

Fatmawati, Sri; Fitriady, Ardyanto; Widodo, Tri

## Article

# Politically driven cycles in fiscal policy: Evidence from disaggregated budgets in middle-income countries

Economies

## Provided in Cooperation with:

MDPI – Multidisciplinary Digital Publishing Institute, Basel

*Suggested Citation:* Fatmawati, Sri; Fitriady, Ardyanto; Widodo, Tri (2025) : Politically driven cycles in fiscal policy: Evidence from disaggregated budgets in middle-income countries, *Economies*, ISSN 2227-7099, MDPI, Basel, Vol. 13, Iss. 6, pp. 1-29, <https://doi.org/10.3390/economies13060151>

This Version is available at:

<https://hdl.handle.net/10419/329431>

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

### Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>

## Article

# Politically Driven Cycles in Fiscal Policy: Evidence from Disaggregated Budgets in Middle-Income Countries

Sri Fatmawati <sup>1,2,\*</sup> , Ardyanto Fitrady <sup>1</sup> and Tri Widodo <sup>1</sup>

<sup>1</sup> Department of Economics, Faculty of Economics and Business, Gadjah Mada University, Yogyakarta 55281, Indonesia; arfie.fitrady@ugm.ac.id (A.F.); widodo.tri@ugm.ac.id (T.W.)

<sup>2</sup> Department of Accounting, Faculty of Economics and Business STIE Yayasan Keluarga Pahlawan Negara (STIE YKPN), Yogyakarta 55281, Indonesia

\* Correspondence: sрифatmawati@mail.ugm.ac.id; Tel.: +62-81225091871

**Abstract:** This paper examines the electoral cycle and the conduct of the central government's fiscal policy. It uses a panel database with disaggregated spending and revenue series for 34 middle-income countries over 2000–2022. A dynamic panel approach was used to look at overall government spending and income, and their parts, to find budget patterns during election seasons. The analytical methodology employs the two-step system generalized method of moments to address endogeneity concerns. The dynamic effect captured by the first lag of budgetary indicators suggests that the widening of that indicator is persistent. There is evidence that the current government is opportunistic, which suggests that the electoral cycle affects fiscal performance, especially when it comes to spending on economic matters and taxes on income, profits, and capital gains. Policymakers should be more aware of the government's opportunistic impact during the electoral period. To keep the budget stable, regulating corruption and having a democratic attitude might lessen the effects of the electoral cycle.

**Keywords:** political budget cycle; fiscal indicator; control of corruption; democracy level; middle-income countries; two-step GMM



Academic Editor: Angeliki N. Menegaki

Received: 20 March 2025

Revised: 18 May 2025

Accepted: 19 May 2025

Published: 28 May 2025

**Citation:** Fatmawati, S., Fitrady, A., & Widodo, T. (2025). Politically Driven Cycles in Fiscal Policy: Evidence from Disaggregated Budgets in Middle-Income Countries. *Economies*, 13(6), 151. <https://doi.org/10.3390/economies13060151>

**Copyright:** © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Most empirical evidence indicates that incumbent politicians typically seek to decrease revenue and augment expenditure, particularly when campaigning for re-election. We refer to this phenomenon as the political budget cycle. The political budget cycle arises from incumbents' aspiration for re-election by appealing to voters (Baskaran et al., 2016; Nordhaus, 1975). Budget cycles typically manifest during the initial phases of a democratic political transition and are predominantly observed in developing nations rather than developed ones (Brender & Drazen, 2005, 2008; Shi & Svensson, 2006).

The political budget cycle is a significant issue because of the insufficient information available to voters, allowing political leaders to manipulate the budget for their own interests. Rogoff (1987) asserted that asymmetric information contributes to the political budget cycle, as voters struggle to assess the performance of incumbents. Because of this, the government has to use its stronger power to create a unique image and appeal to voters by creating fiscal policies, especially before elections. The political budget cycle illustrates the cyclical variations in economic policies influenced by the date of general elections in modern democracies characterized by asymmetric information among voters.

The augmentation of government expenditure serves as a favorable indication for voters concerning the efficacy of incumbents and bolsters their capacity to deliver further

public goods before the election (Rogoff, 1987). Incumbents will augment capital investment to attain short-term economic growth (Bonfatti & Forni, 2019; Klein & Sakurai, 2015) and enhance social welfare expenditures to elevate the income of impoverished and middle-class voters who are frequently overlooked (Schneider, 2010; Vergne, 2009). However, adding more money to social welfare programs like health care, education, and social protection for voters might not have the same effect on incumbents because constituents have different and sometimes conflicting interests (Barberia et al., 2011). Enhancing social insurance and pension benefits may not be advantageous for most low- and middle-income voters in certain nations where a significant portion of the workforce is employed in the informal sector. Incumbents increasingly depend on financing infrastructure improvements, particularly in projects with significant direct visibility, to showcase their competence to voters. Due to voters' inability to accurately assess government spending and budget deficits, they often depend on pre-election information regarding government expenditures, leading them to perceive the incumbent's competence as enduring (Shi & Svensson, 2006). Social spending and infrastructure investment typically escalate in the year preceding an election, as the tangible effects on the economy require time to manifest (Barberia et al., 2011).

Numerous empirical studies highlight the significance of budget expenditures during the execution of general elections or re-elections. Galli and Rossi (2002) showed that government expenditure escalates during election periods, especially when incumbents seek re-election. Incumbents will endeavor to enhance their appeal to voters by carefully utilizing the budget (Klein & Sakurai, 2015). As shown by Balaguer-Coll and Brun-Martos (2013), Brender and Drazen (2005), and Chortareas et al. (2016), the political budget cycle supports the idea that trying to increase budgetary spending affects people's behavior, specifically their voting choices. Specific research has identified the impact of elections on budget allocation across many governmental tiers, including national and regional levels. During election years, budgetary expenditures typically rise, particularly in donations, social assistance, education, healthcare, and road infrastructure (Benito et al., 2013; Sjahrir et al., 2013).

The evidence concerning the existence of the political budget cycle produces varied outcomes. Alesina et al. (1999) and Alt and Lassen (2006) demonstrated the presence of a political budget cycle in OECD nations, but Schuknecht (2000) identified a political budget cycle in underdeveloped countries. Vergne (2009) noted that several developing nations observe the cycle only for specific spending categories. Brender and Drazen (2008) established the presence of the budget cycle utilizing a mixed sample of OECD and non-OECD nations; however, Klomp and De Haan (2013a) could not substantiate its existence. Some developing countries experience the political budget cycle more often than industrialized countries (Klomp & De Haan, 2013b). People frequently view the political budget cycle in developing nations as a moral hazard issue (Shi & Svensson, 2006). The concept posits that incumbents can regulate the extent of public expenditure while contemplating re-election. Subsequently, voters evaluate the goods and services provided. Voters possess asymmetric information concerning the extent to which public goods are attributable to the incumbent's competence or fiscal manipulation. They lack the requisite information to evaluate economic policies and the performance of incumbents, thereby enabling opportunistic behavior (Vergne, 2009). In their article, Brender and Drazen (2005) stress how important it is for voters to have access to knowledge and information so that they can punish leaders who use money to gain political advantage. The accessibility of media for voters is a crucial element in attaining a robust democracy, thereby tackling the PBC problem (F. J. Veiga et al., 2017).

On the other hand, several theories and empirical findings about the political budget cycle theory mostly focus on developed countries (Bonfatti & Forni, 2019; Castro & Martins,

2013; Foremny & Riedel, 2014), both when looking at groups and individuals. Additional research is required about using the political budget cycle theory in developing nations classified as middle-income countries (MICs). When assessed by the comprehensive United Nations Human Development Index, middle-income nations are typically categorized as developing countries. MICs constitute 75% of the worldwide population and 62% of the impoverished, prompting the assertion that MICs account for roughly one-third of the world's GDP and serve as the primary driver of global growth (Khartit, 2023). The preservation of governmental budgetary sustainability can catalyze robust global growth. Consequently, a more rigorous examination of the fiscal conditions in various MICs, particularly during electoral periods, is required. The fiscal stance of most MICs is marked by a generally weaker fiscal condition, characterized by elevated government debt, heightened government expenditure, and diminished revenue, particularly during electoral cycles, which can exert fiscal pressure that may affect the fiscal sustainability of each nation.

This paper explores the political determinants of fiscal policy choices. If tax cuts or excessive spending increases can provide electoral advantages for politicians, then they are probable to do so. Extensive literature has verified those assumptions, but generally, they rely on aggregated data. With this data type, nothing can be said about how governments allocate their expenditures inside those broad aggregates. We might ask, in what areas are they spending more? What type of revenue influences politicians' attitudes? Which components are preferred? This means that exploring political cycles on the sub-levels of the budget both expenditures and revenue is empirically relevant and can provide a better understanding of the subject.

Utilizing panel data from 34 middle-income countries from 2000–2022, we initially conducted an empirical investigation of the nature of the political budget cycle in some nations susceptible to opportunistic political manipulation of economic policies and outcomes. The main factors regarding institutional quality are how well corruption is controlled and how democratic budget decisions are made during elections. The system generalized method of moments (SYS-GMM) is a dynamic panel technique used during the election cycle to estimate dynamic changes and reduce endogeneity concerns. This method has yielded more intriguing results than those previously available.

The empirical findings show that aggregate fiscal indicators, including total government spending and revenues, initiate the political budget cycle in middle-income countries. Alterations to the budget balance predominantly indicate a budget deficit and do not reflect the cycle. The budget deficit remains unchanged during the election, indicating the incumbent's strategy to evade voter retribution, particularly from fiscally conservative constituents concerned about the elevated deficit (Brender & Drazen, 2008). This in contrast to low conservative voters, who generally exhibit indifference towards the escalating budget deficit (Garmann, 2017).

Then, looking at separate fiscal variables shows that spending on economic issues has a bigger effect on the budget cycle, both before and during elections. Election-related increases in government expenditure coincide with a surge in revenue, thereby reducing the budget deficit. The revenue component that has risen is the tax on income, profit, and capital gains, referred to as direct tax. Direct taxes significantly impact the political budget cycle more than indirect taxes.

The study findings indicate that governmental opportunism diminishes as the efficacy of internal corruption control among institutions escalates. Also, there is less budget manipulation during election seasons with a higher democratic establishment. This is true for both spending and income. This paper consists of several sections. Section 2 presents the theoretical framework and literature review. Section 3 summarizes the data,

research variables, and the employed research model. Section 4 outlines the empirical results and undertakes the discussion. Finally, Section 5 presents our concluding remarks and policy recommendations.

## 2. Theoretical Background and Literature Review

### 2.1. Theoretical Model

Shi and Svensson's (2006) perspective highlights the significance of two critical aspects in mitigating moral hazard within the electoral budget cycle. Many experts assert that the political budget cycle (PBC) varies between countries and frequently contend that it is particularly active in developing nations or lower socioeconomic classes. Each country possesses certain variables that can affect the motivations and capacities of politicians to manipulate fiscal policy before elections. This model elucidates two conditional factors that can influence the amount of PBC: the incentives for politicians to retain power and the number of knowledgeable voters. We outline a basic scheme only.

There is an assumption that each politician has a certain competence level in these moral hazard models. Voters have rational expectations and want to elect the politician or incumbent with the highest competence level. The competence level is unobservable, so voters must decide based on the incumbent government's observable macroeconomic performance such as the amount of public goods. There is a very important assumption that the incumbent government can also exert hidden effort to stimulate policy instruments. The moral hazard models by the utility function of voters  $i$  in period  $t$  is

$$U_t^i = \sum_{s=t}^T \beta^{s-t} [g_s + u(C_s) + \theta^i z_s] \quad (1)$$

where  $g_t$  is the consumption of a government-provided good (per capita) in period  $t$ ,  $c_t$  is private consumption,  $z_t$  is a binary variable taking the value  $-\frac{1}{2}$  if  $a$  is elected and  $\frac{1}{2}$  if  $b$  is elected,  $u(c)$  is a standard concave utility function.

The model assumes that the economy comprises many citizens, each of whom derives utility from a private and public consumption good. Two politicians (political parties) are denoted by  $a$  and  $b$ . All agents are expected utility maximizers. All voters are alike in their preferences over consumption, but they differ in the parameter  $\theta^i$ , which is uniformly distributed on  $[-\frac{1}{2}, \frac{1}{2}]$ . If  $\theta^i < 0$  voter  $i$  is biased in favor of party  $a$  (and vice versa), this can be seen as valuation of another dimension (policy or personal characteristics) on which the candidates differ.

The output of public goods ( $g_t$ ) is determined residually by the following:

$$g_t = \tau_t + d_t - R(d_{t-1}) + \eta_t^j \quad (2)$$

where  $\tau_t$  means taxes,  $d_t$  means borrowing,  $R(d)$  is a continuous cost function of public borrowing with  $R(0) = 0$  and  $R(d) > 0$  for all  $d > 0$ , and  $\eta_t^j$  means certain competence level.

