

Policy Discourse, Fiscal Rules, and Budget Deficit: A Median Voter Model*

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Abstract: How can we theoretically account for the variation in the fiscal conservatism of politicians' discourse and for the adoption (or non adoption) of stringent anti-deficit laws? In this paper, we develop a theoretical model based on the median voter theorem and on Ferejohn and Khrebiel's application to see under which conditions a politician should be expected to have a fiscally conservative discourse and to adopt more stringent fiscal rules. We then propose an empirical test of our first hypothesis linking conservatism in discourse and change in budget balance.

Introduction

Starting in 1993, provincial governments in Canada, one after the other, embarked in a crusade to eliminate their budget deficits. The challenge was by no means small as provincial budget deficits then averaged over 3 percent of provincial GDP. By the beginning of the following decade, all provincial governments had reached balanced budgets and one province, Alberta, had even completely eliminated its public debt. In a previous paper describing this process in the three Western provinces of Saskatchewan, Alberta, and British Columbia, I argued that the executives then used two types of policy instruments to foster their fiscal policy program: rhetoric or discourse and procedural or regulatory interventions. The provinces where rhetorical and procedural interventions were most systematic had the highest success in eliminating their deficits (Imbeau 2000).

Indeed, politicians spend most of their time delivering speeches and adopting laws and regulations. Should we not then spend some of our own time attempting to make sense of their discursive and regulatory activity? Policy discourse has been given quite an extensive treatment in two settings in particular, electoral politics (party manifestoes) and foreign policy (Budget and Hofferbert 1996; Hermann 1980). But analyses of policy discourse are a rare occurrence in the field of fiscal policy¹. A strong body of research has recently developed on the impact of fiscal rules on budget deficits and debts (DeHaan and Sturm 1994; vonHagen 1991; vonHagen and Harden 1994; Alesina and Bayoumi 1996), but the literature looking at fiscal rules as a dependent variable is almost inexistent.

¹ A nice exception is Pujol 2003.

The purpose of this paper is to propose a median voter model linking fiscal policy to policy discourse and fiscal regulations. To do so, we follow Ferejohn and Khrebiel's argument, adapting it to our purpose (Ferejohn & Khrebiel 1987). We first present a «pre-election politics» form of the model where a single-dimensional space is considered. Then, we develop a «post-election politics» form with a two-dimensional space and a benevolent politician. In the second section, we propose an empirical test of our hypothesis linking policy discourse and the actual budget balance, a test based on the content-analysis of the speeches from the throne delivered by the provincial premiers in three Canadian provinces, from 1972 to 2003.

A median voter model

The «pre-election politics» form of the median voter theorem

In an institutional setting constrained by the democratic requirement of gathering a majority of votes in order to win office, politicians have no choice but to care for voters' preferences in addition to their own. So a good way to understand fiscal policy choices is to think in terms of the spatial representation of voters' preferences developed by Downs (1957), after Hotelling's seminal insight (Hotelling 1929), in the median voter theorem. This theorem generally supposes a single dimension corresponding to the only issue on which voters are asked to vote in an election, say the level of government expenditure. Voters are distributed on this dimension: some want more spending (the left), some want less (the right). Assuming a three-voter electorate, the distribution may resemble that of figure 1. Voter 1 prefers less spending than voters 2 and 3; voter 3 prefers more spending. When two political parties compete in an election on the issue of spending level, they locate themselves on the continuum so as to minimize the distance between their position and that of a majority of voters. Indeed, the distance a voter has to «travel» between her policy position and that of the closest candidate may be interpreted as a cost. When she decides to vote, she chooses the candidate closest to her own ideological position, thus minimizing her cost. It is easy to see that under a

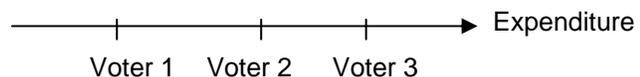


Figure 1: Voters on the spending dimension

simple majority rule and single-peaked preferences, the party who convinces the median voter, wins the election. This is the basic teaching of the «pre-election politics» median voter theorem (Persson and Tabellini 2000). In its weak form, it «says the median voter always casts his or her vote for the policy that is adopted [...] The strong form of the median voter theorem says the median voter always gets her most preferred policy» (Congleton 2002).

A «post-election politics» model of fiscal policy

“Post-elections politics” models analyse “how voters’ backward-looking behaviour in deciding whether to re-elect incumbent politicians can constrain the set of policies chosen by those incumbents” (Dharmapala & Lehmann 2003: 2). The median voter theorem assumes that politicians are opportunist, i.e., they are willing to do what is necessary to be re-elected. Knowing that voters will reward or punish them according to the degree that the realised budget corresponds to the budget preferred by the median voter, politicians align their budget on median voter’s preference. To do so, they analyse voters’ preferences and deduce from them the budget preferred by the median voter. Let’s look at the logic of this evaluation.

In addition to the expenditure level, budget balance depends on the taxation level. Indeed, governments rely on two revenue sources to finance their expenditures, namely taxation and borrowing². The difference between spending and tax revenues, budget balance, gives an indication of the borrowing requirements of a government.

