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Political Budget Cycles in the Context of a Transition Economy: The Case of Albania

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Abstract

There is growing research on the political budget cycles in transition economies whose institutions, economies and societies differ significantly from those of developed countries. New democracies are more vulnerable to political budget (fiscal) cycles. Most studies focus on policy instruments (e.g. fiscal policies) rather than on macroeconomic outcomes. In this paper, we analyse the political budget/fiscal cycle in Albania, a transition post-communist country. We analyse monthly data on the budget balance (deficit). The findings show a strong difference in deficits during pre- and post-election quarters, which do not appear when econometric analysis is replicated on annually collapsed data. This paper highlights the importance of distinguishing between types of elections according to their outcomes. Electoral competitiveness (heightened incumbents' fear of elections loss), lower management efficiency, incumbent's carelessness about the budget situation during the mandate of political rivals and higher corruption can all be associated with elections that yield rotation (change of the party/coalition in power), thus resulting in a higher budget deficit.

Keywords Political budget cycles · Budget balance (deficit) · Transition economies · Election outcomes

JEL Classification D72 · E62 · P16 · H26

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Introduction

Political Budget Cycles (hereinafter, PBCs) result from the inclination of incumbent politicians to exploit fiscal policy instruments for their private political interest, in particular, to boost the odds of re-election. Such opportunistic exploitation of fiscal policy could manifest itself as deteriorated budgetary balances before elections, through either higher aggregate spending or lower revenues, or both, which then could (sometimes) reverse after elections.

Over the last three decades, there have been many empirical studies of PBCs. Nowadays, empirical tests on the hypothetical presence of PBCs in instruments and targeted variables (parameters) of fiscal policy are regarded as more convincing than tests in relation to macroeconomic outcomes (i.e. unemployment, inflation, growth), which have thus become less common (Dubois, 2016). Empirical research on monetary policy (political monetary cycles) have also been common in this branch of political economy, albeit with more ambiguous findings as conditioned by a number of factors, most notably the institutional independence of the central banks.

Empirical research has been focused both in developed and developing or transition countries. The evidence on different manifestations of PBCs has been clearly stronger in the latter cluster of countries, whose emerging economies, institutions and societies (i.e. voting culture and context) vary significantly from those of developed countries, as well as among each other (e.g. see Brender and Drazen, 2005; Shi and Svensson, 2006; Alt and Lassen, 2006a, 2006b; Kyriacou et al., 2021).

In this paper, we empirically investigate political budget cycles in Albania, a post-communist transition democracy, prone to opportunistic political (electoral) manipulation of economic policies and outcomes. We analyse the general government budget (fiscal) balance (i.e. the headline deficit). The budget balance is usually one of the main targeted parameters of fiscal policy conducted by a government. That is certainly the case in Albania.

We analyse monthly data on the fiscal balance. Most studies in this field of research rely on annual data which have been considered a serious drawback (Streb et al., 2012; Akhmedov and Zhuravskaya 2004). Empirical analysis based on annual data could mask intra-year variation. Accordingly, studies using annual data could miss important electoral related dynamics in the analysed variables and thus underestimate the presence of political budgetary cycles, especially when elections fall in the middle of the (fiscal) year, which is the case in Albania. Indeed, our findings show a strong difference in deficits during pre- and post-election intra-annual time intervals, which does not appear when the econometric analysis is replicated on annually collapsed data.

Previous research on Albania found evidence of significant expansion of public expenditures (Imami and Lami, 2006) as well as a deteriorating tax collection performance before elections (Lami et al., 2021), which—especially when the two combined—can result in higher deficits. This paper completes a trilogy of papers that all point to the same conclusion. Any of these papers is suggestive,

but all three together more conclusively point to "the habit" of political budget cycles in Albanian as a sub-optimal way of conducting fiscal policy. During early transition, income from privatization may sustain increased expenditure prior to elections (as highlighted by Lami et al., 2016), in the long run, as most (large) privatizations have been concluded, income from taxation and borrowing are the key sources of financing governmental spending.

We investigate also how PBCs are affected by "electoral competitiveness", which is a germane dimension of analysis in the case of Albania, following the conceptualization of this aspect by Eibl and Lynge-Mangueira (2017) as explained in the third section below. The empirical approach we follow to test for this dimension of PBCs in Albania is the same as in Lami et al. (2021) who make an outcome-wise categorization of elections (i.e. elections that yield a change of political power and those that do not) and test for electoral cycles in tax collection performance around each category. They find that fiscal performance deteriorates substantially more intensively before elections that result in a change of political power than before those elections that reaffirm the incumbent. This paper presents further corroborating evidence that incumbents engage in much stronger PBC behaviour, manifested in budget balance, around those elections which result in a change of the political power. Hence, in the light of the argument developed by Eibl and Lynge-Mangueira (2017), incumbents behave as such when they face higher "electoral competiveness", or, more bluntly, when they feel the fear of loss.

Another institutional aspect in relation to PBC behaviour that we empirically look into is how the constitutional changes introduced in Albania in 2008, which affected the strength of political coalitions, have impacted the intensity of political budget cycles. In contrast to Lami et al. (2021), who do not find a significant impact of these constitutional amendments on the electoral cycle intensity of tax collection performance in Albania, we find that these changes do have a statistically significant intensifying impact on electoral cycles in the budget balance (deficit).

The structure of the paper is as follows. The next section provides theoretical background and reviews the main conditional factors influencing PBC behaviour. The third section depicts the Albanian context by presenting an overview of the Albanian economy, politics, elections and related fiscal policy patterns. The fourth section sets out the methodology and the fifth section the findings. The last section concludes.

Theoretical Background and Conditional Factors of PBCs

Political budget cycles literature has been built on a large body of earlier work related to the more general notion of political business cycles, dating back many decades (e.g. see Tibbitts, 1931; Schumpeter, 1939; Kalecki, 1943; Downs, 1957a, 1957b), with Nordhaus (1975) being the first to formalize this notion into a theoretical model. The first two seminal theoretical contributions bringing the idea of political *budget* cycles into the realm of political economy are Rogoff and Sibert (1988) and Rogoff (1990). The latter builds on the intellectual insight of the Nordhaus (1975) political business cycles model and modifies it by introducing other features

that tend to be more congruous with the empirical and institutional contexts most widely accepted in the literature. First, he replaces the contentious Philips curve constraint embodied in the Nordhaus model with a budget constraint. The incumbent now manipulates fiscal policy in order to signal high competence to the median voter—thus, the new term of political *budget* cycles was coined—whereas incumbent competence is defined as the capacity to provide more public goods and transfers in an efficient way, without waste. Second, he assumes that voters have "rational expectations" (i.e. voters are forward looking in their decision-making processes). However, he assumes there exists an information asymmetry, meaning voters cannot precisely determine the incumbent's competence, at least not without a time lag. At the time of elections, the only private available information voters have to make a "rough" judgement about incumbent competence is the level of public goods provided. The opportunistic incumbent politicians try to signal a high level of competence to the electorate by pursuing an expansionary fiscal policy before elections and providing more public goods, which comes on the back of harmful consequence of running higher deficits and worsening the budget position. Voters rationally prefer a government that provides a higher level of public goods. Given that voters rely only on imperfect information about the "real" characteristics of the incumbent, they cannot discern the tactics employed by the incumbent (i.e. by providing more public goods on the back of the harmful cost of a higher deficit). Hence, the representative voter still rationally votes for this incumbent leader who signals his type as "competent" by providing more public goods before elections, despite being delivered through means that worsen fiscal fundamentals, justified by the notion that "only someone who is highly competent would put himself in that situation". Therefore, Rogoff's model predicts that incumbents, taking advantage of the information asymmetry, behave in the same opportunistic way with fiscal policy in order to appear as competent as possible and thus boost their prospect of being re-elected, as they do with monetary policy in Nordhaus's model trying to influence economic outcomes (i.e. unemployment and inflation). Its conclusions hold despite the voters being rational (i.e. are not myopic or naïve as in Nordhaus's model), for as long as voters are poorly informed about: (i) the political environment (e.g. is assumed that voters have no idea whatsoever about the competence of the rival politician/party); (ii) the intrinsic and the only objective of the incumbent (i.e. to remain in power); (iii) and the incumbent's ability to manage both the budget and the economy (i.e. the incumbent's "real" competence). The empirical research done thus far, on both developed and developing economies, largely corroborates the main predictions and insights of Rogoff's theory. We posit that this theoretical model, as well as the empirically based arguments provided by the following literature review, constitute a broadly adequate contextual framework for the empirical investigation we pursue in this study, for the case of Albania.

Brender and Drazen (2005), based on a panel data study of 68 low and high income democracies from 1960 to 2001, argue that new democracies are more vulnerable to PBCs than are more mature ones, manifested in higher public spending and deteriorating budget balances (deficits) before elections. They maintain that their findings are consistent with the view that voters behave rationally and punish, rather than reward, electoral exploitation of fiscal policy. However, in the case

of new democracies (transition countries) incumbent politicians can get away with such fiscal manipulations due to the lack of experience of both voters and media with perceiving policy manipulations during the electoral process and with disseminating the relevant information. Therefore, in the absence of this experience, it is more likely that fiscal manipulations would be mostly rewarded than punished.

Shi and Svensson (2006) found significant differences between developing and developed countries regarding the presence of PBCs, due to differences between their respective institutional environments, which they proxy by government corruption, rent-seeking activities and access to free media. According to their findings, the variation in these institutional features can explain to a large extent the differences in the magnitude and statistical robustness of electoral cycles in fiscal deficits between developed and developing countries. Alt and Lassen (2006a, 2006b) highlight the relevance of transparency. Broadly defined, transparency is the overall degree to which citizens, the media and financial markets can observe the government's fiscal strategies, its actions and the resulting policy outcomes (Alt and Lassen 2006a). Based on a panel of 19 OECD countries during the 1990s, they find that a higher degree of fiscal transparency is associated with lower public debt and deficits during electoral periods. Furthermore, their results show that the existence of state-control media (i.e. media not effectively free) reinforces the effect of transparency on PBC magnitudes. In line with the theory developed by Rogoff and Sibert (1988) regarding the premises that lead to the emergence of PBCs (i.e. existence of information asymmetries between governments and voters), Cuadrado-Ballesteros and García-Sánchez (2018) maintain that when voters have limited means to clearly distinguish between pre-electoral manipulations of incumbents (who want to signal that they are competent) and "real" incumbent competence, the return for incumbents to a boost in fiscal policy is large. In this regard, the media play a fundamental role in transmitting information to citizens (Hong, 2016). They could be considered as a means of disclosing available information, which could be used by citizens to inform their voting decisions (Strömberg 2004).

Klomp and de Haan (2013a, 2013b) broadly reinforce the findings of the aforementioned studies. Based on a panel of countries during 1970–2007, first they show that the existence of PBCs—manifested in fiscal balances, public sending and spending on the agricultural sector—is statistically present in both young and old democracies. However, PBCs are significantly more intense in the younger democracies. Second, Klomp and de Haan (2013a) distinguish between "a short-run" and "a long-run" PBC effect and how this effect plays out for different institutional and economic contextual features. They find that the short-run election effect is substantially stronger in developing countries than in industrial countries. Conversely, for industrial countries they report a small but significant positive long-run election effect on the budget balance (i.e. a lower deficit), which implies that although incumbents engage in an expansionary fiscal policy before elections, after elections they engage in fiscal consolidation to tackle fiscal imbalances, maybe due to voters' dislike of budget deficits, as argued by (Pelzman 1992). When filtering by the age of the democracy, Klomp and de Haan (2013a) find that the negative long-run effect is statistically sustained only in new democracies, while it fades away in old ones. Regarding countries' levels of fiscal transparency, they report that the short-run

impact of an election on fiscal policy is significantly stronger in low-transparency countries than in high-transparency countries.