At the beginning of each period, all citizens receive an exogenous income  $y$ . Public good provision is financed with a lump sum tax  $\tau$ .

$$c_t = y - \tau_t \quad (3)$$

The politicians derive their own utility from consumption goods in the same way as other citizens. Furthermore, the authors state that the politician can gain additional ego rents,  $X$ . There are only two periods (election and post-election period). Thus, elections take place at the end of every other period and political candidate  $j$ 's utility function is as follows:

$$V_t^j = \sum_{s=t}^T \beta^{s-t} [g_s + u(c_s) + X_s], \text{ for } j = \{a, b\} \quad (4)$$

At the time of the elections  $t$ , voters will vote for the candidate who will deliver the best expected outcome in period  $t + 1$ . The budget constraint in period  $t$  is as follows:

$$g_t = \tau^* + d_t + \eta_t, \quad (5)$$

where  $\tau^*$  is the optimal tax rate.

Since borrowing is costly and the marginal utility of public consumption is constant, the government will not borrow in period  $t + 1$ ; it will run a primary surplus to reduce its debt. Thus,

$$g_{t+1} = \tau^* - R(d_t) + \eta_{t+1}. \quad (6)$$

At beginning at period  $t$ , the incumbent sets  $\tau_t$  and  $d_t$  to maximize his total expected utility over the next two periods. A shock occurs during the period. This timing implies that the incumbent facing a large set of possible policy problems knows the tax code, while he is uncertain about the tax revenue it will generate. The first order condition (FOC) of the maximization problem mentioned in the cited article equates the marginal disutility of taxes with the marginal utility of spending.

In equilibrium condition, the incumbent will overstimulate the economy before an election by borrowing, even though voters are rational and forward looking. Note also that voters fully expect the chosen debt level, so it does not affect the incumbent's re-election probability in equilibrium. Moreover, the magnitude of the deficit depends on two institutional features of the economy: the politicians' rents of remaining in power and the capacity of informed voters in the electorate. The features may explain the variation in the size of political budget cycles in certain countries. We construct proxies for the two institutional features based on the control of corruption and democracy index.

## 2.2. Literature Review and Hypothesis Development

### 2.2.1. Election and Budgetary Indicator

The political budget cycle (PBC) model expands upon the political business cycle theory established by Nordhaus (1975) by examining the impact of the political process on economic conditions. The model highlights the government's pronounced intent to engage in public investments in anticipation of political unrest during the electoral period. Economic data, such as inflation and unemployment rates, act as critical benchmarks for the incumbent administration in shaping people's political preferences. The PBC model was initially proposed by Rogoff and Sibert (1988), positing that the incumbent government's inclination to manipulate the budget substantially affects the economic conditions during the election year to secure voter support. The budget cycle is influenced by voters' asymmetric information about the incumbents' competency. Incumbents contend that budget manipulation can foster a favorable perception among voters concerning their competency.

The current research on the political cycle provides a theoretical framework and empirical evidence confirming that economic conditions influence election success. Elevated government expenditure on economic activities before elections can stimulate demand and promote economic growth, particularly during economic recessions (Devarajan et al., 1996; Parui, 2022). In this context, favorable economic conditions are frequently correlated with an increased likelihood of incumbents securing re-election (Aidt et al., 2011; Akhmedov & Zhuravskaya, 2004; Castro & Martins, 2013; L. G. Veiga & Veiga, 2007). Voters penalize incumbents for deteriorating economic conditions by selecting opposition candidates and political parties (Kraemer, 1997; Lindvall, 2014; Nguyen, 2021). Consequently, incumbents often promote short-term economic growth to enhance their prospects for re-election. Peltzman (1992) and Alesina et al. (1999) presented evidence indicating that the likelihood of a

president's re-election in various developed nations diminishes when the deficit escalates throughout their tenure. An increased share of fiscally conservative voters in an election correlates with a diminished likelihood of re-election for incumbents sustaining a budget deficit (Brender, 2003; Brender & Drazen, 2008). Conversely, the choice of incumbents to augment overall expenditure and incur substantial budget deficits throughout election cycles transpires solely in electoral contexts characterized by minimal proportions of fiscally conservative voters (Garmann, 2017).

We tested the existence of PBCs in multiple countries, collectively and individually, using Rogoff's PBC equilibrium model. Much research shows that budget deficits, overall spending, and other budgetary allocations related to elections are worsening. L. G. Veiga and Veiga (2007) recognized the existence of a PBC at the municipal level in Portugal. During the elections, there was an escalation in the budget deficit and overall expenditure, particularly in highly visible areas like investment and capital outlay. Conversely, tax revenue exhibits a decrease. According to Lewis (2018), the results are supported by the fact that before and during election seasons, the government usually spends a lot of money on building infrastructure like bridges and roads that connect communities as a sign of how competent the current leader is. The report from 2016 also demonstrates the rise in budget deficits and overall expenditure attributable to elections. The study was conducted by Chortareas et al. (2016) in Greece. The investment spending category predominantly comprises short-term project development. Opportunistic behavior manifests socially, as incumbents frequently augment public expenditure preceding and during election, particularly to appease low-income constituents (Schneider, 2010). Nguyen et al. (2022a) demonstrated this by augmentation social spending in 108 nations from 1991 to 2019. The study results indicate a 0.14% increase in government expenditure on social welfare, encompassing health, education, and social security, during election years.

Brender and Drazen (2008) could not demonstrate the presence of escalating government spending or increasing budget deficits during the pre-election period. The pre-election period augments budget balance, potentially signaling favorably to voters. Katsimi and Sarantides (2012) found no definitive evidence of a budget cycle when examining alterations in total government expenditure during election times across 19 OECD nations from 1972 to 1999. This condition is assessed as incumbents often influence fiscal spending by modifying the content of expenditures instead of changing the total expenditure itself (Schneider, 2010; L. G. Veiga & Veiga, 2007). To ensure the budget is stable and long-lasting, incumbents want to re-allocate funds or change the makeup of fiscal elements, such as income or spending (Drazen & Eslava, 2010; Katsimi & Sarantides, 2012). According to Drazen and Eslava (2010), incumbents cut back on spending on things like interest payments, transferring retirees, and temporary worker contracts before elections, while at the same time increasing spending on things like infrastructure development for health, road construction, irrigation, energy, and housing. Certain politicians in Brazil prioritize capital expenditure over current expenditure while ensuring budgetary equilibrium and total government spending (Bonfatti & Forni, 2019; Klein & Sakurai, 2015). Vergne (2009) analyzed 42 developing nations from 1975 to 2001, revealing that although the deficit and total expenditure remained constant, the composition of spending shifted towards current expenditure at the expense of capital investment.

The political budget cycle hypothesis says that the government needs to fix budget imbalances because incumbents take advantage of opportunities before an election (Castro & Martins, 2013; Nordhaus, 1975; Rogoff, 1987). In most developing nations, government expenditure diminishes following election years and is notably lower than before elections (Block, 2001). Ames (1977) analyzed a sample of Latin American countries from 1947 to 1982 and determined that government spending before elections rose by 6.3% and then

fell by over 7.6% post-elections. He contends that the administration seeks to cut capital spending following the election year to rectify the budget deficit. [Nguyen and Tran \(2023\)](#) argue that in the post-electoral period, government spending decreases and, conversely, total revenue increases to maintain budget balance continuity. Based on these mixed results, the following hypothesis is proposed:

**Hypothesis 1 (H1).** *The time preceding and during the election year has a negative effect on the balance budget and government spending.*

**Hypothesis 2 (H2).** *The period following the election year has a negative effect on the government expenditure.*

Most of the research looks at the connection between the political budget cycle and changes in government spending or spending related to changes in tax rates ([Block, 2001](#); [Brender & Drazen, 2005](#); [Schuknecht, 2000](#)). [Ehrhart \(2013\)](#) explicitly analyzed the impact of elections on taxation in 56 developing nations from 1980 to 2006. The study findings indicate that there is a detrimental impact on tax revenue preceding and during election, especially indirect taxes, totaling 0.2%. This aligns with the perspective of [Drazen and Eslava \(2010\)](#), who contend that indirect taxes exert a more extensive influence than direct taxes. The reduction in taxation is anticipated to yield greater advantages for prospective voters. The reduction in tax rates before elections is frequently deemed favorable; yet it may also escalate expenditures or responsibilities for the government due to the deterioration of its budget. Consequently, the government can augment tax revenues before elections to amass substantial financial resources for consolidating political power ([Prichard, 2018](#)). Tax rates were elevated in the post-election period to address fiscal requirements ([Schuknecht, 2000](#)). Based on these results, the following hypothesis is proposed:

**Hypothesis 3 (H3).** *The time preceding and during the election year has a negative effect on the government revenue.*

#### 2.2.2. Conditional Factor: Corruption and Democracy

Decisions concerning the government budget are a consensus among all governmental parties, with politicians playing a significant role in the process. Politicians may engage in corruption driven by the ambition to augment the budget, potentially by bribery ([Mauro, 1998](#); [Vuković, 2020](#)). An increase in government expenditure during the pre-election period is deemed very sensitive, as mainstream political parties may scrutinize the incumbent's spending decisions. Incumbents may be disinclined to participate in government funding initiatives that could expose them to politically motivated corruption inquiries before or during the election cycle ([Pierskalla & Sacks, 2018](#)). Conversely, some perspectives assert that corrupt politicians will evade electoral repercussions due to their capacity to engineer a more safeguarded system ([Coviello & Gagliarducci, 2017](#); [Vuković, 2020](#)). The role of corruption control in the political budget cycle is subject to intense scrutiny, despite the varying perspectives outlined above.

Certain empirical studies yield contradictory results about the impact of corruption on political outcomes. [Peters and Welch \(1980\)](#) contended, based on studies from 1968 to 1978, that members of the US Congress prefer the advantages of corruption over the risk of not being re-elected following corruption allegations. [Welch and Hibbing \(1997\)](#) researched US Congress members from 1982 to 1990, concluding that corruption adversely affects the electoral cycle, thereby creating prospects for re-election. [Rundquist et al. \(1977\)](#) used a survey experiment to back up the results of this study. They found that voters would overlook acts of corruption and value other qualities in a politician more. Conversely,

Dimock and Jacobson (1995) examined the effects of the House of Representatives financial scandal on US voters in 1992 and discovered that people disfavor corruption and will impose penalties for it. Brollo et al. (2013) in Brazil corroborated diverse outcomes, revealing a positive correlation between increased corruption opportunities and the re-election of candidates. Ferraz and Finan (2011) used the same set of data from random procurement audits, showed that voters punish corruption that is shown. Evidence suggests that in poor countries and emerging nations, corruption is neither penalized through voting (Chang & Kerr, 2017; Manzetti & Wilson, 2007) nor leads to increased voter turnout (Klašnja, 2015; Klašnja et al., 2016). Based on these results, the following hypothesis is proposed:

**Hypothesis 4 (H4).** *The control of corruption undermines the presence of political budget cycles.*

When incumbents are motivated to secure support before elections, the budget cycle phenomenon may not emerge. It should be acknowledged that opportunistic behavior is not always preferred in nations with a high degree of democracy. Democracy, by emphasizing political competition, might mitigate the impacts of adverse selection and information asymmetry problems (Rogoff, 1987; Vergne, 2009). The PBC is often weaker or nonexistent in developed countries compared to developing countries (Shi & Svensson, 2006; Streb et al., 2009). It is also weaker or nonexistent in countries with established democratic frameworks compared to countries with new democracies and in strong democracies compared to weak democracies (Gonzalez, 2002). Numerous scholarly works highlight that a lack of checks and balances or significant institutional limitations can restrict leaders' (incumbents') inclination to manipulate the economy for political gain. Streb et al. (2009) assert less evidence of PBCs in various European democracies, disregarding the significance of checks and balances. We evaluate these institutional limitations and find that the few restraints imposed on the executives give rise to a PBC phenomenon. Furthermore, it is determined that the inadequate checks and balances system contributes to PBCs' heightened influence in numerous nascent democracies or developing nations. Based on these results, the following hypothesis is proposed:

**Hypothesis 5 (H5).** *The degree of democracy undermines the presence of political budget cycles.*

### 3. Methodology and Data Description

#### 3.1. Methodology

Panel data analysis often encounters obstacles such as omitted variable bias, measurement error, unobserved time-invariant and country-specific characteristics, auto-correlation, and endogeneity or the problem of reverse causality (Phillips & Sul, 2007). The basic model used in this study is the model developed by Klomp and De Haan (2013b), Shi and Svensson (2006), along with several modifications to the model. The model is used to analyze the extent of the influence of electability on fiscal performance, including changes in budget deficits, government spending, and revenue. The specification of the empirical model is formulated as follows:

$$Y_{ijt} = \alpha + \beta_j Y_{ijt-1} + \gamma elec_{it} + \delta W_{ikt} + \mu_i + \lambda_t + \varepsilon_{it} \quad (7)$$

where  $Y_{ijt}$  is the fiscal indicator  $j$  in country  $i$ , year  $t$ , and  $Y_{ijt-1}$  is the lag of the fiscal indicator used to measure the persistence of political dynamics on fiscal variables,  $W_{ikt}$  is a vector of control variables or vector of country-specific and time-varying socio-economic control variables, and  $elec_{it}$  is a dummy variable that measures the electoral effect including the period before the election year (pre-election), during the election year (election), and after

the election year (post-election). Next,  $\mu_i$  and  $\lambda_t$  are unobserved country and time-specific effects, and  $\varepsilon_{it}$  is the error term.