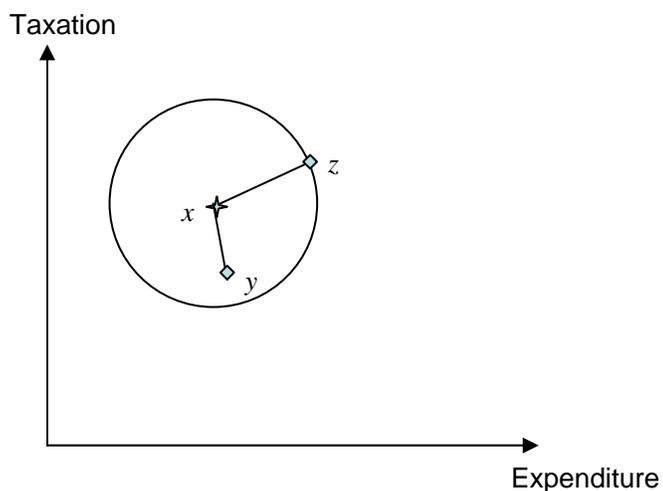


Figure 2: A two-dimensional fiscal policy space

² Since we are interested in the fiscal policy of sub-national governments, in this case Canadian provinces, we ignore money printing as a third source.

Therefore, in addition to the level of government expenditure, voters have preferences on a second issue: Should there be more or less taxes? Adding this second dimension allows us to locate each voter on a two-dimensional space as depicted in figure 2. Any point on this space represents specific levels of taxation and expenditure as well as a budget balance (the difference between the former two). Each voter has a preferred combination of taxing and spending levels, an ideal point, x , with circular indifference curve. When asked to choose between two alternatives, say y and z , she will choose the one closer to her ideal point, and she will be indifferent towards the positions that are equidistant from her ideal point. With these assumptions, each voter's preferences are completely described by her ideal point.

The median voter theorem provides convincing predictions when policies are restricted to a single dimension, but the theory of social choice has yielded negative results in multiple dimensions (Plott, 1967; Enelow and Hinich, 1983). In particular, "unless extremely restrictive assumptions are made about the distribution of the ideal points", there is no pure majority rule equilibrium when the choice is made on several dimensions simultaneously (Ferejohn and Khrebiel 1987: 300)³. In this paper, we will ignore the problem that extra dimensionality increases the complexity of the decision problem subjects face, because there are several reasons why we tend to believe that the importance of this problem is exaggerated.

The first reason is in line with an argument proposed by Ferejohn (1993), who insisted that there are persuasive theoretical grounds for unidimensionality in elections. He explained that positing a multidimensional space is contradictory with Downs's work on voters' information costs. Due to those information costs, voters may be psychologically unable or unwilling to process multidimensional information, and they may prefer to seek to place candidates' positions into a unidimensional space even if candidates do not frame themselves in such a manner. Because of their own limited resources, candidates must economize on the transmission of information to voters, and will thus seek to convey

³ See also Rubinstein (1979), Schofield (1983), Cox (1984), Le Breton (1987), McKelvey and Schofield (1987), Banks (1995), and Saari (1997).

unidimensional information. Nonetheless, Ferejohn acknowledged that this argument may be considered an ad hoc justification. Therefore, he also insisted that unidimensionality is the only way for voters to enforce discipline upon candidates, to hold them responsible for their policy commitments. It is the only way that candidates can be accountable to voters, and as such, unidimensional ideologies may be created not by candidates but by the public as a means of framing policies. This is not an unquestionable justification of the unidimensional model, but it is a convincing argument for remaining open to its viability in elections. At any rate, these debates about voters' behaviour have little significance for studying candidate strategies if candidates do not share these models' quarrels with unidimensionality *in fine*. If they think that their ideological statements will be evaluated only on a single dimension, they will take positions that accord with a unidimensional model whether or not voters really do evaluate them along these lines.

Another reason why we believe that the importance of extradimensionality is overstated is that the dimensionality of the policy space is an empirical issue. In this regard, several authors have proven that the actual number of policy dimensions in mass elections is fairly small in comparative studies of politics in several countries. There may be more than one dimension, but there are rarely more than two (Iverson (1994; Klingemann, Hofferbert, and Budge, 1994). Besides, the median voter model has a very good empirical track record in public finance as a model of fiscal policy across states and through time. Recent studies showed that the median voter model can contribute to explain federal, state, and local spending, as well as international tariff policies. Congleton and Shughart (1990) Congleton and Bennett (1995) also demonstrated that the median voter model is fairly robust as a model of public policy formation in areas where the median voter can credibly be thought to care most about public policy. In the following development, we will therefore realistically assume that the politician considers one subset of the policy space at a time and single-peaked preferences; in such a framework, our model yields a unique majority rule equilibrium.

Now, how does the politician evaluate voters' preferences and derive a «median voter budget»? Let's consider again our three-voter electorate, each one with a given ideal point (figure 3). The perpendicular projection of the median voter on the expenditure dimension crosses the perpendicular projection of the median voter on the taxation dimension at BU, the Bottom-up budget, collectively preferred by Ricardian voters, those for whom the Ricardian equivalence holds⁴. Indeed, convinced as they are that financing expenditure through borrowing is equivalent to financing expenditure through taxation, these voters do not care much about budget balance. Balance simply ensues from their preferences on taxation and expenditure. BU is an equilibrium since once it is reached no majority can be formed to support any other choice in a sequential voting.

