social policy indeed differ across parties within and between OECD countries (see below), our empirical analysis concentrates on the latter question.

To test the impact of parties’ electoral platforms (or campaign promises) on public health care spending, we use data from the Manifestos Research Group (MRG) and the OECD Health Data base from 1970 to 2003 for 22 OECD countries. We thereby measure campaign promises by the weight parties attach to policy fields that are relevant to public health care financing (i.e. welfare state expansion and social justice). Our results show that campaign promises are kept as far as the welfare state pledges are concerned. A government consisting of parties that assume a more supportive position towards the welfare state is associated with significantly higher health care spending once elected. Parties’ diverging views on social justice do not translate into significantly different spending patterns when controlling for the effect of welfare state pledges.

Interestingly, and in similar spirit to our analysis, Potrafke (2009a) recently investigated the roles of electoral opportunism, party ideology and government fractionalization in public health care spending. His results with regard to ideology are inconclusive.² In our view, this non-finding may well derive from his specific ideology measure, which assigns values between 1 and 5 to ruling majorities depending on governing parties’ ideology (a simple dummy variable indicating left or right) and their relative seat shares.³ Yet, this

² There are signs that ideology plays a role, but these effects generally disappear as soon as time trends are taken into account.

³ Specifically, it takes “value 1 if the share of governing rightwing parties in terms of seats in the cabinet and in parliament is larger than 2/3, and 2 if it is between 1/3 and 2/3. The index is 3 if the share of centre parties is 50%, or if the leftwing and rightwing parties form a coalition government that is not dominated

measure's implicit use of a simple discrete variable to assign parties a left- or right-wing position is to some extent arbitrary (i.e. its discontinuity makes the measure very sensitive to the imposed cut-off between 'left' and 'right'), difficult to compare internationally (i.e. it implicitly imposes that the US 'left' is the same as, say, the Swedish 'left') and does not allow for changes in parties' ideological positions over time (although, for example, the current UK Labour party can clearly not be compared to that from, say, 1974). The possibly significant measurement error this induces may give rise to attenuation bias. Thus, when investigating the role of ideology on public health care spending, we feel more precise and more narrowly defined variables should be employed. Our main variables of interest – i.e. parties' attitudes towards the welfare state and social justice – are such measures.

The remainder of the paper is structured as follows. In Section 2 we briefly set out the main theoretical argument. The datasets used are introduced in Section 3, followed by a discussion of the empirical model and estimation techniques in Section 4. Results are presented in Section 5. Finally, Section 6 offers some concluding remarks.

2. Theoretical background

The question whether or not a link exists between parties' election stands and subsequent government policy is central to theories of representative democracy. Party mandate theory, for example, argues that in a democratic election "voters choose among substantive programs and correspondingly endow winning parties with determinate policy mandates" (Schedler 1998, p. 191). The party obtaining most votes is then assumed to be "bound [...] to carry through the program on which it has been elected" (Budge and Hofferbert 1990, p. 111). Voters thus are argued to give a specific mandate to their political leaders, which these in turn enact (Royed 1996 and Schedler 1998). If politicians upon being elected fail to execute the policies they promised to enact – or have been given a mandate for – the democratic process of elections and representation

by one side or the other. The index is symmetric and takes the values 4 and 5 if the leftwing parties dominate" (Potrafke 2009a, p. 10; see also Potrafke 2009b).

loses its substantive meaning and fundamental *raison-d'être* (Kalogeropoulou 1989; Budge and Hofferbert 1990 and Schedler 1998).

Yet, to assess whether parties stick to campaign promises (as is assumed under party mandate theory), we first have to identify under which conditions competitors' platforms diverge. Indeed, in the absence of disagreement, one lacks the inter-party variation needed to identify the link between campaign promises and policy outcomes. Consider, therefore, the following simplified version of Alesina's (1988) model of a two-party system where both parties are concerned about ideology, as well as about winning elections.⁴ Let the policy space be the unit interval $[0,1]$. To ease interpretation, think of this space as the proportion of private health care financing. There are two parties, left and right, with bliss points at the extremes of the interval, that is, the left party prefers a purely public health care system without any private finance (bliss point is zero) while the right party is in favour of private health care finance only (bliss point is one). Then the utility of the left party is given by $v - \frac{1}{2}p^2$ when in office and policy p is implemented and $-\frac{1}{2}p^2$ when the right party is in office and policy p is implemented. The parameter $v > 0$, thus, captures the utility of holding office. Accordingly, the utility of the right party is $v - \frac{1}{2}(1-p)^2$ when in office and $-\frac{1}{2}(1-p)^2$ when not. We assume throughout that the government controls p .

In electoral competition, parties announce policies p_L^a (left) and p_R^a (right). Voters, who are perfectly rational, realize that parties make these announcements to gain votes (and win the election), but may have no incentive to keep these promises once elected. Hence, for their decision whom to vote for, voters do not consider announcements but form expectations about the policies that will be implemented once the elected party holds office, p_L^e and p_R^e , respectively. As a result, the probability of winning the election depends on expectations rather than announcements. Let π denote the probability of the left party winning the election, we then have

$$\pi = \pi(p_L^e, p_R^e). \quad (1)$$

⁴ This model extends Hibbs' (1977) classic partisan framework by combining parties' ideological motives with the desire to win elections.