In addition to providing new evidence regarding the electoral cycle on several aggregate fiscal variables (total expenditure, total revenue, and budget surplus/deficit), a further study was conducted considering the influence of each fiscal component from both the expenditure and revenue sides. The expenditures include economic affairs, public services, and social welfare (health, education, and social security). These expenditure components contribute more than 22% to total expenditure compared to other components (which contribute less than 4%), namely defense, environmental protection, recreation, culture and religion, housing and community amenities. Next, the revenue component is more focused on the tax revenue side, both direct taxes (distortionary) and indirect taxes (non-distortionary) (Katsimi & Sarantides, 2012; Kneller et al., 1999). Direct taxes include income, profit, and capital gains tax, while indirect taxes include tax on goods and services and international trade. In this study, it is assumed that the central bank's independence does not affect government spending. In reality, the institution can weaken the incumbent's incentive for fiscal policy expansion (Aklin & Kern, 2021). The central bank can anticipate the effect of increased government spending with increased interest rates. Utama et al. (2022) indicate a coordinated relationship between government expenditure and interest rates, but not between interest rates and government tax collection. To strengthen this assumption, the Central Bank independence index by (Garriga, 2016) is considered a control variable. The test results reinforce that the findings are consistent.

This empirical analysis is based on central government data, not general government data. General government data encompass all levels of government, including state, local, and central, and often encounter difficulties in interpretation (Bräuningner, 2005; Schuknecht, 2000; Vergne, 2009). In addition, general government accounts across countries and periods are less consistent. Data on fiscal variables, both aggregate and disaggregate, are obtained from the IMF, namely the Government Finance Statistic (GFS) or the Global Development Network Growth Database.

Equation (7) above is the specification of standard dynamic panel data. However, using lagged dependent variables and country-specific effects causes the OLS estimator to be inconsistent and biased due to violating the homogeneity assumption of the error term,  $\varepsilon_{it}$  (Phillips & Sul, 2007). Although the Fixed-Effect (FE) estimator can eliminate unit-specific effects, the bias introduced by the lag of the dependent variable remains. The order of the estimation bias is equal to  $1/T$ , where  $T$  indicates the panel period. If  $T$  is low, the FE estimator becomes inconsistent and will be consistent as  $T$  increases (Kiviet, 1995; Nickell, 1981). With a panel period of 23 years in this study, using the FE estimator in the context of a dynamic model results in a condition of non-negligible bias. We consider using the Blundell and Bond (1998) concept, namely the two-step system GMM estimator for dynamic panel data, to anticipate these weaknesses. This concept or technique has the advantage of controlling unobserved individual heterogeneity and provides more information on data variations to minimize the occurrence of multicollinearity (Baltagi, 2013). This estimator complements the difference GMM estimator (Arellano & Bond, 1991) by using lagged differences of the dependent variable as instruments in the level equation. The magnitude of the standard error estimated by the two-step GMM estimator tends to be very biased downward. To anticipate this bias, the (Windmeijer, 2005) finite sample correction is used to address the level of bias (Roodman, 2009). To avoid obtaining less accurate results due to instrument proliferation, we collapse the instrument set to reduce the number of moment conditions (Roodman, 2009). Next, the Arellano and Bond (AB) test is operationalized on the differenced residuals' first-order and second-order serial correlation. The AB test determines whether there is a residual serial correlation. Next, a

Hansen test is conducted to isolate over-identifying restrictions—that is, to determine the validity of an exogenous instrument.

There are several reasons for using the system GMM. First, the number of cross-sections (N) exceeds the number of time series (T) in 34 middle-income countries over 23 years. Second, time-variant omitted variables can be easily addressed through GMM because unobserved country-level heterogeneity can be accounted for. Third, internal instruments are used to address issues related to potential endogeneity. Because fiscal indicators tend to be persistent both within and across countries (Chortareas et al., 2016; Kyriacou, 2019), using the first lag of fiscal indicators increasingly allows GMM estimation to eliminate the risk of such persistence.

Evaluating whether the variables of interest are stationary before proceeding with the empirical estimation is critical. The Levin, Lin, and Chu (LLC) tests, as Hao et al. (2015) recommended, assume a unit root process for each individual. This analysis is widely used to avoid potentially biased results for panel data with structural breaks and is attracting increasing attention in electoral cycle analyses. Here, we also use the LLC test.

### 3.2. Data Sources and Variable Description

This research investigates panel data covering 34 countries in middle-income countries group over the observation period from 2000 to 2022. Middle-income countries are divided into lower-middle-income countries (with a per capita GDP range of \$1035–\$4045) and upper-middle-income countries (with a per capita GDP range of \$4046–\$12,535). Some studies tend to observe the movement of the political budget cycle in examining several developing countries, emerging countries in Asia and Europe, and some developed countries. The focus on middle-income countries has not yet been studied in depth. A sample of countries with relatively similar characteristics makes it easier to uncover the phenomenon of issues (Brender & Drazen, 2008; F. J. Veiga et al., 2017). This study observes changes in the composition of fiscal policy due to elections based on a presidential system of governance.

Data regarding several sample countries used are attached in Appendix A. The data are sourced from intergovernmental and international organizations, including aggregated and disaggregated fiscal indicator data from the International Monetary Fund (IMF) Financial Statistics (<https://data.imf.org/>). Data related to the election period are sourced from the Election Guide (<https://www.electionguide.org/>), institutional capacity data from the World Governance Indicators and Transparency International (<https://www.worldbank.org/en/publication/worldwide-governance-indicators>, accessed on 17 June 2023), economic and demographic data from the World Development Indicators, World Bank, and democracy data from the Economist Intelligence Unit (EIU) (<https://www.eiu.com/n/>). A detailed description of each variable and the data sources can be found in Table 1. Next, the correlation matrix is illustrated in Appendix B.1.

Our explanatory variable of interest is the electoral variable determined based on the election year during the presidential election, referring to the provisions of the Election Guide. A comprehensive explanation of the changes in expenditure and its composition during the electoral period is outlined using three electoral dummy variables: before the election year (pre-election), during the election year (election), and after the election year (post-election). Some literature often uses an electoral dummy measurement valued at 1 for the election period or year and at 0 otherwise. The same applies to the one year before the electoral event or one year after the electoral event. If electoral data are presented in monthly or daily periods, the indicator cannot detect the presence or absence of PBCs due to changes in fiscal indicators (Angelopoulos & Economides, 2008; Franzese, 2000; Potrafke, 2006). The measurement of the electoral dummy variable is determined using the following formula:

1.  $ele_t = \frac{[(M-1)+\frac{d}{D}]}{12}$ , for the period in the election year.
2.  $ele_{t-1} = \frac{[12-(M-1)+\frac{d}{D}]}{12}$ , for the period before the election year.
3.  $ele_{t+1} = \frac{[12+(M-1)+\frac{d}{D}]}{12}$ , for the period after the election year.

The symbol  $M$  explains the order of the month or which month the election is held,  $d$  is the date, and  $D$  is the number of days in the month of the election. As previously explained, the classical political budget cycle theory states that the budget balance and government spending increase before election periods and decrease after passing through election periods. Conversely, government revenue is lower in the lead-up to elections.

As a standard practice in the existing electoral fiscal cycles literature, some control variables were added to the model: GDP growth, inflation, unemployment, trade openness, dependency ratio, government debt, politics stability. Changes in the macroeconomic variable of GDP growth can impact the business cycle (Nguyen, 2021). High inflation rates can increase government spending (Brender & Drazen, 2013). Inflation can affect government receipts and expenditures through nominal progression in tax rates, tax brackets, and price indexation of receipts and expenditures. Unexpected inflation can reduce the real value of the government's nominal debt and impact the budget balance (Mink & De Haan, 2006). The unemployment rate is also a control variable because the government will increase social security expenditures and income will decline further if unemployment rises (McManus, 2019; Nguyen et al., 2022a).

On the other hand, a decrease in age dependency can reduce the government's burden of responsibility in allocating social funds, whether for social security or health care (Holcombe & Williams, 2008). Trade openness is related to the dynamics of trade liberalization. The effects of liberalization policies can influence the government's fiscal performance according to the standard Keynesian model (Wuri, 2024). The higher the level of openness, the less effective the fiscal policy (Karras, 2012). When the government's spending in a year exceeds its revenue, there will be a budget deficit for that fiscal year. Hence, it must use debt to fill the funding gap. This situation creates an annual deficit, which cannot end until the accumulated debt becomes unsustainable and the government's finances collapse (Soo et al., 2023). The condition of a country's political stability often negatively impacts government spending but does not significantly affect federal revenue (Feld & Schaltegger, 2010).

Several important factors play a role in the strengthening or weakening of the occurrence of PBCs. One of the factors in question relates to the institutional environment that is formed, which either leads to the ability to control corruption (Ehrhart, 2013) or the level of democracy (Brender & Drazen, 2005). The decision on the magnitude of government spending is determined by the considerations of politicians motivated by their interests. Increased government spending may incentivize corrupt politicians to engage in large-scale bribery (Mauro, 1998; Vuković, 2020). The incentives of politicians depend on the scope of their political institutions (Shi & Svensson, 2006). The greater the benefits politicians receive due to their power, the stronger their incentive to influence voters' perceptions. We proxy for these institutional variables using cross-country data on government corruption control. The strong institutional constraints on politicians leave little room for public officials to appropriate public resources for private gain. For political parties, increased spending during elections is sensitive because it can be exposed to corruption investigations (Pierskalla & Sacks, 2018).

**Table 1.** Variable description.

Variables	Description	Measurement	Source
BALANCE	Budget balance (net lending/borrowing)	Difference between a government's revenues and its expenditures (% GDP)	Government Finance Statistics—International Monetary Fund
EXPEND	Expenditure Total	Total government expenditure (% GDP)	Government Finance Statistics—International Monetary Fund
REVENUE	Revenue Total	Total government revenue (% GDP)	Government Finance Statistics—International Monetary Fund
ECOAFF	Economic affairs expenditure	Total government spending on economic affairs (% GDP)	Government Finance Statistics—International Monetary Fund
PUBSERV	Public services expenditure	Total government spending on public services (% GDP)	Government Finance Statistics—International Monetary Fund
SOCWELF	Social welfare expenditure	Total government spending on social welfare (% GDP)	Government Finance Statistics—International Monetary Fund
TAX_GSF	Tax on goods and services	Total tax revenue on goods and services (% GDP)	Government Finance Statistics—International Monetary Fund
TAX_IPCG	Tax on income, profit, and capital gains	Total tax revenue on income, profit, and capital gains (% GDP)	Government Finance Statistics—International Monetary Fund
TAX_IT	Tax on international trade	Total tax revenue on international trade (% GDP)	Government Finance Statistics—International Monetary Fund
Elec1	Pre-election	The year before an election (dummy variable)	Election Guide
Elec	Elections	Election years (dummy variables)	Election Guide
Elec2	Post-election	The year after an election (dummy variables)	Election Guide
Inf	Inflation	The percentage of annual inflation rate based on the consumer price index	World Bank
Gro	GDP growth	The percentage of annual GDP growth rate	World Bank
Unem	Unemployment rate	The unemployment rate (% of total labor force)	World Bank
Dep	Dependency ratio	Age dependency ratio (% of working-age population)	World Bank
To	Trade openness	Total exports and imports (% GDP)	World Bank
Pols	Political stability	Absence of violence or terrorism index with ranges approximately between −2.5 (weak) and +2.5 (strong)	World Governance Indicator
Debt	Government debt	Total government debt (% GDP)	International Monetary Fund
Ccor	Control of corruption	How much public power is used for private benefit with ranges approximately between −2.5 (very poor) and +2.5 (strong)	Worldwide Governance Indicators
Demo	Democracy index	With ranges approximately between 0 (authoritarian regimes) and 10 (full democracies)	Economist Intelligence Unit (EIU)

Source: authors' construction.

Some studies still focus on the question of how far the level of democracy in a country can influence the emergence of election-induced cycles in fiscal policy. The more voters understand the continuity of elections, the harder it will be for politicians to engage in political engineering. The PBC's magnitude depends on the leaders' incentives to win the elections and their ability to manipulate the economy. Compared to developing countries,

it is not easy for PBCs to form in developed countries even if leaders or incumbents provide such large incentives before election time. PBCs tend to weaken in developed countries compared to developing countries (Shi & Svensson, 2006; Streb et al., 2009) and in established democracies compared to new democracies (Brender & Drazen, 2005; Gonzalez, 2002). Shmuel (2020) and Zergawu et al. (2020) found a strong relationship between low executive constraints and strong PBCs; however, they are mostly limited to democracies.

#### 4. Empirical Results and Discussions

This session discusses the estimation results of the electoral (political) cycle model using election periods, whether during, before, and after the period, with several control variables including macroeconomic variables (economic growth, inflation), demographic variables (unemployment, dependency ratio), monetary variables (public debt), institutional quality (political stability), and international trade (trade openness). Table 2 illustrates the descriptive statistics.

Table 2. Descriptive Statistics.

