POLITICAL IMPLICATIONS OF FISCAL PERFORMANCE IN OECD COUNTRIES

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While economists argue that lower budget deficits are required in the developed countries, there is a widely held perception that expansionary fiscal policy helps incumbents to get reelected, an assumption that underlies the view that political budget cycles are widespread. However, this view has not been subject to much empirical testing. We examine this argument in a sample of developed countries over the period 1960-2003 and find that increased deficits during an incumbent's term in office, especially in election years, reduce the probability that a leader is reelected. The effects we find are not only statistically significant, but also quite substantial quantitatively. We also find that voters do not have a systematic preference for expenditure cuts relative to tax hikes or vice versa.

1. Introduction

The consolidation of fiscal positions has become an area of focus for policy makers in recent decades. In the developed countries demographic pressures, arising from the increasing share of the elderly in the population and the associated projected rise in pensions and health-care expenditure, highlight the need to reduce the public-debt burden and future debt-servicing costs. In many developing countries fiscal consolidation is needed to ensure the sustainability of public-sector financial positions, to attract much-needed foreign investment and to avoid crowding-out of the private sector from domestic financial markets.

Many studies have examined the contribution of sound fiscal policies and fiscal consolidations to financial stability, sustainable economic growth and productivity.[1] Surprisingly, the response of voters to fiscal prudence remains largely unexplored empirically. Some conventional wisdom suggests that fiscal austerity, especially in election years, may hurt an incumbent's chances of reelection (or more generally that fiscal consolidation may have a negative impact on a politician's fortunes), but hard econometric evidence to that effect is missing. Since democratically elected leaders are expected to reflect the preferences of their

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We wish to thank Lior Gallo, Sagie Dagan and Assaf Shtauber for superb research assistance. Drazen wishes to thank the Israel Science Foundation, the National Science Foundation, grant 418412, and the Yael Chair in Comparative Economics, Tel Aviv University for financial support, as well as the Research Department of the Bank of Israel for its hospitality.

The views expressed in the paper do not necessarily reflect those of the Bank of Israel.

[1] See, e.g., Barro and Sala-i-Martín (1995), Fischer (1993), Gale and Orszag (2003) and the detailed surveys by Slemrod (1995) and Elmendorf and Mankiw (1999).

electorates and are also likely to want to get reelected, voter approval of prudent fiscal policies may be a critical precondition for sustaining them, while voter disapproval may discourage politicians from adopting such policies.[2] Hence, if OECD countries are to successfully undertake policies of fiscal consolidation to address the fiscal implications of demographic changes (for example), voter response to these policies must be better understood.

The tests of the effect of fiscal performance on election outcomes of which we are aware are on the sub-national rather than the national level.[3] Peltzman (1992), Brender (2003), and Drazen and Eslava (2005a) examine the direct effect of fiscal performance on reelection at the state and local level in a single country (the United States, Israel, and Colombia respectively), and find that voters punish – rather than reward – loose fiscal policies. None of these country studies examines directly whether fiscal expansions at the *national* level help incumbents to get reelected. Since there may be important differences between the effects of fiscal expansions at the local and national levels – inter alia, due to the proportion of the fiscal effect that is spilled over outside the jurisdiction – applying these findings to the national level is not straightforward. Moreover, any empirical conclusions one might draw should, strictly speaking, be limited to these countries, rather than applicable to a broader group of countries.

In this study we look directly at the effects of fiscal performance on reelection in OECD countries. Using information on 164 election campaigns in 23 of these countries over 5 decades we examine whether voters reward or punish (or are largely indifferent to) prudent fiscal policies during an incumbent's term in office. Since we find that prudent fiscal policy in fact has a significant positive effect on reelection probabilities, we then look in more details at potential alternative explanations for the phenomenon.

The plan of the paper is as follows. In the next section we summarize some of the conceptual arguments on how fiscal performance may affect voting behavior *and the factors that may affect this relationship*. In Section 3, we describe the dataset and variable definitions. Section 4 sets out the basic empirical results on the effect of deficits on the probability of a leader's reelection. We find clear evidence that larger deficits during an incumbent's term decrease the probability of reelection, whether they reflect larger public expenditure or lower taxes. We also examine the robustness of these findings to various different specifications. In section 5 we consider some alternative explanations of our results. Section 6 contains conclusions.

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[2] There is also a possibility that certain countries are simply in a position that does not require further consolidation, and in these countries voters are not expected to support further reductions in the deficit (or increases of the budget surplus). We return to this latter point in the empirical analysis below.

[3] Alesina, Perotti and Tavares (1998) analyze the effects of fiscal adjustments in a cross section of OECD countries, but focus on cabinet changes and public opinion polls, rather than on election results.

2. Fiscal performance and reelection

There are two main (and contradictory) views of voter attitudes towards fiscal policies. One view is that voters support policies that generate larger deficits, or that the political structure is such that these policies would increase the probability of reelection. The other view is that voters dislike loose fiscal policies and would punish leaders who implement them.

A popular view, consistent with the first approach, is that voters like low taxes, which raise their disposable income, and high government expenditures – that provide them with either more and better public services or higher transfer payments; hence, they would vote for incumbents who provide them. Opportunistic incumbents can therefore use expansionary fiscal policy to increase the probability of reelection. According to that point-of-view voters are either short-sighted, or they do not care enough about the future implications of current deficits to change their votes.

However, this simple argument is inconsistent with the view that voters are rational, forward-looking individuals. There is the question of why such voters would "ignore" the government's intertemporal budget constraint in rewarding deficit-producing politicians. One set of responses to these arguments focus on various sorts of fiscal illusion. Rogoff (1990) and Rogoff and Siebert (1988) present models that rely on imperfectly informed, rational voters, who observe higher expenditures (or lower taxes) but believe that more competent policymakers can provide these without necessarily incurring higher deficits. Although Rogoff-type models focus on the short-term, their logic can be extended to voters who believe that competent policy-makers can apply expansionary fiscal policies that would result in future growth or efficiency gains that would restore fiscal soundness (e.g, Laffer (2004) type responses).