Like Alesina (1998), we assume that parties are uncertain about the distribution of preferences of the electorate. As such, they are uncertain about the bliss point of the median voter, they only know that preferences are single-peaked. Note that this uncertainty together with the convex disutility implies that parties are risk averse. We also maintain the following assumptions: (i) the function defined in (1) is common knowledge, (ii) $\pi \in (0,1)$, (iii) π is twice continuously differentiable, and (iv) the partial derivatives with respect to expectations are

$$\frac{\partial \pi}{\partial p_L^e} > 0 \quad \text{and} \quad \frac{\partial \pi}{\partial p_R^e} > 0. \quad (2)$$

To make sense of the partial derivatives in (2) we need to assume – without loss of generality – that $p_L^e \leq p_R^e$. An increase in p_L^e pushes the indifferent voter more towards the bliss point of the right party, which, given single-peakedness, implies that more voters will support the left party (increasing its chance of being elected). A similar reasoning applies to an increase in p_R^e . In order to have a concave problem for both parties we assume that $\partial^2 \pi / \partial p_L^2 < 0$ and $\partial^2 \pi / \partial p_R^2 > 0$.

In electoral competition, parties will optimally trade off the probability of electoral victory against deviations from their most preferred policy. Obviously, the equilibrium of the political game then depends on whether or not parties can commit to their campaign promises. With *full commitment* we have $p_i^a = p_i^e = p_i$, $i = L, R$. The expected utility of the left party can then be written as

$$Eu_L = \pi(p_L, p_R) \left[v - \frac{1}{2} p_L^2 \right] + (1 - \pi(p_L, p_R)) \left[-\frac{1}{2} p_R^2 \right]. \quad (3)$$

For the right party we find

$$Eu_R = (1 - \pi(p_L, p_R)) \left[v - \frac{1}{2} (1 - p_R)^2 \right] + \pi(p_L, p_R) \left[-\frac{1}{2} (1 - p_L)^2 \right]. \quad (4)$$

The following first order conditions for expected utility maximization are obtained by differentiating (3) and (4) with respect to p_L and p_R , respectively:

$$\pi_L \left(v + \frac{1}{2} [p_R^2 - p_L^2] \right) - \pi p_L = 0, \quad (\text{FOC-L})$$

$$\pi_R \left(v + \frac{1}{2} [(1 - p_L)^2 - (1 - p_R)^2] \right) - (1 - \pi)(1 - p_R) = 0, \quad (\text{FOC-R})$$

where $\pi_i \equiv \partial \pi / \partial p_i$ for $i = L, R$.⁵ As usual, the first order conditions define the best response functions. Interpretation is straightforward. Consider the first order condition of the left party (FOC-L). The first term measures the marginal benefit of increasing p_L . The probability of the left party winning increases by π_L so that the utility of holding office, v , materializes with higher probability. In addition, implementation of the own policy becomes more likely so that the disutility drops by $\frac{1}{2}[p_R^2 - p_L^2]$. The second term measures the marginal cost of increasing p_L . As p_L deviates from the left party's bliss point there is an additional disutility in case the left party wins. The optimum is, as usual, characterized by equality of marginal costs and marginal benefits.

Totally differentiating (FOC-L) and (FOC-R) with respect to p_L and p_R we find the slope of the best response functions:

$$\left. \frac{dp_R}{dp_L} \right|_{\text{FOC-L}} = -\frac{H_{LL}}{H_{LR}} \quad \text{and} \quad \left. \frac{dp_R}{dp_L} \right|_{\text{FOC-R}} = -\frac{H_{RL}}{H_{RR}}, \quad (5)$$

where $H_{ij} \equiv \partial^2 Eu_i / \partial p_j \partial p_i$ for $i, j = L, R$. Since the cross-derivates (i.e. H_{LR} and H_{RL}) cannot be signed unambiguously, the best responses may be increasing or decreasing. Still, we will assume that the best response of the left party is decreasing in p_R , that is, $H_{LR} < 0$. This assumption implies that when the right party moves towards its ideal point, the probability of the left party winning increases. This in turn allows the left party to move closer to its own ideal point without undermining its chances of holding office. Similarly, the best response of the right party may be increasing or decreasing in the left party's platform as well. Although, on symmetry grounds, it would appear reasonable to also focus on the downward sloping case for the right party, we maintain generality here. The only restriction we impose is existence of a unique stable Nash equilibrium. This requires that the Hessian is globally negative semi-definite, that is,

$$H_{LL} < 0 \quad \text{and} \quad \det H = \det \begin{pmatrix} H_{LL} & H_{LR} \\ H_{RL} & H_{RR} \end{pmatrix} = H_{LL}H_{RR} - H_{LR}H_{RL} > 0. \quad (6)$$