VARIABLES	ele_inc	ele_nonInc	ele1_inc	ele1_nonInc	ele2_Inc	ele2_nonInc	All Observations				
	(1)	(2)	(3)	(4)	(5)	(6)	obs(7)	Mean (8)	std.dev(9)	Min (10)	Max (11)
Expend	21.58	20.495	20.815	20.538	20.908	20.113	755	20.57	8.46	3.79	61.91
Revenue	20.35	17.712	20.371	17.922	19.726	17.935	755	18.8	8.25	1.98	55.49
Balance	−2.783	−1.227	−2.616	−0.443	−2.177	−1.182	754	−1.767	4.48	−26.51	36.41
EcoAff	3.703	3.158	3.909	3.262	3.5	2.88	782	3.33	2.46	0.05	0.49
SocWelf	5.742	7.385	5.622	7.198	5.486	7.484	781	6.46	4.05	0.6	21.8
PubServ	5.741	5.306	5.603	5.525	5.635	5.298	782	5.59	3.56	0.49	26.2
tax_gsf	29.52	31.937	29.645	32.568	28.261	31.796	657	30.84	16.78	0.12	71.6
tax_it	9.71	8.797	9.67	7.73	10.253	8.463	667	9.59	9.66	0.31	49.8
tax_ipcg	23.22	18.151	22.217	18.458	23.875	17.953	690	21.62	12.3	0.47	45.9
inf							782	8.03	9.51	−18.8	95.41
gro							782	3.73	3.79	−16.9	17.96
unem							781	6.605	4.49	0.69	23.35
dep							782	66.9	17.28	37.5	102.6
to							774	65.62	25.99	16.35	157.9
Pols							744	−0.569	0.68	−2.47	1.069
debt							775	43.29	26.84	2.41	236.2
ccor							748	−0.66	0.44	−1.54	0.72
demo							782	4.99	1.68	1.13	8.29

Note: **Expend** = Expenditure Total; **Revenue** = Revenue Total; **Balance** = budget balance; **ele\_inc** = election period with incumbent; **ele\_nonInc** = election period without incumbent; **ele1\_inc** = pre-election with incumbent; **ele1\_nonInc** = pre-election without incumbent; **ele2\_inc** = post-election with incumbent; **ele2\_nonInc** = post-election without incumbent; **EcoAff** = economic affairs spending; **SocWelf** = social welfare spending; **PubServ** = public services spending; **tax\_gsf** = tax on goods and services; **tax\_it** = tax on international trade; **tax\_ipcg** = tax on income; **inf** = inflation; **gro** = gdp growth; **unem** = unemployment rate; **dep** = dependency ratio; **to** = trade openness; **pols** = political stability; **debt** = government debt; **ccor** = control of corruption; **demo** = democracy index.

##### 4.1. Descriptive Statistics

Descriptive statistics of several variable categories by country group used in this study are presented in Table 2. The list of country group members is shown in Appendix A. In column 11, the average sample of government expenditure against GDP is shown to be 20.57%, with Zimbabwe having the lowest average expenditure of 3.79% in 2008. Meanwhile, Namibia had the highest average expenditure in 2012 at 61.9% of GDP. Next, the average government revenue during the observation period was 18.8%, with the minimum revenue found in Zimbabwe at 1.98% in 2008 and the maximum in Congo at 55.49% of GDP. Based on the data of these two fiscal variables, the average budget balance of the sample countries can be observed, which is experiencing a deficit of −1.77% against GDP. Namibia has the highest deficit rate at −26.5%, while Benin, Cameroon, and Paraguay have the lowest budget deficits at 0.04% each in 2008, 2009, and 2005, respectively. On the other

hand, the country of Congo had the highest budget surplus in 2010, amounting to 36.41% of GDP.

The table also illustrates that the social welfare expenditure component has the highest average weight against GDP (6.46%) compared to public services expenditure (5.59%) and economic affairs (3.33%). The Philippines has the highest social welfare expenditure share, while the Congo has the highest public services expenditure. Next, El Salvador has the highest share of spending on economic affairs compared to other countries.

Social welfare expenditures include funding for health, education, and social security. The average social welfare expenditure as a percentage of GDP with the participation of incumbents in the election year, pre-election, and post-election is 1.643%, 1.58%, and 1.99%, respectively—significantly lower than in elections without incumbents. On the other hand, the average expenditure on economic affairs in the election year, pre-election, and post-election with the participation of incumbents, respectively, is 0.545%, 0.647%, and 0.62% higher compared to elections without incumbents. Similarly, public services expenditure also has a higher value if the incumbent participates in the election during the three observation periods, but it is not significant. The illustration of the movement of the three components of government expenditure shows a dominance of economic affairs expenditure compared to other expenditures.

Next, suppose we observe the components of government revenue from taxes. In that case, the tax on goods and services has the highest average revenue share to GDP (30.84%) compared to the tax on income, profit, and capital gains (21.62%) and the tax on international trade (9.59%). The revenue from tax on income, profit, and capital gains with the participation of incumbents in the election year, pre-election, and post-election is higher by 5.07%, 3.759%, and 5.92%, respectively, compared to elections without incumbents. The same pattern is also observed in the comparison of the magnitude of tax on goods and services and international trade.

#### 4.2. Panel Unit Roots Test

Next, the unit root test for all observed variables is presented using the Levin, Lin, and Chu (LLC) tests. As shown in the following Table 3, all variables are stationary, as indicated by the LLC test  $p$ -value being less than 5%. This means that the null hypothesis stating that all panel data have a unit root is rejected.

#### 4.3. The SYS-GMM Dynamic Panel Estimation

This study uses the SYS-GMM dynamic panel approach to avoid cross-sectional regression, as in previous studies, leading to potential bias (Zergawu et al., 2020). Moreover, this method provides reliable results in addressing endogeneity issues through the system-GMM estimator (Arellano & Bover, 1995; Blundell & Bond, 1998).

For GMM-type instruments, that model uses the first and higher lags of the predetermined variable, and the second and higher lags of the endogenous variable. The first lag-dependent variable,  $Y_{t-1}$  is used as the predetermined variable. The election dummy variable is treated as an independent variable to explain the impact of the election period on the budgetary indicator. Next, we incorporate several control variables including the unemployment rate, economic growth, inflation rate, trade openness, political stability, public debt, and dependency ratio. The preliminary assessment suggests that our variable of interest is not completely exogenous, and that robustness checks with two-step system GMM are required to address endogeneity issues in the model (Arellano & Bond, 1991; Arellano & Bover, 1995; Blundell & Bond, 1998).

Data processing and analysis in this study used STATA version 17. Arellano and Bond (1991) tests for autocorrelation in differences are AR (1) and AR (2). As previously

stated, Hansen's test addresses over-identification constraints (Zergawu et al., 2020). Since the budgetary (fiscal) indicator is a process, the lagged form of the variable was included in the models to allow for partial adjustment of the budgetary indicator to its long-run equilibrium value. Consequently, the value of the budgetary indicator in the previous period affects the current value.

**Table 3.** Levin, Lin, and Chu panel unit root test results.

Variables	T Statistics	p-Value
Budget balance	−3.11	0.0000
Expenditure	−2.609	0.0000
Revenue	−3.38	0.0000
Economic affairs	−2.99	0.0000
Social welfare	−3.46	0.0000
Public services	−2.86	0.0000
Tax on income, profit, and capital gains	−2.36	0.0000
Tax on goods and services	−2.61	0.0000
Tax on international trade	−2.52	0.0000
Unemployment	−2.16	0.0000
Growth	−4.08	0.0000
Inflation	−3.97	0.0000
Trade openness	−2.45	0.0000
Stability of Politics	−2.66	0.0000
Dependency ratio	−1.24	0.0000
Debt of Public	−1.98	0.0100
Control of corruption	−2.33	0.0000
Democracy level	−1.28	0.0400

#### 4.3.1. Aggregated Budgets

The existence of election-motivated PBCs in total spending, total revenue, and deficit is demonstrated in Table 4, which shows the estimation results of the regression model using SYS-GMM. The Arellano–Bond (AB) test reported results that there is no serial correlation in the first-differenced errors. Meanwhile, the output of the Hansen test shows no evidence of over-identifying restrictions being valid. Hence, these results should be preserved cautiously since our model might still have endogeneity problems. The rule of thumb for establishing such persistence requires the lagged value coefficient to be at least 0.80 (Adeleye et al., 2018). The estimation results in that table explain that the coefficient of the dynamic effect (first lag of the fiscal indicator) is equal to or greater than 0.80 and statistically significant at the 1% level. This means the past fiscal indicator level is a stronger determinant of its current level. Furthermore, the dynamic effect indicates that the fiscal indicator is path dependent. This means that the current fiscal indicator in the sample countries can predict changes in that indicator in the following year (Chortareas et al., 2016; Garmann, 2017).

Table 4 presents the baseline results of estimating the electoral cycle effects on fiscal indicators. There is sufficient evidence to prove the PBC hypothesis regarding expenditure. The estimation results of this study also explain that both the election year and the pre-election year have a significant positive effect (at the 10% level) on government spending of 0.83% and 0.1% of GDP, respectively. The influence of the election cycle on total expenditure

reinforces the findings of studies by [Chortareas et al. \(2016\)](#), [Shi and Svensson \(2006\)](#), and [L. G. Veiga and Veiga \(2007\)](#).

**Table 4.** Election and fiscal policy: basic results.

VARIABLES	FISCAL VARIABLES SCALED TO GDP								
	BALANCE	EXPEND	REVENUE	ECOAFF	SOCWELF	PUBSERV	TAX GSF	TAX IPCG	TAX IT
$Y_{t-1}$	1.4 *** (0.04)	0.85 *** (0.10)	0.86 *** (0.02)	0.84 *** (0.10)	0.82 *** (0.07)	0.8 *** (0.10)	0.8 *** (0.04)	0.9 *** (0.08)	0.9 *** (0.03)
<b>Elec</b>	−1.23 (0.60)	0.83 * (0.60)	0.6 * (0.40)	−0.41 (0.20)	0.36 * (0.20)	0.12 (0.20)	−0.08 (0.30)	−0.2 (0.60)	−0.04 (0.20)
<b>Elec_1</b>	−0.4 (0.36)	0.1 * (0.90)	−0.57 (0.40)	0.71 ** (0.30)	0.09 (0.20)	−0.39 * (0.20)	0.6 *** (0.20)	0.03 ** (0.37)	−0.2 (0.20)
<b>Elec_2</b>	0.13 (0.10)	−0.27 (0.10)	−0.07 (0.09)	−0.17 ** (0.07)	0.03 (0.07)	0.07 (0.10)	0.2 ** (0.09)	−0.09 (0.20)	−0.09 (0.10)
Unem	−0.09 ** (0.04)	0.07 * (0.10)	0.4 ** (0.04)	0.05 (0.04)	0.02 (0.03)	−0.0007 (0.01)	−0.07 (0.07)	−0.1 *** (0.10)	−0.02 (0.06)
Gro	0.2 *** (0.04)	−0.05 * (0.05)	0.14 ** (0.02)	−0.004 (0.02)	−0.03 * (0.01)	−0.01 * (0.01)	−0.04 (0.04)	0.03 (0.04)	0.03 (0.02)
Inf	0.03 (0.02)	−0.02 (0.03)	−0.03 (0.02)	0.02 (0.02)	−0.006 (0.01)	0.008 (0.01)	−0.06 *** (0.02)	−0.1 (0.03)	0.07 *** (0.02)
to	0.01 ** (0.01)	0.003 * (0.02)	0.01 * (0.01)	0.01 (0.01)	−0.005 (0.00)	−0.002 (0.00)	0.02 (0.01)	0.02 (0.02)	−0.01 (0.01)
Pols	−0.63 ** (0.30)	0.5 (0.60)	1.03 *** (0.40)	0.1 (0.30)	0.3 * (0.10)	0.19 (0.10)	0.5 (0.50)	0.3 (1.01)	0.4 * (0.30)
Debt	−0.01 * (0.01)	0.001 (0.02)	−0.001 (0.01)	−0.02 (0.03)	0.004 (0.00)	0.004 (0.00)	−0.002 (0.01)	−0.004 (0.01)	0.007 (0.01)
Dep	−0.01 (0.01)	−0.045 (0.03)	−0.096 (0.05)	0.08 ** (0.03)	−0.02 * (0.01)	−0.003 (0.01)	−0.01 (0.02)	−0.02 (0.03)	0.26 ** (0.13)
Year COVID	−0.79 ** (0.30)	0.6 (0.50)	−0.11 (0.10)	0.5 ** (0.20)	−0.19 (0.10)	0.07 (0.10)	0.6 *** (0.20)	0.01 (0.50)	0.015 (0.10)
Constant	−1.5 * (0.90)	4.89 * (2.30)	8.6 *** (0.86)	−4.7 ** (1.80)	2.74 ** (1.20)	1.24 (1.04)	4.7 *** (1.20)	4.36 (3.60)	0.16 (0.30)
Observation	672	673	673	692	692	692	614	581	564
Time Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
Num of Countries	34	34	34	34	34	34	34	34	34
Num of Instruments	13	13	30	22	14	14	30	23	30
AR (2)	0.815	0.673	0.555	0.529	0.729	0.613	0.112	0.465	0.132
Hansen J test	0.312	0.211	0.204	0.207	0.89	0.759	0.262	0.253	0.292

Note: Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ; **Expend** = Expenditure Total; **Revenue** = Revenue Total; **Balance** = budget balance; **EcoAff** = economic affairs spending; **SocWelf** = social welfare spending; **PubServ** = public services spending; **tax\_gsf** = tax on goods and services; **tax\_it** = tax on international trade; **tax\_ipcg** = tax on income; **inf** = inflation; **gro** = gdp growth; **unem** = unemployment rate; **dep** = dependency ratio; **to** = trade openness; **pols** = political stability; **debt** = government debt.