Another line of argument is based on more sophisticated models that focus on the role of interest groups in society. These models do not assume that voters are myopic, as in the first type of arguments mentioned above, or lack information, as in the second type (also suggested by Nordhaus, 1989). According to these models, competing interest groups in a society may be unable to agree on a first-best policy, even if they are all aware that an agreement may make all of them better off (Phelps, 1985, pp. 185-91, Alesina and Drazen, 1991). In an attempt to gain electoral support, politicians may try to satisfy demands of competing groups in order to retain support, even if such largesse would imply larger than optimal deficits. In countries where deficits are the result of such social constellations one might then observe that deficit-producing politicians get reelected. Special interest group politics may also be reflected in "pork barrel" spending – that is, spending targeted at specific groups.[4] There is a large literature investigating the use of such spending programs to gain votes and their effectiveness in doing so (as well as a large folk

[4] For a detailed survey of this literature see Drazen (2000) and Drazen and Eslava (2005a).

wisdom about their extensive use).[5] This type of arguments also points to the importance of measuring the effect of fiscal performance on election results rather than only on popularity in opinion polls, as done by Alesina *et al.* (1998); if changes in fiscal policy are aimed at satisfying critical interest groups, opinion polls may not be able to capture their political consequences.

The alternative point-of-view is that there are a number of reasons to believe that loose fiscal policy need not help an incumbent's reelection chances and may actually harm them. If voters are rational and informed they would be aware of government budget constraints both at a point in time and intertemporally. Since current deficits imply non-smooth paths of taxes and government expenditures over time, rational voters are likely to view them as costly and welfare reducing. Therefore, they should dislike deficits, and punish rather than reward loose fiscal policies, especially in countries where there is a need to reduce the public debt, as is the case in most of the developed countries in recent decades. Moreover, Peltzman (1992), argues that voters are "fiscal conservatives", *i.e.*, they dislike larger government spending and punish incumbents that increase spending during their term, even if these expenditures were not accompanied by larger deficits.

To summarize, there are conceptual arguments on both sides. We believe that there are good arguments why fiscal manipulation will *not* work in most countries, while the arguments why it might *work* are reasonable only in some groups of countries where information is lacking or special social and political circumstances apply. There is no empirical work testing the connection between aggregate fiscal policies and an incumbent's reelection chances for a large cross-section of countries. Hence, there is a need to confront the different views with the data.

3. Data and variable definitions

The dataset used in this study is based on information from several sources (see Table 6). Fiscal data are taken mostly from the IFS and are complemented by GFS data. National accounts data were extracted from the World Bank's World Development Indicators and the IFS, and information on the political structure of countries, their electoral system and additional political variables is constructed using the World Bank's database of Political Institutions (DPI). A detailed description of the data sources and the construction of the variables appears in Appendix I. The combination of sources allows us to use data for 23 developed countries (OECD economies) over the period 1960-2003. Overall we have useable information on 164 reelection campaigns that took place in periods where these countries were democratic. The countries and election campaigns are listed in Tables 7 and 8, respectively.

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[5] Drazen and Eslava (2005b), present a formal model of political cycles in pork barrel spending in which a political expenditure cycle may exists even if a targeted group of voters know they are being targeted.

The key political variable REELECT is a binary variable with a value of 1 if the incumbent was reelected and 0 if he or she was not. Its construction was based on information from the "World Political Leaders 1945-2005" database of *Zárate's Political Collections (ZPC)* and from the "World Statesmen" encyclopedia. These data allowed us to follow the terms of individual leaders in office from appointment to termination, and to associate them with election dates. The decision whether the prime minister or the president is the leader is based on the DPI dataset classification, as described in Persson and Tabellini (2003). Information on election dates and results (presidential elections in presidential systems and parliamentary elections in parliamentary ones) is taken from the International Institute for Democracy and Electoral Assistance (IDEA) dataset "Voter Turnout Since 1945", from the International Foundation for Election Systems ELECTION GUIDE dataset and is supplemented by Binghamton University's Election Results archive.

We define REELECT to include only observations where the leader is running for reelection herself (either as the leader of her party in parliamentary elections or personally in presidential ones). We constrain the sample to observations of leaders who were in office for at least two fiscal years prior to the elections and were candidates in the elections or retired within the month before the elections (in which case we classify the leader as losing reelection, unless she was legally banned from running due to term-limits). The use of this definition has the advantage of focusing only on the cases where the same person who led the government before the elections is the one seeking reelection. The homogeneity of the resulting sample may reflect a clearer relationship between performance and reelection and avoids questions of the extent to which voters associate a new (substituting) candidate with the policies of his predecessor. Outcomes of the 164 reelection campaigns are pretty evenly split between successful and unsuccessful reelection attempts, with the leader reelected 86 times and not reelected 78 times.

Our key variable in examining fiscal performance – *BALCH_term* – reflects the *change* in the central government's *balance* (that is, budget surplus) to GDP ratio over the *term* in office by comparing the average balance/GDP ratio in the last 3 years of the term – including the election year – with the previous 3 years. Similarly, we examine the variable *BALCH_term_ex_ey* which compares the that ratio in the two years before the election year with that in the previous two years. We also use the variables *REVCH_term* and *EXPCH_term*, which are defined in the same way, to examine whether changes in the ratios of central government revenues and expenditures, respectively, affect the probability of reelection differently. Additionally, we calculate the variable *BALCH_ey* – the change in the balance/GDP ratio in the *election year* relative to the previous year – which we use later in the analysis as an indicator for election year fiscal expansions.[6] All these variables are calculated on the basis of IFS data, supplemented with GFS data, as

[6] While in some cases it is not clear which fiscal year should correspond to the election year, especially when the elections take place in the early part of the year, Brender and Drazen (2005b) and others (for example, Alesina, Perotti and Tavares, 1998) find that the relationship between fiscal policy and the timing of elections is not very sensitive to the definition used.

described in Brender and Drazen (2005a). All our data are adjusted to fiscal years (in 5 of the countries the fiscal year does not overlap the calendar year).[7]

The interpretation of changes in the fiscal aggregates and their potential effect on voter behavior should account for the possible effects of growth. High growth periods may be associated with a decline in the ratio of fiscal deficit to GDP which is not associated with government measures and policies. To account for these business cycle effects we include in all our equations an indicator for macroeconomic performance. This variable is *GDPPC_gr*, which is the average annual *growth rate* of real *GDP per capita* between the current and the previous election year. In cases where the leader assumed power after the previous elections, we calculate *GDPPC_gr* only over the period since his appointment. We also include, separately, in some of our equations, the real growth rate of GDP in the election year. Finally, we calculated the deviation of GDP from its long term trend (using a country-specific Hodrick-Prescott filter) for each country in each year, and used this variable in some of our equations as an additional control for the business cycle.