Now what happens when voters are concerned with budget balance? In figure 4, budget balances are represented by principal 45-degree diagonals. The diagonal passing through the origin represents balanced budgets (spending equals tax revenues). Diagonals located above balanced budget

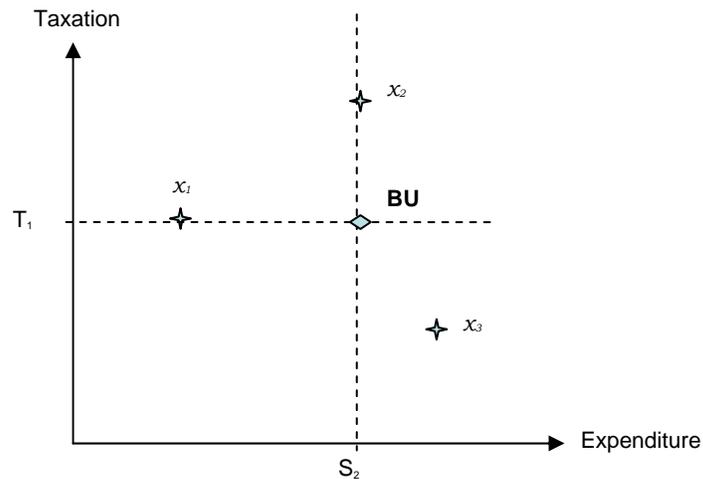


Figure 3: The bottom-up budget

diagonal correspond to surpluses, those below correspond to deficits. Therefore, in our example, voters 1 and 2 prefer a surplus whereas voter 3 prefers a deficit. Note that each such diagonal is made of a number of points, each one representing a combination of spending and taxing levels with a constant difference. These points represent possible

⁴ *Ricardo's equivalence theorem*, or Barro's neutrality theorem, is a very often-cited economic model on the political economy of budget deficits literature. It states that a benevolent planner and a rational agent will concur to conclude that financing public spending through taxes is «equivalent» to financing it through borrowing (Barro 1989: 38-39).

ideal points for a voter who chooses that specific budget balance. The perpendicular to the budget balance diagonals, B^+B^- , provides a metric for budget balances on this space.

Projecting the ideal points on B^+B^- , we find that x_2 is the median voter on this dimension and BB_2 is the budget balance collectively chosen. This choice is an equilibrium. Once BB_2 is chosen, no majority can be formed to support any other level of deficit or surplus. Thus, voter 1 will not support a lower budget balance than BB_2 and voter 3 will not support a higher one. Knowing that BB_2 will be the bottom line of the budget, our three-voter electorate chooses its budget among the possible combination of spending and taxation levels on BB_2 . Projecting voters' ideal points on BB_2 , we find that TD, the Top-down budget, is the choice of the median voter on this line and that this budget is an equilibrium choice.

It is clear here that we have two types of budget processes that yield two approaches for aggregating preferences and for defining the budget. On the one hand, a Bottom-up approach starts with the levels of taxation and expenditure, the budget balance simply resulting from them. When this approach prevails, budget balance is not looked at as an issue but rather as simply resulting from taxation and expenditure levels.

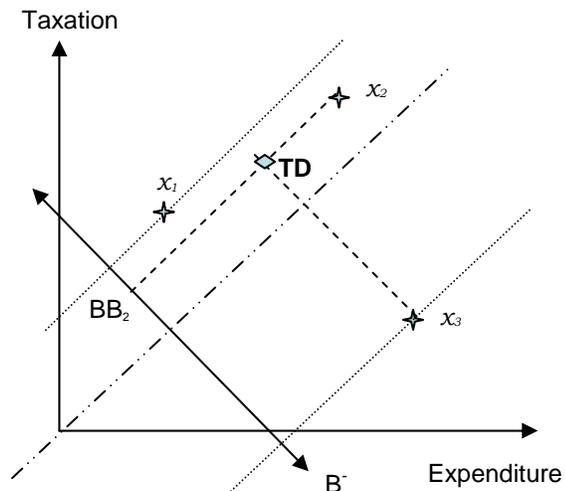


Figure 4: The top-down budget

Preferences are therefore aggregated without considering the balance, as in figure 3 above. On the other hand, a Top-down approach gives precedence to the budget balance over taxation and expenditure levels, as in figure 4 above. According to the process that prevails at a given moment, the budget preferred by the median voter is deduced from voters' preferences using one approach or the other.

Figure 5A compares the two budgets chosen in figures 3 and 4 and shows that the top-down budget balance is higher. If they consider preferences concerning the level of surplus or deficit before considering preferences on taxation and expenditure levels, politicians deduce a more fiscally conservative budget as the one preferred by the median voter. But if voter preferences are differently distributed, the conclusion is different. In figure 5B, we slightly changed the preferences of the three voters with the paradoxical effect that the top-down budget is less fiscally conservative than the bottom-up budget. In this case, if they first consider preferences regarding the balance level, politicians deduce a budget implying a lower balance than if they had not cared for the balance in the first place. Why is it so?

To see why, let's modify our geometric representation by moving the origin to the equilibrium reached in the last budget (B_{t-1}), assuming that it was a bottom-up budget (figure 6). Each zone thus defined corresponds to a concentration of ideal points and we know that opposing quadrants include an equal number of voters since they are defined by medians and that a top-down approach yields a higher budget balance if, and only if, the number of ideal points above the diagonal is higher than below. For a formal proof, see Ferejohn and Khrebiel (1987: 305-7). For an intuitive explanation, consider the 11-voter electorate displayed in figure 6. This electorate is split into two halves by the 6th voter on the vertical axis (5.5 voters / 5.5 voters) and likewise on the horizontal axis. But within each half, quadrants need not be equal. The 4/1.5/4/1.5