⁵ It is easy to see that the second order conditions for expected utility maximization are satisfied, that is,

$$H_{LL} = \underbrace{\pi_{LL}}_{<0} \underbrace{\left(v + \frac{1}{2}[p_R^2 - p_L^2] \right)}_{>0} - \underbrace{2\pi_L p_L}_{>0} - \underbrace{\pi}_{>0} < 0,$$

$$H_{RR} = -\underbrace{\pi_{RR}}_{>0} \underbrace{\left(v + \frac{1}{2}[(1-p_L)^2 - (1-p_R)^2] \right)}_{>0} - \underbrace{2\pi_R(1-p_R)}_{>0} - \underbrace{(1-\pi)}_{>0} < 0.$$

Concentrating on the case where both best response functions are downward sloping, we find that the left party's best response is steeper than the right party's best response:⁶

$$\left. \frac{dp_R}{dp_L} \right|_{\text{FOC-L}} = -\frac{H_{LL}}{H_{LR}} < -\frac{H_{RL}}{H_{RR}} = \left. \frac{dp_R}{dp_L} \right|_{\text{FOC-R}}. \quad (7)$$

Together with uniqueness, this allows us to move to a graphical representation of the political equilibrium. In Figure 1 (see Appendix), we depict the case where both best response functions are downward sloping (though, as mentioned, our results also hold when the best response of the right party increases in the left party's policy position). The equilibrium is given by point N, where the left party announces (and implements) a policy that is to the left of the right party's platform, that is, the equilibrium is above the diagonal (which depicts the locus of full policy convergence). To investigate how the best response functions change when the utility of holding office, v , changes, we totally differentiate the first order conditions with respect to (p_L, v) and (p_R, v) , respectively. We obtain

$$\frac{dp_L}{dv} = -\frac{\pi_L}{H_{LL}} > 0 \quad \text{and} \quad \frac{dp_R}{dv} = \frac{\pi_R}{H_{RR}} < 0. \quad (8)$$

As a response to an increase in v both parties – for a given policy of its competitor – move further away from their ideal point in order to increase the chances of winning. The best response function of the left party thus shifts to the right while the best response of the right party shifts down. In equilibrium policies will be unambiguously more alike (although we cannot definitely say that both parties end up further away from their respective ideal point).⁷ This is intuitive since the value attached to holding office is increased and thereby motivates parties to trade in their ideological goals. In this setting, full convergence, i.e. $p_L^* = p_R^*$, will generally not occur as the uncertainty about the electorate's preferences refrains parties from identifying the median voter's bliss point.⁸ Or, in other words, equilibrium policies will differ.

⁶ Provided that the conditions in equation (6) are satisfied, all our results continue to hold when one or both reaction functions are not downward sloping.

⁷ This policy convergence result can also be found in Calvert (1983) and Alesina (1988).

⁸ With full information about the preferences of the electorate both parties would assume the position of the median voter (see Persson and Tabellini 2000, pp. 97-99).

This holds a fortiori when parties lack commitment power. Voters are perfectly rational and anticipate the parties' incentive to revise policy once elected. Given the utility functions the most favoured policy of the elected party will be implemented, that is, either $p = 0$ or $p = 1$. In the more realistic scenario of limited commitment, variation in platforms will be larger than under full commitment, increasing partisan trends in policy proposals *and* subsequent outcomes. This is reflected in the considerable variation in campaign promises across parties (and governments) in our dataset. Our analysis below then effectively tests whether parties keep these campaign promises.

Note, finally, that variation of party platforms over time may be partly due to a general trend that all competing parties within a given country follow. If so, then over-time variation in platform differences between government and opposition can be expected to be low (which is confirmed in our dataset) and the parliament's policy position can be viewed as the position of a coalition of parties. In the framework above, such a coalition will benefit parties in expectation (see also Alesina 1988) as forming a coalition works as a risk-reducing strategy. Whether this actually works depends on coalition stability. Alesina (1988) shows that the Nash bargaining solution with non-cooperative outcomes (i.e. bliss points) as threat points is stable in an infinitely repeated game setting if the discount factor is sufficiently large so that reputation, that is, keeping campaign promises, matters.

To summarize, when electoral competition is modelled as a one-shot game, the extent of policy divergence in equilibrium depends on the parties' ability to commit to announced policies. Moreover, in both the equilibrium with and without commitment, the model predicts that campaign promises are kept by the subsequent government (which decides on policy implementation). Hence, we can formulate our first hypothesis as follows:

Hypothesis 1: Favourable mentioning of the welfare state and social justice during electoral competition by the party or parties that (after the election) make up the government has a positive effect on public health care spending.

In an infinitely repeated game, coordination by risk-averse parties on a joint policy position prior to elections can be supported as a stable equilibrium *if* parties' discount factors are sufficiently large (see also Alesina 1988). This suggests that a) announced

policies will be implemented, and b) not only the government's position matters for policy, but that of the entire pre-election coalition (which can be approximated by all parties that, after the election, end up in parliament). Moreover, irrespective of such pre-election coalitions, opposition parties may have an important role for policy outcomes due to their ability to propose amendments, their representation in policy committees (see, e.g., Hicks and Swank 1992 and Thomson 2001) or their generation of outright political pressure (as suggested by theories on 'contagion from the left'; e.g. Heclo 1974). Both arguments suggest that promises might be more easily – or more likely to be – kept when there is sufficiently broad political support for a given campaign promise (Royed 1996 and Thomson 2001); this strengthens the link between campaign promises and policy outcomes and leads to our second hypothesis.