Several other studies provide similar or alternative explanations regarding the contextual premises (i.e. institutional, electoral or economic aspects) that could lead to PBC behaviour by incumbent politicians. Kyriacou et al. (2021) report empirical evidence from a panel of high—and low-income countries that PBCs emerge below a certain level of GDPper capita income (i.e. USD 30,000–PPP adjusted). They argue that this could be due to higher discount rates that voters have in poorer countries, as they may value the immediate benefits of expansionary fiscal policy more than the medium- to long-term benefits of fiscal sustainability. Lami and Imami (2019) find that lower tax collection performance takes place before elections in wealthy developed democracies and that this is more common in "younger" developed democracies than in "older" ones. They argue that opportunistic tax collection enforcement before elections could be exploited by incumbents in developed democracies as a "camouflaged" way to lure certain parts of the electorate on the one hand and escape the scrutiny of general public opinion on the other hand, which in developed democracies could punish rather than reward PBC behaviour. Alt and Lassen (2006a) also find that higher polarization between the competing political parties (i.e. the perceived differences in parties' preferences regarding the choice between raising taxes to provide more public goods and curbing public goods to cut taxes) induces higher PBCs as incumbents perceive a higher fear of losing since this implies policies which the rivals are strongly against. Likewise, Klomp and de Haan (2013a) show that the negative short-run PBC effect is significantly stronger in countries with higher political polarization.

Another line of argument is that the structure of the government and the electoral rules in place could affect incumbents' behaviour towards political budget cycles. Klomp and de Haan (2013b) report evidence that PBCs in industrial countries, manifested as support for the agricultural sector, are stronger under majority than under proportional electoral systems. In contrast, in developing countries the election effect is stronger under proportional electoral systems. Persson and Tabellini (2002, 2003) argue that the occurrence and intensity of PBCs may be affected by constitutional rules in place, notably the government system (i.e. parliamentary or presidential) and the electoral system (i.e. proportional or majoritarian). In a large panel of countries they find that in parliamentary systems governments spend more overall, favour large broad-based programmes (at the expense of targeted programmes) and engage in more wasteful spending than in presidential systems, where the executive (the president) cannot be brought down by the legislature but is directly accountable to the electorate. They also find that only proportional democracies raise welfare spending around the time of elections, with further commitments for the post-election year, while only governments in majoritarian countries cut spending during election years. However, they find that it seems common to cut taxes before elections in all types of government systems (parliamentary and presidential) and it is only in presidential systems that unpopular adjustments are postponed until after the elections. Klomp and de Haan (2013a) find that PBCs are significantly larger in presidential and proportional political systems than in other political systems. Brender and Drazen (2005) find a significant deficit cycle in both presidential and

parliamentary systems. However, when they compare majoritarian and proportional electoral systems they find significant PBCs only in the latter Rose (2008) and Shelton (2014) find the strength of political parties in power and the incumbent's compactness to be determining factors, as fragmented governments are able to engage less in such manoeuvres due to coordination costs. Cuadrado-Ballesteros and García-Sánchez (2018) in a panel study of a local governments in Spain during 2005–2013 suggest that local governments behave opportunistically when media pressure is low and political fragmentation is high (i.e. when the party in office has a stable majority of councillors).

Context in Albania: Economy, Politics and Fiscal Policy

Before the WWII Albania was an undeveloped, largely rural-based society. After the war, Albania embraced a planned economy; private property and enterprises were nationalized. Politically, Albania was a fully centralized and isolated communist dictatorship. Economically, it was deeply centralized and autarkic (Åslund & Sjöberg, 1992).

In early 1990s, as the communist regime collapsed, Albania was subject to rapid economic liberalization, market economy reforms and massive privatization. While Albania was considered as a successful post-communist transition country in the years 1992–1996, the 1997 witnessed a catastrophic setback—socially, economically and politically—caused by the collapse of "pyramid firms/Ponzi schemes" (Bezemer, 2001). Following the 1997 crisis, the Albanian economy recovered and achieved macroeconomic stability within a few years, which is still largely maintained. Figure 1 shows the main macroeconomic indicators over the last three decades.

Since 1992, Albania has been a parliamentary republic and has had a broadly or purely proportional electoral system almost all of the time. Since 1992 there have been regular elections, every 4 years, as set by the constitution, except for 1997, when early elections were called due to the aforementioned crisis. Throughout the transition, Albanian politics was dominated by two large parties: the Socialist Party (SP) on the left of the political ideology spectrum; and the Democratic Party (DP) on the right. The DP governed the country during 1992–1997, until the social unrest when the SP came into power and governed for two mandates until 2005, followed by the DP governing again during 2005–2013 for other two mandates. The 2013 elections resulted in a landslide win for the SP-led socialist coalition, in line with pre-election polls (Gazeta Shqip, 2013), and SP won again in the 2017 elections.

Albania shifted from a low income to a lower–middle-income country in 1999 and then to an upper–middle-income economy in 2010 (World Bank, 2021). However, Albania is still faced with high levels of political corruption and weak institutions. The Corruption Perception Index by Transparency International (2021) ranks Albania in 110th place out of 180 countries. It has been characterized as a fragile democracy with weak rule of law, while the personalization of politics and institutions have been seen as an enduring feature of Albania's transition. Albania is ranked in 74th place among 140 countries regarding meeting the minimum

fiscal transparency (evaluated by the US Department of State—Fiscal Transparency Report, 2021), while it is ranked 103rd among 199 countries as regards media freedom (evaluated by Freedom House—Freedom of the Press 2017). In such an environment, the incumbents' discretion over policy instruments may be particularly high, which has strong implications also for elections. Opportunistic PBC strategy, in line with the aforementioned theories and empirical studies, and corrupt/clientelistic motives, can explain loose behaviour and policies before elections (Lami et al., 2021).

We get a first hint about possible electorally motivated patterns in fiscal policy from a simple descriptive (graphical) analysis. Figure 2 shows the monthly average general government balance (deficit) around different time intervals before and after parliamentary elections in Albania, from January 1999 to December 2019. It captures five parliamentary elections held regularly every four years during this period. The time series is adjusted for price effects and seasonality in order to isolate the analysis from any influence of seasonal factors (typically inherent in monthly time series) as well as inflation effects.

On the horizontal axis, we have graphically defined three consecutive semi-annual (six monthly) time intervals before and after elections. These are respectively labelled as *6M(−3)* for the third most distant semi-annual time interval before elections; *6M(−2)* for the second most distant semi-annual time interval before elections; and *6M(−1)* for the least distant semi-annual time interval before elections. In other words, the semi-annual time intervals represent, respectively, the 18th–13th months, the 12th–7th months and the 6th–1st months before elections. Conversely, *6M(+1)*, *6M(+2)* and *6M(+3)* symmetrically point to the consecutive semi-annual time intervals after elections. In addition, on the horizontal axis we have also graphically defined quarterly (three months) time intervals just immediately before and after elections, respectively labelled *Q(−1)* and *Q(+1)* around the grey line representing election days. The left panel presents the case when the monthly average for these time intervals is calculated including all of the five elections held during the period, while the averaging in the right panel is done separately for "rotation" and "no-rotation" elections, respectively meaning elections that yield a political change in government (rotation) and those that do not (no-rotation).[1] Both panels have identical scales on the vertical axis (hence are easily visually comparable) and the average monthly fiscal balance (deficit) for the entire period is Albanian Lek (ALL) − 2.9 billion, depicted by the flat green line crossing both panels.[2]

It looks obvious from the left panel of Fig. 2 that the monthly average budget balance deteriorates considerably before elections (i.e. by getting more negative the deficit widens). It widens from ALL − 2.1 billion—above the sample mean—during the third semi-annual time interval before elections *6M(−3)* to ALL − 4.1 billion in *6M(−1)*—clearly below the sample mean—and even more to ALL − 4.5 million during the immediate pre-election quarter *Q(−1)*. In contrast, the trend reverses in

[1] Elections were on 24 June 2001; 3 July 2005; 8 June 2009; 23 June 2013; and 25 June 2017. Those of 2005 and 2013 were "rotation" elections, while the others were "no-rotation" elections.

[2] The approximate exchange rate is USD 1 = ALL 100.

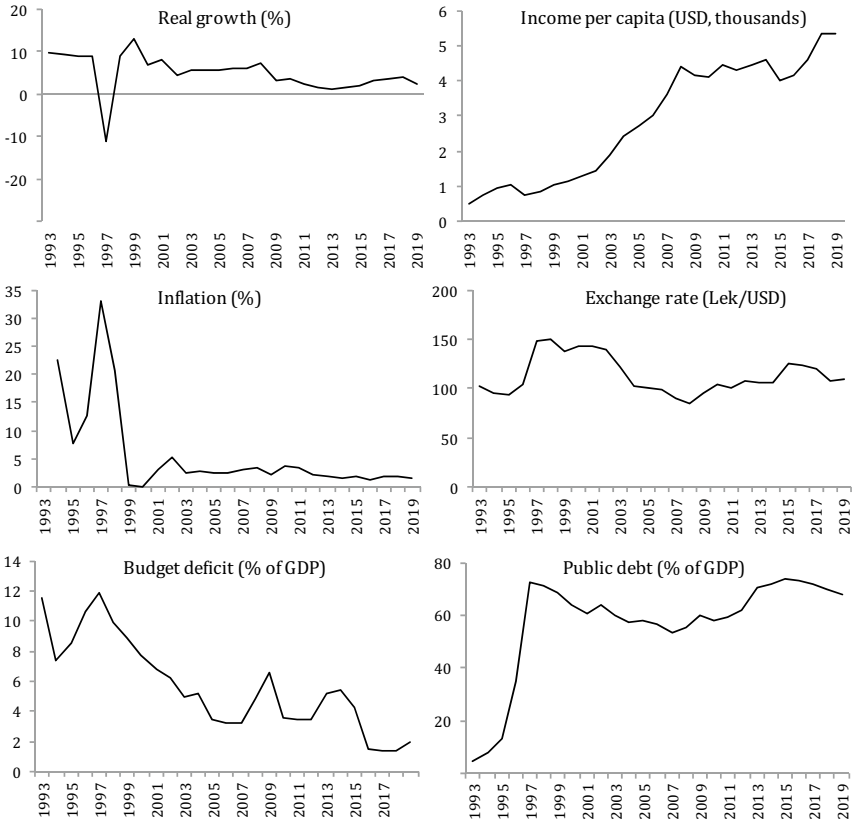

Fig. 1 Main macroeconomic indicators. Source: Ministry of Finance and Economy; IMF-World Economic Outlook

the aftermath of elections. These visually discerned cyclical patterns from the data reveal a plausible indication of an election-related effect.