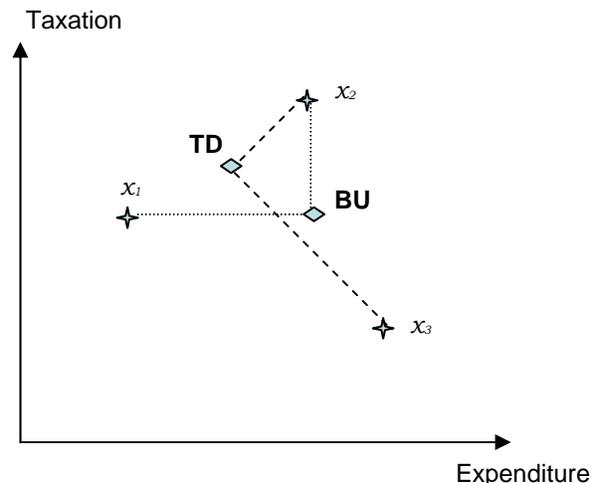


Figure 5a: A more fiscally conservative top-down budget

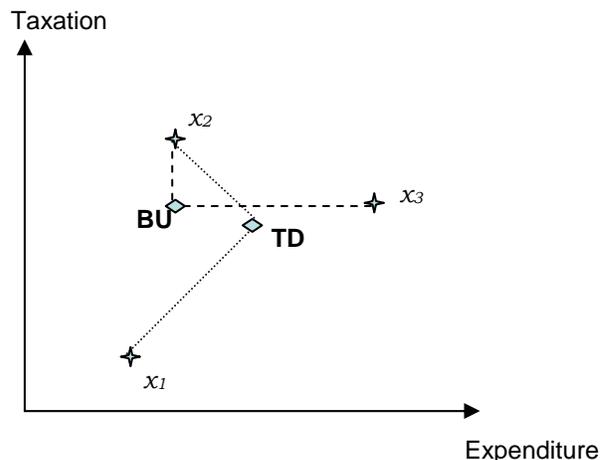


Figure 5b: A less fiscally conservative top-down budget

distribution shown in figure 6 respects the fact that quadrants are defined by medians. Now, let's add the budget balance diagonal. We see that the number of voters above the diagonal (5 voters) is not equal to the number of voters below (6). Because of this inequality, the top-down budget would imply a lower budget balance since there is a majority of voters preferring a lower budget balance than that implied in BU⁵. Therefore, if these voters were to consider the budget balance first, they would choose a higher deficit.

Figure 6 defines ideological zones on three dimensions. On the taxation dimension, voters are split between those who want more redistribution through taxation and those who want less. On the expenditure dimension, the split is between those who want more market allocation of resources (lower spending) and those who want more government allocation. The third dimension splits the electorate between those who have a

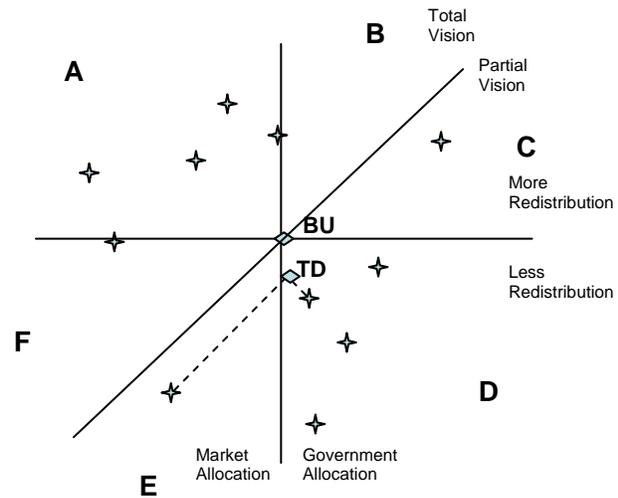


Figure 6: Ideological zones regarding fiscal policy

partial vision of the budget (they give more importance to their preference on taxation and expenditure than to the budget balance) and those who have a total vision of the budget (for them, the budget balance prevails over their preference on taxation and expenditure). Thus six ideological zones are defined (A through F). It is easy to locate voters of the right (zones E and F) and voters of the left (zones B and C). Note that both the right and the left are split between total and partial vision of the budget⁶.

⁵ To locate the top-down budget, one needs to project the median voter's ideal point on the B+B⁻ perpendicular to the budget balance diagonal – not shown here – and then to project the median voter's ideal point onto the chosen budget balance. The result is TD.

⁶ The ideological space depicted in figure 6 sheds some light on the empirical findings on the relationship between party and budget balance. The empirical literature is almost unanimous in saying that government of the left do not have lower budget balance. Figure 6 illustrates that leftist governments do not have systematically higher deficits because their electorate is evenly spread in zones B and C. Several empirical studies however found that, under certain circumstances, rightist governments do tend to have systematically higher deficits. This is so because rightist electorates are often concentrated in zone E. In

The median voter model described so far could be summarised in a simple causal diagram expressing the idea that the realised budget depends on the preferences of voters and the way these preferences are aggregated to get a bottom-up or a top-down budget (figure 7).