Does the increase in government spending during election periods prove the continuity of the PBC? This can be addressed by observing the data processing results in Table 5 (column E1, interaction row elecxcand), which shows that when the incumbent runs for election again, total spending in the election year is on average 2.17% higher compared to when the incumbent does not run for election again or in periods without an election. The illustration in column E2 also conveys a similar meaning: when the incumbent runs again, total spending in the pre-election year is, on average, 0.93% higher than when the incumbent does not run again or in periods without an election. Furthermore, it is also shown that the average percentage change in spending during the election year is greater than before.

**Table 5.** The election cycle and the role of corruption control and democracy.

VARIABLES	FISCAL VARIABLES SCALED TO GDP																		
	BALANCE						EXPEND						REVENUE						
	B1	B2	B3	B4	B5	B6	E1	E2	E3	E4	E5	E6	R1	R2	R3	R4	R5	R6	
$\Delta Y_{t1}$	0.406 *** (0.04)	0.39 *** (0.05)	0.421 *** (0.04)	0.4 *** (0.05)	0.42 *** (0.04)	0.45 *** (0.01)	0.57 *** (0.03)	0.58 *** (0.03)	0.6 *** (0.07)	0.54 *** (0.06)	0.57 *** (0.06)	0.57 *** (0.06)	0.4 *** (0.08)	0.35 ** (0.16)	0.32 ** (0.16)	0.31 * (0.16)	0.32 * (0.16)	0.31 * (0.17)	
<b>Elec</b>	1.49 * (0.74)		2.32 ** (0.15)		0.59 (0.185)		1.72 *** (0.4)		4.34 *** (0.94)		1.44 (0.135)	0.63 (0.7)	0.22 (0.5)		2.007 (0.18)		2.04 (0.26)		
<b>Elec1</b>		0.38 (0.50)		0.207 (0.380)		0.09 (0.30)		0.79 (0.50)		0.89 (0.80)				1.5 (0.130)		0.79 (0.990)		0.74 (0.90)	
Recand	0.56 (0.80)	0.68 (0.60)					1.027 (0.70)	0.7 ** (0.30)					0.4 (0.80)	2.6 ** (0.130)					
elec x recand	0.16 (1.41)	0.62 (1.19)					2.17 * (1.08)	0.93 ** (0.40)					2.2 (1.6)	3.4 (2.05)					
Ccor			1.126 ** (0.44)	1.401 ** (0.52)					0.8 (0.9)	1.6 (0.96)						0.17 (1.4)	0.027 (1.4)		
elec x ccor			1.7 (1.308)	1.001 * (0.530)					3.51 *** (1.040)	1.53 *** (0.40)						1.23 (1.990)	0.87 (0.80)		
demo					0.26 *** (0.09)	0.285 *** (0.07)					0.37 (0.23)	0.42 * (0.22)						0.2 (0.42)	0.25 (0.4)
elec x demo					0.358 (0.40)	0.18 *** (0.060)					0.69 ** (0.30)	0.39 *** (0.10)						0.65 (0.620)	0.26 (0.180)
Constant	1.65 * (0.8)	1.51 * (0.88)	3.16 *** (0.05)	3.37 *** (0.6)	0.75 (0.9)	0.65 (0.6)	11.1 *** (0.95)	11.1 *** (0.88)	7.15 *** (1.8)	9.24 *** (1.76)	4.8 ** (2.01)	4.64 ** (2.01)	10.5 ** (4.08)	15.98 ** (5.4)	9.68 ** (3.6)	10.1 ** (3.75)	8.41 *** (2.55)	8.5 *** (2.5)	
Observation	672	672	672	672	672	672	673	673	673	673		673	673	673	673	673	673	673	673
Num of Countries	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Num of Instruments	14	14	13	13	13	22	33	33	22	22	22	22	23	14	13	13	13	13	13
<b>AR (1)</b>	0.006	0.007	0.006	0.006	0.006	0.011	0.062	0.067	0.031	0.061	0.035	0.037	0.034	0.03	0.046	0.049	0.047	0.049	0.049
<b>AR (2)</b>	0.766	0.991	0.619	0.956	0.726	0.891	0.541	0.672	0.473	0.498	0.5	0.501	0.576	0.643	0.632	0.702	0.582	0.575	0.575
<b>Hansen Test</b>	0.308	0.300	0.302	0.304	0.299	0.309	0.28	0.202	0.18	0.189	0.106	0.105	0.174	0.938	0.842	0.832	0.874	0.86	0.86

**Note:** Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ; **Expend** = Expenditure Government Total; **Revenue** = Revenue Total; **Balance** = budget balance; ccor = control of corruption; demo = democracy index; recand = running for re-election = incumbent; ele\*recand = interaction of election and recandidate; ele\*ccor = interaction of election and control of corruption; ele\*demo = interaction of election and democracy.

The estimation results of this study also explain that election years positively impact total revenue by 0.6% of GDP. Reiterated in the output of Table 5, column R1 shows that when incumbents participate again in the elections, total revenue in the election year is 2.2% higher than when incumbents do not participate in the elections or years without elections. The positive impact of elections on total revenue reinforces the findings of studies by Persson and Tabellini (2004), Brender and Drazen (2005), and Prichard (2018). The revenue analysis in this study aimed to establish the source of funding if there was an increase in spending in an election year. When there is excessive total spending in an election year, fixed revenue and deficits are higher. This condition allows the financing of increased spending to be obtained from other sources, such as borrowing.

Empirical evidence related to the budget balance indicator shows that election years harm the budget balance, although not significantly. However, this is insignificant even when considering incumbents running again in the elections. We can observe in Table 5 columns B1, B2, and the row of elecexecand. The estimation results show no change in the budget balance, whether considering the incumbent or not. The budget cycle has a relatively small impact on economic conditions, so achieving electoral goals through fiscal policy is only done by a few countries (Klomp & De Haan, 2013a). Our findings suggest that the increase in revenue covers the increased spending, so it will not significantly impact the budget deficit. The evidence is consistent with Vergne (2009), Klein and Sakurai (2015), and Katsimi and Sarantides (2012), who argue that the budget deficit remains unchanged.

Regarding the control variables considered in this study, four variables generally significantly impact the aggregate fiscal indicators: unemployment, economic growth, trade openness, and the country's political stability. The control variables used in the estimation impacted the budgetary decision differently. The higher the unemployment rate, the more significantly it impacts the increase in total expenditure and revenue, but conversely, it results in a lower budget balance (increased deficit). The increasing economic growth rate positively affects income and budget balance but negatively impacts expenditure. The increasing political stability results in higher government revenue, but the budget deficit also increases. Furthermore, the higher the level of trade openness, the more it will increase total expenditure, revenue, and budget balance.

#### 4.3.2. Disaggregated Budgets: Expenditure Component

In Table 4, column 4, pre-election and post-election significantly impact the economic affairs expenditure component. However, it does not have a significant impact in the election year. The pre-election period positively impacts the magnitude of economic affairs expenditure, while the post-election period has a negative impact. Economic affairs expenditure increased by 0.71% one year before the election, while one year after the election, it decreased by 0.17% relative to GDP. Economic affairs spending is beneficial for increasing access to economic activities, providing infrastructure to support economic activities, and accelerating economic growth. The increase in spending output can directly impact the community's welfare by enhancing economic value added, thereby attracting voters to the incumbent's capabilities. The incumbent government increased economic affairs spending in the pre-election period to expand capital expenditure to gain an electoral advantage. This result is consistent with the work of Bonfatti and Forni (2019), Klein and Sakurai (2015), Lewis (2018), and L. G. Veiga and Veiga (2007).

On the other hand, economic affairs spending decreases after the election. This condition aligns with the classic PBC phenomenon, which holds that incumbents tend to reduce public spending to rectify the budget deficit caused by government spending leading up to the election. This result is consistent with Castro and Martins (2013) for

the municipalities of the Portugal region, where there was an increase in economic affairs spending in the year before the election and a decrease in spending after the election.

Social welfare spending constitutes the largest portion of total government expenditure. This expenditure includes health, education, and social protection spending, which are basic needs for improving the quality of human resources. From Table 4, column 5, it can be seen that in the election year, there is a positive impact on social spending, or in other words, there is an increase in social welfare spending of 0.36% of GDP. This condition indicates an increase in social funding during the election period to attract voters, especially those with low incomes (Nguyen et al., 2022a; Vergne, 2009). Significantly, the election period that positively impacts social spending has a greater influence than the pre-election period (although insignificant). Social spending in the form of social security is often considered a no-time-lag policy, so this spending can directly impact increasing the community's disposable income. Therefore, the government tends to strengthen social spending during election periods compared to pre-election periods. The result is quite consistent with those obtained previously (Nguyen & Tran, 2023; Schneider, 2010).

Lastly, public service expenditures declined by 0.39% of GDP in the pre-election period. Meanwhile, the cycle during the election or post-election period does not significantly affect this type of expenditure. This does not confirm the incumbent government's desire to enhance electoral advantage in the pre-election period. Public debt transactions are a major part of public service expenditures that periodically have less impact on the political cycle (Nguyen & Tran, 2023).

Based on the analysis above regarding changes in government expenditure components during the election period, expenditures on economic affairs and social welfare are relatively more dominant in total expenditure. This fact aligns with Shi and Svensson's (2006) and Lewis's (2018) findings. The incumbent government is more likely to prioritize certain types of expenditures, especially on public projects with high visibility, to establish the sustainability of its competence in the eyes of potential voters. Public spending on education and health also becomes a focus for incumbents to gain more attention from potential voters during the election period.

#### 4.3.3. Disaggregated Budgets: Revenue Component

The estimation results of the political cycle effects on government revenue, particularly tax revenue, are shown in Table 4, column 7. In the tax on income, profit, and capital gains category, the one year before the election (pre-election) and after the election has a significantly positive impact on tax revenue. This means that in the pre-election period, the revenue from tax on income, profit, and capital gains increased by 0.6% relative to GDP, and in the post-election period, this direct revenue also increased by 0.2%, unlike the political cycle during the election period, which does not significantly impact the revenue from tax on income, profit, and capital gains.

Next, the illustration in columns 8–9 shows that the election period's effect on taxes on goods and services and taxes on international trade generally does not have a significant impact. Except for the one year before the election, which positively affects the revenue from the tax on goods and services, amounting to 0.03% of GDP at a significance level of 10%, the rest have no effect at all. In general, it can be said that direct taxes have a fairly strong response during election periods.

In general, direct taxes have a reasonably strong response during election periods. This result is not in line with the views of Drazen and Eslava (2010), Ehrhart (2013), and Block (2001). The increase in direct taxes during the election period, especially before the election, can reduce the government's burden in anticipating the worsening budget deficit, especially with the increasing government spending. The policy was implemented

to accumulate larger financial resources to maintain the political strength of the incumbents. The results of this analysis support Prichard's study (2015).

#### 4.3.4. Conditional Factor: Role of Corruption Control and Democracy

Corruption, or more generally defined as transparency and the quality of governance, is a crucial determinant of the existence of PBCs (Alt & Lassen, 2006; Klomp & De Haan, 2013b; Vergne, 2009). Intuitively, as the election period approaches, it can influence corruption behavior and impact fiscal conditions. If voters appreciate politicians' integrity or ability to combat corruption, incumbents are likely to minimize corruption through various anti-corruption activities to gain more votes (Khemani, 2004; Mironov & Zhuravskaya, 2016). Mironov and Zhuravskaya (2016) found another mechanism related to the relationship between the political cycle and corruption behavior, namely the desire of politicians to engage in corruption before the election period to obtain larger campaign funds.

Table 5 shows corruption control's role in the relationship between the election period and government fiscal indicators, indicating a significant negative coefficient (columns E3–E4). This means that the presence of strong corruption control can weaken the effects of pre-election and election on government spending. High levels of corruption control can prevent politicians from engaging in corrupt behavior by exploiting the government budget for personal or party interests. The behavior shows manipulation carried out by the incumbent government, and voters impose penalties for the increasing budget deficits (Brender & Drazen, 2008). The results of this study support the findings of Mauro (1998), and Pierskalla and Sacks (2018), who generally argue that incumbents tend to be dissuaded from engaging in government funding projects due to the imposition of politically motivated corruption investigations.

Using democracy-level data based on the Economist Intelligence Unit (EIU) database, we interact democracy with electoral variables for both elections and pre-elections. Table 5 (columns E5–E6) shows the role of the level of democracy in the relationship between the election period and government fiscal indicators, indicating a significantly negative coefficient. This means that the magnitude of the effect of political budget cycle, both during the pre-election and election periods, on government spending can be weakened by the presence of high levels of democracy, firmly confirming that democracy reduces opportunistic behavior before and during election years. The results of this analysis are relevant to the findings of Vergne (2009), Brender and Drazen (2005), and Gonzalez (2002). Opportunistic behavior is not a choice in countries with high democracy because the principle prioritizes genuine political competition.