Different intensities of opportunistic behaviours could also depend on the outcome-wise type of elections, namely those that overthrow the incumbent or those that do not (i.e. "rotation" or "no-rotation" elections). Following the argument of Eibl and Lynge-Mangueira (2017), who conceptualize "political competitiveness" as a triggering condition for PBCs to occur, we consider the outcome of elections as an *ex-post* observation (measurement) of this *ex-ante* PBCs' triggering condition. To develop the concept of "political competitiveness", Eibl and Lynge-Mangueira first distinguish between democratization and democracy. They posit that: "Democratization is not simply democracy to a lesser degree. Rather, it [democratisation] is the nonlinear, non-deterministic process towards it [democracy], which introduces new political incentives and institutional constraints, often in sequence, not simultaneously and sometimes with countervailing effects. This, in turn, gives democratizing regimes specific characteristics [in the context of PBCs]". Based on

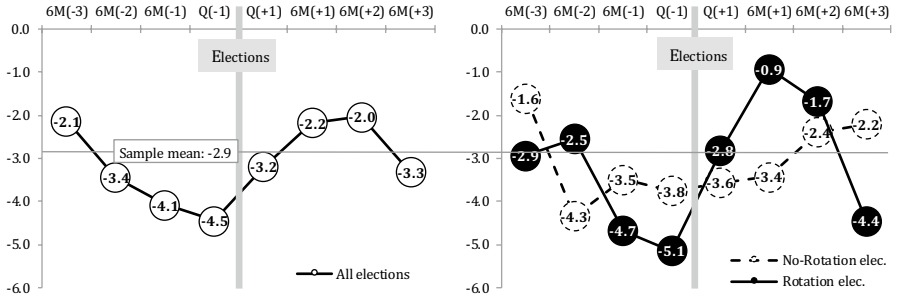

Fig. 2 Monthly average fiscal balance in ALL billion (adjusted for inflation and seasonality). Source: Ministry of Finance and Economy–seasonal adjustment by the author

broad arguments and implications provided by previous research (e.g. Rogoff, 1990; Schuknecht 1996; Gonzalez, 2002; Persson and Tabellini, 2003; Block et al. 2003; Akhmedov and Zhuravskaya, 2004; Brender and Drazen, 2005, 2007; Alt and Lassen, 2006a, 2006b; Streb et al., 2009; Vergne, 2009; Shelton, 2014), Eibl and Lynge-Mangueira argue that the aggregate effect of democratization on PBCs is nonlinear, meaning positive at the autocratic end of the regime spectrum and negative at the democratic end. They disaggregate the effect of the democratization process on PBCs into two main dimensions, namely "executive constraints" and "political competition". Therefore, the net effect of democratization depends on its disaggregate composition. If democratic advancements are driven by the introduction of more substantial constraints on executive powers (e.g. an independent legislature, a functioning opposition, greater institutional checks and balances, more stringent fiscal rules, etc.), the effect is negative—i.e. the more executive constraints get introduced along the democratization process, the less PBCs should occur. In contrast, if democratic advancements are driven by more intense political competition (i.e. if multiple parties operate freely, compete effectively for power, contest elections regularly and accept defeat when they lose) the effect is positive—i.e. the more political competition emerges on the way towards pure democracy, the more PBCs should take place. Thus, they conclude that the most favourable strategic space along the political regime spectrum to motivate incumbents to engage in PBC behaviour is in hybrid regimes, neither completely autocratic nor purely democratic. This is relevant for our study, as Albania could indeed be considered a hybrid regime. The report of Freedom House—Nations in Transit, 2021—characterized Albania as a "Transitional or hybrid regime", with a democracy score of 46 on a scale of 0–100, where 0 represents the lowest and 100 the highest level of democracy.[3]

[3] Based on the Democracy Score, Freedom House assigns each country to one of the following regime types: consolidated democracies; semi-consolidated democracies; transitional or hybrid regimes; semi-consolidated authoritarian regimes; and consolidated authoritarian regimes.

However, drawing on Sartori (1976) who states that "competition is a structure, or a rule of the game [while] competitiveness is a particularly state of the game", Eibl and Lynge-Mangueira consider hybrid or mix levels of "executive constraints" and "political competition" only as necessary (but not sufficient) conditions for PBCs to occur. They argue that, despite the existence of these necessary conditions, manipulated fluctuations in fiscal policy will be triggered only if incumbents really fear losing the upcoming elections. This incumbent fear is captured by the concept of "electoral competitiveness".

Previously for the case of Albania, Lami et al. (2021) found that fiscal performance measured by tax collection deteriorates substantially more intensively before elections that yield a change of the political party in office than before those elections that do not.

For emerging democracies (hybrid regimes), as in the case of Albania, it can be conjectured that the following factors are associated with "rotation" elections, thus resulting in worsening of the budget position (e.g. deteriorated fiscal balance/higher deficit): (i) higher electoral competitiveness (higher incumbents' fear of election loss); (ii) lower management efficiency; (iii) lack of concern by the incumbent regarding fiscal fundamentals (budget position) during the next political mandate, which could likely be under the responsibility of the political challenger and maybe will even create an opportunity to criticize the next government when in opposition; and possibly (iv) higher corruption.

The right-hand panel of Fig. 2 clearly reveals the amplitude-wise contrast in deficit cyclical patterns between the two categories of elections (i.e. "rotation" and "no-rotation elections). While the fiscal deficit widens before both types of elections (as indicated by the left-hand panel), this effect is noticeably sharper in the case of "rotation" elections. The same difference in amplitudes are discernible in the aftermath of elections. Therefore, we get these first visual hints towards our hypothesis that elections could have an impact on fiscal policy, as well as that the outcome-wise type of elections could be a worthwhile angle to investigate, also in the light of previous research (Eibl and Lynge-Mangueira, 2017; Lami et al., 2021). Of course, although the conclusions of this paper are consistent with indications from Fig. 2, they do not depend on this descriptive analysis. The investigation is continued by means of an econometric analysis in the following sections.

Data and Method

We statistically test the hypothesis that the general government budget balance (fiscal balance) deteriorates significantly before general (parliamentary) elections in Albania.[4] Fiscal balance is defined as general government budget revenues minus general government budget spending. If revenues are smaller (greater) than respective spending, then the budget is running on a fiscal deficit (surplus). When observed

[4] Albania is a parliamentary republic (parliament appoints both the executive/government and the president). Consequently, parliamentary elections are by far the most important elections.

in annual terms, Albania's budget runs every year on a deficit, over the whole time span of this study: it runs on a deficit in about 77 percent of the number of observed months (194 out of 252) and on a surplus for about 23 per cent. To test our hypothesis we employ monthly time series data on the overall budget balance obtained from the government fiscal statistics.[5] Monthly data, in addition to providing more robust statistical results, due to a higher number of observations (compared to annual data), most importantly allows for the inclusion of any intra-annual election effects. As highlighted in the Introduction, empirical analysis based on annual data has been a serious drawback of many empirical studies analysing several aspects of PBCs. We show this to be also the case in this article, by comparing the results obtained from analysis of intra-annual data—monthly and quarterly—with those from the analysis of the annually aggregated (collapsed) data. On the other hand, one of the potential problems associated with monthly time series (or, generally, with any intra-annual frequency data) is the possible existence of seasonality patterns, which if not addressed could distort the results. We address this potential drawback, as explained below.

The available time series of the fiscal balance includes 252 observations, from January 1999 to December 2019. The data are denominated in billions of Albanian Lek (ALL). Five parliamentary (general) elections were held during this period, whose expected effect on fiscal balance is statistically captured by several dummy variables, constructed as explained below. Parliamentary elections were held on *24th of June 2001; 3rd of July 2005; 8th of June 2009; 23rd of June 2013; and 25th of June 2017.* All of the elections were regular ones (no early/snap elections have taken place during this period in Albania), which helps dealing with the usual econometrical concern of endogeneity bias due to reverse causality and omitted variables affecting both election and the fiscal variables.[6]

We test the hypothesis of this paper by utilizing Intervention Analysis as the main econometric tool, which is based on the Box and Tiao (1975) methodology. This econometric approach has been applied in several similar works on political business cycles or other fields with the same statistical inquiry objective of analysing the impact of "a known event" on a social or a natural time process.[7] There are not many appropriate controlling variables available at a monthly frequency for this analysis. Hence, another main reason we opt to employ Intervention Analysis as our primary statistical framework is due to its advantage of enabling reliable econometric modelling even in the absence of such explanatory variables, as the time process could be modelled by its own autoregressive and moving average components (ARMA). However, as explained below, we conduct thorough robustness checking for our findings by replicating all the analysis using linear regression modelling, including

[5] Data on the overall budget balance are sourced from the Ministry of Finance and Economy of Albania.

[6] See, for instance, Alesina et al., (1993) for a discussion and empirical evidences on how the concept of endogenous timing of elections emerges in the PBCs' body of research.

[7] See, for example, McCallum (1978), Hibbs (1977), Alesina and Sachs (1986), Mills and Mills (1991), Alesina and Roubini (1992), Yoo (1998), Gilmour et al. (2006) and Sarfo et al. (2017). For a comprehensive and practical explanation of Intervention Analysis, see Enders (2015).

modelling with the data collapsed to quarterly frequency to utilize additional and more appropriate control variables available at quarterly frequency.

Basically, the test in the Intervention Analysis proceeds by modelling the variable of interest (i.e. the fiscal balance) by an appropriate autoregressive moving average model (ARMA) and an intervention term. The intervention term models the time distance to each Election day and captures any potential effect of elections on the variable of interest. The intervention term that models "the event"—the approaching elections in this case—could be considered as an explanatory variable capturing the dynamics of the dependent variable in addition to its "natural" pattern, which is modelled by the appropriate *ARMA(p,q)* specification (where p refers to the order—number of lags—of the autoregressive component and q to the order of the moving average component). Intervention terms employed in this analysis consist of several dummy variables modelling different periods before and after elections. We call these variables "Electoral dummies" (EDs). Therefore, if the estimated parameter of a particular ED variable were to both prove statistically significant and have the anticipated sign, that would be considered as empirical evidence in support of the hypothesis of this study.

We define four ED variables for different time intervals preceding elections and four others for symmetrical time intervals after elections. These are formally defined as follows:

$$ED_{\pm j,t} = \begin{cases} 1: & \textit{for all months up to and including the } \pm \textit{jth month} \\ & \textit{before}(-j) \textit{ or after}(+j) \textit{ elections} \\ 0: & \textit{otherwise} \end{cases}, \quad j \in [3; 6; 9; 12]$$

The methodology allows also for augmentation of the statistical model with other explanatory variables, which, referring to economic theory or common sense, could be considered relevant to explain any degree of variation in the dependent variable. These augmented models are known as *ARMAX(p,q,m)*, where X denotes the presence of (m) other explanatory variables. We employ this type of augmented model as the main statistical setting of our analysis. The additional explanatory variables we include are the Retail Trade Index (RTI) in constant prices; and Lek/Euro real effective exchange rate (REER).[8] Based on theoretical and intuitive reasoning, the explanatory variables are included either with a time lag of one period (in the case of monthly data) or as time contemporary variables (when quarterly or annually collapsed data were employed). (Detailed descriptions for all variables employed in all estimated models are to be found in Table 10 of Appendix).[9]

[8] Monthly time series starting from January 1999 on RTI are sourced from the Institute of Statistics of Albania; the REER is sourced from the Bank of Albania.

[9] The short forms of the variables match the dataset, which is available on request. All of the transformations and estimates reported in this paper can thus be easily checked and/or extended.

In the absence of appropriate monthly time series data on more direct variables to control for real economic activity that might affect fiscal balance through several channels, such as real output growth or unemployment rate, the RTI in constant prices makes a reasonable proxy variable.[10] REER controls for any potential variation due to real dynamics in currency exchange markets which also, theoretically and intuitively, might affect fiscal balance.

In the Box–Jenkins methodology of ARMA modelling (Box and Jenkins, 1976), one key prerequisite is the stationarity and non-presence of seasonality of the time process being modelled (i.e. the dependent variable), as well as all explanatory variables in the model, if any. First we deflated the original time series of monthly fiscal balance with Consumer Price Index (CPI) to remove inflation effects and then test the deflated series for any presence of seasonality. The series contains strong patterns of seasonality based on all seasonality tests employed (i.e. F-test; nonparametric Kruskal–Wallis test[11]; Moving seasonality test; and Combined test). The seasonal patterns are also visible from the left-hand graph of Fig. 3.

The same is the case for the time series of our explanatory variables. Therefore, first we seasonally adjusted all original series.[12] Then we tested again for the stationarity of each seasonally adjusted time series, utilizing several unit root tests. The seasonally adjusted series of the dependent variable (i.e. fiscal balance) results in a stationary time process according to all of the statistical tests employed (i.e. augmented Dickey–Fuller test; Philips–Perron test; and Kwiatkowski–Phillips–Schmidt–Shin test).[13] Conversely, all seasonally adjusted series of explanatory variables were nonstationary processes by all tests. Therefore, in order to obtain stationary series, we further transformed explanatory variables into their respective first lag differences of the natural logarithms, which are approximately the monthly growth rates of the original series.[14]

[10] There are no monthly time series available for GDP or unemployment.

[11] See Kruskal and Wallis (1952).