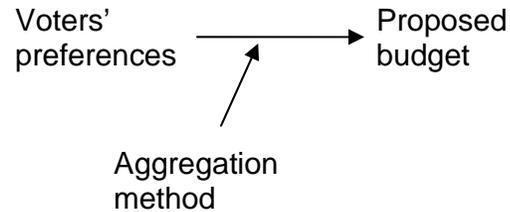


Figure 7: Causal diagram of the pre-election model

Now, let's assume that, in addition to being opportunist, politicians are also benevolent, i.e. they have ideas about what the best budget should be

as they have their own preferences which may differ from the median voter's. Indeed, politicians derive utility from budget balance. Two «goods» (from the politicians' viewpoint) are considered here, the quantity and quality of services provided by the state and the room to manoeuvre the government has in its fiscal decisions. Service quantity and quality matter as benevolent politicians want to increase, maintain, or decrease the level of services according to their conception of the role of the state and what would improve social welfare. Fiscal leeway also matters for benevolent politicians because they want to be able to react to fiscal shocks without jeopardizing the balance of the current budget. But there is a trade-off between these two goods (see figure 8). A higher deficit means higher service level, because of higher expenditure given the level of taxation, but lower long-term fiscal leeway because of public debts and debt charges. A higher surplus means fewer services than taxation levels would allow but more long-term fiscal leeway. Considering the level of leeway and services yielded by a balanced budget as equilibriums, it is assumed that the

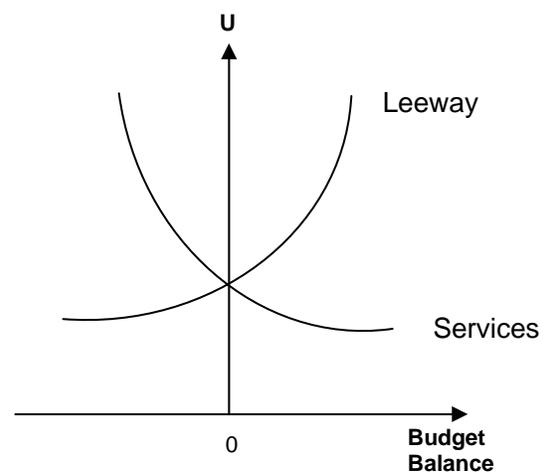


Figure 8: Politician's utility derived from budget balance

other words, it is not the left-right dichotomy that matters when predicting budget balances but the total-partial vision dichotomy. For a review of the empirical literature on budget balance, see Imbeau 2004.

benevolent politician tries to return to these equilibriums whenever the median voter's budget forces him away from them.

Hence the following post-election politics game: The politician anticipates the results of the current budget and compares them with his preference for a balanced budget; when the realised budget does not correspond to his preferences, the politician sets out to convince voters to change their preferences so as to bring them closer to his own, knowing that he will have to realise a similar budget next year unless he convinces the median voter to change his preferences. This process goes on for several iterations until elections come. Then voters reward or punish him according to the distance between the realised budget and their preferences.

How can the politician get a budget that is closer to his own preferences while still in accord with the median voter? By convincing voters to change their fiscal preferences through fiscal policy discourse, and by modifying the approach for aggregating voters' preferences through regulation. Through discourse, the politician can convince voters to support more or less redistribution, market or government allocation, i.e. to demand more or less taxation and expenditure. If the politician is successful with his policy discourse, then the budget preferred by the median voter will change and, consequently, the budget realised by the politician also will. Thus, when he anticipates that the balance of the ongoing budget (BB_t) will be significantly above or below his preferred balance, he adjusts his fiscal policy discourse so that the balance of next budget (BB_{t+1}) is closer to his preferences. Thus his fiscal policy discourse will promote more or less fiscal conservativeness according to whether the current budget is expected to yield a deficit or a surplus. Therefore, our causal diagram should be amended to include politicians' preferences and fiscal policy discourse as in figure 9.

An alternative way for a politician to secure a budget that is closer to his preferences is through changing the approach to aggregating voters'

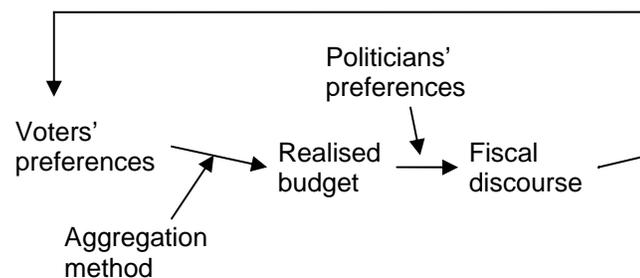


Figure 9: Partial post-election model

preferences. When voters' preferences allow it, a top-down budget yields a lower balance than a bottom-up one. In this case, and if budget balance is negative, the politician may attempt to move the budget process from bottom-up to top-down through the adoption of more stringent budget rules, thus changing the approach for aggregating voters' preferences. It is important to stress that the effect, on the actual deficit level, of adopting a fiscal legislation limiting the use of deficit depends on the distribution of preferences as we have seen above. Thus, a politician will not adopt more stringent rules unless he knows that voters are more numerous in ideological zones B and F than C and E to avoid a higher deficit. Our causal diagram should again be amended to include fiscal legislation as a second fiscal policy instrument (figure 10).

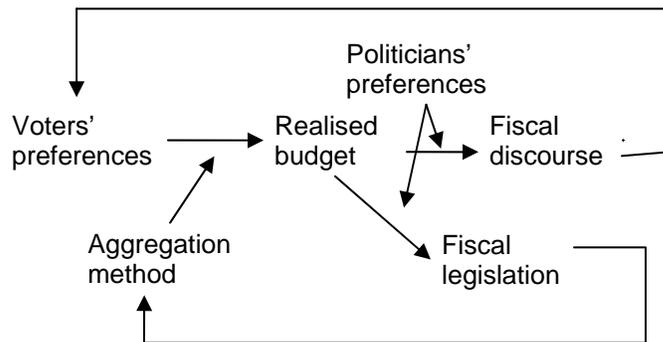


Figure 10: Complete post-election causal model

An empirical test of the model

The model described above allows one to deduce at least two testable hypotheses. The first relates policy discourse to the deficit level. Because the benevolent politician prefers a balanced budget that yields a satisfactory combination of leeway and services, he will adopt a more fiscally conservative discourse when the median voter «forces» him to deteriorate the budget balance. Therefore, there should be a negative correlation between budget balance and the fiscal conservativeness of policy discourse in a given year. The second hypothesis relates the adoption of anti-deficit laws to the deficit level. If, and only if, there is a higher proportion of voters preferring an amelioration of the budget balance,

the politician facing a deterioration of the budget balance will adopt more stringent budget rules. If one of the two conditions fails to appear, no such law will be adopted. In this section, we test the first hypothesis.