The electoral system in a country may affect the probability of reelection. Incumbents in countries that use the majoritarian electoral system may have a higher probability to be reelected, because of the larger stability that this system may generate (Persson and Tabellini, 2003). While a broad discussion of this possibility is beyond the scope of this paper, we control for this possibility by including in all the equations a binary variable for countries with a majoritarian system. Also, to account for the possibility that voters in "new democracies" (as defined in Brender and Drazen, 2005a) may prefer to avoid regime changes, we also include a binary variable for "new democracies".

4. The effect of deficits on reelection

We begin with the basic results. In Table 1 we examine the effect of the change in the deficit during the incumbent's term on the probability of reelection using Probit estimation.[8] In column 1 we present a basic specification. The equation shows that voters are likely to punish persistent budget deficits over the term in office (a positive value of *BALCH_term* implies a decrease in the deficit to GDP ratio) rather than reward leaders who create them. As mentioned above, this effect is measured when the growth rate of real GDP is accounted for in the equation. The coefficient of the change in the deficit to GDP ratio over the term is positive and statistically significant, indicating that the probability of reelection is increasing when the fiscal balance improves during the leader's term in office.[9] We also find

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[7] Of these five countries, Sweden changed its fiscal year to the calendar year in 1996.

[8] Logit equations yielded very similar results.

[9] Controlling for the level of GDP per capita, yielded insignificant results and did not affect qualitatively the coefficients of the other variables.

Table 1

The Effect of Fiscal Balance Changes during the Term on the Probability of Reelection[1]

	(1)	(2)	(3)	(4)
BALCH_term[2]	14.402***	16.136***	14.737***	16.192***
	[0.003]	[0.006]	[0.003]	[0.002]
GDPPC_gr[2]	1.495	1.367	2.168	1.648
	[0.796]	[0.813]	[0.726]	[0.777]
GDPD_trend[3]			–1.216	
			[0.756]	
New Democracies	0.551	0.507	0.554	0.563
	[0.184]	[0.231]	[0.182]	[0.177]
Majoritarian Electoral System	0.466*	0.468*	0.472*	0.462*
	[0.078]	[0.077]	[0.075]	[0.081]
BALCH_term(†) *Def_Size*[4]		–0.578		
		[0.607]		
BALCH_term(†) *EU*[5]				–18.184
				[0.243]
Constant	–0.083	–0.066	–0.103	–0.077
	[0.675]	[0.742]	[0.621]	[0.699]
Pseudo *R*-squared	0.063	0.064	0.063	0.068
Akaike's criteria	222.77	224.51	224.68	223.44
Schwartz's criteria	238.27	243.11	243.28	242.04
Observations	164	164	164	164

[1] The figures in the table are probit coefficients and the figures in parantheses are *P*-values.

[2] *BALCH_term* – The change in the budget balance ratio to GDP during the leader's term, including the elections year. *GDPPC_gr* – The average growth rate of real per-capita GDP during the leader's term.

[3] GDPD_trend – The change in the deviation of real GDP from its trend, estimated using a Hodrick-Prescott filter, during the leader's term including the elections year.

[4] *BALCH_term** *Def_Size* – The change in the budget balance ratio to GDP during the leader's term including the elections year multiplied by the budget deficit ratio to GDP at the beginning of the leader's term.

[5] – A binary variable with the value of 1 for the 15 members of the European Union in the years 1992-2002. A cross (†) indicates multiplication by this variable.

* significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

that having a majoritarian electoral system increases the probability of reelection (though the significance is marginal). The negative effect of loose fiscal policies on the probability of reelection is not only statistically significant, but it is also quite large quantitatively: a reduction of 1 percentage point in the deficit to GDP ratio (controlling for the change in GDP) increases the probability of reelection by 5.7 percentage points.[10]

One possible explanation to the findings above is that voters' disapproval of loose fiscal policies is not a general phenomenon and reflects only the behavior of voters in countries with large initial deficits. In column 2 of Table 1 we examine the robustness of our findings to this possibility by adding to the equation an interaction between the size of the deficit at the beginning of the incumbent's term in office and the change in the deficit (BALCH_term). We find that there is no statistically significant effect of the initial *level* of the deficit to GDP ratio on the magnitude of the effect of *changes* in that ratio on the probability of reelection, although the coefficient has the expected sign. Moreover, the inclusion of this interaction does not reduce the significance of the effect of the change in the deficit on the probability of reelection

In column 3 we check whether the results are sensitive to the use of an alternative method of controlling for the business cycle. We do that by adding the change over the term in the deviation of GDP from its country specific long time trend, which is calculated using the Hodrick-Prescott filter. Again, none of the coefficients is affected qualitatively by this addition.

Another possible explanation for the finding of the positive effect of prudent fiscal policy on the probability of reelection in the developed countries is that it reflects only the experience of the EU countries after the Maastricht treaty in 1992, and the Stability and Growth Pact that followed it. To account for that possibility we add an interaction between a binary variable for the 15 EU countries starting from 1992 and the change in the deficit over the term in office.[11] We present these results in column 4 and find that there is no unique support for deficit reducing policies in the EU countries, nor do they account for the positive voter support for deficit reductions in the developed countries.

If voters dislike deficits, do they also care about the composition of the fiscal balance? In other words, do voters have preferences for expenditure cuts, as opposed to tax increases, as suggested for example by Peltzman (1992) with respect to American voters? Also, is it possible that by examining changes in the deficit we mix tax hikes with expenditure cuts, and by doing so "clouding" the voters' support for one type of policies? While an increase in the budget deficit, especially after accounting for the business cycle, raises concerns of intertemporal imbalances, the size of government and the tax burden depend to a larger extent on tastes. In that

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[10] The probit coefficients cannot be used directly as elasticities or semi-elasticities. The effect of the variables is calculated at the average point for the developed countries.

[11] Using, instead, a binary variable only for the countries that adopted the Euro had no effect on the results.