[12] Seasonal adjustment of all series is computed by the Census-X12-ARIMA method (developed by U.S. Census Bureau), run through EViews software with all default options except the additive decomposition in the case of deflated fiscal balance series (instead of multiplicative decomposition), given that this series takes also negative values and multiplicative decomposition cannot be applied in this case. Whereas for the time series of other explanatory variables, all of which take only positive values, the default multiplicative decomposition was employed. After seasonal adjustments, all statistical tests employed for the presence of seasonality (i.e. F-tests; nonparametric Kruskal–Wallis test; moving seasonality test; and combined test) reject the seasonal null at the 1% level of significance for all the series (i.e. the dependent and explanatory variables).

[13] See Dickey and Fuller (1981); Phillips and Perron (1988); Kwiatkowski et al. (1992).

[14] We tested the null of a unit root for the deflated and seasonally adjusted series of the dependent variable (i.e. fiscal balance) as well as first differences of the natural logarithms of seasonally adjusted explanatory variables (i.e. RTI in constant prices and REER) by two statistical tests, the augmented Dickey–Fuller test and the Philips–Perron test. The unit-root null was rejected at conventional levels of significance in all cases. We also tested the null of stationarity by the Kwiatkowski–Phillips–Schmidt–Shin test, which was not rejected even at the 10% level of significance in all aforementioned transformed series (e.g., for the dependent variable the asymptotic critical value for the 10% level of significance is 0.347, while the test value was 0.279).

The right-hand graph in Fig. 3 presents the time series of the seasonally adjusted and monthly fiscal balance in constant prices, whereas the left-hand graph shows the time series only adjusted for prices but not seasonally adjusted, both measured in ALL billions. The election dates are depicted by the dashed vertical lines. Already, from an eyeballing of the right-hand graph in Fig. 3, it is possible to discern deteriorating (decreasing) patterns during certain time periods anticipating certain elections and a pick up afterwards.

From five parliamentary elections during the investigated period, two resulted in a change of political power (i.e. the elections of June 2005 and July 2013). Conversely, in the other three elections the incumbent, or at least the main party of the incumbent coalition, was re-elected. One should note that the main party in a government coalition always controlled the Ministry of Finance, which is the institution within the government most directly responsible for conducting fiscal policy and determining the fiscal balance as one of the main parameters (targets) of fiscal policy. The dummy variables for each category ("rotation" and "no-rotation" elections) are formally defined as follows:

$$ED\_Rot_{(\pm j,t)} = \begin{cases} 1: & for\ all\ months\ up\ to\ and\ including\ the\ jth\ month \\ & before(-j)\ or\ after(+j)\ \ rotation\ \ elections \\ 0: & otherwise \end{cases}, \quad j \in [3; 6; 9; 12]$$

$$ED\_No\_Rot_{(\pm j,t)} = \begin{cases} 1: & for\ all\ months\ up\ to\ and\ including\ the\ jth\ month \\ & before(-j)\ or\ after(+j)\ \ no-rotation\ elections \\ 0: & otherwise \end{cases}, \quad j \in [3; 6; 9; 12]$$

The formal representation of the intervention analysis in this study is:

$$y_t = a_0 + \sum_{i=1}^{p} a_i y_{t-i} + \sum_{i=0}^{q} \beta_i \varepsilon_{t-i} + \omega_{\pm j} ED_{\pm j,t} + \sum_{k=1}^{m} \sum_{i=0}^{n} \varphi_k x_{k,t-i}\ , \quad j \in [3; 6; 9; 12]$$

where y_t denotes the seasonally and price adjusted monthly fiscal balance measured in ALLbillions and t indexes months; a_0 is the constant term;a_i and β_i are, respectively, the i autoregressive (AR) and moving average (MA) parameters of the p AR lags and q MA (ε) terms in the *ARMAX(p,q,m)* model, which model the "natural" dynamics of fiscal balance; $\omega_{\pm j,t}$ are the parameters that capture any opportunistic effects of approaching elections (i.e. "the event") on the variable of interest, namely fiscal balance; and the parameters ϕ_k model the effect of x_k, where k is the number *(m)* of additional explanatory variables. The latter could be either contemporaneous variables *(i = 0)* or variables with a time lag *(i =1,…, n)*. In this case, with monthly data, $k = 2$—i.e. $RTI_{(t-1)}$ and $REER_{(t-1)}$. Therefore, the parameters $\omega_{\pm j,t}$ measure the effects of the interventions (events) and are estimated along with the parameters of the ARMAX components. The estimation procedure provides estimates of

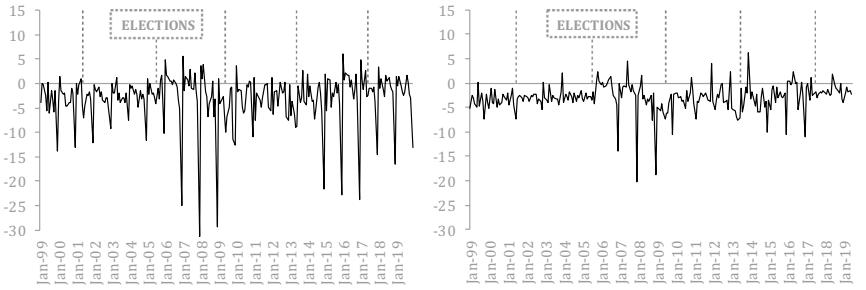

Fig. 3 Inflation adjusted monthly fiscal balance in ALL billion (left-hand panel); deflated and seasonally adjusted monthly fiscal balance in ALL billion (right-hand panel). Source: Ministry of Finance and Economy–seasonal adjustment by the author

$\omega_{\pm j,t}$ as well the corresponding confidence intervals. The probabilistic distribution of each estimator $\omega_{\pm j,t}$ is a *t*-distribution allowing for straightforward testing of our hypothesis.

We follow the Box–Jenkins methodology (Box and Jenkins, 1976) to identify and estimate the most appropriate *ARMAX(p,q,m)* model for the time process of interest, namely, the seasonally adjusted fiscal balance. The most appropriate *ARMA(p,q)* component of the ARMAX model tentatively found for the variable of interest was an *ARMA(1,0/12)* specification—i.e. one first lag auto regression term *(AR1)* and one moving average term with twelfth lag *(MA12)*. We reached this econometric conclusion following the Box–Jenkins methodology, which consists of an iterative three-stage process of: (i) model identification; (ii) parameter estimation; and (iii) assessing the model's diagnostics. Several conventional criteria and diagnostic tests were employed throughout this iterative procedure.[15]

Each pair of symmetrical *pre-* and *post*-elections dummy variables (EDs) as defined earlier were introduced one at a time in the "best" *ARMA(1,0/12)* model.[16] Including also the monthly growth rates of RTI and REER (all lagged by one month) as additional controlling variables, all parameters of each final comprehensive

[15] The selection between competing ARMA models fitting each time series was based on three formal criteria: the Akaike information criterion (AIC), (Akaike, 1973); the Bayesian information criterion (BIC), (Schwarz, 1978); and the Hannan–Quinn information criterion (HQC), (Hannan and Quinn, 1979). We did not encounter any case of conflicting selection guidance among these criteria. Several formal diagnostic tests and means of judgment were used throughout the Box–Jenkins iterative procedure to determine the "best" ARMA model and diagnose its residual properties: the Durbin–Watson test (Durbin and Watson, 1951); the Jarque–Bera test (Jarque and Bera, 1980); the Q-statistics (Ljung and Box, 1978); the Breusch–Godfrey test (Breusch, 1978; Godfrey, 1978) ; the Breusch–Pagan–Godfrey test (Breusch and Pagan, 1979; Godfrey, 1978); and the Harvey test (Harvey, 1976). In addition, we took into account the patterns of autocorrelation functions (ACF), the partial autocorrelation functions (PACF) and residual plots. Although the null of homoscedastic SEs was not rejected by any of the tests employed, we ran the regressions with robust SEs and obtained similar results.

[16] It is intuitive to introduce separately (one at a time) each symmetrical EDs couple as, by definition, the cumulative time interval that each of these pre- or post-election dummy variables is modeling, encompasses the time interval modelled by the preceding dummy, hence there are no times overlap (e.g. ED_{-3} captures PBC effect during three months before elections.ED_{-6} captures the effect during six months before elections, encompassing the time interval modelled by ED_{-3}).

ARMAX model were estimated simultaneously. If the respective ED estimates have the expected sign (in line with our hypothesis), then the statistical significance of the electoral dummy variables, tested through *t*-tests, reveals whether there is indeed any supposed impact of the elections on the fiscal balance.

Robustness Checks

To check the robustness of the main estimated parameters of interest, firstly we run the whole analysis on the "second best" alternative competing model *ARMA(1/12,0)*, as well as on specifications without any control variables but with ARMA components alone. We also run specifications including separately each *pre*-elections and *post*-elections EDs (i.e. in contrast to the simultaneous inclusion of symmetrical pairs of EDs *before* and *after* elections in the primary specification).

Secondly, we apply the intervention analysis in the framework of OLS linear regression modelling, employing the same transformed variables as in the ARMAX setting, given that the stationarity of time series (including non-presence of seasonality) is also a prerequisite for OLS regression.[17] Appropriate dependent variable lags, as determined by standard statistical tests (i.e. the Durbin–Watson test, the Breusch–Godfrey LM test, etc.), are introduced as additional regressors to model the inherent autocorrelation in the fiscal balance. In all estimated regressions we utilize robust standard errors (i.e. the White S.E.) to address the potential presence of heteroscedasticity. The results and findings obtained from this approach are essentially the same as those obtained from ARMAX modelling.

Thirdly, we collapsed the monthly data to quarterly and annual frequencies and carried out the analysis in both econometric settings, i.e. ARMAX and OLS linear regression. In each case we introduced in the estimated models other relevant controlling variables available at either quarterly or annual frequency. In the case of quarterly frequency modelling, we substitute the Retail Trade Index with quarterly gross domestic production (GDP) in constant prices, as a better variable to control for real economic activity, and we introduced the unemployment rate (UR) to control for potential influences on the fiscal deficit through certain budget items (e.g. unemployment state assistance, etc.).[18] In order to ensure stationarity of the series, we transformed both original series (i.e. constant prices GDP and UR) in the same way as we did for the other explanatory variables already introduced in the monthly frequency modelling (as explained earlier). In the case of annual frequency, we added also other theoretically relevant controlling variables available annually, namely the Control of Corruption Index (CCI) and Government Effectiveness Index (GEI).[19]

[17] One of the distinguishing econometrical features between ARMA and linear regression models is that the former are estimated through maximum likelihood estimation (MLE) and the latter through ordinary least squares (OLS).

[18] Quarterly GDP and unemployment rate data are sourced from the Albanian Institute of Statistics from Q1-2008 to Q2-2019 and from the Bank of Albania backward estimations for earlier periods (Q1-1998 to Q4-2007).

[19] These two indices are sourced from "The Worldwide Governance Indicators" project of the World Bank (2020 update). The Control of Corruption Index reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "cap-

Lastly, we replicated all aforementioned empirical analysis (i.e. rerun all estimations by all econometrical settings explained above) by employing the *primary* balance as the dependent variable—instead of the overall (headline) fiscal balance. The primary balance is defined as the overall fiscal balance net of (minus) interest spending (i.e. budget payments for interest due on the accumulated public debt). These types of spending are usually considered to be out of government discretion. However, this might be arguable, particularly for countries like Albania that have a relatively high level of public debt as well as a relatively high share of short maturity debt. In these conditions, the government's discretionary policy on the fiscal balance (deficit) and consequently the government's borrowing intensity to finance those deficits might significantly influence the effective interest rates and interest spending even in the short run.[20] The following section explains the obtained empirical results from all aforementioned primary and alternative specifications.

Empirical Results

The empirical analysis reveals clear evidence of election-related cycles in the fiscal balance. The estimated parameters of most of the electoral dummy variables employed in the analyses strongly indicate that there is a statistically significant deterioration of the fiscal balance at various time intervals before elections, followed by normalizations thereafter, thus supporting the hypothesis of this article. More interestingly, the election-related effect on fiscal balance is mostly driven by those elections leading to political rotation. In these elections, both the deterioration in fiscal balance before elections and the improvement thereafter is substantially more pronounced in both magnitude and statistical significance than when all elections were considered together. In contrast, in the case of elections resulting in incumbent re-election (i.e. no political rotation), fewer estimates with statistical significance at conventional levels are observed and even these have considerably lower magnitudes compared to the rotation category.