#### 4.3.5. Sensitivity Analysis

This section explains the robustness test results by re-estimating the main research variables. First, the estimation was reperformed using disaggregated spending data for each category against total expenditure and revenue data for each category against total tax revenue (income tax). Appendix B.2 illustrates the influence of pre- and post-election periods on the changes in economic affairs spending relative to total spending. Similarly, public services expenditures also experienced significant changes due to the election period.

The second estimation uses alternative control variables (as proposed by Katsimi & Sarantides, 2012). The variables in question are the population rate (%), GDP per capita, tax revenue, and the population aged 15–64. The estimation results are shown in Appendix B.3. The budget balance condition did not change, but total expenditures and revenues experienced significant changes during the election period.

Finally, a binary dummy election is appropriate for the period during the election, before, or after. Appendix B.4 shows the influence of the election period on changes in

government expenditure and revenue levels. Like the first estimation result (basic result), economic affairs expenditures dominate compared to social welfare or public services expenditures. The increased economic affairs spending during the election period is accompanied by decreased public services spending. Furthermore, direct taxes such as tax on income, profit, and capital gains are more dominant compared to indirect taxes (tax on goods and services, international trade).

## 5. Concluding Remarks and Policy Implications

In recent years, the electoral cycle has remained a hot topic of discussion in various countries, especially developing ones. The extant literature assumes that the electoral cycle has a wide-ranging impact on the government's fiscal condition. However, the empirical evidence on the fiscal policy–election period nexus has not only produced mixed results, but also the political budget cycle's consequences for various critical, aggregate, and disaggregate fiscal indicators in middle-income countries are often overlooked. Aggregate fiscal indicators include budget balance, expenditures, and total revenue.

Meanwhile, disaggregated fiscal indicators are limited to economic affairs, social welfare, and public service expenditure, which account for 40% of total expenditure. The PBC's magnitude is explained through institutional quality measures, namely control of corruption and the level of democracy. The following results have been established by applying a more robust econometric technique (two-way system GMM) to control for potential endogeneity. In the findings and discussion of the analysis, our hypothesis was confirmed that incumbents running again in the elections will manipulate the public budget to effectively build public perception and be convincing, thereby strengthening the probability of winning the elections.

The cause of the political budget cycle in several middle-income countries emerged in terms of total expenditure and revenue, while the budget deficit was not affected at all. Increased government spending due to elections is followed by increased revenue, reducing the budget deficit. The concept of the classic political budget cycle underscores the tendency of incumbent governments to expand public spending both before and during election years to create better economic growth, thereby enhancing the government's electoral advantage. Subsequently, after the election year, the magnitude of public spending will decrease to rectify the budget imbalance caused by the election.

Regarding the composition of public spending, the incumbent government benefits from increased spending on economic affairs and social welfare. Social welfare expenditure increased during the election year, while economic affairs expenditure increased before and after the election. On the other hand, there is a decrease in public services expenditure due to the election. Public spending in the form of economic affairs has greater power compared to other forms of spending. The dimension of such spending can provide advantages for incumbents related to various high-visibility projects and become an attraction for voters. In other words, capital expenditures dominate the electoral cycle more than current expenditures. The budget deficit remains unchanged, and there is a shift in the composition of expenditures.

Regarding the magnitude of tax revenue due to elections, taxes on income, profit, and capital gains have a more substantial influence (especially before and after the election) than taxes on goods and services or international trade. In other words, direct tax contributions substantially influence the political budget cycle more than indirect taxes.

Next, the magnitude of the PBC can be detected through the role of corruption control and the level of democracy. The more capable the government or institution is of controlling corrupt behavior, the lower the degree of budget manipulation in spending and revenue in an election year is found to be. Furthermore, the more established the level of democracy,

the lower the occurrence of budget manipulation, whether related to expenditures or revenues, during election periods.

As is known, such opportunistic behavior often negatively impacts social welfare. Therefore, policymakers in middle-income countries should be aware of and more vigilant against the influence of the incumbent government's opportunistic behavior in the lead-up to the election period. Furthermore, the existence of institutions through corruption control and democracy can contribute to weakening the effects of the political budget cycle in the aforementioned countries.

The paper is not without limitations. Several other determining factors play a role in the change in the magnitude of the PBC. The quality of institutions can also be explained by other indicators such as the rule of law, regulatory quality, and voice and accountability. Transparency of information can also play a role in understanding the presence or absence of budget manipulation during election periods through the ability of mass media to accommodate the information needs of voters, whether related to the government budget or the achievements of leaders who are running again in the presidential and head of government elections. In addition, this study adopts a methodology that considers the entire sample of the observed countries as a single unit. Therefore, further studies need to prove the existence or absence of budget manipulation during election periods by differentiating the classification of middle-income countries more specifically into lower- and upper-middle-income countries.

**Author Contributions:** Conceptualization, S.F., T.W. and A.F.; Methodology, S.F. and A.F.; Software, S.F.; Validation, S.F., T.W. and A.F.; Formal Analysis, S.F., T.W. and A.F.; Investigation, T.W. and A.F.; Resources, S.F.; Data Curation, S.F.; Writing—Original Draft Preparation, S.F.; Writing—Review and Editing, T.W. and A.F.; Visualization, S.F.; Supervision, T.W. and A.F.; Project Administration, S.F. and A.F.; Funding Acquisition, S.F. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding authors.

**Conflicts of Interest:** The authors have no conflicts of interest to declare.

## Appendix A

### *Appendix A.1. Middle-Income Countries and Incumbent Presidents*

**Azerbaijan** (Ilham Aliyev), **Belarus** (Aleksandr Lukashenko), **Benin** (Thomas Yayi Boni and Patrice Talon), **Bolivia** (Juan Evo Morales Ayma), **Brazil** (Luiz Inacio Lula Da Silva), **Cameroon** (Paul Biya), **Colombia** (Alvaro Uribe Velez and Juan Manuel Santos Calderon), **Comoros** (Azali Assoumani), **Congo** (Joseph Kabila), **Costa Rica**, **Cote d'Ivoire** (Alassane Quattara), **Dominican** (Leonel Fernandes and Danilo Medina Sanchez), **Ecuador** (Rafael Correa), **El Savador**, **Ghana** (John Agyekum Kufuor, Nana Akufo Addo), **Guatemala** (Jimmy Ernesto Morales), **Guinea** (Lansana Conte, Alpha Conde), **Honduras** (Juan Orlando Hernandez Alvarado), **Indonesia** (Susilo Bambang Yudoyono, Jokowi), **Iran** (M. Khatam, Mahmud Ahmadinejad, Hassan Fereidun Rouhani), **Kenya** (Mwai Kibaki, Uhuru Kenyatta), **Mexico**, Namibia (Hifikepunye Pohamba, Hage Geingob), **Nicaragua** (Daniel Ortega Saavedra), **Nigeria** (Muhammadu Buhari), **Paraguay**, **Peru** (Alberto Kenyo Fujimori), **Phillipines** (Gloria Macapagal), **Russia** (Vladimir Putin), **Tanzania** (Benjamin Mkapa, Jakaya Mriso), **Tunisia** (Zainal Abidin bin Ali), **Turkmenistan** (Gurbanguly Berdimuhammedov), **Zambia**, **Zimbabwe** (Robert Gabriel Mugabe, Emmerson Mnangagwa).

## Appendix B

### Appendix B.1. Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	
(1) budget	1.00																						
(2) govexp	−0.17 *	1.00																					
(3) revenue	−0.14	0.35 *	1.00																				
(4) yearcov	−0.05	−0.07	−0.23 *	1.00																			
(5) gdp	0.21 *	−0.27 *	−0.08	0.01	1.00																		
(6) inf	0.04	0.13	−0.05	0.09	0.04	1.00																	
(7) dep	−0.12	−0.18 *	−0.01	−0.36 *	0.08	−0.05	1.00																
(8) unem	−0.16 *	0.41 *	0.49 *	−0.16 *	−0.10	−0.10	−0.01	1.00															
(9) to	0.08	0.07	0.25 *	−0.12	0.06	0.03	−0.16 *	−0.06	1.00														
(10) pols	−0.17 *	−0.04	0.40 *	0.11	−0.08	−0.09	−0.01	0.11	0.26 *	1.00													
(11) debt	−0.23 *	0.19 *	0.25 *	0.01	−0.24 *	−0.10	−0.16 *	0.02	0.11	0.23 *	1.00												
(12) ccor	−0.25 *	0.08	0.54 *	0.25 *	−0.06	−0.10	−0.09	0.32 *	0.29 *	0.50 *	0.21 *	1.00											
(13) demo	0.01	0.05	0.13	0.25 *	−0.02	0.26 *	0.06	−0.05	−0.04	0.28 *	0.06	−0.04	1.00										
(14) elec	−0.28 *	−0.12	0.27 *	0.15 *	−0.06	−0.29 *	−0.13	0.21 *	−0.04	0.36 *	0.38 *	0.57 *	−0.29 *	1.00									
(15) preelec	0.00	0.03	−0.01	0.00	0.04	−0.06	−0.03	0.00	−0.01	0.00	−0.03	−0.02	0.01	−0.01	1.00								
(16) postelec	0.09	−0.02	0.03	0.00	0.04	−0.06	−0.02	0.03	0.01	−0.02	0.03	0.00	0.00	0.00	−0.27 *	1.00							
(17) taxp	−0.04	0.05	−0.04	0.01	−0.19 *	0.05	−0.01	0.00	−0.02	0.02	0.02	0.00	0.01	−0.02	−0.26 *	−0.26 *	1.00						
(18) tax gs	−0.04	0.05	−0.13	0.22 *	−0.02	0.30 *	0.04	−0.20 *	−0.30 *	−0.02	−0.16 *	−0.02	0.19 *	−0.07	−0.01	−0.03	0.01	1.00					
(19) tax itf	0.11	0.27 *	0.08	−0.05	−0.05	0.00	−0.08	0.03	0.20 *	−0.03	0.06	−0.05	0.05	−0.18 *	0.01	0.01	−0.03	−0.20 *	1.00				
(20) socWelf	−0.32 *	0.52 *	0.32 *	−0.02	−0.13	−0.19 *	0.01	0.43 *	−0.18 *	0.09	0.24 *	0.23 *	−0.13	0.25 *	0.02	−0.01	0.07	−0.03	0.00	1.00			
(21) pubserv	−0.14	0.47 *	0.41 *	0.02	−0.23 *	−0.02	−0.20 *	0.46 *	0.07	0.03	0.39 *	0.30 *	0.05	0.26 *	−0.02	0.00	0.01	−0.16 *	0.00	0.25 *	1.00		
(22) ecoaff	−0.28 *	0.28 *	0.37 *	−0.18 *	−0.05	−0.17 *	0.23 *	0.26 *	0.09	0.19 *	0.26 *	0.23 *	0.08	0.25 *	−0.02	0.02	0.02	−0.07	0.22 *	0.66 *	0.15 *	1.00	

Note: Significance value \*  $p < 0.1$ .

## Appendix B.2. Robustness: Disaggregate Fiscal Scaled

VARIABLES	SCALED TO TOTAL SPENDING			SCALED TO TOTAL REVENUE		
	ECOAFF	SOCWELF	PUBSERV	TAX_IPCG	TAX_GSF	TAX_IT
$Y_{t-1}$	0.57 *** (0.01)	0.79 *** (0.02)	0.86 *** (0.03)	0.67 *** (0.09)	0.86 *** (0.09)	0.9 *** (0.03)
Elec	−0.02 (0.1)	0.16 (0.1)	−0.005 (0.2)	−0.26 (0.6)	0.12 * (0.6)	−0.07 (0.2)
Elec1	0.199 * (0.11)	0.16 (0.1)	−0.37 ** (0.1)	0.78 ** (0.4)	−0.92 (0.4)	−0.26 (0.2)
Elec2	−0.15 ** (0.03)	−0.01 (0.03)	−0.06 (0.08)	−0.24 * (0.2)	−0.2 (0.2)	−0.1 (0.1)
Unem	0.03 *** (0.01)	0.05 ** (0.01)	0.07 ** (0.03)	−0.07 (0.1)	0.11 (0.2)	0.01 (0.07)
Gro	0.01 ** (0.004)	−0.03 ** (0.008)	0.001 (0.009)	0.06 (0.080)	0.1 ** (0.040)	0.03 (0.020)
Inf	0.006 (0.004)	−0.01 ** (0.005)	0.009 ** (0.004)	−0.07 * (0.040)	−0.11 * (0.020)	−0.05 *** (0.010)
to	0.01 ** (0.002)	0.0007 (0.002)	0.001 (0.003)	−0.005 (0.020)	0.004 (0.020)	0.01 (0.010)
Pols	−0.08 * (0.04)	0.3 *** (0.1)	−0.28 (0.2)	1.68 * (0.9)	0.6 (01.02)	0.4 ** (0.2)
Debt	−0.004 ** (0.002)	0.0006 (0.002)	0.01 ** (0.004)	0.02 (0.020)	0.01 (0.020)	0.007 * (0.007)
Dep	−0.18 (0.06)	−0.2 (0.02)	−0.01 (0.01)	−0.03 (0.02)	−0.02 (0.01)	−0.03 (0.01)
Year COVID	−0.18 ** (0.05)	−0.08 (0.06)	0.081 (0.1)	0.88 * (0.5)	0.67 (0.4)	0.019 (0.16)
Constant	0.4 ** (0.17)	1.23 *** (0.23)	0.28 (0.3)	8.78 ** (3.04)	2.62 (3.3)	0.53 ** (0.3)
Observation	692	692	656	564	561	614
Num of Countries	34	34	34	34	34	34
Num of Instruments	33	33	28	28	28	13
<b>AR (2)</b>	0.642	0.894	0.641	0.113	0.411	0.133
<b>Hansen J test</b>	0.218	0.47	0.207	0.155	0.172	0.294

Note: Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ;  
 Expend = Expenditure Government Total; Revenue = Revenue Total; Balance = budget  
 balance; EcoAff = economic affairs spending; SocWelf = social welfare spending;  
 PubServ = public services spending; tax\_gsf = tax on goods and services; tax\_it = tax on  
 international trade; tax\_ipcg = tax on income; inf = inflation; gro = gdp growth;  
 unem = unemployment rate; dep = dependency ratio; to = trade openness; pols = political  
 stability; debt = government debt.