Table 2

The Effects of Revenue and Expenditure Changes during the Term on the Probability of Reelection[1]

	(1)	(2)	(3)	(4)
REVCH_term[2]	15.143***	16.547***	15.701***	16.734***
	[0.003]	[0.007]	[0.003]	[0.002]
EXPCH_term[2]	–13.678***	–15.157**	–14.140***	–15.423***
	[0.005]	[0.011]	[0.005]	[0.003]
GDPPC_gr[2]	1.790	1.652	2.707	1.870
	[0.758]	[0.776]	[0.663]	[0.749]
GDPD_trend[3]			–1.645	
			[0.677]	
New Democracies	0.514	0.475	0.517	0.522
	[0.212]	[0.259]	[0.208]	[0.206]
Majoritarian Electoral System	0.477*	0.478*	0.486*	0.472*
	[0.072]	[0.071]	[0.068]	[0.075]
BALCH_term(†) *Def_Size*[4]		–0.482		
		[0.669]		
BALCH_term(†) *EU*[5]				–17.269
				[0.268]
Constant	–0.108	–0.093	–0.137	–0.099
	[0.589]	[0.650]	[0.520]	[0.622]
Pseudo *R*-squared	0.063	0.063	0.063	0.068
Akaike's criteria	224.77	226.58	226.59	225.57
Schwartz's criteria	243.37	248.28	248.29	247.27
Observations	164	164	164	164

[1] The figures in the table are probit coefficients and the figures in parantheses are *P*-values.

[2] *REVCH_term* – The change in the ratio of the government revenue to GDP during the leader's term, including the elections year. *EXPCH_term* – The change in the ratio of the government expenditure to GDP during the leader's term, including the elections year.

[3] *GDPD_trend* – The change in the deviation of real GDP from its trend, estimated using a Hodrick-Prescott filter, during the leader's term including the elections year.

[4] *BALCH_term* Def_Size* – The change in the budget balance ratio to GDP during the leader's term including the elections year multiplied by the budget deficit ratio to GDP at the beginning of the leader's term.

[5] *EU* – A binary variable with the value of 1 for the 15 members of the European Union in the years 1992-2002. A cross (†) indicates multiplication by this variable.

* significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

sense it is less clear whether voters in a cross-section of countries would have a stronger preference for one type of fiscal adjustment over the other. This is especially true when we examine a large number of countries, over a long period of time, rather then focus on countries that face a fiscal crisis and a need for an immediate and large consolidation, as examined by Alesina *et al.* (1998).[12]

In Table 2 we break the change in the fiscal balance over the term to two components, the change in the revenue to GDP ratio and the change in the expenditure to GDP ratio (for both variables an increase is presented as a positive change). We find that voters dislike both tax cuts, when the level of expenditure is given, and expenditure increases, given the tax to GDP ratio. Moreover, the size of the coefficients is very similar hence there is no indication that voters view one type of deficit reduction more favorably than the other. In columns 2-4 we show that these results are also robust to the same specification changes we presented in Table 1.

5. Alternative explanations

Our main finding is that voters in developed countries do not like deficits and punish leaders that create them. The negative electoral effect of deficits in the developed countries seems quite clear. Are there alternative interpretations of our findings?

One possible argument is that reduced deficits over the term in office *per se* are not rewarded by voters, but that they allow the leaders who created them more room to engage in "election-year economics": that is, to use expansionary fiscal policies during the election year either to manipulate the macroeconomic environment and create fiscal-induced growth, to improve public services, or to target key lobbies or swing-voters. The phenomenon of "election year economics", its theoretical and empirical foundations, and their caveats are discussed in detail by Brender and Drazen (2005a).

In column 1 of Table 3 we test whether the effect of deficits in election years is distinct of that of deficits in earlier years. For that purpose we add the variable *BALCH_ey* which measures the change in the deficit to GDP ratio in the election year relative to the previous year. We then check whether the addition of that variable removes the significant effect of deficits over the term on reelection. The effect of deficit reduction over the term remains significant, but we also find an *additional* strong positive effect of deficit reduction in the election year. In other words, not only that election year deficits do not help reelection, but their negative effect is even larger than that of deficits over the term. The effects that we find are

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[12] While Alesina *et al.* focus on the question whether a fiscal adjustment of a certain composition is more likely to lead to a sustained fiscal consolidation, here we examine the medium-term and whether, once a reduction in the deficit to GDP ratio was achieved, it matters to voters whether it was based on tax increases or on expenditure cuts.

Table 3

Additional Effects of Fiscal Balance Changes during the Election Year on the Probability of Reelection[1]

	(1)	(2)	(3)
BALCH_term[2]	14.179***		
	[0.003]		
BALCH_term_ex_ey[2]		12.095**	12.799**
		[0.019]	[0.018]
BALCH_ey[2]	20.540***	24.101***	25.310***
	[0.003]	[0.002]	[0.002]
GDPPC_gr[2]	–5.287	–3.844	–4.176
	[0.405]	[0.632]	[0.605]
GDPPC_gr_ey[3]		0.443	0.579
		[0.945]	[0.928]
New Democracies	0.813*	0.740	0.754*
	[0.075]	[0.101]	[0.098]
Majoritarian Electoral System	0.420	0.414	0.410
	[0.115]	[0.118]	[0.123]
BALCH_term_ex_ey (†) *EU*[4]			–9.079
			[0.620]
BALCH_ey (†) *EU*[4]			–11.591
			[0.572]
Constant	0.121	0.063	0.074
	[0.571]	[0.768]	[0.732]
Pseudo *R*-squared	0.103	0.085	0.087
Akaike's criteria	215.63	221.65	225.24
Schwartz's criteria	234.23	243.35	253.14
Observations	164	164	164

[1] The figures in the table are probit coefficients and the figures in parantheses are *P*–values.

[2] *BALCH_term* – The change in the budget balance ratio to GDP during the leader's term, including the elections year. *BALCH_term_ex_ey* – The change in the ratio of the government deficit to GDP in the two years preceding the election year, relative to the two previous years. *BALCH_ey* –The change in the government deficit ratio to GDP In the election year, compared to the previous year. *GDPPC_gr* – The average growth rate of real per capita GDP during the leader's term.

[3] *GDPPC_gr_ey* – Per capita GDP growth in the last year of the leader's term.

[4] *EU* – A binary variable with the value of 1 for the 15 members of the European Union in the years 1992-2002. A cross (†) indicates multiplication by this variable.

* significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

also quite large quantitatively: a reduction of the deficit to GDP ratio by one percentage point during the term in office increases the probability of reelection by 5.6 percentage points, while a similar reduction in an election year increases that probability by 8.2 percent. These magnitudes are broadly in line with those reported in Brender (2003) for similar variables in the local elections in Israel.