Measuring fiscal conservativeness in policy discourse using Wordscore

Following Wildavsky (1963, 1988), we assume that actors in the budgetary process play one of two roles, according to their policy position: guardian of the treasury or advocate of program spending. Thus, the minister of Finance is expected to play the role of guardian and the ministers of Health or Education, the role of spender⁷. We further assume that these roles dictate much of an actor's policy discourse, according to Allison's famous phrase: «Where you stand depends on where you sit» (Allison 1972). In other words, the minister of Finance's discourse is assumed to be typical of a guardian's discourse, defending the financial integrity of the government, a fiscally conservative discourse, whereas the Health or Education ministers' discourse is assumed to be a spender discourse, promoting spending in order to improve government programs and services, a fiscally liberal discourse. Using Wordscore, we compare the speeches delivered by the premier to those of his ministers of Finance, Health, and Education to ask ourselves whether the premier speaks more like a guardian or like a spender.

Wordscore estimates policy positions by comparing two sets of policy texts. On one hand, the speeches delivered by the ministers of Finance, Health, and Education represent the two ends of a continuum going from more fiscally conservative (the Budget speech delivered by the minister of Finance) to less fiscally conservative (the Health or Education ministers' preliminary remarks at budget hearings). These are called reference texts. On the other hand are texts whose policy position we want to find out (the premier's speeches, i.e. the speeches from the throne) that are called «virgin» texts. «All we do know about the virgin texts is the words we find in them, which we compare to the

⁷ Health and Education are the two most important departments in Canadian provincial governments, consuming together over 60% of provincial budgets.

words we have observed in reference texts with «known» policy positions» (Laver et al., 2003: 313).

Thus each speech from the throne is compared to two reference texts, each representing an extreme on the fiscal conservativeness dimension: the Budget speech which represents the guardians' expression of fiscal conservativeness (arbitrarily coded +1), and the preliminary remarks by the ministers of Health and of Education at budget hearings representing the more fiscally liberal spender discourse (arbitrarily coded -1). The working of the computer program is pretty straightforward. Each word is given a score between -1 and +1, according to the frequency of its occurrence in each reference text. Thus, if the word «deficit» appears 10 times in the Education speech and 90 times in the Budget speech, it is scored +0.8 ($.1 * -1 + .9 * 1$). Then, if the same word is found 10 times in a 1000-word Throne speech, it is given the loading 0.008 ($+0.8 * 0.01$). Adding up all the loadings thus found for each individual non-unique word yields the estimated score for the Throne Speech, our conservatism score.

One may think it this way: knowing the frequency distribution of the words in the reference texts, the probability that we are reading the budget speech rather than the preliminary remarks of the minister of Education while reading the word «deficit» is 0.9. If we score the budget speech +1.00 and the Education speech - 1.00, it is therefore logical to give to the text we are reading the loading 0.8 each time we read the word «deficit». Dividing the sum of all these loadings by the total number of words yields a mean that corresponds to the text score. We are all the more justified to do so that «we [...] have access to confident assumptions about the position [of the reference texts] on the policy dimension under investigation» (Laver et al., 2003: 314), that «the reference texts [...] use the same lexicon, in the same context, as the virgin text» (p.314), and that the «policy positions of the reference texts [...] span the dimensions in which we are interested» (p. 315). The speeches we analysed use a comparable lexicon to the extent that they all are formal speeches delivered in a comparable context (the provincial legislature). Furthermore, the comparison of a premier's speech to speeches delivered by

members of his own party in the same year eliminates the possibility that influences coming from economic, electoral, or partisan cycles are embedded in the measure of fiscal conservatism.

We applied this method to the discourse of provincial premiers in three Canadian provinces, Alberta, British Columbia, and Québec, over the 1972-2002 period. To do so, we content-analysed 328 discourses (Alberta: 116; British Columbia: 120; Québec: 92) delivered by provincial premiers and ministers of Finance, Education, or Health. Each speech from the throne was compared to the Budget, Education, and Health speeches of the same year running a Wordscore analysis for every province-year that yielded the conservatism scores displayed in table 1.

Conservatism scores range from -0.11 to $+0.34$ with an overall average of $+0.10$. This means that, on average, provincial premiers speak more like their minister of Finance than their ministers of Health or Education. They speak more like guardians than like spenders. Albertan and British Columbian premiers' had a more conservative discourse than Québec premiers. In addition to the cross-provincial variation, we also observe an important cross-time variation as the within-province coefficient of variation is .58 in British Columbia, .92 in Alberta, and 1.40 in Québec. Figure 11 displays the variation over time. Does our sophisticated median-voter hypothesis account for this variation? We turn to answering that question.

Explaining Fiscal Conservatism in Speeches from the Throne

Our median voter model predicts that the discourse should be more fiscally conservative when there is a deterioration of the budget balance. As the deficit deepens, the discourse should be more conservative. Conversely, as surpluses accumulate, the discourse should be more liberal. Therefore, the relationship between the change in budget balance and our conservatism score should be negative.