These findings are robust to alternative econometric approaches and specifications, namely: (i) ARMAX modelling, including the alternative specifications within this modelling framework (i.e. specifications with the "second best" ARMA components, or without any controlling variables but ARMA components only, or

Footnote 19 (continued)
ture" of the state by elites and private interests. The Government Effectiveness Index reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. The original series of both indices contain unit roots (non-stationary) and take negative values; therefore, in the estimations we employed the first difference of the original levels (without first taking the logarithm in these cases).

[20] Albania has recorded an average public debt of about 62% of GDP during 1999–2019, which is way above the widely accepted "safe" range of 40–45% of GDP for similar economies. Moreover, about one third of this debt is issued in short-term instruments (i.e. 12 months or shorter maturity T-bills issued in the domestic market).

with separate inclusion of *pre*- and *post*-elections EDs instead of pair inclusion of symmetrical *pre*- and *post*-elections EDs); (ii) OLS linear regression modelling; (iii) specifications and estimations with quarterly collapsed data for the dependent variable (fiscal balance) and employing more adequate explanatory variables available at quarterly frequency (i.e. GDP, unemployment rate); and (iv) specifications employing the primary balance as the dependent variable instead of the overall fiscal balance.[21]

One interesting methodological finding, corroborating our claim on the importance of using intra-annual (i.e. monthly or quarterly) rather than annual frequency data in political business cycle research, is that when we employed annually collapsed data we obtained no statistically significant results for the year preceding elections, in any of elections categories. This is obviously in contrast to the strong statistical results we obtained from monthly or quarterly (intra-annual) data analysis and this goes in line with similar findings in previous research conducted on other countries (e.g. see Akhmedov and Zhuravskaya, 2004; Streb et al., 2012).

Table 1 presents the econometric results for each set of elections separately: i.e. "all elections"; "rotation elections"; and "no-rotation elections". In each case, estimates are reported from each econometric approach (i.e. ARMAX and OLS linear regression modelling) and for each data frequency (i.e. monthly, quarterly and annual). The table is trimmed to present only the main variables of interest, i.e. the estimated parameters of the Electoral Dummy variables, while in Appendix (Tables 1a-6a) we provide the complete econometric results for each estimated model.

All estimated parameters of EDs *before* "all elections", estimated through ARMAX modelling on monthly data, are significantly negative at either the five or one per cent level of significance. More specifically, prior to elections, when "all elections" are considered, we see a deterioration of the monthly fiscal balance ranging from ALL 1.0 billion in the twelve months before elections (ED_{-12}) to ALL 1.7 billion in the three months before elections (ED_{-3}), as shown in the first "monthly" column of the "all elections" block, estimated through ARMAX modelling. Given that the overall sample mean of fiscal balance (monthly average of fiscal balance at constant prices) is ALL −2.9 billion, these constitute substantial magnitudes of deterioration, about half of its long-term "natural" average.

Such deterioration in the fiscal balance is considerably larger when only "rotation elections" are considered compared to the case of "all elections". As shown in the second block of Table 1, the deterioration in the monthly fiscal balance, estimated through ARMAX modelling on monthly data, ranges from ALL 1.5 billion in the nine months before "rotation elections" (ED_Rot_{-9}) to 2.6 billion in the three months before those elections (ED_Rot_{-3}), statistically significant at either the five or one percent level. Interestingly, when only "rotation elections" are considered,

[21] For reasons of space, we do not report the empirical results for some of the alternative specifications, namely with "second best" ARMA components; with separate inclusion of EDs; and with primary balance as dependent variable; these results are available upon request. All the rest of alternative specifications are reported in Appendix.

there seems to take place also a kind of intensifying monotonic trend of deterioration in fiscal balance as elections come closer (i.e. $ED\_Rot_{-12} > ED\_Rot_{-9} > ED\_Rot_{-6} > ED\_Rot_{-3}$—noting that the inequality signs in this case mean that each succeeding ED is more negative than the preceding one). Hence, the closer in time we are to elections the larger the deterioration of the fiscal balance. For both of the aforementioned categories of elections (i.e. "all elections" and "rotation elections"), the highest PBC effect for all types of intra-annual estimations (i.e. on monthly or quarterly data with ARMAX or OLS) results at the closest time interval to elections, namely in the last three months or the last quarter before elections.

In contrast, when only "no-rotation elections" are considered, both the statistical significance and the magnitude of the respective EDs' coefficients are considerably weaker compared to the respective coefficients of the other two categories, "all elections" and "rotation elections", especially to the later (see the "no-rotation elections" block in Table 1). Therefore, based on these empirical results, one can take the view that the bulk of fiscal balance deterioration before elections takes place in those elections which yield a political rotation. To the best of our knowledge, this view is a rather novel one in the relevant political budget cycle literature, where generally there is no such distinction among elections. Lami et al. (2021) make the same comparative distinction among elections in Albania and they reach basically the same conclusions as regards the political cycles in fiscal revenue performance.

All the aforementioned empirical findings, and more particularly the distinction between *rotation* and *no-rotation* elections, remain robust when the econometric analysis is replicated with the quarterly collapsed time series or when OLS linear modelling is employed (see the respective columns of each block in Table 1). The respective EDs coefficients estimated by each estimating method are also broadly close in magnitude and statistical significance.

In the case where annually collapsed time series are employed, none of the estimated EDs' coefficients *before* elections are significant at conventional levels (see the "annually" columns in each block of elections in Table 1). These weakest empirical results (practically non-existent) obtained from annually collapsed data, in contradiction with political business (budget) cycle theory, are not unexpected to us, as we have explained above.

First, this could be attributed to the radically reduced number of observations, although typically OLS regression has good small sample properties. However, most likely, this can be attributed to the inherent drawback of the annual data when employed for political business cycle research, in that the intra-annual (monthly or quarterly) election-related dynamics of the social processes being analysed—the fiscal balance in this case—often offset each other within the year (i.e. movements in opposite directions) and become, therefore, either "unobservable" for the year as a whole or appear to be contrary to theory. For instance, in our estimates from annually collapsed data, none of the estimated coefficients for the EDs *before* either "All elections" or "Rotation elections" are statistically significant at conventional levels. Such non-existent empirical results in the case of annually collapsed data contrast with our previous empirical findings obtained from the monthly and quarterly time series, and contradict common sense and political business (budget) cycle theory alike. Hence, this could be considered as

Table 1 The impact of elections on fiscal balance

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)						
Electoral Dummy$_{(\pm j)}$	ARMAX			OLS linear regression		
	Monthly	Quarterly	Annually	Monthly	Quarterly	Annually
All elections						
ED$_{(-3)}$	− 1.674 **	− 5.569 ***		− 1.747 **	− 5.000 **	
	(0.711)	(2.050)		(0.727)	(2.203)	
ED$_{(+3)}$	− 0.459	− 3.825 **		− 0.385	− 0.874	
	(0.712)	(2.004)		(0.725)	(2.276)	
ED$_{(-6)}$	− 1.433 ***	− 3.900 **		− 1.322 **	− 3.449 **	
	(0.509)	(1.640)		(0.541)	(1.618)	
ED$_{(+6)}$	0.737	2.288		0.599	3.078 *	
	(0.509)	(1.679)		(0.531)	(1.669)	
ED$_{(-9)}$	− 1.543 ***	− 4.321 ***		− 1.324 ***	− 3.363 **	
	(0.437)	(1.400)		(0.459)	(1.367)	
ED$_{(+9)}$	0.446	1.351		0.573	1.968	
	(0.436)	(1.419)		(0.455)	(1.380)	
ED$_{(-12)}$	− 1.024 **	− 3.758 ***	− 8.162	− 0.984 **	− 3.050 **	− 14.273
	(0.438)	(1.402)	(6.388)	(0.425)	(1.249)	(8.412)
ED$_{(+12)}$	0.501	0.476	− 14.72 **	0.786 *	1.698	− 15.896 **
	(0.433)	(1.390)	(4.810)	(0.426)	(1.297)	(6.365)
Only elections yielding political rotation						
ED_Rot$_{(-3)}$	− 2.562 **	− 8.367 ***		− 2.319 **	− 6.634 **	
	(1.133)	(3.185)		(1.124)	(3.358)	
ED_Rot$_{(+3)}$	− 0.144	− 7.246 **		0.011	− 0.361	
	(1.130)	(3.190)		(1.119)	(3.496)	
ED_Rot$_{(-6)}$	− 2.100 ***	− 4.240 *		− 1.715 **	− 4.519 **	
	(0.780)	(2.529)		(0.794)	(2.271)	
ED_Rot$_{(+6)}$	2.267 ***	6.108 **		1.715 **	7.136 ***	
	(0.781)	(2.639)		(0.792)	(2.350)	
ED_Rot$_{(-9)}$	-1.526 **	− 3.992 *		− 1.136 *	− 3.140 *	
	(0.664)	(2.256)		(0.661)	(1.902)	
ED_Rot$_{(+9)}$	1.731 ***	4.643 **		1.612 **	4.855 **	
	(0.663)	(2.328)		(0.663)	(1.984)	
ED_Rot$_{(-12)}$	− 0.764	− 2.739	− 5.167	− 0.746	− 2.446	− 7.358
	(0.619)	(2.196)	(8.489)	(0.578)	(1.725)	(9.927)
ED_Rot$_{(+12)}$	1.653 ***	3.367	− 25.006 **	1.697 ***	4.018 **	− 21.394
	(0.616)	(2.264)	(9.074)	(0.584)	(1.811)	(13.359)
Only elections not yielding political rotation						
ED_No-rot$_{(-3)}$	− 1.035	− 3.991		− 1.224	− 3.443	
	(0.938)	(2.765)		(0.929)	(2.860)	
ED_No-rot$_{(+3)}$	− 0.620	− 2.197		− 0.509	− 0.741	
	(0.939)	(2.697)		(0.928)	(2.888)	
ED_No-rot$_{(-6)}$	− 0.896	− 2.879		− 0.947	− 2.672	

Table 1 (continued)

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)

Electoral Dummy$_{(\pm j)}$	ARMAX			OLS linear regression		
	Monthly	Quarterly	Annually	Monthly	Quarterly	Annually
	(0.688)	(2.303)		(0.683)	(2.128)	
ED_No-rot$_{(+6)}$	− 0.263	− 0.529		− 0.073	0.225	
	(0.687)	(2.344)		(0.678)	(2.176)	
ED_No-rot$_{(-9)}$	− 1.479 **	− 4.320 **		− 1.329 **	− 3.380 *	
	(0.581)	(2.050)		(0.561)	(1.767)	
ED_No-rot$_{(+9)}$	− 0.299	− 0.913		− 0.024	0.001	
	(0.581)	(2.057)		(0.564)	(1.813)	
ED_No-rot$_{(-12)}$	− 1.140 **	− 4.080 **	− 5.190	− 1.128 **	− 3.163 *	− 3.836
	(0.542)	(1.888)	(8.813)	(0.501)	(1.690)	(9.586)
ED_No-rot$_{(+12)}$	− 0.164	− 1.202	− 13.525 *	0.163	0.240	− 9.374
	(0.540)	(1.868)	(6.823)	(0.503)	(1.587)	(8.309)
Controls included	YES[a]	YES[b]	YES[c]	YES[d]	YES[e]	YES[f]
No. of obs.	251	83	20	251	83	20

Notes: Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

[a] AR(1); MA(12); $\Delta_1[\ln(RTI_{t-1})]$; $\Delta_1[\ln(REER_{t-1})]$

[b] AR(1); AR(4); $\Delta_1[\ln(GDP_t)]$; $\Delta_1[\ln(UR_t)]$; $\Delta_1[\ln(REER_t)]$

[c] MA(1); $\Delta_1[\ln(GDP_t)]$; $\Delta_1[\ln(UR_t)]$; $\Delta_1[\ln(REER_t)]$; $\Delta_1(CCI_t)$; $\Delta_1(GEI_t)$

[d] $\Delta_1(fiscal\_bal_{t-1})$; $\Delta_1(fiscal\_bal_{t-12})$; $\Delta_1[\ln(RTI_{t-1})]$; $\Delta_1[\ln(REER_{t-1})]$

[e] $\Delta_1(fiscal\_bal_{t-1})$; $\Delta_1(fiscal\_bal_{t-4})$; $\Delta_1[\ln(GDP_t)]$; $\Delta_1[\ln(UR_t)]$; $\Delta_1[\ln(REER_t)]$

[f] $\Delta_1(fiscal\_bal_{t-1})$]; $\Delta_1[\ln(GDP_t)]$; $\Delta_1[\ln(UR_t)]$; $\Delta_1[\ln(REER_t)]$; $\Delta_1(CCI_t)$]; $\Delta_1(GEI_t)$]

another piece of evidence corroborating the claim made previously in the political business cycle literature as to the inherent drawback of empirical studies based only on annual time series.