In columns 2 and 3 we replace *BALCH_term* with *BALCH_term_ex_ey*, thus separating the effects of election year deficits and the change in the deficit over the rest of the term. We also include in these equations the change in real GDP per-capita during the elections year to account for the business cycle. We find that the effect of deficits over the term remains significant even when the election year, in which the effect is larger, is excluded (column 2). In column 3 we also control for EU membership after 1992 and find that the results are not affected by these observations. Therefore, it is not the ability to spend more during the election year that accounts for the effect of prudent fiscal behavior on the probability of reelection, neither is it the short-sightedness of voters who focus only on deficit reductions during the lections year.

One of the questions that may arise with respect to these findings is that of causality. It may be argued that strong leaders have the political power to conduct conservative fiscal policies (see, for example, Roubini and Sachs, 1989) and at the same time have a better chance to be reelected. In order to control, at least to some extent, for this possibility we collected data on the share of the votes received by each leader in the previous election and his party's strength in the legislature, taking into account various aspects of the nature of the electoral system. When the leader is elected directly,[13] the vote share he received in the previous election gives some indication of his popularity and thus his political strength.[14] In a parliamentary system, the percent of seats in the parliament held by the leader's party may, in a similar way, represent his popularity and indicate his ability to carry out his program. In column 2 of Table 4 we show that none of the relationships we identified above in the developed countries is affected by the inclusion of these variables.[15] These findings suggest that the effect of improved fiscal positions on reelection is not merely a reflection of the use of the leader's political power to better control fiscal developments.

Another explanation of our findings is that voters are not bothered so much by deficits *per se*, but by inflation which itself is often caused by deficit spending. Shiller (1996), Lewis-Beck (1988) and Alesina, Perotti, and Tavares (1998), among others, find evidence that voters in developed countries dislike inflation and punish

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[13] There are only 10 observations of directly elected incumbents in our sample of developed countries.

[14] In some of the countries that have a presidential system it is not trivial to match the president with a specific party, or even with a group of parties. We also tested the effects of the size of the coalition in the year before the elections and (jointly) the proportion of seats held by the leader's party within the coalition representation. This variable did not have a significant effect on the probability of reelection and did not affect any of the other coefficients.

[15] We show in column 1 that the results are not affected by the decrease in the number of available observations due to the inclusion of this variable.

Table 4

Initial Electoral Support and Inflation as Alternative Explanations[1]

	(1)	(2)	(3)	(4)
BALCH_term_ex_ey[2]	12.384**	11.610**	11.224**	12.399**
	[0.017]	[0.026]	[0.037]	[0.020]
BALCH_ey[2]	23.848***	24.627***	24.637***	23.221***
	[0.002]	[0.002]	[0.003]	[0.004]
GDPPC_gr[2]	–3.370	–3.006	6.134	3.814
	[0.677]	[0.713]	[0.531]	[0.689]
GDPPC_gr_ey[3]	1.527	0.863	–4.346	–2.461
	[0.818]	[0.898]	[0.558]	[0.733]
New Democracies	0.557	0.543	1.344**	1.266**
	[0.234]	[0.253]	[0.041]	[0.048]
Majoritarian Electoral System	0.412	0.440	0.633**	0.535*
	[0.121]	[0.127]	[0.041]	[0.055]
PARTY[4]		1.204	1.585	
		[0.201]	[0.105]	
VOTES[5]		0.002	–0.199	
		[0.999]	[0.884]	
INFCH_ey[6]			–11.402**	–9.346**
			[0.021]	[0.046]
Average_INF[6]			–3.249**	–2.906**
			[0.025]	[0.039]
Constant	0.030	–0.442	–0.539	0.094
	[0.891]	[0.303]	[0.246]	[0.704]
Pseudo *R*-squared	0.087	0.099	0.144	0.124
Akaike's criteria	218.60	220.06	213.92	214.34
Schwartz's criteria	240.21	247.85	247.88	242.13
Observations	162	162	162	162

1 The figures in the table are probit coefficients and the figures in parantheses are *P*-values.

2 *BALCH_term_ex_ey* – The change in the ratio of the government deficit to GDP in the two years preceding the election year, relative to the two previous years. *BALCH_ey* – The change in the government deficit ratio to GDP In the election year, compared to the previous year. *GDPPC_gr* – The average growth rate of real per-capita GDP during the leader's term.

3 *GDPPC_gr_ey* – Per capita GDP growth in the last year of the leader's term.

4 *PARTY* – The percent of seats in the parliament held by the leader's party, receives the value 0 in a presidential system.

5 *VOTES* – The percent of the votes received by a leader in a presidential system in the first round of the previous elections.

6 *INFCH_ey* – The increase in the inflation rate from the year preceding the election year to the election year. *Average_INF* – The average rate of inflation rate during the leader's term.

* significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

Table 5

The Separate Effect of Changes in Revenue and Expenditures during the Term and in the Election Year[1]

	(1)	(2)	(3)	(4)
REVCH_term_ex_ey[2]	11.628**	10.905*	11.595**	10.448*
	[0.038]	[0.052]	[0.044]	[0.072]
EXPCH_term_ex_ey[2]	–11.403**	–10.906**	–11.472**	–10.681*
	[0.034]	[0.043]	[0.040]	[0.056]
REVCH_ey[2]	34.650***	34.798***	34.790***	35.292***
	[0.001]	[0.001]	[0.002]	[0.002]
EXPCH_ey[2]	–22.014***	–22.987***	–20.969**	–22.740***
	[0.007]	[0.005]	[0.014]	[0.009]
GDPPC_gr[2]	–6.858	–6.459	–0.393	2.000
	[0.417]	[0.451]	[0.968]	[0.846]
GDPPC_gr_ey[3]	4.292	3.548	0.857	–1.191
	[0.542]	[0.619]	[0.911]	[0.881]
New Democracies	0.452	0.465	1.218*	1.308*
	[0.344]	[0.334]	[0.063]	[0.050]
Majoritarian Electoral System	0.358	0.404	0.475*	0.590*
	[0.183]	[0.163]	[0.092]	[0.058]
PARTY[4]		1.022		1.404
		[0.285]		[0.159]
VOTES[5]		–0.247		–0.441
		[0.854]		[0.752]
INFCH_ey[6]			–9.229**	–11.168**
			[0.050]	[0.024]
Average_INF[6]			–3.091**	–3.389**
			[0.028]	[0.020]
Constant	0.040	–0.356	0.120	–0.436
	[0.858]	[0.417]	[0.641]	[0.360]
Pseudo R^2	0.097	0.107	0.134	0.152
Akaike's criteria	220.52	222.31	216.05	216.09
Schwartz's criteria	248.31	256.27	250.02	256.23
Observations	162	162	162	162

[1] The figures in the table are probit coefficients and the figures in parantheses are *P*-values.