Hypothesis 2: Favourable mentioning of the welfare state and social justice during electoral competition by the parties that (after the election) have parliamentary representation has a positive effect on public health care spending. These effects are expected to be larger than the effects of the government's position.

3. Data

3.1 Data sources

We extract information concerning parties' election promises from the manifestos they publish during the election campaign. Party manifestos are published prior to the election campaign and generally strongly steer the line of discussion party members uphold during the campaign. The main points addressed in the manifestos are usually also extensively discussed in the popular press. Even though these manifestos may be regarded as strategically written texts (Kavanagh 1981), topics obtaining a lot of attention in the manifesto relative to other issues are very likely to be those which the party feels strongest about. As such, the relative amount of attention in the manifesto signals which topics are likely to obtain most attention when the party gets elected. Following this line of argument, we interpret the amount of attention parties spend on a given topic as

“implicit commitments to greater effort in the area” (Budge and Hofferbert 1990, p. 114; see also Klingemann *et al.* 1994 and Bräuninger 2005).

We measure party election platform emphases using data collected and provided by the Manifestos Research Group (MRG). The MRG has consistently coded the content of election manifestos from 1948 onwards (using country experts fluent in the language concerned). Specifically, each (quasi-)sentence in every manifesto is coded into one – and only one – of 54 detailed categories, which can be grouped under a number of broad themes such as foreign policy, economy or civil rights. To account for the differing length of manifestos over time and space, the number of (quasi-)sentences is then normalised by the total number of sentences in the manifesto. The resulting dataset thus consists of the percentage of total (quasi-)sentences that was dedicated to each of the 54 categories. These data were originally “designed to capture the policy emphases of the parties” (Gabel and Huber 2000, p. 96; see also Laver and Garry 2000, p. 620) and thus suit our purpose perfectly (see also Bräuninger 2005).

As is standard in research on aggregate health care spending, we use the OECD Health Data Base (2008 release). We focus on public health care spending as this can be more (in National Health Service Systems) or less (in Social Security Systems) controlled by the government. As dependent variable, we use the real growth rate of public health care spending. The use of growth rates was strongly recommended by Gertham and Jönsson (2000) who provided an excellent overview of research on aggregate health care spending and the econometric techniques used therein. Studies that use levels have to deal with non-stationarity and cointegration. There are many tests available but, unfortunately, tests are inconclusive as was recently demonstrated by Hartwig (2008) and Potrafke (2009a). So far, no study has claimed that health care spending is $I(2)$ so that growth rates are stationary (Hartwig 2008; Potrafke 2009a). In his study, Hartwig (2008) furthermore shows that estimation results can be sensitive to measuring variables in nominal or real terms. As our main variables of interest are measured in percentages, the way of measuring monetary variables is largely irrelevant. We opt for real growth rates in order to maintain comparability of our results to those found in Potrafke (2009a).

3.2 Modelling campaign promises

Two of the 54 detailed categories brought forward by the MRG are of particular interest to us. The first of these concerns “Welfare State Expansion: Positive” and counts the number of times a party favourably mentions the need to introduce, maintain or expand social service programs or social services such as health service or social housing (excluding education policy). The second is designated “Social Justice: Positive” and covers the concept of equity. This incorporates, for example, favourable mentioning of special protection for underprivileged and the fair distribution of resources. We employ both categories separately in our analyses. As a consequence, we define two variables measuring campaign promises in the social welfare sector: “Welfare State” and “Social Justice”, which equal the share of manifesto sentences under their respective categories in the MRG coding scheme. The more each policy aim is mentioned in the manifesto, the stronger the promise of the party to support the welfare state (or social justice).

To test the hypotheses derived in Section 2 (as well as to assess robustness of our results), we investigate four alternative specifications for the variables Welfare State and Social Justice. First, we look only at the manifestos of parties that make it into the government. In case of a one-party government, the main independent variable then measures the relative amount of attention this party spent on both ‘Welfare State’ and ‘Social Justice’ in its manifesto. In case of coalition governments, we use the weighted average attention of the coalition partners on these issues, i.e., attention by the government parties weighed by their share of ministerial positions in the government. This allows us to test Hypothesis 1.

Second, we take into account opposition parties, given that these are at times considered to be of importance for policy outcomes as well (e.g. Alesina 1988, Hicks and Swank 1992 and Thomson 2001). The campaign promise variables under this specification are included as the weighted average attention to the welfare state or social justice of the parliamentary parties (with weights equal to parties’ seat shares in parliament) allowing us to test Hypothesis 2.⁹

⁹ We employ seats rather than votes as a weighing scheme because we are primarily interested in the policy-making process (cf. Johnson and Crisp 2003, p. 133).