Table 1 also presents the empirical results for *post*-election periods, completing our investigation of elections-driven cyclicality. These results as well are broadly in line with the theory of political business (budget) cycles and supportive of our hypothesis. When "All elections" are simultaneously considered, the estimated parameters of all electoral dummies for defined periods *after* elections (ED_{+j}), estimated by monthly or quarterly data either by ARMAX or OLS modelling, are almost all not statistically significant at conventional levels. A few of them are significant and with a positive sign (i.e. ED_{+12} estimated with OLS and monthly data; ED_{+6} estimated with OLS and quarterly data), indicating an improvement of the fiscal balance in these cases, in line with theory. There is only one exception, namely the ED_{+3} coefficient obtained from ARMAX estimation on quarterly data, that is statistically significant at five per cent and has a negative sign, which in this case indicates a deterioration of fiscal balance in the immediate aftermath of elections, and as explained in the following paragraph, could be attributed to the

"rotation election". Therefore, when contrasted to the more systematic and statistically significant evidence of deterioration taking place *before* elections, these empirical results suggest that "normalization" of the fiscal balance is restored after elections.

Consistently following the earlier finding on the distinction between "rotation" and "no-rotation" elections, one could take a subtler view also on what happens *after* each of these elections' categories. Indeed, even in the aftermath of elections, almost everything statistically significant regarding fiscal balance dynamics seems to happen only in "rotation elections". First, it seems that the deterioration of fiscal balance might continue also in the immediate three months *after* "rotation elections", as indicated by ED_Rot_{+3} estimated with quarterly data by ARMAX, which results in a negative magnitude of ALL 7.2 billion (significant at the five per cent level). An intuitive explanation for this could be related to the corresponding transition period of handing over the executive power from one political force to the other. Thereafter, the fiscal balance improves rather quickly, especially as contrasted to the previous deterioration. Almost all EDs for time intervals six to twelve months after "rotation elections", estimated on monthly or quarterly data, either by ARMAX or OLS modelling, are positive and statistically significant at conventional levels. The improvement ranges from ALL 1.7 billion in the case of ED_Rot_{+12} ARMAX monthly estimation to ALL 7.1 billion in the case of ED_Rot_{+6} OLS quarterly estimation.

Lastly, we run also a separate test for another potential effect on the intensity of fiscal balance electoral cycles due to the constitutional changes that took place in 2008. In December 2008, an electoral "reform" took place in Albania, with smaller parties becoming less influential after the reform. As larger parties, with less balancing pressures from coalitions with smaller parties, are presumably more likely to systematically take opportunistic advantage of using public means in their electoral favour, one could hypothesize that the election-driven cycles of fiscal balance described here might have intensified after 2008. We test for this by constructing a direct dummy variable (named *Constitution_dummy*) taking the value "1" for the 2009 election period and all subsequent periods and "0" for all the preceding observations. We then include in all the estimated models this direct dummy variable of constitutional changes as well as the respective *interaction* dummy variable of interest. The latter variable models the possible compound influences of 2008 constitutional changes on the *intensity* of election-driven fiscal balance cycles.

Table 2 shows the estimated coefficients capturing the intensifying effect of 2008 constitutional changes on the electoral cycles of fiscal balance.[22] When "all elections" are considered, none of the estimated interaction dummy variables of interest is statistically significant at conventional levels, although all of them have a negative sign. However, when "rotation elections" are considered, all interaction dummy variables have negative signs and are also significant at conventional levels by both estimating approaches (ARMAX and OLS modelling).

These empirical results could suggest that, indeed, the constitutional changes of 2008 might have widened even more the leeway for opportunistic manoeuvring by

[22] Full results of the estimated models are available upon request.

Table 2 Intensifying effects of 2008 constitutional changes on fiscal balance electoral cycles

ARMAX modelling (monthly data)				OLS linear regression modelling (monthly data)			
j = − 3	j = − 6	j = − 9	j = − 12	j = − 3	j = − 6	j = − 9	j = − 12
All elections (Interaction variable: *Constitution_dummy * ED*$_{-j}$)							
− 0.847	− 1.246	− 0.514	− 0.561	− 1.226	− 0.959	− 0.364	− 0.530
(1.456)	(1.029)	(0.891)	(0.867)	(1.482)	(1.085)	(0.931)	(0.866)
Rotation elections (Interaction variable: *Constitution_dummy * ED_Rot*$_{-j}$)							
− 3.732 *	− 3.156 **	− 2.399 *	− 2.389 **	− 4.796 **	− 3.878 **	− 2.701 **	− 2.518 **
(2.226)	(1.519)	(1.689)	(1.188)	(2.231)	(1.578)	(1.313)	(1.143)
No-rotation elections (Interaction variable: *Constitution_dummy * ED_No-rot*$_{-j}$)							
1.942	1.635	1.402	1.196	1.997	1.735	1.647	1.521
(2.008)	(1.465)	(1.232)	(1.111)	(1.982)	(1.435)	(1.193)	(1.067)

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

incumbents to engage in even more intense political budget cycles behaviour, especially when they foresee loss of elections as could be implied by "rotation" elections. In previous PBC literature, results have been reported accounting for similar factors affecting PBCs' existence or intensity. For instance, Rose (2008) and Shelton (2014) find the strength of political parties in power and incumbent compactness to be determining factors, as fragmented governments are able to engage less in PBC manoeuvres due to coordination cost. However, these results should be taken with "a pinch of salt", as for instance Lami et al. (2021) find no evidence to support a similar hypothesis regarding the case of tax collections performance in Albania.

Conclusions

The empirical research in the field of political economy over the last decades has provided substantial evidence of electorally driven manipulation of the main fiscal policy instruments. Stronger cycles are observed in developing or transition countries with immature democracies, reflecting voters' short experience and myopia in discerning opportunistic electoral intentions of incumbents' fiscal and budgetary policies conduct before elections. Lack of effective institutional mechanisms to constrain opportunistic policies and to exert fiscal control is also another main explanation for the existence of bolder political fiscal cycles in new democracies.

In this paper, we bring further evidence of electoral opportunism exerted by incumbents on fiscal policy conduct in a new and immature democracy. We investigate the case of Albania and show how the fiscal policy stance—as indicated by its main parameter, the overall fiscal balance (i.e. budget deficit)—gets significantly looser (deteriorates) before parliamentary elections. In addition, we distinguish the pattern of such fiscal policy manipulation in association with elections which result in a change of the governing party (political rotation) from those that do not (no-rotation), a suggestion first made by Lami et al. (2021). While the fiscal balance deteriorates substantially before elections in general, the deterioration is significantly more pronounced in the case of elections yielding political rotation. The deterioration before "rotation elections" only also becomes monotonically more intense as election days approach. In contrast, the evidence of conducting expansionary (opportunistic) fiscal policy by widening the overall budget balance before "no-rotation elections" is much weaker. These results are in line with evidence of significant expansion of public expenditures (Imami and Lami, 2006) as well as a deteriorating tax collection performance before elections (Lami et al., 2021). These new results may be regarded as completing a triangulation approach to testing the general hypothesis of opportunistic political business (electoral) cycles in Albanian fiscal policy. If public expenditure tends to increase and tax collection to decrease as elections approach, then—ceteris paribus—the overall budgetary position should deteriorate. We have confirmed that this corollary of the two earlier studies does indeed take place. All three papers are thus consistent, which adds weight to their common conclusions.

We also obtained some interesting empirical results which could suggest that the constitutional changes that took place in Albania in 2008—arguably designed to

reduce the influence of smaller parties and further increase the dominance of larger ones in governing coalitions—might have widened even more the leeway for opportunistic manoeuvring by incumbents to engage in even more intense political budget cycle behaviour, especially when they presumably foresee loss of elections, before rotation elections. In previous PBC literature, results have been reported accounting for similar factors affecting the existence or intensity of PBCs (Rose, 2008; Shelton, 2014). However, these results should be taken with "a grain of salt", as for instance Lami et al. (2021) find no evidence to support a similar hypothesis regarding the case of tax collections performance in Albania.

Depending on the type of elections we also observe different post-election patterns. In the case of rotation elections, usually there emerges a power vacuum immediately after elections in terms of "effective" executive power, up until the new parliament and government are constituted, which can last for a few months. When the new government takes over, it might need some time to take (full) control of public finances and effectively be able to alter the route of fiscal policy. Our findings show that fiscal balance continues to deteriorate in the first quarter after "rotation elections". However, fiscal policy consolidates quite significantly (the fiscal balance improves strongly) in successive quarters after "rotation elections". Conversely, these dynamically contrasting patterns of fiscal policy (overall budget balance) are not present in the aftermath of those elections not yielding political rotation.

In addition, while other studies on the political economy of elections tend to rely on yearly data and thus are most likely unable to capture dynamics within the election year (especially when elections fall around the middle of the fiscal year), this study shows a striking contrast in PBCs' dynamics when the empirical analysis is run on much more informative intra-annual frequency (monthly or quarterly) data versus aggregated and rather misleading annual data.

One of the limitations of this paper is the rather small number of elections covered by the analysis, which could affect our findings; nonetheless, the distinction between the two types of election is informative and the empirical findings are robust to alternative econometric settings.

Appendix

See Tables 3, 4, 5, 6, 7, 8, 9 and 10.