[2] *REVCH_term_ex_ey* – The change in the ratio of the government revenue to GDP in the two years preceding the election year, relative to the two previous years. *EXPCH_term_ex_ey* – The change in the ratio of the government expenditure to GDP in the two years preceding the election year, relative to the two previous years. *REVCH_ey* – The change in the government revenue ratio to GDP In the election year, compared to the previous year. *EXPCH_ey* – The change in the government expenditure ratio to GDP In the election year, compared to the previous year. *GDPPC_gr* – The average growth rate of real per capita GDP during the leader's current term.

[3] *GDPPC_gr_ey* – Per-capita GDP growth in the last year of the leader's term.

[4] *PARTY* – The percent of seats in the parliament held by the leaders party, receives the value 0 in a presidential system.

[5] *VOTES* – The percent of the votes received by a leader in a presidential system in the first round of the previous elections.

[6] *INFCH_ey* – The increase in the inflation rate from the year preceding the election year to the election year. *Average_INF* – The average rate of inflation rate during the leader's current term.

* significant at the 10 percent level; ** significant at the 5 percent level; *** significant at the 1 percent level.

governments that create it. To control for this possibility we added in columns 3 and 4 the average inflation rate during the leader's term in office and the change in the inflation rate in the election year. We find that these variables have a statistically significant negative effect on the probability of reelection. However, the inclusion of these variables does not affect the significant relationship between the change in the deficit and the probability of reelection. That is, our finding of dislike of deficits reflects more than dislike of inflation

In Table 5 we revisit our findings of voters' dislike of deficits, regardless of whether they result from reductions in revenues of increased expenditures. We find that this dislike holds both in election years and during the rest of the term, and that this result is robust to the alternative explanations mentioned above.

6. Conclusions

In this paper we examine whether voters in developed countries reward loose fiscal policies that provide them with larger transfer payments and more public goods while postponing the payments to the future. We find no evidence for such a preference. In fact, we find that it is prudent fiscal policies that are rewarded at the polls. Moreover, we find that increasing the deficit in an election year is particularly harmful to reelection. These findings are consistent with the view that voters in the developed countries, are rational forward looking individuals who do not fall for "fiscal illusions" of better services and lower taxes, being aware that eventually they are the ones who will have to pay the bill.

Moreover, the effects we find are not only statistically significant, but also quite substantial quantitatively. An increase of 1 percentage point in the central government surplus ratio to GDP (controlling for the business cycle) over an incumbent's term in office can increase the probability of reelection by almost six percentage points, and by more than eight percentage points if it takes place during an election year.

We also examined the argument that voters are "fiscal conservatives" in the sense that they prefer a smaller government and expenditure cuts over tax hikes, as suggested by Peltzman (1992). We find no support for this view in our analysis. The magnitude of the coefficient of the change in the ratio of government revenue to GDP is very similar to that of changes in the public expenditure to GDP ratio. It appears that Peltzman's findings are unique to the US while in the other developed countries voter preferences may be different.

DATA APPENDIX

The data used in this study were collected from several sources covering economic, fiscal and political data. We also used information on institutional characteristics of countries, the timing of elections and data related to the party association and career circumstances of country leaders. The data sources which were used in this study are listed in Table 6.

The Sample

The fiscal and economic data from the *IFS* and *GFS* are available for the years 1960-2003, and for some countries the period covered is shorter. We therefore restrict our sample to that period, even though election years and election results data are available for a longer period.

To restrict our sample only to democracies, we include only the years in which the country has a non-negative score in the *POLITY* democracy index. That index is calculated as the sum of the scores that each country receives in each year on two scales: the degree of democracy (a 0 to 10 scale) and the degree of autocracy (a 0 to –10 scale).

Our final sample, used for the estimation, consists only of election years in the sample period. The information on election dates were collected from the IDEA dataset "Voter Turnout Since 1945" and complemented by data from the CDP, IFES and the CIA's "World Factbook".[16] In Presidential systems, we used only presidential elections and in Parliamentary systems only parliamentary ones. The identification of the political system was according to whether the chief executive responsible for economic policy is elected directly by the public (presidential) or by parliament (*Parliamentary)*, as in Persson and Tabellini (2003). For example, France is defined as parliamentary since it is the government and the prime-minister – elected by the legislature – which are dominant in determining economic policy, rather than the president. These definitions are based on the variable SYSTEM in the *DPI* dataset. All the election years in the sample are listed in Table 8.

Fiscal Years

In those countries in which the fiscal years are not the calendar years, we adjusted all the data to the fit the fiscal years. For example, in Canada the fiscal year starts on April 1st and ends at March 31st the following year. Hence, elections on March 2009 will be in the 2008 fiscal year. Data about fiscal years are from the *IFS*, supplemented by GFS data when information is missing in the IFS data.

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[16] Additional sources that were used to complement the data on election dates were: Wikipedia, the free encyclopedia (www.wikipedia.org); and Lijphart Elections Archive, in University of California, San Diego (http://dodgson.ucsd.edu/lij).

Table 6

Data Sources

Source Name	Code	Dataset Producer	Date	Variables	Available Years
International Financial Statistics	IFS	International Monetary Fund	2003	central government total expenditure and total revenue and grants; nominal GDP	1960-2003
Government Financial Statistics	GFS	International Monetary Fund	2003	central government total expenditure and total revenue and grants	1960-2003
World Development Indicators	WDI	The World Bank	2003	GDP per capita in constant 1995 US$, GDP in constant 1995 US$	1960-2003
POLITY IV	POLITY	University of Maryland	2003	Level of Democracy index	1800-2003
Database of Political Institutions	DPI	The World Bank	2000	political system, term limits, election results and the allocation of seats in parliament, election system.	1975-2000
Voter Turnout Since 1945 to Date	IDEA	Institute for Democracy and Electoral Assistance	Current	election years, election results	1945-2001
The Center on Democratic Performance	CDP	Binghamton University	Current	election years, election results, election dates	1974-2000
Electionguide.org	IFES	International Foundation for Electoral Systems	Current	election dates	1998-2005
World Political Leaders	ZPC	Zárate's Political Collections	Current	leaders' names and their party association	1945-2005
The World Factbook	CIA	Central Intelligence Agency	Current	election dates, frequency of elections in a country, political system	1960-2005

The Reelection Variable

The dependent variable is *Reelect* – A binary variable receiving the value 1 if an incumbent leader is reelected in the elections. Data on the names of leaders and their party association were primarily based on ZPC data. The DPI provides data on the term of the leader in office, which allowed us to identify points of change in the leadership of the country, and whether those were election dates or not.