Thirdly, we test whether certain positions in the government play a special role in setting health care policy. Theories of post-election coalition formation argue that the division of tasks between parties is crucially important and significantly structures policy outcomes. In fact, “government policy outputs [...] are best predicted by looking at the position of the party in control of the portfolio with jurisdiction over the policy area concerned” (Laver and Shepsle 1994, p. 42). Hence, campaign promises might be easier to keep if a party supporting these ideas gains control of the relevant ministerial portfolio (Laver and Shepsle 1994, Thomson 2001 and Mansergh and Thomson 2007). We specifically focus on the prime minister and the health minister. The former often has a strong guiding hand in policy setting in general, while the latter should be more closely involved in matters concerning public health care spending. The campaign promise variable then is defined as the share of attention given to welfare state or social justice issues in the party program of either the prime minister’s party or the health minister’s party.

Note, importantly, that, in contrast to other available ideological measures (e.g., Budge et al. 1993; Potrafke, 2009a,b), our variable has three significant benefits. It is *a)* continuous (i.e. avoiding an arbitrary cut-off between left and right), *b)* internationally comparable (i.e. parties in all countries are evaluated on the same basis) and *c)* capturing variation in parties’ positions *as well as* government composition over time (rather than only allowing for variation in government composition over time, as did earlier measures). As such, it is much more precise and more narrowly defined than previous measures – and therefore allows better evaluation of the role of ideology on public policies such as public health care spending.

Tables 1 and 2 provide an explanation of variables and descriptive statistics, respectively. On average the importance given to welfare state expansion and social justice by government parties is 7.5 per cent and 4.9 per cent, respectively. The relative importance for these two fields by parliamentary parties is 7.3 and 4.8 per cent. As argued above, the position of the health minister (6.7 and 4.0 per cent) and - maybe even more so - the position of the prime minister (7.3 and 4.8 per cent) may contribute to the understanding of the development of public spending on health care. As the first two measures are closest to our theoretical arguments – the first measure for the one shot game, the second for the repeated game with stable coalitions – we emphasize findings using the

government's and the parliament's position and regard the results of the remaining measures as robustness checks.

3.3 Analysis sample

The manifesto data are available from 1948 to 2003 while the health data begin in 1970. The analysis sample therefore contains the years from 1970 to 2003. Due to the incompleteness of the health data, our sample is unbalanced. As a result, the number of observations varies across specifications and estimation methods. Finally, note that we use annual budgetary data despite the fact that our campaign promise data only exist for election years (and are thus simply replicated in non-election years). This follows the previous literature (e.g. Klingemann *et al.* 1994) and is built on the idea that election promises determine policy “for each year in which the party holds power and makes up a separate budget” (Budge and Hofferbert 1990, p. 119).

4. Empirical specification

For our baseline specification we consider the following empirical model

$$PEH_{i,t} = \rho PEH_{i,t-1} + \beta_1(\text{Welfare State})_{i,t-1} + \beta_2(\text{Social Justice})_{i,t-1} + X'_{i,t}\gamma + \mu_i + \lambda_t + u_{i,t}, (9)$$

where $\gamma = (\beta_3, \dots, \beta_k)'$. As mentioned above, the dependent variable is the real growth rate of public expenditures on health. To model the slow adjustment in public budgets – known as “bureaucratic incrementalism” (see, e.g., Krebs and Pommerehne 1995 and Schulze and Rose 1998) – we fit a dynamic model. To distinguish between autocorrelation of residuals and state dependence we conducted tests on autocorrelation. For all specifications autocorrelation is rejected in favour of state dependence (p-values

are well below 2 per cent).¹⁰ As will turn out, however, our central results hold under static and dynamic specifications; thus highlighting their robustness.

Our main variables of interest are the campaign promises measured by Welfare State and Social Justice. We lag these variables one year to take into account the time needed to translate promises into observable policies. To adequately estimate their effect on health care spending, we include a number of control variables to avoid omitted variable bias. Similar to Barros (1998), we include a variable that captures the level of public health care spending to control for the more limited scope for further increases in public spending when the level is already high (or the other way round). We use two alternatives to capture this: public health care spending as a share of gross domestic product (PHCS/GDP) and public health care spending as a share of general government expenditures (PHCS/GGE). Both variables are lagged one period to avoid endogeneity problems. We also include real GDP growth, the unemployment rate, the age structure as measured by the share of individuals below the age of 15 years (Young) and the share of +65 years (Old), and population growth. We will briefly comment on these variables below. Finally, we include country fixed effects and year dummies to control for unobserved heterogeneity.¹¹

The problem when estimating our empirical model is that the usual fixed effects estimator (or least squares dummy variable estimator) is biased. The bias is rooted in the correlation between the error term and the lagged dependent variable – a standard endogeneity problem. Nickell (1981) showed that this bias approaches zero when T gets large. Although with a time dimension of about 30 years the bias is likely to be moderate, we prefer to correct the bias. In a simulation study, Bun and Kiviet (2003) demonstrated

¹⁰ Suppose there is autocorrelation in the error term, then we have $u_{i,t} = \rho u_{i,t-1} + \varepsilon_{i,t}$. This implies the following dynamic model $PEH_{i,t} = \rho PEH_{i,t-1} + D'_{i,t}\beta - D'_{i,t-1}\phi + \tilde{\mu}_i + \tilde{\lambda}_t + u_{i,t}$, with $\rho\beta = -\phi$. So running a test on this condition allows us to distinguish between autocorrelation and state dependence. Rejection of this hypothesis tells us that there are dynamics over and above autocorrelation. Details are available on request.