But the actual budget balance is presumably not the only variable that should influence the level of conservatism in provincial premiers' speeches. We expect that economic and political factors should also have an impact. This is why we controlled for economic cycles (GDP growth and unemployment). If politicians adopt a Keynesian view of public finance, we expect that, in periods of economic expansion, they will try to convince voters to ask for a more conservative budget, hence a more conservative discourse. The reverse should be true in periods of economic slow down. However, if politicians adopt a monetarist view of public finance, there should be no relationship between conservatism in policy discourse and economic cycles. We also controlled for political cycles (election and party in power). Following the electoral cycle model, we expect that politicians will adopt a more liberal discourse just before an election in order to convince a larger proportion of voters to support them in the voting booth. We also expect that parties from the left will have a more liberal discourse as their platforms generally ask for more comprehensive government services.

To assess which factors account for the variation in provincial premiers' conservatism, we estimated the following two regression equations:

$$\text{CONSERVATISM}_{i,t} = \beta_0 + \beta_1 \text{CHBB}_{i,t} + \beta_2 \Delta \text{GDP}_{i,t} + \beta_3 \text{UNEMP}_{i,t} + \varepsilon_{i,t}$$

where Conservatism : Premiers' conservatism scores in throne speeches
 CHBB: first difference change in budget balance (in millions of cdn dollars)
 Δ GDP : percent change in provincial GDP over previous year
 UNEMP : unemployment rate
 $i=1, \dots, 3; t=1, \dots, 32$

$$\text{CONSERVATISM}_{i,t} = \beta_0 + \beta_1 \text{CHBB}_{i,t} + \beta_2 \Delta \text{GDP}_{i,t} + \beta_3 \text{UNEMP}_{i,t} + \beta_4 \text{EY}_{i,t} + \beta_5 \text{LEFT}_{i,t} + \varepsilon_{i,t}$$

where EY : election year (= 1 if yes)
 LEFT: leftist party (NDP or PQ) in power (= 1 if yes)

All estimations include fixed province effects, to account for province-specific characteristics not captured by other explanatory variables⁸. Pooling time-series for several cross-sections has some noteworthy advantages in statistical analyses and has therefore become increasingly popular in political research over the last one and a half

⁸ Unit root tests performed for the main variables to be used in the empirical analysis revealed satisfactory outcomes.

decade. The increased number of observations through pooling time-series across provinces allows us to make a more efficient use of the data and provide more degrees of freedom, allowing for richer specification of the model and for the control of omitted variables through time or province dummies. (Baltagi 200; p. 5-8). Despite these advantages, however, OLS regression analysis of TSCS data is far more problematic than cross-sectional regressions. In particular, the error structure in such data may violate standard OLS assumptions due to the presence of panel heteroskedasticity, contemporaneous correlation and serial correlation (Beck and Katz 1995). As suggested in the literature (Beck 2001, Beck and Katz 1997), we estimated an OLS regression with Panel Corrected Standard Errors (PCSE) so as to deal with the problems of heteroskedasticity and contemporaneous correlation⁹. Results are displayed in table 2.

The two estimated models are significant with R²s of .35 and .36. The first conclusion to draw from table 2 is that the sophisticated hypothesis is confirmed by data. *Ceteris paribus*, for an increase of 1 billion dollars in the budget balance, the conservatism score of premiers' speeches decreases by .028 point. This estimate is significant at the .01 level. This result is congruent with a median voter view that says that as the budget balance improves, politicians adopt a less conservative discourse in order to persuade voters to ask for a more balanced budget. The second conclusion is that GDP growth has a significant positive impact. An increase of 1 percentage point in the GDP corresponds to an increase of .007 points in the conservatism score. This is a typical Keynesian behavior. The stronger the economic growth, the more politicians want to use government budget to control the expansion. Given that they will adopt a budget that is in accordance with the preferences of the median voter, they adopt a more conservative discourse to bring those preferences in line with their preferred budget. The significant estimate related to unemployment rate is more puzzling. It says that when employment is higher, discourse

⁹ When heteroscedasticity is present, a feasible generalized least square (FGLS) procedure can be used (such as the well-known Park-Kmenta method which corrects simultaneously for autocorrelation, panel and contemporaneous heteroscedasticity). However, Beck and Katz (1995) have demonstrated that FGLS underestimates standard errors, thus inflating confidence intervals and statistical tests. With pool data, these authors suggested to use instead OLS to estimate the regression coefficients and a Panel-Corrected Standards Errors (PCSE) procedure to compute standard errors. For more information on the estimation of PCSE, see Beck and Katz (1995, p. 638).

is more conservative, i.e. premiers speak more like guardians than like spenders. As I said earlier, a Keynesian view would have predicted a negative relationship and a monetarist view, no relationship at all. I do not know how to make sense of this result.

In addition to the predicted impact of changes in budget balance and of economic cycles, our regression analysis tells us that premiers' discourse is less conservative in Québec than in Alberta. This is not a surprise given the tradition of social democracy in Québec and of conservatism in Alberta. Finally, we see that electoral and partisan cycles have no significant impact on fiscal conservatism scores. These scores do not systematically vary in election year or when a party of the left is in power.

Conclusion

The relationship between discourse and action is a complex one and it is not certain that we can account for this complexity with a single theory. The median-voter model presented in the first part of this paper complements two existing theories concerning this relationship that yield the cynical hypothesis (there is no relationship between fiscal conservatism in discourse and fiscal policy) and the benevolent hypothesis (the relationship between conservatism and improvements in the budget balance is positive since the benevolent planner wants to inform the economic agent of his choices). The median-voter model leads to the sophisticated hypothesis that predicts a negative relationship. Politicians adopt a less conservative discourse when the budget balance improves so as to convince the median voter to ask for a more balanced budget.