The Sample includes observations in which:

- The leader has been in office, at least, in the two budgetary years preceding the election year;
- The leader stayed in office at least until one month before the elections; if he quits within the month before the elections *Reelect* receives the value 0;
- There is no legal *limit* on the leader's term (based on the variable *MULTPL* in the DPI),[17] otherwise the observation is excluded. Data on legal limits on leaders' term in office are taken from the DPI.

Fiscal Policy Variables

The fiscal policy variables are calculated on the basis of *IFS* variables, supplemented by GFS data when needed. In some cases we used alternative sources, as detailed in Brender and Drazen (2005b) Table A-I-1.

Balance is the difference between the central government's *Total Revenue & Grants* and *Total Expenditure* (*i.e.*, the fiscal surplus) for each country in each year. All these variables are presented as a percentage of *GDP* which is also taken from the IFS.

Using *Balance* we calculated *BALCH_term*, *BALCH_ey* and *BALCH_term_ex_ey* in the following way:

BAL_0 is the value of *Balance* in the election year and BAL_{-i} is the value of *Balance i* years before the elections.

- $BALCH\_term = \frac{1}{3} * (BAL_0 + BAL_{-1} + BAL_{-2}) - \frac{1}{3} * (BAL_{-3} + BAL_{-4} + BAL_{-5})$; which is the change in the average balance to GDP ratio in the last 3 years of the term, including the elections year, compared to the previous 3 years.

  - If there are no data on BAL_{-3}, BAL_{-4} and BAL_{-5} then:

$$BALCH\_term = \frac{1}{2} * (BAL_0 + BAL_{-1}) - BAL_{-2}$$

- $BALCH\_term\_ex\_ey = \frac{1}{2} * (BAL_{-1} + BAL_{-2}) - \frac{1}{2} * (BAL_{-3} + BAL_{-4})$; which is the change in the average central government balance in the two years preceding the elections (not including the election year) compared to the previous two years.

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[17] For missing years we assumed that the legal limit remained as in the closest year in the sample.

- Where there are no data on BAL_{-3} *and* BAL_{-4} *then:* $BALCH\_term = BAL_{-1} - BAL_{-2}$

- $BALCH\_ey = BAL_0 - BAL_{-1}$; which is the change in the balance in the election year relative to the previous year.

Economic Control Variables

The economic growth calculation is based on: *GDPPC,* real per-capita GDP for each country in each year, which is taken from the WDI dataset of the World Bank.

Using *GDPPC* we calculate: *GDPPC_gr* and *GDPPC_gr_ey* in the following way:

$GDPPC_0$ is the value of *GDPPC* in the election year, $GDPPC_{-1}$ is the value of *GDPPC* in the previous year and $GDPPC_{-x}$ is the value of *GDPPC* in the year in which the leader assumed his office (usually the previous election year), where x is the number of years in office:

$$\text{GDPPC\_gr} = 100 \bullet \left(\sqrt[x]{\left(\frac{\text{GDPPC}_0}{\text{GDPPC}_{-X}} \right)} - 1 \right)$$

$$\text{GDPPC\_gr\_ey} = 100 \bullet \left(\frac{\text{GDPPC}_0}{\text{GDPPC}_{-1}} - 1 \right)$$

GDP_trend is the trend of real GDP (country specific) which was computed using the Hodrick-Prescott filter on the "GDP in constant 1995 US$" series of the WDI. Using this variable we calculated for each country in every year the deviation of real GDP from its trend, and used it in the following way to compute the change in this deviation in the election year:

GDP_0 and GDP_trend_0 are the values of *GDP* and *GDP_trend* in the election year, and GDP_{-1} and GDP_trend_{-1} are the values of these variables in the year preceding the election year**:**

$$GDPD\_trend\_ey = \left(\frac{\text{GDP}_0}{\text{GDP\_trend}_0} - \frac{\text{GDP}_{-1}}{\text{GDP\_trend}_{-1}} \right)$$

INF is the inflation rate for each country in each year, which is taken from the WDI dataset of the World Bank, supplemented by IFS data when needed.

Using *INF* we calculated *INFCH_ey* and *Average_INF* in the following way: INF_0 is the value of *INF* in the election year, INF_{-i} is the value of *INF* i years before the elections and INF_{-x} s the value of *INF* in the year in which the

leader assumed his office (usually the previous election year), where x is the number of years in office:

$$INFCH\_ey = INF_0 - INF_{-1}$$

which is the change in the inflation rate in the election year relative to the previous year;

$$Average\_INF = 100 \bullet \left(\sqrt[X]{\left[\prod_{i=-X+1}^{0} \left(1 + \frac{INF_i}{100} \right) \right]} - 1 \right)$$

which is the average inflation rate during the leader's term.

In the final dataset we truncated the extreme values of *INFCH_ey*, and gave all values above the truncation point of a variable the value of the truncation point. The truncation point is 60 per cent.

In those cases where the inflation variable was truncated we added a binary variable with a value of 1 in the countries with high inflation. However, since this variable turned out not to be significant and not to affect the other coefficients, we dropped it from the final specification.

Political Strength Control Variables

The political strength variables for each country in each election year are mainly based on DPI data about the number of seats that the leader's party holds in parliament and the percent of votes that the president received in the previous elections (both in the first and the last rounds). These variables (*GOVSEAT*, *OPPSEAT*, *PERCENT1*, *PERCENTL* in *DPI*) are available for the period 1975-2000. For the other years: 1961-1975 and 2001-2003, we used data from IDEA and completed missing information from *CDP*:

PARTY: the percent of seats in the parliament held by the leader's party in the year preceding the election year. It receives the value 0 in a presidential system (in cases where data are from IDEA it is the proportion of the public's votes received by the party).