¹¹ This list of controls can clearly be extended. In fact, we experimented with various additional variables: e.g. number of parties in government or parliament, physician density, life expectancy, alcohol consumption, obesity rates, and so on. None of these adds significantly to the model. As they often (strongly) reduce the number observations and their inclusion/exclusion does not affect our main findings, we exclude them from the final estimation model. Note also that election year effects are implicitly incorporated in the year effects and thus are not explicitly discussed here.

that the bias correction suggested by Kiviet (1999) accounts for 90 per cent of the bias. Given our data, small N and relatively large T, this procedure is preferred over alternative instrumental variable estimators like, for instance, the Anderson-Hsiao estimator or the Arellano-Bond estimator. The reason is that their asymptotic efficiency properties rely on N growing large.¹² Bruno (2005) provided a STATA routine that implements the Kiviet (1999) bias correction.¹³

5. Results

We start out with a static specification and find, using the fixed effects estimator, a positive and statistically significant effect of campaign promises to support the welfare state made by parties that end up in government (see Model 1, Table 4). A ten percentage point increase in support is associated with a 1.1 percentage point increase in real public health care expenditure growth all else equal – a sizeable effect. Emphasis on social justice in electoral competition does not translate into actual politics. As our models 2 to 9 show these results are remarkably robust.¹⁴ Model 2 – including a lagged dependent variable – is estimated twice, with the standard fixed effects estimator and the bias corrected version of it. The bias of the former primarily affects the lagged dependent variable but not the exogenous regressors.¹⁵ Note also that the size of the coefficient on the lagged dependent variable closely mirrors that found in previous work (e.g., Potrafke, 2009a). Model 3 additionally includes the unemployment rate as a control variable. Although this marginally reduces coefficient and p-value of the welfare state variable, our main result continues to hold: as far as public health care is concerned, campaign promises are kept (at least qualitatively). As the unemployment rate is statistically significant we leave it in the model and consider Model 3 our baseline specification. Independent of the specification, we find firm support for Hypothesis 1.

¹² Using a simulation framework, Bruno (2005) and Judson and Owen (1997, 1999) found that the bias corrected version outperforms more standard instrumental variable estimators in this setting.

¹³ To initialize the estimates we use the one step Arellano-Bond estimator.

¹⁴ Note that, due to potential measurement error in campaign promises or bounded rationality of voters, our results are probably a conservative estimate of the true strength and size, respectively, of the effect.

¹⁵ Judson and Owen (1997, 1999) show this holds more generally.

In models 4 to 6, we re-estimate models 1 through 3 using the lag of public health care expenses as a share of general government expenses to model the impact of the spending level on growth rates (rather than public health care spending as a share of GDP). There are small changes in the coefficients of control variables but our central campaign promise variables largely remain unaffected. Since the goodness of fit is worse for this specification, we stick with Model 3. Note that both variables, PHCS/GDP and PHCS/GGE, have the expected negative sign: when spending is already high, growth is less pronounced (see also Barros 1998).

In Table 5 we investigate the differences between the alternative ways to model campaign promises. The first column simply repeats Model 3 where the government parties' election platforms were used to create the campaign promise variables. As argued above, expansionary policies may be easier to implement the more support such a policy has in the parliament. This assertion, stated as Hypothesis 2 above, receives firm support since the coefficient estimate of the variable measuring campaign promises about the welfare state is about 50 per cent larger than in the baseline model (Model 7). This difference between the effects of government and parliament is, however, not statistically significant. The power of the health minister appears rather limited (Model 8): the coefficient estimate is about 50 per cent lower than that of the government parties (Model 3) and its statistical significance is also weaker (p-value is slightly below 10 per cent). In contrast, the prime minister's (party) attitude towards the welfare state and social justice has an impact comparable in size to the position of the government overall (Model 9).

Real GDP growth found to be an important determinant of real growth in public health care spending, confirming earlier findings (e.g., Hoffmeyer and McCarthy 1994; Gertham and Jönsson 2000). We find an elasticity of .34, which is well in line with the latest evidence on whether or not health care is a luxury good (Sen 2005). Interestingly, the age structure of the population is largely irrelevant. Given recent evidence on the so-called red herring hypothesis, this should not be too surprising. It is not ageing that explains individual expenditures, but the proximity to death (e.g., Felder et al. 2009).

6. Conclusion

Hoffmeyer and McCarthy (1994) argued that GDP is the only variable that shows a robust correlation with health care spending. Given the new evidence provided by Hartwig (2008), Potrafke (2009a) and ourselves, this no longer holds true: Political economy arguments appear to play a significant role as well. Specifically, using an amazingly rich dataset on party manifestos, we showed that favourable mentioning of the welfare state in electoral competition translates into higher health care spending once the new government is in office. This confirms that partisan-ideological arguments matter for public expenditures on health and that political parties – at least qualitatively – keep their campaign promises.