Table 3 Estimated equations with monthly data/ARMAX models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)									Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	AR(1)	MA(12)	$\Delta_1[\ln(RTI_{t-1})]$	$\Delta_1[\ln(REER_{t-1})]$	Adj. R^2	F-stat	AIC	DW stat.
All elections	= 3	− 1.674 **	− 0.459	− 2.745 ***	0.105 *	0.311 ***	3.938	− 11.652	0.146	6.923	4.829	2.017
		(0.711)	(0.712)	(0.254)	(0.064)	(0.061)	(0.711)	(16.340)				
	= 6	− 1.433 ***	0.737	− 2.782 ***	0.089	0.335 ***	3.785	− 5.281	0.162	7.815	4.810	2.013
		(0.509)	(0.509)	(0.260)	(0.065)	(0.061)	(2.643)	(16.060)				
	= 9	− 1.543 ***	0.446	− 2.668 ***	0.074	0.347 ***	3.536	− 4.105	0.185	9.169	4.783	2.008
		(0.437)	(0.436)	(0.271)	(0.060)	(0.064)	(2.612)	(15.723)				
	= 12	− 1.024 **	0.501	− 2.737 ***	0.086	0.324 ***	3.672	− 2.838	0.170	8.271	4.801	2.014
		(0.438)	(0.433)	(2.642)	(0.064)	(0.061)	(2.642)	(16.098)				
Rotation elections	= 3	− 2.562 **	− 0.144	− 2.805 ***	0.119 **	0.310 ***	4.044 *	− 8.550	0.144	6.827	4.831	2.023
		(1.133)	(1.130)	(0.253)	(0.060)	(0.061)	(2.453)	(16.423)				
	= 6	− 2.100 ***	2.267 ***	− 2.873 ***	0.092	0.336 ***	3.962 *	− 5.888	0.180	8.892	4.788	2.011
		(0.780)	(0.781)	(0.248)	(0.064)	(0.061)	(2.502)	(15.837)				
	= 9	− 1.526 **	1.731 ***	− 2.875 ***	0.079	0.350 ***	3.510	− 3.576	0.180	8.863	4.789	2.008
		(0.664)	(0.663)	(0.253)	(0.064)	(0.061)	(2.615)	(15.750)				
	= 12	− 0.764	1.653 ***	− 2.947 ***	0.088	0.333 ***	3.758	− 4.148	0.170	8.307	4.800	2.012
		(0.619)	(0.616)	(0.262)	(0.064)	(0.061)	(2.628)	(15.750)				
No-rotation elections	= 3	− 1.035	− 0.620	− 2.814 ***	0.120 *	0.303 ***	4.015	− 12.045	0.132	6.153	4.846	2.022
		(0.938)	(0.939)	(0.256)	(0.064)	(0.061)	(2.674)	(16.606)				
	= 6	− 0.896	− 0.263	− 2.787 ***	0.113 *	0.308 ***	3.884	− 9.866	0.133	6.200	4.844	2.021
		(0.688)	(0.687)	(0.260)	(0.064)	(0.061)	(2.685)	(16.539)				
	= 9	− 1.479 **	− 0.299	− 2.682 ***	0.107 *	0.305 ***	3.733	− 10.812	0.149	7.084	4.826	2.017
		(0.581)	(0.581)	(0.265)	(0.064)	(0.061)	(2.665)	(16.385)				
	= 12	− 1.140 **	− 0.164	− 2.683 ***	0.111 *	0.297 ***	3.799	− 7.660	0.143	6.739	4.833	2.024
		(0.542)	(0.540)	(0.278)	(0.064)	(0.061)	(2.676)	(16.516)				

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

Table 4 Estimated equations with monthly data/OLS linear regression models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)									Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	fis_bal_{t-1}	fis_bal_{t-12}	$\Delta_1[\ln(RTI_{t-1})]$	$\Delta_1[\ln(REER_{t-1})]$	Adj. R^2	F-stat	AIC	DW stat.
All elections	= 3	− 1.747 **	− 0.385	− 1.449 ***	0.108 *	0.325 ***	2.939	− 8.474	0.148	6.746	4.845	2.014
		(0.727)	(0.725)	(0.301)	(0.061)	(0.060)	(2.852)	(18.531)				
	= 6	− 1.322 **	0.599	− 1.466 ***	0.103 *	0.338 ***	2.948	− 4.570	0.156	7.194	4.836	2.009
		(0.541)	(0.531)	(0.305)	(0.061)	(0.060)	(2.840)	(18.400)				
	= 9	− 1.324 ***	0.573	− 1.461 ***	0.095 *	0.330 ***	2.698	− 5.020	0.170	7.956	4.819	2.014
		(0.459)	(0.455)	(0.311)	(0.061)	(0.060)	(2.851)	(18.270)				
	= 12	− 0.984 **	0.786 *	− 1.506 ***	0.098 *	0.342 ***	2.879	− 3.542	0.172	8.105	4.816	2.032
		(0.425)	(0.426)	(0.326)	(0.060)	(0.060)	(2.823)	(18.226)				
Rotation elections	= 3	− 2.319 **	0.011	− 1.527 ***	0.112 *	0.319 ***	3.239	− 5.165	0.142	6.436	4.852	1.991
		(1.124)	(1.119)	(0.299)	(0.061)	(0.060)	(2.857)	(18.552)				
	= 6	− 1.715 **	1.715 **	− 1.614 ***	0.110 *	0.311 ***	3.160	− 5.818	0.161	7.500	4.829	2.006
		(0.794)	(0.792)	(0.300)	(0.060)	(0.059)	(2.824)	(18.334)				
	= 9	− 1.136 *	1.612 **	− 1.640 ***	0.099 *	0.324 ***	2.585	− 3.915	0.160	7.428	4.831	2.000
		(0.661)	(0.663)	(0.307)	(0.061)	(0.060)	(2.836)	(18.357)				
	= 12	− 0.746	1.697 ***	− 1.682 ***	0.095 *	0.334 ***	2.862	− 3.096	0.165	7.706	4.825	2.001
		(0.578)	(0.584)	(0.308)	(0.060)	(0.060)	(2.822)	(18.311)				
No-rotation elections	= 3	− 1.224	− 0.509	− 1.501 ***	0.120 **	0.319 ***	3.097	− 7.819	0.133	6.001	4.862	2.013
		(0.929)	(0.928)	(0.302)	(0.060)	(0.061)	(2.875)	(18.724)				
	= 6	− 0.947	− 0.073	− 1.491 ***	0.112 *	0.325 ***	3.088	− 5.137	0.133	5.990	4.862	2.001
		(0.683)	(0.678)	(0.304)	(0.062)	(0.061)	(2.877)	(18.651)				
	= 9	− 1.329 **	− 0.024	− 1.467 ***	0.107 *	0.313 ***	2.978	− 7.185	0.147	6.710	4.846	2.002
		(0.561)	(0.564)	(0.302)	(0.061)	(0.060)	(2.861)	(18.529)				
	= 12	− 1.128 **	0.163	− 1.446 ***	0.110 *	0.319 ***	2.967	− 5.081	0.148	6.746	4.845	2.014
		(0.501)	(0.503)	(0.307)	(0.061)	(0.061)	(2.863)	(18.496)				

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively.

Table 5 Estimated equations with quarterly data/ARMAX models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)										Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	AR(1)	AR(4)	$\Delta_1[\ln(GDP_t)]$	$\Delta_1[\ln(UR_t)]$	$\Delta_1[\ln(REER_t)]$	Adj. R^2	F-stat	AIC	DW stat.
All elections	= 3	− 5.569 ***	− 3.825 **	− 4.013	0.394 ***	0.216 **	33.318 *	− 0.266	5.810	0.280	3.955	5.956	1.920
		(2.050)	(2.004)	(8.806)	(0.113)	(0.109)	(26.271)	(0.608)	(29.675)				
	= 6	− 3.900 **	2.288	− 4.206	0.288 **	0.286 ***	44.683 *	− 0.287	3.689	0.265	3.662	5.977	1.960
		(1.640)	(1.679)	(8.116)	(0.118)	(0.113)	(26.955)	(0.558)	(29.463)				
	= 9	− 4.321 ***	1.351	− 1.529	0.268 **	0.301 ***	40.992 *	− 0.446	2.278	0.298	4.305	5.931	1.983
		(1.400)	(1.419)	(7.777)	(0.113)	(0.110)	(25.774)	(0.535)	(29.012)				
	= 12	− 3.758 ***	0.476	− 1.709	0.321 ***	0.264 **	43.365 *	− 0.415	9.993	0.284	4.025	5.951	2.011
		(1.402)	(1.390)	(8.204)	(0.113)	(0.109)	(26.307)	(0.566)	(29.353)				
Rotation elections	= 3	− 8.367 ***	− 7.246 **	− 7.048	0.471 ***	0.163	24.468	− 0.061	24.773	0.278	3.905	5.959	1.917
		(3.185)	(3.190)	(9.587)	(0.108)	(0.106)	(25.816)	(0.663)	(29.405)				
	= 6	− 4.240 *	6.108 **	− 3.636	0.339 ***	0.267 **	39.720	− 0.342	8.411	0.283	4.022	5.951	1.969
		(2.529)	(2.639)	(8.469)	(0.116)	(0.111)	(26.141)	(0.587)	(29.078)				
	= 9	− 3.992 *	4.643 **	− 1.056	0.293 **	0.281 **	32.470 *	− 0.517	8.625	0.275	3.861	5.962	1.991
		(2.256)	(2.328)	(8.229)	(0.113)	(0.113)	(26.319)	(0.572)	(29.473)				
	= 12	− 2.739	3.367	− 1.457	0.328 ***	0.231 **	35.099	− 0.492	11.706	0.251	3.413	5.995	1.994
		(2.196)	(2.264)	(8.451)	(0.115)	(0.112)	(26.836)	(0.587)	(30.427)				
No-rotation elections	= 3	− 3.991	− 2.197	− 3.029	0.373 ***	0.199 *	32.529	− 0.362	2.328	0.215	2.781	6.043	1.914
		(2.765)	(2.697)	(8.899)	(0.114)	(0.110)	(27.414)	(0.612)	(31.476)				
	= 6	− 2.879	− 0.529	− 3.106	0.355 ***	0.200 *	28.045	− 0.352	8.758	0.207	2.653	6.053	1.917
		(2.303)	(2.344)	(8.881)	(0.116)	(0.114)	(28.189)	(0.607)	(31.425)				
	= 9	− 4.320 **	− 0.913	− 2.072	0.331 ***	0.184 *	32.864	− 0.406	− 2.874	0.237	3.154	6.014	1.927
		(2.050)	(2.057)	(8.354)	(0.116)	(0.112)	(27.482)	(0.569)	(31.711)				
	= 12	− 4.080 **	− 1.202	− 2.161	0.357 ***	0.195 *	36.857	− 0.385	10.128	0.240	3.208	6.010	1.951

Table 5 (continued)

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)									Main diagnostic tests			
j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	AR(1)	AR(4)	$\Delta_1[\ln(GDP_t)]$	$\Delta_1[\ln(UR_t)]$	$\Delta_1[\ln(REER_t)]$	Adj. R^2	F-stat	AIC	DW stat.
	(1.888)	(1.868)	(8.685)	(0.114)	(0.112)	(27.297)	(0.594)	(30.859)				

Notes: Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

Table 6 Estimated equations with quarterly data/OLS linear regression models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)										Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	fis_bal_{t-1}	fis_bal_{t-4}	$\Delta_1[\ln(GDP_t)]$	$\Delta_1[\ln(UR_t)]$	$\Delta_1[\ln(REER_t)]$	Adj. R^2	F-stat	AIC	DW stat.
All elections	= 3	− 5.000 **	− 0.874	− 3.287	0.311 ***	0.168 *	2.254	− 0.048	− 10.987	0.233	3.131	6.006	1.913
		(2.203)	(2.276)	(4.489)	(0.118)	(0.107)	(27.039)	(0.319)	(32.359)				
	= 6	− 3.449 **	3.078 *	− 3.477	0.373 ***	0.208 **	10.998	− 0.001	3.007	0.277	3.943	5.948	2.096
		(1.618)	(1.669)	(4.368)	(0.117)	(0.106)	(26.337)	(0.310)	(31.599)				
	= 9	− 3.363 **	1.968	− 2.889	0.317 ***	0.193 *	9.055	− 0.067	− 2.988	0.281	4.038	5.941	2.089
		(1.367)	(1.380)	(4.362)	(0.111)	(0.107)	(26.134)	(0.309)	(31.512)				
	= 12	− 3.050 **	1.698	− 2.923	0.313 ***	0.219 **	11.075	− 0.049	− 6.581	0.284	4.098	5.937	2.08
		(1.249)	(1.297)	(4.353)	(0.109)	(0.108)	(26.132)	(0.308)	(31.003)				
Rotation elections	= 3	− 6.634 **	− 0.361	− 4.153	0.346 ***	0.164	− 0.899	0.018	− 4.427	0.219	2.894	6.024	1.947
		(3.358)	(3.496)	(4.558)	(0.116)	(0.110)	(27.076)	(0.323)	(32.421)				
	= 6	− 4.519 **	7.136 ***	− 2.154	0.429 ***	0.128	− 1.134	− 0.110	0.702	0.313	4.694	5.896	2.201
		(2.271)	(2.350)	(4.282)	(0.108)	(0.103)	(25.262)	(0.304)	(30.442)				
	= 9	− 3.140 *	4.855 **	− 1.714	0.340 ***	0.159	− 0.220	− 0.175	− 3.308	0.272	3.860	5.953	2.125
		(1.902)	(1.984)	(4.432)	(0.109)	(0.106)	(26.090)	(0.318)	(31.295)				
	= 12	− 2.446	4.018 **	− 1.542	0.322 ***	0.189 *	3.413	− 0.184	− 4.326	0.257	3.570	5.974	2.022
		(1.725)	(1.811)	(4.493)	(0.111)	(0.108)	(26.453)	(0.323)	(31.594)				
No-rotation elections	= 3	− 3.443	− 0.741	− 3.025	0.341 ***	0.150	0.264	− 0.072	− 10.394	0.194	2.490	6.055	1.936
		(2.860)	(2.888)	(4.641)	(0.117)	(0.111)	(27.577)	(0.330)	(33.187)				
	= 6	− 2.672	0.225	− 3.205	0.333 ***	0.173	2.178	− 0.050	− 6.109	0.196	2.514	6.053	1.946
		(2.128)	(2.176)	(4.674)	(0.120)	(0.115)	(27.994)	(0.333)	(33.189)				
	= 9	− 3.380 *	0.001	− 2.773	0.309 ***	0.146	5.946	− 0.100	− 13.133	0.219	2.891	6.024	1.941
		(1.767)	(1.813)	(4.643)	(0.119)	(0.113)	(27.388)	(0.333)	(33.323)				
	= 12	− 3.163 *	0.240	− 3.116	0.321 ***	0.158	7.839	− 0.059	− 10.081	0.227	3.022	6.014	1.981
		(1.690)	(1.587)	(4.489)	(0.118)	(0.107)	(27.039)	(0.319)	(32.359)				