VOTES: the percent of votes for the leader in a presidential system in the first round of the previous elections; receives the value 0 in a parliamentary system.

New vs. Old Democracies

New_Democracy: A binary variable, for each country in each election year, receiving the value 1 for the period of the first four elections after a country with a negative *polity* value in the *POLITY IV* dataset shifted to non-negative values, not counting the elections in the transition year. Otherwise, the country is defined as an

Old Democracy and the variable receives a value of 0. The years in which countries are defined as *New Democracies* are listed in Table 7.

Presidential vs. Parliamentary Constitutional Rules

The constitutional rules of the various countries are listed in Table 7.

Proportional vs. Majoritarian Electoral Rules

The DPI provides information, in each country and in each election year, whether candidates for presidency or parliament are elected based on the total share of votes received by their party or on the majority of votes in each voting zone (e.g., district). In the former case the electoral system is defined in the DPI as *Proportional* representation (PR in the DPI) and in the latter as *Majoritarian* representation.

Majoritarian: A binary variable, for each country in each election year, receiving the value 1 in a country with a *Majoritarian* electoral system, and 0 otherwise.

The electoral systems of the countries are listed in Table 7.

Table 7

Sample Characteristics

No.	Country	Years Included in the Sample	Elections in the sample[1]	Parliamentary System	Proportional System	Years as a New Democracy in the Sample
1	**Australia**	1961-2002	13	X	X	
2	**Austria**	1960-1999	7	X	X	
3	**Belgium**	1960-1998	8	X	X	
4	**Canada**	1965-2001	7	X		
5	**Denmark**	1960-2000	11	X	X	
6	**Finland**	1960-1998	7	X	X	
7	**France**	1972-1997	5	X	X^{+}	
8	**Germany**	1971-1998	6	X	X	
9	**Greece**	1960-1966, 1975-1999	4 (2)	X*	X	1975-1989
10	**Iceland**	1972-2003	8	X	X	
11	**Ireland**	1960-2002	10	X	X	
12	**Italy**	1960-1998	6	X	X	
13	**Japan**	1970-1993	5	X	X	
14	**Luxembourg**	1970-1974, 1976-1997	5	X	X	
15	**Netherlands**	1960-1998	7	X	X	
16	**New Zealand**	1960-1988, 1990-2001	10	X	X^{+}	
17	**Norway**	1960-2003	5	X	X	
18	**Portugal**	1976-1998	5 (3)	X*	X	1976-1987
19	**Spain**	1978-2003	5 (2)	X	X	1978-1989
20	**Sweden**	1961-2000	10	X	X	
21	**Turkey**	1976-1979, 1983-2001	5 (4)	X	X	1976-1979, 1983-1995
22	**United Kingdom**	1960-1999	8	X		
23	**United States**	1960-2003	7			

[1] The number in the parentheses indicates the number of elections that took place in a country during the years it is defined as a "new democracy".
* Some of the Elections are in a Presidential System.
$^{+}$ Some of the Elections are in a Majoritarian System.

Table 8

Detailed Sample and Data Characteristics

No.	Country	Election Years in the Sample	Cases in Which the Leader was Reelected[1]	Budget Bilance [2]	*BALCH_ey* [3]
1	**Australia**	1964, 1970, 1973, 1976, 1978, 1981, 1983, 1985, 1988, 1990, 1996, 1999, 2002	9 / 13	–0.8	0.0
2	**Austria**	1966, 1970, 1979, 1983, 1990, 1994, 1999	4 / 7	–4.3	0.2
3	**Belgium**	1965, 1968, 1971, 1977, 1985, 1987, 1991, 1995	6 / 8	–5.3	–0.2
4	**Canada**	1968, 1972, 1974, 1979, 1988, 1997, 2000	6 / 7	–1.8	0.2
5	**Denmark**	1964, 1966, 1968, 1971, 1975, 1977, 1979, 1984, 1987, 1990, 1998	8 / 11	0.7	–0.2
6	**Finland**	1966, 1970, 1975, 1979, 1987, 1991, 1995	0 / 7	–0.6	–1.3
7	**France**	1978, 1981, 1986, 1988, 1997	1 / 5	–1.8	–0.3
8	**Germany**	1976, 1980, 1987, 1990, 1994, 1998	4 / 6	–1.1	0.1
9	**Greece**	1963, 1985, 1989, 1993	1 / 4	–5.8	–1.8
10	**Iceland**	1974, 1978, 1983, 1987, 1991, 1995, 1999, 2003	3 / 8	–1.1	–0.4
11	**Ireland**	1965, 1969, 1973, 1977, 1981, 1987, 1989, 1992, 1997, 2002	4 / 10	–5.8	–0.3
12	**Italy**	1963, 1967, 1972, 1979, 1987, 1992	1 / 6	–6.0	0.5
13	**Japan**	1972, 1976, 1986, 1989, 1993	1 / 5	–3.4	–0.7
14	**Luxembourg**	1974, 1979, 1984, 1989, 1994	1 / 5	2.7	0.8
15	**Netherlands**	1971, 1977, 1981, 1986, 1989, 1994, 1998	4 / 7	–2.0	0.2
16	**New Zealand**	1963, 1966, 1969, 1978, 1981, 1984, 1987, 1994, 1997, 2000	8 / 10	–1.3	–0.4
17	**Norway**	1965, 1969, 1985, 1989, 1993	3 / 5	2.9	0.6
18	**Portugal**	1980, 1985, 1987, 1991, 1995	3 / 5	–6.1	–0.7
19	**Spain**	1986, 1989, 1993, 1996, 2000	4 / 5	–3.6	0.6
20	**Sweden**	1965, 1969, 1974, 1977, 1983, 1986, 1989, 1992, 1994, 1998	6 / 10	0.0	0.0
21	**Turkey**	1977, 1987, 1991, 1995, 1999	2 / 5	–5.8	–2.1
22	**United Kingdom**	1966, 1970, 1974, 1979, 1983, 1987, 1992, 1997	4 / 8	–1.0	0.0
23	**United States**	1968, 1972, 1976, 1980, 1984, 1992, 1996	3 / 7	–2.0	0.2

[1] The figure on the left hand side is the number of elections where the leader was reelected. The figure on the right hand side is the total number of elections.

[2] Average for all the years included in the sample.

[3] *BALCH_ey* is the average change in the government deficit ratio to GDP in the election year, compared to the previous year.

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