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Figure 1: The political equilibrium with commitment

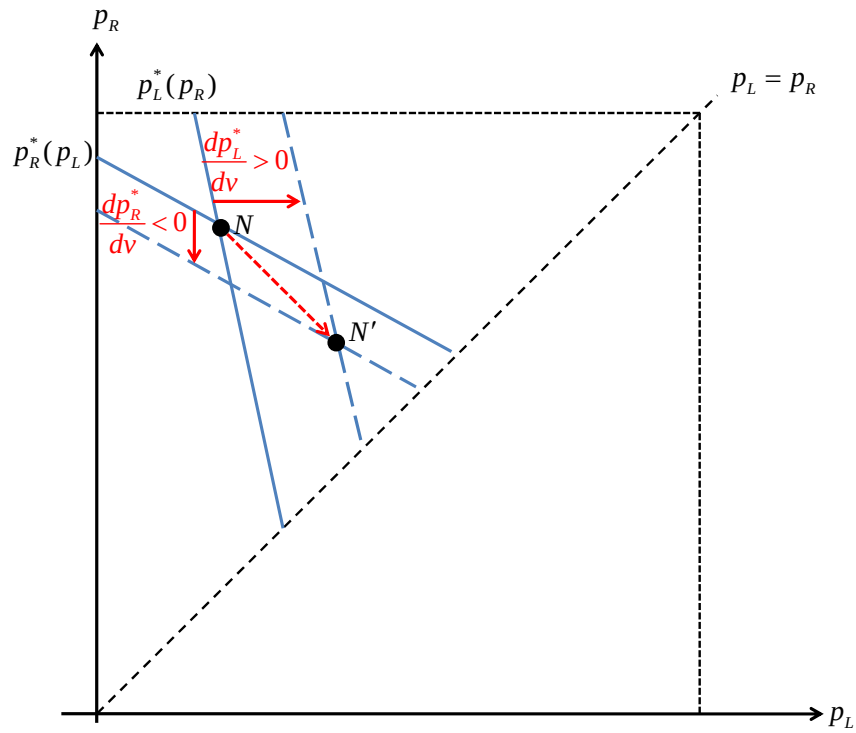


Table 1: Explanation of variables

Variable	Description
Welfare (g)	Government position towards welfare state expansion: positive [%]
Justice (g)	Government position towards social justice: positive [%]
Welfare (p)	Parliament position towards welfare state expansion: positive [%]
Justice (p)	Parliament position towards social justice: positive [%]
Welfare (hm)	Health minister's position towards welfare state expansion: positive [%]
Justice (hm)	Health minister's position towards social justice: positive [%]
Welfare (pm)	Prime minister's position towards welfare state expansion: positive [%]
Justice (pm)	Prime minister's position towards social justice: positive [%]
PEH	Real growth rate of public expenditures on health (peh)
PHCS/GDP	Public Health Care Spending as a share of gross domestic product [%]
PHCS/GGE	Public Health Care Spending as a share of general government expenses [%]
GDP	Real growth rate of gross domestic product
Unemployment	Unemployment rate [%]
Young	Share of population below the age of 15 years [%]
Old	Share of population 65 years and above [%]
Population	Population growth

Table 2: Descriptive statistics

Variable	N	Mean	Std. Dev.	Min	Max
Welfare (g)	570	7.4625	5.0726	0	36.3694
Justice (g)	570	4.8894	4.3916	0	22.7000
Welfare (p)	570	7.3045	3.7619	.4051	25.7459
Justice (p)	570	4.7968	3.4733	.1468	21.6851
Welfare (hm)	570	6.7471	8.0741	0	75.1313
Justice (hm)	570	4.0033	5.5288	0	34.7561
Welfare (pm)	570	7.3286	5.2780	0	36.1702
Justice (pm)	570	4.7735	4.9572	0	31.3726
PEH	570	.04828	.0539	-.1323	.3821
Lag PHCS/GDP	570	5.6588	1.2537	2.6852	8.7325
Lag PHCS/GGE	538	12.7224	2.2610	6.9101	18.9478
GDP	570	.0292	.0236	-.06298	.1347
Unemployment	570	6.5952	4.2843	.3000	23.6620
Young	570	20.6542	3.6446	14.1000	31.6000
Old	570	13.4028	2.4098	7.3000	19.1000
Population	570	.0064	.0049	-.0116	.03925

Notes: g = government, p = parliament, pm = prime minister, hm = health minister.