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

Table 7 Estimated equations with annual data/ARMAX models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)											Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	MA(1)	$\Delta_1[\ln(GDP_t)]$	$\Delta_1[\ln(UR_t)]$	$\Delta_1[\ln(REER_t)]$	$\Delta_1(CCI_t)$	$\Delta_1(GEI_t)$	Adj. R^2	F-stat	AIC	DW stat.
All	= 12	− 8.162	− 14.72 **	− 13.443	0.760 ***	37.741	− 1.035	− 134.228 *	19.571	− 64.595 **	0.644	5.142	7.081	1.589
		(6.388)	(4.810)	(35.898)	(0.040)	(81.848)	(2.319)	(72.456)	(39.753)	(18.892)				
Rot.	= 12	− 5.167	− 25.006 **	− 5.877	0.799 ***	− 79.826	− 1.278	− 118.039	9.507	− 94.161 ***	0.754	3.832	7.310	1.765
		(8.489)	(9.074)	(38.015)	(0.061)	(102.714)	(2.591)	(70.716)	(42.992)	(22.025)				
No-rot.	= 12	− 5.190	− 13.525 *	14.278	0.754 ***	82.067	-3.354	− 92.406	35.252	− 37.482	0.702	2.954	7.500	1.763
		(8.813)	(6.823)	(39.607)	(0.057)	(106.263)	(2.611)	(81.075)	(39.781)	(22.582)				

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively

Table 8. Estimated equations with annual data/OLS linear regression models

Dependent variable: Overall fiscal balance (deflated and seasonally adjusted, in ALL billion)											Main diagnostic tests			
	j =	$ED_{(-j)}$	$ED_{(+j)}$	Intercept	fis_bal_{t-1}	$\Delta_1[\ln(GDP_t)]$	$\Delta_1[\ln(UR_t)]$	$\Delta_1[\ln(REER_t)]$	$\Delta_1(CCI_t)$	$\Delta_1(GEI_t)$	Adj. R^2	F-stat	AIC	DW stat.
All	= 12	− 14.273	− 15.896 **	16.965	0.168	− 61.359	− 2.319	− 174.935 *	12.891	− 66.649	0.616	2.009	7.754	1.675
		(8.412)	(6.365)	(31.109)	(0.286)	(83.572)	(2.188)	(88.221)	(48.472)	(32.565)				
Rot.	= 12	− 7.358	− 21.394	− 9.689	0.365	− 92.186	− 0.148	− 92.735	− 15.812	− 74.850 *	0.499	2.246	8.021	1.703
		(9.927)	(13.359)	(33.419)	(0.345)	(105.951)	(2.500)	(90.686)	(47.472)	(41.517)				
No-rot.	= 12	− 3.836	− 9.374	− 5.916	0.126	− 0.232	− 1.486	− 112.903	− 30.837	− 16.946	0.439	0.980	8.134	1.599
		(9.586)	(8.309)	(33.556)	(0.349)	(100.009)	(2.503)	(94.577)	(51.991)	(34.649)				

Standard errors in parentheses. ***, **, and * significant at 1%, 5%, and 10% respectively.

Table 9 Variable transformations + Unit-root tests (H0: unit root)

Original variable	Monthly	Fiscal balance (bn. lek)	RTI (number)	REER (lek/euro)				
↓								
		($p = 0.208$)	(p = 0.963)	($p = 0.521$)				
	Quarterly	Fiscal balance (bn. lek)		REER (lek/euro)	GDP (bn. lek)	UR (percentage)		
		($p = 0.029$)		(p = 0.613)	(p = 0.674)	($p = 0.694$)		
	Annually	Fiscal balance (bn. lek)		REER (lek/euro)	GDP (bn. lek)	UR (percentage)	Cont. of corr. (number)	Gov. effect. (number)
		($p = 0.042$)		(p = 0.147)	(p = 0.614)	($p = 0.123$)	(p = 0.408)	(p = 0.861)
1st step trans: Inflation adjustment	Monthly	Deflated by CPI	Deflated by CPI					
↓								
		(p = 0.212)	(p = 0.885)					
	Quarterly	Deflated by CPI			Deflated by CPI			
		(p = 0.037)			(p = 0.382)			
	Annually	Deflated by CPI						
		(p = 0.152)						
2nd step trans: seasonal adjustment	Monthly	Seasonally adjusted	Seasonally adjusted	Seasonally adjusted				
↓								

Table 9 (continued)

		($p = 0.000$)	($p = 0.742$)	($p = 0.287$)				
	Quarterly	Seasonally adjusted		Seasonally adjusted	Seasonally adjusted	Seasonally adjusted		
		($p = 0.000$)		($p = 0.510$)	($p = 0.208$)	($p = 0.728$)		
	Annually							
3rd step trans: logarithm ↓	Monthly		Natural logarithm	Natural logarithm				
			($p = 0.501$)	($p = 0.388$)				
	Quarterly			Natural logarithm	Natural logarithm	Natural logarithm		
				($p = 0.576$)	($p = 0.281$)	($p = 0.608$)		
	Annually			Natural logarithm	Natural logarithm	Natural logarithm		
				($p = 0.131$)	($p = 0.501$)	($p = 0.120$)		
4^{th}- step trans.: Differencing	Monthly		1^{st} - lag difference	1^{st} - lag difference				
			($p = 0.000$)	($p = 0.000$)				
	Quarterly			1^{st} - lag difference	1^{st} - lag difference	1^{st} - lag difference		
				($p = 0.000$)	($p = 0.022$)	($p = 0.000$)		
	Annually			1^{st} - lag difference	1^{st} - lag difference	1^{st} - lag difference	1^{st} - lag difference	1^{st} - lag difference
				($p = 0.000$)	($p = 0.039$)	($p = 0.000$)	(p = 0.026)	(p =0.001)

MacKinnon one-sided *p*-values of rejecting the null of a unit root by the augmented Dickey-Fuller test in parentheses

Table 10 Variable definitions

Variable	Description	Syntax and transformations employed in estimations for each frequency		
		Monthly	Quarterly	Annually
fis_bal	Overall fical (budget) balance, nominal (bn. lek)			
fis_bal_def	Overall fical (budget) balance with constant prices (bn. lek)	FIS_BAL_DEF_SA = seasonally adjusted series	FIS_BAL_DEF_SA = seasonally adjusted series	FIS_BAL_DEF = original series
rti_nom	Retail trade index in value/nominal (number)			
rti_real	Retail trade index in volume/real (number)	D1_LN_RTI_REAL_SA = 1st lag difference of the natural log of seasonally adjusted series		
cpi	Consumer price index (base = January 1999)			
ner	Nominal exchange rate (lek/euro)			
reer	Real effective exchange rate lek/euro	D1_LN_RTI_REAL_SA = 1st lag difference of the natural log of seasonally adjusted series	D1_LN_RTI_REAL_SA = 1st lag difference of the natural log of seasonally adjusted series	D1_LN_RTI_REAL_SA = 1st lag difference of the natural log of seasonally adjusted series
gdp_nom	GDP in current prices/nominal (bn. Lek)			
gdp_real	GDP in constant prices/real (bn. Lek)		D1_LN_GDP_REAL_SA = 1st lag difference of the natural log of seasonally adjusted series	D1_LN_GDP_REAL = 1st lag difference of the natural log of original series
ur	Unemploymnet rate (percentage)		D1_LN_UR_SA = 1st lag difference of the natural log of seasonally adjusted series	D1_LN_UN = 1st lag difference of the natural log of original series
gei	Government effectiveness index (number)			D1_GOV_EFFECT = 1st lag difference of the natural log of original seris

Table 10 (continued)

Variable	Description	Syntax and transformations employed in estimations for each frequency		
		Monthly	Quarterly	Annually
cci	Control of corruption index (number)			D1_CONT_CORRUPTION = 1st lag difference of the natural log original series
elect_sys_chng	Dummy variable for the change of the electoral code in 2008	ELECT_SYS_CHNG		
ED_3	Cumulative electoral dummies before ALL elections. ED_3 for 3 months before All elections; ED_6 for 6 months before All elections; and so on for ED_9 and ED_12	ED_3	ED_3	
ED_6		ED_6	ED_6	
ED_9		ED_9	ED_9	
ED_12		ED_12	ED_12	ED_12
ED3	Cumulative electoral dummies after ALL elections. ED3 for 3 months after All elections; ED6 for 6 months after All elections; and so on for ED9 and ED12	ED3	ED3	
ED6		ED6	ED6	
ED9		ED9	ED9	
ED12		ED12	ED12	ED12

Table 10 (continued)

Variable	Description	Syntax and transformations employed in estimations for each frequency		
		Monthly	Quarterly	Annually
EDrot_3	Cumulative electoral dummies before Rotation elections. EDrot_3 for 3 months before Rotation elections; EDrot_6 for 6 months before Rotation elections; and so on for EDrot_9 and EDrot_12	EDROT_3	EDROT_3	
EDrot_6		EDROT_6	EDROT_6	
EDrot_9		EDROT_9	EDROT_9	
EDrot_12		EDROT_12	EDROT_12	EDROT_12
EDrot3	Cumulative electoral dummies after Rotation elections. EDrot3 for 3 months after Rotation elections; EDrot6 for 6 months after Rotation elections; and so on for EDrot9 and EDrot12	EDROT3	EDROT3	
EDrot6		EDROT6	EDROT6	
EDrot9		EDROT9	EDROT9	
EDrot12		EDROT12	EDROT12	EDROT12
EDnorot_3	Cumulative electoral dummies before No-Rotation elections. EDnorot_3 for 3 months before No-Rotation elections; EDnorot_6 for 6 months before No-Rotation elections; and so on for EDnorot_9 and EDnorot_12	EDNOROT_3	EDNOROT_3	
EDnorot_6		EDNOROT_6	EDNOROT_6	

Table 10 (continued)

Variable	Description	Syntax and transformations employed in estimations for each frequency		
		Monthly	Quarterly	Annually
EDnorot_9		EDNOROT_9	EDNOROT_9	
EDnorot_12		EDNOROT_12	EDNOROT_12	EDNOROT_12
EDnorot3	Cumulative electoral dummies after No-Rotation elections. EDnorot3 for 3 months after No-Rotation elections; EDnorot6 for 6 months after No-Rotation elections; and so on for EDnorot9 and EDnorot12	EDNOROT3	EDNOROT3	
EDnorot6		EDNOROT6	EDNOROT6	
EDnorot9		EDNOROT9	EDNOROT9	
EDnorot12		EDNOROT12	EDNOROT12	EDNOROT12

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