## Appendix B.3. Robustness: Alternative Control Variable

VARIABLES	FISCAL VARIABLES SCALED TO GDP								
	BALANCE	EXPEND	REVENUE	ECOAF	SOCWELF	PUBSERV	TAX_IPCG	TAX_GSF	TAX_IT
$Y_{t-1}$	0.34 *** (0.05)	0.54 *** (0.05)	0.31 * (0.16)	0.52 ** (0.23)	0.8 *** (0.02)	0.85 *** (0.07)	0.67 *** (0.09)	0.8 *** (0.05)	1.06 *** (0.1)
Elec	−0.92 (0.6)	0.09 ** (0.5)	1.13 * (0.8)	−0.05 (0.3)	0.16 (0.09)	0.13 (0.2)	−0.26 (0.6)	0.4 (0.4)	0.18 (0.4)
Elec1	−0.008 (0.3)	−0.15 (0.83)	−0.67 (0.97)	0.15 ** (0.17)	0.16 (0.13)	−0.42 * (0.2)	0.78 ** (0.4)	−0.74 *** (0.2)	−0.42 (0.4)
Elec2	0.17 (0.1)	−0.21 * (0.11)	0.01 (0.2)	−0.15 (0.06)	−0.01 (0.03)	0.08 (0.1)	−0.25 (0.2)	−0.29 ** (0.14)	0.1 (0.2)
Pop	−0.13 (0.2)	0.14 (0.09)	0.4 ** (0.2)	0.04 * (0.03)	0.05 *** (0.01)	0.06 (0.04)	−0.07 (0.1)	−0.25 *** (0.08)	0.002 (0.04)
GDPcap	0.09 * (0.05)	0.04 * (0.03)	0.1 * (0.05)	−0.001 (0.02)	−0.034 *** (0.01)	0.03 ** (0.01)	0.06 (0.08)	0.023 (0.01)	0.009 * (0.04)
Taxrev	0.07 ** (0.03)	0.047 (0.02)	0.004 (0.03)	−0.006 (0.)	0.0006 (0.)	0.009 (0.01)	0.02 (0.02)	−0.013 ** (0.01)	0.001 (0.01)
Pop1564	−0.01 (0.01)	−0.04 (0.03)	−0.096 (0.05)	0.08 ** (0.03)	−0.02 * (0.01)	−0.003 (0.01)	−0.01 (0.02)	−0.02 (0.03)	0.26 ** (0.13)
Year COVID	−0.85 (0.27)	0.75 (0.46)	−0.08 (0.7)	−0.099 (0.13)	−0.082 (0.06)	0.13 (0.12)	0.8 * (0.5)	0.42 * (0.23)	0.4 * (0.2)
Constant	−1.89 (0.6)	6.83 (01.38)	9.99 *** (03.3)	0.64 (0.4)	1.23 (0.23)	0.55 *** (0.46)	8.8 *** (03.04)	7.12 *** (01.6)	−0.96 (0.7)
Observation	640	640	673	692	692	656	614	581	587
Time Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
Num of Countries	34	34	34	34	34	34	34	34	34
Num of Instruments	19	28	13	13	33	19	13	33	13
AR (2)	0.139	0.803	0.64	0.613	0.894	0.641	0.113	0.542	0.127
Hansen J test	0.509	0.179	0.84	0.501	0.47	0.97	0.155	0.434	0.18

**Note:** Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ; **Expend** = Expenditure Government Total; **Revenue** = Revenue Total; **Balance** = budget balance; **EcoAff** = economic affairs spending; **SocWelf** = social welfare spending; **PubServ** = public services spending; **tax\_gsf** = tax on goods and services; **tax\_it** = tax on international trade; **tax\_ipcg** = tax on income; **pop** = population; **GDPcap** = GDP per capita; **Taxrev** = tax revenue; **Pop1564** = productive age population between 15–64 years old.

## Appendix B.4. Robustness: Election with Binary Dummy

VARIABLES	FISCAL VARIABLES SCALED TO GDP								
	BALANCE	EXPEND	REVENUE	EOCAFF	SOCWELF	PUBSERV	TAX_IPCG	TAX_GSF	TAX_IT
$\Delta Y_{t-1}$	−0.191 *** (0.01)	−0.26 ** (0.1)	−0.09 *** (0.02)	−0.16 *** (0.04)	−0.058 * (0.03)	−0.075 *** (0.02)	−0.096 *** (0.01)	−0.09 *** (0.01)	−0.013 * (0.01)
Elec	−0.191 (0.3)	1.065 ** (0.4)	0.097 * (0.2)	−0.026 (0.1)	0.401 * (0.2)	−0.129 ** (0.1)	0.07 (0.1)	−0.16 (0.2)	0.99 (0.8)
Elec1	−0.438 (0.4)	1.885 ** (0.7)	0.355 ** (0.2)	0.231 ** (0.1)	−0.059 * (0.1)	0.081 (0.1)	0.59 *** (0.1)	0.53 * (0.24)	2.64 (0.4)
Elec2	0.095 (0.15)	0.18 (0.2)	−0.004 (0.08)	−0.02 (0.06)	0.101 (0.05)	0.029 * (0.04)	0.314 *** (0.1)	0.13 (0.1)	0.35 (0.3)
Unem	0.158 *** (0.05)	−0.11 (0.1)	0.008 (0.04)	−0.076 ** (0.03)	−0.02 (0.02)	0.048 ** (0.02)	−0.13 *** (0.04)	0.05 (0.04)	−0.097 (0.06)
Gro	0.21 *** (0.03)	−0.225 *** (0.06)	−0.017 ** (0.007)	−0.03 *** (0.007)	−0.04 *** (0.01)	−0.025 *** (0.005)	−0.062 *** (0.009)	0.05 *** (0.01)	−0.07 ** (0.06)
Inf	0.081 *** (0.01)	−0.03 (0.02)	0.015 *** (0.005)	−0.0005 (0.004)	−0.013 ** (0.005)	−0.007 ** (0.002)	−0.0002 (0.002)	−0.05 *** (0.005)	−0.04 * (0.04)
To	0.005 (0.01)	0.016 (0.03)	0.036 *** (0.004)	0.005 (0.003)	−0.002 (0.003)	0.002 (0.004)	0.024 *** (0.005)	0.008 * (0.004)	−0.002 (0.02)
Pols	−1.39 ** (0.51)	0.62 (0.7)	−0.11 (0.19)	−0.027 (0.1)	−0.006 (0.1)	0.227 (0.2)	−0.13 (0.2)	0.42 ** (0.2)	−1.6 ** (0.7)
Debt	−0.09 *** (0.01)	0.06 *** (0.01)	−0.029 *** (0.006)	−0.008 *** (0.003)	−0.02 *** (0.005)	0.006 ** (0.003)	0.023 *** (0.004)	−0.027 *** (0.009)	−0.06 (0.05)
Dep	0.45 * (0.2)	0.081 (0.97)	0.084 (0.06)	0.015 (0.96)	−0.22 * (0.1)	−0.07 ** (0.03)	0.03 (0.05)	−0.41 *** (0.08)	−0.241 (0.7)
Year COVID	−0.935 *** (0.2)	0.68 * (0.4)	−0.218 * (0.11)	0.199 ** (0.1)	0.095 (0.13)	−0.003 (0.06)	0.14 (0.1)	−0.51 ** (0.2)	0.34 (0.5)
Constant	0.169 (0.1)	−0.28 (0.2)	0.13 (0.08)	−0.09 ** (0.04)	−0.006 (0.07)	0.01 (0.04)	0.06 (0.07)	0.36 *** (0.05)	−1.01 ** (0.7)
Observation	569	565	592	598	581	596	651	651	590
Time Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
Num of Countries	35	35	35	35	35	35	35	35	35
Num of Instruments	30	21	33	30	30	33	33	33	21
<b>AR (2)</b>	<b>0.716</b>	<b>0.398</b>	<b>0.633</b>	<b>0.22</b>	<b>0.516</b>	<b>0.115</b>	<b>0.916</b>	<b>0.33</b>	<b>0.446</b>
<b>Hansen J test</b>	<b>0.157</b>	<b>0.114</b>	<b>0.242</b>	<b>0.451</b>	<b>0.773</b>	<b>0.686</b>	<b>0.212</b>	<b>0.169</b>	<b>0.498</b>

**Note:** Standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ ; **Expend** = Expenditure Government Total; **Revenue** = Revenue Total; **Balance** = budget balance; **EcoAff** = economic affairs spending; **SocWelf** = social welfare spending; **PubServ** = public services spending; **tax\_gsf** = tax on goods and services; **tax\_it** = tax on international trade; **tax\_ipcg** = tax on income; **inf** = inflation; **gro** = gdp growth; **unem** = unemployment rate; **dep** = dependency ratio; **to** = trade openness; **pols** = political stability; **debt** = government debt.

## References

- Adeleye, N., Osabuohien, E., Bowale, E., Matthew, O., & Oduntan, E. (2018). Financial reforms and credit growth in Nigeria: Empirical insights from ARDL and ECM techniques. *International Review of Applied Economics*, 32(6), 807–820. [CrossRef]
- Aidt, T. S., Veiga, F. J., & Veiga, L. G. (2011). Election results and opportunistic policies: A new test of the rational political business cycle model. *Public Choice*, 148(1–2), 21–44. [CrossRef]
- Akhmedov, A., & Zhuravskaya, E. (2004). Opportunistic political cycles: Test in a young democracy setting. *The Quarterly Journal of Economics*, 119(4), 1301–1338. [CrossRef]
- Aklin, M., & Kern, A. (2021). The side effects of central bank independence. *American Journal of Political Science*, 65(4), 971–987. [CrossRef]
- Alesina, A., Cohen, G. D., & Roubini, N. (1999). *Political cycles and the macroeconomy* (Nachdr.). MIT Press.
- Alt, J. E., & Lassen, D. D. (2006). Fiscal transparency, political parties, and debt in OECD countries. *European Economic Review*, 50(6), 1403–1439. [CrossRef]
- Ames, B. (1977). The politics of public spending in Latin America. *American Journal of Political Science*, 21(1), 149. [CrossRef]
- Angelopoulos, K., & Economides, G. (2008). Fiscal policy, rent seeking, and growth under electoral uncertainty: Theory and evidence from the OECD. *Canadian Journal of Economics/Revue Canadienne d'économique*, 41(4), 1375–1405. [CrossRef]

- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277. [CrossRef]
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68(1), 29–51. [CrossRef]
- Balaguer-Coll, M. T., & Brun-Martos, M. I. (2013). El efecto del gasto público sobre las posibilidades de reelección de los gobiernos locales. *Revista de Contabilidad*, 16(1), 74–80. [CrossRef]
- Baltagi, B. H. (2013). Chapter 18—Panel data forecasting. In G. Elliott, & A. Timmermann (Eds.), *Handbook of Economic Forecasting* (Vol. 2, pp. 995–1024). Elsevier. [CrossRef]
- Barberia, L. G., Avelino, G., Eslava, M., & Streb, J. M. (2011). Do political budget cycles differ in latin american democracies? [With comment]. *Economía*, 11(2), 101–146. [CrossRef]
- Baskaran, T., Feld, L. P., & Schnellenbach, J. (2016). Fiscal federalism, decentralization, and economic growth: A meta-analysis. *Economic Inquiry*, 54(3), 1445–1463. [CrossRef]
- Benito, B., Bastida, F., & Vicente, C. (2013). Creating room for manoeuvre: A strategy to generate political budget cycles under fiscal rules. *Kyklos*, 66(4), 467–496. [CrossRef]
- Block, S. A. (2001). *Elections, electoral competitiveness, and political budget cycles in developing countries*. Available online: <http://nrs.harvard.edu/urn-3:HUL.InstRepos:39611569> (accessed on 14 November 2024).
- Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115–143. [CrossRef]
- Bonfatti, A., & Forni, L. (2019). Fiscal rules to tame the political budget cycle: Evidence from Italian municipalities. *European Journal of Political Economy*, 60, 101800. [CrossRef]
- Bräuninger, T. (2005). A partisan model of government expenditure. *Public Choice*, 125(3), 409–429. [CrossRef]
- Brender, A. (2003). The effect of fiscal performance on local government election results in Israel: 1989–1998. *Journal of Public Economics*, 87(9), 2187–2205. [CrossRef]
- Brender, A., & Drazen, A. (2005). Political budget cycles in new versus established democracies. *Journal of Monetary Economics*, 52(7), 1271–1295. [CrossRef]
- Brender, A., & Drazen, A. (2008). How do budget deficits and economic growth affect reelection prospects? evidence from a large panel of countries. *American Economic Review*, 98(5), 2203–2220. [CrossRef]
- Brender, A., & Drazen, A. (2013). Elections, leaders, and the composition of government spending. *Journal of Public Economics*, 97, 18–31. [CrossRef]
- Brollo, F., Nannicini, T., Perotti, R., & Tabellini, G. (2013). The political resource curse. *American Economic Review*, 103(5), 1759–1796. [CrossRef]
- Castro, V., & Martins, R. (2013). Is there duration dependence in Portuguese local governments' tenure? *European Journal of Political Economy*, 31, 26–39. [CrossRef]
- Chang, E. C. C., & Kerr, N. N. (2017). An insider–Outsider theory of popular tolerance for corrupt politicians. *Governance*, 30(1), 67–84. [CrossRef]
- Chortareas, G., Logothetis, V., & Papandreou, A. A. (2016). Political budget cycles and reelection prospects in Greece's municipalities. *European Journal of Political Economy*, 43, 1–13. [CrossRef]
- Coviello, D., & Gagliarducci, S. (2017). Tenure in office and public procurement. *American Economic Journal: Economic Policy*, 9(3), 59–105. [CrossRef]
- Devarajan, S., Swaroop, V., & Zou, H. (1996). The composition of public expenditure and economic growth. *Journal of Monetary Economics*, 37(2), 313–344. [CrossRef]
- Dimock, M. A., & Jacobson, G. C. (1995). Checks and choices: The house bank scandal's impact on voters in 1992. *The Journal of Politics*, 57(4), 1143–1159. [CrossRef]
- Drazen, A., & Eslava, M. (2010). Electoral manipulation via voter-friendly spending: Theory and evidence. *Journal of Development Economics*, 92(1), 39–52. [CrossRef]
- Ehrhart, H. (2013). Elections and the structure of taxation in developing countries. *Public Choice*, 156(1), 195–211. [CrossRef]
- Feld, L. P., & Schaltegger, C. A. (2010). Political stability and fiscal policy: Time series evidence for the Swiss federal level since 1849. *Public Choice*, 144(3), 505–534. [CrossRef]
- Ferraz, C., & Finan, F. (2011). Electoral accountability and corruption: Evidence from the audits of local governments. *American Economic Review*, 101(4), 1274–1311. [CrossRef]
- Foremny, D., & Riedel, N. (2014). Business taxes and the electoral cycle. *Journal of Public Economics*, 115, 48–61. [CrossRef]
- Franzese, R. J. (2000). Electoral and partisan manipulation of public debt in developed democracies, 1956–90. In R. R. Strauch, & J. von Hagen (Eds.), *Institutions, politics and fiscal policy* (pp. 61–83). Springer. [CrossRef]
- Galli, E., & Rossi, S. P. S. (2002). Political Budget Cycles: The Case of the Western German Länder. *Public Choice*, 110(3/4), 283–303. [CrossRef]

- Garmann, S. (2017). Political budget cycles and fiscally conservative voters. *Economics Letters*, 155, 72–75. [CrossRef]
- Garriga, A. C. (2016). Central Bank Independence in the World: A new data set. *International Interactions*, 42(5), 849–868. [CrossRef]
- Gonzalez, M. D. L. A. (2002). Do changes in democracy affect the political budget cycle? Evidence from Mexico. *Review of Development Economics*, 6(2), 204–224. [CrossRef]
- Hao, Y., Liao, H., & Wei, Y.-M. (2015). Is China's carbon reduction target allocation reasonable? An analysis based on carbon intensity convergence. *Applied Energy*, 142, 229–239. [CrossRef]
- Holcombe, R. G., & Williams, D. W. (2008). The impact of population density on municipal government expenditures. *Public Finance Review*, 36(3), 359–373. [CrossRef]
- Karras, G. (2012). Trade openness and the effectiveness of fiscal policy: Some empirical evidence. *International Review of Economics*, 59(3), 303–313. [CrossRef]
- Katsimi, M., & Sarantides, V. (2012). Do elections affect the composition of fiscal policy in developed, established democracies? *Public Choice*, 151(1–2), 325–362. [CrossRef]
- Khartit, K. (2023, August 28). *Middle-income countries (MICs): Characteristics and significance*. Investopedia. Available online: <https://www.investopedia.com/terms/m/middle-income-countries.asp> (accessed on 3 January 2025).
- Khemani, S. (2004). Political cycles in a developing economy: Effect of elections in the Indian states. *Journal of Development Economics*, 73(1), 125–154. [CrossRef]
- Kiviet, J. F. (1995). On bias, inconsistency, and efficiency of various estimators in dynamic panel data models. *Journal of Econometrics*, 68(1), 53–78. [CrossRef]
- Klašnja, M. (2015). Corruption and the incumbency disadvantage: Theory and evidence. *The Journal of Politics*, 77(4), 928–942. [CrossRef]
- Klašnja, M., Tucker, J. A., & Deegan-Krause, K. (2016). Pocketbook vs. sociotropic corruption voting. *British Journal of Political Science*, 46(1), 67–94. [CrossRef]
- Klein, F. A., & Sakurai, S. N. (2015). Term limits and political budget cycles at the local level: Evidence from a young democracy. *European Journal of Political Economy*, 37, 21–36. [CrossRef]
- Klomp, J., & De Haan, J. (2013a). Do political budget cycles really exist? *Applied Economics*, 45(3), 329–341. [CrossRef]
- Klomp, J., & De Haan, J. (2013b). Political budget cycles and election outcomes. *Public Choice*, 157(1–2), 245–267. [CrossRef]
- Kneller, R., Bleaney, M. F., & Gemmell, N. (1999). Fiscal policy and growth: Evidence from OECD countries. *Journal of Public Economics*, 74(2), 171–190. [CrossRef]
- Kraemer, M. (1997). *Electoral budget cycles in latin america and the caribbean: Incidence, causes, and political futility* (Working Paper No. 354). Working Paper. Available online: <https://www.econstor.eu/handle/10419/87847> (accessed on 11 September 2024).
- Kyriacou, A. P. (2019). *Inequality and governance* (1st ed.). Routledge. [CrossRef]
- Lewis, B. D. (2018). Local government form in Indonesia: Tax, expenditure, and efficiency effects. *Studies in Comparative International Development*, 53(1), 25–46. [CrossRef]
- Lindvall, J. (2014). The electoral consequences of two great crises. *European Journal of Political Research*, 53(4), 747–765. [CrossRef]
- Manzetti, L., & Wilson, C. J. (2007). Why do corrupt governments maintain public support? *Comparative Political Studies*, 40(8), 949–970. [CrossRef]
- Mauro, P. (1998). Corruption and the composition of government expenditure. *Journal of Public Economics*, 69(2), 263–279. [CrossRef]
- McManus, I. P. (2019). The re-emergence of partisan effects on social spending after the global financial crisis. *JCMS: Journal of Common Market Studies*, 57(6), 1274–1291. [CrossRef]
- Mink, M., & De Haan, J. (2006). Are there political budget cycles in the Euro Area? *European Union Politics*, 7(2), 191–211. [CrossRef]
- Mironov, M., & Zhuravskaya, E. (2016). Corruption in procurement and the political cycle in tunneling: Evidence from financial transactions data. *American Economic Journal: Economic Policy*, 8(2), 287–321. [CrossRef]
- Nguyen, T. C. (2021). Economic policy uncertainty and bank stability: Does bank regulation and supervision matter in major European economies? *Journal of International Financial Markets, Institutions and Money*, 74, 101387. [CrossRef]
- Nguyen, T. C., Castro, V., & Wood, J. (2022a). Political economy of financial crisis duration. *Public Choice*, 192(3), 309–330. [CrossRef]
- Nguyen, T. C., & Tran, T. L. (2023). The political budget cycles in emerging and developing countries. *Journal of Economics and Development*, 25(3), 205–225. [CrossRef]
- Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica*, 49(6), 1417–1426. [CrossRef]
- Nordhaus, W. D. (1975). The political business cycle. *The Review of Economic Studies*, 42(2), 169. [CrossRef]
- Parui, P. (2022). Government expenditure and economic growth: A post-Keynesian analysis. In *Capitalism: An unsustainable future?* Routledge.
- Peltzman, S. (1992). Voters as fiscal conservatives. *The Quarterly Journal of Economics*, 107(2), 327–361. [CrossRef]
- Persson, T., & Tabellini, G. (2004). Constitutions and economic policy. *Journal of Economic Perspectives*, 18(1), 75–98. [CrossRef]
- Peters, J. G., & Welch, S. (1980). The effects of charges of corruption on voting behavior in congressional elections. *American Political Science Review*, 74(3), 697–708. [CrossRef]
- Phillips, P. C. B., & Sul, D. (2007). Transition modeling and econometric convergence tests. *Econometrica*, 75(6), 1771–1855. [CrossRef]

- Pierskalla, J. H., & Sacks, A. (2018). Unpaved road ahead: The consequences of election cycles for capital expenditures. *The Journal of Politics*, 80(2), 510–524. [CrossRef]
- Potrafke, N. (2006). *Parties matter in allocating expenditures: Evidence from Germany* (Working Paper No. 652). DIW Discussion Papers. Available online: <https://www.econstor.eu/handle/10419/18545> (accessed on 22 December 2024).
- Prichard, W. (2018). Electoral competitiveness, tax bargaining and political incentives in developing countries: Evidence from political budget cycles affecting taxation. *British Journal of Political Science*, 48(2), 427–457. [CrossRef]
- Rogoff, K. (1987). *Equilibrium political budget cycles* (Working Paper No. 2428). National Bureau of Economic Research. [CrossRef]
- Rogoff, K., & Sibert, A. (1988). Elections and macroeconomic policy cycles. *The Review of Economic Studies*, 55(1), 1. [CrossRef]
- Roodman, D. (2009). How to do Xtabond2: An introduction to difference and system GMM in stata. *The Stata Journal*, 9(1), 86–136. [CrossRef]
- Rundquist, B. S., Strom, G. S., & Peters, J. G. (1977). Corrupt politicians and their electoral support: Some experimental observations. *American Political Science Review*, 71(3), 954–963. [CrossRef]
- Schneider, C. J. (2010). Fighting with one hand tied behind the back: Political budget cycles in the West German states. *Public Choice*, 142(1), 125–150. [CrossRef]
- Schuknecht, L. (2000). Fiscal policy cycles and public expenditure in developing countries. *Public Choice*, 102(1), 113–128. [CrossRef]
- Shi, M., & Svensson, J. (2006). Political budget cycles: Do they differ across countries and why? *Journal of Public Economics*, 90(8–9), 1367–1389. [CrossRef]
- Shmuel, A. (2020). The political budget cycle across varying degrees of democracy. *Electoral Studies*, 68, 102218. [CrossRef]
- Sjahir, B. S., Kis-Katos, K., & Schulze, G. G. (2013). Political budget cycles in Indonesia at the district level. *Economics Letters*, 120(2), 342–345. [CrossRef]
- Soo, X.-L., Kueh, J. S.-H., Ab-Rahim, R., & Yau, J. T.-H. (2023). Public debt, current account balance, and fiscal balance: The threshold effects in selected ASEAN countries. *Business and Economic Research*, 13(3), 23–39. [CrossRef]
- Streb, J. M., Lema, D., & Torrens, G. (2009). Checks and balances on political budget cycles: Cross-country evidence. *Kyklos*, 62(3), 426–447. [CrossRef]
- Utama, C., Insukindro, I., & Fitriady, A. (2022). Fiscal and monetary policy interactions in indonesia during periods Of economic turmoil in the US: 2001Q1–2014Q4. *Bulletin of Monetary Economics and Banking*, 25(1), 97–116. [CrossRef]
- Veiga, F. J., Veiga, L. G., & Morozumi, A. (2017). Political budget cycles and media freedom. *Electoral Studies*, 45, 88–99. [CrossRef]
- Veiga, L. G., & Veiga, F. J. (2007). Does opportunism pay off? *Economics Letters*, 96(2), 177–182. [CrossRef]
- Vergne, C. (2009). Democracy, elections and allocation of public expenditures in developing countries. *European Journal of Political Economy*, 25(1), 63–77. [CrossRef]
- Vuković, V. (2020). Corruption and re-election: How much can politicians steal before getting punished? *Journal of Comparative Economics*, 48(1), 124–143. [CrossRef]
- Welch, S., & Hibbing, J. R. (1997). The effects of charges of corruption on voting behavior in congressional elections, 1982-1990. *The Journal of Politics*, 59(1), 226–239. [CrossRef]
- Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126(1), 25–51. [CrossRef]
- Wuri, J. (2024). The role of comparative advantage in enhancing trade in value-added using a dynamic GMM model. *Economics*, 12(7), 187. [CrossRef]
- Zergawu, Y. Z., Walle, Y. M., & Giménez-Gómez, J.-M. (2020). The joint impact of infrastructure and institutions on economic growth. *Journal of Institutional Economics*, 16(4), 481–502. [CrossRef]

**Disclaimer/Publisher’s Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.