This sophisticated hypothesis is supported by data generated by a content analysis of speeches from the throne. Our analysis yields significant negative estimates when appropriate controls are included in the equation. However, the results presented above are incomplete. We still have to continue exploring our data to see whether additional variables should be included as controls and to make sure that our results are robust.

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Table 1: Conservatism score, premier in office, and party in power in three provinces, 1972-2002

	Alberta			British Columbia			Québec		
	Premier in office	Party in power	Conservatism score	Premier in office	Party in power	Conservatism score	Premier in office	Party in power	Conservatism score
1972	Lougheed	Cons.	.	Barrett	N.D.P.	0,04	Bourassa	Lib.	-0,08
1973	Lougheed	Cons.	0,10	Barrett	N.D.P.	0,05	Bourassa	Lib.	0,07
1974	Lougheed	Cons.	0,25	Barrett	N.D.P.	0,13	Bourassa	Lib.	0,07
1975	Lougheed	Cons.	0,34	Barrett	N.D.P.	0,29	Bourassa	Lib.	0,00
1976	Lougheed	Cons.	0,18	Bennett	S.C.	0,11	Bourassa	Lib.	0,05
1977	Lougheed	Cons.	0,11	Bennett	S.C.	0,06	Lévesque	P.Q.	0,02
1978	Lougheed	Cons.	0,22	Bennett	S.C.	0,11	Lévesque	P.Q.	0,12
1979	Lougheed	Cons.	0,18	Bennett	S.C.	0,10	Lévesque	P.Q.	0,16
1980	Lougheed	Cons.	0,22	Bennett	S.C.	0,18	Lévesque	P.Q.	0,07
1981	Lougheed	Cons.	0,22	Bennett	S.C.	0,18	Lévesque	P.Q.	0,01
1982	Lougheed	Cons.	0,22	Bennett	S.C.	0,12	Lévesque	P.Q.	0,01
1983	Lougheed	Cons.	0,21	Bennett	S.C.	0,21	Lévesque	P.Q.	0,03
1984	Lougheed	Cons.	0,17	Bennett	S.C.	0,22	Lévesque	P.Q.	.
1985	Lougheed	Cons.	0,27	Bennett	S.C.	0,21	Lévesque	P.Q.	0,04
1986	Getty	Cons.	0,02	Bennett	S.C.	0,19	Bourassa	Lib.	-0,01
1987	Getty	Cons.	0,14	Vander Zalm	S.C.	0,16	Bourassa	Lib.	.
1988	Getty	Cons.	0,20	Vander Zalm	S.C.	0,09	Bourassa	Lib.	0,10
1989	Getty	Cons.	0,09	Vander Zalm	S.C.	0,07	Bourassa	Lib.	.
1990	Getty	Cons.	-0,07	Vander Zalm	S.C.	0,06	Bourassa	Lib.	0,06
1991	Getty	Cons.	0,01	Johnson	S.C.	0,02	Bourassa	Lib.	.
1992	Getty	Cons.	0,01	Harcourt	N.D.P.	0,01	Bourassa	Lib.	0,03
1993	Klein	Cons.	0,17	Harcourt	N.D.P.	-0,01	Bourassa	Lib.	.
1994	Klein	Cons.	.	Harcourt	N.D.P.	0,12	D.Jonhson	Lib.	0,06
1995	Klein	Cons.	0,03	Harcourt	N.D.P.	0,12	Parizeau	P.Q.	0,07
1996	Klein	Cons.	0,05	Clark	N.D.P.	0,11	Bouchard	P.Q.	0,10
1997	Klein	Cons.	0,05	Clark	N.D.P.	0,05	Bouchard	P.Q.	.
1998	Klein	Cons.	0,01	Clark	N.D.P.	0,07	Bouchard	P.Q.	.
1999	Klein	Cons.	-0,05	Clark	N.D.P.	0,07	Bouchard	P.Q.	0,07
2000	Klein	Cons.	-0,04	Dosanjh	N.D.P.	0,11	Bouchard	P.Q.	.
2001	Klein	Cons.	0,07	Campbell	Liberal	0,12	Landry	P.Q.	0,17
2002	Klein	Cons.	-0,03	Campbell	Liberal	0,17	Landry	P.Q.	.
Maximum			0,34			0,29			0,17
Mean			0,12			0,12			0,05
Minimum			-0,07			-0,01			-0,11
Sd. dev.			0,11			0,07			0,07
N			29			30			23

Table 2: Predicting Conservatism Scores in Speeches from the Throne, in the provinces of Alberta, British Columbia, and Québec, TSCS regression estimates (t-statistics in parentheses).

	Model 1	Model 2
Constant	-0,068 (-1,344)	-0,072 (-1,406)
Change in budget balance	-0,000028 (-3,267)**	-0,000028 (-3,260)**
GDP Growth	0,0077 (4,491)***	0,00077 4,470***
Unemployment rate	0,0167 (3,300)**	0,0167 (3,271)**
Election Year		0,0095 -0,464
Left Government		0,0209 (0,930)
Panel dummy: BC	-0,042 (-1,754)	-0,05 (-1,932)*
Panel dummy: Québec	-0,135 (-4,911)***	-0,146 (-4,744)***
R-Square	0,351**	0,361**

* prob. < .05; ** prob. < .01; *** prob. < .001