Table 3: Analysis sample

Country	Years (missings)	N
Australia	1973-2003	31
Austria	1972-2003	32
Canada	1972-2003	32
Denmark	1973-2002	30
Finland	1972-2003	32
France	1992-2003	12
Germany	1988-2003 (1990-1993)	12
Greece	1989-2002	14
Iceland	1972-2003 (1982-1983)	30
Ireland	1972-2003	32
Italy	1990-2003	14
Japan	1972-2003	32
Luxemburg	1977-2003	27
Netherlands	1974-2002	29
New Zealand	1991-2003	13
Norway	1972-2003	32
Portugal	1977-2003	27
Spain	1978-2003	26
Sweden	1972-2003	32
Switzerland	1987-2003	17
United Kingdom	1972-2003	32
United States	1972-2003	32
Total		570

Table 4: Health care spending and campaign promises of the government

Variable	Model 1*	Model 2*	Model 2	Model 3	Model 4*	Model 5	Model 6
Lag PEH	–	.1015 (.0404) [.012]	.1938 (.0474) [.000]	.1837 (.0476) [.000]	–	.2210 (.0518) [.000]	.2056 (.0512) [.000]
Welfare	.0011 (.0005) [.018]	.0011 (.0005) [.016]	.0011 (.0005) [.022]	.0010 (.0005) [.037]	.0010 (.0005) [.028]	.0010 (.0005) [.026]	.0009 (.0005) [.038]
Justice	.0002 (.0005) [.690]	.0003 (.0005) [.539]	.0003 (.0006) [.580]	.0003 (.0006) [.563]	.0001 (.0005) [.807]	.0001 (.0005) [.784]	.0002 (.0005) [.683]
Lag PHCS/GDP	–.0238 (.0036) [.000]	–.0241 (.0036) [.000]	–.0213 (.0039) [.000]	–.0210 (.0039) [.000]	–	–	–
Lag PHCS/GGE	–	–	–	–	–.0042 (.0015) [.007]	–.0042 (.0016) [.011]	–.0062 (.0018) [.001]
GDP	.4270 (.1059) [.000]	.3496 (.1066) [.001]	.3482 (.1072) [.001]	.3430 (.1068) [.001]	.3719 (.1136) [.001]	.3250 (.1124) [.004]	.3032 (.1109) [.006]
Unemployment	–	–	–	–.0020 (.0010) [.045]	–	–	–.0036 (.0011) [.001]
Young	–.0028 (.0018) [.131]	–.0032 (.0019) [.085]	–.0027 (.0018) [.127]	–.0019 (.0018) [.307]	–.0044 (.0019) [.021]	–.0039 (.0019) [.040]	–.0028 (.0019) [.142]
Old	.0007 (.0028) [.796]	–.0004 (.0028) [.897]	–.0000 (.0028) [.994]	.0007 (.0028) [.803]	–.0054 (.0027) [.049]	–.0048 (.0026) [.061]	–.0042 (.0025) [.097]
Population	1.3018 (.6465) [.045]	1.2445 (.6390) [.052]	1.1286 (.6591) [.087]	.7962 (.6803) [.242]	1.1471 (.6765) [.091]	1.1151 (.7215) [.122]	.5341 (.7145) [.455]
Intercept	.2313 (.0699) [.001]	.2516 (.0706) [.000]	–	–	.2576 (.0766) [.001]	–	–
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	590	570	570	570	554	538	538
R2 (overall)	.2543	.2685	.2816	.2998	.2441	.2657	.2683

Notes: Dependent variable is PEH. Standard errors in parenthesis, p-values in brackets.

* fixed effects estimator. All other models were estimated using the bias corrected version of it. Bias correction is to the order $O(1/NT^2)$; standard errors were bootstrapped with 1000 repetitions.

Table 5: Policy outcomes for alternative measures of campaign promises.

Variable	Model 3 Government	Model 7 Parliament	Model 8 Health Minister	Model 9 Prime Minister
Lag PEH	.1837 (.0476) [.000]	.1796 (.0475) [.000]	.1789 (.0474) [.000]	.1840 (.0476) [.000]
Welfare	.0010 (.0005) [.037]	.0016 (.0007) [.025]	.0005 (.0003) [.083]	.0009 (.0005) [.053]
Justice	.0003 (.0006) [.563]	.0006 (.0007) [.395]	.0005 (.0004) [.232]	.0004 (.0005) [.428]
Lag PHCS/GDP	-.0210 (.0039) [.000]	-.0215 (.0038) [.000]	-.0210 (.0037) [.000]	-.0206 (.0037) [.000]
GDP	.3430 (.1068) [.001]	.3470 (.1067) [.001]	.3432 (.1076) [.001]	.3459 (.1077) [.001]
Unemployment	-.0020 (.0010) [.045]	-.0018 (.0010) [.073]	-.0018 (.0010) [.079]	-.0019 (.0010) [.052]
Young	-.0019 (.0018) [.307]	-.0010 (.0019) [.574]	-.0020 (.0019) [.282]	-.0018 (.0019) [.337]
Old	.0007 (.0028) [.803]	.0017 (.0028) [.542]	.0009 (.0027) [.749]	.0007 (.0027) [.791]
Population	.7962 (.6803) [.242]	1.0067 (.6503) [.122]	.9049 (.6457) [.161]	.9363 (.6481) [.149]
Year dummies	Yes	Yes	Yes	Yes
N	570	571	571	571
R2 (overall)	.2998	.3068	.3018	.3051

Notes: Dependent variable is PEH. Standard errors in parenthesis, p-values in brackets.

* fixed effects estimator. All other models were estimated using the bias corrected version of it. Bias correction is to the order $O(1/NT^2)$; standard errors were bootstrapped with 1000 repetitions.